



DEPARTMENT OF THE NAVY

COMMANDER TRAINING AIR WING ONE
101 FULLER ROAD SUITE 250
MERIDIAN MS 39309-5403

IN REPLY REFER TO:

COMTRAWINGONEINST 3711.1B

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COMTRAWING ONE INSTRUCTION 3711.1B

From: Commander, Training Air Wing ONE

Subj: T-45C STANDARD OPERATING PROCEDURES (SOP) ADDENDUM

Ref: (a) COMTRAWINGONEINST 3710.7S

Encl: (1) Cross Wind Operations
(2) Airway Navigation (AN "Out and In") Solo Briefing Guide
(3) Airway Navigation Solo Limitations
(4) Operations Duty Officer WW/SIGMET Weather Checklist
(5) Arrival Procedures During NMM FCLP Operations
(6) Additional Local Procedures
(7) Practice Precautionary Approach Deconfliction
(8) Professional Instrument Procedures

1. Purpose. This instruction is an addendum to reference (a), the Training Air Wing ONE (TW-1) and Training Air Wing TWO (TW-2) combined Standard Operating Procedures for T-45 aircraft operations. This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. COMTRAWINGONEINST 3711.1A

3. Action. All aircrew flying TW-1 aircraft shall familiarize themselves and comply with the procedures contained in this instruction.


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Distribution:

Electronic only, via TRAWING ONE website:

https://www.cnatra.navy.mil/TW1/pubs_instructions.asp

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CROSS WIND OPERATIONS

1. Maximum 90-Degree crosswind component for Student Naval Aviators (SNA) Solos to conduct touch-and-go landing is 10 knots. If higher crosswinds can be brought in limits by switching to another runway, solo SNAs will request that runway from tower and Delta Easy until it is granted (fuel permitting).
2. For crosswinds between 10 and 15 knots, solo SNAs shall full stop to centerline.
3. For crosswinds greater than 15 knots, solo SNAs shall advise the duty officer and make a short field arrestment. LSO assistance is highly recommended. Solo SNAs shall make a field arrestment in accordance with NATOPS. Half-flap approaches are preferred for higher probability of arresting wire engagement, however SNAs need to be adequately briefed prior to reconfiguring aircraft.
4. Phase I Solo SNAs shall not take off with crosswinds greater than 10 knots. Phase II solo SNAs scheduled for an event with no requirement for touch-and-go landings may perform individual takeoffs or 2-plane 7-sec interval takeoffs with crosswinds between 10 and 15 knots.
5. The above limitations apply to current and forecast weather conditions for the duration of solo flight. For temporary condition (TEMPO) forecasted winds associated with isolated thunderstorm forecasts, IPs, SNA Solos and/or ODOs should take into consideration the forecasted temporary wind conditions, but do not have to restrict flight operations as long as flights can reasonably avoid the thunderstorms throughout the flight.
6. For all crosswind computations, the effective wind shall be calculated to determine if the wind is within limits. Effective wind shall be determined by adding one half of the gust velocity (incremental wind factor) to the sustained wind velocity; e.g., if the wind reported as 040/20G30, the effective wind is 040/25.

AIRWAY NAVIGATION (AN "OUT AND IN") SOLO BRIEFING GUIDE

The ODO shall brief the following items to SNAs prior to AN Solo flights.

1. General Procedures.

a. General Mission Overview:

- (1) Date of last flight.
- (2) Route and altitude of flight.
- (3) Weather (DD-175-1 "flimsy" required).
- (4) Types of approaches planned.
- (5) Airfield diagram.
- (6) Aircraft assigned, call sign + "SOLO," event number.
- (7) Walk, start, taxi, and takeoff times.
- (8) Jet log (required).
- (9) Dead battery procedures and external power requirements.
- (10) Securing and servicing the aircraft:
 - (a) PRIST requirements.
 - (b) Landing gear, ejection seats and canopy MDC pins installed.
 - (c) Chocks installed.
 - (d) Canopy closed.

b. NAV/FLIGHT Planning:

- (1) Duty runway (see Enclosure (1) for solo crosswind limits).
- (2) Mission planning (check DD-175, Jet log and PFPS).
- (3) Ensure practice approaches are authorized at destination field (or wherever practice approaches are planned).
- (4) Approaches (types, minimum).
- (5) Field elevation, lighting, minimum safe altitudes, OLS, VASI, PAPI, etc.

