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ANNEX B

(C) GUNNER TRACKING ERROR ANALYSIS (FILM) (U)

1. (U) GENERAL.

a. Two rolls of film representing the combat mission record of the XM26 system were presented for analysis. One roll contained twelve missile firings of which three (one in which IR source failed and two which were not captured resulting in missile loss) were unsuccessful. Eight of the nine remaining were duplications of firings contained in the second roll which totaled thirty-four firings. Thus, thirty-five missile firings which resulted in target successes were analyzed. The missile excursion from the sight-target line during flight was also measured in twelve firings.

b. The film was viewed on a Vanguard Motion Analyzer closely following procedures established during USACDEC Experiment 43.6, Visual Acquisition Systems Evaluation (VASE), Part 4 which was conducted at Fort Lewis, Washington during the period February - May 1972.

c. Detailed data obtained from the analysis of the film is contained in Table B-3. Individual charts depicting the last five seconds of flight time aim angle error are found at Figures B-1 to B-35. The excursion charts are at Figures B-36 to B-47.

2. (U) PROCEDURE.

a. Identification. Film Missile firings were correlated with those identified in the Mission Summary Forms by day and event. Film coverage of all firings included in the Mission Summary Forms was not available.

b. Time of Flight.

(1) Several aids to film analysis engineered into the XM26 system are found imprinted on the film.

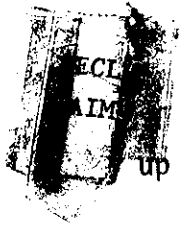
(a) The "attack" signal appears on the film when the system is prepared for use and ready to fire.

(b) The "fire" signal then appears indicating the aircraft is properly positioned with respect to attitude and the gunner can depress his "fire" control.

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(c) When the "fire" control is activated a black flag, evident up to this time in the lower left corner of each frame disappears.

(2) It was discovered that these aids introduced inconsistencies in precise measurement of time of flight by frame count, therefore, a more reliable method was developed.

(a) Time of flight frame count was made from the first appearance of the missile IR source on the film to impact. The pod position selected for the firing was noted at this time also. The frame count time of flight was later converted to seconds.

(b) Hughes Aircraft Company provided the necessary information to be added to the time of flight data obtained from film inspection. This constant, 0.34 seconds for missiles fired from the left pod position and 0.54 seconds for missiles fired from the right pod position provided a complete time of flight measurement from fire to impact of the missile.

(3) Range to the target was derived from time of flight conversion rather than from film measurement.

c. Aim Angle Error Measurement.

(1) Impact was obvious from film inspection and was measured by comparing the location of the sight cross hair in relation to the target center of mass with the moveable x and y axis cursors on the Motion Analyzer screen placed over the center of mass of the target. This is a two step procedure: first, superimposing the cursors over the cross hair and zeroing the x and y axis measurement scales; second, placing the cursors over the center of mass of the target and recording the error displayed in thousands of an inch.

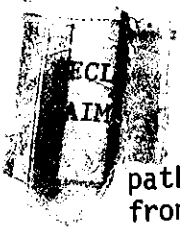
(2) From impact subsequent measurements were made at quarter second intervals for the last five seconds of missile time of flight.

(3) The BDM/SSL Hewlett Packard Calculator, 9810A was programmed to convert the data to mil error depicted in Table B-3 and to provide the aim angle error chart display in Figures B-1 to B-35.

d. Target Type. Target type was determined by crew debriefing and inspection. The film quality was such that primary source of identification was through debriefing.

e. Additional Information. Information with respect to target secondary explosions, battle damage assessment overflight, target burning, obstructions in line of sight, or evident excessive turbulence was recorded for each firing and appear on the charts for each firing.

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f. Missile Excursion. During inspection of the film the path of the IR source of the missile during flight appeared to vary from flight to flight. Initially time was available, so the missile excursion of twelve firings in the first film was made. Figures B-36 to B-47 depict both the last five seconds to impact aim angle error and the plotted points of the missile excursion at its maximum on either side of the x-y axis of the sight-target line.

g. System Accuracy. To highlight the accuracy of the system the aim angle error at impact was converted to centimeter error and is indicated on each chart as "Impact from Center of Mass" left, right, up, or down from target center of mass.

h. Aim Angle Error. The Hewlett Packard calculator was programmed to provide the Root Mean Square Aim Angle error in mils for each crew. This provided a comparison of results from the Ft. Lewis, Washington and Vietnam operations.

3. (C) FILM ANALYSIS FINDINGS.

a. The ultimate test of a weapon system is its successful utilization under combat conditions to accomplish the purpose for which intended. The success of the TOW system is summarized below:

Table B-1 (C:GDS) RECAPITULATION OF MISSILE FIRINGS (U)

Target	Crew 1	Crew 2	Crew 3
Tank, M41	4	2	1
PT76		1	
T54		2	3*
APC	4		
Arty Piece	2		
Ammo Dump	1		
Truck	4		1
Bridge			1
Building	1		
Water tower, MG	1		
Water tower, legs	3		
Island			1
Lost	1		2
TOTAL: 38	21	5	12

* Fired 4 missiles at same T54.

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b. The average deviation in centimeters from the center of mass, considering all successful firings, was 35.3 cm around the x axis and 34.3 cm around the y axis.

c. In three instances of failure to capture the missile, two were beyond the system capabilities for recovery from excursions beyond the sight-target line. These are depicted in Figures B-43 and B-44. The third missile IR source failed, and it immediately left the film, Figure B-41.

d. Successful recapture of missile in the remaining sample of nine firings measured recorded missile excursion from the sight-target line extending from a minimum of x +0.45 mils and y +0.46 mils to a maximum of x -5.26 mils and y +21.01 mils.

e. The average Root Mean Square (RMS) Aim Angle error in mils for each crew was computed and is compared to the success of the same crews evaluated at Fort Lewis, Washington prior to going to Vietnam. The data appears below. The greater accuracy in Vietnam as compared to Fort Lewis is attributed to three things:

- (1) Altitude/slant range.
- (2) Forward flight as opposed to a hover.
- (3) Increased motivation provided by the "actual" combat situation.

Table B-2 (C;GDS) RMS ANGLE ERROR (MILS) COMPARISON (U)

	Ft. Lewis	Vietnam	Ft. Lewis	Vietnam
Crew 1	x 0.98	x 0.2198	y 0.62	y 0.2307
Crew 2	x 1.68	x 0.2424	y 0.39	y 0.2154
Crew 3*	x 1.38	x 0.2119	y 0.46	y 0.3761

* Replacement Gunner.

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Table B-3 (C; GDS) XM26 AIM ANGLE ERROR AS A
FUNCTION OF TIME TO IMPACT

TOW Firing					Time to Impact, Seconds										LINE NUMBER
DATE	EVENT	CREW	TARGET TYPE	RANGE	AXIS	5.00	4.75	4.50	4.25	4.00	3.75	3.50	3.25		
(AM) 2/5/72	1	1	Tank M41	2575	X	-.0785	-.1357	-.0143	-.0571	-.0357	-.2857	-.0785	-.2357	1	
					Y	-.2643	-.1857	-.2785	-.2857	-.2785	-.2500	-.2500	-.2500		
2/5/72	2	1	Tank M41	2075	X	+.0285	-.0643	-.0643	-.0643	-.1428	-.1428	-.0643	-.2285	2	
					Y	-.0857	-.0928	-.1643	-.1643	-.1143	-.1143	-.2428	-.1500		
2/5/72	3	1	Tank M41	2250	X	+.1143	+.1143	+.0000	-.0143	+.0214	+.0857	-.0214	-.0357	3	
					Y	+.1285	+.1285	+.0214	-.0428	-.0428	+.0571	-.0285	+.0214		
(PM) 2/5/72	1	1	Tank M41	1500	X	-.0857	-.2285	-.4643	-.3714	-.3714	-.6071	-.4714	-.4714	4	
					Y	-.2857	-.2857	+.0857	+.0357	-.0214	-.0857	-.1571	-.1571		
2/5/72	2	1	Arty 105 HOW	1825	X	-.1857	-.1000	-.1000	-.1143	+.0000	-.0500	-.1071	-.1714	5	
					Y	+.1928	-.2000	-.0857	-.1571	-.0143	-.0285	-.1500	-.2571		
2/5/72	4	1	Truck Arty	2300	X	+.3143	+.2785	+.2643	+.1500	+.0500	+.0643	+.0285	-.0285	6	
					Y	+.3071	+.4500	+.5143	+.5143	+.5785	+.6928	+.5714	+.5714		
8/5/72	3	3	LOG Bridge	1600	X	-.3643	-.3643	-.4357	+.0643	+.2000	-.1571	-.3214	-.1785	7	
					Y	+.2643	+.2643	-.1214	+.0428	+.1571	+.2571	-.1143	-.3285		
9/5/72	1	2	Tank PT76	1500	X	?	?	?	+.5071	-.2143	-.2143	-.2143	-.3928	8	
					Y	?	?	?	-.0571	+.0714	+.0714	+.0714	+.0000		
13/5/72	1	1	Camouflaged APC	1650	X	-.1786	-.1571	-.0286	-.1286	-.1786	-.1786	-.1429	-.2357	9	
					Y	+.4357	+.5071	+.4286	+.3929	+.4286	+.4286	+.3714	+.2857		
14/5/72	1	2	T54	1700	X	-.3571	-.1429	+.5429	+.0714	+.0571	-.0214	+.3286	+.0571	10	
					Y	+.2714	+.2500	-.0429	-.1714	-.1000	-.0357	-.1143	-.1000		
14/5/72	2	2	T54	1725	X	-.0571	-.0786	+.3000	-.1000	-.0857	-.3786	-.1786	+.2286	11	
					Y	+.1786	-.0714	+.1643	+.1214	+.2929	+.3500	+.0929	+.0214		
16/5/72	2	1	Truck	1475	X	+.2857	+.1000	+.0571	+.0143	+.0357	+.2357	+.2357	+.1214	12	
					Y	-.4429	+.0143	-.0786	-.0500	+.2357	+.0571	+.0571	+.0286		
16/5/72	3	1	APC	2850	X	-.2071	-.1929	-.1714	-.1500	-.0643	-.0857	-.0714	-.0429	13	
					Y	+.2071	+.2214	+.1714	+.1071	+.1429	-.0214	+.0071	-.0714		

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Table B-3 (Continued)

