

## NORTH CAPE -- THE KILL

1647 26 December 1943

Background: Trailed by Burnett's cruisers, Bey unknowingly headed towards an almost perfect interception with the British battleship force. Scharnhorst was surprised by the British for a third and final time when Duke of York's radar-laid starshells burst over her.

### Forces:

Royal Navy	Division 1	Duke of York	(King George V -- flag)
Admiral Sir Bruce Fraser		Jamaica	(Fiji)
	Division 2	Savage	("S" Class -- flag)
		Saumarez	("S" Class)
	Division 3	Scorpion	("S" Class -- flag)
		Stord	("S" Class)
	Division 4	Belfast	(Belfast -- flag)
		Norfolk	("County" Class)
	Division 5	Sheffield	(Southampton)
	Division 6	Musketeer	("M" Class -- flag)
		Matchless	("M" Class)
		Opportune	("O" Class)
		Virago	("V" Class)
Kriegsmarine	Division 1	Scharnhorst	(Scharnhorst)
Rear-Admiral Erich Bey			

### Set-up:

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German Division 1 is on a course of 060, 36 inches from the east edge and 24 inches from the north edge.

British Division 1 is in line ahead, flag leading, on a course of 090, 40 inches from the east edge and 34 inches from the north edge. British Division 2 is in line ahead, flag leading, on a course of 090, 2 inches north and 2 inches east of British Division 1. British Division 3 is in line ahead, flag leading, on a course of 090, 2 inches south and 2 inches east of British Division 1. British Division 4 is in line ahead, flag leading, on a course of 090, 36 inches from the east edge and 5 inches from the north edge. British Division 5 is on a course of 060, on the north edge and 34 inches from the east edge. British Division 6 is on a course of 090, 7 inches from the north edge and 40 inches from the east edge.

### Victory Conditions:

- German: exit any edge of the playing area.
- British: sink the Scharnhorst.

### Special Rules:

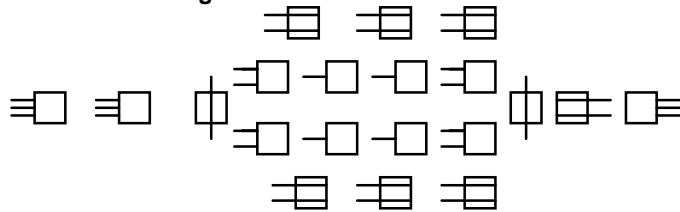
- Duke of York and all British cruisers have 273, 281, 284 and 285 radar and CICs. Duke of York has 2 284 and 4 285 sets. All British destroyers have 271, 281 and 285 radar.
- Seas are heavy. Scharnhorst is limited to a speed of 3.75 inches, cruisers and destroyers to a speed of 3.50 inches. Duke of York may travel at full speed: 3.50 inches.
- Norfolk has suffered hits that have knocked out all of her radars and caused her to flood X magazine. Optionally and alternatively, Divisions 4, 5 and 6 start the game with the damage that they sustained in the previous two scenarios.
- Savage ships as her main battery a twin 4.5 inch mount forward and 2 single 4.5 inch guns aft. Hits on her B mount count as void hits. The guns have a range of 21 inches.
- Visibility is 8 inches with a gunfire modifier of -5 -- essentially night due to the Arctic gloom and the heavy weather.

Outcome: Scharnhorst was surprised by Duke of York, which had picked her up on radar at a range of 45,500 yards and then closed down to 13,000 yards before opening fire. Scharnhorst was hit hard in the following engagement, but had managed to draw beyond visual range of her antagonists when a 14 inch shell from Duke of York, fired under radar control, destroyed one of Scharnhorst's boiler rooms. Scharnhorst's loss of speed permitted the British destroyers to close and score several torpedo hits, which further slowed her. Duke of York closed on her faltering target and pounded her into wreckage. Further torpedo hits gave her the coup de grace.

