

## TACFORM (Tiltrotor only)

Now that you have gained familiarity with formation basics, it is time to apply it to navigation and real world scenarios. Here we will discuss Tactical Formation Maneuvering, or "TACFORM."

### Tactical Formation Types:

The two types of Tactical Formation are Combat Cruise and Combat Spread. Combat Cruise is designed to provide maximum flight flexibility and individual aircraft freedom to enhance maneuverability, lookout doctrine, and terrain masking. Combat Spread provides tactical benefit in open terrain and/or if maximum lookout is a primary consideration. Each formation provides its own advantages and disadvantages, but both provide mutual support. Mutual support occurs when each aircraft is in a position to increase the other's situational awareness, provide fire support, and clear the other of threats and obstacles.

Combat Cruise: The wingman utilizes radius of turn for positioning. Proper position is defined as the area aft of 10 degrees forward of abeam on either side of Lead aircraft, though between 30-45 degree bearings is preferred. Avoid extended flight in the area from trail to the 30 degree bearing (5 to 7 o'clock). Separation will depend on METT-TSL, but Dash-2 will generally maintain 0.3-1.0 NM separation.

### Combat Spread:

There is less flexibility in bearing, but greater flexibility in distance. By its nature, Spread requires specific maneuvers to keep flight integrity. Defined as +/- 10 degrees of bearing from the abeam on either side of lead, and 0.3-2.0 NM (environmental conditions depending) separation, though 0.7 NM is ideal in the T-44. You will use this formation type for all maneuvers.

Basic Principles: DASH-2 IS ALWAYS RESPONSIBLE FOR SEPARATION. This will never change!

Employ adequate intraflight separation to ensure single target engagement by a threat and facilitate maneuver flexibility while maintaining mutual support.

Maneuver in proportion to the threat.

Assume constant groundspeed and only minor changes to power settings.

## Maneuvers:

### Contracts:

All maneuvers in the T-44C will be done at 180 KIAS, from Combat Spread and, unless specified otherwise, turns will be made at 45 AOB. All headings will be announced at the end of the initial maneuver call (i.e. "Stingray flight, pump right 130.")

### Tac-Turns:

Used to direct the execution of a planned route turn (60-120 degrees). There are two types, turns into and turns away. The aircraft on the

outside initiates the maneuver by turning towards the inside aircraft. The inside aircraft waits until the outside aircraft's nose is pointing at their aircraft (approximately the 5 or 7 o'clock position) before beginning the turn. This may feel uncomfortable, but the geometry of the maneuver will afford adequate separation, assuming Dash-2 is not acute. Regardless of who initiates the turn, Dash-2 shall maneuver to roll out in the proper Combat Spread position.  
"Stingray flight, Tac-Turn left/right 270"

#### Shackle:

Primarily used to help a wingman regain position if he finds himself with excessive separation or sucked. Both aircraft turn towards each other (30-45 degrees heading change) in order to cross paths. DASH-2 MAINTAINS SEPARATION. After crossing, the flight resumes the original course (the aircraft with the most S.A. will call "Resume"), adjusting their turns to regain proper separation. Lead may vary the heading change to assist wing. This will be stated in the initial call.  
"Stingray flight, Shackle;" "Resume" / "Shackle left/right 030"

#### Pump:

This is used to immediately stop downrange travel on an obstacle, threat, or route. On the execute call, the flight simultaneously turns 90 degrees and Wingman will roll out in a trail position. Dash-2 maintains separation while in trail (utilize TACAN A/A for spacing) and does not attempt to regain spread. The formation will re-establish Combat Spread by calling another Pump, though not necessarily back to the original heading.  
"Stingray flight, Pump left 270" / "Pump right 360"

#### Hook Turn:

This maneuver is used for large heading changes (120-240 degrees) and keeps each aircraft on the same side geographically. Both aircraft will simultaneously turn in the same direction and a change of sides will occur. The aircraft on the side the flight is turning toward will lose sight of the other aircraft until rolling out (i.e. if Dash-2 is in Starboard position, he will lose sight of Lead in a right turn).  
"Stingray flight, Hook left/right 270"

#### ~~Split Turn:~~

~~This maneuver also changes the direction of the flight 120-240 degrees, though 180 is generally understood. Each aircraft turns away from the other, resulting in increased separation (3 NM or more). The intent is to utilize the increased separation to force an airborne threat to choose one aircraft to attack while the other provides mutual support.  
"Stingray flight, Split turn 180"~~

#### Cross Turn:

Allows the flight to reverse direction and roll out with the same relative positioning (i.e. if Dash-2 starts in Starboard, he rolls out Starboard) while also preventing the flight from becoming too spread

out. Aircraft will turn towards each other and Wing gains 200 feet of step-up. Generally, this maneuver should be initiated with no more than 1.0 NM separation. Dash-2 adjusts turn to maintain OUTSIDE AND ABOVE in the turn. After crossing, Dash-2 may descend back down to the initial altitude and adjust his angle of bank to regain the proper Combat spread position. Dash-2 will add "Cover" to his response when initiating this maneuver.

"Stingray flight, Cross turn" / Response: "Two, cover"

#### Dig/Pinch:

Digs and pinches are easy ways to widen or tighten up the flight while continuing downrange. For Digs, the flight turns 30 degrees of heading change away from the other aircraft. For Pinches, they turn toward each other. Dash-2 may adjust his turn to maintain proper position. Upon "Resume," each aircraft turns back to the original heading.

"Stingray flight, Dig/Pinch." "Resume"

#### Check Turn:

Used for minor heading changes (up to 30 degrees) on a route. Both aircraft turn simultaneously to the heading indicated. The aircraft on the outside of the turn will generally tend to fall back to a sucked position. This can be fixed with a shackle or a small increase in power. This turn can also be used like a shackle if a Wingman is slightly acute or sucked. This is the only maneuver that requires a Standard Rate Turn.

"Stingray flight, Check right/left 030"