In-Flight Guide

388th Virtual Fighter Squadron

Current As Of (CAO):

2019-12-17

Version 1.1

Authentication table: AET-100

Version 1.0

	A B C	D E F	G H	I J	K L	M N O	P Q R	S T U	V W	X Y Z
A	K W G	D I O	M B	H U	X L	Z E A	J F R	N V S	T C	Q Y P
B	J A R	N B E	G C	O Y	V H	P L K	M D T	Z Q I	S W	U F X
C	W I D	A H Z	E K	L M	R F	N J U	O V G	X S T	C Y	B P Q
D	B A T	F D J	I G	Z E	W S	K H X	O N Y	P R L	U M	Q C V
E	S D Z	J X P	B E	M Y	H U	A W L	K F R	Q C G	T N	V I O
F	L I A	W F D	E H	K Z	M J	O G R	T U Q	V N X	P S	Y B C
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
G	B Y T	C S Z	H K	G X	N I	R F V	D J W	L A M	P E	O Q U
H	H F B	Z S D	C I	A G	Y K	R L P	U M V	N Q J	X T	E W O
I	S Z M	D O C	G H	F I	P T	N K R	J A W	V E Q	L Y	U X B
J	R E L	Q A Z	K I	T H	F O	X G W	D Y U	C N V	S P	M B J
K	R C K	I L H	Q T	U S	Y J	F V B	W X N	G M Z	P E	O D A
L	Z B S	H C D	G F	I K	A L	R J M	P N V	Q Y T	W U	X O E
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
M	E O X	U W T	Y Q	V N	P M	J R L	A K I	F G D	C H	S B Z
N	I F G	D C H	S B	Z E	O X	U W T	Y Q V	N P M	J R	L A K
O	P M N	E C K	I S	G O	D W	A Y Z	H F B	J T V	R Q	X U L
P	N V Q	Y T W	U X	O E	Z B	S H A	P M J	R L K	I F	D C G
Q	G D F	C I H	K S	A B	L Z	R J E	O X U	W T Y	Q V	N P M
R	M P J	N R V	Z Q	L Y	B T	S W H	U A K	X C O	G D	E F I
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
S	B H D	F E X	W Y	V P	J R	A I G	C S Z	O U T	Q N	M L K
T	D F K	L J P	V Y	W X	E Z	S C G	I A R	M N Q	T U	O B H
U	M P N	D Z B	S H	C V	Q Y	G K R	J W U	X F E	L O	T I A
V	I K A	M P N	V Q	L R	J Y	T W U	X O E	Z B S	H C	D G F
W	D G F	I W B	Z V	K A	L S	H C R	J M P	Q Y T	O E	U X N
X	A L R	J M F	Z B	S Q	C D	I K G	H W U	P N V	E Y	T O X
Y	T M P	N B S	H C	W U	X K	I A L	R J O	E Z V	Q Y	D G F
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

AET = Authentication Encryption Table

COMPLEXITY (Uneven)   **LUMBERJACK** (Even)

STARTUP 1 / 4

GROUND POWER…………………………..........	CONNECT
SKIN, BORT, LOADOUT, FUEL	SET
INTERNAL LIGHTS	SET
AIR SOURCE	NORM
FUEL MASTER	ON – GUARDED
ENGINE FEED	NORM
EPU	NORM – GUARDED
ENG CONT	PRI – GUARDED
THROTTLE	OFF
LANDING GEAR	DOWN and LOCKED
HOOK	UP
MASTER ARM	SAFE (OFF)
MAIN PWR .... **Verify FLCS RLY light ON**	BATT
FLCS PWR TEST .... **Verify ACFT BATT TO FLCS, FLCS PMG & FLCS PWR (4) lights ON**	TEST - HOLD
MAIN PWR .... **Verify ELEC SYS, HYD/OIL PRESS, FLCS RLY, SEC & ENGINE lights ON**	MAIN PWR
EPU GEN & EPU PMG lights	Confirm OFF
EXTERIOR LIGHTS……………………………….	POSITION LIGHT- FLASH
C&I KNOB……………………………………….	BACKUP
AUDIO PANEL 1&2……………………………….	AS REQUIRED
UHF BACKUP……………………………………...	SET & CHECK-IN
AVIONICS………………………………………… **MMC, ST STA, MDF, UHF, GPS**	ON
INS TO ALIGN……………………………………..	ALIGN NORM
MIDS LVT………………………………………..	ON

FLIGHT CLOCK……...START	
L&R HARDPOINT….. AS REQ	
FCR………………….ON	
RADAR ALTIMITER…STBY	
DED INS……………ENTER DATA	
HUD……………….AS REQ	
C&I…………………UFC	
IFF MASTER KNOB.. SET&STANDBY	
*DTC………………. LOAD	
CAT 1 / CAT 3………..AS REQ	
UFC RADIO…………. SET & CHECK-IN	
ATIS………………...CHECK	

ENGINE START

CANOPY………………LOCKED	
JFS TO START 2…….. VERIFY LIGHT	
RPM 20%.................... THROTTLE TO IDLE	
RPM 55%.................... VERIFY JFS OFF	
RPM 60%.................... VERIFY ENG. WARN OFF	
RPM 15-70%............... VERIFY HYD/OIL OFF	

ENGINE IDLE CHECK

FUEL FLOW…………. 700-1700 PPH	
OIL PRESSURE……… MIN 15 PSI	
NOZZLE POSITION…. > 94%	
RPM…………………..62-80%	
FTIT………………….. < 650 DEGRESS C	
HYD PRESSURE A&B… 2850-3250	

AVIONICS PROGRAM

SELECTIVE JETTISON SET	
SMS………………....PROGRAM	
ALOW…………………SET	
MSL………………….. SET	
BINGO……………….. SET JOKER	
*CRUISE…………..…. CHECK	
TACAN……………….. PREP	
*IDM…………………..CHECK	
BULLSEYE…………... CHECK	
STEERPOINTS……….PROGRAM	
EGI CHECK ALIGNED……………. SET NAV	
REPORT READY…… ALPHA CHECK & ENGINE START	

AFTER START

GROUND POWER…… DISCONNECT	
TESTS………………..PROBE, FIRE MAL& IND	
FLIGHT CONTROLS…CYCLE & FREE	
FLCS………………... RUN BIT	
SPEED BRAKE………CYCLE	
RWR &CMDS…………. ON / TEST/ STANDBY	
HMDS………………... ON &STOW	
NVG………………... PREP & STOW	
FUEL QUANTITY……… TEST & SET NORM	
EPU FUEL QUANTITY… 95-102%	
AIR REFUEL SWITCH CYCLE & CHECK	
BACKUP ADI…………… UNCAGE	

