

Combat Tactics

BFM





Geometry Of Air Combat

Lesson Review

Types of Geometry

1. Positional
2. Attack
3. Weapons Envelope

Positional Geometry

1. Angle-off
2. Range
3. Aspect

Attack Geometry

1. Lag Pursuit
2. Pure Pursuit
3. Lead Pursuit

Combat Tactics

Offensive BFM



Offensive BFM DLO's

Given an initial position of advantage:

1. Maintain a $3/9$ line advantage
2. Drive into weapons parameters and shoot
3. If you can't do 1 or 2 then separate





IDRIS BRIEFING ROOM
CONCEPT- DEL RIO

BFM Basics

1. Observe the Bandit
2. Predict his future position
3. Fly based on this prediction
4. React to changes



Offensive BFM Lesson Review

1. Stay behind the bandit
2. Get inside bandit's turn circle
3. Fly into weapons parameters
4. Fly in the future



IDRIS BRIEFING ROOM
CONCEPT- DEL RIO

Combat Tactics

Defensive BFM



Defensive BFM DLO's

Given an initial position of advantage by bandit:

1. Defeat all missiles and gun shots
2. Force BFM problems on the bandit
3. When the bandit BFM's, take away his turning room



Components for an Effective Gunshot

1. Range
2. Lead
3. In bandit's plane
of motion



Defensive BFM Lesson Review

1. Put lift vector on bandit and pull
2. Jink out of plane to defend against gun attack

Combat Tactics

Head-On BFM



Head-On BFM DLO's

Given a head-on position on the bandit:

1. Attain weapons parameters
2. Gain $3/9$ line advantage
3. If you can't gain a $3/9$ line advantage, then separate



Combat Tactics

6 DOF Applications



To counter the Joust

1. Increase to max speed
2. Head close as possible to target
3. Side-Strafe away as he passes then air-brake.
4. Maintain 3/9 line advantage
5. Side-strafe towards bandit
6. Afterburn and close distance.

Missile Defense:

1. Gain distance when bandit locks.
 - a. Place missile on your beam (3 or 9 o'clock). Full burn and 75% yaw towards missile.
 - b. OR (More effectively) Reverse strafe at 50% yaw - keeping missile at your 12.
 - i. Attempt to engage missile with weapons
 - c. Juke 100% yaw towards missile when about to strike.

For your missiles to become effective vs proper enemy BFM

1. Get close, tight. Deny bandit the aspect angle he seeks.
2. Fire only when target $<30^\circ$ angle and within $<1\text{km}$.
3. Follow-up missile launch with immediate gunfire.

Style
=
Discipline
+
Execution of the
basics

Questions?

