

2870 B-R-0  
7-8-33

Serial No. 2

1847

FIRE EFFECT AGAINST DESTROYERS

BLUE

8" Caliber Guns and Smaller

Top Spot

DECLASSIFIED IAW DOD MEMO OF 3 MAY 1972, SUBJ:  
DECLASSIFICATION OF WWII RECORDS

DEPARTMENT OF OPERATIONS  
Naval War College  
Newport, R.I.  
July, 1933

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Fire Effect Against Destroyers

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Against Destroyer Target - Top Spot

Range	Number of Guns Firing									
	1	2	3	4	5	6	7	8	9	10
1	2.17	4.34	6.51	8.68	10.86	13.03	15.20	17.37	19.54	21.71
2	1.49	2.98	4.47	5.95	7.44	<del>8.93</del> 8.86	10.42	11.90	<del>13.37</del> 12.99	14.88
3	.81	1.61	2.42	3.22	4.03	4.87	5.64	6.45	7.25	8.06
4	.49	.98	1.48	1.97	2.46	2.94	3.44	3.94	4.43	4.92
5	.33	.66	.98	1.31	1.64	1.97	2.30	2.62	2.95	3.28
6	.24	.48	.73	.97	1.21	1.45	1.69	1.94	2.18	2.42
7	.19	.38	.58	.77	.96	1.15	1.34	1.54	1.73	1.92
8	.16	.31	.47	.62	.78	.94	1.09	1.25	1.40	1.56
9	.13	.25	.38	.51	.64	.76	.89	1.02	1.14	1.27
10	.10	.20	.30	.40	.51	.61	.71	.81	.91	1.01
11	.08	.16	.23	.31	.39	.47	.55	.62	.70	.78
12	.06	.12	.19	.25	.31	.37	.43	.50	.56	.62
13	.05	.10	.15	.20	.25	.29	.34	.39	.44	.49
14	.04	.08	.12	.16	.20	.23	.27	.31	.35	.39
15	.03	.06	.09	.12	.16	.19	.22	.25	.28	.31
16	.02	.06	.07	.10	.12	.14	.17	.19	.22	.24
17	.02	.04	.05	.07	.09	.11	.13	.14	.16	.18
18	.01	.03	.04	.06	.07	.08	.10	.11	.13	.14
19	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10
20	.01	.01	.02	.03	.04	.04	.05	.06	.06	.07
21	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05
22	.00	.01	.01	.01	.02	.02	.02	.02	.03	.03
23		.00	.01	.01	.01	.01	.01	.02	.02	.02
24			.00	.00	.01	.01	.01	.01	.01	.01
25					.00	.00	.00	.00	.00	.00

Against Destroyer Target - Top Spot

Range	Number of Guns Firing									
	1	2	3	4	5	6	7	8	9	10
1	2.24	4.48	6.72	8.96	11.20	13.44	15.68	17.92	20.16	22.40
2	1.40	2.80	4.21	5.61	7.01	8.41	9.81	11.22	12.62	14.02
3	.73	1.45	2.18	2.90	3.63	4.36	5.08	5.81	6.53	7.26
4	.44	.87	1.31	1.74	2.18	2.62	3.05	3.49	3.92	4.36
5	.29	.57	.86	1.15	1.44	1.72	2.01	2.30	2.58	2.87
6	.21	.42	.64	.85	1.06	1.27	1.48	1.70	1.91	2.12
7	.17	.34	.50	.67	.84	1.01	1.18	1.34	1.51	1.68
8	.14	.27	.41	.54	.68	.82	.95	1.09	1.22	1.36
9	.11	.22	.33	.44	.55	.65	.76	.87	.98	1.09
10	.09	.18	.27	.36	.45	.53	.62	.70	.80	.89
11	.07	.14	.21	.28	.35	.42	.49	.56	.63	.70
12	.06	.11	.17	.22	.28	.33	.39	.44	.50	.55
13	.04	.08	.12	.16	.21	.25	.29	.33	.37	.41
14	.03	.06	.09	.12	.16	.19	.22	.25	.28	.31
15	.02	.05	.07	.09	.12	.14	.16	.18	.21	.23
16	.02	.03	.05	.06	.08	.10	.11	.13	.14	.16
17	.01	.02	.03	.04	.06	.07	.08	.09	.10	.11
18	.01	.01	.02	.03	.04	.05	.05	.06	.06	.07
19	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04
20		.00	.01	.01	.01	.01	.01	.02	.02	.02
21			.00	.00	.01	.01	.01	.01	.01	.01
22					.00	.00	.00	.00	.00	.00

Against Destroyer Target - Top Spot

Range	Number of Guns Firing										
	1	2	3	4	5	6	7	8	9	10	11
1	1.19	2.39	3.58	4.77	5.97	7.16	8.35	9.54	10.74	11.93	
2	.73	1.46	2.19	2.92	3.66	4.39	5.12	5.85	6.58	7.31	
3	.35	.70	1.05	1.40	1.76	2.11	2.46	2.81	3.16	3.51	
4	.21	.42	.62	.83	1.04	1.25	1.46	1.66	1.87	2.08	
5	.14	.27	.41	.54	.68	.82	.95	1.09	1.22	1.36	
6	.09	.17	.25	.34	.43	.52	.60	.69	.77	.86	
7	.06	.12	.19	.25	.31	.37	.43	.50	.56	.62	
8	.05	.09	.14	.18	.23	.27	.32	.36	.41	.45	
9	.03	.07	.10	.14	.17	.20	.24	.27	.31	.34	
10	.03	.05	.08	.10	.13	.16	.18	.21	.23	.26	
11	.02	.04	.06	.08	.10	.12	.14	.16	.18	.20	
12	.02	.03	.05	.06	.08	.09	.11	.12	.14	.15	
13	.01	.02	.03	.04	.06	.07	.08	.09	.10	.11	
14	.01	.02	.02	.03	.04	.05	.06	.06	.07	.08	
15	.01	.01	.02	.02	.03	.04	.04	.05	.05	.06	
16	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	~ 5"/50
17		.01	.01	.01	.02	.02	.02	.02	.03	.03	~ 5"/51