STARTUP 3 / 4

DBU CHECK

DIGITAL BACKUP SW………………………………BACKUP

DBU ON WARNING LIGHT………………………CHECK ON

OPERATE CONTROLS…………………………..CHECK RESPONSE

DIGITAL BACKUP SW……………………………OFF

DBU ON WARNING LIGHT……………………CHECK OFF

TRIM CHECKS

TRIM AP DISC SW………………………………..DISC

STICK TRIM BUTTONS ACTION…………………CHECK NO RESPONSE

TRIM AP DISC SWITCH …………………………. NORM

STICK TRIM BUTTONS…………………………..CHECK INDICATORS & CENTRE

RUDDER TRIM CHECK…………………………..CHECK AND CENTER

EPU CHECK

EPU GEN AND EPU PMG LIGHTS…………….CHECK OFF

OXYGEN……………………………………………… SET 100%

TOE BRAKES……………………………………..ENGAGE

EPU SWITCH…………………………………………OFF THEN NORM

THROTTLE ………………………………………….. SET 80%

EPU/GEN TEST SW………………………………… EPU/GEN AND HOLD

EPU AIR LIGHT……………………………………VERIFY ON

EPU GEN AND EPU PMG LIGHTS…………….VERIFY OFF

FLCS POWER………………………………………. ON

VERIFY EPU RUN LIGHT ON…………………… WITHIN 5 SECONDS

EPU GEN TEST SW………………………………… OFF (RELEASE)

THROTTLE ………………………………………….. IDLE

OXYGEN…………………………………………… NORM

STARTUP 4 / 4

BEFORE TAXI

ALTIMITER………………………………………	SET
INS……………………………………………..	CHECK NAV
TGP…………………………………………….	CHECK STOWED
MFD'S………………………………………….	AS REQ
GROUND CREW……………………………….	CHECK CLEAR
POSITION LIGHTS	STEADY
REPORT………………………………………..	READY TAXI
TAXI BRIEF (FLIGHT LEAD)…………………..	COMPLETE
NOSE WHEEL STEERING……………………….	ON
TAXI LIGHTS	ON
BRAKES ……………………………………..	CHECK

HOLD SHORT

PROBE HEAT………………………………….	ON
TRIM …………………………………………..	AS REQ
IFF……………………………………………...	NORM
ENGINE CONT…………………………………	VERIFY PRI
SPEED BRAKE………………………………..	CLOSED
EJECTION SEAT……………………………..	ARM
TACAN ………………………………………..	ON
RADAR ALTIMITER…………………………..	ON
EXTERNAL TANKS…………………………...	VERIFY FEEDING
FLIGHT CONTROL…………………………...	FREE & CLEAR
OIL PRESSURE……………………………….	CHECK PSI
TAKE OFF BRIEF (FLIGHT LEAD)…………...	COMPLETE
ANTI COLLISION & LANDING LIGHT	ON (LINE UP)

NORMAL OPERATIONS

TAKE OFF

WIPEOUT……………....CLEAR

RPM…………………...90%

ENG. CHECK……….GREEN

NWS………………….OFF (70KTS)

CLIMB OUT

GEAR………………... UP

ENGINE …………….. GREEN

FUEL…………………CHECK FEED

LANDING LIGHT….. OFF

DRIFT CO…………....AS REQ

BACKUP AVIONICS.CHECK

AAR

MASTER ARM……....SAFE

LASER ARM………...SAFE

SMS…………………VERIFY WPN SAFE

CMDS………………OFF

TACAN……………… AS REQ

EMITTERS…………. AS REQ

LIGHTS……………...AS REQ

DECENT

FUEL CHECK………….. BALANCE

LANDING LIGHT……… ON

SWITCHES……………. SAFE

TGP…………………..... STOW

ATIS……………………. CHECK

ILS/TACAN……………. PROGRAM

CRS/HDG………………. SET

FINAL SPEED…………. COMPUTE

CLEAR COMPLETE

PROBE HEAT…………. OFF

ECM PWR……………. OFF

SPEED BRAKES……. CLOSED

EJECTION SEAT …….. SAFE

IFF…………………….. STBY

LANDING LIGHTS …… TAXI

ANTI COLLISION…….. OFF

SHUTDOWN

EGI…………………….. OFF

AVIONICS……………. OFF

THROTTLE…………..... OFF

JFS RUN LIGHT………. CHECK

EP GEN/EPU PMG……. OFF

MAIN PWR…………….. OFF

OXYGEN………………. OFF

CANOPY………………. OPEN

COMBAT OPERATIONS

FENCE		A-G CHECK	
MASTER MODE……	AS REQ	A-G MODE………..	SELECT
MASTER ARM……....	ARM	MASTER ARM……	ARM
RADAR………………	AS REQ	LASER ARM……...	AS REQ
TACAN………………	AS REQ	ORDNANCE………	SELECTED
LASER ARM………..	AS REQ	PROFILE………….	SET
CHAFF/FLARES…...	SET	CMDS …………….	SET
*ECM JAMMER……	*AS REQ*	SOI / SPI…………...	SET
RWR…………………	CHECK ON	CCIP / CCRP……..	AS REQ
HMDS……………….	ON	ATTACK BRIEF…..	COMPLETE
IR COOL……………	SET	**EGRESS**	
TGP………………....	AS REQ	OPS CHECK……....	PERFORM
AGM65 PWR………..	AS REQ	BUDDY CHECK….	PERFORM
A-G WEAPONS…….	CHECK RELEASE PARAMTERS	BDA/INFLIGHT REP………………..	TRANSMIT
THREAT&MSL VOLUME……………	SET		
STORES CONFIG….	CONFIG		
LIGHTS……………..	AS REQ		

