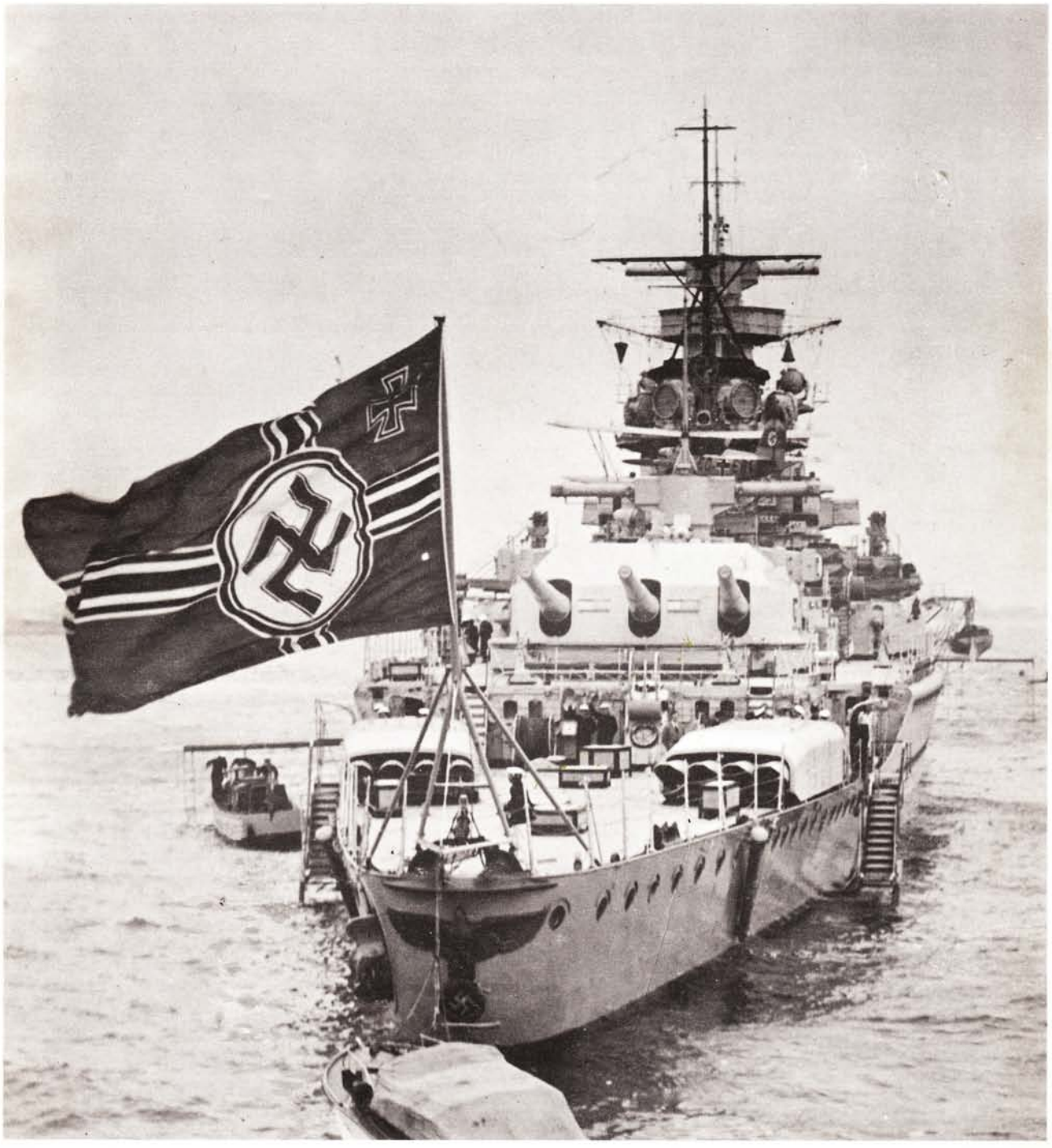
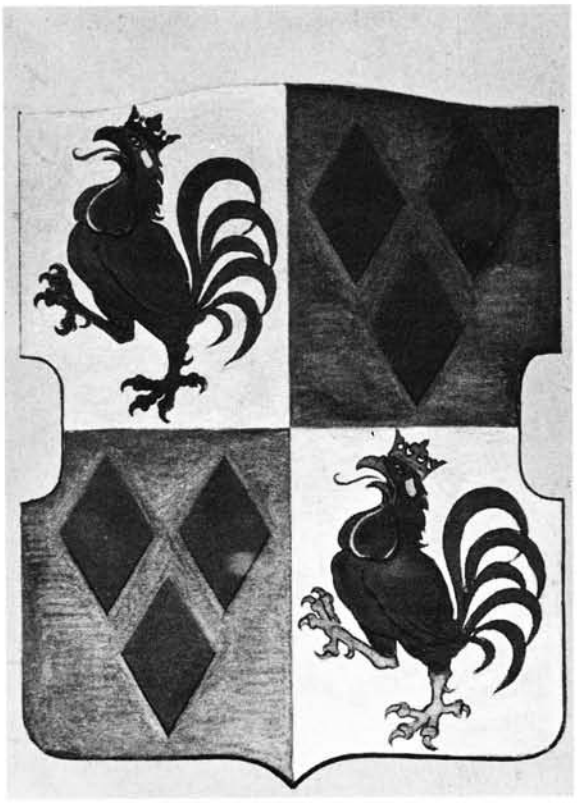
Profile Warship 4

KM Admiral Graf Spee/Pocket Battleship 1932-1939

by Kapitän zur See
Gerhard Bidlingmaier, (Ret'd)

50p

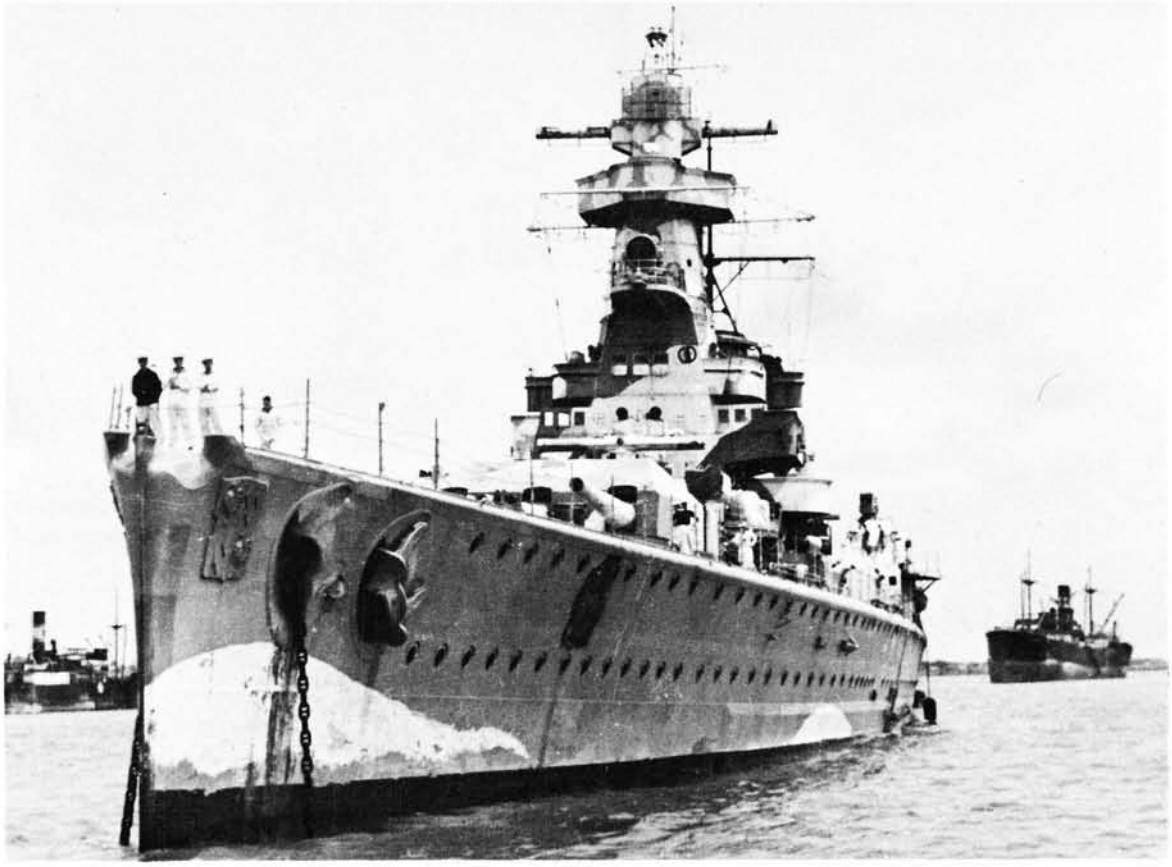




THE LIFE OF ADMIRAL GRAF SPEE

1 Oct 1932	Laid down
30 June 1934	Launched
6 Jan 1936	First commissioned
1936-1938	Fleet Flagship, Spanish Civil War, Non Intervention Patrol
20 May 1937	Attended Coronation Review at Spithead.
21 Aug 1939	Sailed from Wilhelmshaven and proceeded to South Atlantic
Sept 1939 to	Commerce raiding in South Atlantic and Indian Ocean
12 Dec 1939	Nine ships sunk totalling 50,089 tons
13 Dec 1939	Battle of River Plate
17 Dec 1939	Scuttled outside Montevideo
1942	Wreck finally blown up

COVER PHOTO:
Admiral Graf Spee *at the Coronation Review, Spithead, in 1937.*



Admiral Graf Spee *at Montevideo after the battle. The hole from a direct hit on the port bow has been plated over by the ship's staff*

KM ADMIRAL GRAF SPEE / Pocket Battleship

by Kapitän zur See Gerhard Bidlingmaier (Ret'd)

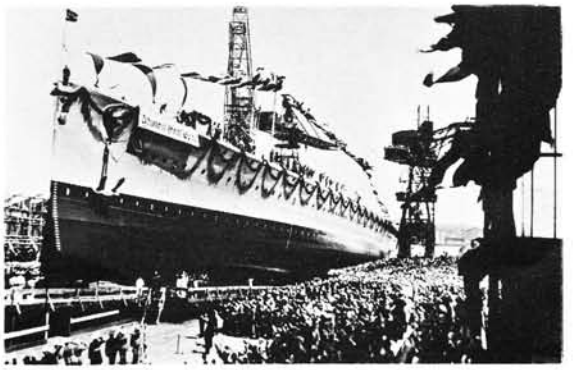
THE DESIGN CONCEPT OF THE PANZERSCHIFFE

When, in 1926, the German Navy could at last think of replacements for its long-since outmoded ships of the line, the Navy was limited under the Versailles Treaty to a mere 10,000 tons displacement and a maximum calibre of 28 cm. In such circumstances how could one build a 'battleship', when the Washington Agreement (1922) permitted maximum figures for this type, under the same headings, of 35,000 tons and 40·6 cm.? At first sight it seemed that nothing more than an armoured coastal patrol vessel could be considered. Soon, however, a better idea gained acceptance: the new ship was to be, '*stronger than anything faster and faster than anything stronger*'.

Panzerschiffe 'A': a political ship

The adoption of this building target had the immediate effect of devaluing the widely popular Washington cruiser, which was outclassed both in fire-power and strength of armour by Panzerschiffe 'A', as the first replacement was initially named in the Budget. The efforts made by the Washington Powers to try to prevent Germany building these ships were therefore understandable. Indeed Germany would have been prepared, so a communication of the German Admiralty (Document AI a VI) dated 25 January 1930 asserts, to abandon the Panzerschiffe in the interests of world peace, but in return demanded admission to the circle of signatory powers as an equal member, where it would have been content to accept the ratio of approximately 1·25. This would have been tantamount to a revision of those clauses of the Versailles Treaty applicable to the Navy.

The Washington Powers could not agree to this proposition. Whereas the Anglo-Saxon Powers were inclined to make certain advances to the Reich, France was strictly opposed to any concession. Since the Panzerschiffe infringed none of the provisions of the Versailles Treaty, the Washington Powers had to accept its construction. Only France sought to restore the balance by having recourse to her permitted battleship tonnage and building two ships of the *Dunkerque* class, each of 26,500 tons, which she armed with eight 33 cm. and sixteen 13 cm. guns, a consider-



Launch of the pocket battleship Admiral Graf Spee *on 30 June 1934, at the Naval Yard, Wilhelmshaven.*

The Admiral Graf Spee, *after commissioning (6 Jan 1936), on her trials in the North Sea.*

able number of lighter guns, and equipped with a catapult and four aircraft; these battleships had a speed of 30 knots. At the London Conference of 1930, France also opposed a five-year extension of the pause in battleship building as well as a limitation on cruiser tonnage, in both cases on account of the German Panzerschiffe.

Significant dates for the Panzerschiffe class

This is how the half-derided, half-feared 'pocket battleships' came into being:
Deutschland laid down 5 February 1929, launched 19 May 1931, commissioned 1 April 1933.
Admiral Scheer laid down 25 June 1931, launched 1 April 1933, commissioned 12 November 1934.
Admiral Graf Spee[1] laid down 1 October 1932, launched 30 June 1934, commissioned 6 January 1936.

