DEPARTMENT OF THE NAVY
TRAINING AIR WING FOUR
245 FIFTH STREET SUITE 105
CORPUS CHRISTI TX 78419-5008

COMTRAWINGFOURINST 3710.13C
N7

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COMMANDER TRAINING AIR WING FOUR INSTRUCTION 3710.13C

Subj: T-6B STANDARDIZATION INSTRUCTION

Ref: (a) CNATRAINST 3710.17C
         (b) COMTRAWINGFOURINST 3710.11N
         (c) NAVAIR A1-T6BAA-NFM-100
         (d) NAVAIR A1-T6BAA-FCL-200
         (e) CNATRA P-764
         (f) COMTRAWINGFOURSINT M-3710.14

Encl: (1) T-6B Checklist Study Guide
         (2) T-6B Mission/NATOPS Briefing Guide
         (3) T-6B Solo Briefing Guide

1. Purpose.

    (1) To aid Student Naval Aviators (SNAs) and Instructors Under Training (IUTs) in basic cockpit procedures necessary to successfully operate the T-6B, and to standardize the method by which all Training Air Wing (TRAWING) FOUR aircrews perform normal checklists.

    (2) To standardize the preflight briefing.

    (3) To standardize SNA preflight briefing and operations during syllabus solo flight events.

2. Cancellation. COMTRAWINGFOURINST 3710.13B

3. Scope. This instruction is applicable to all TRAWING FOUR flight and simulator operations in the T-6B. It is intended only to complement the NATOPS Flight Manual, Pilot's Abbreviated Flight Crew Checklist (Quad-fold) and VFR Course Rules Manual, which are the superseding instructions.

4. Discussion. SNAs and IUTs at TRAWING FOUR must quickly become proficient in basic cockpit procedures and NATOPS Flight Manual normal checklists. Every pilot should be thoroughly familiar with references (a) through (d) prior to any flight or ground cockpit training. All pre-solo SNAs shall familiarize themselves with enclosure (3) prior to any solo event.
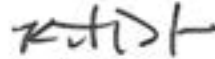
5. Action.

    (1) This directive is effective upon receipt. The TRAWING FOUR T-6B Checklist Study Guide is a study aid and is meant to supplement references (a) through (f). It shall not be carried in the plane or simulator.

    (2) In order to further standardize the preflight brief, all T-6 operations should utilize enclosure (2) and shall ensure all items are covered prior to every flight.

(3) In order to standardize the preflight solo brief, all T-6 SNA Solos shall be thoroughly familiar with Enclosure (3) prior to briefing their solo event with the Operations Duty Officer (ODO). All IPs qualified to instruct SNA Contact flight events and stand Squadron duties responsible for SNA solo flights (ODO/RDO) shall be equally familiar with these provisions.

6. The TRAWING FOUR point of contact is LT Mike Baluyut, T-6B Standardization Officer, 361-961-1619.

K. H. DELANO

Distribution:
VT-27
VT-28
FITU
Electronically via TW-4 SharePoint portal

TRAWING FOUR T-6B TEXAN II
CHECKLIST STUDY GUIDE
PRIMARY FLIGHT TRAINING

General

This checklist guide is for study purposes ONLY. It is NOT to be used during any graded event within the simulator or aircraft. It is highly recommended to study with this guide and use it as a reference until you can efficiently use the Quad-fold checklist by itself. The TW-4 Checklist Study Guide reflects T-6B NATOPS checklist procedures, Contact FTI and TW-4 VFR Course Rules including local radio calls.

Student Naval Aviators (SNA's) and Instructors Under Training (IUT's) shall bring the following items for all Contact/NATOPS scheduled events:

a. Gloves.

b. Kneeboard.

c. T-6B NATOPS.

d. T-6B NATOPS Pocket Checklist (PCL).

e. Contact Flight Training Instruction (FTI).

f. TRAWINGFOUR T-6B In-Flight Guide (IFG).

g. T-6B Quad-fold checklist.

h. SNA's only: Harness, G-Suit, Helmet, and O2 Mask. A complete strap-in is required for every event in the C2100 block of training.

HOW TO USE THIS CHECKLIST GUIDE

This checklist guide is intended to assist SNAs/IUTs in preparation for primary flight training at TW-4 in the T-6B and to provide checklist standardization and call-outs with all pilots. The checklist procedures outlined in this guide are to be used during all flights in the T-6B. It contains the instructions for NORMAL procedures and response phrases necessary to correctly complete all checklists except for the Exterior Inspection, High IOAT at Start and Before Leaving Aircraft.

The challenge and response format within this guide is widely used in the aviation industry and is primarily designed to increase Crew Resource Management (CRM) between the SNA/IUT and Instructor Pilot (IP) as well as ensure each step of the checklist is completed by both crew members. Not every step requires a dual response; however, each pilot regardless of the seat he/she occupies, must ensure each step of the checklist has been accomplished. Although it is ultimately the IP's responsibility to ensure all checklist items are properly completed, this does not take any responsibility away from the SNA/IUT. SNA's/IUT's must demonstrate good CRM when confirming with their IPs if a checklist step has been executed improperly or inadvertently skipped. When a checklist item requires both crew members to respond, the pilot running the checklist **shall not** proceed to the next item until the other pilot responds. This will ensure items are being checked properly by both crew members.

All phrases and terms that are to be verbalized by the crew member running the checklist **are printed in bold within "quotation" marks**. When dual concurrence is required, items shown as (BOTH) within the checklist, the rear cockpit response is highlighted in *non-bold italics* within "quotation" marks. SNAs/IUTs are expected to memorize all required crew and radio communications during Contact simulator events. All response items NOT in quotation marks are merely a check or action and are not to be verbalized. The SNA/IUT is expected to study and chair-fly with this checklist guide until all actions and verbalizations can be performed while referencing only the T-6B Quad-fold.

As per the Contact FTI, most checklists are not performed from memory; however, the following checklists performed during critical phases of flight should be performed from memory: Lineup, After Takeoff, Operations, and Before Landing checklists. The Quad-Fold is to be readily available during the entire flight as a reference to these checklists.

Checklist challenges appear just as they are listed within the T-6 NATOPS. There are many acronyms used within the checklist. In many cases it is an acceptable practice to verbalize the actual name while calling out the challenge. For example, BAT Switch = Battery, GEN Switch = Generator, UFCP = Up Front Control Panel, EMER LDG GR = Emergency Landing Gear, etc.

It is important that both crewmembers remain cognizant of checklist status as the checklists are being completed. For this reason, except as noted, the commencement of a checklist is announced (i.e. "BEFORE TAKEOFF CHECKLIST." If a checklist is interrupted, the interruption is announced (i.e. "Holding the BEFORE TAKEOFF CHECKLIST"). Completion of a checklist is also announced (i.e. "BEFORE TAKEOFF CHECKLIST Complete").

This guide contains NORMAL procedures and communications phrases. Instructions and communication phrases associated with EMERGENCY procedures performed during Contact events are found in the T-6B NATOPS Flight Manual, Contact FTI, and TW-4 VFR Course Rules Manual.

When executing non-memory checklists, the SNA/IUT will state the CHALLENGE, then perform the ACTION (or verify that it has been completed), then state the RESPONSE. When an ACTION involves a "Check" of the position or setting of a movable control or switch, the pilot is expected to touch or look at that item to aid in verification of its position or setting, and if necessary, change its setting or position to make it consistent with the prescribed RESPONSE.

Only the crewmember in control of the aircraft will physically actuate the landing gear and the flaps at the appropriate times in the checklist. SNA/IUT should ride the controls for any demos conducted by the IP.

Refer to the T-6B NATOPS Flight Manual for visual hand signals used when interacting with Linemen. Memorize and practice all ground handling signals.

As you prepare for your Contact events, there are several keys to success. Study with others in your class to the maximum extent possible and study in a physical reproduction of the cockpit to the maximum extent possible. While rote

Enclosure (1)

memorization of required actions, responses and communications is imperative, it is not enough to prepare you to perform in the simulator or airplane. The only way to be **smooth**, **timely,** and **accurate** in the completion of checklists is to know and understand the checklist and also build muscle memory by executing those checklists in the cockpit. Practice in available OFTs, UTDs or static cockpit trainers.

The Exterior Inspection is not included with this guide but will be conducted per the PCL or Quad-fold Checklist on the aircraft. Refer to NATOPS Section 2 for more information.

When arriving at the aircraft, **after opening the canopy** but prior to leaning over the cockpit rail, visually confirm that the Seat Safety Pin is installed, Canopy Fracturing System (CFS) safety pin is installed, and the Interseat Sequencing System (ISS/ Aft cockpit) is set to the SOLO position. Use the following verbiage after these checks complete:

<div align="center">

Front Cockpit: **"Two Pins In"**

Rear Cockpit: **"Two Pins In"**

</div>

After completing your strap-in (this includes having your kneeboard attached, and gloves on), **turn on the battery**, cancel the Master Warning and Master Caution lights and conduct an ICS check prior to beginning the cockpit checklist.