ATTACK PROFILES

30 LALD

9500ft AGL

7500ft AGL

30°

40°

450KCAS

6000ft AGL
4000ft AGL

40°

4,5 NM

1500ft AGL

10 LAHD

1800ft AGL

1100ft AGL

10°

15°

475 KCAS

800ft AGL
500ft AGL

20°

3 NM

300ft AGL

40 HADB

20.000ft AGL

4,5 NM SLANT

300KCAS

40°

420 KCAS

13.500ft AGL
12.500ft AGL

10.000ft AGL
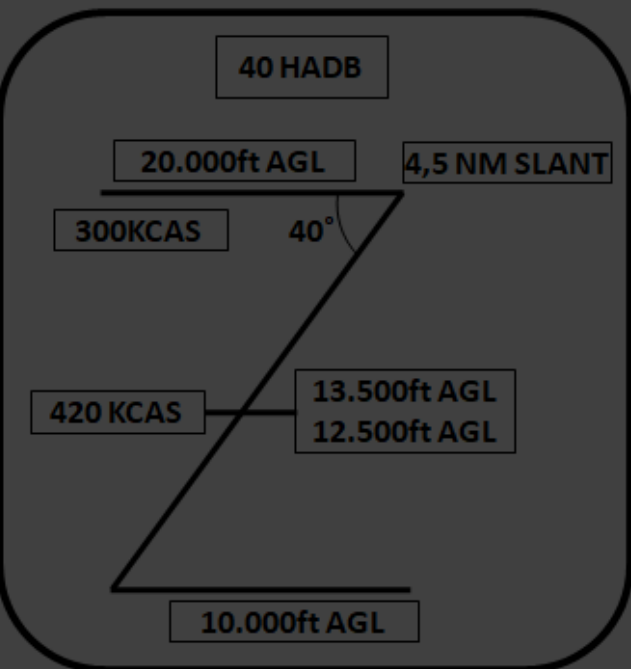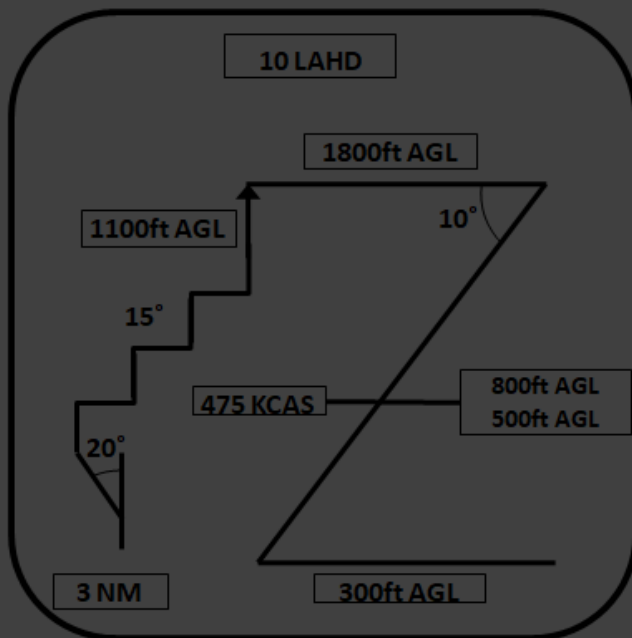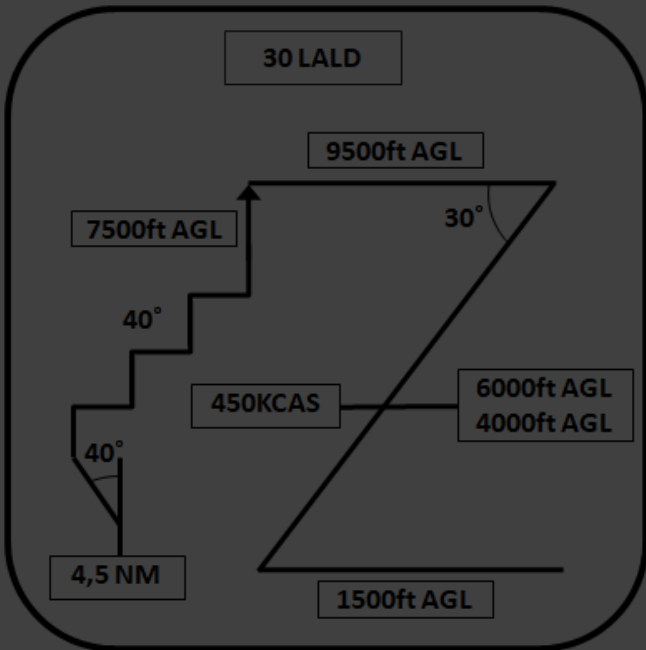
Presets ATRM v1.0

COMM 1 - UHF				COMM 2 -VHF			
1	310.0		Internal PRI	1			Internal SEC
2	237.0	BLUE 3	Check-in	2	126.1		Al Dahfra GND
3	228.0	ORANGE10	A-A #1	3	126.2		Al Dahfra TWR
4	249.0	GREEN4	A-G#1	4	127.1		Al Dahfra CNTRL
5	234.0	OCHRE 9	Inflight report	5	136.25	INDIGO6	AWACS backup
6	242.5	OCHRE 4	Range 1	6	132.75	LEMON3	Range 3 SEC
7	239.75	INDIGO 4	Range 2	7	120.25	OCHRE5	Range 4 SEC
8	243.75	CHERRY 8	Range 3	8	136.75	OCHRE 8	Range 5 SEC
9	225.75	INDIGO 10	Range 4	9	139.75	AQUA10	Range 6 SEC
10	235.75	AMBER 4	Range 5	10	130.7	YELLOW 6	Range 9 SEC
11	233.25	BROWN 7	Range 6	11	151.0	AR201	ARCO
12	234.75	PINK 7	Range 7	12	144.0	AR402 (R)	ARCO (RED)
13	230.5	INDIGO 11	Range 8	13	143.0	AR403 (R)	ARCO (RED)
14	236.5	LEMON 7	Range 9	14	150.0	AR101	ARCO
15	245.0	RED 5	Range10	15	118.2	TWR	Ras Al Kaimah(R)
16	228.75	GRAY 5	Range 11	16	124.2	TWR	Khasab (R)
17	242,25	ORANGE 2	Range 12	17	128.2	TWR	Sas Al Nakheel(R)
18	235.0	WHITE 11	MOA 1	18	119.2	TWR	Al Ain
19	246.25	ORANGE 7	MOA 2	19	121.2	TWR	Al Minhad
20	230.0	YELLOW 6	MOA 3	20	119.6	TWR	Liwa

Template format: **Retasking brief**

TASK / MISSION	
LOCATION/ KILLBOX NAME AND STATUS	
ENEMY SITUATION/ TARGET	
THREAT	
FRIENDLIES	
JTAC/FAC(A)/SCAR (OPTIONAL)	
ORDNANCE	
REMARKS	

Retasking brief is used from AWACS to retask a flight to a new, more important mission during an event.

Template format: Fighter Check-in

Mission number	
Number and type AC	
Position and altitude	
Ordnance	
Time on station	
Capabilities	
Abort code	

Fighter check-in is used by CAS flights to a JTAC/FAC(A) or from a AR flight to a SCAR flight

Template format: **Area of Operations update**

GFC Intent for CAS	
Threat	
Target/Enemy	
Friendly	
Artillery	
Clearance authority	
Ordnance requested	
Restrictions	
Hazards	
Remarks	

AO update is used by JTAC/FAC(A) to give a situation update for CAS missions

Template format: CAS brief

GAMEPLAN	
Type of Control	
BOT/BOC	
Ordnance	
Method	
9 LINE	
IP	
Heading	
Distance	
Elevation	
Target	
Location	
Mark	
Friendlies	
Egress	
Remarks/Restrictions	
Remarks	
Restrictions	

CAS brief provides targeting information during CAS missions.

Template format: SCAR brief

Gameplan/Flow	
Target description	
Location	
Elevation	
Area weather	
Current threat	
Additional information	

SCAR brief is used to coordinate AR flights and give necessary information to AR flights

Template format: In Flight Report

132nd INFLTREP	INFORMATION
Callsign	
Mission Number	
Target Location	
Time on Target	
Results (BDA)	
Remarks	

In flight Report is used to provide BDA and situation updates to AWACS during a mission.

Template format: Handover brief

132nd Battle handover brief	INFORMATION
(1) Friendly situation	
(2) Threat update	
(3) Enemy situation / targets	
(4) Control Measures in effect	
(5) Clearance authority (if applicable)	
(6) Frequency and callsigns	

Handoverbrief is used to brief either a new flight coming on station, assuming the task/role/responsibility of the flight on station or to brief the second element during YO-YO operations