LINE NUMBER	Time to Impact, Seconds												IMPACT
	3.00	2.75	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25	
1	-.3071	-.1214	-.1500	-.1143	+.0071	-.1214	-.0285	-.1143	-.1571	-.2000	-.1785	-.0500	-.0500
	-.2857	-.2857	-.3071	-.2500	-.2500	-.3143	-.2857	-.2857	-.3643	-.1857	-.1071	-.1571	-.1571
2	-.1785	-.2857	-.3571	-.1214	-.1357	-.1000	+.0071	+.0071	-.0571	-.1714	-.2143	-.2357	-.1071
	-.1571	-.1357	-.0428	+.0143	+.0857	-.0214	+.0143	+.1000	+.0428	+.0643	+.0285	-.1357	-.1000
3	+.1214	-.0428	-.0428	-.1285	-.2357	-.1928	-.2143	-.2714	-.2643	-.3285	-.2071	-.1214	-.2143
	+.0571	-.2071	-.2285	-.1000	-.1357	-.1357	-.3071	-.3071	-.2643	-.3928	-.2928	-.2571	-.1500
4	-.5613	-.2428	-.2714	-.2785	-.2214	-.2857	-.2285	-.1500	-.4214	-.4500	-.2928	-.4000	-.3143
	-.0500	-.0714	+.0071	+.0000	-.1857	-.1428	-.2714	-.4143	-.4571	-.6643	-.6071	-.5785	-.1000
5	-.2571	-.1428	-.0500	-.0928	-.1143	-.1500	-.3000	-.2143	-.1857	-.2143	-.2571	-.2428	-.1071
	-.2571	-.2571	-.2571	-.2214	-.0928	-.1500	+.0071	-.2285	-.1643	-.3643	-.0928	-.3144	-.2428
6	+.0571	+.0071	+.0357	+.1285	+.0785	+.1357	+.1357	+.2071	+.2857	+.2500	+.2357	+.3143	+.2857
	+.5500	+.5714	+.3785	+.3357	+.3571	+.2928	+.2928	+.3785	+.5143	+.6000	+.5571	+.4785	+.3857
7	-.3143	-.3285	-.2785	-.2785	-.2928	-.1714	-.3000	-.3500	-.3500	-.4214	-.3071	-.1785	-.2714
	-.2143	-.0571	+.0000	+.0000	-.1714	+.1000	+.0928	+.0785	+.0785	+.0785	+.0857	+.2143	+.1071
8	-.5785	-.6071	-.6000	-.6000	-.4714	-.2500	-.1071	+.0643	+.1571	-.0928	-.0928	+.0714	-.5214
	+.0000	-.1428	-.0428	-.0428	-.0714	-.0714	-.1857	-.4785	-.6000	-.5357	-.5357	-.3928	-.3785
9	-.1000	-.1214	-.1214	-.0429	-.0786	-.1357	-.1929	-.2000	-.1714	-.1714	-.1214	-.1571	-.2500
	+.2786	+.1429	+.1429	+.1143	+.1500	+.1286	-.0857	-.0929	-.0143	-.0143	-.3000	-.1429	+.0714
10	-.0929	-.0357	-.0643	-.1143	-.1357	+.0500	+.1500	+.0500	+.0071	+.1143	+.2429	+.3643	+.3286
	-.1857	-.1714	-.0429	+.1214	+.0000	+.1929	+.1429	-.0643	+.2429	+.2286	+.3286	+.1786	-.0286
11	+.1429	+.0571	+.2286	+.2000	+.0643	+.0643	-.3286	-.3071	-.1286	-.1286	-.1286	-.1143	-.1429
	+.2500	+.0786	+.0571	+.0500	+.0000	+.0000	+.0929	+.0929	+.0286	+.0286	-.0571	+.1286	+.1429
12	-.0286	+.0000	-.0571	-.0571	+.0714	+.1143	+.1143	+.0286	+.1786	+.1071	+.1929	+.1929	+.1857
	+.0500	+.1929	+.1214	+.1214	+.0143	+.1214	+.3071	+.2929	+.1857	+.1929	+.1500	+.0214	-.0643
13	-.0857	-.0857	-.1214	-.1214	-.1214	-.0929	-.0786	-.0500	-.0214	-.0929	-.0571	-.0429	+.0000
	-.0286	-.0857	+.0143	+.0143	+.0071	+.0571	+.0857	+.1429	+.0286	+.0786	+.0214	+.0714	-.0143

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Table B-3 (Continued)

TOW Firing					Time to Impact, Seconds										LINE NUMBER
DATE	EVENT	CREW	TARGET TYPE	RANGE	AXIS	5.00	4.75	4.50	4.25	4.00	3.75	3.50	3.25		
16/5 72	4	1	APC	2150	X	-.0429	-.0571	-.0286	-.0286	-.0286	-.0286	-.0643	-.1214	14	
					Y	+.1500	+.1929	+.2000	+.1500	+.1786	+.1786	+.2786	+.2071		
16/5 72	5	1	NVA Bldg	1750	X	+.1714	+.2500	+.2071	+.1714	+.1000	+.0571	+.0857	+.1714	15	
					Y	+.2071	+.2714	+.2429	+.2214	+.2071	+.0500	+.0786	+.1929		
16/5 72	6	1	APC VIC NVA Bldg	1550	X	+.0571	+.0571	+.0429	+.0143	+.0786	+.2143	+.2571	+.3571	16	
					Y	+.0071	+.0071	-.0429	-.0429	-.2643	-.3714	-.2357	-.4571		
16/5 72	7	1	NVA Truck	2300	X	+.1214	+.0286	+.0286	+.1214	+.1214	+.1571	+.1571	+.0286	17	
					Y	+.1143	+.0500	-.1857	-.0714	-.0714	-.1000	-.1000	-.0357		
16/5 72	8	1	105mm How towed by Truck	2950	X	-.7857	-.7857	-.6143	-.6143	-.6143	-.6214	-.6214	-.5571	18	
					Y	+.3857	+.3857	+.3857	+.3857	+.3857	+.3786	+.2929	+.2929		
16/5 72	10	1	Ammo Dump	2375	X	-.1643	-.1286	-.1286	-.1071	-.1071	-.1071	-.1071	-.0929	19	
					Y	+.1500	+.1286	+.1286	+.0857	+.0857	+.0857	+.0857	+.0357		
18/5 72	1	3	T54 Camou- flaged as island in river	2150	X	-.1071	-.0500	-.0786	-.0500	-.0714	-.0714	-.0143	-.0643	20	
					Y	-.1071	-.0214	-.3571	-.1286	-.1500	-.1500	-.1357	-.2357		
18/5 72	2	3	Do	2400	X	+.0000	-.0571	+.0143	+.0143	+.0143	+.0143	+.0143	+.0143	21	
					Y	+.0000	+.0143	+.0214	+.0214	+.0571	+.0429	+.0429	-.1071		
18/5 72	3	3	Do	1850	X	-.1000	-.1714	-.2500	-.1786	-.1786	-.1000	+.0286	+.0286	22	
					Y	+.0214	-.0429	+.1571	+.4857	+.4857	+.4857	+.3643	+.3643		
18/5 72	4	3	Do	2425	X	+.1000	+.1643	+.1357	+.1214	+.1214	+.1214	+.1214	+.1000	23	
					Y	+.0643	+.0357	+.1357	+.1357	+.1357	+.2143	+.2143	+.1714		
18/5 72	5	3	Is- land	1950	X	+.2071	+.3286	+.2714	+.2357	+.2286	+.2429	+.1500	+.0929	24	
					Y	-.0786	-.0929	-.1786	-.2429	-.2786	-.2500	-.3357	-.4000		

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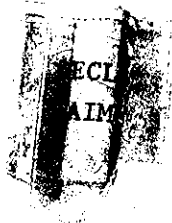


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Table B-3 (Continued)

LINE NUMBER	Time to Impact, Seconds												IMPACT
	3.00	2.75	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25	
14	-.1214	-.0786	-.0786	-.0214	+.0000	-.0214	-.0214	-.0214	-.0143	+.0857	+.0429	-.0500	+.0286
	+.2429	+.3000	+.1857	+.2429	+.1643	+.1500	+.1500	+.1500	+.2071	+.2071	+.1214	+.1429	+.1286
15	+.0571	+.0643	+.0643	+.0643	+.1214	+.1214	+.1571	+.1429	+.1214	+.0786	+.0143	+.1286	+.2071
	+.0929	+.1714	+.1429	+.1429	+.1786	+.1786	+.1643	+.2571	+.2643	+.2500	+.2357	+.2000	+.1071
16	-.4214	-.3500	-.2929	-.3500	-.2929	-.3786	-.4214	-.4714	-.4357	-.5071	-.5071	-.4571	-.6143
	-.4929	-.5071	-.4286	-.4143	-.4643	-.4857	-.6071	-.7000	-.5500	-.5143	-.5143	-.4714	-.4643
17	-.0286	+.1000	-.0143	+.0500	+.1071	+.2214	+.2214	+.0929	+.0929	+.1286	+.0357	+.0357	+.0357
	-.2857	+.0786	+.0429	+.0786	+.0000	+.0000	+.0000	-.1214	-.2500	-.1500	-.2286	-.3929	-.3929
18	-.6000	-.6000	-.4714	-.4714	-.4929	-.5000	-.6000	-.6214	-.6214	-.5929	-.5857	-.7429	-.7071
	+.2857	+.2857	+.2286	+.2286	+.3286	+.2286	+.2286	+.3143	+.3143	+.3143	+.2786	+.3143	+.2143
19	-.0929	-.0929	-.1143	-.1571	-.1571	-.1929	-.2357	-.1786	-.1786	-.2286	-.2786	-.2929	-.2357
	-.0357	-.0357	-.0143	+.1000	+.1000	-.0214	-.0357	-.1286	-.1286	-.2429	-.1000	-.1643	-.1643
20	-.0643	-.0643	-.0643	-.0643	+.0000	+.0000	+.0214	+.0214	+.0786	-.0571	+.0071	+.0071	+.0143
	-.2357	-.1429	-.1429	-.1429	-.1000	-.1000	-.3500	-.2000	-.2500	-.4500	-.2929	-.2929	-.1714
21	+.0143	+.0286	+.0286	+.0286	-.0786	-.0786	-.0786	-.0786	-.0786	-.0786	-.1929	-.1500	-.1500
	-.3857	-.1500	-.1500	-.1500	-.4071	-.4071	-.4071	-.3071	-.3071	-.3071	-.2357	+.0786	+.1714
22	-.1786	-.1786	-.1500	-.1429	+.0000	-.1714	-.1714	-.0357	-.2929	-.2929	-.2929	-.3929	-.3929
	+.4286	+.4286	+.3643	+.3571	+.3857	+.2500	+.3143	+.2286	+.1929	+.1929	+.1929	+.0214	+.1286
23	+.2857	+.0643	+.0643	+.1000	+.1000	+.1071	+.1357	+.1143	+.2286	+.2286	+.0571	+.1500	+.1000
	+.1929	+.3714	+.3714	+.1214	-.0214	+.3429	+.5500	+.4786	+.5071	+.3643	+.5071	+.4714	+.4500
24	+.1857	+.1857	+.1857	+.1857	+.1429	+.1429	+.0647	-.0500	+.0571	+.0571	-.1286	-.1286	+.0000
	+.0286	+.0286	+.1500	+.1500	+.3071	+.3071	+.3000	+.3000	+.1286	+.2857	+.1429	+.1429	+.0000

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Table B-3 (Continued)