<div align="center">

Front Cockpit: **"ICS Check"**

Rear Cockpit: **"Loud and clear, how me?"**

Front Cockpit: **"Read you the same"**

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"Before Exterior Inspection Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Seat Safety Pin"	Verify that the Ejection Seat Safety pin is fully inserted and that the warning streamer is free and clear of the ejection seat handle.	"Installed" *"Installed"*
2. "Ejection Handle"	Ensure the metal loop in the ejection handle is not frayed or broken and molded covering is not cracking.	"Checked" *"Checked"*
3. "CFS Handle Safety Pin "	Ensure the CFS handle safety pin is installed in the CFS handle assembly.	"Installed" *"Installed"*
4. "CFS pin storage box"	Ensure the box is fully closed and securely latched.	*"Closed and latched"*
5. "Starter"	Check switch to NORM in both cockpits.	"Norm" *"Norm"*
6. "Ignition"	Check switch to NORM in both cockpits.	"Norm" *"Norm"*
7. "Avionics Master"	Check switch to OFF.	"Off"
8. "Evap Blower"	Check switch to OFF in both cockpits.	"Off" *"Off"*
9. "ISS mode selector"	Verify the handle is fully seated in the SOLO or CMD FWD position (as required).	*"Solo"* "Roger, Solo"
10. "DTS/DVR"	Insert cartridge as required. (no action is required on a typical training sortie)	"Not required"
11. "Circuit breakers"	Verify that all circuit breakers are IN in both cockpits.	"In" *"In"*
12. "PCL"	Verify two audible clicks per PCL and the PCLs in both cockpits are interconnected and move freely through the full range of motion. Move the PCL all the way forward through the idle-stop to MAX and then back to the idle-stop. Ensure the cutoff finger lift and guard move freely and bring the PCL fully aft to OFF. Verify finger lift guard returns to its spring loaded position and report... (Note: Sim will only have one click passing idle gate)	"Checked, off" *"Checked, off"*
13. "Gear handle"	Verify LDG Gear Handle is down in both cockpits	"Down" *"Down"*
14. "Master Arm"	Verify switch is SAFE.	"Safe"

15. "Brake reservoir"	Verify that filler plug green band is showing and the lower red band is beneath the bulkhead surface and not visible.	"Checked"
16. "Firewall Shutoff Handle"	Verify handle is down and guard latch is securely in place over it.	"Down, guard in place"
17. "Aux Bat"	Place the switch ON.	"On"
18. "Fire detection system - Fire One"	Hold the Fire Warning Test switch to the Fire 1 Position. Check that both bulbs in the upper half of the Fire Light illuminate in both cockpits.	"Test One" *"Test One"*
19. "Standby VHF"	Press down on the left selector knob and verify that the control head turns on. Hold the knob down for 3 seconds to turn the control head off and report…	"Checked, off"
20. "BFI"	Verify that the BFI in each cockpit is receiving power and no fault messages are visible. (The BFI will not relay accurate information until it aligns and will therefore display a RED X and alignment countdown upon initial power-up)	"Checked" *"Checked"*
21. "Battery"	Place the switch ON. Depress the MASTER WARN and MASTER CAUTION lights to cancel.	"On"
22. "Aux Bat"	Place the switch OFF.	"OFF"
23. "Aux Bat"	Hold the AUX BAT Test Switch to TEST for a minimum of 5 seconds and ensure the green test light remains illuminated. (If tested too soon after placing the Aux Battery to OFF, the light may not illuminate. If this is the case, reattempt.)	"Test"
24. "Battery voltage"	Verify a minimum of 23.5 VDC for a battery start or 22.0 VDC prior to connecting external power.	"___ volts"
25. "Fuel quantity"	Verify fuel quantity.	"___ lbs."
26. "Seat height"	Adjust seat height to desired position. CAUTION: Ensure seat pan and side consoles are clear of all lap straps, cords, and connections prior to adjusting seat height to prevent possible damage to seat or equipment.	"Adjusted" *"Adjusted"*
27. "Battery"	Place the switch to OFF.	"Off"
28. "CFS donor assemblies"	Inspect front and rear cockpit assemblies for protruding plungers.	"Inspected" *"Inspected"*

Enclosure (1)

29. "Ejection seat"	a. CFS attach bolt: ensure bolt threads are visible inboard to the seat.	
	b. Top latch mechanisms: ensure the latches are rotated down towards the seat	
	c. Parachute risers inertia reel: slowly and simultaneously pull out both risers fully to ensure no jamming. Do not pull hard to attempt to test the locking mechanism as this can cause damage to the inertia reel.	
	d. Lap straps: check condition of woven belts, Koch fittings and yellow release tabs.	
	e. Leg restraint lines: ensure the lines are attached to aircraft floor, are not twisted or visibly worn, and shear ring is aft of snubber unit.	
	f. MOR handle: ensure handle is fully down and locked in place.	
	WARNING: Do not lift the MOR handle. Lifting the MOR handle can result in initiating the manual release sequence which may result in injury/death to personnel.	
	g. Oxygen hoses: Ensure hoses are not damaged and Emergency Oxygen Hose orange O-ring is in place.	
	h. Seat survival kit: ensure ADU mode selector is in MANUAL and ADU radio beacon cables are properly connected to the seat.	
	i. Ejection seat oxygen supply: ensure the gauge reads above 1800 psi at 70° F. If pressure is less than 1800 psi, add/subtract 3.5 psi for each degree above/below 70° F.	"Inspected" *"Inspected"*
30. "Gust lock"	Remove the gust lock from the control stick and ensure it is fully stowed. Slight back pressure on the stick may be necessary to remove the lock. Ensure the gust lock is not impeded by the leather boot at the base of the control stick	"Stowed"
31. "HUD combiner cover"	Remove the HUD combiner cover and store in the aircraft baggage compartment.	"Removed and stowed"

"Before Exterior Inspection Checklist Complete"

Proceed to Exterior Inspection Checklist using quadfold

"Cockpit (All Flights) Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Strap In"	Leg Garters, Lower Koch Fittings, Upper Koch Fittings, Anti-G Hose, 3 Oxygen Connections (2 Main, 1 Emergency), Helmet (Visor Down: Aircraft Only), ICS Cord, Chin Strap Connected. Gloves on. With parachute risers connected, lean forward to full extension of inertia reel straps and then sit back. If inertia reel straps do not fully retract (i.e. if the straps leave any slack), or if binding occurs, notify maintenance prior to flight.	"Complete" *"Complete"*
2. "Battery"	Check and report Battery Voltage.	"On, ____ Volts"
3. "Regulator Anti-Suffocation Valve"	Check Anti-Suffocation Valve by breathing into the oxygen mask. If valve is functioning properly, it will be possible to breathe through when you inhale deeply.	"Checked" *"Checked"*
4. "External Power"	Give connect signal to lineman. GPU required if battery voltage is <23.5V. **DO NOT connect GPU If Battery <22.0V.** Give lineman a thumbs up signal once GPU voltage is indicated on the EICAS Display. If a lineman is not immediately available, continue with the checklist at instructor's discretion.	"Connected,_____Volts" if conducting battery start: **"Not Required"**
5. "Seat Height"	Check to ensure the area between seat and side panels is free of obstructions prior to adjusting the seat. Ensure seat height allows a clear view of all displays. In the aircraft, use the HUD horizon line (purple line) as a reference on the horizon.	"Adjusted"
6. "Rudder Pedals"	Adjust the rudder pedals so that you can reach the rudder stops without locking your knee. If required, use the snubbers located under the seat to lengthen the blue leg restraint garters to allow for full rudder throw. Your heels will be on the deck and only toe pressure is used on the lower part of the rudder pedal. Heels will come off the deck only when applying brake pressure. Do not apply pressure to the rudder pedals when adjusting.	"Adjusted"

7. "Flight Controls"	Ensure all ground personnel are clear and visually check for free and correct movement. Verify full control range is available at selected seat height. Move the stick left, right, forward, and aft while confirming the aileron and elevator movements are correct. Then rotate (sweep) the controls in a circular motion to ensure there is no binding. Check the rudder by gently applying full rudder in each direction. You will need to look over your left shoulder to confirm proper operation of the elevator and rudder. Rear cockpit will perform same checks as front cockpit.	"Clear" *Conduct checks and report:* "Free and Correct" *Perform three way change of controls* *"Clear"* *Conduct checks and report:* *"Free and Correct"* *Perform three way change of controls*
8. "Fire Detection" a. "Fire One" b. "Fire Two"	Check that both bulbs in the upper half of the Fire Light illuminate, master warning and audio activate. Cancel master warning indication. Check that both bulbs in lower half of the Fire Light illuminate, master warning and audio activate. Cancel master warning indication.	"Test One" *"Test One"* "Test Two" *"Test Two"*
9. "Lamp Test"	Activate the lamp test in the front cockpit. Check for FDR lights [front cockpit only], red gear handle, red and green gear position lights, gear door lights, MASTER WARN and MASTER CAUT (cancel master warning and caution indications), Fire lights, COM1 and COM2 transmit illuminate, and LAMP TEST on EICAS then report… Rear cockpit will perform the same and report…	"Checked" *"Checked"*
10. "Flaps"	Check Flap Handle and indicator UP – if flaps are in the Takeoff (TO) or Landing (LDG) position, ensure the lineman and other pilot are aware as the flaps will move once the engine start is initiated.	"Up"
11. "Exterior Lights"	Check all four toggle switches are Off.	"Off"
12. "Trim Disconnect"	Check switch to NORM in both cockpits.	"Norm" *"Norm"*
13. "Interior Lights"	Flood, side and instrument lights as required *(Note: Sim events require most lights to be on).*	"Set"