Transmission authentication: TAT-101

Version 1.0

0000 0600 1200 1800			0100 0700 1300 1900			0200 0800 1400 2000			0300 0900 1500 2100			0400 1000 1600 2200			0500 1100 1700 2300		
00	-	AQ	00	-	SX	00	-	BE	00	-	QI	00	-	AW	00	-	MH
02	-	QE	02	-	BU	02	-	ST	02	-	SO	02	-	QL	02	-	MD
04	-	CE	04	-	ML	04	-	MW	04	-	BQ	04	-	CH	04	-	QW
06	-	ZR	06	-	MZ	06	-	AD	06	-	AI	06	-	CV	06	-	ZN
08	-	SY	08	-	CD	08	-	BI	08	-	SW	08	-	QC	08	-	AX
10	-	BY	10	-	CF	10	-	SU	10	-	QD	10	-	ZJ	10	-	QT
12	-	MT	12	-	BD	12	-	BA	12	-	QF	12	-	SM	12	-	MQ
14	-	MY	14	-	CW	14	-	AO	14	-	CY	14	-	CO	14	-	SE
16	-	QY	16	-	ZQ	16	-	BT	16	-	ZG	16	-	SD	16	-	BF
18	-	MA	18	-	BL	18	-	CR	18	-	MR	18	-	ZD	18	-	QO
20	-	AT	20	-	CI	20	-	QQ	20	-	AB	20	-	SP	20	-	ZX
22	-	AY	22	-	BX	22	-	AG	22	-	AN	22	-	SK	22	-	MF
24	-	MS	24	-	MU	24	-	SS	24	-	SV	24	-	QG	24	-	BC
26	-	BO	26	-	SR	26	-	ZA	26	-	AU	26	-	BN	26	-	BS
28	-	BP	28	-	AE	28	-	AA	28	-	MC	28	-	ZM	28	-	ZK
30	-	AF	30	-	ZI	30	-	CP	30	-	ZB	30	-	AP	30	-	MN
32	-	AH	32	-	QR	32	-	QP	32	-	ZU	32	-	SH	32	-	QH
34	-	MP	34	-	BZ	34	-	QA	34	-	AS	34	-	ZC	34	-	CB
36	-	SL	36	-	BR	36	-	QS	36	-	MX	36	-	SQ	36	-	BW
38	-	CA	38	-	ZL	38	-	ZS	38	-	BB	38	-	SF	38	-	SZ
40	-	CS	40	-	MJ	40	-	MO	40	-	QJ	40	-	CG	40	-	QZ
42	-	MG	42	-	BG	42	-	BH	42	-	QK	42	-	SN	42	-	CJ
44	-	QN	44	-	ZT	44	-	AJ	44	-	ZE	44	-	ZY	44	-	AL
46	-	AC	46	-	AM	46	-	AK	46	-	SJ	46	-	QX	46	-	QV
48	-	MV	48	-	SG	48	-	ZO	48	-	QU	48	-	ZH	48	-	CQ
50	-	BM	50	-	ZF	50	-	SC	50	-	CX	50	-	ZW	50	-	MB
52	-	SA	52	-	ZV	52	-	CK	52	-	CC	52	-	BV	52	-	QM
54	-	CT	54	-	AR	54	-	CL	54	-	SI	54	-	CM	54	-	MK
56	-	MI	56	-	BJ	56	-	CZ	56	-	BK	56	-	QB	56	-	SB
58	-	ZP	58	-	AZ	58	-	MM	58	-	AV	58	-	CU	58	-	ME

TAT=Transmission Authentication Table

132nd Frequencies

	1	2	3	4	5	6	7	8	9	10	11	
Blue	123.000	238.250	237.000	128.000	31.25	118.500	117.500	226.250	117.000	30.75	125.000	Blue
Green	30.00	45.00	120.000	229.000	230.250	248.750	231.500	32.25	137.750	123.750	32.50	Green
Red	140.250	31.00	35.25	127.100	245.000	30.50	231.250	118.000	134.100	243.500	119.250	Red
Yellow	227.500	128.100	237.750	34.00	121.250	230.000	121.100	225.000	31.75	133.000	121.750	Yellow
Orange	122.000	242.250	243.250	129.000	117.750	225.250	246.250	32.75	119.500	228.000	229.750	Orange
Purple	248.500	127.000	134.250	130.250	38.25	131.000	236.000	237.500	133.750	138.100	127.750	Purple
White	126.250	137.250	238.500	126.000	237.250	117.250	121.000	118.750	120.500	119.000	235.000	White
Gray	35.00	248.000	128.750	122.100	228.750	235.250	135.250	242.750	118.250	122.250	30.25	Gray
Pink	233.000	130.100	124.000	128.250	125.750	34.50	234.750	34.75	234.500	244.750	238.000	Pink
Brown	248.250	138.750	136.000	33.50	132.250	232	233.250	231.750	120.750	228.500	137.000	Brown
Violet	240.000	135.100	134.750	232.500	232.750	32.00	130.750	129.250	132.000	228.250	136.100	Violet
Amber	124.750	238.750	227.000	235.750	244.500	226.000	36.50	123.250	126.750	131.100	124.100	Amber

	1	2	3	4	5	6	7	8	9	10	11	
Aqua	33.75	129.750	226.750	131.250	231.000	247.750	133.100	233.750	236.250	139.750	36.75	Aqua
Cherry	121.500	31.50	242.000	35.75	243.000	138.000	132.100	243.750	239.250	131.750	244.250	Cherry
Gold	247.000	134.000	240.500	129.100	36.25	229.250	235.500	241.500	127.250	35.50	245.500	Gold
Coral	124.250	33.25	138.250	240.250	135.750	241.750	33.00	139.100	239.000	229.500	225.500	Coral
Indigo	137.100	119.750	233.500	239.750	245.750	136.250	139.000	246.500	140.750	225.750	230.500	Indigo
Lemon	34.25	133.50	132.750	123.100	36.00	241.250	236.500	37.50	234.250	135.000	37.75	Lemon
Lime	247.250	126.100	246.000	244.000	230.750	37.00	232.250	245.250	38.75	130.000	247.500	Lime
Maroon	139.250	38.00	239.500	122.750	39.25	39.50	240.750	241.000	37.25	226.500	140.000	Maroon
Ochre	227.750	236.750	227.250	242.500	120.250	39.00	38.50	136.750	234.000	125.250	39.75	Ochre
Olive	140.100	246.750	141.000	141.750	141.100	150.000		149.0	141.250	151.000		Olive
Black	35.650	25.375	48.550		36.300	37.800	38.200	39.800	40.400	41.000	36.333	Black
Bronze	309.000	140.700	130.700	135.700		306.000	132.700	310.000				Bronze
Copper		134.700		141.700	310.900	309.500			307.000	133.700		Copper
Silver	131.700	305.000	310.500	308.000			136.700		142.700	309.900		Silver
	1	2	3	4	5	6	7	8	9	10	11	

Contracts

TAXI:
- Trail

LINEUP:
- Echelon lineup (2ship)
- 3 in the slot (4ship)

TAKE-OFF / DEPARTURE /REJOIN
- 20 sec seperation
- AB off at 300kts
- 350kts
- Finger 4, #2 Left

CRUISE
- 350kts or M0.8 (what is lower)
- Turns: 30˚ bank

RECOVERY
- OHB
- 5 sec interval in the break

AIR COMBAT READINESS
- 450 Kts/M0.70 defensive Combat spread
- 500-1000ft vertical seperation
- Energy sustaining turns