TOW Firing					Time to Impact, Seconds										LINE NUMBER
DATE	EVENT	CREW	TARGET TYPE	RANGE	AXIS	5.00	4.75	4.50	4.25	4.00	3.75	3.50	3.25		
19/5 72	1	1	2-1/2 ton NVA Truck	2350	X	+.1143	+.0571	+.1000	+.1000	+.1000	+.0429	+.1429	+.1286	25	
					Y	-.2000	-.2071	-.0643	-.0643	-.0643	-.0714	+.0000	-.2857		
20/5 72	1	2	M41 Tank	2525	X	+.5786	+.5786	+.6000	+.4143	+.3500	+.1357	+.1357	+.1714	26	
					Y	-.2357	-.2357	-.3357	-.2214	-.3071	-.3871	-.3071	-.2643		
20/5 72	2	2	M41 Tank	2200	X	+.0571	+.1357	+.0714	+.0857	+.1286	-.0643	+.0357	-.0143	27	
					Y	+.0143	+.0071	-.0357	-.2000	-.1714	-.1643	-.1429	-.0786		
21/5 72	1	M*	M41 Tank	2450	X	-.0357	+.0429	+.0643	-.0357	+.0571	+.0571	+.0500	+.1071	28	
					Y	+.3357	+.3286	-.0143	+.2714	+.1571	+.0786	+.1214	+.0500		
27/5 72	3**	3	T54	1000	X	-.3500	-.0250	-.4643	-.7714	-.7714	-.6786	-.6143	-.4571	29	
					Y	+1.2071	+1.3286	+1.4357	+1.5500	+1.5500	+1.2429	+.9071	+.8286		
27/5 72	4**	3	T54	1475	X	-.0500	-.1286	-.1286	-.1857	-.1286	-.0643	-.0857	-.1071	30	
					Y	-.0214	-.0929	-.0429	+.1071	+.0571	+.1143	+.0357	+.0643		
28/5 72	1	1	Mach. Gun on Water Tower	3150	X	+.1143	+.1571	+.0929	+.1500	+.1071	+.0000	+.1357	+.0714	31	
					Y	+.0286	+.0714	+.1429	+.1929	+.1714	+.1714	+.2357	+.0429		
28/5 72	2	1	Water Tower Legs	1875	X	-.1071	-.1000	-.1071	-.0857	-.0429	-.0500	-.0357	-.0643	32	
					Y	+.0643	+.0643	+.1000	+.1000	+.1429	+.1286	+.1286	+.0786		
28/5 72	3	1	Water Tower Legs	2050	X	-.1071	-.1357	-.1429	-.0929	-.1071	-.0857	-.1714	-.0786	33	
					Y	-.1714	-.1286	+.0000	+.0214	+.0000	-.0714	-.0714	-.0429		
28/5 72	4	1	Water Tower Lens	1650	X	-.1071	-.0714	-.0643	-.0571	-.0571	-.1214	-.1071	-.1000	34	
					Y	+.0643	+.1071	+.1643	+.1571	+.1786	+.1500	+.0643	+.0643		
8/5 72	1	3	Truck	1350	X	+.0071	+.0071	+.0071	+.0928	+.0071	+.0071	-.1071	-.1071	35	
					Y	-.1143	-.1143	-.1143	-.2143	-.3000	-.3000	-.4143	-.4143		

*Gen Maddox and Crew 3 Gunner as pilot.

**Both tanks burned, Enemy tracer fire observed in film.

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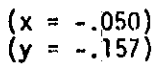
Table B-3 (Continued)

LINE NUMBER	Time to Impact, Seconds												IMPACT
	3.00	2.75	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25	
25	+.0286	+.1643	+.1571	+.1643	+.1000	+.1214	+.1214	+.1429	+.1000	+.0643	+.0643	+.0643	+.1643
	+.0571	+.0143	-.0143	+.0214	+.0571	-.0286	-.0286	-.0500	+.0071	-.1286	-.1286	-.1286	-.0786
26	+.2214	+.0857	+.2429	+.0929	+.0357	+.0071	+.0357	-.0143	+.0643	-.0286	-.0214	-.0500	-.0500
	-.2214	-.2500	-.1357	-.3786	-.3857	-.4857	-.2429	-.4929	-.1357	-.1000	-.0714	-.0571	+.0714
27	+.0357	+.0071	-.0643	+.0286	-.1500	-.0857	-.0643	-.0500	-.1643	-.2071	-.0429	-.0357	-.0429
	-.1429	-.2214	-.0286	-.1214	-.0714	-.0929	-.0429	-.1571	+.1143	-.1429	-.2571	-.2786	-.2214
28	+.0857	-.0786	-.0143	+.0357	-.0643	-.0643	-.1143	-.1643	-.2000	-.2000	-.0357	-.1714	-.1714
	+.0357	-.0500	+.0000	-.1643	-.1429	-.2500	-.0857	-.0857	-.2500	-.2500	-.3143	-.3786	-.3429
29	-.1357	-.1786	-.5643	-.3357	-.3214	-.4571	-.3500	-.1500	-.3571	-.2857	-.0286	-.2571	-.4143
	+.6071	+.4857	+.7286	+.7206	+.3214	+.2286	+.1929	+.0357	+.2357	+.0500	-.0214	-.1714	+.0000
30	-.1500	-.1643	-.1214	-.0286	-.0427	-.0429	+.0357	-.0143	+.0500	+.0143	+.0286	+.0071	+.0000
	+.0786	+.1000	+.0000	+.2286	+.2500	+.1857	+.2143	+.0071	+.1143	+.0643	-.0214	-.0500	-.1571
31	+.0143	+.0214	+.0429	-.0571	-.0143	+.0214	+.0429	+.0500	+.0857	+.0029	+.0857	+.0857	+.0357
	+.1786	+.1571	+.0571	+.0714	-.0429	+.0000	-.0357	-.0429	-.0714	-.1143	-.0714	-.0571	-.0500
32	-.1143	-.1071	-.1071	-.2000	-.1429	-.1286	-.1714	-.0500	-.0714	-.1071	-.1500	-.1357	-.0643
	+.1714	+.1071	+.1071	+.1286	+.1143	+.1714	+.1000	+.1000	+.0929	+.0929	+.1071	+.0357	+.0000
33	-.0714	-.1643	-.2000	-.1429	-.1357	-.1286	-.2143	-.1571	-.1929	-.1071	-.1143	-.0929	-.0286
	-.0286	-.0071	+.0000	-.0643	-.0571	-.1714	-.1500	-.0643	-.0500	-.0429	-.0929	-.0714	-.0786
34	-.0857	-.1500	-.1286	-.0929	-.1429	-.1429	-.0786	-.1500	-.2357	-.1429	-.1143	-.1571	-.1286
	+.1000	+.1071	+.1500	+.1929	+.0786	+.0786	+.1071	+.1000	+.0714	+.1214	+.0429	+.0429	-.0214
35	-.1071	-.1071	-.1285	-.2428	-.3357	-.1000	-.1285	-.1285	+.0071	+.1928	+.0000	-.0071	-.0785
	-.4571	-.6643	-.7285	-.3714	-.3714	-.2214	-.2785	-.2785	-.3357	-.3428	-.3428	-.5071	-.5714

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AIM

Date: 2 May 1972 (am)
Event: 1
Crew: 1
Target: M41 Tank
Range: 2575 meters
Secondary Explosion
Impact from center of
 Left 13 cm
 Down 40 cm



XM26 SYSTEM

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Date: 2 May 1972 (am)
Event: 2
Crew: 1
Target: M41 Tank
Range: 2075

Impact from center of mass:
Left 22 cm
Down 21 cm

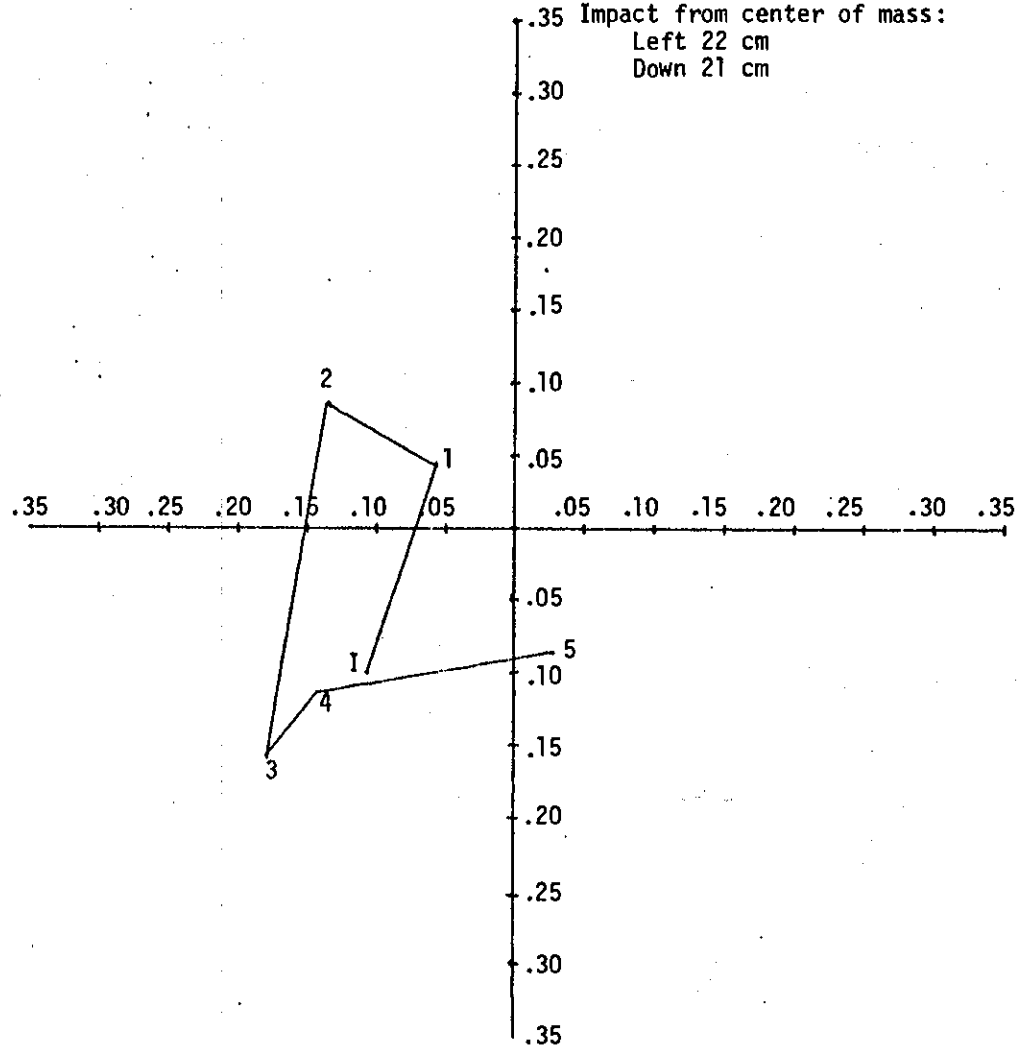


Figure B-2 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 2 May 1972 (am)
Event: 3
Crew: 1
Target: M41 Tank
Range: 2250
Secondary Explosion
Impact from center of mass:
Left 48 cm
Down 34 cm