# Scharnhorst

<u>Navy Class</u>	Deutsches Kriegsmarine Battleship		<u>Date</u>	1941
<u>Surface Armament</u>			<u>Ranges</u>	<u>Directors</u>
Main Battery:	11 inch guns in 3 triple turrets		45 inches	Fore and aft
Secondary Battery:	5.9 inch guns in 4 twin and 4 single mounts		24 inches	Fore and aft
Anti-air Battery	4.1 inch guns in 7 twin mounts		16 inches	Four-cornered
<u>Speed</u>	3.75"	12 boilers	3 engines	
<u>Flotation</u>	Total: 68	DIW: 34	Sinking: 46	
<u>Bulge</u>	-1 for torpedo hits in way of locations 24-53		<u>Torpedo Hits</u>	17.7"-18": 50%    20.5"-22.5": ±0    24": ±1

## Armament Arrangement



## Notes

- Gneisenau was other ship in class
- Scharnhorst added 2 triple torpedo mounts in 1943 as shown. Speeds: 8 inches @ 5.00", 13 inches @ 3.75". Two special hits. Directors port and starboard.

## Hits

	Fuel Oil 1	11-12	Void
	Fuel Oil 2	13-14	AAMGs
	Main Magazine A	15-21	Main A
	Main Magazine B	22-24	Main B
	Plot/CIC	25	Bridge
	Diesel Room	26	Bridge, Forward Secondary Director
	Boiler Room 1	31	Bridge, Secondary 1 or 2, Forward Main Director
	Boiler Room 1	32	Anti-air Director 1 or 2
	Boiler Room 2	33	Anti-air 1 or 2
	Boiler Room 2	34	Secondary 3 or 4
	Secondary Magazine	35	Anti-air 3 or 4, Funnel, Searchlight 1 or 2
	Boiler Room 3	36	Secondary 5 or 6, Funnel
	Boiler Room 3	41	Anti-air Director 3 or 4
	Engine Room 1 or 2	42	Hanger, Anti-air 5 or 6
	Engine Room 1 or 2	42	Hanger
	Engine Room 1 or 2	44	Searchlight 3 or 4, Catapult
	Engine Room 3	45	Secondary 7 or 8, Catapult
	Engine Room 3	46	Aft Main Director
	Engine Room 3	51	AAMGs
	Engine Room 3	52	Anti-air 7
	Main Magazine X	53-55	Main X
	Center Propshaft, Fuel Oil 3	56	Void
	Port or Starboard Propshaft, Fuel Oil 3	61	Void
	Fuel Oil 3	62	Void [Torpedo 1 or 2]
	Steering	63	Void [Torpedo 1 or 2]
	Steering	64	Steering
	Fuel Oil 4	65-66	AAMGs

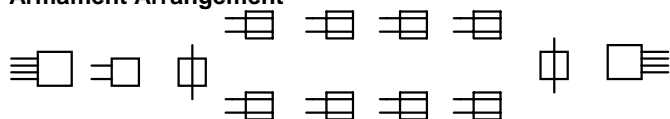
## Internal Diagram

FO1 1FP	FO2 2FP	FM A 2FP	FM B 2FP	FCS Plot 1FP	DR 6FP	BR1 B1-4 6FP	BR2 B5-8 6FP	SM 2FP	BR3 B9-12 6FP	ER1 12FP	E1	ER3 E3 12FP	AM Y 2FP	FO3 3FP	ST 1FP	FO4 2FP
										ER2 12FP	E2					

# King George V

<u>Navy Class</u>	Royal Navy Battleship	<u>Date</u>	1942
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	14 inch guns in 1 twin and 2 quadruple turrets	36 inches	Fore and aft
Secondary Battery:	5.25 inch guns in 8 twin mounts	23 inches	Four corners
<u>Speed</u>	3.75"	8 boilers	4 engines
<u>Flotation</u>	Total: 66	DIW: 33	Sinking: 44
<u>Bulge</u>	-1 for torpedo hits in way of locations 26-53	<u>Torpedo Hits</u>	17.7"-18": 50%    20.5"-22.5": ±0    24": ±1

## Armament Arrangement



## Notes

- Five in class: King George V, Prince of Wales, Duke of York, Anson, Howe
- Quad turret was unreliable -- treat as a triple turret.