(6) Ensure all required pubs/charts are carried including Low altitude FLIPS/STARS if required.

(7) NOTAMS.

(8) RADALT usage.

(9) Divert/Emergency fields.

(10) PPR for gas and go, if required.

(11) BASH condition at all intermediate or destination airfields.

(12) Rear cockpit solo pre-flight checklist.

c. Emergencies:

(1) Aborts, engine start malfunctions (including clear engine procedure), and taxi EPs.

(2) NORDO (standard troubleshooting procedures).

(3) Loss of NAVAID.

(4) Lost plan (5 'C's).

(5) Birdstrike.

(6) Midair.

(7) Disorientation.

(8) System failures (ECS system and fog in cockpit).

(9) Downed aircraft/SAR.

(10) Ejection.

(11) Swerve on touchdown.

(12) Stress: AVIATE/NAVIGATE/COMMUNICATE.

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(13) ORM.

(14) NATOPS, EP, SOP QOD.

(15) Read and Initial.

(16) Bingo profile (SNA must have fuel bingo requirements for divert field).

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AIRWAY NAVIGATION SOLO LIMITATIONS

The following limitations shall apply to all SNA AN SOLOs.

1. NAS Jacksonville (KNIP), NAS Pensacola (KNPA), Meridian (KMEI), Gulfport Biloxi INTL (KGPT), Fort Smith Regional (KFSM), NAS New Orleans (KNBG) or Montgomery RGNL (KMGM) are the only pre-approved destinations for out-and-ins. Exceptions will be considered on a case by case basis by the Squadron Commanding Officer.
2. The second leg of the out-and-in can be flown at night provided takeoff occurs NLT 30 minutes prior to sunset. No part of the ground operations, to include taxi and takeoff, will be conducted after official sunset, at fields other than KNMM.
3. Minimum fuel on deck is 500 lbs. Adhere to OPNAV 3710 requirements for alternate fuel planning.
4. Minimum weather required at takeoff, destination and alternate is 1000/3.
5. All Solos will use their normal call sign followed by a "SOLO" when in contact with local NMM control agencies (approach, tower, and ground).
6. If executing an approach to a touch-and-go, perform the touch-and-go in the same aircraft configuration as the approach was flown (i.e. don't change from 1/2 flaps to full flaps at the approach minimums; ensure touchdown with less than -600 fpm when in the half flap configuration). All full stops will be in the full flap configuration.

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OPERATIONS DUTY OFFICER WW/SIGMET WEATHER CHECKLIST

1. Strong lines of thunderstorms, squall lines, and hail storms have the potential to cause catastrophic damage to TW-1's fleet of T-45s. To prevent a massive loss of aircraft resources, TW-1 will coordinate with the maintenance contractor to hangar/place under canopy as many T-45s as possible when potentially damaging weather is forecasted. Once flight operations are secured, it generally takes maintenance two hours to safely hangar all aircraft. The squadron ODOs, in accordance with their normal duties, shall maintain the highest awareness of forecasted severe weather and notify the chain of command when possibly damaging weather is forecasted. When possibly damaging weather is forecasted, the ODOs shall:

a. Ensure the Wing Operations staff is aware of impending weather. Generally, the Wing Operations staff will decide if and when to stop flying and secure aircraft.

b. If Wing Operations personnel are not available, consult the CSO or Commodore for a decision.

c. If no Wing personnel are available, consult with your squadron leadership and the other squadron ODO. Make a decision and coordinate with maintenance control. The acting Wing ODO is responsible for making the decision in the absence of guidance from higher authority.

2. Contact the Squadron CO/XO/OPSO for guidance regarding any WWs or Convective SIGMETs. A WW is a severe weather watch issued by the National Weather Service. ODOs must monitor the NOAA convective watch and SIGMET pages located on the Aviation Digital Data Service website, <http://www.aviationweather.gov/adds/>.

3. Notify the Commodore via email or a phone call anytime flights are authorized through WWs, CAWVs or Convective SIGMETs.