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14. "Trim Aid"	Check switch is Off.	"Off"
15. "Trim Operation"	Move Aileron Trim left, then right returning trim indicator back to green. Move Elevator Trim up then down returning trim indicator back to green. Move Rudder Trim right, then left <u>leaving</u> the indicator to the left of the green at approximately the 12 o'clock position. (This is a setup to check TAD operation in the Before Taxi checklist).	**"Checked"** Rear Cockpit will also check trim and report: *"Checked"*
16. "Emergency Landing Gear"	Ensure full forward (in).	**"Check Stowed"**
17. "Clock"	Ensure the digital clock is in either the correct Local Time or Elapsed Time function as required. Time is set using UFCP CLK button.	"Set"
18 "UFCP" 　a. HUD TEXT/FPM UNCAGE/CAGE 　b. LGT NIGHT/DAY/AUTO HUD 　c. MFD/UFCP REPEAT/ NORM 　d. LGT-HUD 　e. LGT-UFCP	Check Switches in appropriate position. Check CAGE. Check AUTO HUD. Check NORM. As Required. As Required. *(All switches in the DOWN position).*	"Set"
19. "Audio Panel"	Check VOX button is out and turn to the one o'clock position, COM1 and COM2 buttons should be IN until time for radio usage. Ensure that DME, NAV and MKR switches are IN and EMR/NRM toggle switch is set to NRM. Adjust interphone and headphone volume as desired. The one o'clock position is a good starting point for audio controls.	"Set"
20. "Defog"	Check Defog switch OFF.	"Off"
21. "ELT"	Check ELT switch ARM.	"Arm"
22. "Parking Brake"	Reset parking brake by releasing the parking brake handle then smoothly pump brakes several times. While holding pressure, set the parking brake by pulling and turning the parking brake lever 90° clockwise. This will prevent the aircraft from creeping forward on engine startup. **Do not touch the parking brake handle shaft when actuating or releasing the parking brake as injury may occur.**	"Reset"

23. "Chocks"	Give the lineman the **signal** to remove the wheel chocks. Ensure that you are holding the brakes prior to the lineman removing the chocks. *Keep hands above the canopy rail while lineman is under the aircraft.* If a lineman is not immediately available, continue with the checklist at the discretion of the instructor.	"Removed"
24. "Generator"	Check Generator switch OFF.	"Off" "Off"
25. "Fuel Balance"	Check Fuel Balance switch AUTO.	"Auto"
26. "Manual Fuel Balance"	Check Manual Fuel Balance switch OFF.	"Off"
27. "Avionics Master"	Check Avionics Master switch OFF.	"Off"
28. "Bus Tie"	Check Bus Tie switch NORM.	"Norm"
29. "Probes Anti-Ice"	Turn switch ON, check ANTI-ICE advisory message on EICAS illuminates and amperage draw increases. Check that the L PHT and R PHT caution messages extinguish. Turn switch OFF, check for the ANTI-ICE advisory message to extinguish and the L PHT and R PHT caution messages illuminate with associated decrease in amperage draw.	"Checked, Off"
30. "Boost Pump"	Turn switch ON. Check BOOST PUMP advisory message illuminates and amperage draw increases. Turn switch to the ARM position and check for advisory message to extinguish and decrease in amperage draw.	"Checked, Arm"
31. "PMU"	Check switch lever locked to NORM.	"Norm"
32. "Evap Blower"	Check the Evaporator Blower switch position. Keep OFF for battery starts.	"Off" or "On" (as required)
33. "Air Conditioner"	Check the Air Conditioner switch OFF.	"Off"
34. "Bleed Air Inflow"	Check Bleed Air Inflow switch OFF.	"Off"
35. "Pressurization"	Check in guarded position. Note: If guard is in down position switch is in NORM.	"Norm"
36. "Ram Air Flow"	Check Ram Air Flow switch OFF.	"Off"
37. "Temp Control"	Check Temp Control dial in AUTO. (AUTO is a range from approximately the eight o'clock (COLD) through the four o'clock (HOT) position.)	"Auto"

"Cockpit (All Flights) Checklist Complete"

NOTE: Check to ensure IOAT is below 80°C prior to commencing the Engine Start (Auto) Checklist. If IOAT is greater than 80°C refer to the Engine Start High IOAT at Start (>80°C) Checklist.
SNA/IUT: **"IOAT below 80"**

Enclosure (1)

"Engine Start (Auto) Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Canopy"	Front cockpit crew member will check that both left and right canopy rail are clear of items (checklists, kneeboards, etc.) and that the canopy handle is in the open position then RESPOND….	
	Rear cockpit crew member will check both rails clear and CFS pin box closed, then RESPOND….	**"Rail clear"** *"Rail clear"*
	Pull canopy lock release handle and hold, then pull canopy over center and release canopy lock release handle.	
	Ensure internal canopy handle is rotated to the full OPEN (aft) position and slowly lower canopy rail to canopy sill.	
	Rotate internal canopy handle forward with a slow steady motion until resistance is felt in lock mechanism (approximately ¾ ways forward).	
	Reverse direction just until pressure is relieved (approximately ½ ways back), then continue to rotate internal canopy handle forward to the LATCHED position.	
	Check proper engagement of canopy hooks by lifting lock release lever.	
	Ensure canopy light and Master Warning illuminate and internal canopy handle does not independently rotate aft.	
	Release lock release lever and extinguish Master Warning. Make sure canopy light extinguishes.	
	Check canopy lock by **gently attempting to rotate internal canopy handle aft.** When properly locked, internal canopy handle cannot be rotated aft without raising lock release lever.	
	Verify mechanical green indicators visible.	**"Closed and Latched"** Rear Cockpit will also check and report:
	Ensure minimum adequate canopy/helmet clearance by placing a closed fist on top of your helmet when adjusting seat height. Excessive seat height (helmet above canopy breakers) can result in fatal injury upon ejection.	*"Closed and Latched"*
2. "Navigation and Anti-Collision Lights"	Turn navigation and anti-collision lights ON (anti-collision lights remain off at night until execution of the lineup checklist).	**"On"**

3. "PMU Fail / PMU Status"	Check PMU fail warning and status caution messages are extinguished. If not, reset PMU by turning PMU to OFF then back to NORM.	"Extinguished"
4. "PCL"	Smoothly advance to Start Ready position and ensure the ST READY advisory message **remains illuminated for three seconds.** If message goes out, do not start. Pull PCL back to cutoff and repeat step. Once ST READY advisory message illuminates, hover hand above PCL (prevents inadvertent movement, but in position to abort start if required).	"Advance to start position"
5. "Propeller Area"	Clear the area left, right, and forward of the propeller and then signal the lineman with the start signal. The lineman will act as fire watch.	"Clear"
6. "Starter"	Move starter switch to the AUTO/RESET position and release.	"Auto / Reset"
7. "Engine Start"	Monitor engine instruments for normal indications and the lineman during the start. Hydraulic pressure should climb to the normal range followed by N_1 rotation. Indication of Fuel Flow should follow, with light-off occurring shortly thereafter. Call out "Light-off" with initial rise of ITT. ITT should rise steadily, peaking twice. Oil pressure will rise as well and N_1 will accelerate to 60-61%. Call out "N_1 60%" as appropriate. Ensure ST READY advisory message remains illuminated throughout. Note: ST READY message will change position on the EICAS during start.	"Light-off..." "N_1 60%"
8. "PCL"	Upon N_1 reaching 60%, advance PCL forward past idle stop (verify travel past idle by hearing two audible clicks) and retard PCL to idle stop. *(Note: Simulator only has one click passing idle gate).*	"Two clicks, Idle, max ITT ___"
9. "External Power"	If used, signal lineman to disconnect external power. The voltage will drop when the external power unit is turned off. External power is not disconnected until the plane captain has disconnected the external power cord and has pulled it clear of the aircraft. **Keep hands above canopy rail and eyes on the lineman (use mirror as necessary) until clear.**	"Disconnected"