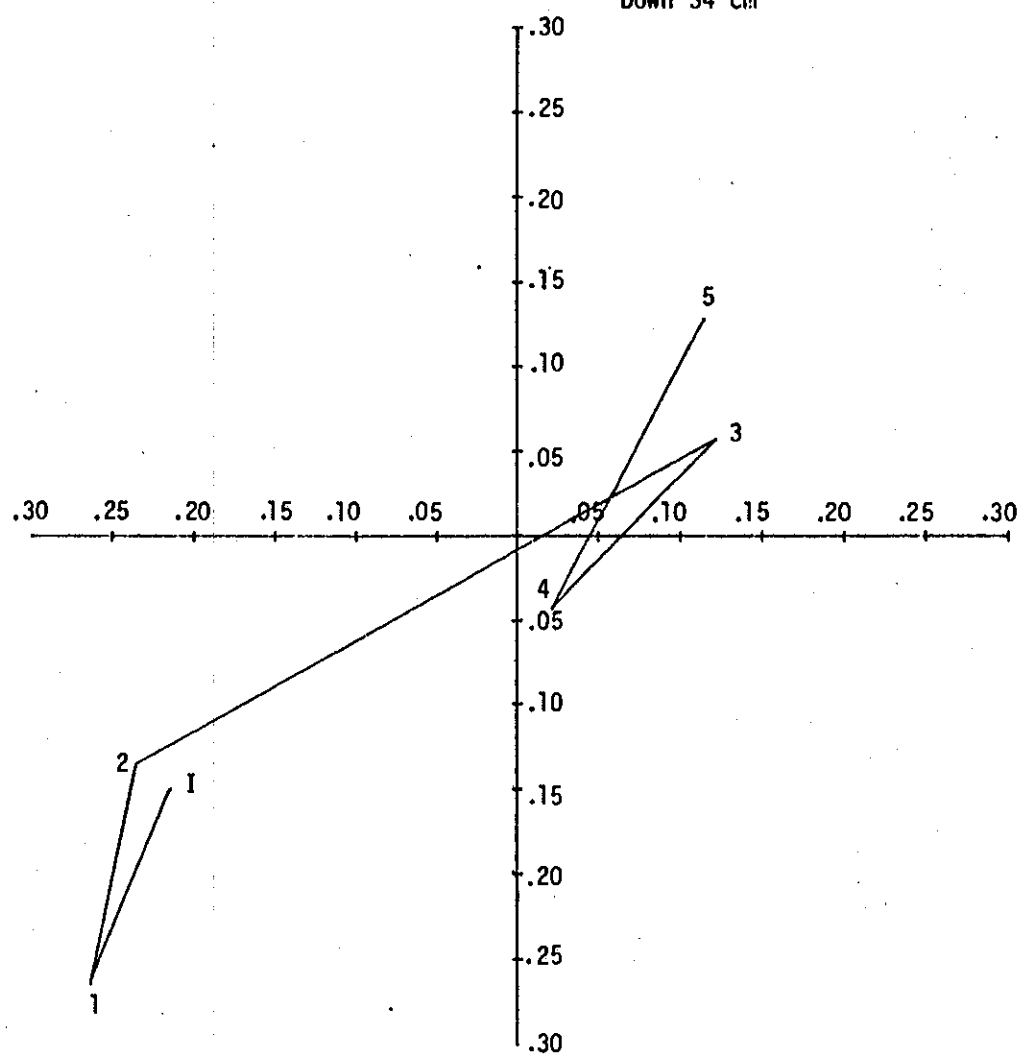


Figure B-3 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 2 May 1972 (pm)
Event: 1
Crew: 1
Target: M41 Tank
Range: 1500
Impact from center of mass:
Left 47 cm
Down 15 cm

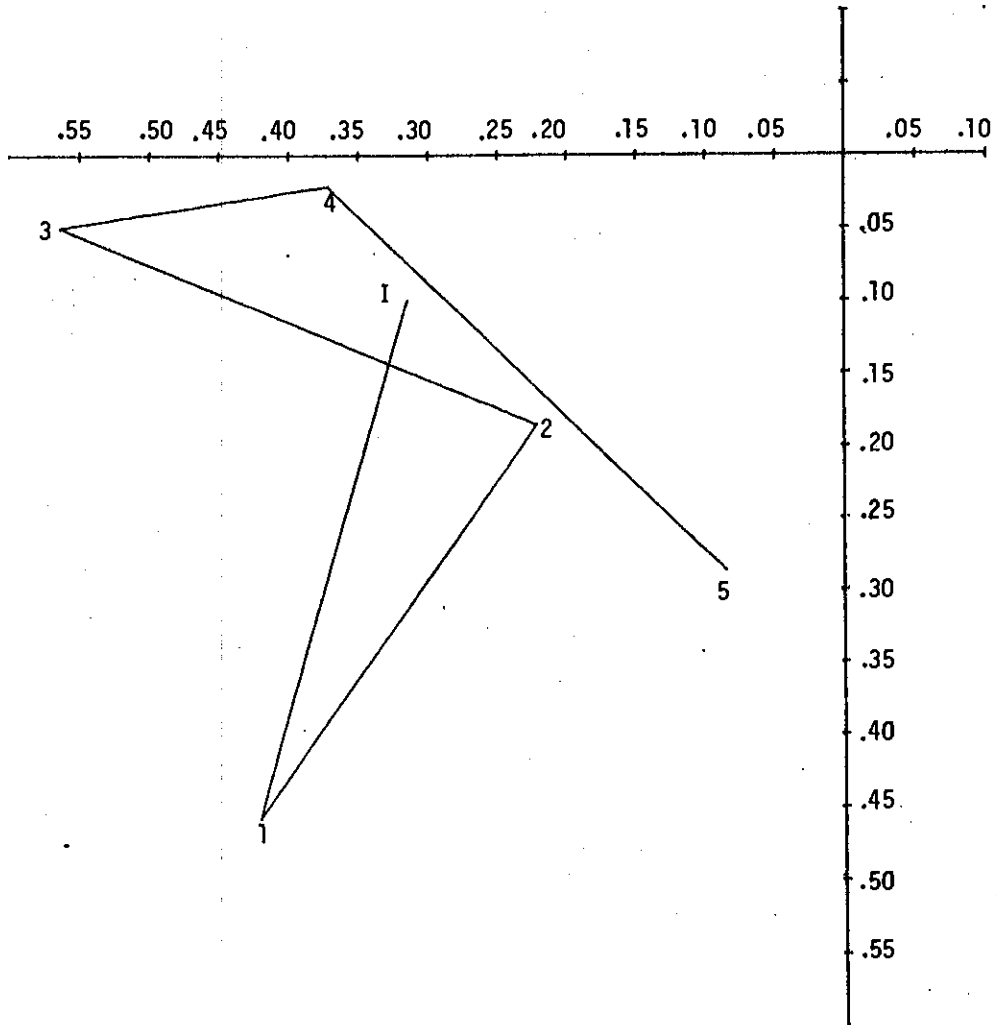


Figure B-4 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-14

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Date: 2 May 1972 (pm)
Event: 2
Crew: 1
Target: 105 How Arty
Range: 1825
Secondary Explosion
Impact from center of mass:
Left 20 cm
Down 44 cm

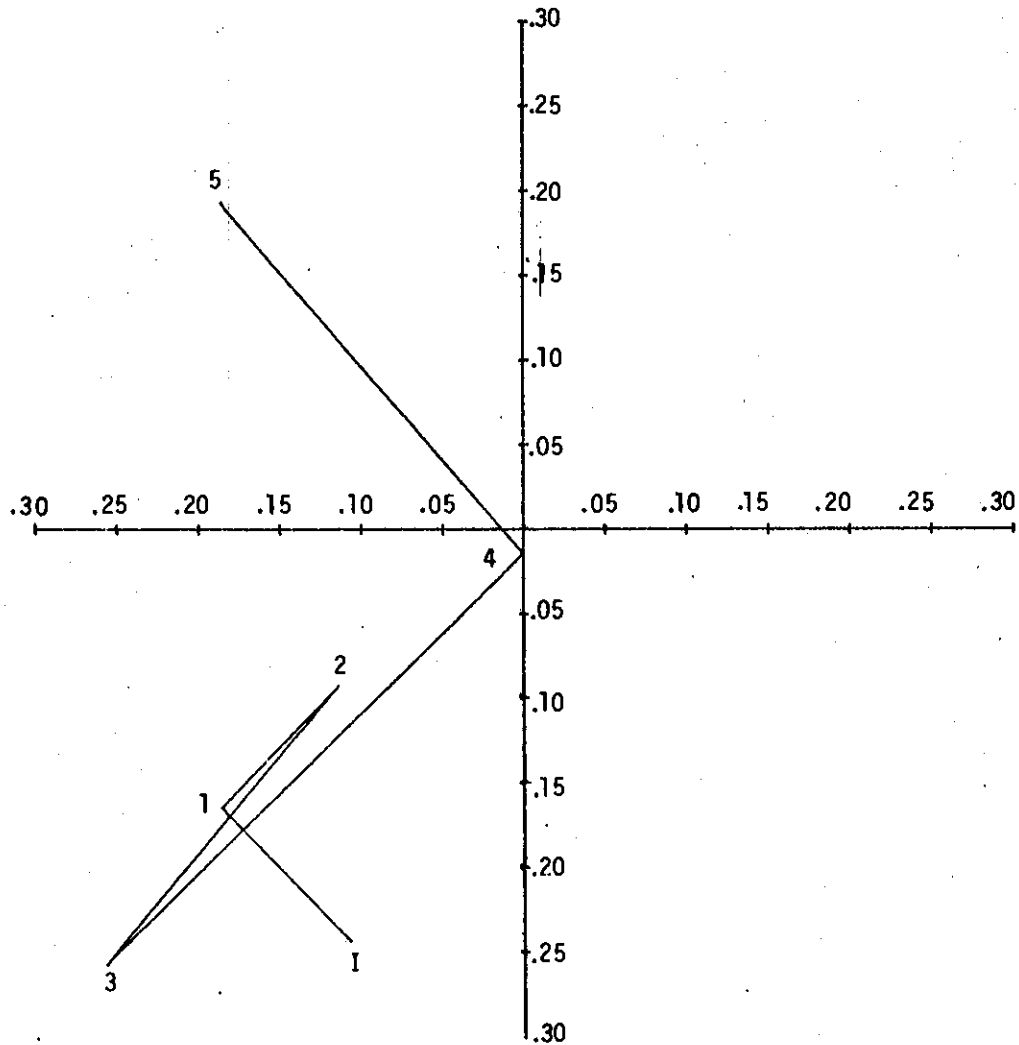


Figure B-5 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-15

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Date: 2 May 1972 (pm)
Event: 4
Crew: 1
Target: Truck, Arty
Range: 2300
Secondary Explosion
Impact from center of mass:
Right 66 cm
Up 89 cm