~ limiting range

Against Destroyer Target - Top Spot

Range	Number of Guns Firing									
	1	2	3	4	5	6	7	8	9	10
1	1.90	3.81	5.71	7.62	9.52	11.42	13.33	15.53	17.14	19.04
2	1.16	2.33	3.49	4.65	5.82	6.98	8.14	9.30	10.47	11.63
3	.56	1.11	1.67	2.22	2.78	3.34	3.90	4.45	5.00	5.56
4	.33	.66	.99	1.32	1.65	1.97	2.30	2.63	2.96	3.29
5	.22	.43	.65	.86	1.08	1.29	1.51	1.72	1.94	2.15
6	.14	<del>.27</del> .37	.41	.55	<del>.69</del> .52	.82	.96	1.10	1.23	1.37
7	.10	.20	.30	.40	.50	.59	.69	.79	.89	.99
8	.07	.14	.21	.28	.36	.43	.50	.57	.64	.71
9	.05	.10	.15	.20	.26	.31	.36	.41	.46	.51
10	.04	.08	.11	.15	.19	.23	.27	.30	.34	.38
11	.03	.05	.08	.11	.14	.16	.19	.22	.24	.27
12	.02	.04	.06	.08	.10	.11	.13	.15	.17	.19
13	.01	.03	.04	.06	.07	.08	.10	.11	.13	.14
14	.01	.02	.03	.04	.05	.05	.06	.07	.08	.09
15	.01	.01	.02	.03	.04	.04	.05	.06	.06	.07
16	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05
17	.00	<del>.01</del> .00	.01	.01	.02	.02	.02	.02	.03	.03

Against Destroyer Target - Top Spot

Range	Number of Guns Firing									
	1	2	3	4	5	6	7	8	9	10
1	1.90	3.81	5.71	7.62	9.52	11.42	13.33	15.53	17.14	19.04
2	1.16	2.33	3.49	4.65	5.82	6.98	8.14	9.30	10.47	11.63
3	.56	1.11	1.67	2.22	2.78	3.34	3.90	4.45	5.00	5.56
4	.33	.66	.99	1.32	1.65	1.97	2.30	2.63	2.96	3.29
5	.21	.43	.64	.86	1.07	1.28	1.50	1.71	1.93	2.14
6	.14	.27	.41	.54	.68	.82	.95	1.09	1.22	1.36
7	.10	.19	.29	.39	.49	.58	.68	.78	.87	.97
8	.07	.14	.20	.27	.34	.41	.47	.54	.61	.68
9	.05	.09	.14	.18	.22	.27	.32	.36	.41	.45
10	.03	.06	.09	.12	.16	.19	.22	.25	.28	.31
11	.02	.04	.07	.09	.11	.13	.15	.18	.20	.22
12	.02	.03	.05	.06	.08	.09	.11	.12	.14	.15
13	.01	.02	.03	.04	.06	.07	.08	.09	.10	.11
14	.01	.01	.02	.03	.04	.04	.05	.06	.06	.07

Against Destroyer Target - Top Spot

Range	Number of Guns Firing									
	1	2	3	4	5	6	7	8	9	10
1	.90	1.79	2.69	3.58	4.48	5.37	6.26	7.16	8.06	8.95
2	.49	.98	1.47	1.96	2.45	2.94	3.43	3.92	4.41	4.90
3	.24	.47	.71	.94	1.17	1.41	1.64	1.88	2.11	2.35
4	.12	.24	.36	.48	.60	.72	.84	.96	1.08	1.20
5	.08	.15	.23	.31	.39	.46	.54	.62	.69	.77
6	.05	.10	.16	.21	.26	.31	.36	.42	.47	.52
7	.04	.08	.11	.15	.19	.23	.27	.30	.34	.38
8	.03	.06	.08	.11	.14	.17	.20	.22	.25	.28
9	.02	.04	.06	.08	.11	.13	.15	.17	.19	.21
10	.02	.03	.05	.06	.08	.10	.11	.13	.14	.16
11	.01	.03	.04	.05	.07	.08	.09	.10	.12	.13
12	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10
13	.01	.02	.02	.03	.04	.05	.06	.06	.07	.08



Against Destroyer Target - Top Spot

Range	Number of Guns Firing										
	1	2	3	4	5	6	7	8	9	10	
1	.57	1.14	1.72	2.29	2.86	3.43	4.01	4.58	5.15	5.72	
2	.21	.41	.62	.82	1.03	1.24	1.44	1.65	1.85	2.06	
3	.08	.15	.23	.30	.38	.46	.53	.61	.68	.76	
4	.04	.08	.11	.15	.19	.23	.27	.30	.34	.38	
5	.02	.04	.07	.09	.11	.13	.15	.18	.20	.22	
6	.02	.03	.05	.07	.09	.10	.12	.14	.15	.17	
7	.01	.03	.04	.05	.07	.08	.09	.10	.12	.13	~ 3"/23 AA
8	.01	.02	.03	.04	.05	.05	.06	.07	.08	.09	~ 3"/50
9	.01	.01	.02	.02	.03	.04	.04	.05	.05	.06	
10	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	
11		.00	.01	.01	.01	.01	.01	.02	.02	.02	
12			.00	.00	.01	.01	.01	.01	.01	.01	
13					.00	.00	.00	.00	.00	.00	~ 3"/50 AA

~ limiting range

