

## GLOWWORM

0910 8 April 1940

### Background:

Unlikely as it seems, Norway was a crucial transportation link for Germany. Germany imported much of its iron ore from northern Sweden. In the summer months, the ore was shipped via the Baltic Sea. In winter, however, the Baltic froze over, and the ore travelled by railroad to northern Norway and from there by ship down the Norwegian coast.

In March of 1940, the Germans and the British prepared competing plans to deal with neutral Norway. The British plan – Operation Wilfred – was designed to block Norwegian coastal waters with mine and force the ore carriers into the open ocean where the Royal Navy could deal with them. The German counter – Weserübung, was aimed at invasion and occupation of the country.

The collision between these two plans sparked a series of naval actions between the Kriegsmarine and the Royal Navy. The German plan was audacious, calling for a series of landings all along the long Norwegian coast in the face of superior Royal Navy forces. A force of ten Kriegsmarine destroyers supported the northernmost German landing at the port of Narvik. These were covered in turn by the battlecruisers Scharnhorst and Gneisenau. Cruiser Admiral Hipper and four destroyers made for Trondheim, while other German naval forces supported landings further south. The northernmost German forces would be met with the Royal Navy forces engaged in Wilfred.

The first clash took place on the morning of April 8<sup>th</sup>, when Kriegsmarine destroyer Bernd von Arnim ran across the Royal Navy destroyer Glowworm searching for a man overboard.

### Forces:

Royal Navy Lt-Cdr Rooke	Division 1	Glowworm	("G" Class – flag)
Kriegsmarine K-Kpt Rechel	Division 1	Bernd von Arnim	(Type 34A – flag)

### Set-up:

N <sup>^</sup>	German Division 1 is on a course of 000, 36 inches from the north edge and 30 inches from the east edge. British Division 1 is on a course of 180, 24 inches from the north edge and 36 inches from the east edge.
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### Victory Conditions:

- The British player gets 1 point for leaving the German destroyer dead in the water, 2 points for sinking her, 1 point for ramming the cruiser, 2 points for torpedoing her and 3 points for leaving her dead in the water.
- The German player gets 1 point for leaving the Glowworm dead in the water and 2 points for sinking her.

### Special Rules:

- Seas are heavy, with destroyers limited to a speed of **3.50** inches. The von Arnim's gunfire is subject to an additional **-2** modifier for the heavy seas
- Visibility is **6** inches, with a gunfire modifier of **-4** – poor daytime visibility.
- Each turn, the German player rolls **1D6**. On a roll of **1**, the Admiral Hipper ("Hipper") enters anywhere on the south edge.
- The Hipper mounts Fu Mo 22 radar on her forward main battery director. This radar can function as either centimetric search radar or fire control radar.
- Glowworm has quintuple rather than quadruple torpedo mounts.

Outcome: Unfortunately for Glowworm, the von Arnim was able to call for help from the Hipper. When the big cruiser appeared on the scene, Glowworm fired torpedoes that missed and then, pursued and under fire at close range, turned to ram. She struck Hipper on her starboard bow, causing superficial damage. Hipper pumped a few more rounds into Glowworm's remains and rescued 31 survivors as she sank.

## “E/F/G/H/I” Classes

<u>Navy Class</u>	Royal Navy Destroyer	<u>Date</u> <u>Armor</u>	1939 None				
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>				
Main Battery:	4.7 inch guns in 4 single mounts	18 inches	Fore				
Torpedoes:	21 inch torpedoes in 2 quadruple mounts	13 inches at 4.25"	Port and starboard				
Maximum Value:	9	16 inches at 2.75"					
<u>Gun:</u> 4.7 inch single	5" A/10	10" 8/6	15" 2/2	18" 1/-1	Power 4	Relia B	
<u>Speed</u>	4.50	3 boilers	2 engines	<u>Torpedo Hits</u>	17.7"-18": ±1	20.5"-22.5": ±3	24": ±5
<u>Flotation</u>	Total: 27	DIW: 14	Sinking: 18				

### Armament Arrangement



### Notes

- Classic British inter-war destroyer design.
- Eight ships in each class, for a total of 40.
- Glowworm and Is had quintuple torpedo mounts.
- Similar in game terms were 6 Hs built for Brazil but taken over by the Royal Navy. These lacked Y mount.
- Also similar were 2 Is built for Turkey (Inconstant and Ithuriel) but used by the RN. These had quadruple torpedo mounts.
- Most gave up a torpedo mount in 1940 to ship a 3 inch anti-aircraft gun. This is treated as an AAMG for game purposes.