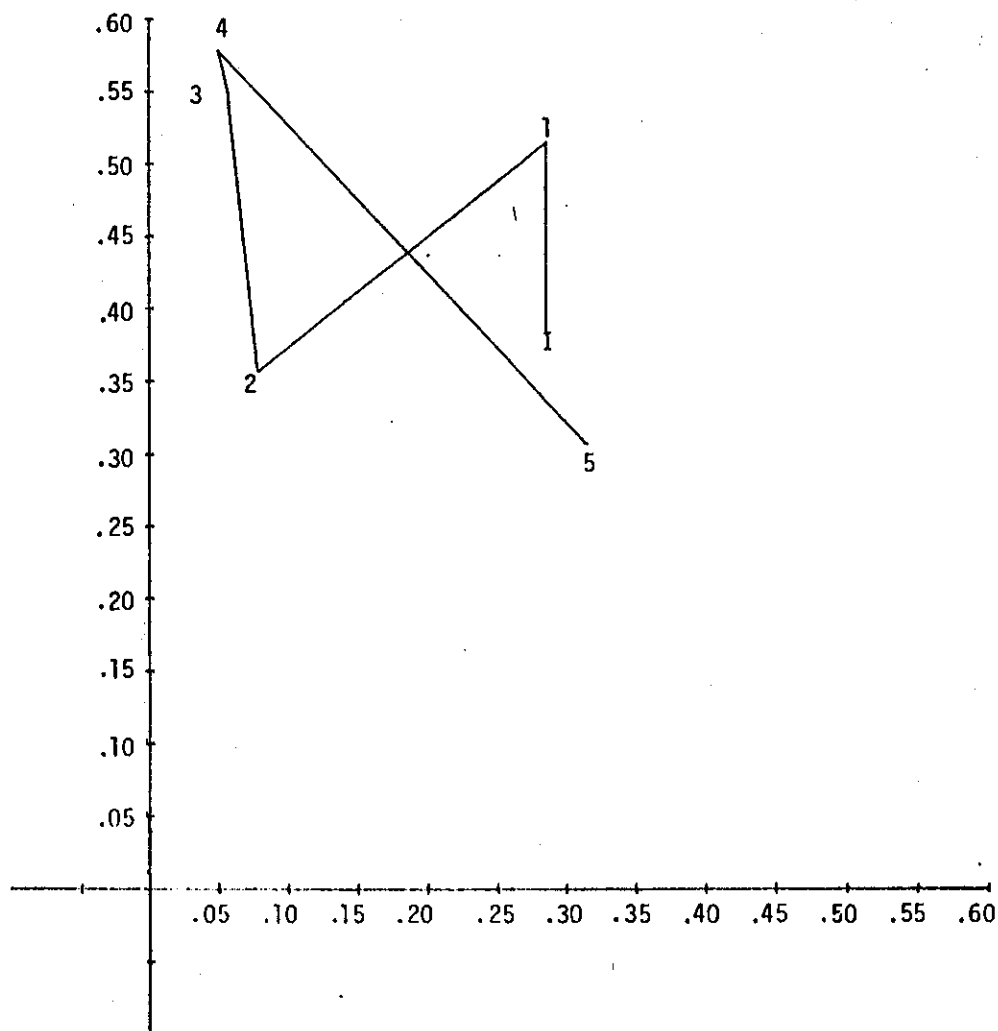


Figure B-6 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-16

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Date: 8 May 1972
Event: 3
Crew: 3
Target: Log Bridge
Range: 1600
Impact from center of mass:
Left 43 cm
Up 17 cm

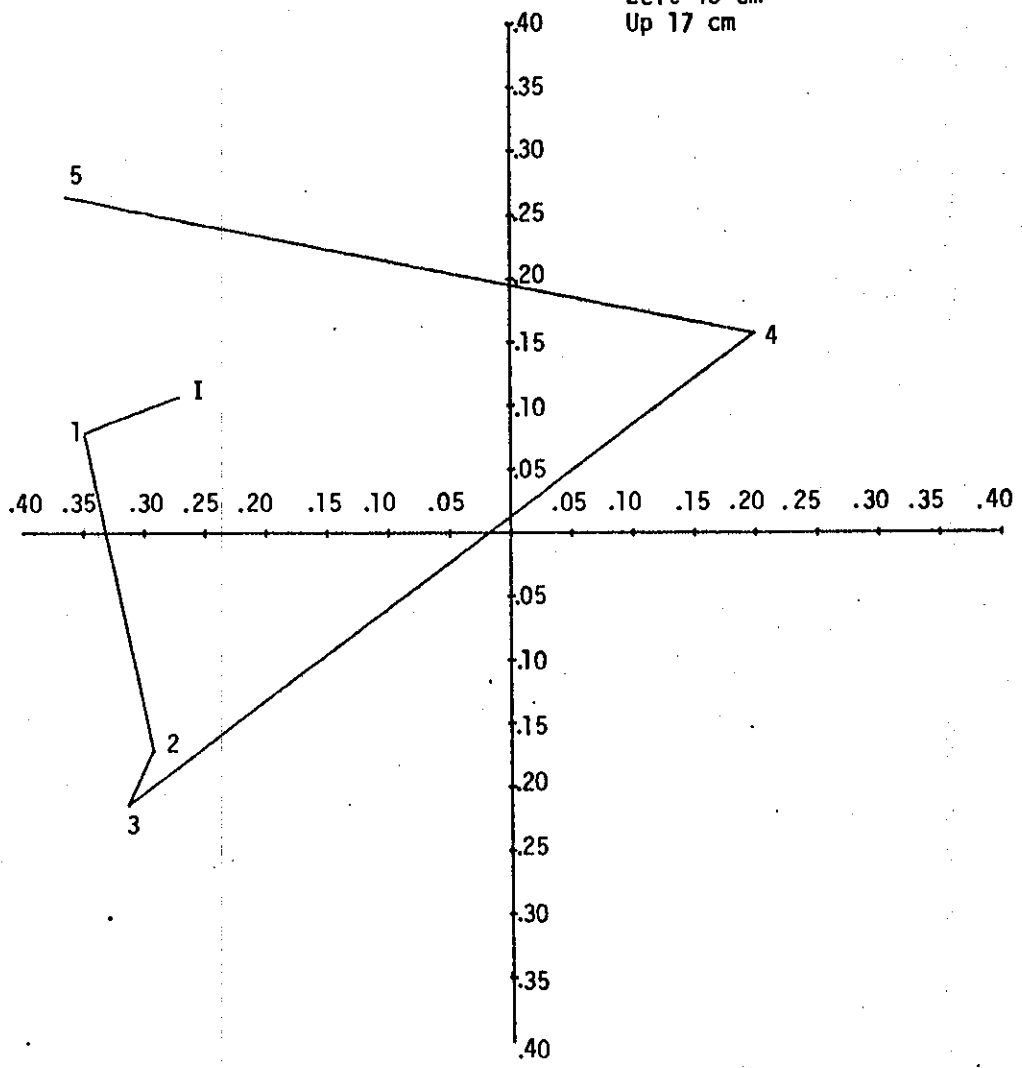


Figure B-7 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 9 May 1972
Event: 1
Crew: 2
Target: Tank PT76
Range: 1500
Secondary Explosion
Impact from center of mass:
Left 78 cm
Down 57 cm

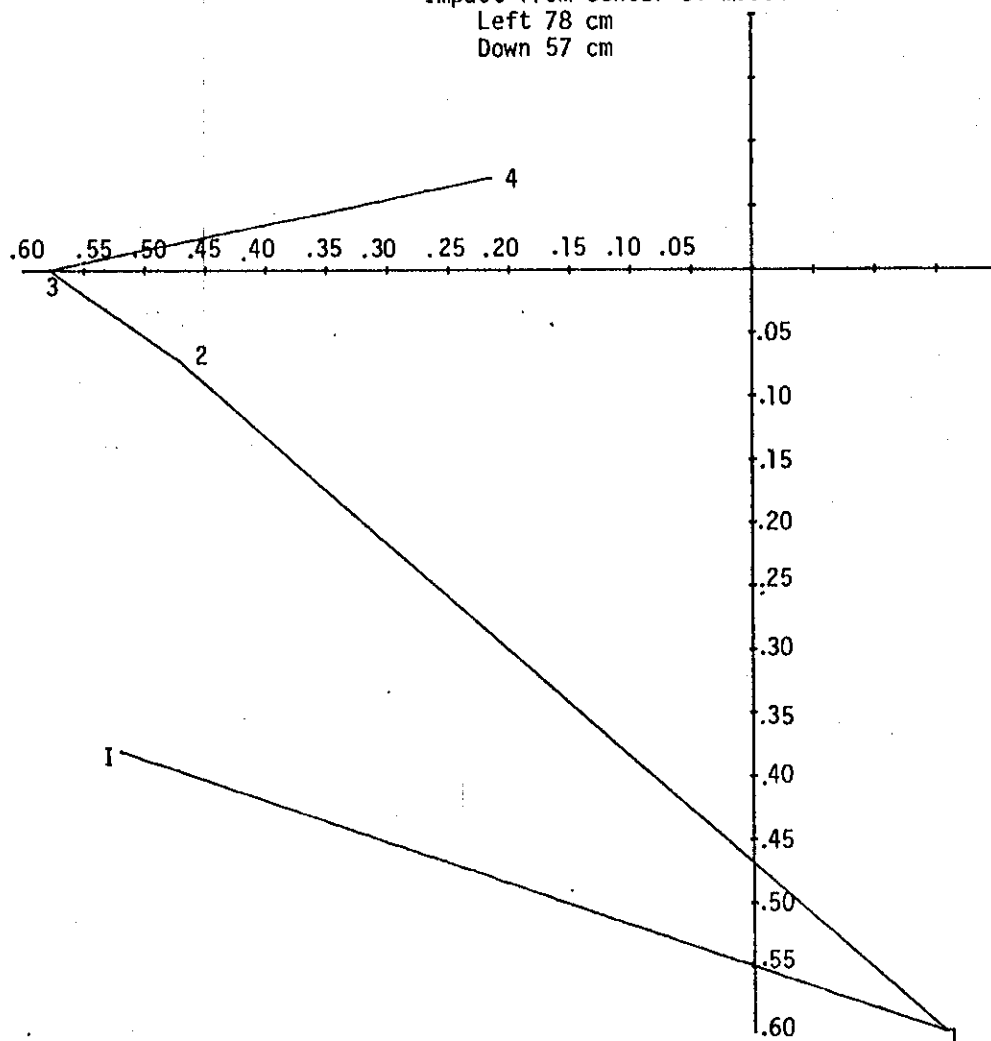


Figure B-8 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 13 May 1972
Event: 1
Crew: 1
Target: camouflaged APC
Range: 1650
Impact from center of mass:
Left 41 cm
Up 12 cm

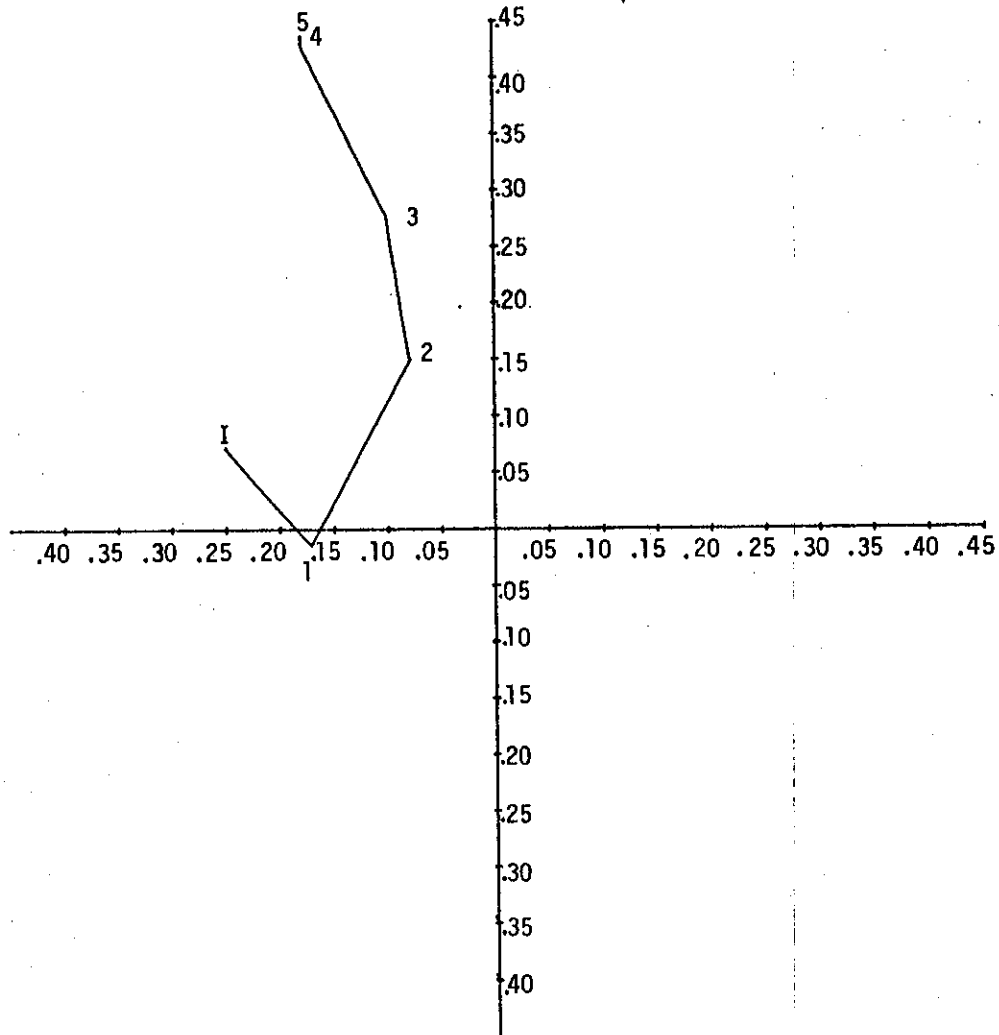


Figure B-9 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-19

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Date: 14 May 1972
Event: 1
Crew: 2
Target: T54 Tank
Range: 1700
Impact from center of mass:
Right 56 cm
Down 5 cm

