

Weapons Footprints and allowed deliveries

1. F-16

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
20mm	LAS	400-550	75-2000	-15° to -5°	2500-4500 ft	1		
						2	280° to 330°, 140° to 200°	
						3	280° to 330°, 160° to 200°	3A – 280°-325°
						4	270° to 320°, 170° to 220°	
						5	280° to 320°, 170° to 210°	
						6		
	HAS	400-600	500-15000	-30° to -15°	5000-7000ft	1		
						2	280° to 340°, 140° to 200°	
						3	280° to 330°, 160° to 200°	All targets
						4	260° to 320°, 190° to 220°	
						5	280° to 320°, 170° to 210°	
						6		
70mm Rockets (Inert)	Dive	350-600	1000-10000	-30° to -20°	1632-19031ft	1		
						2	270° to 030°, 090° to 210°	
						3	280° to 350°, 110° to 210°	All targets
						4	260° to 330°, 090° to 180°	NIL 4C and 4D Only
						5		
						6		
	LATR	350-600	1000-8000	-30° to 0°	2035-15000ft	1		
						2	270° to 030°, 090° to 210°	
						3	280° to 350°, 110° to 210°	All targets
						4	260° to 330°, 090° to 180°	NIL 4C and 4D Only
						5		
						6		
	HATR	400-600	4000-15000	-30° to 0°	6378-25000ft	1		
						2	270° to 030°, 090° to 210°	
						3	280° to 350° 110° to 210°	
						4	260° to 330° 090° to 180°	NIL 4C and 4D Only

						5		
						6		
BDU-33	Dive	350-600	2500-10000	-60° to -30°	1081-12072ft	1	280° to 030°, 100° to 210°	
						2	270° to 030°, 090° to 210°	
						3	270° to 030°, 090° to 210°	
						4	260° to 030°, 080° to 210°	
						5	280° to 030°, 100° to 210°	
						6	280° to 030° 100° to 210°	
	45 HARB	420-580	11000-17000	-45° to -30°	7000-9000ft	1	280° to 030°, 100° to 210°	
						2	270° to 030°, 090° to 210°	
						3	270° to 030°, 090° to 210°	
						4	260° to 030°, 080° to 210°	
						5	280° to 030°, 100° to 210°	
						6	280° to 030° 100° to 210°	
	45 HADB	400-580	5000-15000	-45° to -30°	3688-3942ft	1	280° to 030°, 100° to 210°	
						2	270° to 030°, 090° to 210°	
						3	270° to 030°, 090° to 210°	
						4	260° to 030°, 080° to 210°	
						5	280° to 030°, 100° to 210°	
						6	280° to 030° 100° to 210°	
	Level	350-550	300-15000	-5° to +5°	1531-15000ft	1	280° to 010°, 100° to 220°	
						2	270° to 030°, 090° to 210°	
						3	270° to 020°, 090° to 220°	
						4	260° to 360°, 080° to 220°	
						5	280° to 010°, 100° to 210°	
						6	280° to 030°, 100° to 210°	
		360-580	1300-1600	0° to 10°		1	280° to 040°	

	LOFT 10 POP LALD				4831- 15149ft		100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 030° 090° to 220°	
						4	260° to 020° 080° to 200°	
						5	280° to 020° 100° to 210°	
						6	280° to 030° 100° to 210°	
	LOFT 20 HILD	360-580	3600-4200	0° to 20°	8043- 23046ft	1	280° to 360° 110° to 190°	
						2	270° to 030° 090° to 210°	
						3	270° to 010° 090 to 200°	
						4	260° to 350° 080° to 170°	
						5	290° to 350° 110° to 170°	
						6	280° to 030° 100° to 210°	
BDU-50 CF	Dive	370-600	2500-10000	-60° to -30°	1225- 12705ft	1	280° to 030°, 100° to 210°	
						2	270° to 030°, 090° to 210°	
						3	270° to 030°, 090° to 210°	
						4	260° to 030°, 080° to 210°	
						5	280° to 030°, 100° to 210°	
						6	280° to 030° 100° to 210°	
	Level	355-600	1000-10000	-5° to +5°	3485- 25000ft	1		
						2	285° to 330°	
						3	285° to 325°	All Targets
						4	285° to 325°	All Targets
						5		
						6	285° to 325°	
BDU-50 AIR	LD Dive	370-600	2500-10000	-60° to -30°	1219- 12613ft	1		
						2	090° to 180° 270° to 020°	
						3	090° to 160° 280° to 040°	
						4	080° to 160° 350° to 040°	
						5		
						6	100° to 170°	