## Hits

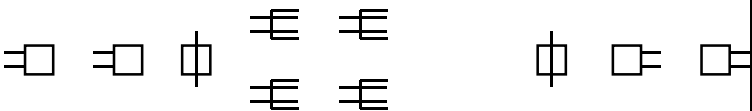
	Fuel Oil 1	11-12	Void
	Fuel Oil 2	13-14	AAMGs
	Main Magazine A	15-21	Main A
	Main Magazine B	22-24	Main B
	Transmitting Room/CIC	25	Bridge
	Boiler Room 1 or 2	26	Forward Primary Director
	Boiler Room 1 or 2	31	Secondary Director 1 or 2
	Boiler Room 1 or 2	32	Bridge
	Boiler Room 1 or 2	33	Secondary 1 or 2
Engine Room 1 or 2, or Secondary Magazine		34	Funnel
Engine Room 1 or 2, or Secondary Magazine		35	Funnel,
			Secondary 3 or 4
Engine Room 1 or 2, or Secondary Magazine		36	Searchlight 1 or 2
Engine Room 1 or 2, or Secondary Magazine		41	Catapult, Aircraft
	Boiler Room 3 or 4	42	AAMGs, Catapult, Aircraft
	Boiler Room 3 or 4	42	Secondary 5 or 6
	Boiler Room 3 or 4	44	Funnel, AAMGs
	Boiler Room 3 or 4	45	Funnel, Searchlight 3 or 4
	Engine Room 3 or 4	46	Secondary 7 or 8
	Engine Room 3 or 4	51	AAMGs
	Engine Room 3 or 4	52	AAMGs
	Engine Room 3 or 4	53	Aft Primary Director, AAMGs
	Main Magazine X	54	Secondary Director 3 or 4, AAMGs
	Main Magazine X	55-56	Main X
	Propshaft 1 or 2, Fuel Oil 3	61	Main X
	Propshaft 3 or 4, Fuel Oil 3	62	Void
	Fuel Oil 3	63	AAMGs
	Steering	64	Steering
	Fuel Oil 4	65-66	AAMGs

## Internal Diagram

V1	FO	FM	FM	CIC	BR1	ER1	BR3	ER3	AM	FO3	ST	FO4
1FP	2FP	A	B	TR	B1,2	6FP	B5,6	E3	Y	2FP	2FP	2FP
		2FP	2FP	1FP	6FP	SM	6FP	6FP				
					BR2	2FP	BR4	ER4				
					B3,4	ER2	B7,8	E4				
					6FP	6FP	6FP	6FP				

Norfolk				
<u>Navy Class</u>	Royal Navy Heavy cruiser		<u>Date</u>	1942 (Cumberland modeled)
<u>Surface Armament</u>			<u>Ranges</u>	<u>Directors</u>
Main Battery:	8 inch guns in 4 twin turrets		29 inches	Fore and aft
Secondary Battery:	4 inch guns in 4 twin mounts		16 inches	Aft
<u>Speed</u>	4.00"	8 boilers	4 engines	
<u>Flotation</u>	Total: 66	DIW: 33	Sinking: 44	
			<u>Torpedo Hits</u>	17.7"-18": ±1      20.5"-22.5": ±2      24": ±3

Armament Arrangement



Notes
<ul style="list-style-type: none"> <li>Two ships in class: Norfolk and Dorsetshire</li> </ul>