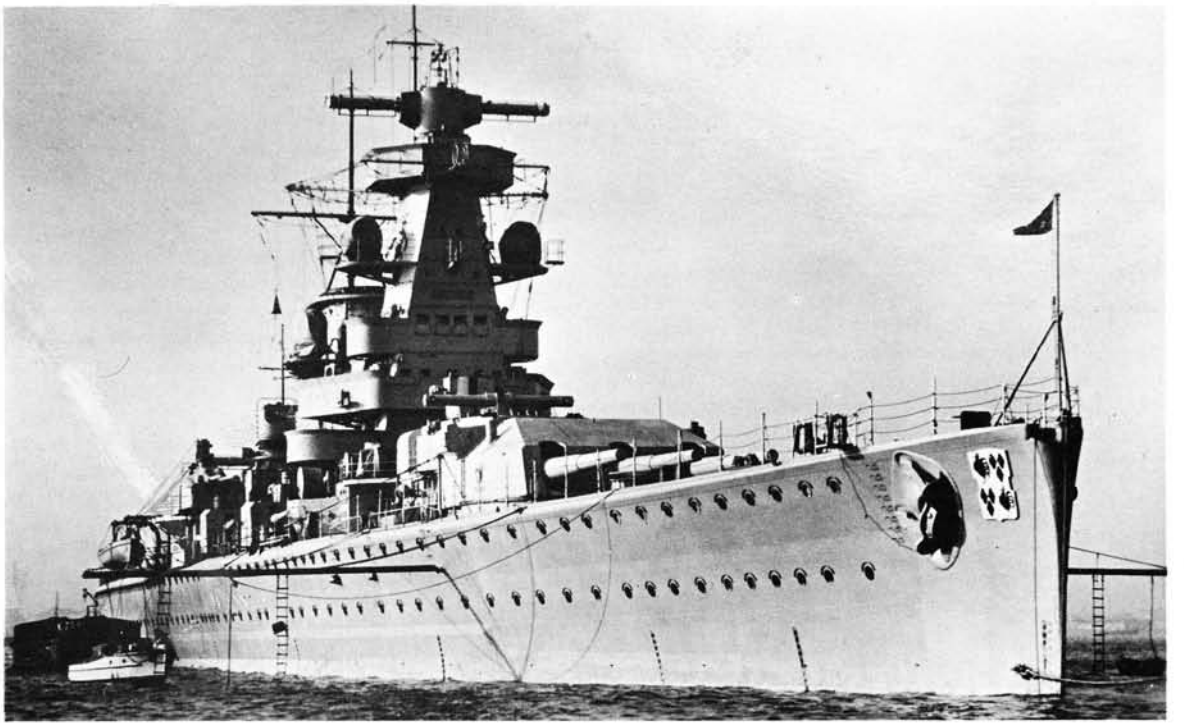
The *Deutschland* was built in the Deutsche Werke at Kiel; the other two were produced in the Naval Yard at Wilhelmshaven.

Armament

Their armament consisted of six 28 cm. guns arranged in two turrets, eight 15 cm. guns individually mounted,

[1] On 15 September 1917 the *Admiral Graf Spee* (35, 300 tons) had already been launched as a battle-cruiser of the *Mackensen* Class, but her construction was halted shortly after the launching. For simplicity, however, we propose to use from this point the shorter name *Graf Spee* for the pocket battleship; in any case this is normal practice in the German Navy.

The Admiral Graf Spee *secured to a buoy in Kiel Harbour; forecastle and ship's coat-of-arms.*



six 10·5 cm.[2] and eight 3·7 cm. anti-aircraft guns, together with eight 53·3 cm. deck-mounted torpedo tubes in two sets; finally, two seaplanes and an aircraft catapult completed the ship's armament—up to 1939 the planes were Heinkel He-60 biplanes and subsequently Arado Ar-196 monoplanes. The *Admiral Scheer* and *Admiral Graf Spee* initially carried, abreast the second port 15 cm. quick-firing gun, a canvas landing mat which could be swung outboard to pick up the aircraft (see page 77). Both ships were also fitted with active roll-damping equipment. The general design principles mentioned earlier were achieved by savings in weight resulting from the use of welding instead of rivetting, the extensive application of light metals and similar methods but, above all, by fitting a completely unorthodox main engine and propulsion equipment.

MACHINERY: Revolutionary Design

The main propulsion equipment consisted of eight double-acting 9-cylinder two-stroke Diesels produced by the Maschinenfabrik Augsburg-Nürnberg, delivering 56,000 hp via two Vulcan reduction gearboxes and two shafts, and giving the ships a maximum speed of 26 knots; in fact, the *Graf Spee* attained 28·5 knots on her trials. Of the more powerful ships, only battle-cruisers could have been faster and therefore dangerous; but the only two then in existence belonged to the Royal Navy and, in the strategic thinking of the German Admiralty at that time, did not figure as potential enemies.

The advantages of Diesel engines

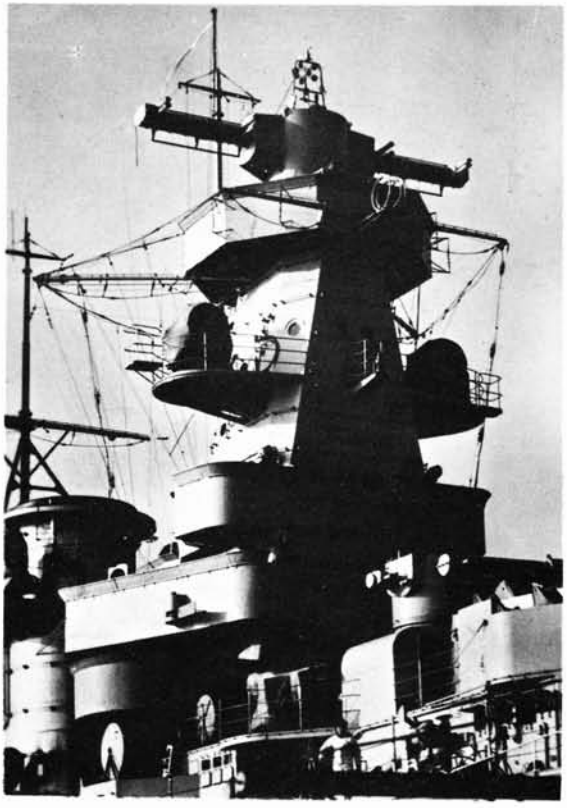
Diesel engines were more quickly operational, less demanding of manpower and space than steam turbines and, thanks to their economic fuel consumption, increased the operational range to 20,000 nautical miles at a cruising speed of 18 knots, roughly three times that of steam-driven vessels.

Tactical benefits were also linked with this operational advantage. Motor-driven vessels do not normally make smoke that might betray their presence at long range; moreover they can accelerate to maximum speed almost immediately and in any case in a much shorter time than any steamship. In this way, even if they encountered cruisers, the Panzerschiffe were assured of a margin of speed for up to fifteen minutes and therefore of freedom of decision. A further point was that, with Diesels, the steam hazard in battle was avoided.

Armour and Underwater Protection

The *armour-plate* was set at an angle to the sides of the hull, thus increasing the degree of protection. This effect was supplemented by 20 mm. thick longitudinal bulkheads between the armoured and upper decks. The protection below the waterline, a torpedo bulkhead, also arranged at an angle, reached as far as the inner bottom in the case of the first two ships.

[2] The *Deutschland* and the *Admiral Scheer* were equipped with this calibre only in the autumn of 1939, having previously been fitted with 8·8 cm. anti-aircraft guns.



Foretop of the Admiral Graf Spee *in its original form. One distinguishing feature, as compared with the* Admiral Scheer, *is the short support legs for the mast abaft the funnel, reminiscent of a tripod mast.*

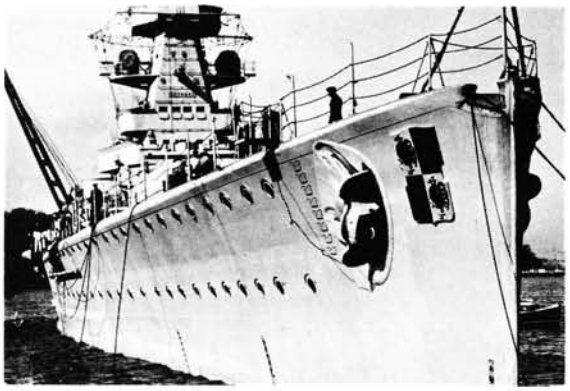
SPECIAL FEATURES OF THE ADMIRAL GRAF SPEE

Armour Plate

The *Graf Spee* had more protection than her sister-ships in that the hull was plated with armour (60–80 mm.) one deck higher and the torpedo bulkhead (40 mm.) extended to the shell plating. The deck armour-plating was 45 mm. thick, that of the heavy-gun turrets 85 to 140 mm. and of the control tower 150 mm. thick.

Radar

The *Graf Spee* was the first German warship to be fitted with radar in 1938 (then known as '*De Te-Gerät*' = 'Deutsches Technisches Gerät'='German Technical Equipment'). Though it could determine the range of a target, direction was, however, very inaccurate. Though for this reason unsuitable for fire control, the radar was nevertheless of considerable use at night and in poor visibility. During the Spanish Civil War its effective range was increased from 5 to 15 km. The aerial array, popularly known as the 'mattress' among seamen on account of its shape



Unlike the Admiral Scheer, *the* Admiral Graf Spee *had from the start heavy cargo-loading gear on both sides abaft the funnel.*

(see page 87), was fitted to the revolving cupola on the foremast and coupled to the optical range-finder. A further installation, peculiar to this ship, consisted of a radio-monitoring unit that constantly swept the horizon and indicated any transmission, enabling it to be intercepted.

The Ship's Company

The crew consisted of 44 officers and 1080 petty-officers and men; included among them, in addition to the flying personnel, was a radio monitoring and decoding group and also, as Naval Reserve officers, a few officers of the Merchant Marine provided to take command of prize-crews. The ship served as Fleet Flagship from 1936 to 1938 and attended the Coronation Review at Spithead in 1937, in addition to being repeatedly in service in Spanish waters.

Identification

The *Graf Spee* could easily be confused with the *Admiral Scheer*, but differed from her sister-ship in having a spar mast mounted aft of her tower mast and, in addition, short support legs for the mainmast and always two large cargo derricks aft of the funnel (see pages 78 and 79).

When the tower mast was modified in 1938, the two searchlight platforms were removed from the side and replaced by a single platform on the forward face (see page 75).

PANZERSCHIFF ADMIRAL GRAF SPEE

Armament: six 28 cm. quick-firing guns L/54·5, in twin-turrets;
eight 15 cm. quick-firing guns L/55, singly mounted, with armoured shields;
six 10·5 cm. anti-aircraft guns;
eight torpedo tubes, calibre 53·3 cm., in two sets, one aircraft catapult and facilities for housing two aircraft (up to 1939, He-60; after that, Ar-196).

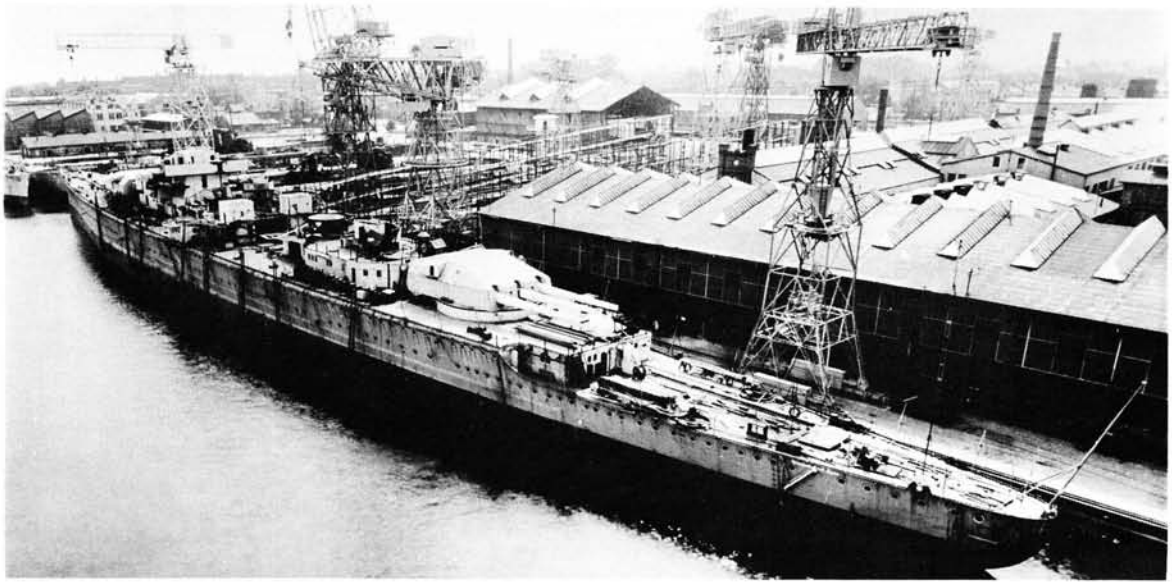
Engines: eight double-acting 9-cylinder Diesels, manufactured by Maschinenfabrik Augsburg-Nürnberg, 56,000 h.p.; four electric generating sets, with a total capacity of 3,360 kW at 220 V;
two Vulcan gear sets, two shafts, one rudder.

ADMIRAL GRAF SPEE IN THE SOUTH ATLANTIC

At the outbreak of the war Hitler ordered the German Navy to engage in '*a trade war on the shipping lanes, with the main weight directed against England*'. To achieve sudden and repeated successes immediately in the Atlantic while tension was mounting, the Naval Staff has already dispatched the pocket battleships *Deutschland* and *Graf Spee* to their operational areas. They had orders to do all in their .power to disrupt the enemy's sea communications: in this they were to observe strictly the prize regulations, i.e. stop and search every ship and—in the event of seizure—to ensure the safety of the crew; battle with enemy naval forces, even if inferior, was to be avoided and the pocket battleships were to change their area of operation at frequent intervals.