TARGETING
- 1: Lead, High, Left
- 2: Trail, Low, Right
- 3: Maintain SA; support

A-A BVR Timeline

Time	Event
35	NLT Commit
30	Tactical /target range
25	Meld and Sort: FL to flight: FLIGHT: Meld BRAA 190 25,25 thousand
20	Shoot: FOX 3 , Crank
15	Assess targeted status
10	NLT Abort
8	NLT Defend
	Merge
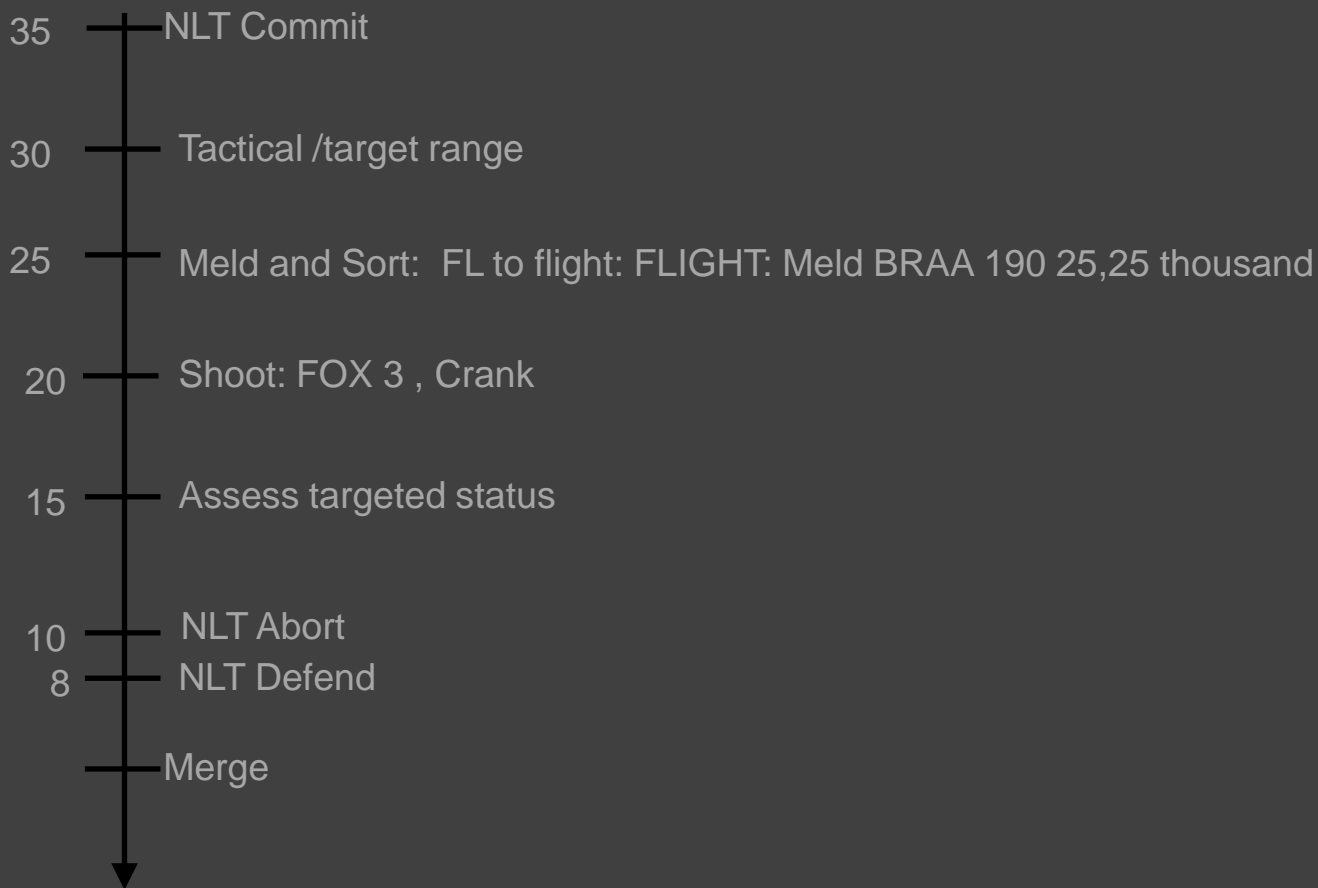
4 Assumptions:

Visual: meaning they have sight of the other fighter

No Joy: meaning they do not have a tally on any unknown or hostile aircraft

Naked: meaning the fighters are not spiked by hostile radars

Clean: meaning the fighter has no radar contacts

#2 report if this changes and it have not been picked up by lead.

Brevity

MELD: Cease radar sanitization and focus radar on single target. Set :
- Range to 40 NM
- Reduce to 80 degrees Azimuth

Radar:
#1 High and far
#2 Low and near

Sorting:
#1 : Left, Lead, High
#2: Right, Trail, Low

Reference

Enemy's relation to you

DRAG

BEAM

BEAM

FLANK

FLANK

HOT

Your relation to enemy

HOT

CRANK

CRANK

NOTCH

NOTCH

PUMP
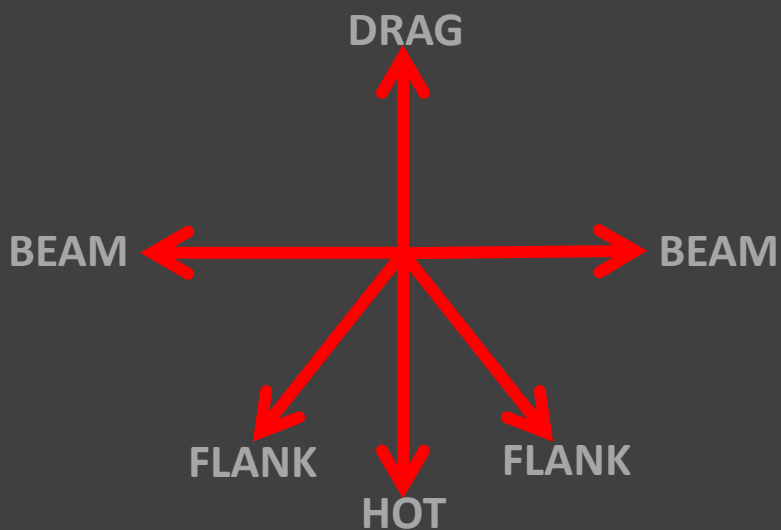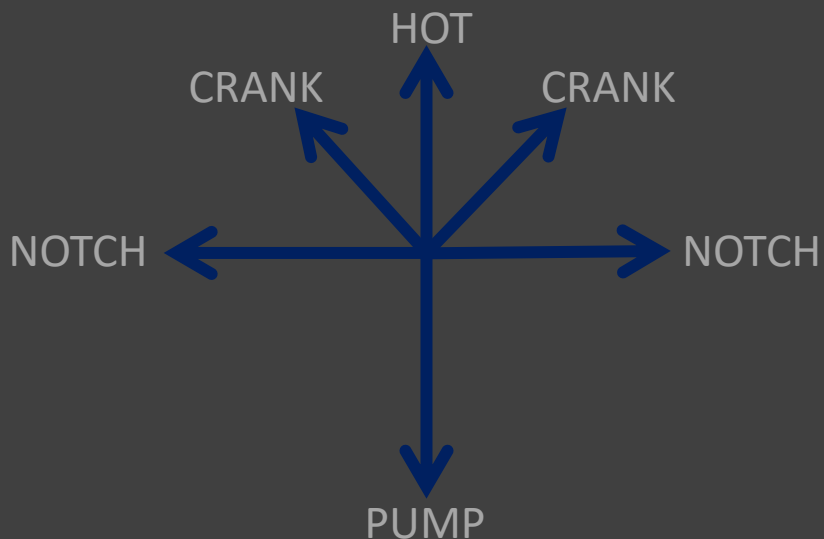
Lineups
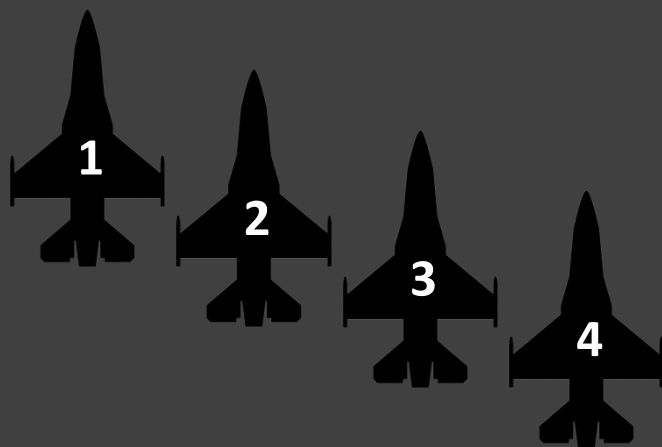
Echelon