"Engine Start (Auto) Checklist Complete"

"Before Taxi Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Generator"	Turn Generator switch ON and check GEN warning message is extinguished. Aft cockpit switch remains OFF.	"On"
2. "Aux Bat"	Set Aux Battery switch to ON.	"On"
3. "Bleed Air Inflow"	Set Bleed Air Inflow switch to NORM.	"Norm"
4. "Evap Blower"	Set Evaporator Blower rheostat to desired flow setting.	"On" or "Off" (As required)
5. "Air Conditioner"	Set AIR COND switch to desired position and then select desired Temp Control setting.	"On" or "Off" (As required)
6. "Avionics Master"	Wait approximately 10 seconds after GEN switch ON before turning the Avionics Master switch ON. This will allow battery amperage to stabilize. Turn Avionics Master switch ON.	"On"
7. "OBOGS"	Turn Green Supply Lever to the ON position.	"On"
8. "Oxygen mask"	Don oxygen mask on and adjust as necessary	"On and secure" *"On and secure"*
9. "OBOGS" a. Concentration Lever	Turn white Concentration Lever to MAX (check for green light on) and then back to NORMAL.	
b. Pressure Lever	Set red lever to EMERGENCY and check for continuous positive pressure. Set lever back to NORMAL.	
c. Flow indicator	Check for good blinker operation while taking several breaths with the pressure lever in the Normal position (when you take a breath, the white blinker will appear). (Note: Blinker does not operate in the UTD/OFT).	"Normal, Normal, Good Blinker" *"On, Normal, Normal, Good Blinker"*
10. "Anti-G Test"	Depress the Anti G-Test switch and verify inflation of the G-Suit. The G-Suit should deflate when the test switch is released. (Note: the G-Suit will not inflate in the simulator).	"Checked" *"Checked"*
11. "System Test Panel" a. "Lamp Test"	Activate the lamp test in the front cockpit. Check for FDR lights [front cockpit only], red gear handle, red and green gear position lights, gear door lights, MASTER WARN and MASTER CAUT (cancel master warning and caution indications), Fire lights, COM1 and COM2 transmit illuminate, and LAMP TEST on EICAS then report.... Rear cockpit will perform test and report....	"Checked" *"Checked"*

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b. "AOA"
   (1) "Low"
 	
   (2) "High"
	(1) Conduct Low test (10.5 +/- 0.4 units).
	
	(2) Conduct High test (18.0 +/- 0.4 units).
	
	Note: Pull the control stick slightly aft (off the forward stop) to prevent stick shaker stress on the control stick push pull rod.
		(1) "Amber Donut, ___ units "
		
		(2) "Green chevron, Stick Shaker, ___ units"

Conduct checks c. thru g. and give one voice response at the end. Allow tones to silence before next challenge.
c. "Altitude" d. "Landing Gear" e. "Over Speed" f. "Over G" g. "Bingo Fuel"	Confirm altitude aural words. Confirm gear aural tone. Confirm over speed aural tone. Confirm over-g aural tone. Confirm bingo aural words.	"Test"
Note: Communication between the Aircrew and the Lineman is integral to the successful completion of the Speed Brake and Flap checks. Remember that neither the Speed Brake nor the Flaps are visible from the cockpit. To ensure the indicators are indicating correctly, we must rely on signals from the lineman.
12. "Speed Brake"	Give Lineman the speed brake signal, indicating that the speed brake is being extended. Extend Speed Brake; check for advisory message on EICAS and thumbs up from Lineman.	"Light On" *"Light On"*

13. "Flaps"
 	
  a. Landing
 	
  b. "Flaps" Takeoff
 	
  c. Speed Brake
	
	Give Lineman the Flaps signal. Select flaps to LDG. Check the Flap Indicator for proper indication, thumbs up from the Lineman, and Speed Brake advisory message has extinguished.
	
	Signal lineman for Takeoff Flaps (Flaps signal followed by making a "T" with both hands). Position Flaps to T/O and check flap indicator for proper indication as well as a thumbs up signal from the lineman.
	
	Attempt to extend the Speed Brake with the Flaps at T/O position. The Speed Brake should remain up. Leave Flaps in the T/O position.
	
	Rear Cockpit follows along with checks conducted and reports….
		
		"Landing, Speed Brake Light Out"
		
		"Takeoff"
		
		"Speed Brake does not extend"
		
		"Checked"

14. "Trim Aid"	Turn the TAD ON. The Rudder Trim indicators should move into the green position. The Aileron and Elevator Trim indicators should remain in the green position. The TAD OFF advisory message should extinguish.	"On"

15. "Nose Wheel Steering"	Select Nose Wheel Steering and confirm NWS ON advisory message illuminates on EICAS display.	"On"
16. "Parking Brake"	Rotate handle 90° counter clockwise and <u>EASE</u> handle in.	"Released"
17. "Brakes"	F/C will conduct the first brake check then pass controls to the R/C for the second brake check. Visually clear the area left, right, and forward of the aircraft then give the lineman the brake release signal. On the lineman's signal, release brakes and advance the PCL slightly (if required) to roll forward. Reapply brakes on the lineman's signal. Set the parking brake whenever the aircraft is at a complete stop with the engine running.	**"Clear Left, Right and Forward"** *F/C conducts check and reports:* **"Checked"** *Perform three way change of controls* *"Clear, Left, Right and Forward" R/C conducts check and reports: "Checked"* *Perform three way change of controls* (Salute and dismiss Lineman)
18. "TCAS"	From the NAV page, select the TCAS UFCP via left MFD LSK (R2). After the UFCP TCAS page comes up, turn on TCAS by pushing UFCP button (W1); TCAS will toggle from STBY to ON and report.... Select NAV display to 10nm range by pressing LSK (R4) for better visual of traffic symbols during test. Press and hold Left MFD LSK (R2) for 1 second and release. Verify TCAS symbols appear on NAV display and aural test 'TAS SYSTEM TEST OK' and report.....	"On" "Test"
19. "UFCP and MFD's" a. "Database, location and alignment"	Center MFD set to PFD display mode. Right MFD set to EICAS display mode. On left MFD, select menu, select INIT REF LSK (R6), select IDENT LSK (L1) and confirm FMS database date is current. Select POS IDENT LSK (R6). Page 1 is used to cross check FMS GEO position with airfield GEO position. Ensure proper airfield is used as reference. Page 3 is used to confirm INS GEO position is aligned with FMS GEO position. Select SETUP and disable SUA. Acknowledge and clear all messages in the NAV page and FMS scratchpad.	"Checked"

b. "UHF"	Inform IP you're switching (CH 1 UHF), copy ATIS and verify information is current within 1 hour of present time. Ensure Audio Panel COM1 button is out and adjust volume as required.	**"Switching ATIS"**
	If your flight profile requires a clearance, inform IP you're switching Clearance (CH 2 UHF)	**"Switching Clearance"**
	Call Navy Corpus Clearance Delivery and put your flight plan clearance on request (Sample clearance call for the ZOMBIE1 flight plan (VFR to KINGS4 MOA)).	AC: **"Clearance Delivery, (call sign), Zombie ONE on request, ready to copy"**
	Clearance Delivery will provide clearance and transponder code (squawk). You are required to read back clearance and squawk. Sample read back is for ZOMBIE1 flight plan flight following.	CLR: "(Call sign), for VFR flight following squawk XXXX"
	Clearance Delivery will verify your read-back is correct. Sample return call to Clearance Delivery......	AC: **"(call sign), squawk XXXX"** CLR: "(call sign), read-back correct"
	Once complete with Clearance Delivery or if departing VFR without a clearance, inform IP you're switching to CH 3.	**"Switching Channel 3"**
c. "VHF"	Set to desired frequency. Typically KNGP Ground CH 3 will be set or at IP discretion.	**"Set"**
d. "VOR"	Set to desired frequency. Typically CH 1 (114.0), the NGP VOR will be set.	**"Set"**
e. "Transponder"	Set appropriate code from flight clearance or IAW AC ID number via UFCP (W4) key and ensure the transponder is set to "STBY." (AC IDs beginning with "7XX" will set "55XX" and "8XX" will set "56XX")	**"Standby"**
f. "FMS and FLT No."	This is a minimum **recommended** setup for a typical Contact flight. Subsequent setup will be dictated by type of sortie being flown. - Load Route appropriate for the flight. Default flight plan 1KNGP is for flights to RUSTY-MOA-NGT-Goliad Arrival. -Verify FLIGHT NO is blank. -Left MFD set to NAV or TSD with range of 10NM -PFD source set to VOR. -Bearing pointer #1 (green) set to VOR. -CDI course set to runway heading. -Heading bug set to departure heading. -Bearing pointer #2 (cyan) set to FMS.	**"Set"**

f. "Alt, G, Speed, Fuel Flags"	Zero the G meter and turn on numerical G read out. Set fuel flags (Joker/Bingo) as briefed. Set altitude to first expected level off. Set speed bug as required.	**"Set"**
20. "Flight Instruments"	Check pitch, roll and heading indications, and no red X's. (A failed display will appear as a red X. Report any abnormal indication).	**"Checked"** "Checked"
21. "Altimeters"	Set the local altimeter in the PFD and the BFI in both cockpits. Check to ensure the altimeter readouts are within 75' of local field elevation and within 75' of each other.	**"____ set and checked twice"** "____ set and checked twice"
22. "EICAS Display"	Check to ensure the Master Warning and Caution Lights are extinguished and EICAS Display is clear of all malfunctions. <u>Verbalize any Warning, Caution, or Advisory messages. You should only have L PHT and R PHT INOP cautions and NWS ON</u>.	**"(Report what is displayed), Checked"** "(Report what is displayed), Checked"
23. "Landing and Taxi Lights"	Turn Landing and Taxi Lights ON.	**"On"**

"Before Taxi Checklist Complete"

Taxi and hold short of CHARLIE taxiway.