							280° to 030°	
	HD Level	355-600	1000-3000	-5° to +5°	2630-5632ft	1		
						2	300° to 340° 150° to 180°	
						3	300° to 340° 150° to 180°	3A-3H
						4	300° to 340° 150° to 190°	4A and 4B only
						5		
						6		
BDU-56 CF	Dive	370-600	2500-10000	-60° to -30°	1225-12505ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	3A-3H
						4	260° to 040° 080° to 220°	
						5		
						6	280° to 030° 100° to 210°	
	Level	355-360	1000-3000	-5° to +5°	3492-10103ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 010° 100° to 220°	3A-3H
						4	260° to 350° 150° to 210°	
						5		
						6	280° to 360° 100° to 210°	
Mk-82 CF Live	30HADB	350-500	7500-10000	-35° to -20°	6136-14688 ft	1		
						2	280° to 360°	Incl Tgt 2B
						3		
						4		
						5		
						6	280° to 360°	Req. Close Road
	45HADB	350-500	7500-10000	-50° to -35°	4190-10360 ft	1		
						2	280° to 360°	Incl Tgt 2B
						3		
						4		
						5		
						6	280° to 360°	Req. Close Road
	45HARB	350-500	10000-15000	-55° to -35°	4469-13805 ft	1		
						2	280° to 360°	Incl Tgt 2B
						3		
						4		
						5		
						6	280° to 360°	Req. Close Road
	30DB	350-500	3000-5000	-35° to -20°	3081-9685 ft	1		
						2	280° to 360°	Incl Tgt 2B

						3		
						4		
						5		
						6	280° to 360°	Req. Close Road
	LALD	350-500	300-2500	-25° to -5°	548-9668 ft	1		
						2	300° to 320°	Incl Tgt 2B
						3		
						4		
						5		
						6	290° to 315°	Req. Close Road
Mk-82 AIR Live	LAHD	355-570	700-1100	-10°	1911-3374 ft	2		<p>NOTE: The attack headings for these footprints require recalculation.</p> <p>In case of intention to drop using these parameters before the next release of this document, contact the RCO for approved attack headings</p>
						6		
	LALD	360-580	1400-2600	-10°	3630-8807 ft	2		
						6		
	LOFT 10 POP LALD	360-580	1300-1600	0° to 10°	4910-16606 ft	2		
						6		
	LOFT 20 HILD	360-580	3600-4200	0° to 20°	8158-25599 ft	2		
						6		
	Dive	370-580	3000-3600	-30°	3588-5530 ft	2		
						6		
	30 HARB	420-580	12100-13300	-30°	10517-15080 ft	2		
						6		
	45 HADB	380-580	8300-9600	-45°	5369-8023 ft	2		
						6		
45 HARB	516-550	13900-15400	-45°	9162-11363 ft	2			
					6			
GBU-12 Live	DB	300-450	10000-20000	-30° to 0°	3632-12600 ft	2	330° to 335° 140° to 160°	330-345 in FVW
						6	140° to 160°	
GBU-12 Inert	DB	300-450	10000-20000	-30° to 0°	3632-12600 ft	1		
						2	320° to 350° 120° to 150°	
						3	330° to 360° 120° to 160°	3A-3H