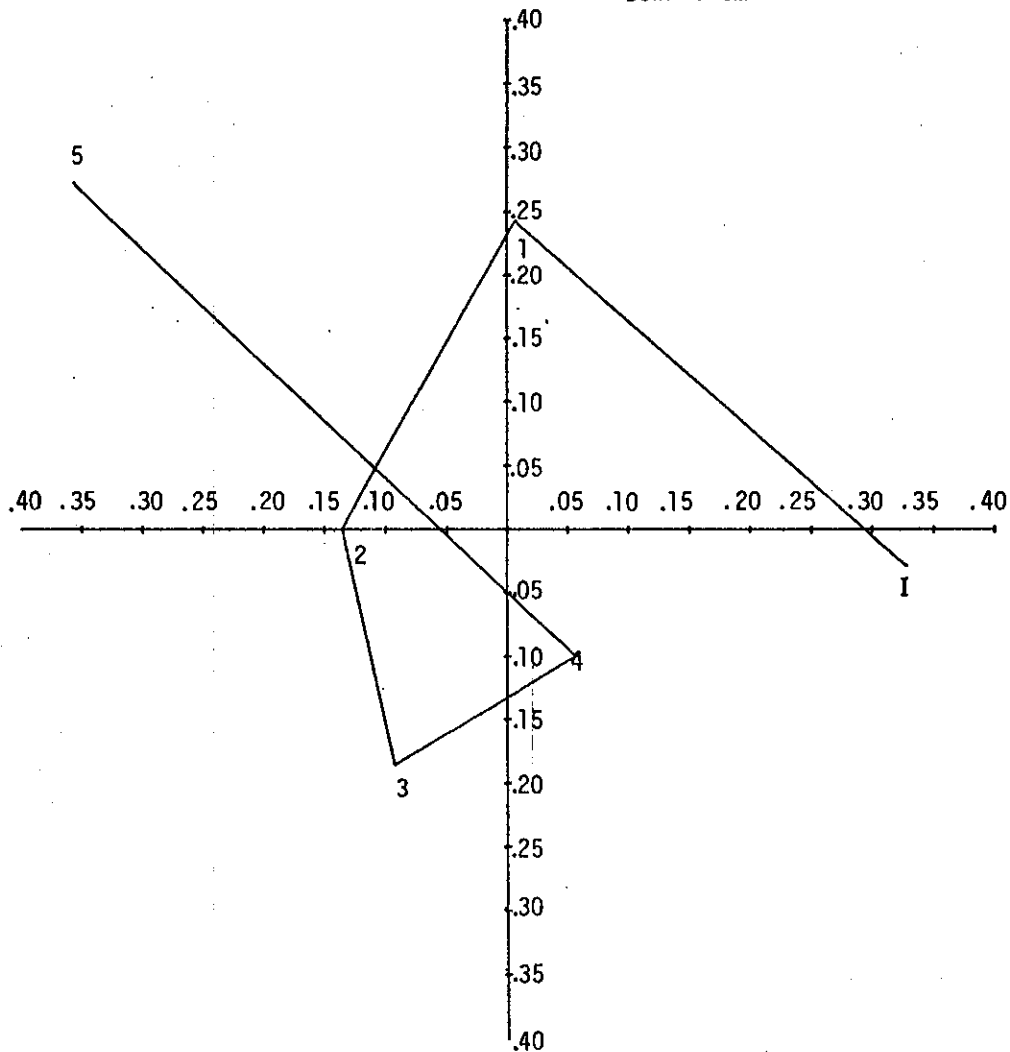


Figure B-10 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-20

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Date: 14 May 1972
Event: 2
Crew: 2
Target: T54 Tank
Range: 1725
Secondary Explosion
Impact from center of mass:
Left 25 cm
Up 25 cm

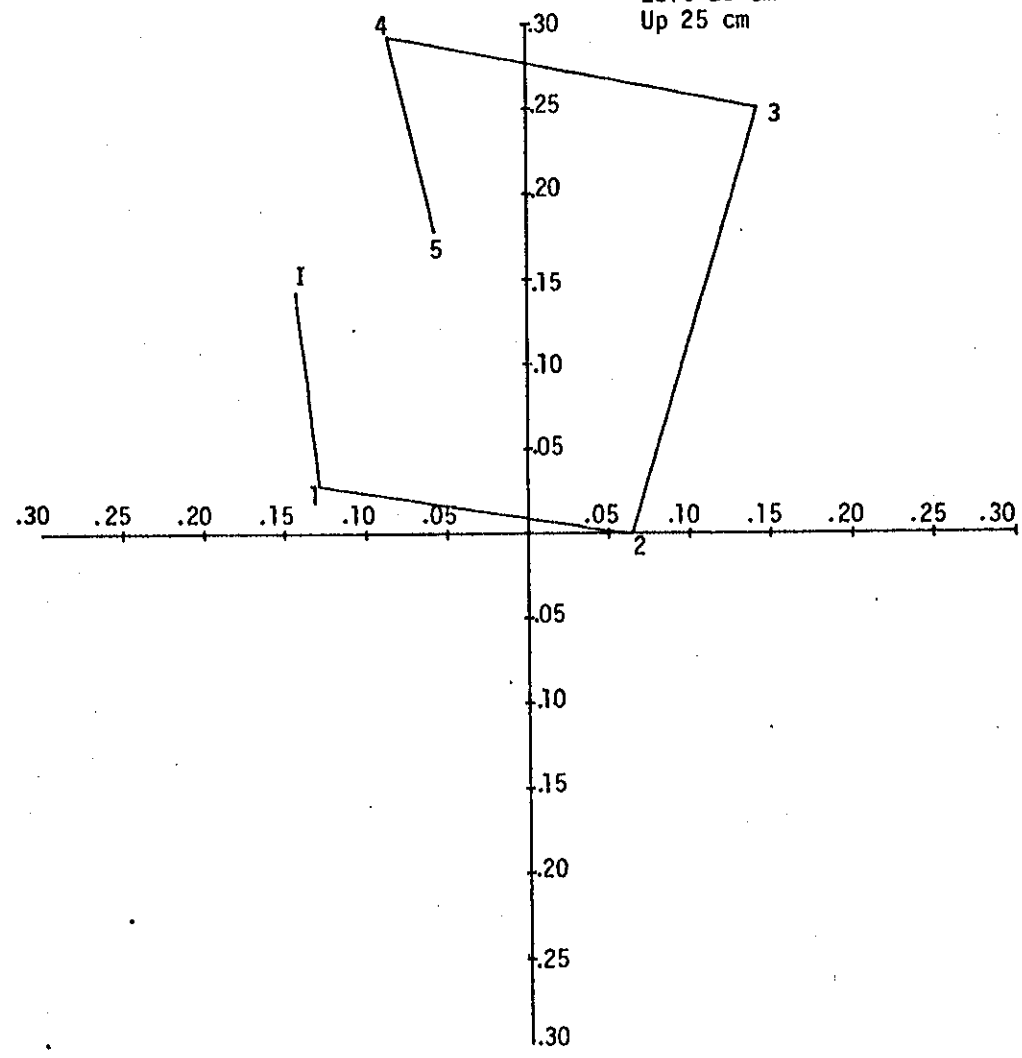


Figure B-11 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-21

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Date: 16 May 1972
Event: 2
Crew: 1
Target: Truck
Range: 1475
Impact from center of mass:
Right 27 cm
Down 9 cm

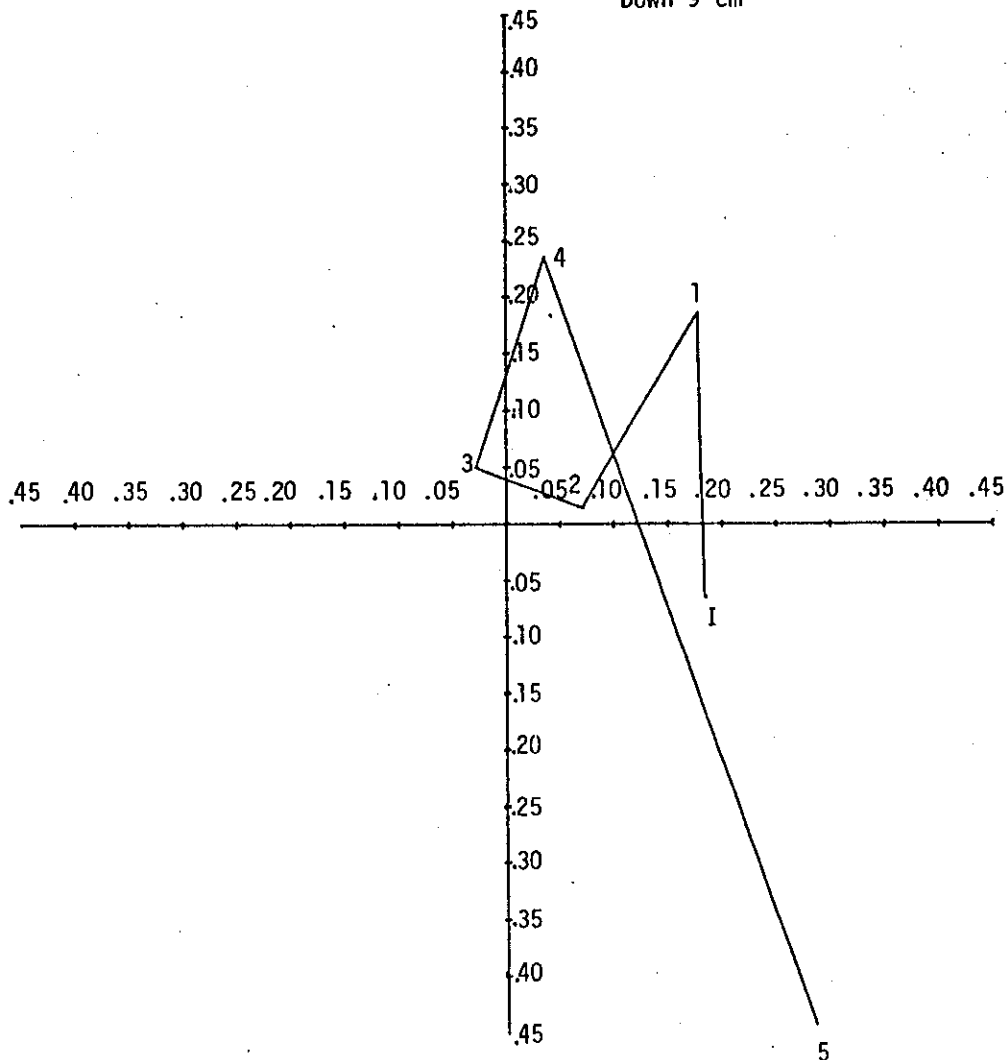


Figure B-12 (C;GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-22

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Date: 16 May 1972
Event: 3
Crew: 1
Target: APC
Range: 2850
Impact from center of mass:
Down 4 cm