3 in the slot
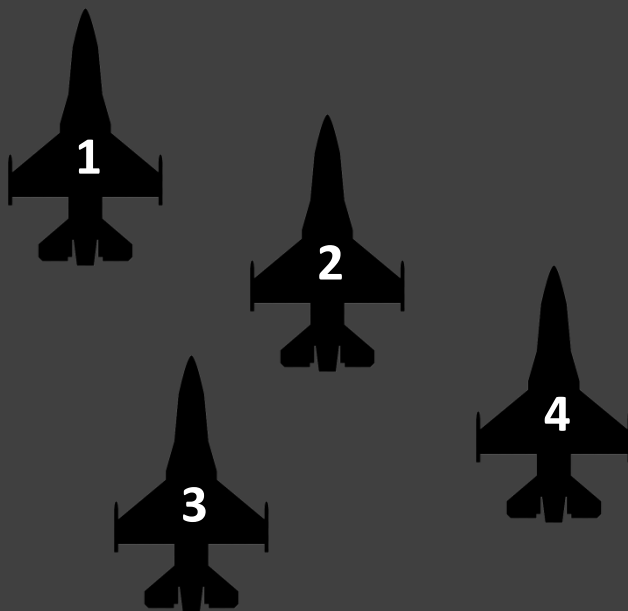
4 in the slot
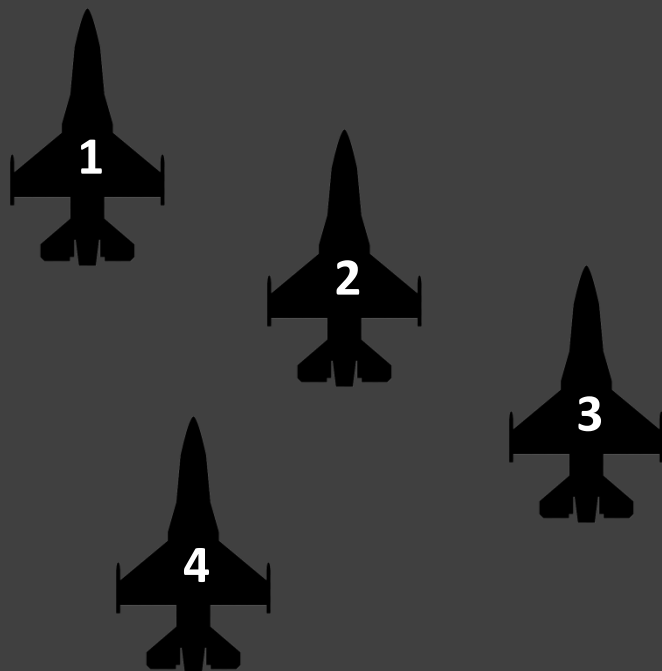
Formations

Finger 4 - Left
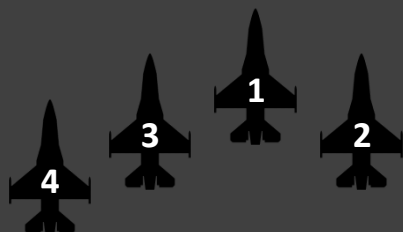
Finger 4 - Right
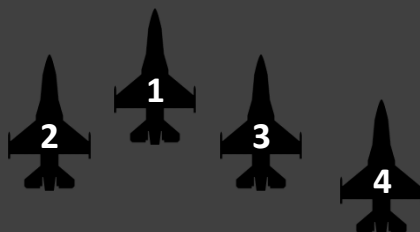
Line Abreast / Combat Spread

Echelon Left
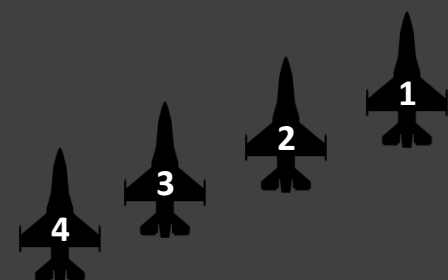
Echelon Right

3ship VIC

2ship Wedge

30°
3000ft-6000ft
60°

Fighting Wing

30°
500ft-3000ft
60°
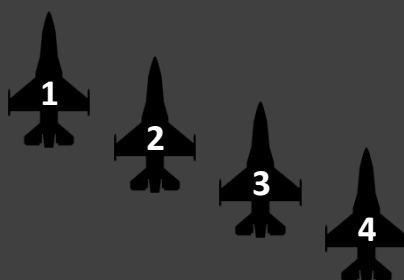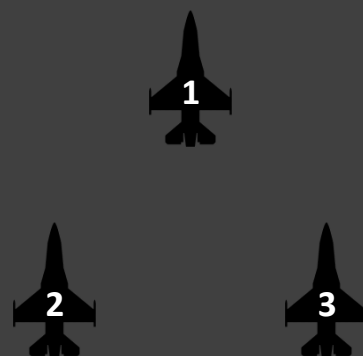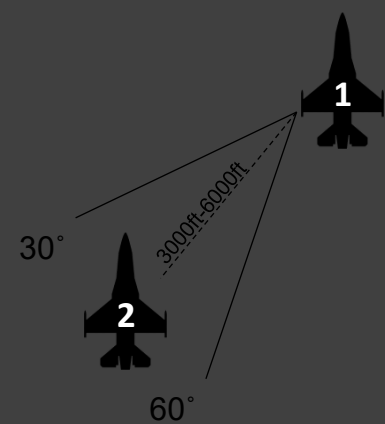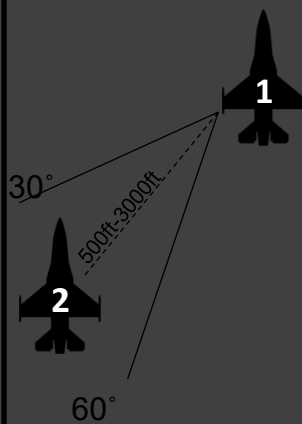
Diamond
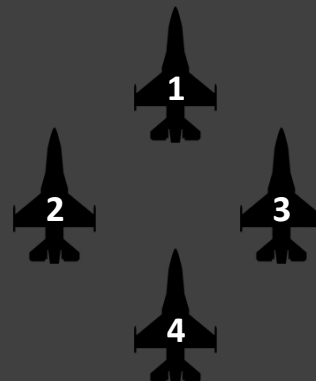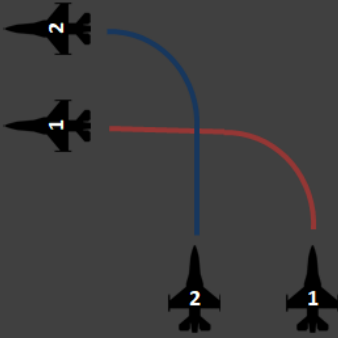
Turns