This was the lesson that Raeder had learned from the naval raids on merchant shipping in the First World War; in those days almost all cruiser captains

The Graf Spee *after launching, in the fitting-out basin in Wilhelmshaven naval dockyard. First the heavy gun-turrets are fitted*



had had very little thought for anything other than military trials of strength which consequently contributed to the premature curtailment of their operations, just as the Commander of the Far Eastern Squadron, Admiral Graf von Spee, had done.

The purpose of this early deployment was not realized, because Hitler did not give the final word to bring his pocket battleships into action: he hoped it would be possible to negotiate peace with the Western Powers after a speedy overthrow of Poland.

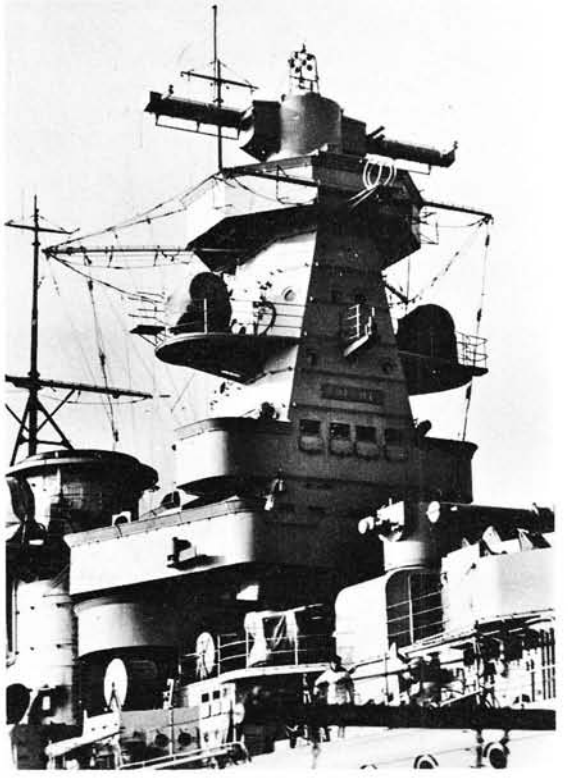
The Graf Spee *in the fitting-out basin. Now the medium guns are already in position and funnel and tower-mast are erected.*

OUTWARD BOUND: PREPARING FOR WAR

The *Graf Spee* sailed on the evening of 21 August 1939 from Wilhelmshaven under the command of Captain Hans Langsdorff and on 1 September the German Naval Staff achieved a successful rendezvous between their battleship and its supply ship, the *Altmark*, southwest of the Canaries. To lighten his ship, while Langsdorff awaited his operational orders, he transferred superfluous equipment, such as riding and stern booms, heavy boats, canvas landing-mat, etc., to the *Altmark*, together with unnecessary items, inflammable paints and the like. He also gave two of his 20 mm. anti-aircraft guns to the *Altmark*, so that only eight were still left aboard the *Graf Spee*. At the same time he had the lighter boats so stowed that he could, depending on weather conditions, send out a boat from either side of the ship.

The waiting period was not without incident. On 11 September the battleship was preparing to transfer provisions from the *Altmark* (see page 86). As a security measure the ship's plane was launched. Very soon the observer spotted a fast naval vessel just altering course and heading directly for the *Graf Spee*. Immediately he flew back, gave visual warning and had his plane shipped aboard. Thus Langsdorff succeeded in evading his opponent, *HMS Cumberland*, by slipping off at high speed.

The tower-mast in its original form: on each side a searchlight, the Admiral's bridge below, and beneath that the peace-time navigating bridge and wheelhouse.



The tower-mast after the 1938 refit: above the optical range-finder rises the revolving canopy for the radar equipment, the flat surface on the front being provided for the aerial array; in place of the two searchlights at the sides, only one is now attached on the forward face. Over the barrels of the gun-turret the armoured fighting bridge can be discerned; above the 15-cm gun to the right of the gangway, the canvas landing-mat for the ship's aircraft.

The Graf Spee *differed from her sister-ship the* Admiral Scheer *in having, behind the tower-mast, a pole-mast rising from the signal-deck level (the* Scheer *only had a short pole-mast on the foretop gallery), and further in having her mainmast supported by short support-legs to the funnel. The conspicuous tower-mast was completely rebuilt on the* Scheer *in the light of the* Graf Spee's *experience.*

The Arado seaplane returning from a reconnaissance flight—Courtesy, Sir Eugen Millington-Drake, K.C.M.G.

THE FIRST DAYS OF WAR

When, on 26 September, the pocket battleships finally received permission to begin operations, as a result of Raeder's insistence, the *Graf Spee* was experiencing her first problems. In the first place, the engines were getting dangerously close to the total of running-hours at which regulations laid down dockyard overhaul. How long could the ship's engineers manage to keep the machinery in good running order after the expiry of this period, simply with the means available on board? Another worry was the shortage of carbon dioxide and Arctic oil for the refrigeration plant, which prohibited a prolonged stay in tropical waters.[3]

THE FIRST SUCCESS

On 30 September a steamship was sighted at 1300. Soon however, she altered course while still 14 miles distant. Langsdorff launched his plane which halted the ship but, armed with only one machine-gun, could not prevent the latter sending out the alarm. Langsdorff had the Master and Chief-Engineer brought aboard, sent a radio message to the Pernambuco station to ensure the safety of the rest of the crew, who had taken to the boats, and sank the ship, the British SS *Clement* (see page 83). In accordance with Admiralty instructions, the British captain had destroyed all important papers. Moreover, his behaviour in other respects, as his interrogation showed, corresponded strictly to Admiralty orders. These required British ships, if stopped by a warship, to transmit by radio as long as possible without any regard to orders to the contrary. This would force the raider to fire on them, giving the crew an excuse to take to the boats which was calculated to delay the search of the vessel. The use of the prize as a supply ship was to be prevented by putting the engines out of action. In future, therefore, *Graf Spee* would have to approach her victims as far as possible unrecognized, so that this procedure would not be effective.

When the British Admiralty heard of the *Clement's* fate, a warning was immediately issued to merchant

[3] The Naval Staff saw to it that supplies did get through.

Round the Cape of Good Hope Langsdorff picked up the scent of very little traffic so long as the Mediterranean represented a safe route from Gibraltar to Suez. So he pressed on to the waters off Pernambuco, leaving the *Altmark* behind in the waiting zone. On the eve of his first success, the Naval Operations Staff reminded Langsdorff that he must avoid fully committing his ship.

The Graf Spee *on her trials*

shipping and counter-measures introduced. The Admiralty did not exclude the possibility that the raider was a pocket-battleship, but only received confirmation of the fact when the *Clement's* crew reached a South American port on 1 October. Thereupon, in agreement with the French Ministry of Marine, the Admiralty distributed eight hunter groups in the Atlantic on 5 October and authorized the Commander-in-Chief, South Atlantic, Vice-Admiral G. H. d'Oyly Lyon, to retain four destroyers that he was due to detach to the Home Fleet.

SUCCESSFUL STRATAGEM

Langsdorff now turned his attention to the Cape route. While sailing to this area, he painted the for'd and side walls of his tower-mast a light colour and their edges dark, to give the impression of a tripod mast (see page 86).

At 0700 on 5 October a steamship hove into view over the horizon. The Captain set his approach course to ensure that he only presented his bows to the steamship's view. At a distance of 1950 yards he ran up signals calling on her to heave-to and imposing radio silence. The steamship, the *Newton Beech*, transmitted in spite of this, but very weakly. The prize-crew were just in time to prevent the destruction of a secret instruction in the radio-room. The Master had destroyed all other papers. He had interpreted the 'tripod mast' as belonging to a French ship and spotted the deception only when the *Graf Spee* swung to. The warship's captain wanted to use the steamship for housing the prisoners, and handed her over to a prize-crew.

The captured secret instruction was used henceforth to transmit bogus alarm calls, for which purpose Langsdorff also commandeered the prize's Marconi transmitter. He also discovered that each British ship had its own prescribed route laid down.

A further point of difference: in contrast to the Admiral Scheer, *the* Graf Spee *had heavy loading gear on both sides (the* Scheer *only on the port side).*

TWO FAVOURABLE OPPORTUNITIES MISSED BY THE BRITISH

The *Newton Beech's* SOS had been picked up by only one ship. Shortly after, she encountered the *Cumberland* and informed her. Because the distress call had not been an RRR, the cruiser decided against breaking radio silence, believing that the alarm must have reached the Commander-in-Chief. Four days later, *Ark Royal's* aircraft sighted a ship stopped west of Cape Verde, who claimed to be the American steamship

The Graf Spee *in Kiel Harbour; behind the funnel can be seen the wings of the ship's aircraft, an* He-60; *just before she slipped out into the Atlantic, the* Graf Spee *received urgent delivery of the first* Ar-196, *a monoplane.*

The Graf Spee, *like her sister-ships, had good sea-going qualities, riding easily and having excellent manoeuvrability; when heading into the sea, however, she was too wet. This latter drawback was to a large extent remedied on the* Admiral Scheer *by appropriate modifications to the bow section.*

Delmar. The aircraft-carrier was steaming without destroyer escort, so she refrained closing the vessel to investigate. Only when it was too late was it learned that the real *Delmar* was lying at New Orleans that day.

Two more successful deceptions with the 'tripod mast'

Against his next victim, sighted at 0825 on 7 October, Langsdorff used the same procedure. This time the radio-room was seized before the alarm had been sent out: the Master had assumed he was dealing with a French vessel. Langsdorff seized important provisions and stores, transferred the crew to the *Newton Beech* and sank the ship, the *Ashlea* (see page 86).

A logbook that had been discovered, containing large numbers of ships' positions, strengthened Langsdorff in his belief that, after each success, he must seek another area because no two ships would follow the same course. Hence he found it particularly frustrating that a crack had formed in the cylinder-block of the ship's aircraft and that he must forgo aerial reconnaissance until the spare engine had been fitted. Now, and again later, the price had to be paid for equipping the *Graf Spee* with the first Ar-196 off the production-line before adequate testing had been completed. It not only suffered from teething troubles but also proved less suitable for reconnaissance purposes than the slower He-60. Langsdorff also found himself held up by the slow *Newton Beech* and her poor coal. So, on 8 October, he transferred the prisoners to his own ship and sank the prize.

On 10 October the *Graf Spee* seized the British steamship *Huntsman*, who only sent out a distress call at the last minute, because her Master had assumed a French warship. The battleship captain could not sink the ship immediately because the 84-strong crew could not be accommodated aboard his own vessel. He sent the prize off two days later to wait at a pre-arranged rendezvous.

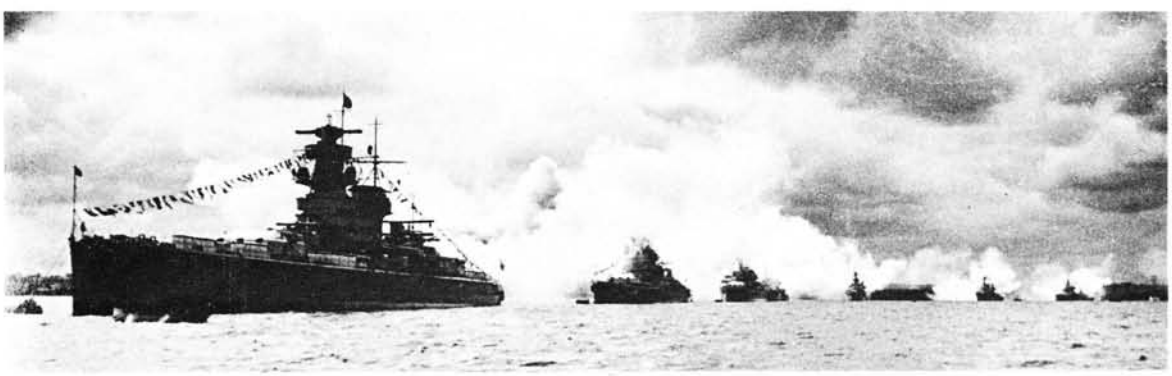
The last three successes were scored in the area to the north of St. Helena. Langsdorff anticipated counter-measures and left this area. He announced his successes to the Naval Operations Staff and his intention to rejoin the *Altmark*. He also reported his evaluation of the captured secret documents and closed with the hint that the strong security measures to be expected from now on at the junctions of the main sea-lanes might require his ship to be fully committed. With this part of his report he wanted, as his war-diary states, to urge the Naval Operations Staff to relax the restrictions—*no full commitment*—if greater successes were desired.

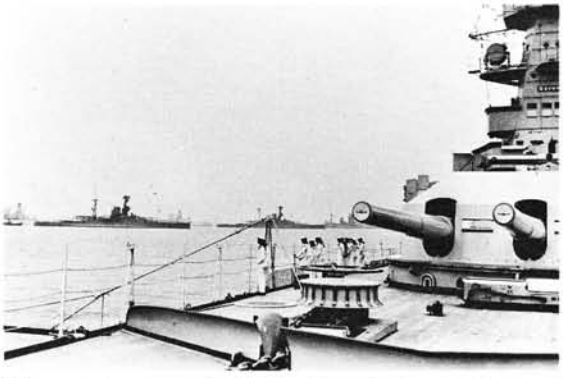
Rendevous with Altmark

Delighted, Langsdorff received the report on 12 October that his plane was once more airworthy. In the morning of 15 October he rejoined his supply-ship, not without giving the *Altmark* captain a fright: he too mistook the pocket battleship for a French warship. The *Graf Spee* refuelled and the *Altmark* was made ready to accommodate the prisoners. By transferring the prisoners, Langsdorff thought to insure the captain of the *Altmark*, should his ship be detected by an enemy warship, against being sunk without the crew being saved.

Meanwhile the two ships set course for the rendezvous with the *Huntsman*, and found the prize during the morning of 16 October. Two days were spent transferring quantities of raw materials from the *Huntsman*, and all the prisoners to the *Altmark*, before the prize was sunk on the evening of 17 October. A captured code enabled them to decipher every radio message from the British Admiralty to its merchant shipping. The engineer personnel had meanwhile carried out an engine overhaul.