### Hits

Forward Void	11-14	Forward Void
Forward Void	15	Main A
Forward Main Magazine	16-21	Main A
Forward Main Magazine	22-23	Main B
Fuel Oil 1	24	Main B
Fuel Oil 1	25	AAMGs
Fuel Oil 1	26	Bridge
Fuel Oil 1	31	Bridge
Boiler Room 1	32	Main Director
Boiler Room 1	33	Funnel
Boiler Room 2	34	Funnel
Boiler Room 2	35	AAMGs
Boiler Room 3	36	AAMGs
Boiler Room 3	41	Funnel
Engine Room	42-44	Torpedo A
Engine Room	45	Searchlight
Engine Room	46	Torpedo B [AAMGs]
Fuel Oil 2	51-52	Torpedo B [AAMGs]
Fuel Oil 2	53	AAMGs
Fuel Oil 2	54	Main X
Aft Main Magazine	55-56	Main X
Aft Main Magazine	61-62	Main Y
Propshaft 1 or 2	63-64	Void
Steering	65-66	Steering

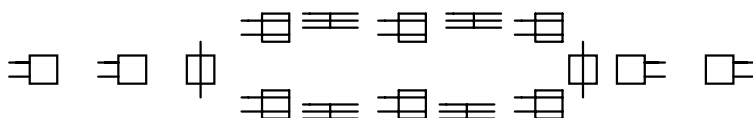
### Internal Diagram

VO1 1FP	FM A&B 1FP	FO1 2FP	BR1 B1  3FP	BR2 B2  4FP	BR3 B3  3FP	ER E1 E2 9FP	FO2 2FP	AM X&Y 1FP	ST 1FP
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# Hipper/Prinz Eugen

<u>Navy Class</u>	Deutsches Kriegsmarine Heavy cruiser	<u>Date</u>	1940
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	8 inch guns in 4 twin turrets	39 inches	Fore and aft
Secondary Battery:	4.1 inch guns in 6 twin turrets	16 inches	Four Cornered
Torpedoes:	21 inch torpedoes in 4 triple mounts	8 inches at 5.00"	Port and starboard
Maximum Value:	6 until 1/43, then 9	13 inches at 3.75"	
<u>Gun:</u>	5"      10"      15"      20"      25"      30"      35"      39"	<u>Power</u>	<u>Relia</u>
8 inch triple	A/10      8/9      6/7      4/5      3/1      2/0      1/0      1/0	6	B
4.1 inch twin	A/13      8/8      2/4      1/-1	3	B
<u>Speed</u>	4.00"      12 boilers      3 engines	<u>Torpedo Hits</u>	17.7"-18": ±1      20.5"-22.5": ±2      24": ±3
<u>Flotation</u>	Total: 63      DIW: 32      Sinking: 42		

## Armament Arrangement



## Notes

- Admiral Hipper and Blucher in class; Prinz Eugen similar.
- Forward secondary magazine for mounts 1 and 2, aft for mounts 3-6.
- Forward fire control controls A and B; aft controls X and Y.
- Engine room 1 drives shafts 1 and 2; engine room 2 drives shaft 3.