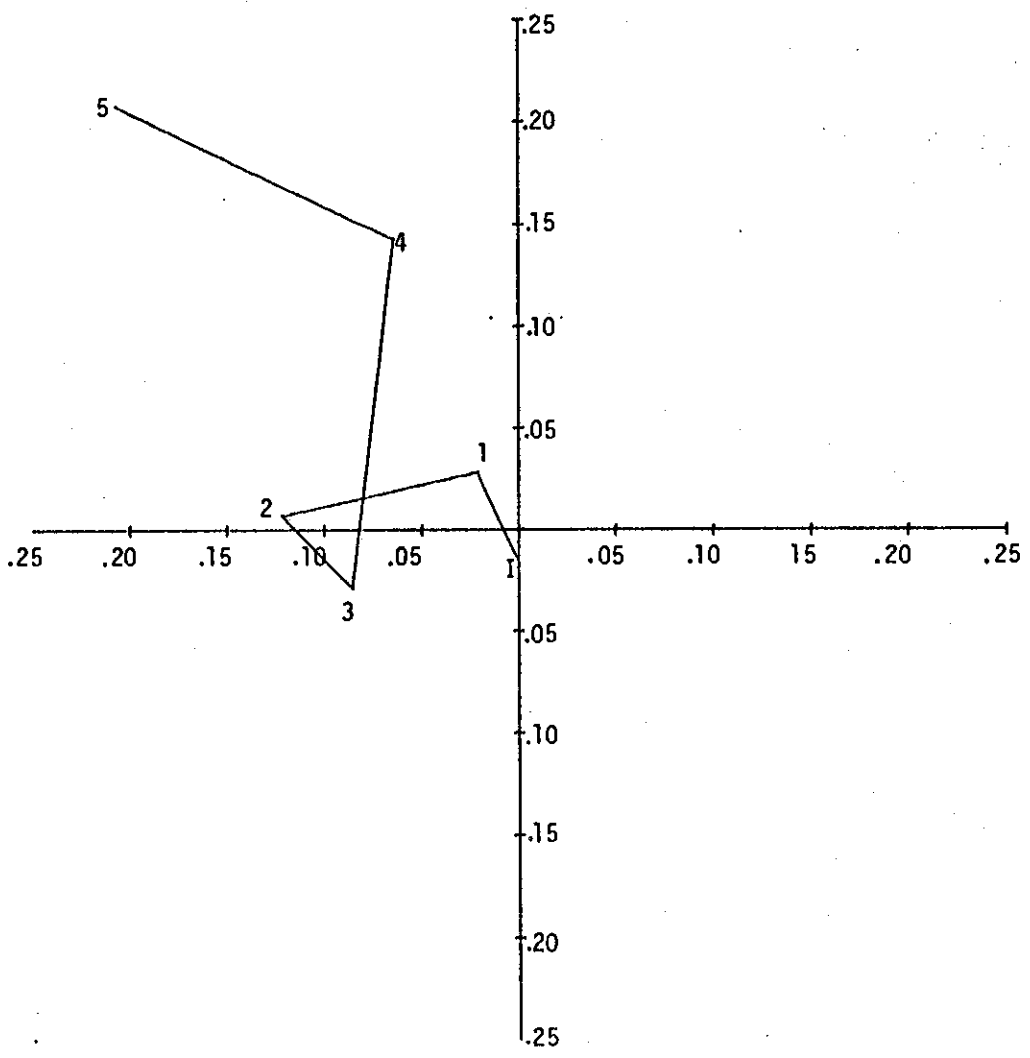


Figure B-13 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 16 May 1972
Event: 4
Crew: 1
Target: APC
Range: 2150
Secondary Explosion
Impact from center of mass:
Right 6 cm
Up 28 cm

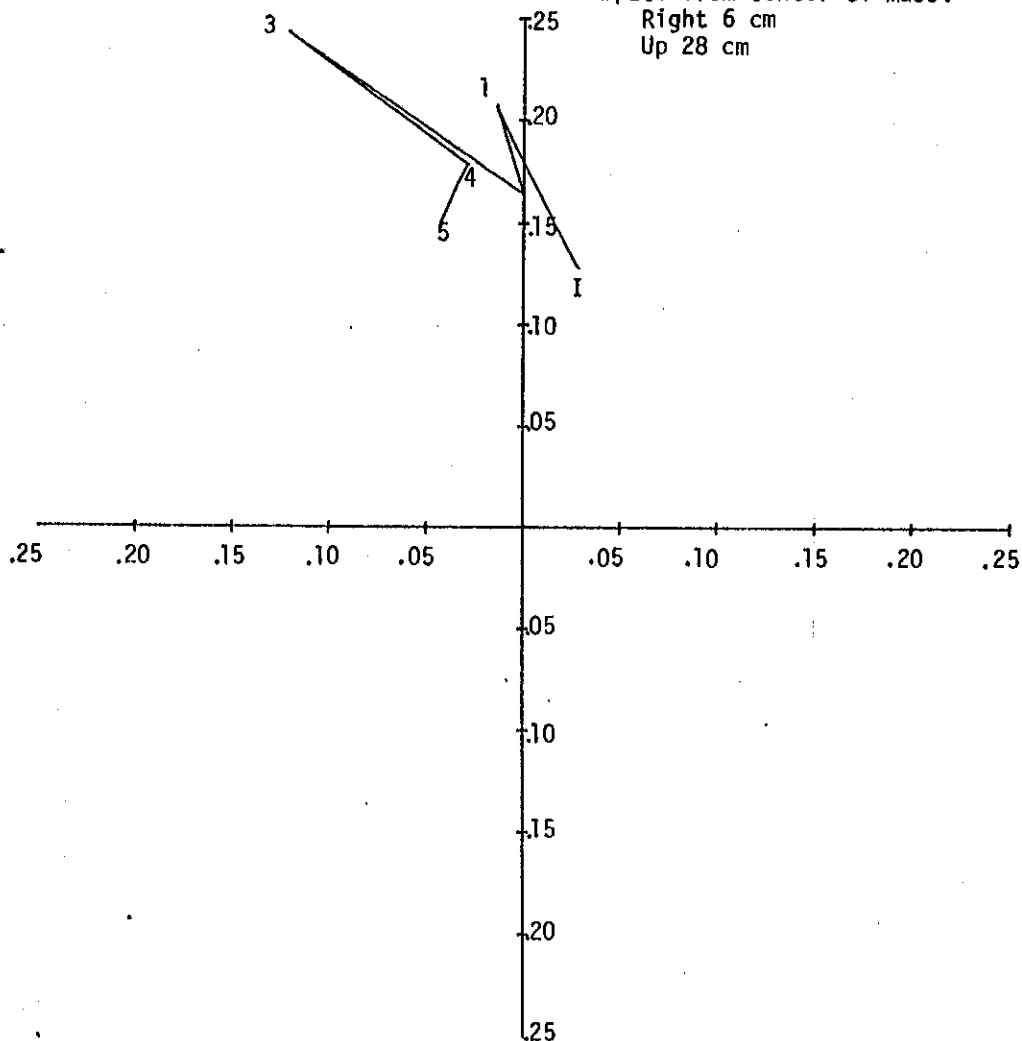


Figure B-14 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-24

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Up 19 cm



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Date: 16 May 1972
Event: 6
Crew: 1
Target: APC Vic Event 5
Range: 1550
Impact from center of mass:
 Left 95 cm
 Down 72 cm

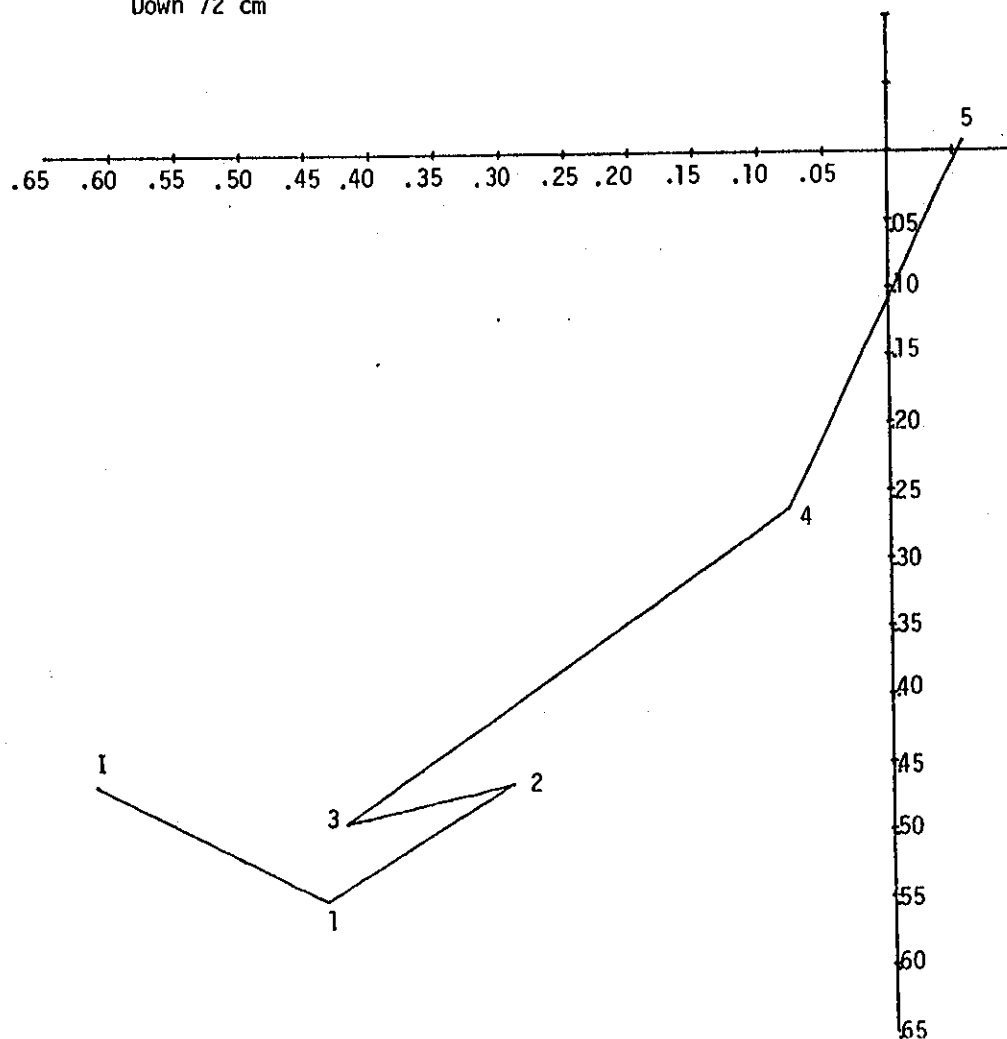


Figure B-16 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-26

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AIM

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Date: 16 May 1972
Event: 7
Crew: 1
Target: NVA Truck
Range: 2300
Impact from center of mass:
Right 8 cm
Down 90 cm