The Graf Spee *and, behind, the pocket battleships* Admiral Scheer *and* Deutschland, *together with three small cruisers, in Kiel Harbour firing a salute to Hitler (1936)*





The Graf Spee *at the Coronation Review at Spithead (1937).*

The Graf Spee *at Spithead in 1937.*

DELIBERATIONS OF THE CAPTAIN AND THE NAVAL OPERATIONS STAFF

To reach a decision as to his best course of action, Langsdorff relied on the details of the distribution of enemy naval forces as supplied to him three days before by the Naval Operations Staff. So long as he was not permitted fully to commit his ship, he considered convoys to be '*one hundred per cent safe*' under the protection of these forces. At heart, he rebelled against the fundamental order that forbade him to commit the full fighting potential of his ship. Since the sinking of the *Clement* he reckoned on busier traffic round the Cape, especially as *Huntsman*, out from Calcutta, had only been diverted round the Cape from Suez. He therefore decided to make for the Cape route and, if necessary, to slip away into the Indian Ocean. How closely this line of thinking matched the conclusions of the Naval Operations Staff is shown by an order dated 22 October, in which they directed Langsdorff to move into the Indian Ocean as soon as the concentration of enemy forces made commerce-raiding impossible without full commitment of his ship.

MEAGRE SUCCESS AND HIGH RISKS OFF WALVIS BAY

On 19 October Langsdorff learned from Berlin that a French task force had joined up with a British unit off the West Coast of Africa. Nevertheless, he held course and on 22 October was off Walvis Bay. In the morning the ship's plane sighted a ship. Only when, at 1420 the *Graf Spee* swung away at a distance of 350 yards, did the ship put out a distress call; the radio operator remained undeterred by fire from the 20 mm. guns, but the position given was not clear and the name was missing. Langsdorff had sunk the MV *Trevanion*.

The next morning Simonstown called on all ships that had picked up a distress call from an unknown ship to repeat the call. Two repetitions were given, but with different positions, neither of them correct. One of them corresponded to the pocket battleship's position at that moment. The *Graf Spee* therefore ran at full speed westwards. It was indeed high time, for the Commander-in-Chief of the South Atlantic Station had already thrown all his forces into the hunt. These included, among others, an aircraft-carrier, HMS *Renown* and the *Strasbourg*, whom France had built specifically to be able to bombard the relatively slow-moving pocket battleship with her heavier armament, without coming within range of the German guns.

On the afternoon of 24 October the Senior Naval Officer, Simonstown, issued a U-boat alarm, timed 1130, for a position where the *Graf Spee* had been at that time. Obviously it was based on a mistaken observation, but came at an opportune moment for the Captain; the hunting zeal of his pursuers would be damped by the U-boat danger.

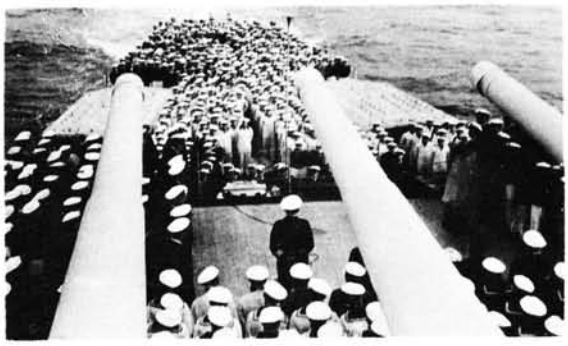
ADMIRAL GRAF SPEE IN THE INDIAN OCEAN

On 28 October, revictualling was being completed from the *Altmark*, west of the Cape of Good Hope. Since the sinking of the *Trevanion*, the radio monitoring section had noted signs of anxiety and a considerable increase of wireless traffic among the enemy. To intensify this, Langsdorff now considered it appropriate to put in an appearance south of Madagascar. In this way he also hoped to mask his intention of returning to his home base, for the dockyard overhaul of his main engines could not be postponed beyond the end of January. His ship had now covered almost 30,000 miles, equal to nearly one and a half times the circumference of the earth !

The *Altmark* was directed to a waiting zone south-west of the Cape of Good Hope and, at midnight on 28/29 October, the *Graf Spee* set out on her voyage eastwards. On the following day the engine overhaul,

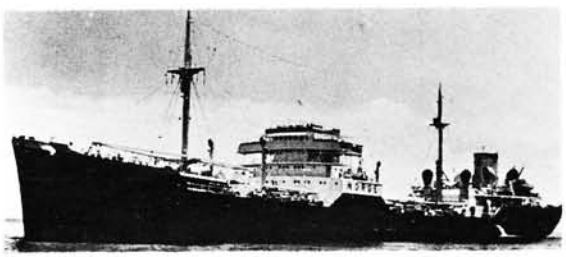
The Graf Spee *after her tower-mast was rebuilt (1938): above the optical rangefinder can be seen the aerial array of the radar apparatus, disguised by a sail-cloth cover. The photograph must have been taken shortly before she slipped out into the North Atlantic, for the Arado* Ar-196 *is already on board.*

The Captain of the Graf Spee, *Kapitän zur See Hans Langsdorff, born 20 March 1894 in Bergen auf Rügen, entered the Imperial Navy on 1 April 1912.*



The Captain addresses the crew at the outbreak of war.

The Altmark, *the* Graf Spee's *supply ship, disguised as a Norwegian vessel.*



begun on 24 October, was completed. Soon they ran into bad weather, which hardly hindered them at first, as the wind was blowing from astern. However, in this new area the weather did not permit any searching of steamships sighted. For two days the pocket battleship was forced to heave to and then the subsequent swell prohibited the use of the plane.

When flying-off was again possible, the flight produced no reconnaissance results but, on alighting on the water, cracks appeared in the seaplane's cylinder-block. So the plane was out of action once more; for good, in fact, as a worried Langsdorff thought, because no other spare engine was now available. Two days later Langsdorff tried his luck on the shipping lanes from India, which skirt Madagascar to the east. Again in vain. So he pushed on into the Mozambique Straits; as an extreme measure he contemplated attacks on the South African coastline. Since the flying personnel had in the meantime sealed the crack in the cylinder-block with a metallic sealing compound and strapped it tight with a steel band, he even weighed the pros and cons of a bombing-raid on the oil-tank installations at Durban, as a final mission for his aircraft.

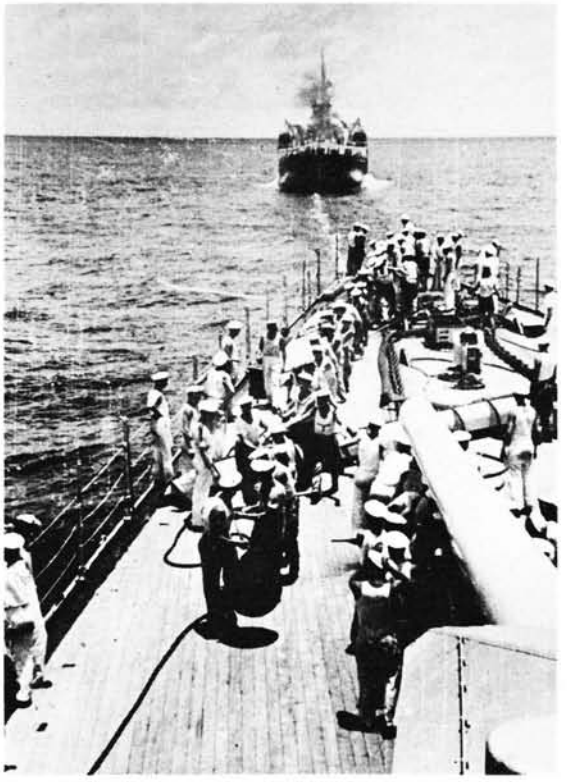
Early on the morning of 14 November the *Graf Spee* lay north-east of Lourenço Marques. But it was only after nightfall that she sighted a small Dutch coaster; but even then weather conditions did not permit any search to be carried out. At last, at about noon on 15 November, *Graf Spee* sank the British motor tanker, *Africa Shell;* while the crew were able to row ashore (7 miles), Langsdorff took the Master on board as a prisoner. Even before the small tanker had sunk, the Japanese steamship *Tihuku Maru* came into sight. Without stopping her, the *Graf Spee* ran on an apparent north-easterly course out of sight of land.

The Captain was not satisfied with such an insignificant result, but considered he had achieved his purpose of sowing alarm in the Indian Ocean. He soon had confirmation of this view when, on 16 November, the Senior Naval Officer, Durban, issued a warning of a 'German raider'. Langsdorff reported this success, and his intention of rejoining the *Altmark*, to the Naval Operations Staff. He concluded this report with detailed arguments in support of a renewed plea for relaxation of the burdensome restrictions placed upon him.

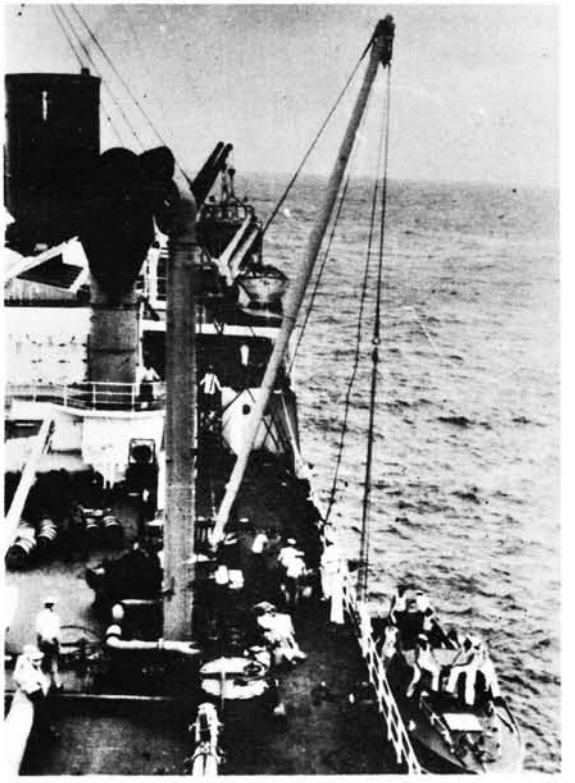
After weathering a heavy storm for days, the *Graf Spee* rejoined the *Altmark* and carried out an engine overhaul from 23 to 30 November.

ADMIRAL GRAF SPEE BACK IN THE SOUTH ATLANTIC

The *Graf Spee* had returned to the Atlantic just in time. After the disappearance of the *Trevanion*, nothing more had happened there. The British Admiralty did not exclude the possibility that the alarm had been simulated by a German auxiliary and therefore hoped that no pocket battleship was still away from base. The sinking of the *Africa Shell* corrected that misconception. So Force H and Force K received the order to intercept the *Graf Spee*; between 27 November and 2 December they were cruising south of Cape Town. But by then, as reported, the pocket battleship was with its supply ship far to the west.



Refuelling from the Altmark.



Revictualling from the Altmark.

During the period while taking on provisions, Langsdorff had erected on the forecastle a raised dummy second gun-turret, and on the superstructure deck an extra funnel, to give his ship a silhouette close to that of an enemy cruiser (see pages 86 and 88).

VITAL DECISION: CHANGE OF POLICY

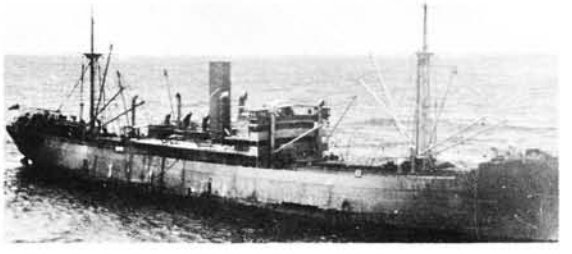
On 24 November the Captain called the junior officers together. He revealed to them that the ship must return to her home base for an engine overhaul; in contrast to his tactics to date, he would not try to evade enemy forces, but—committing his ship fully—'take with him' anything that came along. With this Langsdorff had released himself, on his own authority, from the order forbidding him to commit his ship fully. In his war diary the reasons for this decision are set out in full detail. He was convinced that, with his heavy armament, he would, at the least, so damage any opponent except the *Renown*, that such a vessel would be eliminated as a shadower. Hitherto, nevertheless, it had been right to avoid battle, because even insignificant hits might have forced the *Graf Spee* to give up her commerce raiding. But this reason lost its validity now that the ship was on course for home. In fact, in his opinion, it was essential to score an objectively outstanding success before the *Graf Spee* left the South Atlantic, because it was uncertain whether or when a second commerce raider would be able to operate in the area.

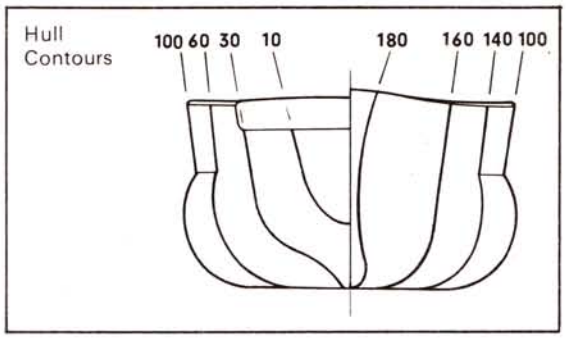
SUCCESSES ON THE CAPE ROUTE

On 30 November the *Graf Spee* was out on the hunt once more. On 1 December the ship's plane took off, admittedly without result, but at least the patched-up cylinder-block held! At noon the following day, after its second take-off, the plane had flown off due south-west, when the foretop lookout sighted smoke at over 28 miles to the northward. At high speed the battleship set course in that direction. As masts and a funnel came up over the horizon, those in *Graf Spee* were surprised that there was still no sight or sound of the ship's plane, which should have been back by now. Breaking with his tactics to date, Langsdorff stopped the ship by firing shots across its bows from a range of 14 miles. Did he wish to speed up the capture out of anxiety over the fate of his air crew, or was he aiming to bring about contact with the enemy?