						4	340° to 010° 120° to 160°	4A and 4B only
						5		

2. Typhoon

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks	
27mm (FAP)	HAS (e-HIAT)	350-550		-33° to -12°	4000-6000 ft	1			
						2	280° to 320° 170° to 210°		
						3	270° to 290° 200° to 220°	3I and 3J only	
						4	270° to 310° 190° to 220°	4C and 4D only	
						5	280° to 310° 180° to 220°		
						6			
27mm (TP)	LAS/HAS (only 30° L/R, DEU 017 footprint) USE ONLY FOR LAS AT SPEEDS LESS THAN 450 KTAS	2 50-500	500-5000	-45° to -5°	490-3000 m	1			
						2	353° to 356°		
						3	349° to 353°		
						4	340° to 348°	4C and 4D only	
						5	345° to 353°		
						6			
	HAS (Waiver für Übungsmunition)	Up to 480	2500 to 5000 490m to 2510m SR		-45° to -30°	490-3000 m	1		
							2	320° to 350°	
							3	315° to 345°	
							4	315° to 335°	
							5	310° to 350°	
							6		
Paveway IV INERT	Level (RMTK)	350-450	3000-25000	-5° to +5°	-	2	335° to 345° 150° to 170°		

3. Hawk

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
3Kg Practice Bomb	Level and Dive	350-450	100-3000	-30° to 0°	31-2550 m 102-8364 ft	1	280° to 360° 200° to 220°	
						3	270° to 330° 190° to 220°	3A-3H 270 300 fvw
						2		
						4	260° to 300° 180° to 220°	
						5	200° to 220° 280° to 340°	
						6		

4. Tornado

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
27mm TP	LAS/HAS (only 30° L/R, DEU 017 footprint) USE ONLY FOR LAS AT SPEEDS LESS THAN 450 KTAS	250-500	500 to 5000 490m to 1910m SR	-45° to -5°	490-3000 m	1		
						2	353° to 356°	
						3	349° to 353°	
						4	340° to 348°	4C and 4D only
						5	345° to 353°	
						6		
	HAS (Waiver für Übungsmunition)	Up to 480	2500 to 5000 490m to 2510m SR	-45° to -30°	490-3000 m	1		
						2	320° to 350°	
						3	315° to 345°	
						4	315° to 335°	
						5	310° to 350°	
						6		
	LAS/HAS (RMTK) Batch MAR APR16	450-550	200 to 21000	-45° to -5°	-	1		
						2	300° to 340°	
						3	300° to 340°	
						4	300° to 340°	
						5	290° to 330°	
						6		
DM38 / BDU-33 D/B	HALD (DEU 007)	350-520	300-10000	-45° to -15°	-	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
	LALD (DEU 006)	350-520	0-4500	-15° to -5°	-	1	280° to 350° 140° to 210°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 330° 140° to 220°	
						6	280° to 030° 100° to 210°	
	HARB (DEU 009/4)	350-520	10000-15000	-15° to +5°	-	1	290° to 360° 110° to 180°	
						2	270° to 030° 090° to 210°	

						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	300° to 340° 120° to 160°	
						6	280° to 030° 100° to 210°	
	MARB (DEU 009/3)	350-520	4500-10000	-15° to +5°	-	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	290° to 360° 110° to 180°	
						6	280° to 030° 100° to 210°	
	LOFT (DEU 004)	350-520	Depending on the event		-	1	300° to 350° 120 to 170°	
						2	270° to 030° 090° to 210°	
						3	280° to 350° 100° to 170°	
						4	260° to 040° 080° to 220°	
						5	310° to 340° 130° to 160°	5A and 5B only
						6		
	Mini- LOFT (DEU 005)	440-520	Depending on the event		-	1	280° to 335° 140° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 340° 120° to 220°	
						4	260° to 040° 080° to 220°	4C and 4D only
						5	280° to 320° 140° to 180°	
						6		
DM18S /DM28 (Mk106)	Level (DEU 002, DEU 001)	440-550	≥ 300	-1° to +1°	-	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 360°	

		440-550	< 300	-1° to +1°	-		100° to 180°	
						6	280° to 030° 100° to 210°	
						1	280° to 340° 130° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 320° 140° to 180°	
	6	280° to 030° 100° to 210°						
	LAHD (DEU 003)	350-520	300-1500	-15° to -1°	-	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
					6	280° to 030° 100° to 210°		
BDU-50 Air (BSU-49)	HARB (DEU 016/4)	350-520	10000-15000	-15° to +5°	-	1		
						2	310° to 020° 110° to 160°	
						3	320° to 030° 100° to 150°	
						4	330° to 040° 090° to 140°	
						5	330° to 350° 100° to 140°	
						6	320° to 020° 100° to 150°	
	HADB (DEU 016/3)	350-520	4500-10000	-15° to +5°	-	1		
						2	280° to 020° 090° to 170°	
						3	300° to 030° 090° to 150°	
						4	320° to 040° 080° to 150°	
						5	330° to 010° 100° to 150°	
						6	290° to 030° 100° to 160°	
	HALD (DEU 016/2)	350-520	1000-10000	-45° to -15°	-	1		
						2	270° to 030°	