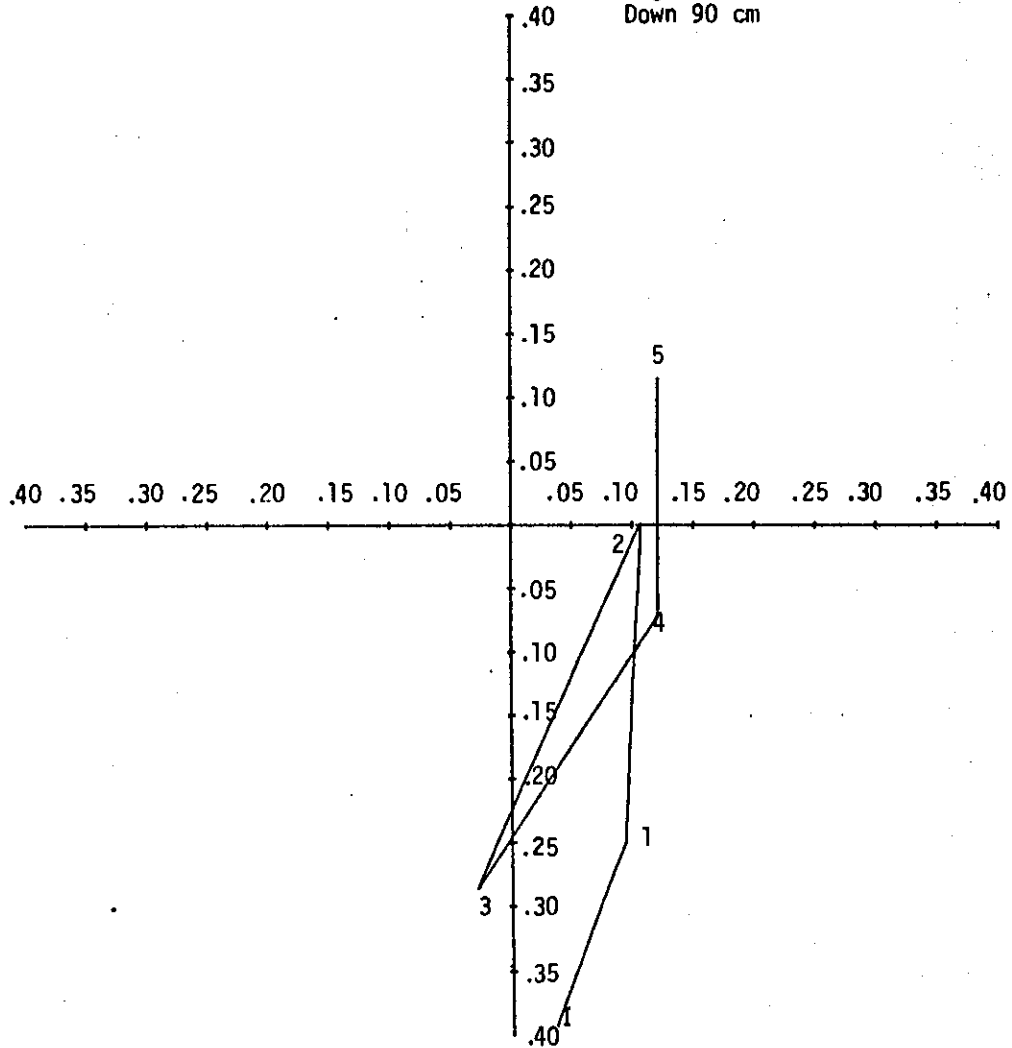


Figure B-17 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 16 May 1972
Event: 8
Crew: 1
Target: 105mm How Arty towed by truck
Range: 2950
Impact from center of mass:
Left *208 cm *poor film resolution
Up 63 cm

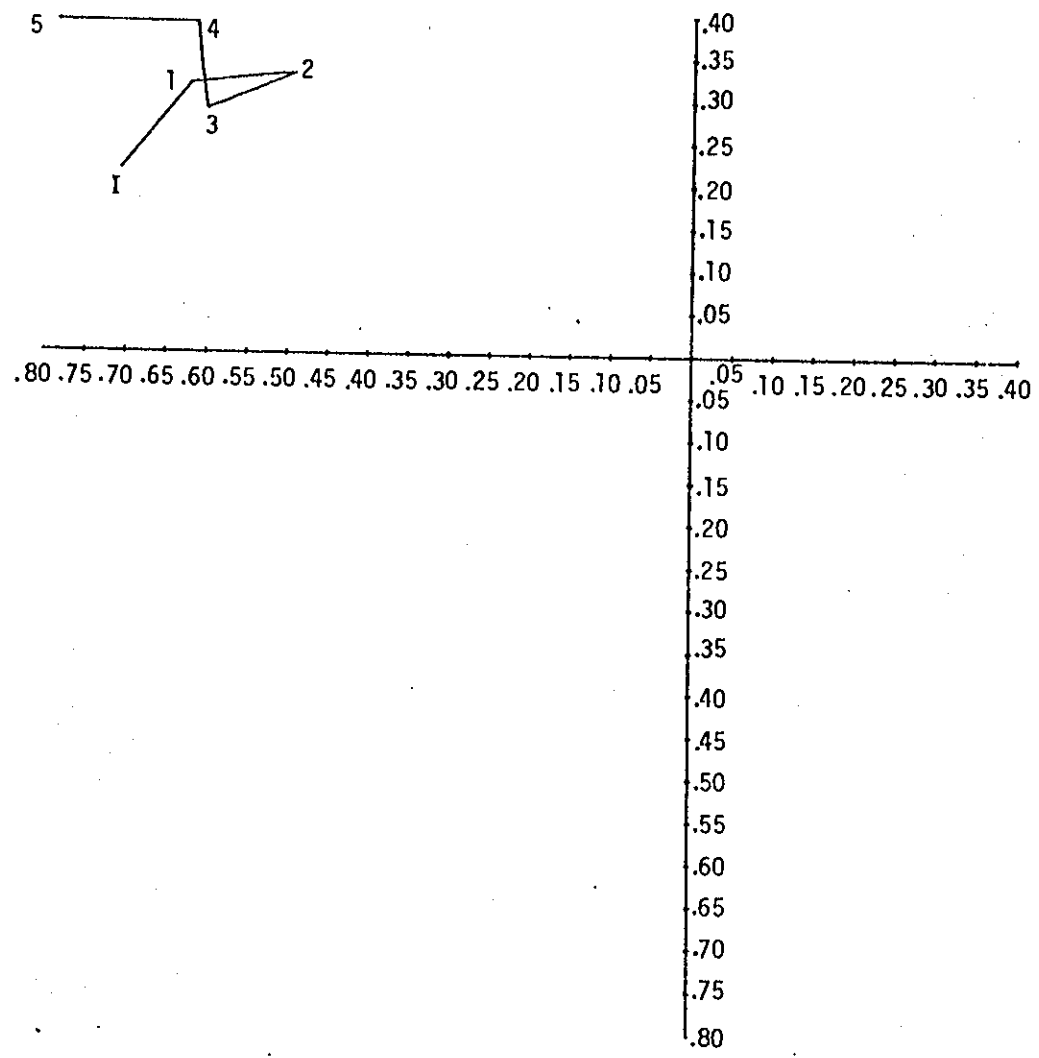


Figure B-18 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

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Date: 16 May 1972
Event: 10
Crew: 1
Target: Ammo dump in abandoned
base
Range: 2375
Secondary Explosion
Impact in center of mass:
Left 56 cm
Down 39 cm

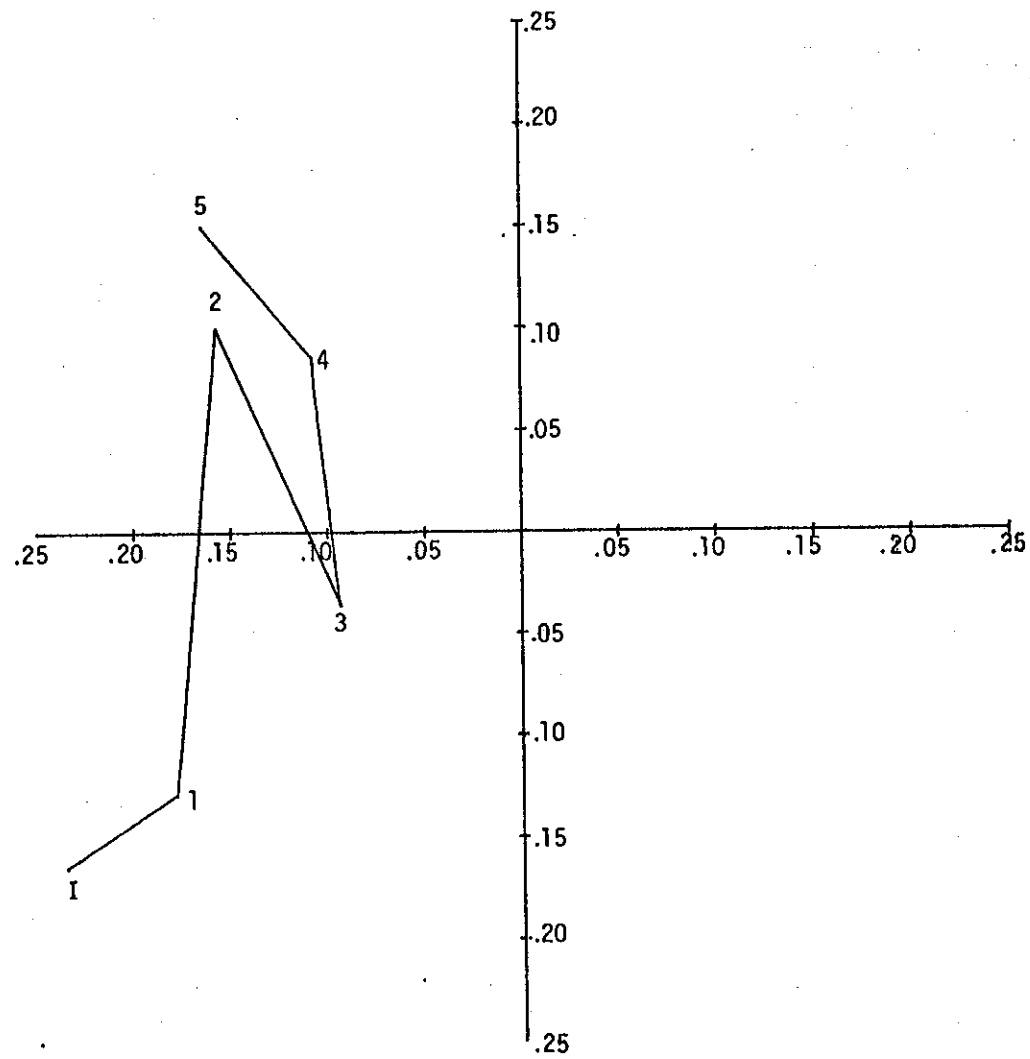


Figure B-19 (C; GDS) AIM ANGLE ERROR (TENTHS MIL)
XM26 SYSTEM

B-29

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