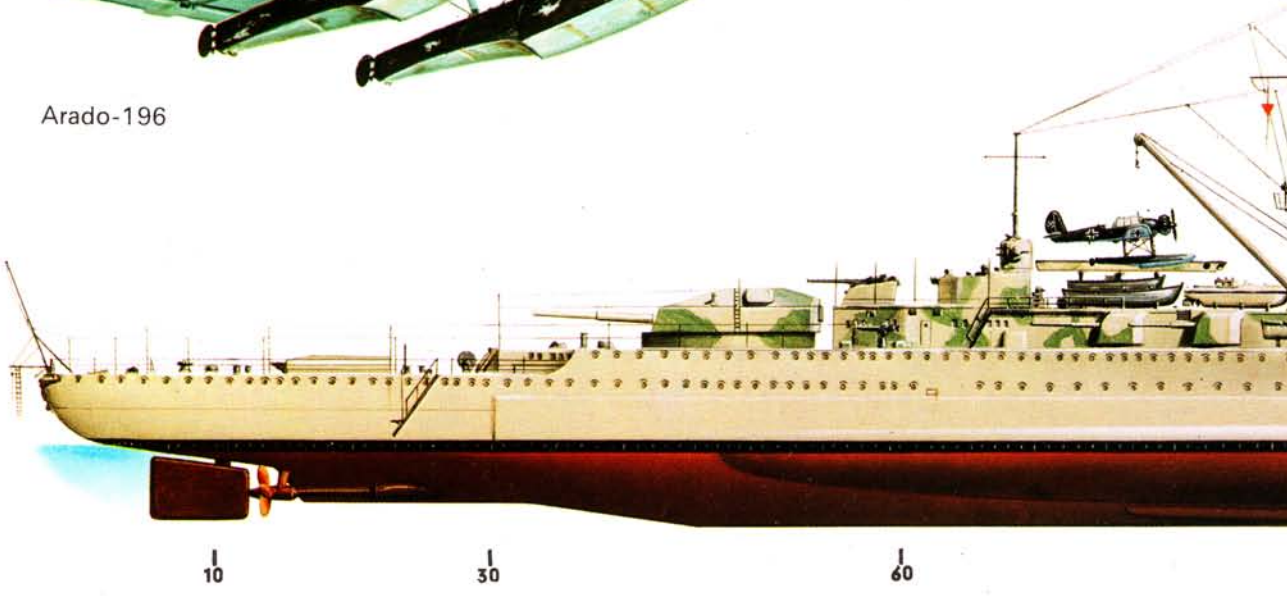
His behaviour allowed the stopped ship, the *Doric Star*, to send out repeatedly an RRR distress call with

The first prize, the British steamship Clement.




Hull
Contours
100 60 30 10 180 160 140 100

Arado-196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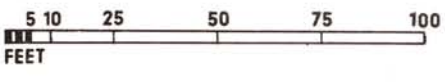
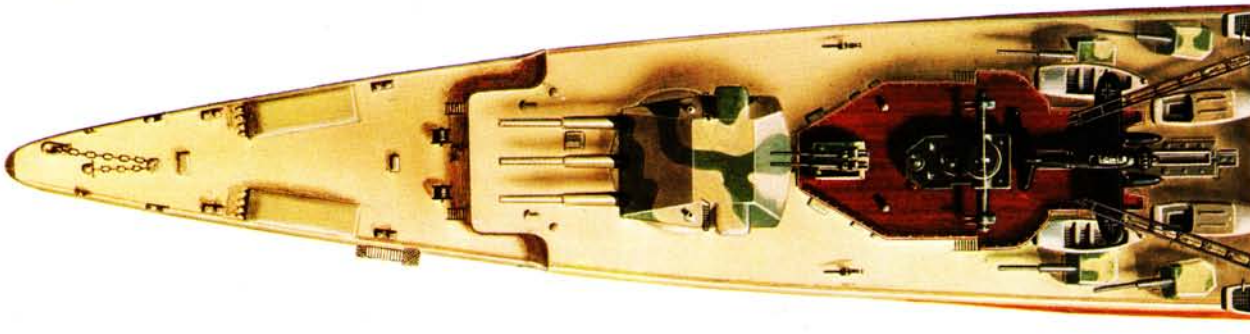

5 10 25 50 75 100
FEET

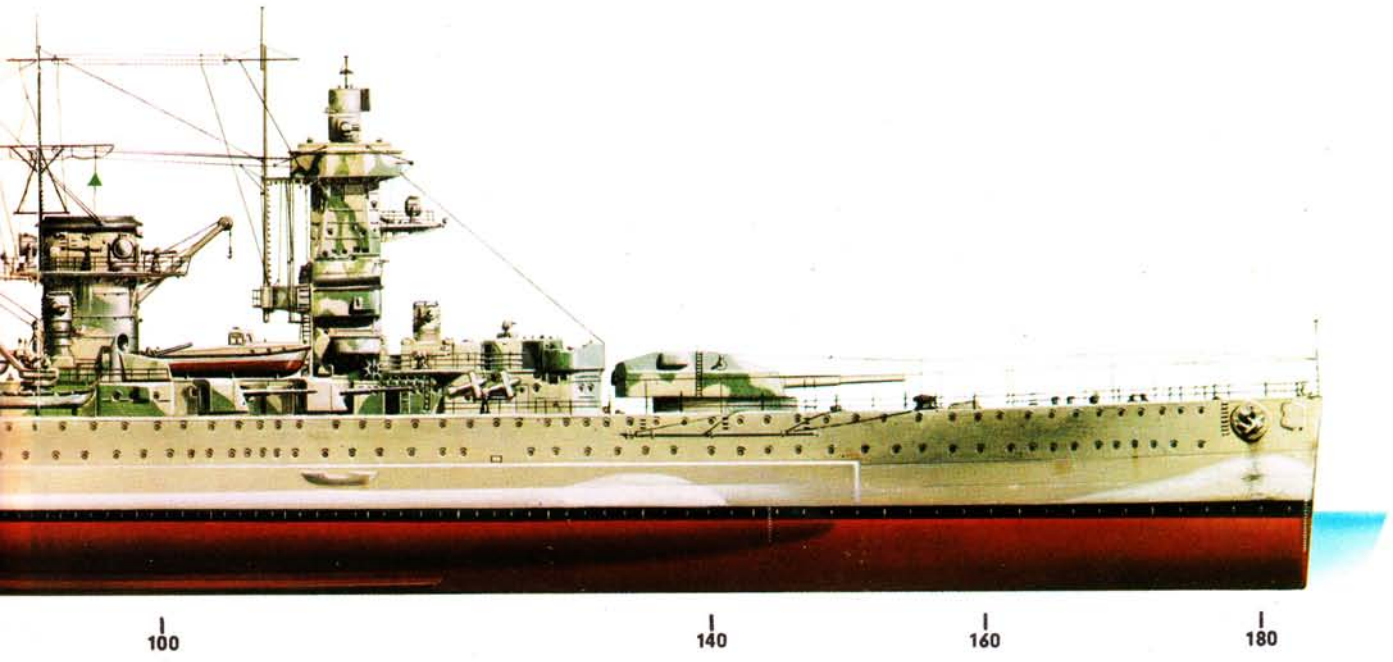


KM Admiral Graf Spee/Pocket Battleship 1932-1939

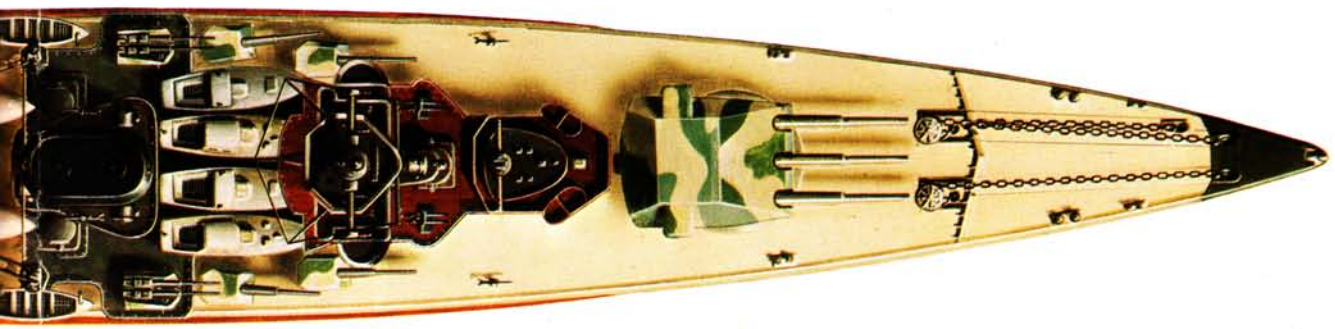
Admiral Graf Spee as she appeared during the last days of her commerce-raiding in the South Atlantic. The false high-speed bow and midship waves were painted to deceive an enemy's first-sighting estimation of speed.

The Arado-196 spotter reconnaissance sea-plane was the first machine of the type and consequently suffered many teething troubles.

The ship's crest was that of the von Spee family, Admiral von Spee being the victor of The Battle of Coronel, twenty-five years earlier.



100 140 160 180



To deceive possible victims, the Captain had had the tower-mast painted in such a way that, at a distance, it looked like a tripod-mast

the addition of '*battleship*'. This call was repeated in rapid succession by six ships, one of them a warship, and now there came an SOS from the ship's plane. For the sake of its cargo Langsdorff would gladly have taken the ship with him, but he was forced to sink her because the Chief Engineer had put the engines out of action. After the crew had been transferred on board and the prize sunk, the battleship steered towards the plane's signals thereby reaching the aircraft just in time. The aircrew had not heard the ship's message about the change of course and so had not found their way back on reaching the end of their sortie. Lacking the smoother water in the lee of their ship, they landed hard in rough seas. As a result the port float sprang a leak and slowly filled. Consequently the machine swung across wind, the waves breaking higher and higher over the port wing. Meanwhile the aircrew had discovered a fault in the accumulator, which explained why they had heard nothing from the *Graf Spee*. They switched on their emergency transmitter and sent out homing signals. In the gathering dusk they fired white Verey lights which were sighted from the *Graf Spee*.

During the night, the pocket battleship steamed steadily SW and sighted a steamship at first light. She hove to but transmitted in spite of orders not to do so. She was the *Tairoa* and was sunk after the crew had been transferred. About noon on 6 December the *Graf Spee* made contact with her supply ship and handed over 140 prisoners, Langsdorff retaining on board his own ship only the officers and radio operators.

MEASURES TAKEN BY THE BRITISH

When news of the sinking of the *Doric Star* was received, the Commander-in-Chief, South Atlantic, halted the hunt south of Cape Town and allocated fresh search areas to his forces. Commodore Henry Harwood, in command of the South American Division, concluded, from the fact that the *Graf Spee* had steamed 170 miles SW between the sinkings of the *Doric Star* and the *Tairoa*, that the next target of the commerce raider would be the South American coast: she should be off Rio de Janeiro by 12 December, off the River Plate by about 13 December and in the Falklands area on 14 December. In the event, it was mere chance that actually brought the *Graf Spee* off the Plate, but more of that later.

As the Commodore considered this area the most important, he concentrated his effective forces, HMS *Exeter*, HMS *Ajax* (flagship) and HMNZS *Achilles*, off the Plate estuary and issued the following instructions:

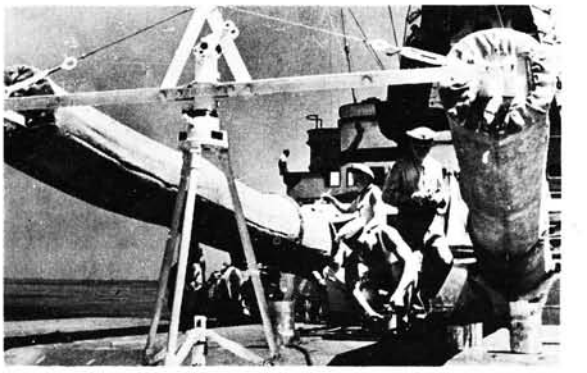
'*My policy, with three cruisers in company versus one pocket battleship. Attack at once by day or night. By day act as two units, 1st Division (Ajax and Achilles) and Exeter diverged to permit flank marking. First Division will concentrate gunfire . . .*' He practised this procedure with his formation on the eve of the battle.