## Hits

Void	11-12	Void
Fuel Oil 1	13-14	Void
Main Magazine A	15-21	Main A
Main Magazine B	22-24	Main B
Forward Fire Control	25	Bridge, AAMGs
Generator Room	26	Bridge, Secondary 1 or 2
Boiler Room 1	31	Bridge, Forward Main Director, Secondary Director 1 or 2, Torpedo 1 or 2
Boiler Room 1	32	Torpedo 1 or 2
Boiler Room 2	33	Funnel
Boiler Room 2	34	Funnel, Searchlight 1 or 2
Forward Secondary Magazine	35	Hanger
Boiler Room 3	36	Catapult, Aircraft
Boiler Room 3	41	Catapult, Aircraft, Secondary 3 or 4
Engine Room 1	42	Torpedo 3 or 4, Secondary Director 3 or 4, Searchlight X
Engine Room 1	43	Torpedo 3 or 4, AAMGs
Engine Room 1	44	Secondary 5 or 6
Aft Secondary Magazine, Aft Fire Control	45	Aft Main Director
Engine Room 2	51-53	AAMGs
Main Magazine X	54-55	Main X
Main Magazine Y	56-62	Main Y
Fuel Oil 3, Propshaft 1 or 2	63-64	Void
Steering, Propshaft 3	65	Steering
Void	66	Void

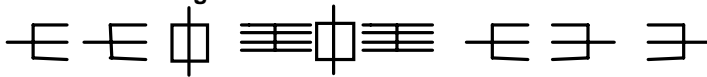
## Internal Diagram

V1	FO1	PM	PM	GR	BR1	BR2	BR3	AFC	ER1	ER2	PM	PM	FO3	ST	V2
1FP	2FP	A	B	FFC	B1,2	B5,6	B9	SM2	E1	E3	X	Y	2FP	1FP	0FP
		2FP	2FP	2FP	B3,4	B7,8	B10	1FP	E2	5FP	2FP	2FP			
					10FP	10FP	10FP		10FP						

# Type 34/34A/36

<u>Navy Class</u>	Deutsches Kriegsmarine Destroyer	<u>Date</u>	1940
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	5 inch guns in 5 single mounts	18 inches	Fore and aft
Torpedoes:	21 inch torpedoes in 2 quadruple mounts	8 inches at 5.00"	Port and starboard
Maximum Value:	6 until 1/43, then 9	13 inches at 3.75"	
<u>Gun:</u>	5"      10"      15"      18"	<u>Power</u>	<u>Relia</u>
5 inch single	A/10      8/6      2/2      1/-1	4	B
<u>Speed</u>	4.75"      6 boilers      2 engines	<u>Torpedo Hits</u>	17.7"-18": ±1      20.5"-22.5": ±3      24": ±5
<u>Flotation</u>	Total: 33      DIW: 17      Sinking: 22		

## Armament Arrangement



## Notes

- Class included Z-1 through Z-8.
- Z-9 through Z-13 were Type 34A, similar in game terms.
- Z-14 through Z-21 were Type 36, also similar in game turns.
- Fuel tanks like cruisers, outboard of machinery spaces.

## Hits

Void 1	11-13	Forward Void
Void 1	14	Main A
Void 1	15-16	Main A
Forward Main Magazine	21-22	Main B
Forward Main Magazine	23	AAMGs
Forward Main Magazine	24	Bridge
Boiler Room 1	25	Torpedo Directors, Bridge
Boiler Room 1	26	Forward Director, Bridge
Boiler Room 2	31	Funnel
Boiler Room 2	32	Torpedo A
Turbogenerator Room	33	Torpedo A
Boiler Room 3	34	Torpedo A
Boiler Room 3	35	Funnel, AAMGs, Searchlight
Engine Room 1	36	Funnel, AAMGs, Searchlight
Engine Room 1	41	Aft Director
Engine Room 1	42	Torpedo B
Void 2	43	Torpedo B
Engine Room 2	44	Torpedo B
Engine Room 2	45	Main M
Engine Room 2	46	Main M
Aft Main Magazine	51	Main M
Aft Main Magazine	52	AAMGs
Aft Main Magazine	53-55	Main X
Void 3, Propshaft 1 or 2	56-62	Main Y
Void 3, Propshaft 1 or 2	63-64	Void
Steering	65-66	Steering

## Internal Diagram

V1	FM	BR1	BR2	TR	BR3	ER1	V2	ER2	AM	V3	ST
2FP	A	B1,B2	B3,B4	1FP	B5,B6	E1	1FP	E2	MX	3FP	2FP
	3FP	3FP	3FP		3FP	4FP		4FP	4FP		