Hits

	Officers Berths	11-12	Void
	Fuel Oil 1	13-14	Void
	Main Magazine A	15-21	Main A
	Main Magazine B	22-24	Main B
	Transmitting	25	Bridge
	Fuel Oil 2	26	Bridge, Forward Main Director
	Boiler Room 1	31	Bridge
	Boiler Room 1	32	Search Radar, AAMGs
	Boiler Room 1	33	Funnel, Secondary 1 or 2
	Boiler Room 2	34	Void
	Boiler Room 2	35	Funnel
	Boiler Room 2	36	Funnel, Secondary 3 or 4
	Secondary Magazine	41	Funnel
	Engine Room 1	42-43	Catapult, Aircraft
	Engine Room 1	44	Aircraft
	Engine Room 2	45	Secondary Director
	Engine Room 2	46	Searchlight A or B
	Engine Room 2	51	Aft Main Director
	Engine Room 2	52	Void
	Main Magazine X	53-55	Main X
	Main Magazine Y	56-62	Main Y
	Fuel Oil 3, Propshaft 1 or 2	63-64	Void
	Steering, Propshaft 3 or 4	65	Steering
	Void	66	Void

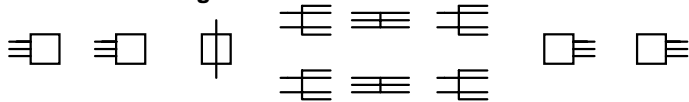
Internal Diagram



# Belfast

<u>Navy Class</u>	Royal Navy Heavy cruiser	<u>Date</u>	1942
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	6 inch guns in 4 triple turrets	25 inches	Fore and aft
Secondary Battery:	4 inch guns in 4 twin mounts	16 inches	Port, starboard and aft
Torpedoes:	21 inch torpedoes in 2 triple mounts 2 special hits	13 inches at 4.25" 16 inches at 2.75"	Port and starboard
<u>Speed</u>	4.00"	4 boilers	4 engines
<u>Flotation</u>	Total: 67	DIW: 33	Sinking: 44
<u>Torpedo Hits</u> 17.7"-18": ±1    20.5"-22.5": ±2    24": ±3			

## Armament Arrangement



## Notes

- Similar to Southampton class, but with re-arranged internal spaces.
- Two in class: Belfast and Edinburgh
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## Hits

Officers Berths	11-12	Void
Fuel Oil 1	13-14	Void
Main Magazine A	15-21	Main A
Main Magazine B	22-24	Main B
Main Magazine B	25	Bridge
Transmitting Room	26	Bridge, Main Director
Secondary Magazine	31	Bridge, Forward Secondary Director 1 or 2
Secondary Magazine	32	Search Radar, Aircraft
Boiler Room 1	33	AAMGs, Aircraft
Boiler Room 1	34	Funnel, AAMGs
Boiler Room 1	35	Catapult
Engine Room 1	36	Void
Engine Room 1	41	Funnel
Engine Room 1	42	Secondary 1 or 2, Searchlight
Boiler Room 2	43-44	Torpedo 1 or 2
Boiler Room 2	45	Torpedo 1 or 2
Engine Room 2	46	Secondary 3 or 4
Engine Room 2	51	AAMGs, Aft Secondary Director
Engine Room 2	52	Aft Secondary Director, Aft Primary Director
Main Magazine X	53-55	Main X
Main Magazine Y	56-62	Main Y
Fuel Oil 2, Propshaft 1 or 2	63-64	Void
Steering, Propshaft 3 or 4	65	Steering
Void	66	Void

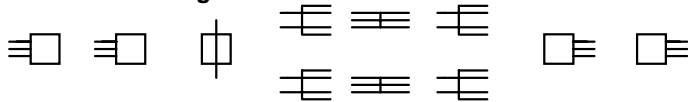
## Internal Diagram

V1 1FP	FO1 2FP	FM A 2FP	FM B 2FP	TR 1FP	SM 2FP	BR1 B1 B2 14FP	ER1 E1 E2 11FP	BR2 B3 B4 14FP	ER2 E3 E4 11FP	AM X 2FP	AM Y 2FP	FO2 2FP	ST 1FP	V 0FP
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# Fiji