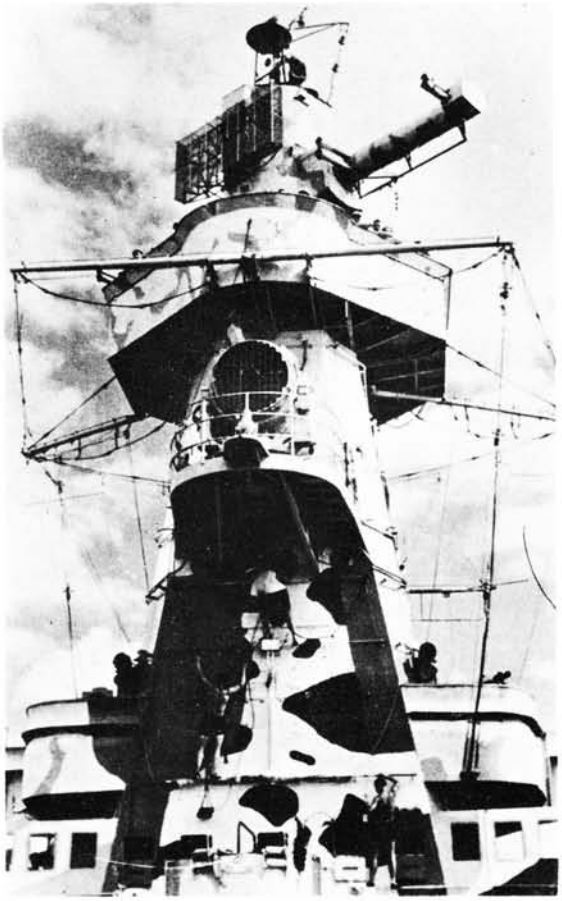
THE LAST SUCCESS

The *Altmark* was given a new rendezvous and the *Graf Spee* set course westwards. On the evening of 7 December her last victim crossed her path, the British freighter *Streonshalh*. Her Master was in doubt up to the last moment whether he had an enemy vessel before him. When the pocket battleship turned up into the wind he would not allow any radio transmission, to avoid endangering lives unnecessarily. Langsdorff transferred the crew and sank the freighter. Of the two bags of secret documents which the Master had thrown overboard, the prize-crew managed to salvage one. It gave information regarding focal points to which ships were to head.

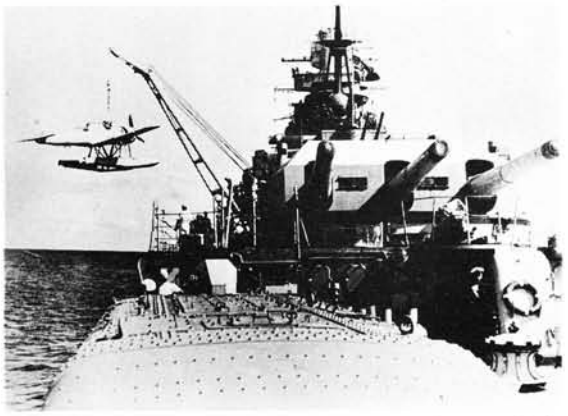
The Ashlea *goes down.*

Dummy guns are constructed.





The tower-mast has its painted disguise renewed. Note the radar 'mattress' aerial.

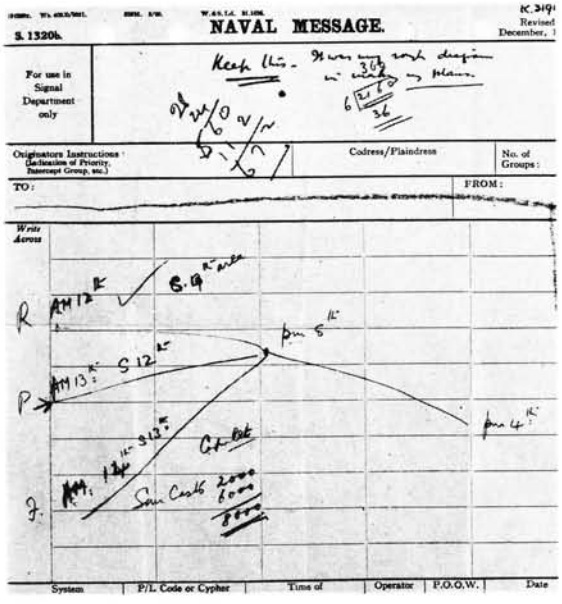


The Ar-196 *is taken aboard after a reconnaissance flight (for lack of an original photograph, the author has chosen one of the* Admiral Scheer).

HMS Ajax, *flagship, flying Commodore Harwood's broad pendant—Courtesy, Sir Eugen Millington-Drake, K.C.M.G.*

Commodore Harwood, on taking command of the South American Station in 1936; a photograph supplied by Lady Harwood—Courtesy, Sir Eugen Millington-Drake, K.C.M.G.

Commodore Harwood's original rough diagram on a signal pad of his plan of attack on the Admiral Graf Spee.



S. 1320b.

NAVAL MESSAGE.

K.3191
Revised December, 1

For use in Signal Department only

Originators Instructions (Indication of Priority, Intercept Group, etc.)

Codress/Plaindress

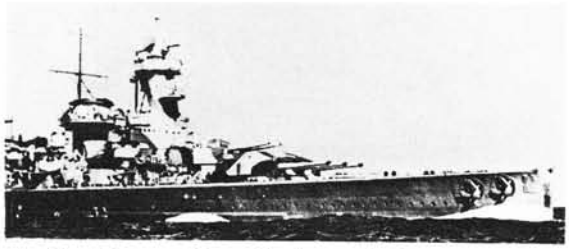
No. of Groups:

TO:

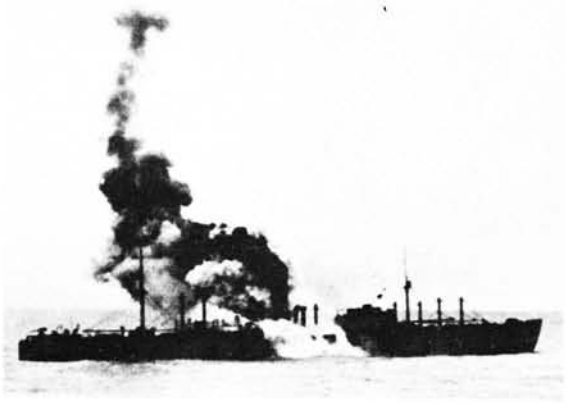
FROM:

Write Across

System | P/L Code or Cypher | Time of | Operator | P.O.O.W. | Date



The Graf Spee, *with a raised second dummy gun-turret on the forecastle; on the extreme left, behind the ship's aircraft, the framework for the dummy funnel can be made out; the great bow-wave is painted on the ship's side.*



Sinking of the Doric Star.

The Graf Spee *makes smoke.*

If, hitherto, Langsdorff had intended to make for Santos Bay, now he hurried towards his fate, by altering course towards the focal point off the River Plate which he had gleaned from the newly-acquired documents. A communication from the Naval Operations Staff on 9 December also raised his hopes: a British convoy of four ships was reported to be leaving Montevideo under the protection of an auxiliary. At first however, the search was fruitless, in spite of reconnaissance flights. On 11 December, the engine of the ship's plane finally expired and broke down on its return from a sortie and the machine was jettisoned after salvaging all useful items. Further, the disguise (second turret on the forecastle, second funnel) was removed, in case it proved a hindrance in battle.

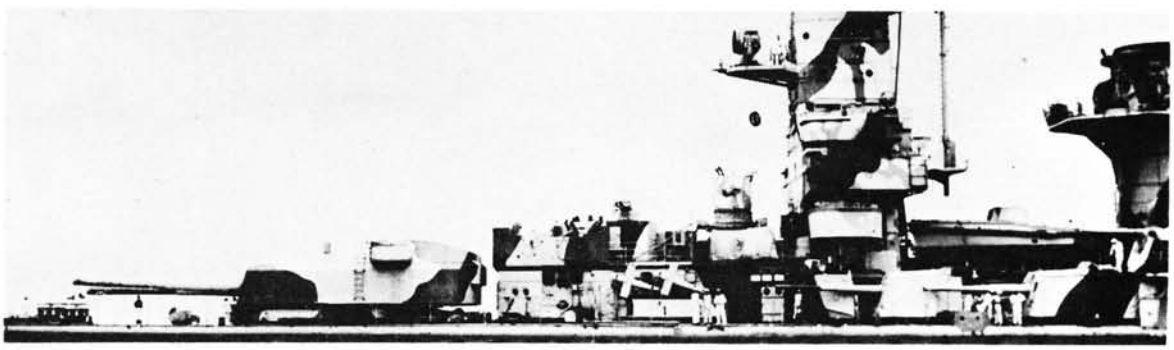
During the night of 12/13 December the *Graf Spee* was patrolling some 300 miles to the east of the Plate estuary. If Langsdorff found nothing on 13 December, he intended to try his luck in Lagos Bay. As the pocket battleship was steaming on a south-easterly patrol line at 0530, shortly before she was due to alter to the reciprocal course, two mast-heads were sighted on the starboard bow. For a few minutes they disappeared against the bright dawn sky, but the *Graf Spee* had turned on to the bearing and picked up the target once more at 0550. The navigation officer pointed out, in accordance with his duty, that operational orders required them to avoid engagements even with inferior forces but Langsdorff was counting on the convoy reported to him, and expressed his opinion that the escort would provide them with '*some fine target practice*'.

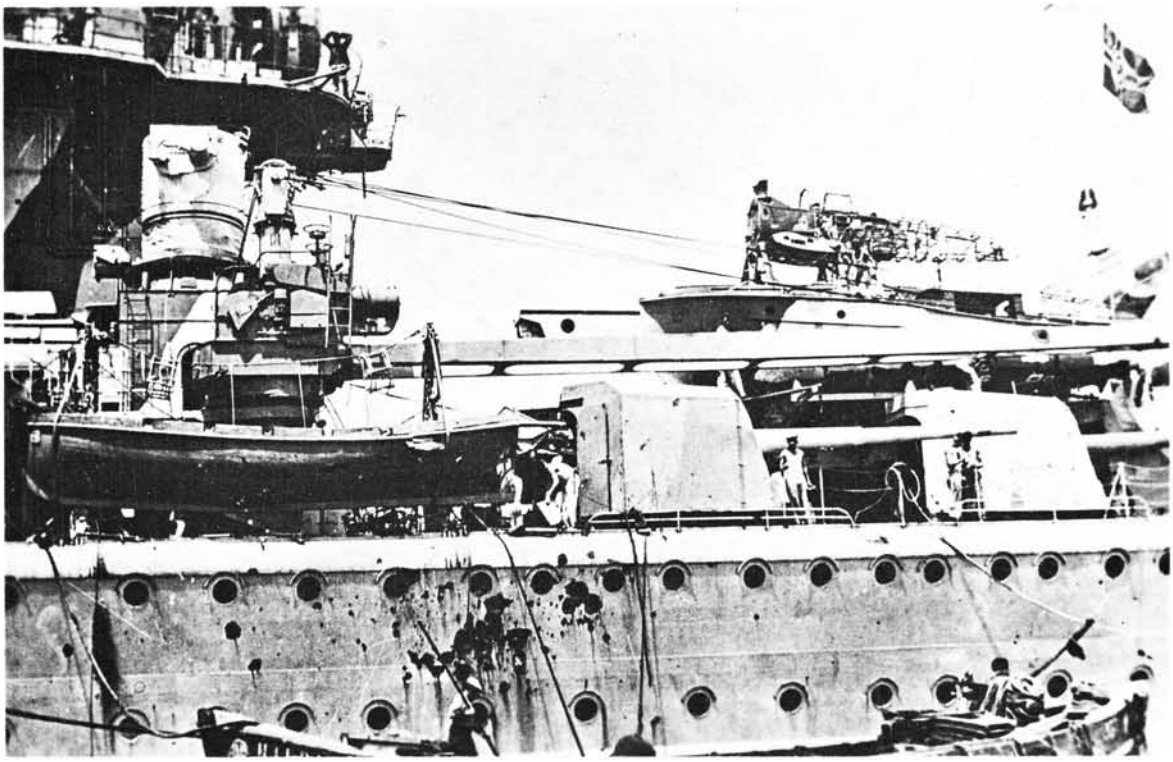
At 0552, however, *Exeter* could be made out and, near her, what Langsdorff took to be two destroyers, but shortly afterwards recognized as cruisers of the *Achilles* class. The Captain now considered it hopeless to try to elude the three cruisers. He gave orders to clear for action and increased to full speed, to be able to attack before the enemy had worked up to maximum speed, since he could not then himself have closed the range for effective engagement.

THE BATTLE OF THE RIVER PLATE

According to Commodore Harwood's report of the battle, his formation was steaming at 14 knots on a course of 060° in line ahead, with *Ajax* in the van and followed by *Achilles* and *Exeter*, when smoke was reported NW shortly after 0600. This was the smoke momentarily produced by the *Graf Spee's* Diesels as they were suddenly stepped up to maximum power. The *Exeter* was ordered to break away and reconnoitre.