ACTION	RESPONSE
Call Navy Corpus Ground to receive taxi clearance. Example is for an aircraft parked on Bravo Line taxing for the Kings 4 MOA, VFR. Ground will provide taxi clearance.	AC: **"Navy Corpus Ground, (call sign), Alpha North/Bravo Line, taxi with (ATIS code), (VFR/IFR intensions)"** GRD: "(call sign), taxi to the run-up via Charlie, Sierra" AC: **"(call sign), taxi via Charlie, Sierra"**

Note: Release the parking brake, clear the area left, right and forward and begin taxing to the appropriate ground run-up area. Taxi speeds shall be commensurate with conditions and IAW Course Rules. While taxing, keep your left hand on the PCL and your right hand on the control stick while keeping the ailerons deflected into the wind. Use brakes to control the aircraft's speed and rudder pedals to turn. Always be observant for other aircraft, fuel trucks and ground vehicles.

(The line area is defined as anywhere multiple aircraft are parked on the ramp and does not include taxiways)

"Taxi Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Transponder"	At KNGP, verify Transponder is STBY. Set as required at other airfields.	"Standby"
2. "Heading, Turn, and Slip Indicators"	Once clear of the line area and other aircraft, verify heading on the HSI and BFI, and confirm that the Side Slip, and Rate of Turn Indicators track appropriately during turns. Attempt to use expected turns in the taxi route to accomplish this check.	"Checked"

"Taxi Checklist Complete"

When established in the run-up…

"Overspeed Governor Checklist"

Note: Any fault discovered during this check is reason for ground abort.

CHALLENGE	ACTION	RESPONSE
1. "Brakes"	Ensure that you have firm brake pressure prior to the run-up. (Set the parking brake, but also continue to hold firm brake pressure to ensure the aircraft does not roll forward once the PCL is advanced).	"Hold"
2. "PCL"	Verify PCL is at IDLE and N_1 is between 60-61%.	"Idle"
3. "PMU"	Place the PMU switch to OFF. **Verify idle N_1 stabilizes at or above 60%.** The PMU FAIL and PMU STATUS messages will appear upon turning the PMU Off. Cancel the Master Warning and Caution Lights.	"Off" Note: It is acceptable for N_1 to make little or no change when turning off the PMU as long as it is within limits.
4. "PCL"	Slowly advance PCL to 100 +/- 2% NP **and allow the engine to stabilize.** Verify that the propeller remains in the governed range with the PMU Off and 100 +/- 2% NP is reached at 30 +/- 5% Torque. **WARNING:** Advancing the PCL prior to engine stabilization with the PMU OFF or advancing too rapidly may cause high ITT and engine over temperature. **NOTE:** At higher DA less torque may be required to achieve 100%NP	"100% NP, ___%Torque"
5. "PCL"	Advance PCL slightly and verify NP remains 100 +/- 2%.	"Within Limits"
6. "PCL"	Reduce PCL to Idle. **Verify idle N_1 stabilizes at 60% or above.**	"Idle"
7. "PMU"	Place the PMU switch to NORM. Verify PMU FAIL and PMU STATUS messages extinguish, NP returns to 46–50%, N_1 returns to 60-61%.	"Norm"

Note: Call the Checklist complete when N_p & N_1 are within limits. **"Overspeed Governor Checklist Complete"**

"Before Takeoff Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Minimum Power at 60 Knots"	Compute minimum power for takeoff (Torque) using the appropriate chart in the PCL or Quad-Fold checklist.	"100%" (Or whatever the chart indicates for the present IOAT reading and pressure altitude)
2. "Speed Brake"	Ensure Speed Brake is retracted.	"Retracted"
3. "Flaps"	Ensure Flaps are set to Takeoff.	"Takeoff"
4. "Trim"	Ensure Trim Indicators are all showing in their respective green ranges.	"Set for Takeoff"
5. "Fuel Quantity and Balance"	Check Fuel Quantity Totalizer. Verify fuel load is balanced and no FUEL BAL message is present on EICAS.	"___ lbs, balanced"
6. "Engine Instruments"	Check all engine instruments on the EICAS Display are within normal operating limits.	"Checked"
7. "DVR Control"	Not used at this time.	"Not Required"
8. "Amps"	Verify +50 amps or less.	"___amps, Less than 50"
9. "DEFOG"	Check Defog Switch off.	"Off"
10. "Seat Safety Pin"	Prior to pulling the Ejection Seat Safety Pin, verify that upper Koch fittings, lower Koch fittings and leg restraint garters are attached correctly. Ensure the pin safety streamer is free and clear of the ejection seat handle. With the "two-hand method" (one hand on the streamer and one on the pin) remove the Seat Safety Pin and stow in the canopy locking handle. If a Seat Safety Pin is dropped, refer to the IFG.	"Attached six points, removed and stowed" *"Attached six points, removed and stowed"*
11. "ISS Mode Selector"		*"Solo" or "Both" (As required)*
	Verify ISS Mode Selector lever is locked in the desired detent. (Rear cockpit will position ISS to desired detent and report.)	"Roger Solo" or "Roger Both" (As required)

"Before Takeoff Checklist Complete"

ACTION	RESPONSE
Inform IP you're switching to squadron base to report outbound, CH 19 UHF (FITU events will call VT-27/Boomer Base). (Wait for a response from the respective base)	**"Switching Base"** **AC: "(Base name) base, Boomer/Ranger (Side #), (IP rank and last name), (Your rank and last name) outbound"** Base: "Boomer/Ranger (Side #), Roger Boomer/Ranger base has you outbound."
Switch to CH 3 UHF.	**"Switching Ground"**
Call ground for further taxi clearance. Ground will provide further clearance to taxi to the active runway. Read back verbatim all runways, hold short and runway crossing clearances.	**AC: "Ground, (call sign), further taxi"** GRD: "(call sign), taxi to runway 13L, via Sierra, Charlie, RWY 22, cross RWY 17" **AC: "(call sign), taxi runway 13L via Sierra, Charlie, 22, cross 17"**

Note: Release the parking brake, clear the area left, right and forward and begin taxing to the approach end of the active runway via the assigned taxi clearance. If cleared to cross an inactive runway, ensure you clear yourself visually before crossing and announcing over ICS: "**Clear, Left, Right and Above on ___.**"

Approaching the hold short line for the assigned runway (approximately 200 ft. prior) switch to CH 4 UHF. Note the wind direction via the wind sock.	**"Switching Tower"**
Come to a complete stop and <u>call for takeoff when you are #1 in sequence at the hold short line</u>. Note: Offset as dictated by course rules manual.	**AC: "Navy Corpus Tower, (call sign), ready for departure"**
Tower will issue you instructions: "Cleared for Takeoff", "Line-up and Wait," or "Hold Short." You are required to read back all clearances verbatim.	TWR: "(call sign), winds are ___° at ___ knots, runway 13L, cleared for takeoff." **AC: "(call sign), cleared for takeoff, runway 13L"**

After acknowledging tower's "Cleared for takeoff" or "Line-up and Wait" call, <u>visually clear final</u> for landing traffic and announce: "**Clear, Left, Right and Above.**" Once clear, begin taxing to the takeoff position and initiate the Lineup Checklist. The Lineup Checklist should be executed from memory to limit time on the runway once cleared for takeoff.