							090° to 210°	
						3	270° to 040° 090° to 190°	
						4	260° to 040° 080° to 170°	
						5	290° to 010° 100° to 180°	
						6	280° to 030° 100° to 210°	
	LALD (DEU 016/1)	350-520	1000-4500	-15° to -1°	-	1		
						2	270° to 350° 120° to 210°	
						3	280° to 320° 140° to 180°	
						4	270° to 300° 120° to 160°	
						5	300° to 020° 160° to 220°	
						6	280° to 330° 130° to 200°	
	LvL HD (DEU 013)	420-520	≤ 1000	-1° to +1°	-	1		
						2	270° to 360° 110° to 210°	
						3	280° to 330° 130° to 220°	
						4	260° to 310° 110° to 220°	
						5	280° to 030° 140° to 190°	
						6	280° to 340° 130° to 210°	
	LAHD (DEU 014)	350-520	≤ 1500	-15° to +1°	-	1		
						2	270° to 030° 090° to 210°	
						3	280° to 340° 110° to 220°	
						4	260° to 320° 100° to 220°	
						5	280° to 330° 130° to 220°	
						6	280° to 010° 110° to 210°	
Mk-82 AIR (BSU-49)	LAHD (DEU 012)	350-520	≤ 1500	-15° to +1°	-	1		
						2	345° to 355° 165° to 175°	
						3		
						4		
						5		
						6		

MATRA 250Kg	LAHD (DEU 010)	350-520	≤ 1500	-15° to +1°	-	1		
						2	330° to 010° 150° to 190°	
						3		
						4		
						5		
						6		
Mk-82 CF	Dive (RMTK)	450-510	1800-8000	-50° to -15°	-	1		
						2	330° to 020° 140° to 190°	
						3		
						4		
						5		
						6		
MC 540lb Mk XX	Dive and Toss (RMTK)	300-500	500-25000	-45° to +30°	-	2	320° to 360°	
Paveway IV INERT	Level (RMTK)	350-450	3000-25000	-5° to +5°	-	2	335° to 345° 150° to 170°	
Litening III	Training LASER Combat LASER	Flight profile IAW Appendix B						

5. JAS-39

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
27mm	Strafe	350-450	0-5000	-10° to -20°	≤2500m	1		
						2	320° to 005°	
						3	320° to 005°	3I and 3J only
						4	320° to 005°	4C and 4D only
						5	320° to 005°	
						6		

6. A-10

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
30mm	LAS	250-375	200-2000	-15° to -5°	2000-12234ft	1		
						2	270° to 340°, 130° to 190°	
						3	270° to 320°, 165° to 205°	All tgts
						4	260° to 320°	All tgts
						5	280° to 310° 160° to 210°	
						6	280° to 330° 150° to 200°	

	LAS 3deg	275-300	200-2000	-3° to 0°	2527- 12814ft	1		
						2	270° to 340°, 130° to 190°	
						3	270° to 320°, 165° to 205°	All tgts
						4	260° to 320°	All tgts
						5	280° to 310° 160° to 210°	
						6	280° to 330° 150° to 200°	
	HAS	250-400	500-15000	-60° to -15°	3000- 15639ft	1		
						2	270° to 340°, 130° to 190°	
						3	270° to 320°, 165° to 205°	All tgts
						4	260° to 320°	All tgts
						5	280° to 310° 160° to 210°	
						6	280° to 330° 150° to 200°	
70mm Rockets	LATR	275-400	1000-8000	-35° to 0°	1360- 15000 ft	1		
						2	280° to 020° 090° to 210°	
						3	270° to 360° 100° to 220°	3A-3H
						4	260° to 340° 100° to 220°	4C and 4D only
						5		
						6		
	HATR	275-400	4000-15000	-35° to 0°	5330- 23000 ft	1		
						2	280° to 020° 090° to 210°	
						3	270° to 360° 100° to 220°	
						4	260° to 340° 100° to 220°	4C and 4D only
						5		
						6		
BDU-33 <small>(For all BDU33 events, use "BDU33_All events_all tgt_all directions. Radius is 460m max)</small>	Level	275-400	300-15000	-5° to +5°	1531- 15000 ft	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	