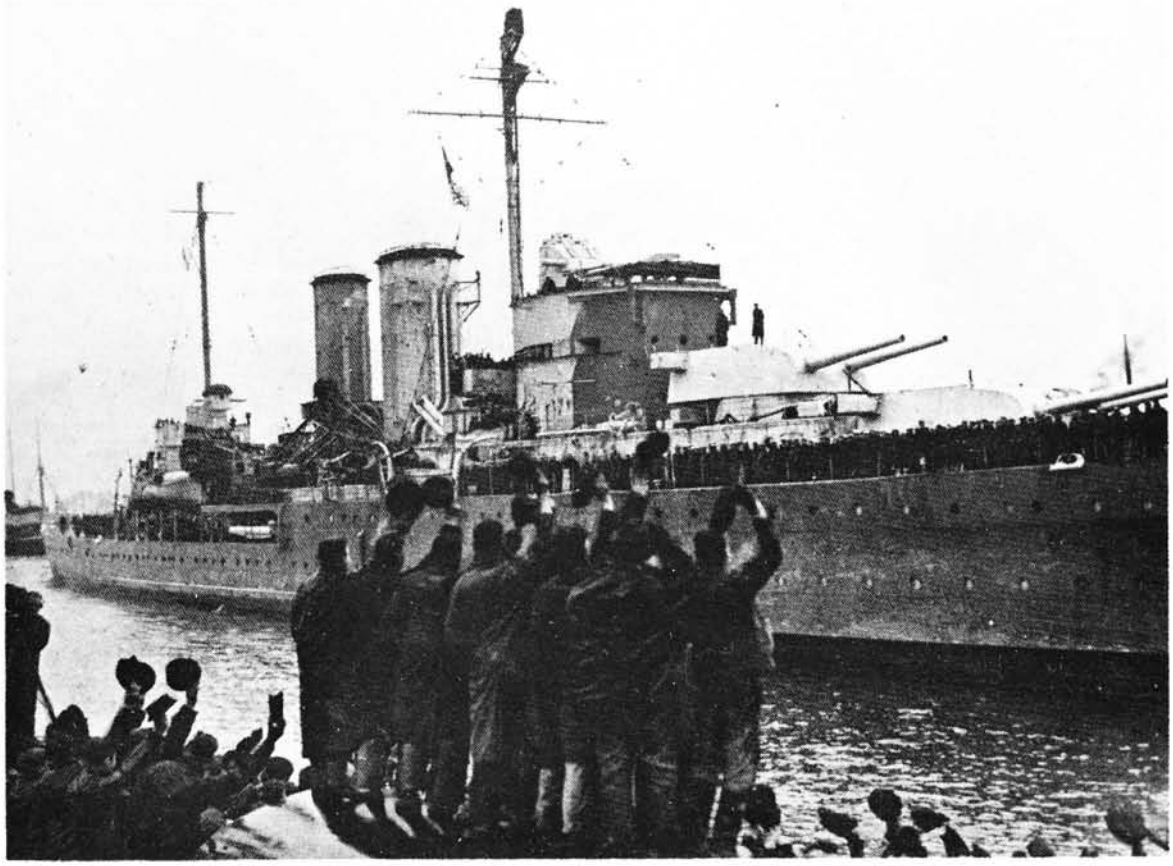
The Graf Spee *at anchor in Montevideo*

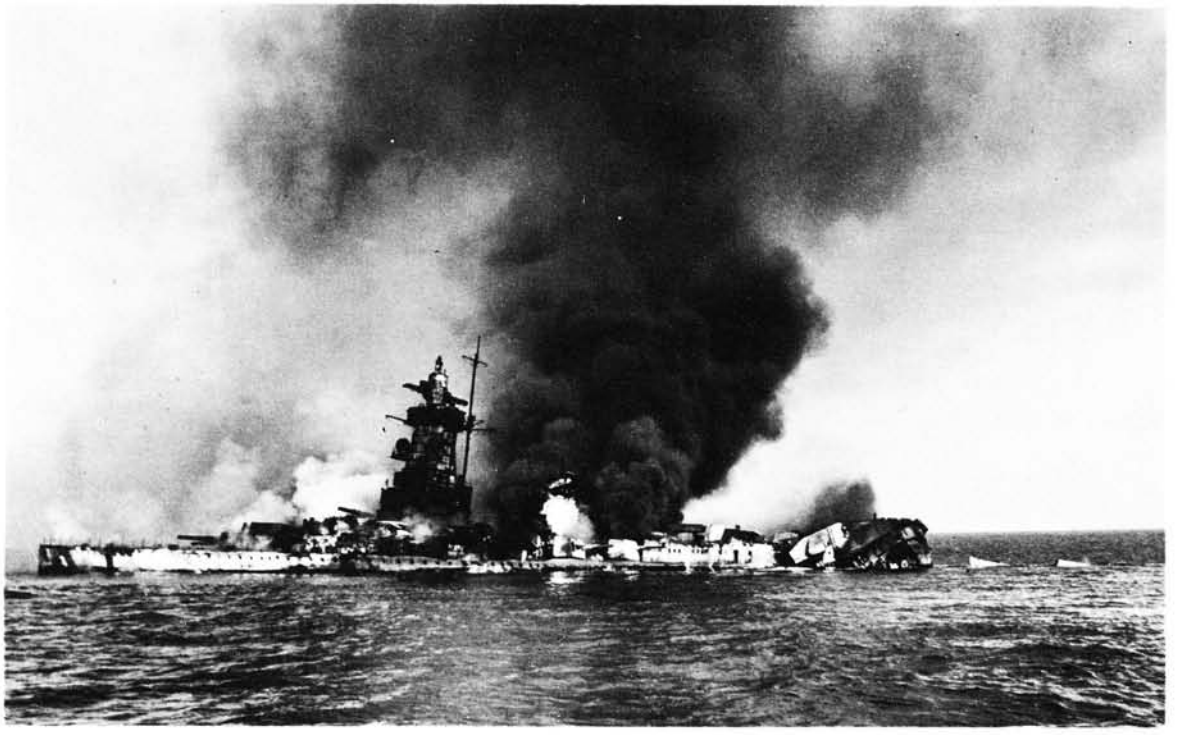




Direct hit on the port side near the third 15-cm gun

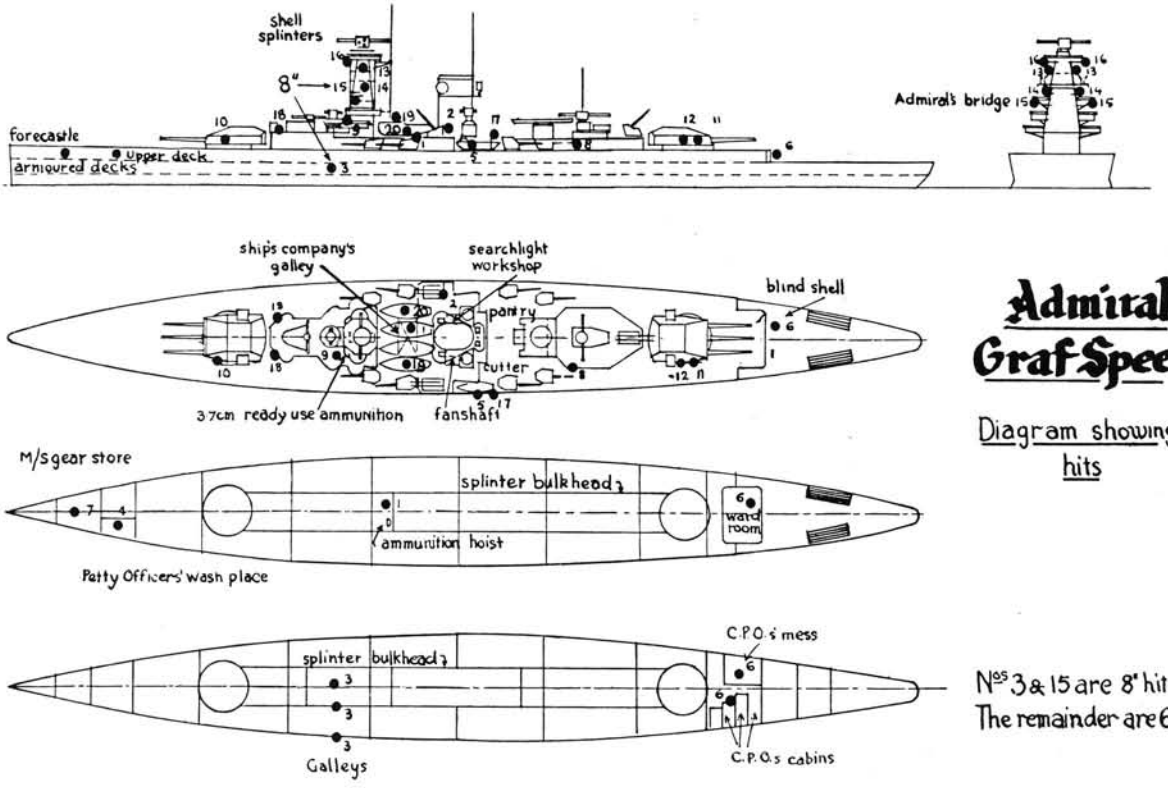
HMS Exeter *arriving in her home port of Devonport, 15 February 1940. Note damage and absence of topmasts—Courtesy, Sir Eugen Millington-Drake, K.C.M.G.*





The Graf Spee *after being blown up on 17 December 1939*

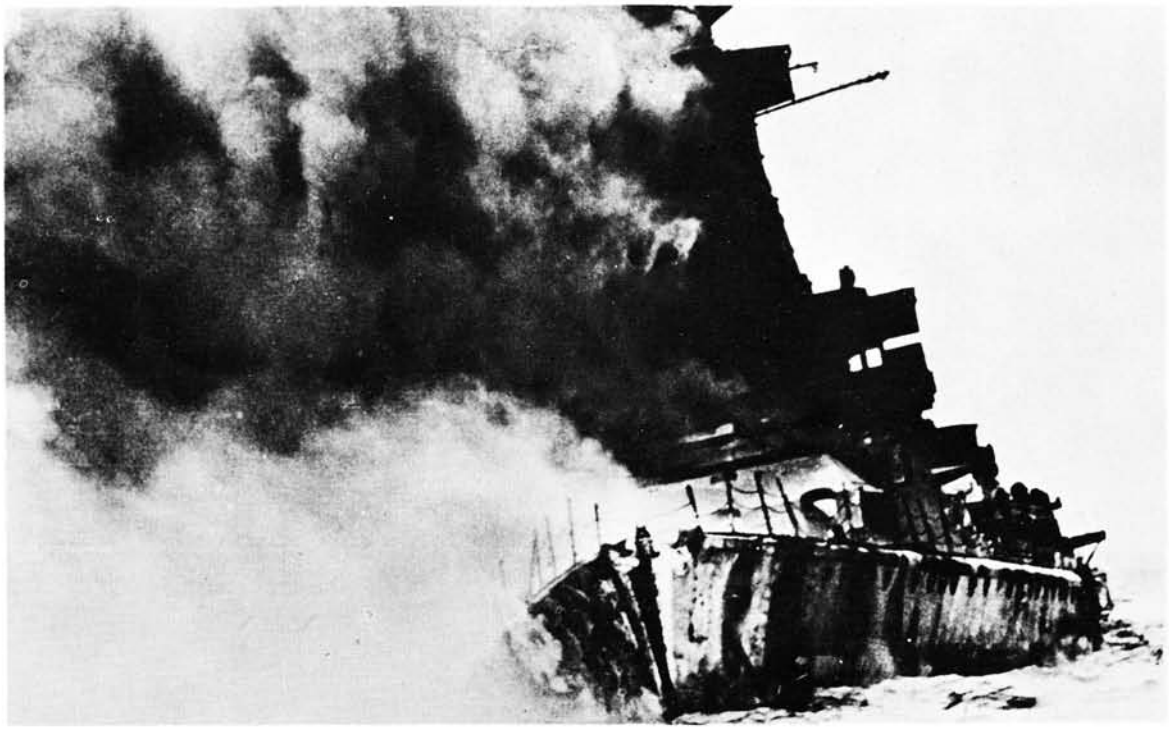
Admiral Graf Spee : *Diagram of hits—Courtesy, Sir Eugen Millington-Drake, K.C.M.G.*



Admiral Graf Spee

Diagram showing hits

Nos 3 & 15 are 8" hits
The remainder are 6"



The Graf Spee *after being blown up*

At 0616 she reported a pocket battleship. Exactly one minute later *Graf Spee* opened fire with both turrets on the *Exeter* and, with her medium armament, on the *Ajax*. As it had exercised the day before, the British formation split up. At high speed the light cruisers tried to reach *Graf Spee's* opposite flank, while *Exeter* set course to the west. At 0620 *Exeter* opened fire; *Ajax* joined in one minute, the *Achilles*, three minutes later.

EXETER: THE MAIN TARGET

Within half an hour the *Graf Spee* scored at least three hits on the *Exeter*, which put out of action the aircraft catapult, both forward turrets and the bridge, and started serious fires. To relieve the hard-pressed ship, the light cruisers, who had also received repeated hits, tried to close at top speed. Langsdorff who, as a former torpedo-boat commander, feared most the light cruisers' torpedo attacks, altered course and briefly put up a smoke-screen (see page 88), hoping thereby to present them both with a more difficult target, their shooting at the start having been very accurate. About 0640, as he out-manoeuvred a desperate torpedo attack delivered by *Exeter* using her port set of tubes, the first reports began coming in to Langsdorff of battle-damage in his own ship. His action station should have been the armoured conning bridge, but for a better all-round view, he exercised command from the unprotected foretop gallery and was twice wounded in the battle, and once deafened for several minutes by a near-miss.

The *Exeter* had ceased firing after making her torpedo attack, and turned away. Instead of following her, Langsdorff now turned on the light cruisers to the north-east. The latter attempted, with evasive action and the use of smoke-screens, to escape the accurate fire of the *Graf Spee*. As a result the battleship was forced into repeated changes of target and constantly recurring need for ranging shots. At 0700 the *Exeter*, coming in from the south and firing only from her stern turret, intervened once more in the battle so that the *Graf Spee* turned on her again. Soon the *Exeter* was firing from only one barrel. At 0715 she turned away, with a list to port, having suffered repeated severe hits, and withdrew under cover of a smoke-screen.

ATTACK BY THE LIGHT CRUISERS

Meanwhile Harwood had moved in, in echelon, with the 1st Division, to relieve pressure on the *Exeter* by means of torpedo attacks. In spite of the evasive action the *Graf Spee* was forced to take, she scored several 28 cm. hits on the *Ajax*, one of which put both stern turrets out of action at 0725. Since Harwood shortly afterwards received a report that only three guns remained in action in his flagship, and that eighty per cent of his ammunition had been used, he broke off the engagement by altering course to the east, and retiring behind a smoke-screen.

THE DECISION TO RUN FOR SHELTER

The *Graf Spee's* casualties in the battle were 36 dead, six seriously wounded and 53 slightly wounded. The battle damage was so severe in the Captain's opinion, that it seemed necessary to him to render his ship seaworthy again in a neutral harbour. In view of the weather conditions to be expected at this season in the North Atlantic, the most serious limitation on the ship's seaworthiness was a hit in the forecastle. Because

After the scuttling, Admiral Graf Spee *in flames off Montevideo.*

the filtration equipment for fuel and lubricating oil was also destroyed, it seemed doubtful whether her jaded engines could be relied upon to hold out with this particular failure. Langsdorff decided to put into Montevideo, requesting and obtaining the authority of the Naval Operations Staff to do so.