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ARRIVAL PROCEDURES DURING NMM FCLP OPERATIONS

1. NJW shall be used to the maximum extent possible for FCLPs. However, FCLPs are occasionally conducted at NMM due to weather and other circumstances. When FCLPs occur at NMM, they must take priority. LSOs, in cooperation with ODOs and OPSOs, need to evaluate the schedule and cancel or rewrite sorties that may interfere with safe and expeditious completion of FCLPs.
2. Airborne aircraft need to check ATIS and pay particular attention during check-in with tower. If “FCLPs in progress, LSO requests sterile pattern” is communicated by tower, the following procedures will apply:
 - a. Normal Break Entry. Aircraft will continue to the left runway for normal entry into the break. However, all aircraft shall full stop. Touch-and-gos will not be permitted.
 - b. Straight-In. Aircraft will set up all straight-in approaches to the right runway. Aircraft requiring full stop for weather or other considerations, will do so on the right runway, pull off at the accommodation area, and back-taxi when cleared by tower. If the break is open, aircraft have the option to go missed approach on the right runway and proceed back to approach control for vectors to the initial on the left runway. Touch-and-go to tower downwind for the left runway will not be permitted during FCLPs.
3. If upon check-in with tower, “FCLPs in progress” is communicated, the procedures described in paragraph (2) apply. However, touch-and-go’s will be permitted on a case by case basis. It will be at the controlling LSO’s discretion whether additional aircraft can work in the pattern with FCLP aircraft. Aircraft not requiring touch-and-go’s for completion shall full stop on the first pass. If pattern work required for sortie completion, make request with the controlling LSO on tower frequency. All landings should be in the full flap configuration so as to not interfere with FCLP intervals.
4. East Runway Operations. When parallel runways (North/South Runways) are not available, the tower will coordinate arrivals. Due to runway configuration, circumstances (marginal VFR weather) may present the necessity to bring straight in traffic to the landing runway. Appropriate sequencing is imperative and safe deconfliction with pattern traffic is the responsibility of tower, LSO, and aircrew.
5. During night or marginal VFR weather, the LSO should consider limiting the number of airborne aircraft conducting FCLPs in order to allow for the safe recovery of non-FCLP aircraft to NMM.

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ADDITIONAL LOCAL PROCEDURES

1. To determine ACM currency requirements IAW paragraph 100(c) of reference (a), T-45 flight time counts as “strike-fighter” flight time. Do not include T-45 SNA flight time.
2. During plane captain checks, final checks and PMBR arming, aircrew will show their hands to the plane captains, final checkers and AO’s, but are then allowed to manipulate the DEP soft keys. No other cockpit switches or equipment may be touched without coordination with the plane captain/final checker.
3. To ensure proper throttle linkage rigging, Instructor Pilots in the rear cockpit for Advanced Strike (Phase 2) sorties will move the throttle from ground idle to off for normal engine shutdown.
4. Tailpipe courtesy is discussed in paragraph 207(a) of reference (a). Additionally, to prevent injury to the final checkers, aircraft should not turn until crossing the dashed-yellow foul line painted beyond the NMM Final Check area.
5. Wingmen may deselect Guard during section and division flights.
6. To the max extent possible, detachment Officers-in-Charge (OICs) will be O-5s. The instructor conducting the majority of the planning/coordination/execution will be referred to as the Assistant OIC.
7. IPs shall ensure that all switches are in the correct position, VTR is in the locked position and all ejection seat straps are connected and situated properly on all orientation flights and the first three SNA flights.
8. When North/South runway flow is in effect at McCain Field, aircraft returning via straight-in approaches, including Hung-Ordnance Straight-ins, will utilize the right runway (01R/19R) to the maximum extent possible. Full stop landings may be conducted to the right runway as necessary, and shall be briefed prior to takeoff. Use of the accommodation area and/or back-taxi of the landing runway will be required. If not executing a full-stop, aircraft may turn downwind for the left runway with appropriate interval and clearance from tower. However, ACTUAL Hung-Ordnance Straight-In Approaches with student solos SHALL be flown to the runway at which the RDO is located (normally the left).
9. During the summer months, NMM field hours will routinely extend beyond the service hours of Meridian Approach Control. Aircrew conducting local instrument training shall plan their flights in order to minimize the use of published instrument approaches to Meridian area airfields (NMM or MEI) after the closure of Meridian Approach. Memphis Center will provide flight following to and from the MOAs, but will be unable to provide radar coverage below approximately 3000 ft MSL. GCA approaches (PAR, ASR) will be not be available.
10. Civilian airfield operations (including Key Field):
 - a. Carrier breaks will not be requested from Tower.
 - b. IFR handling will be utilized to the maximum extent possible. However, VFR tower-to-tower transit following landings at NMM may be conducted if necessary for fuel considerations. In such

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cases, aircraft will climb to 2,500 ft MSL and transit directly to the initial at MEI, unless otherwise directed by ATC.

c. When conducting instrument approaches during VMC conditions, the IP must clarify with Tower any intent to climbout at the Missed Approach Point vice the upwind numbers, in order to ensure adequate de-confliction with aircraft established in the VFR landing pattern.