LOFT	250-450	1000-8000	+10°to+45°	7000-9000 ft	1	280° to 040° 100° to 220°	
					2	270° to 030° 090° to 210°	
					3	270° to 040° 090° to 220°	
					4	260° to 040° 080° to 220°	
					5	280° to 040° 100° to 220°	
					6	280° to 030° 100° to 210°	
DB 30; DB 45; DB 60	275-400	2500-10000	-30° to -20° -45° to -20° -60° to -20°	2458-11883ft 1654-11886ft 1081-11886ft	1	280° to 040° 100° to 220°	
					2	270° to 030° 090° to 210°	
					3	270° to 040° 090° to 220°	
					4	260° to 040° 080° to 220°	
					5	280° to 040° 100° to 220°	
					6	280° to 030° 100° to 210°	
30HADB	250-350	6400-14000	-20° to -18°	5667-13451ft	1	280° to 040° 100° to 220°	
					2	270° to 030° 090° to 210°	
					3	270° to 040° 090° to 220°	
					4	260° to 040° 080° to 220°	
					5	280° to 040° 100° to 220°	
					6	280° to 030° 100° to 210°	
45HADB	225-350	8000-14000	-45° to -42°	3714-8904 ft	1	280° to 040° 100° to 220°	
					2	270° to 030° 090° to 210°	
					3	270° to 040° 090° to 220°	
					4	260° to 040° 080° to 220°	
					5	280° to 040° 100° to 220°	
					6	280° to 030° 100° to 210°	
10LAHD	275-300	800-1700	-10° to -8°	2054-4465 ft	1	280° to 040° 100° to 220°	
					2	270° to 030°	

							090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
	10LAHD 15POP	275-300	800-1700	-10° to +15°	2054- 7650 ft	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
	20LALD	275-325	1900-4100	-20° to -18°	2812- 6289 ft	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
BDU-50 CF	DB 30;			-30° to -20°	2694- 12705ft	1		
						2	270° to 030° 090° to 210°	
	DB 45;	275-425	2500-20000	-45° to -20°	1825- 12705ft	3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
	DB 60			-60° to -20°	1225- 12705ft	5		
						6	280° to 030° 100° to 210°	
	LVL	275-425	1000-20000	-5° to +5°	3486- 19950ft	1		
						2	270° to 340° 100° to 210°	
						3	270° to 340° 100° to 210°	
						4	270° to 340°	

						5		
						6	280° to 350° 100° to 210°	
	VLD	275-400	500-5000	-5° to +5°	1825-13904ft	1		
						2	270° to 350°	
						3	270° to 340°	All Targets
						4	270° to 340°	All Targets
						5		
						6	280° to 340°	
	10LAHD	275-375	800-1700	-10° to -8°	2064 to 5498ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 010° 090° to 220°	
						4	260° to 350°	
						5		
						6	280° to 030° 100° to 210°	
	20LALD	275-325	1900-4000	-20° to -18°	2829-6397ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5		
						6	280° to 030° 100° to 210°	
	30HADB	250-350	6400-14000	-35° to -30°	4403-11827ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5		
						6	280° to 030° 100° to 210°	
	45HADB	225-350	8000-14000	-35° to -42°	3790-9271ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5		
						6	280° to 030° 100° to 210°	
BDU-50 Air	LVL HD	275-425	1000-3000	-5° to +5°	2630-5003ft	1		
						2	280° to 340°	