Enclosure (1)

"Lineup Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Exterior Lights"	Ensure both Landing and Taxi Lights are ON. Turn ON anti-collision lights if they were off (night ops).	"On"
2. "Transponder"	Select (W4) key on the UFCP. Use (W1) key to toggle from XPDRSBY (STANDBY) to XPDRACT (ACTIVE). Check W3 line to ensure ALT ON mode is engaged.	"Active"
	Hold the checklist after this step if Tower has only cleared you to **"Line up and Wait."** *CAUTION: Prolonged use of pitot and AOA heat while on the ground will damage the pitot and AOA heating elements.*	
3. "Probes Anti-Ice"	Turn ON Probes Anti-Ice switch. Check EICAS Display, ensure ANTI-ICE advisory light illuminates and the L PHT and R PHT messages extinguish.	"On"
	Hold the checklist after this step until aircraft is aligned on runway centerline and aircraft has been brought to a complete stop.	
4. "Nose Wheel Steering"	Once aligned with runway centerline, roll slightly forward to ensure Nose Wheel is straight, come to a stop using even braking and hold the brakes. Deactivate Nose Wheel Steering. Verify NWS ON status message on EICAS extinguishes.	"Off"
5. "EICAS Display"	Check EICAS Display. Verbalize any EICAS WARNING, CAUSTION or ADVISORY messages.	"(Report what is displayed), Checked" *"(Report what is displayed(, Checked"*

"Lineup Checklist Complete"

ACTION	RESPONSE
Verbally call out right to left or left to right crosswinds as reported by tower. Verify with windsock, if available.	**"Winds are right to left (or left to right), cleared for takeoff."**
When cleared for takeoff and properly aligned on the runway with the Lineup Checklist complete, hold brakes, bring the elevator to the neutral position and position the ailerons into the wind. Smoothly increase torque to ~30%, check engine instruments and report.... Rear cockpit will also report....	**"Instruments checked"** *"Instruments checked"*
Perform takeoff roll per Contact FTI. When airspeed reaches 60 KIAS, verify TORQUE indication is <u>at or above</u> computed minimum power at 60 KIAS, fuel flow is less than 800 pph and report.... Reaching 90 knots (or rotation speed adjusted for gust factor), report and execute rotation IAW Contact FTI.	**"60 knots, ____%, Good Flow"** **"90 knots, rotate"**

Conduct takeoff procedures IAW Contact FTI and VFR Course Rules procedures.

Note: Step one commences the After Takeoff Checklist. **Do not** call for or complete the After Takeoff Checklist as you do for all other checklists. Follow the model below:

After Takeoff Checklist
(Once aircraft is airborne and a safe landing can no longer be made)

CHALLENGE	ACTION	RESPONSE
1. Gear	Check for two positive rates of climb indicated on the Altimeter, the VSI or visually.	**"Two positive rates, Gear"**
2. Flaps	Verify airspeed is above 110 KIAS and raise the flaps and then report... Verify gear position lights and gear handle light have extinguished and the flap indicator indicates up prior to 150 KIAS; then report... Rear cockpit verifies proper indications and reports.... Once safely airborne with the gear and flaps up, comply with local departure procedures. When directed by Tower, switch departure and check-in (Example for Kings 4 MOA). When desired, switch left MFD to TSD display to view MOA/Mustang working areas.	**"above 110, Flaps"** **"Gear up, Flaps up, at ____ knots"** *"Gear up, flaps up"* **"Switching Channel 12"** UHF: **"Corpus Departure, (call sign), passing (altitude) off Navy Corpus, Kings 4"**

Note: The first Operations Check should be performed shortly after initial check-in with Departure during climb out to altitude after the aircraft is trimmed and the cockpit is properly set up for navigation to the practice area or OLF. Subsequent Operation Checks are typically performed at least once every 15-20 minutes for the duration of the flight, including while operating in the landing pattern.

"Operations Check (OPS Check)"

CHALLENGE	ACTION	RESPONSE
1. "Hyds"	Check hydraulic pressure within limits of 3000 +/- 120 PSI.	"_____ PSI"
2. "Electrical"	Check volts between 28.0 – 28.5, Check amps between -2 – +50	"____Volts, ____Amps"
3. "Fuel"	Check fuel quantity total and fuel load is balanced.	"____lbs total, balanced"
4. "OBOGS"	Check flow indicator for normal operation.	"Good Blinker" *"Good Blinker"*
5. "Engine Instruments"	Check engine instruments on the EICAS Display for normal operating limits.	"Checked"
6. "Pressurization"	Check cockpit altitude and pressure.	"Cockpit Altitude ____, Delta (Δ) P____"
	TECHNIQUE: Include the nearest airfield and/or aircraft position at the end of the Operations Check for enhanced positional awareness and to identify an emergency divert airport.	"Nearest airfield is_____" (i.e. nearest airfield is Goliad five miles to the north)

"Operations Check (OPS Check) Complete"

Note: Complete the Climb Checklist as the aircraft passes 10,000' MSL to ensure the OBOGS and pressurization systems are functioning normally.

"Climb Checklist" (Passing 10,000 ft. MSL)

CHALLENGE	ACTION	RESPONSE
1. "OBOGS"	Check flow indicator for normal operation	"Good Blinker" *"Good Blinker"*
2. "Defog"	Set as required. (Normally Off)	"On" or "Off" (As required)
3. "Vent Control Lever"	Set as required.	"Canopy" or "Foot" (As required)
4. "Pressurization"	Check cockpit altitude and pressure differential. Cockpit should be pressurized to ~8k'.	"Cockpit Altitude____, Delta (Δ) P____"

"Climb Checklist Complete"

Note: Conduct the Pre-Stalling, Spinning and Aerobatic checklist prior to conducting any Stall, Spin, OCF or Aerobatic maneuvers.

"Pre-Stalling, Spinning, and Aerobatic Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Loose Items"	Ensure all publications and checklists are secured. Check seat straps secure and tightened.	"Stowed" "Stowed"
2. "Engine Instruments"	Check engine instruments on the EICAS Display for normal operating limits and no warning/caution messages illuminated on CAS Display.	"Checked"
3. "Fuel Balance"	Compare fuel tank levels to ensure you have less than a 50 lbs. imbalance.	"Balanced, within 50 Pounds"

"Pre-Stalling, Spinning, and Aerobatic Checklist Complete"

Note: Perform the Descent Checklist on your initial descent from the working areas or after transiting greater than 100nm.

"Descent Checklist"

CHALLENGE	ACTION	RESPONSE
1. "PFD"	Check that the PFD and BFI displays match and there are no red X's indicating a fault. Ensure artificial horizon has not tumbled. Re-cage the BFI as required.	"Checked" "Checked"
2. "Altimeters"	Set local altimeter in the PFD and BFI.	"____, set twice" "____, set twice"
3. "Master Arm"	Check in safe position.	"Safe"
4. "Defog"	Set as required. (Normally Off)	"On" or "Off" (As required)
5. "Vent Control Lever"	Set as required.	"Canopy" or "Foot" (As required)

"Descent Checklist Complete"

Note: Before lowering the landing gear; <u>check and verbalize that aircraft speed is below 150 KIAS</u> and wait for the non-flying pilot to confirm:

Flying Pilot/SNA: **"Below 150, Gear"**

Non-flying Pilot/IP: Will confirm aircraft speed is below 150 KIAS and respond with *"Clear"*

Flying Pilot/SNA: Lower the landing gear handle.

The Before Landing Checklist listed below is an example of how the checklist is conducted when performing the overhead break procedure. The checklist is initiated once established on the downwind leg and typically no sooner than abeam the upwind numbers.

"Before Landing Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Defog"	Ensure the Defog is Off. (Engine performance decreases with defog on)	"Off"
2. "Engine Instruments"	Check engine instruments on the EICAS Display for normal operating limits	"Checked"
3. "Gear"	Confirm that only three green annunciators are illuminated on the landing gear control panel.	"Down" *"Down"*
4. "Brakes"	Verify positive pressure by actuating toe brakes.	"Checked"
5. "Flaps"	Verify Flap Indicator corresponds to the position of the Flap Handle.	"Up/Takeoff/Landing" *"Up/Takeoff/Landing"*
6. "Speed Brake"	Check EICAS display to ensure the Speed Brake Light is extinguished.	"Retracted"

"Before Landing Checklist Complete"

ACTION	RESPONSE
Begin the landing transition IAW the Contact FTI. When you reach the 180° position, Call Navy Corpus Tower for landing clearance. Note: indicate to tower if you want to do a: full stop or touch and go.	AC: "Navy Corpus Tower, (call sign), 180 gear down, full stop"
Tower will usually respond with "Cleared to land." If Tower instructs to "wave-off", do so IAW the Contact FTI and VFR Course Rules. However, Tower may also call to "continue" which means to continue the approach, while awaiting landing clearance.	TWR: "(call sign), winds _____ at __kts, runway 13L, cleared to land."
Aircraft responds with:	AC: "(call sign), cleared to land, 13L"

By short final prior to entering the landing transition, verify only three green lights illuminated on landing gear panel and visually check the Runway Duty Officer (RDO) cart to ensure waveoff lights are extinguished.	**"Gear down, lights checked"** **"Gear down, lights checked"** Or **"Gear down, negative lights"**
At non-navy fields/OLF's or in the absence of an RDO cart report...	**"Gear down, negative lights"**

Note: Taxi clear of all active runways, bring the aircraft to a complete stop and switch CH 3 UHF. (If extended taxi delay, consider securing the Probes Anti-Ice to prevent damage) The SNA may perform the first three steps of the After Landing Checklist at the IPs discretion and then call Navy Corpus Ground for taxi. Complete the remainder of the checklist during the taxi back to the parking line.