11. ASAP submissions shall be completed after every flight.

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PRACTICE PRECAUTIONARY APPROACH DECONFLICTION

1. An aircraft with an actual/possible engine malfunction will take priority over all non-emergency aircraft. The procedures below relate to Practice Precautionary Approaches (PPAs) only!
2. Practice Precautionary Approaches are essential to student training and instructor proficiency, but also require ORM to mitigate potential conflicts with other aircraft operating in the airport environment. The purpose of these procedures is to provide aircrew guidelines on determining which aircraft should take priority when a potential midair conflict arises. ATC voice/light communication take priority over these guidelines.
3. Overhead (High Key) and Straight-in PPAs are weather-restricted and fuel-consuming procedures. When NMM is landing and departing on the north/south runways, Overhead and Straight-in PPAs should be conducted to the right runway to the max extent practical. When an Overhead PPA or Straight-in-PPA must be conducted to the landing runway and a possible conflict develops between an aircraft conducting a Straight-in or Overhead PPA and an aircraft in the normal landing pattern, the VFR pattern aircraft should normally wave off (fuel permitting) to allow the PPA aircraft to complete the PPA requirement. If the conflict is not resolved, the PPA aircraft is still responsible for avoiding the landing pattern aircraft.
4. Aircraft conducting Abeam (Low Key) PPAs from the landing pattern will normally do left-hand PPAs and maintain responsibility for pattern interval. Normally, aircraft cleared to the Abeam from a touch and go can achieve sufficient interval from normal pattern traffic by starting the crosswind turn to Low Key when their interval is approximately past their 7 o'clock position. If the aircraft conducting the Abeam PPA fails to safely maintain their interval, then the Abeam PPA should wave off.
5. During the last 90 degrees of a PPA, a midair potential exists between the PPA aircraft and break traffic or straight-in traffic.
 - a. Break traffic. Break traffic should always offset to the right of the landing runway at NMM and NJW. When a PPA aircraft past the abeam position hears that break traffic is inside the initial, it is imperative that the PPA aircraft see and avoid the break traffic. At no time should the PPA aircraft cross runway centerline! If in doubt, PPA aircraft should wave off to the left side of the landing runway.
 - b. Straight-in traffic. When a conflict exists between straight-in (IFR or VFR) traffic and a PPA aircraft, the PPA aircraft will maneuver to avoid the straight-in traffic. The PPA aircraft will waveoff to the left side of the landing runway if the conflict is not resolved by the 90.

PROFESSIONAL INSTRUMENT PROCEDURES

1. Use of Communication Ear Plugs (CEP) is highly recommended for all aircrew.
2. Aircrew shall read back all clearance altitudes and routing verbatim, to include initial clearances received on deck.
3. Crossing the hold short for takeoff, prior to missed approach or climbout, and departing the pattern to IFR, the pilot at the controls shall verbalize the initial portion of the clearance over the ICS using standard "Heading and Altitude" format.
4. The heading bug shall be used as an altitude bug during all enroute climbouts and descents. (200 ft = 002/ 2000 ft = 020/ 20,000 ft = 200/ > FL360 = 037, 041, etc.) While on an instrument approach, the heading bug may be used to assist with heading assignments, lead radials, or as desired.
5. The pilot at the controls shall make a "Thousand to go" call when approaching assigned altitude and concurrently adjust rate of climb or descent to a maximum of 1,000 fpm to effect a safe and smooth level-off. Acknowledgement is required by the pilot not at the controls.
6. ICS discussions below 10,000 ft shall be limited to those pertinent for flight instruction and professional and safe operation of the aircraft.
7. Aircrew shall never accept or acknowledge a clearance which is audibly unclear or not fully understood. When in doubt, always query ATC to clarify clearance instructions.
8. Students are integral members of the flight crew. As such, the principles of good Crew Resource Management are always to be exercised. Students not at the controls are encouraged and expected to advise an IP at the controls if he detects imminent or actual deviation from an assigned clearance. Wingmen are similarly encourage and expected to ensure all clearances are understood and advise lead of any imminent deviation.