						3	280° to 330°	
						4	280° to 330°	
						5		
						6		
	DB LD	275-425	2500-20000	-60° to -30°	1219-10531ft	1		
						2	100° to 160°	
						3	100° to 150°	
						4	080° to 140°	
						5		
						6	095° to 155°	
	LVL LD	275-425	1500-4000	-5° to +5°	4414-13093ft	1		
						2	270° to 030° 090° to 170°	
						3	320° to 020° 090° to 160°	
						4	080° to 150°	
						5		
						6	280° to 030° 090° to 170°	
	VLD HD	275-400	500-5000	-5° to +5°	1585-5351ft	1		Headings for ATD17 only. Review after ATD17.
						2	280° to 295°	
						3	280° to 295°	
						4	280° to 310°	
						5		
						6	280° to 295°	
	10LAHD	275-375	800-1700	-10° to -8°	1785 to 3326ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 010° 090° to 220°	
						4	260° to 350°	
						5		
						6	280° to 030° 100° to 210°	
GBU-12 Inert	LVL	300-425	5000-7000	-5° to +2°	4677-15652ft	1		
						2	100° to 160° 330° to 010°	
						3	100° to 140°	
						4	100° to 140°	
						5		
						6	100° to 160° 330° to 020°	
	LVL 10k ft	300-425	10000	-5° to 0°	10496 – 18093 ft	1		
						2		
						3		
						4	110° to 120°	
						5		
						6		
	DB	300-425	5500-20000	-50° to -20°	2426 – 15430 ft	1		Weapon/event approved.
						2	110° to 150°	

						3		Headings still need to be calculated. Contact RCO.
						4		
						5		
	30HADB Balistic	300-375	5000-7000	-50° to -25°	2770 - 8530ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2	270° to 030°	
						3		
						4		
						5		
						6		

7. Su-22

Weapon	Event	Speed (Km/h)	Altitude (ft/m AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
LBOB-100	HALD/ LALD	200-1200	500-2950ft 150-900m	-10° to -30°	-	2	290° to 330°	
						6	290° to 330°	No shp, just image
S-5 HE	H/LAR	600-1000	1150-2950ft 350-900m	-10° to -40°	-	2	310° to 340°	
						3	310° to 330°	
30mm inert	HAS/LAS	600-1000	1000-2600ft 300-800m	-10° to -40°	4500 m to 610 m	2	310° to 340°	
						3	310° to 330°	All tgts
						5	305° to 325°	
клен-54	LRF	Flight profile IAW Appendix B						Combat Laser not approved

8. F-18

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
20mm	LAS	275-300	200-2000	-15° to -5°	2000-7000 ft	1		
						2	280° to 330°	
						3	280° to 330°	All tgts
						4	260° to 320°	
						5	280° to 320°	
						6		
	LAS 3deg	275-300	200-2000	-3° to 0°	2517-7000 ft	1		
						2	280° to 330°	
						3	280° to 330°	All tgts
						4	260° to 320°	
						5	280° to 320°	
						6		
HAS	275-300	200-2000	-60° to -15°	2000-7000 ft	1			
					2	280° to 330°		
					3	280° to 330°	All tgts	
					4	260° to 320°		
					5	280° to 320°		
					6			

	LAS	275-300	200-2000	-15° to -5°	2000-7000 ft	1		
	Dive	350-450	1000-3000	-30° to -20°	1592 – 8097 ft	2		To be Calculated. Interim, use same headings as LAS 3Deg
						3		
						4		
						5		
						6		
Mk-76	DB 15	400-500	3000-4500	-20° to -10°	4768 – 10885ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
	30	400-500	3000-5900	-40° to -20°	3160 – 8727ft	4		
						5		
	45	400-500	3000-7800	-55° to -35°	1707 to 6358ft	6		
	15 LALD	425-525	500-1500	-20° to -10°	4768 – 5688ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
6								
BDU-50 CF	DB 30	400-500	3000-5900	-40° to -20°	3180 – 8953 ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		
	DB 45	400-500	3000-7700	-55° to -35°	1713 – 6400 ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		
BDU-50 AIR	15 LAHD	425-525	500-1500	-20° to -10°	1063 - 3733 ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		
Mk-82 CF	DB 30	400-500	3000-5900	-40° to -20°	3180 – 8953 ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		
	DB 45	400-500	3000-7700	-55° to -35°	1713 – 6400 ft	1		Weapon/event approved. Headings still
						2		
						3		