"After Landing Checklist"

CHALLENGE	ACTION	RESPONSE
1. "ISS Mode Selector"	Verify ISS Mode Selector lever is locked in the desired detent. (Rear cockpit will position ISS to desired detent and report.)	*"Solo"* **"Roger Solo"**
2. "Seat Safety Pin"	Use the "two-hand method" to install the Seat Safety Pin. Ensure the pin is fully inserted to preclude inadvertent seat actuation.	**"Installed"** *"Installed"*
3. "Probes Anti-Ice"	Turn the Anti-Ice Switch off. Check EICAS display and ensure the ANTI ICE Advisory extinguishes and both L and R PHT INOP Cautions illuminate, acknowledge MASTER CAUTION.	**"Off"**
Switch Navy Corpus Ground (CH 3 UHF) and request taxi:	**"Switching Ground"** **AC: "Navy Corpus Ground, (call sign), Clear of the active on Yankee, Taxi to my line"** (read back taxi clearance)	
During Taxi, Switch Ground CH 3 VHF and call Texan Base (CH29) first and then Squadron Base (CH 19) in UHF:	**AC: "Texan Base, (SIDE #) is back, aircraft's (UP/DOWN), (Quick-turn/Done for the day), looking for parking"** **AC: "Boomer/Ranger Base, (SIDE #) is back complete/incomplete"**	
4. "Flaps"	Select Flap Lever to Up. Check Flap Indicator indicates Up.	**"Up"**
5. "Trim Interrupt"	Depress the Trim Interrupt button. Check EICAS Display to verify TRIM OFF and TAD OFF messages illuminated. Check TAD Switch moves to off.	**"Depressed"**
6. "Trim"	Adjust trim as required to place all three indicators into the green range.	**"Set for Takeoff"**

7. "Transponder"	Set Transponder to STBY at KNGP. (After selecting XPDRSBY, select confirm to place in standby mode). Set as required at other airfields.	"Standby"
10. "TCAS"	Set TCAS to the standby mode.	"Standby"
11. "Bleed air inflow"	Turn off bleed air inflow switch.	"Off"

"After Landing Checklist Complete"

Note: Complete the "Engine Shutdown Checklist" once safely positioned in the appropriate parking spot.

"Engine Shutdown Checklist"

CHALLENGE	ACTION	RESPONSE
1. "Parking Brake"	Apply brakes and hold pressure while pulling and turning the parking brake lever 90° clockwise.	"Set"
2. "Landing and Taxi Lights"	Turn off the landing and taxi lights.	"Off"
3. "Transponder"	Verify transponder in standby.	"Standby"
4. "Avionics Master"	Verify with IP that flight times have been recorded (If SOLO, record flight times). Place the Avionics Master switch to OFF.	"Off"
5. "Ram Air"	Check Ram Air Inflow switch OFF.	"Off"
6. "Air Conditioner"	Turn the Air Conditioner switch OFF.	"Off"
7. "Evap Blower"	Turn the Evaporator Blower control rheostat full counter clockwise to the OFF position.	"Off" *"Off"*
8. "Oxygen Mask"	Remove O2 mask	"Removed"
9. "OBOGS"	Ensure OBOGS pressure and concentration levers are in the normal position. Turn supply lever OFF.	"Normal, Normal, off" *"Normal, Normal, off"*
10. "PCL"	Ensure PCL has been at IDLE for at least 60 seconds before setting the PCL to OFF. Monitor engine instruments to verify proper shutdown (ITT and N_1 decreasing, fuel flow indicating zero).	"Off"
11. "Canopy"	While the prop is winding down, ensure the canopy rails are clear of obstructions and open the canopy.	"Rail Clear" *"Rail Clear"*
12. "PMU Status Message"	Ensure the PMU Status message is extinguished. (If a fault has been detected, the PMU Status message will illuminate 1 minute after touchdown; Notify maintenance if the light is present).	"Extinguished"

13. "FDR Light"	Check FDR Light status.	"Extinguished"
14. "Gust Lock"	Engage the gust lock (as required). To engage gust lock completely after installing pin depress the left rudder pedal until it locks.	"Engaged"
15. "Interior/exterior lights"	Turn off interior lights as required. Secure the Navigation and Anti-Collision lights once the propeller comes to a stop.	"Off"
16. "Gen, Batt, and Aux Batt"	Place the Generator, Battery and Aux Battery switches to OFF.	"Off"

"Engine Shutdown Checklist Complete"

The "Before Leaving Aircraft Checklist" shall be conducted per the Quad-Fold Checklist prior to leaving the aircraft after all flights. Due to time constraints, it will not be conducted during simulator events.

Prior to leaving the aircraft and simulator, all aircrew will ensure leg restraints, upper and lower Koch fittings, O2 and communication cords are properly stowed, and emergency O2 ring accounted for. Do not allow Koch fittings to slam against CB panels or other equipment and keep them clear of the canopy piston. Ensure you take all personal flight gear with you. Do not place anything on the canopy transparency!

LEAVE NO PERSONAL ITEMS OR EQUIPMENT (FOD) IN THE COCKPITS!

Prior to stepping off the wing, confirm visually that the Seat Safety Pin is installed, Canopy Fracturing System (CFS) safety pin is installed, CFS pin storage box is closed and latched, PCL is off, starter switch and ignition switch are in the NORMAL position and the ISS Mode Selector is set to the SOLO position. Use the following verbiage after the checks are complete:

Front Cockpit: **"Two pins in, Off, Normal, Normal"**

Rear Cockpit: *"Two pins in, Off, Normal, Normal, Solo"*

Front Cockpit: **"Roger, Solo"**

T-6B MISSION/NATOPS BRIEFING GUIDE

ADMINISTRATION

1. I.M. S.A.F.E. Checklist
   a. Any human factors?
2. Apply time critical Operational Risk   Management
   a. Identify Hazards
      (1) What could go wrong?
   b. Assess Hazards (severity/probability)
      (1) How bad could it get?
      (2) How likely is this to happen?
   c. Make Risk Decisions
      (1) Can I control the risk?
      (2) Does benefit outweigh the cost?
   d. Implement Controls
      (1) Target severity or probability   determined above.
   e. Supervise (risk based on situational changes)
      (1) Communicate with your crew and Operations if necessary.
         Change plan as necessary to keep risk at acceptable level.
3. Airsickness history
4. Crew Day/Crew Rest
5. Is student double-scheduled?
6. Work week limitation
7. Mandatory/Optional warm-up criteria
8. Student/IUT completed prerequisite briefs   and exams?
9. TIMS review of stage performance
10. Is student on SMS?
11. Previous hop incomplete? Required items to grade?
12. NOTAMS/TFRs
13. Read and Initial
14. Flight gear
15. Aircraft assignment
16. Fuel Packet/Contract gas available?
17. Hydration
18. Foreign Object Damage
19. Flight plan filed/PPRs
20. Training Time-Out/Drop on Request

WEATHER

1. Local area
2. Local area and destination forecast
3. Weather at alternate

MISSION EXECUTION/CONDUCT

1. Ground ops
2. Profile/sequence of events
3. Training rules
4. G Awareness procedures
5. OLF operations and entry
6. Other airfield considerations
7. Course rules/HFE

COMMUNICATIONS AND CREW COORDINATION

1. Frequencies
2. Radio procedures and discipline
3. Change of control of aircraft
4. Navigational aids
5. Identification
6. Clearing procedures

NAVIGATION AND FLIGHT PLANNING

1. Climbout
2. Mission planning, including fuel   management
3. Penetration
4. Approach/missed approach
5. Recovery

TRAINING RULES FOR ELP

1. A practiced Forced Landing (ELP) SHALL be discontinued if the aircraft is below energy profile at Base Key.

2. A landing is not required on a practice Forced Landing (ELP). When in doubt, WAVE OFF.

3. During any Precautionary Emergency Landing (PEL), aircrew SHALL WAVE OFF if stick shakers are actuated inside of Base Key or if airspeed decreases below 110 knots prior to the landing transition with no corresponding power correction.

4. Student Naval Aviators shall not conduct a practice Forced Landing (ELP) to a Flaps UP landing. If the aircraft cannot maintain minimum airspeed/profile beyond Base Key with flaps at Take Off or Landing, WAVE OFF.

5. A properly flown (ELP) includes a gradual reduction of descent rate approaching the threshold, followed by a normal flare to land.