<u>Navy Class</u>	Royal Navy Light cruiser	<u>Date</u>	1942
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	6 inch guns in 4 triple turrets	25 inches	Fore
Secondary Battery:	4 inch guns in 4 twin mounts	16 inches	Port, starboard and aft
Torpedoes:	21 inch torpedoes in 2 triple mounts 2 special hits	13 inches at 4.25" 16 inches at 2.75"	Port and starboard
<u>Speed</u>	4.00"	4 boilers	4 engines
<u>Flotation</u>	Total: 67	DIW: 33	Sinking: 44
<u>Torpedo Hits</u> 17.7"-18": ±1    20.5"-22.5": ±2    24": ±3			

## Armament Arrangement



## Notes

- Eight ships in class, including Mauritius, Jamaica and Trinidad

## Hits

Officers Berths	11-12	Void
Fuel Oil 1	13-14	Void
Main Magazine A	15-21	Main A
Main Magazine B	22-24	Main B
Main Magazine B	25	Bridge
Transmitting Room	26	Bridge, Main Director
Boiler Room 1	31	Bridge, Forward Secondary Director 1 or 2
Boiler Room 1	32	Search Radar
Boiler Room 1	33	Funnel, AAMGs
Engine Room 1	34	AAMGs
Engine Room 1	35	Void
Engine Room 1	36	Void
Boiler Room 2	41-42	Funnel
Boiler Room 2	43	Secondary 1 or 2, Searchlight
Secondary Magazine	44	Torpedo 1 or 2
Secondary Magazine	45	Torpedo 1 or 2
Engine Room 2	46	Secondary 3 or 4
Engine Room 2	51	AAMGs
Engine Room 2	52	Aft Secondary Director
Main Magazine X	53-55	Main X
Main Magazine Y	56-62	Main Y
Fuel Oil 2, Propshaft 1 or 2	63-64	Void
Steering, Propshaft 3 or 4	65	Steering
Void	66	Void

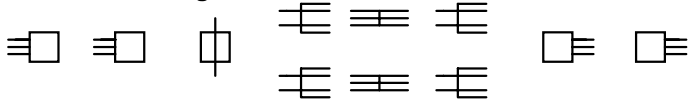
## Internal Diagram

V1 1FP	FO1 2FP	FM A 2FP	FM B 2FP	TR 1FP	BR1 B1 B2 14FP	ER1 E1 E2 11FP	BR2 B3 B4 14FP	SM 2FP	ER2 E3 E4 11FP	AM X 2FP	AM Y 2FP	FO2 2FP	ST 1FP	V 0FP
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# Southampton

<u>Navy Class</u>	Royal Navy Heavy cruiser	<u>Date</u>	1942
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	6 inch guns in 4 triple turrets	25 inches	See Notes
Secondary Battery:	4 inch guns in 4 twin mounts	16 inches	See Notes
Torpedoes:	21 inch torpedoes in 2 triple mounts	13 inches at 4.25"	Port and starboard
	2 special hits	16 inches at 2.75"	
<u>Speed</u>	4.00"	4 boilers	4 engines
<u>Flotation</u>	Total: 67	DIW: 33	Sinking: 44
<u>Torpedo Hits</u> 17.7"-18": ±1    20.5"-22.5": ±2    24": ±3			

## Armament Arrangement



## Notes

- Eight ships in class, including Newcastle and Sheffield.
- All has a forward primary director and port and starboard directors forward. Sheffield, Birmingham and Glasgow have a third secondary director aft. Manchester, Liverpool and Gloucester also had a second primary director aft.