						4		need to be calculated. Contact RCO.
						5		
						6		
Mk-82 AIR	15 LAHD	425-525	500-1500	-20° to -10°	1063 - 3733 ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		

9. B-52

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
BDU-50 CF BDU-56 CF	LVL	350-450	5000-25000	-5° to +5°	8702- 31435ft	1		
						2	270° to 010° 090° to 190°	BDU-50 only
						3	270° to 030° 090° to 210°	String of 3 at 50ft AVBL 290-340
					8636- 32641ft	4	260° to 040° 080° to 150°	
						5		
						6	280° to 350° 110° to 200°	
Mk-82 CF	LVL	350-400	5000-15000	-5° to 0°	8702- 21022ft	1		
						2	280° to 320°	
						3		
						4		
						5		
						6	280° to 310°	

10. Helicopters (pintle mounted weapons)

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Firing Direction (M)	A/c Heading
12,7mm (.50Cal) Inert	Strafe (Forward) (Brass overboard)	60-90	10-600	-6° to 0°	2300- 7800ft	1		
						2	290° to 330°	290° to 330°
						3	315° to 345°	315° to 345°
						4		
						5		
						6		
	Sidfire (Brass overboard)	60-90	100-300	-45° to 0°	985- 2500ft	1		
						2	275° to 335°	215/035
						3	275° to 325°	210/030
						4	270° to 320°	205/025
						5	270° to 320°	205/025
						6		

7,62mm Inert (Door Gunner)	Sidefire Circling (Brass and No Brass Overboard)	0-100	20-200	-30° to 0°	100-400 m	1		
						2	250° to 340°	Circling
						3	260° to 320°	Circling
						4	260° to 320°	Circling
						5	240° to 320°	Circling
						6		

NOTES

- 1) For Tail Gunners, comply with all parameters, excluding “A/c Heading”
- 2) The approved firing directions above are based on US WDZ tool. Users that are required to follow more stringent footprints are to contact the RCO for guidance.
- 3) Users intending to shoot non-pintle mounted rifles are to contact the RCO for guidance.

11. AH-64

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
30mm Inert Fixed	Hover, Running	0-100	50-500	-35° to -5°	300-800 m	1		
						2	230° to 070° 090° to 210°	
						3	270° to 360° 090° to 190°	
						4	250° to 350° 080° to 170°	
						5	290° to 340° 120° to 170°	
						6		
	Hover Long Range	0	100-1500	-15° to 0°	2414m 7920ft	1		
						2	270° to 030° 090° to 210°	
						3	270° to 360° 130° to 220°	
						4	260° to 340°	
						5	280° to 330° 150° to 220°	
						6		
30mm Inert Flex	Hover, Running	15-30	100-1500	-61° to -5°	529 – 3845 ft	1		Requires new footprints. Interim max +/- 15° from CL
						2	325°	
						3	300°	
						4	295°	
						5	295°	
						6		
	Hover Long Range	0	100-1500	-11° to 7°	1926- 2145m 6319- 7040ft	1		
						2	270° to 350°	
						3	270° to 330°	
						4	260° to 330°	
						5	280° to 320°	
						6		

70mm Rx (Inert) <small>(WDZ is for M257 illumination, but is conservative for Inert)</small>	Running Fire	50-100	50-500	-45° to -5°	1000-1641m	1		All need to be reviewed
						2	270° to 030° 090° to 210°	
						3	270° to 010° 090° to 220°	
						4	260° to 350°	
						5	280° to 360° 100° to 220°	
						6		
70mm Rx (Flechette M255)	Running Fire	60-90	50-500	-45° to -5°	1000-1641m	1		
						2	270° to 030° 090° to 210°	
						3	270° to 010° 090° to 220°	
						4	260° to 350°	
						5	280° to 360° 100° to 220°	
						6		

12. F-15 (C and E)

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
20mm TP	HAS	400-500	3600-5000	-30° to -20°	5746-11094 ft	1		
						2	270° to 350°	
						3	270° to 330°	All tgts
						4	260° to 330°	
						5	280° to 320°	
						6		