EMERGENCIES

1. Aborts
2. Divert fields
3. Minimum and Emergency Fuel
4. Loss of Power
5. Radio failure/ICS failure
6. Inadvertent IMC
7. Loss of sight/lost wingman
8. Downed pilot and aircraft
9. Birdstrike
10. OBOGS malfunctions/Hypoxia symptoms
11. Other aircraft emergencies
12. Ejection

BRIEFING ITEMS

1. EP/System/NATOPS question of the day
2. Discuss Items
3. Introduce items
4. Special syllabus requirements

DEBRIEFING GUIDE

1. Flight plan closed/ODO contacted
2. NAVFLIR complete
3. MAFS written
4. ATF submitted
5. Fuel packet return (as applicable)
6. Unsatisfactory event
   a. Refer to Primary Curriculum Guide.
   b. If unsatisfactory event results in a pink sheet, direct SNA to report to Student Control.
7. Crew rest/crew day: Notify ODO if schedule changes are necessary.
8. Aviation Safety Awareness Program (ASAP) data submitted

T-6 SOLO BRIEFING GUIDE

CONGRATULATIONS on your upcoming solo flight. This brief will help ensure that you have a safe and enjoyable flight. It is recommended that every student review their safe-for-solo lecture notes and this instruction prior to each solo flight.

1. Preflight. Each student shall brief with the ODO at least 1.5 hours prior to scheduled takeoff time. The ODO shall review the SNA's check-ride or safe-for-solo Aviation Training Form (ATF) and note those items not performed to Maneuver Item File (MIF) level. Those items shall not be performed by the SNA on the solo flight as per the Master Curriculum Guide.

Flying a solo flight the same day as the check-flight is authorized if the following requirements are met:

    a. There are at least 30 minutes between the de-brief of the check-ride and the brief with the ODO for the solo event.

    b. The SNA's crew day will not exceed ten hours.

    c. The SNA feels physically well (I'M SAFE Checklist).

    d. Both the check-flight IP and the ODO are confident the SNA is physically/mentally able to complete the solo event.

2. Weather. The first consideration:

Profile	Ceiling-Visibility	Notes
KNGP Pattern Only	1,500-3	1
KNGP/SHAMROCK Re-Entry	3,000-3	1,2
Departure to KNGT Pattern Only	5,000-5	
KINGS 4 MOA	15,000-5	
Mustang Areas	7,500-5	3,4

Notes:

    (*)   For determining ceiling and visibility in working areas and at KNGT, use a combination of recent PIREPS and current METARS at nearby airfields.

    (1)   Only two solo aircraft are allowed in the KNGP bounce pattern at a time. Squadron ODOs shall coordinate with the RDO prior to launching solos into the local pattern.

    (2)   For C4501, when there is no requirement for high work, SNA solo may depart KNGP pattern and re-enter via PT Shamrock utilizing normal course rules procedures.

    (3)   7,500-5 to utilize working areas for F4301 or C4501.

    (4)   10,000-5 to utilize working areas for C4801.

    a. Student Solo wind limitations:

        (1) 10 knots maximum crosswind component

        (2) No tailwind component

NOTE: Weather recalls shall specify to which field solos should go if necessary to prevent IMC penetrations. Landing at any suitable field is authorized in order to remain VMC (CRP should be Primary Divert, followed by any towered field, then Aransas County).

3. Briefing. At a minimum, the brief shall include:

    a. Normal procedures and course rules

    b. KNGP Single runway operations and/or KNGP bounce pattern (as required)

    c. NOLF Goliad utilization (as required)

    d. Working Areas

    e. General sequence of maneuvers

    f. Master Curriculum Guide flight time and landing requirements

    g. Wave-off and recovery from landing irregularities

    h. Unauthorized maneuvers

    i. VFR lookout doctrine and use of the Traffic Collision Avoidance System (TCAS)

    j. Radio procedures with the RDO

    k. Joker/Bingo fuel considerations

4. Emergencies. Handle all emergencies per NATOPS/FTI procedures. If a solo encounters a system failure in the working area, attempt to establish communications with a dual T-6 aircraft on MOA common. If no other dual T-6 aircraft is available, attempt to contact the KNGT RDO or squadron ODO (in that order). If in the landing pattern at KNGP or KNGT, contact the RDO on tower/CTAF frequency. Remember to AVIATE, NAVIGATE, and then COMMUNICATE clearly the nature of the situation and what you have done or intend to do. Be prepared to brief the ODO on:

    a. Unsafe gear

    b. Fire

    c. Ejection

    d. Power Loss on Takeoff

    e. Any other emergency at the discretion of the ODO

<div align="center">

Do not be afraid to declare an emergency
If help is needed, ask for it!!!

</div>

5. Lost Communications.

    a. UHF COM1 selecting "T/R+G" and "T/R" position in the event of ELT reception.

    b. Use of the backup VHF radio in the event of lost communications/UFCP failure and Comm panel NRM/EMR Switch.

c. Procedures to return to KNGP.

6. Foul weather entry procedures:

   a. If unable to maintain published course rules altitudes, advise approach or tower controller and descend VFR to no lower than 1000 feet. Execute normal entry at 1000 feet.

   b. If unable to maintain 1000 feet and you are over the intracoastal, advise approach and/or tower controller and descend to maintain VFR conditions to ensure separation from traffic and obstacles **(no lower than 500 feet)**. Do not attempt the break at lower than 1000 feet. Request a straight-in approach in accordance with FTI procedures. Maintain "feet wet" to the max extent practical for obstacle avoidance.

   c. If unable to maintain 1000' overland or 500' feet over water, maintain VMC and request that approach/tower controllers assist in vectoring you to a suitable VMC Field (NOLF Goliad primary) while you contact base for instructions.

7. RDOs. The ODO will ensure that the KNGP and KNGT (as required) RDOs are positioned beside the active runway before solos taxi to the run-up. Solos shall contact the KNGP RDO on the pre-briefed frequency after the ground run-up to receive further instructions. There is no need to request a frequency change from ground when parked in the run-up area.

8. Solo Restrictions.

   a. If the rear cockpit is not secured for solo flight, the solo shall not secure it. Notify maintenance.

   b. Solos shall use the word **"Solo"** after their call sign with each transmission.

   c. Solos shall not accept an "immediate takeoff" or "cleared for takeoff with minimum delay" clearance from tower. The proper response is: **"Navy Corpus Tower, (call sign) Solo, unable"** and continue to hold short.

   d. Solos shall MAKE SURE THE "BEFORE LANDING CHECKLIST" IS COMPLETED AND GEAR IS DOWN FOR EVERY LANDING.

   e. Solos shall not attempt to land if directed to "extend" off the 180 position by tower. If extended, solos shall wait for clearance to turn to final and then execute a wave-off.

   f. If instructed by the tower to "continue" from the 180 position, maintain normal procedures and pattern track. If landing or touch-and-go clearance is not received by the 90 position, execute a wave off.

   g. If told to "extend" or "continue upwind" solos shall not start crosswind turn until cleared by tower for downwind.

   h. Solos shall takeoff, land or touch and go only on the runway where the RDO is stationed. Solos shall not accept "expedite" when clearing the runway following a full stop landing. They shall respond with **"Navy Corpus Tower, (call sign) Solo, unable"**.

   i. Solos shall not accept CNATRA reduced clearance for touch and go or full stop landings.

j. The solo will initiate wave-offs anytime an approach is unsafe. If it "doesn't look good" or "doesn't feel right," GO AROUND!

k. Solos shall enter home field via the break using normal entry procedures, unless weather or an emergency dictates otherwise. If directed by tower to "depart and re-enter", proceed with course rules departure for the runway in use and request course rules entry to Shamrock upon contacting approach.

l. Solos are prohibited from performing any checklist on the roll with the exception of the Taxi Checklist.

m. All solos shall be on deck no later than 30 minutes prior to sunset.

n. Solos shall be limited to a maximum of ten landings per sortie. Pattern-only profiles for student solos require Commanding Officer approval; this authority cannot be delegated. RDOs reserve to the right to have a solo depart the pattern once required touch and gos have been completed.

9. Homefield Entry.

a. Once a solo checks in on tower frequency inbound from an entry point, the solo must be accepted into the KNGP airport traffic area. Tower cannot turn solo's away to re-contact Corpus Approach Control. If an emergency is in progress at KNGP, the solo shall request to enter the delta pattern and contact the RDO or ODO with current fuel state and standby for further instructions.

b. If a solo checks in with Corpus Approach and is told KNGP is not accepting inbound traffic, stay with Corpus Approach and advise them you will proceed via course rules to NOLF Goliad for a full stop. If fuel state prohibits transit to KNGT, coordinate a suitable local alternate with Approach. Upon landing, call the ODO for further instructions.

10. Post Flight.

a. Upon flight completion, remember to post-flight the aircraft but do not unsecure the rear cockpit.

b. Solo flights are not usually graded. The ODO shall complete and sign ATF and deliver it to Student Control. If a maneuver is observed as an "excellent" or "unable" (five or two respectively) by an IP, give the observing IP the ATF to complete.

c. Solo flights shall be marked as incomplete if the flight duration is less than 75 percent of that prescribed in the Master Curriculum Guide.