## Hits

Officers Berths	11-12	Void
Fuel Oil 1	13-14	Void
Main Magazine A	15-21	Main A
Main Magazine B	22-24	Main B
Main Magazine B	25	Bridge
Transmitting Room	26	Bridge, Main Director
Boiler Room 1	31	Bridge, Forward Secondary Director 1 or 2
Boiler Room 1	32	Search Radar, Aircraft
Boiler Room 1	33	Funnel, AAMGs, Aircraft
Engine Room 1	34	AAMGs
Engine Room 1	35	Catapult
Engine Room 1	36	Void
Boiler Room 2	41-42	Funnel
Boiler Room 2	43	Secondary 1 or 2, Searchlight
Secondary Magazine	44	Torpedo 1 or 2
Secondary Magazine	45	Torpedo 1 or 2
Engine Room 2	46	Secondary 3 or 4
Engine Room 2	51	AAMGs [Aft Secondary Director]
Engine Room 2	52	[Aft Secondary Director] [Aft Primary Director]
Main Magazine X	53-55	Main X
Main Magazine Y	56-62	Main Y
Fuel Oil 2, Propshaft 1 or 2	63-64	Void
Steering, Propshaft 3 or 4	65	Steering
Void	66	Void

## Internal Diagram

V1 1FP	FO1 2FP	FM A 2FP	FM B 2FP	TR 1FP	BR1 B1 B2 14FP	ER1 E1 E2 11FP	BR2 B3 B4 14FP	SM 2FP	ER2 E3 E4 11FP	AM X 2FP	AM Y 2FP	FO2 2FP	ST 1FP	V 0FP
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## “J/K/N/M” Classes

<u>Navy Class</u>	Royal Navy Destroyer	<u>Date</u>	1940
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	4.7 inch guns in 3 twin mounts	18 inches	Fore
Torpedoes:	21 inch torpedoes in 1 quintuple mount 2 special hits	13 inches at 4.25" 16 inches at 2.75"	Port and starboard
<u>Speed</u>	4.50	2 boilers	2 engines
<u>Flotation</u>	Total: 27	DIW: 14	Sinking: 18
<u>Torpedo Hits</u>	17.7"-18": ±1	20.5"-22.5": ±3	24": ±5

### Armament Arrangement



### Notes

- Twenty-four Js and similar Ks and Ns were built.
- Most gave up a torpedo mount to ship a 4 inch anti-aircraft gun. This is treated as an AAMG for game purposes.
- Twelve Ls and Ms were similar, but with 4.7 inch guns in turrets (range 21 inches) and 2 quadruple torpedo mounts.

### Hits

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

### Internal Diagram

FO1 1FP	FM A&B 1FP	FO2 3FP	BR1 B1 5FP	BR2 B2 5FP	ER E1 E2 9FP	AM X 1FP	FO3 1FP	ST 1FP
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## “O/P/R/S/U/V” Classes

<u>Navy Class</u>	Royal Navy Destroyer	<u>Date</u>	1941
<u>Surface Armament</u>		<u>Ranges</u>	<u>Directors</u>
Main Battery:	4 inch guns in 4 single mounts	17 inches	Fore
Torpedoes:	21 inch torpedoes in 2 quadruple mounts 2 special hits	13 inches at 4.25" 16 inches at 2.75"	Port and starboard
<u>Speed</u>	4.50	2 boilers	2 engines
<u>Flotation</u>	Total: 27	DIW: 14	Sinking: 18
<u>Torpedo Hits</u>	17.7"-18": ±1	20.5"-22.5": ±3	24": ±5

### Armament Arrangement



### Notes

- Seventy-one units in classes O through W.
- Some of units of the O and P classes had 4 4.7" guns (range of 17"). The 4.7" gun-armed Os and Ps gave up the aft set of torpedo tubes for a 4" AA gun. The gun cannot engage surface targets. Oribi, Onslow, Onslaught and Offa had 4.7s.
- The Qs through Vs (except Savage) all had 4 4.7s and no 4" gun. Their 4.7s could elevate to 55 degrees, giving them a measure of main battery antiaircraft capability

### Hits

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

### Internal Diagram

FO1 1FP	FM A&B 1FP	FO2 3FP	BR1 B1 5FP	BR2 B3 5FP	ER E1 E2 9FP	AM X&Y 1FP	FO3 1FP	ST 1FP
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