13. MQ-9

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
GBU-12 Inert (Ground Lased)	LVL	100-165	5000-15000	-5° to +5°	2805-9470 ft	1		
						2	280° to 310°	
						3	280° to 310°	
						4		
						5		
						6		
GBU-12 Inert (Self-lase /Buddy lase)	LVL	100-165	5000-15000	-5° to +5°	2805-9470 ft	1		
						2	280° to 020° 100° to 170°	
						3	295° to 350° 110° to 150°	
						4		
						5		
						6	290° to 030°	

14. B-1

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
BDU-56 CF	LVL	450-550	2000-15000	-5° to +5°	6323-31938 ft	1		
						2	290° to 320°	
						3	290° to 320°	
						4	290° to 320°	
						5		
						6	290° to 320°	
		490-590	15000-25000	-5° to +5°	21854-42145 ft	1		
						2	280° to 030°	
						3	300° to 330°	
						4		
						5		
						6	280° to 350°	
BDU-50 CF	LVL	450-550 <i>(Use respective BDU-56 shp files)</i>	2000-15000	-5° to +5°	6300-23871 ft	1		
						2	280° to 350°	
						3	270° to 330°	
						4	270° to 330°	
						5		
						6	270° to 330°	
		490-590	15000-25000	-5° to +5°	21510-39993 ft	1		
						2	280° to 030°	
						3	300° to 330°	
						4		
						5		
						6	280° to 350°	

15. R-44

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Firing Direction (M)	A/c Heading
7,62mm Inert Sniper	Sidefire <i>(Brass overboard)</i>	0-60	10-500	-72° to -1°	50-450 m	1		
						2		
						3A	305° to 045°	085/265
						3B		
						3I		
						3J		
						4		
						5		
6								

16. AC-130

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Firing Direction (M)	A/c Heading
105mm TP	Sidefire Circling	180-200	6000-10000	-45° to -10°	5332-22539 ft	1		
						2	020° to 270° 210° to 100°	Circling
						3D, C, K	340° to 270° 220° to 130°	Circling
						3 (all)	220° to 150° NIL-NIL	Circling
						4		Circling
						5		Circling
						6	340° to 280° 210° to 130°	Circling
105mm HE	Sidefire Circling	180-200	6000-10000	-45° to -10°	5332-22539 ft	1		
						2	020° to 270° 210° to 100°	Circling
						3		
						4		
						5		
						6	340° to 280° 210° to 130°	Circling
30mm TP	Sidefire Circling	180-200	6000-10000	-45° to -10°	5483-13910 ft	1		
						2	030° to 280° 210° to 100°	Circling
						3	030° to 260° 210° to 100°	Circling
						4	030° to 260° 210° to 100°	Circling
						5	030° to 260° 210° to 100°	Circling
						6	030° to 260° 210° to 100°	Circling
Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
AGM-176 Live and Inert	Level	210	8000-10000	0°	9000 – 12000 ft	1		
						2	125° to 140°	Incl Tgt 2B
						3		
						4		
						5		
						6	120° to 135°	

17. AV-8

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
Mk-76	Dive 10	450-500	1000 - 3000	-20° to -5°	2087 – 10862ft	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
	Dive 20	450-500	1000 - 3000	-20° to -5°	2087 – 10862ft	1	280° to 040° 100° to 220°	
						2	270° to 030° 090° to 210°	
						3	270° to 040° 090° to 220°	
						4	260° to 040° 080° to 220°	
						5	280° to 040° 100° to 220°	
						6	280° to 030° 100° to 210°	
BDU-50 CF	Dive	450-550	3000-5000	-30° to -15°	3829-11135ft	1		Weapon/event approved. Headings still need to be calculated. Contact RCO.
						2		
						3		
						4		
						5		
						6		

18. L-39ZA

Weapon	Event	Speed (KTAS)	Altitude (ft AGL)	Release Angle	Release Range	Tgt	Heading (M)	Rmks
23mm	Strafe	220-350	700-2500	-30° to -10°	3000-4500ft	1		
						2	310° to 340°	
						3	305° to 325°	Except 3C and 3K
						4		
						5	300° to 320°	
						6		