TAC-Right 45°
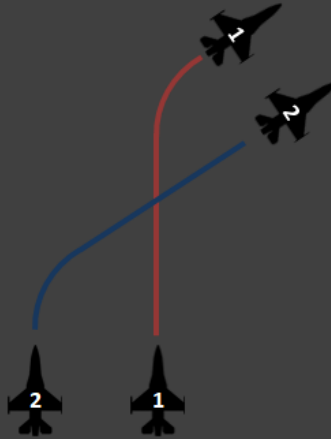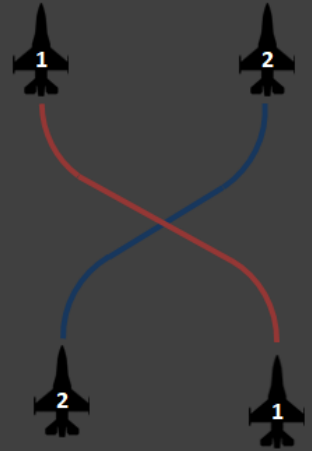
Shackle

TAC-Left 90°
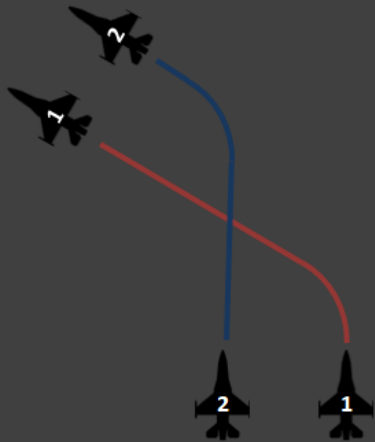
TAC-Left 45°

TAC-Right 90°
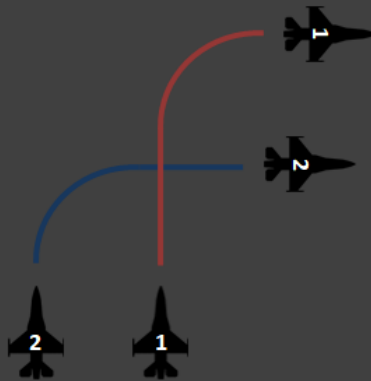
Cross Turn
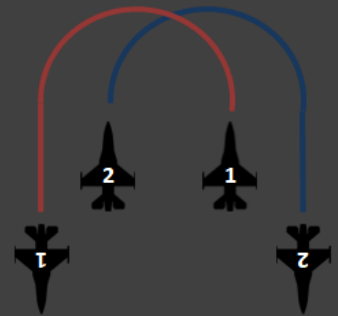
Hook Left
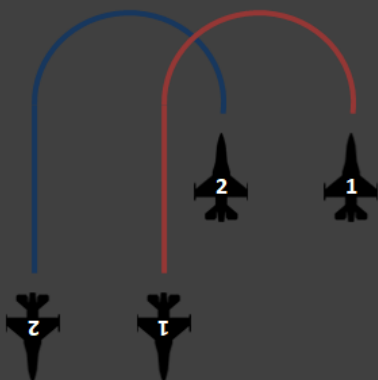
Hook Right
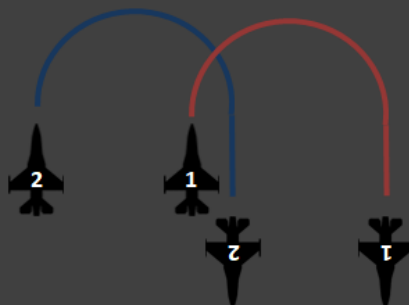
Turns page 1

TAC-Left 90°
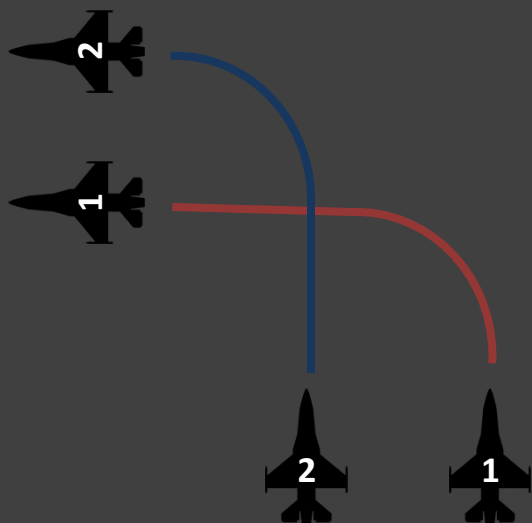
TAC-Right 90°
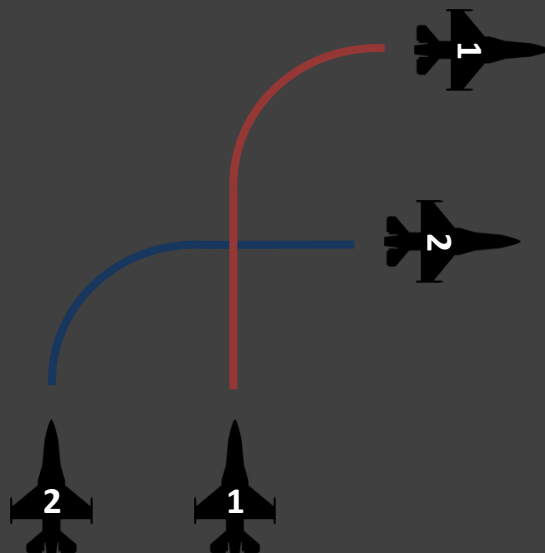
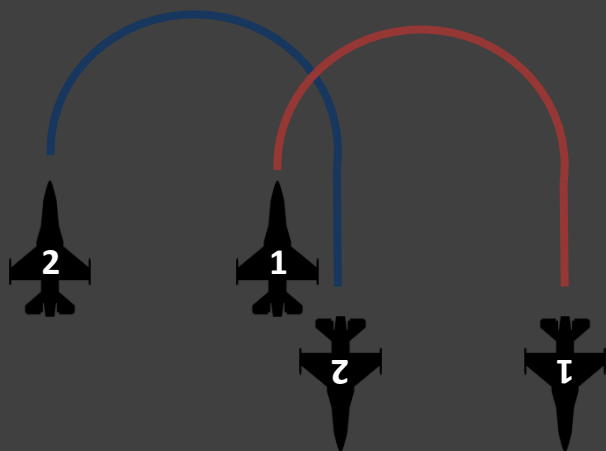## TAC-Left 45°
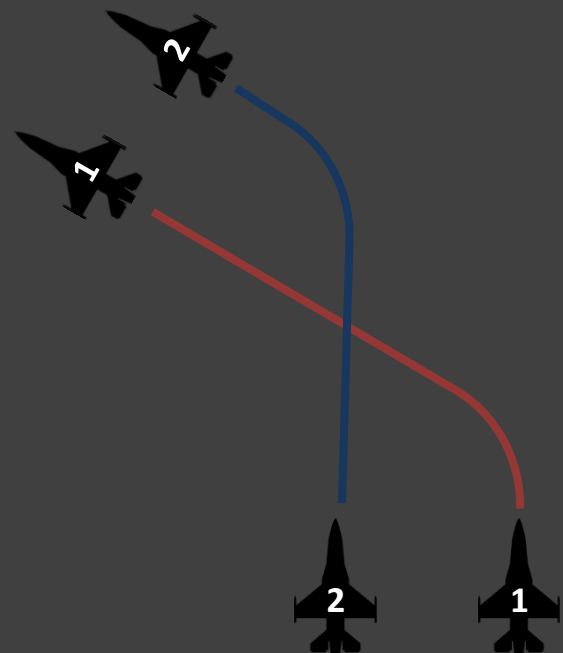
TAC-Right 45°
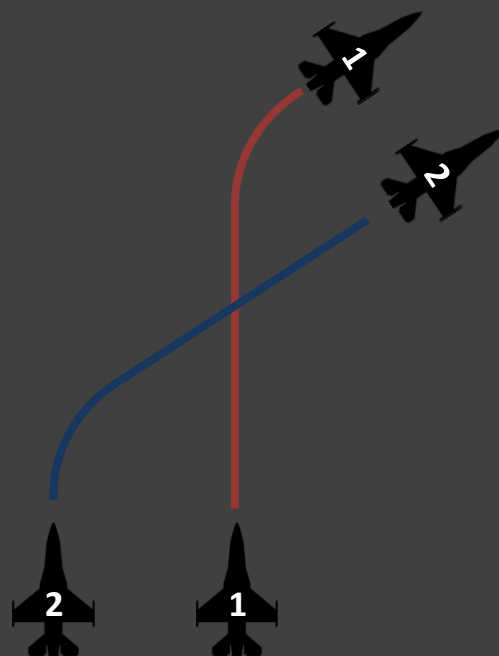
Turns page 2

Hook Left
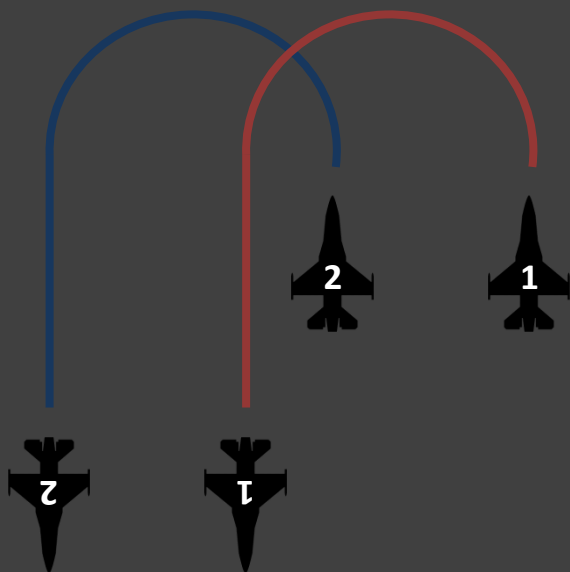
Hook Right

Shackle
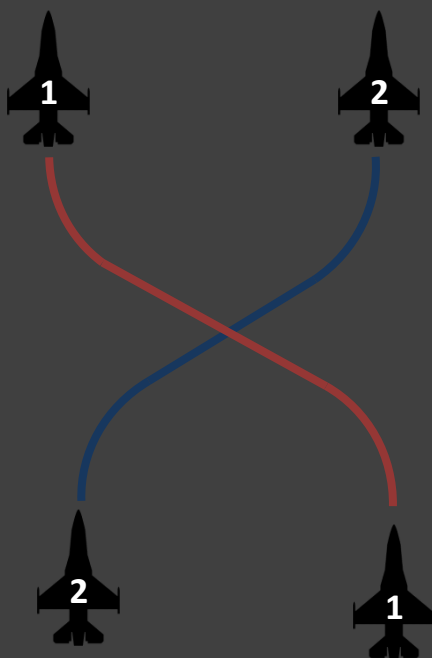
Cross Turn
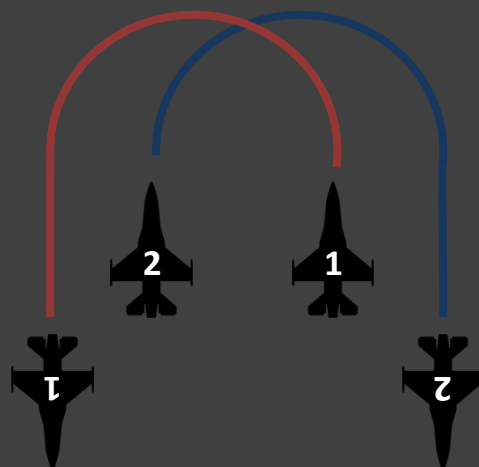
Knots and nautical miles

Knot	Nautical mile per minute	Knot	Nautical mile per minute
200	3.3	400	6.7
210	3.5	410	6.8
220	3.7	420	7.0
230	3.8	430	7.2
240	4.0	440	7.3
250	4.2	450	7.5
260	4.3	460	7.7
270	4.5	470	7.8
280	4.7	480	8.0
290	4.8	490	8.2
300	5.0	500	8.3
310	5.2	510	8.5
320	5.3	520	8.7
330	5.5	530	8.8
340	5.7	540	9.0
350	5.8	550	9.2
360	6.0	560	9.3
370	6.2	570	9.5
380	6.3	580	9.7
390	6.5	590	9.8

Template format: **SCRAMBLE**

This is_____ with an _____SCRAMBLE
(Controlling Agency)   *(QRA/CAS/AR/CSAR)*

For_____, Time is _____Z, I authenticate_____
        Airbase   *Time*

Scramble_____, _____ x _____
            Flight callsign   *Number*   *Type of AC*

Vector_____, at _____
        Course   *Flightevel or Feet*

Proceed to_____
            Area/Coordinates/Killbox/Location

Contact_____ On_____ Backup_____
        C2 Agency   *Frequency*   *Frequency*

Remarks:_____

Risk Estimate Distances (RED)

Weapon	Description	0,1 % PI
MK-82 contact	500 lb bomb	300m
MK82 HD contact	500 lb bomb/ high-drag	300m
MK84 contact	2000 lb	350m
CBU-87	Cluster	350m
CBU-103	Cluster	300m
GBU-12	500 lb Laser Guided	200m
GBU-10	2000 lb Laser Guided	250m
GBU-38	500 lb JDAM	200m
GBU-31	2000 lb JDAM	250m
AGM-65	Maverick 125 lb warhead	150m
M151, M229, M261	2.75" Rockets medium altitude	250m
M151, M229, M261	2.75" Rockets low altitude	300m
GAU-8	30mm Gatling gun	75m
2A42	30mm KA-50	75m
UPK 23-250	23mm Gunpod KA50	50m
S-8	80mm Rocket KA-50	200m
S-13 OF	122mm Rocket KA50	250m
9K121 VIKHR	130mm Missile KA50	100m
KH-25ML	275mm Missile KA50	175m
M134 Minigun	7.62X51 gatling UH-1	50m

Target Location Error Catgory (TLE)

TLE CAT 1	TLE CAT 2	TLE CAT 3	TLE CAT 4	TLE CAT 5	TLE CAT 6
0-6m	7-15m	16-30m	31-91m	92-305m	Above 305m