When Harwood divined the enemy's intentions he ordered both cruisers to shadow the battleship. Shortly before sunset they opened fire once more. The *Graf Spee* replied but with restraint, because of her ammunition stocks. She had used up well over half but, at only the second salvo, she forced the enemy to sheer off. This procedure was repeated, after which only one ship followed, and she—so they thought aboard the *Graf Spee*—soon also lost contact. At midnight, the pocket battleship anchored off Montevideo. Aboard the *Achilles* every detail had been observed, for the *Graf Spee* was clearly visible to her against the bright western sky and the lights of the city, whereas she had remained unseen, lost against the night-sky to the east.

IN MONTEVIDEO: DIPLOMATIC WAR

In Montevideo, Langsdorff requested permission for a long enough stay to make his vessel seaworthy. The expert committee that visited the ship on behalf of the Uruguayan Government considered 14 days would be necessary, but the Government would only grant 48 hours; in response to protests by the German Ambassador, the Council of Ministers extended this to 72 hours.

The *Graf Spee's* prisoners were released, the wounded transferred to hospital and the dead buried on 15 December, watched by large and sympathetic crowds. For the most part, even the freed prisoners attended the funeral ceremonies.

Aboard *Graf Spee*, prompted by enemy propaganda, but more particularly as a result of their own faulty observation, strong enemy opposition was anticipated, including the *Ark Royal*. In reality, as sole reinforcement for *Ajax* and *Achilles*, *Cumberland* had reached the scene during the night of 14/15 December. The British Ambassador, Mr Millington-Drake, who had fortified the Uruguayan Government in their intention to grant only a 48-hour stay, now strove to delay the *Graf Spee's* departure until such time as Harwood had assembled adequate forces off the River Plate. This was easy to achieve: if he sent out—as indeed happened on 16 December—an English or French freighter, under the terms of the laws regarding neutrality, the warship could only put to sea 24 hours later.

THE END

Langsdorff, as he admitted to himself, was now in a dilemma: to restore his ship to a seaworthy condition required time, but, the longer he stayed in Montevideo, the more forces the enemy could assemble off the Plate estuary. The *Graf Spee*, however, was only allowed to make herself seaworthy with neutral help, not restore herself to complete battle-readiness, for she had suffered in this respect too. Therefore, taking into account his reduced stock of ammunition, Langsdorff feared his ship '*would have to get herself shot to pieces*,

The Captain at the funeral of the ship's dead in the cemetery at Montevideo.

while more or less defenceless'. And, in this event, the comparatively shallow waters of the Plate estuary meant that there was a distinct risk '*that important secret equipment might fall into enemy hands*', without the crew being able to prevent the calamity. He therefore instituted conferences to discuss how best to ensure complete destruction of all target-ranging and gun-laying equipment and guns, together with the effective blowing up of the ship. After he was refused a renewed request for an extension of stay, Langsdorff gave orders at 0300 on the morning of 17 December 1939 for the destruction of all important equipment and for preparations to be made for blowing up his ship.

At 1820 the *Graf Spee* put out to sea with her Captain and 40 men aboard. The rest of the crew followed aboard the German steamship *Tacoma*. At about 1900 the pocket battleship reached her anchorage outside territorial waters. Langsdorff had ordered that the remaining ammunition should be distributed about the ship at the most vital points for his purpose: blasting cartridges were to detonate the six torpedo-heads, the explosions of which were to supply the initial detonations for the individual stacks of ammunition. This destructive network was to be triggered electrically by a chronometer.

After the boats carrying the scuttling-charge crew had sheered away, exactly at sunset and simultaneously with a mighty clap of thunder, a jet of flame shot skywards. The flames changed to a squat black pillar and, shortly afterwards, an enormous ball of fire welled up from the stern. A second and much stronger explosion rent the air, and the smoke-cloud from this spread out like some giant brown stone-pine over the red evening sky. Then the *Graf Spee* was lost to view under a pall of thick smoke, further explosions being only dimly discerned. Even on the following day great oil-fires were still raging in the hull; in places the plating glowed red-hot. The fires persisted until 19 December.

After the ship was blown up the *Graf Spee's* crew climbed into tugs and lighters and were ferried across to Buenos Aires in Argentina; they arrived there at 1100 on 18 December and were interned in the course of the next few days.

Early on 20 December Kapitän zur See Langsdorff was discovered dead in his room. He lay in full uniform on his ship's battle-ensign. He had shot himself. The crew just could not take in the news of the death of their captain. Only the day before, calm and relaxed, he had expressed his satisfaction at knowing his crew were in safety, and told them he could do no more for them or for Germany. Whatever opinion one may hold on suicide, one must admit that Langsdorff, who had decided to avoid the risks he foresaw in renewing the battle, could not demonstrate to the world in any other way that his decision was based, not on cowardice, but on careful appraisal of the situation and its implications. He himself, in a farewell letter, gave the reasons for his action as follows: '. . . *any attempt to fight our way out to open, deep water with the remnants of our ammunition, was doomed to failure. But only in deep water could I, after firing off the ammunition, scuttle the ship and deny her to the enemy . . . The responsibility for my decision to blow up the ship is mine alone. For the*

After their arrival in Buenos Aires, the Captain (centre), the First Officer, Fregattenkapitän Kay (right), and Navigating Officer, Korvettenkapitän Wattenberg (left), study the newspapers

risk to the honour of the flag implicit in this, I am gladly prepared to answer in my own person . . .'

SUMMARY: FINAL ANALYSIS

The operations of the *Graf Spee* had shown that the pocket battleship, however, unorthodox a type she might appear, was outstandingly suitable as a weapon to employ against the shipping lanes. She had astonishing cruise endurance, could quickly change her operational zone, thanks to the high cruising speed that her Diesel engines made possible, and proved to be a handy ship at sea, riding comfortably and with excellent manoeuvrability. She was too wet a ship when heading into the seas (see page 80), but this failing was remedied in 1940 in the *Admiral Scheer* by widening and giving a greater overhang to the forecastle.

The results, expressed in tonnage—9 ships representing 50,089 GRT—would have been attainable by a U-boat in a shorter time and at less cost. To the Naval Staff, what mattered in the deployment of heavy ships against shipping was less the large number of sinkings than the creation of '*continuous, ceaseless unease and disturbance to English trade*'. The fragmentation of the enemy forces could better be attained by big surface ships than by U-boats, by which means it was hoped to relieve pressure on the home front. The Naval Operations Staff regarded it a vital prerequisite that their commerce-raider should as far as possible keep clear of engagement with the enemy. This had been the constant theme of their reminders to Langsdorff whenever he suggested they allow him to commit his ship fully. That the desired effect was attainable with these evasive tactics has been proved by the operations of all surface raiders up to the *Bismarck*.

There is no doubt that Langsdorff conducted his war on shipping very skilfully. On reading his war diary one cannot help admiring the astuteness displayed in reaching his decisions and the care and skill he brought to the analysis of each capture and to the application of what he had learned to the next encounter. But it was a fateful decision for him and for his ship, at the end of his voyage, when he repudiated the obligation '*to avoid full engagement*' and sought contact with the enemy.

THE VERDICT OF HISTORY

We know today that the enemy first sighted the *Graf Spee* at least 20 minutes after they themselves had been identified. The pocket battleship could therefore have slipped away unnoticed. When the Naval Operations Staff were able to piece together a clearer picture of the course of the battle, from materials captured after the fall of France and from information received from

The supply ship Altmark *on the homeward voyage in Jössingfjord*

the *Graf Spee's* crew in their internment camp, the conclusion of a detailed inquiry into the battle was that:

> the fatal overestimation of the torpedo risk had severely reduced the potential effectiveness of Langsdorff's heavy armament and been the cause of his reluctance to move in on the *Exeter* as well as the smaller cruisers.

Harwood's verdict was similar: he considered that after Langsdorff eased the pressure on the *Exeter*, he lost his former initiative and did not follow up his advantage.

THE LIFE OF ADMIRAL GRAF SPEE

1 Oct 1932	Laid down
30 June 1934	Launched
6 Jan 1936	First commissioned
1936-1938	Fleet Flagship, Spanish Civil War, Non Intervention Patrol
20 May 1937	Attended Coronation Review at Spithead.
21 Aug 1939	Sailed from Wilhelmshaven and proceeded to South Atlantic
Sept 1939 to	Commerce raiding in South Atlantic and Indian Ocean
12 Dec 1939	Nine ships sunk totalling 50,089 tons
13 Dec 1939	Battle of River Plate
17 Dec 1939	Scuttled outside Montevideo
1942	Wreck finally blown up

PANZERSCHIFF ADMIRAL GRAF SPEE

Built at Naval Yard, Wilhelmshaven.

Laid down: 1 October 1932

Launched: 30 June 1934

First commissioned: 6 January 1936

Cost: £3,750,000 (85,000,000 Reichsmarks)

Cost per ton: £375

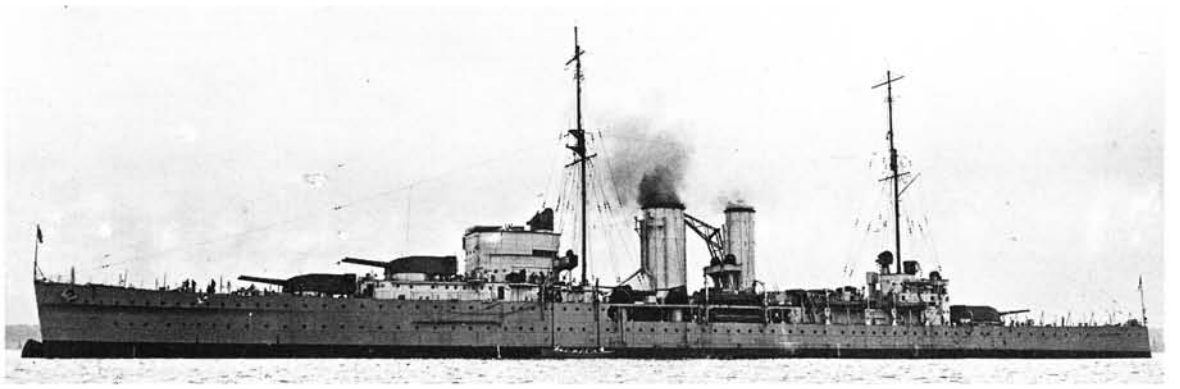
Dimensions: 593' (609·25') × 69·5' × 21·66' = 12,100 tons (approx)

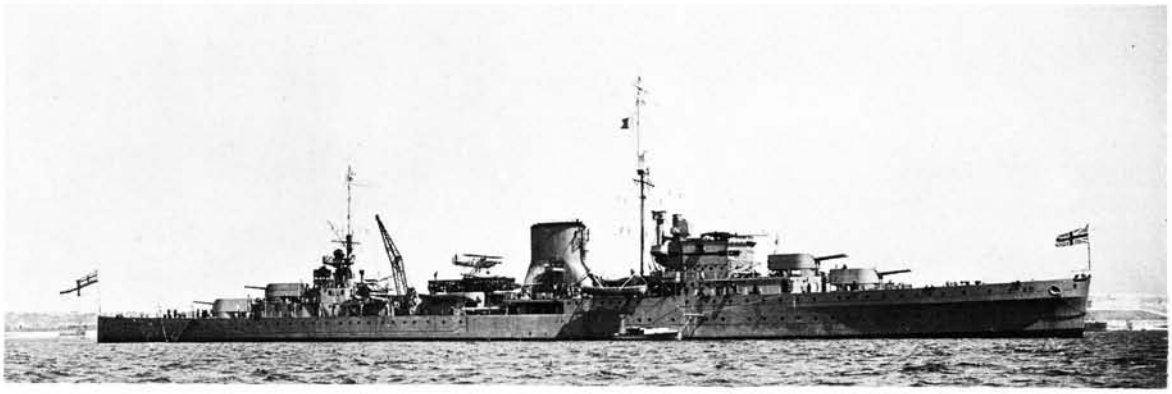
Armament: six 28 cm. quick-firing guns L/54·5, in twin-turrets; eight 15 cm. quick-firing L/55, singly mounted, with armoured shields; six 10·5 cm. anti-aircraft guns; eight torpedo-tubes, calibre 53·3 cm., in two sets; one aircraft catapult and facilities for housing two aircraft (up to 1939 He-60; after that Ar-196); 28 cm. guns by Krupps, firing 670 lb. shell, with range 39,000 yd. at 45° elevation

Protection:
Turrets: 4" bases
5·5" faces
2-3" sides
Belt: 4", with 1·5" internally
Control
Tower: 5" sides
2" roof
Decks: 1·5"-2·25"
3" over magazines
External anti-torpedo bulges

Machinery: 8 double-acting two-stroke 9-cylinder Diesels, manufactured by Maschinenfabrik Augsburg-Nürnberg, 56,000 h.p. at 450 r.p.m. Each bank of four Diesels drove a single propeller shaft through a Vulcan gear set, which reduced the revolutions to 250 per minute.
Weight of main engines: 17·6 lb. per b.h.p., excluding propellers and shafting, Vulcan drive and air reservoirs.
Total weight of machinery: 48·5 lb. per b.h.p.
Frames: electrically welded.

HMS Exeter, *8-in gun Cruiser, lying at a buoy. The second cutter is being lowered to the water line.*





HMNZS Achilles, *6-in gun Cruiser; her Osprey spotter—reconnaissance sea-plane is on the catapult.*

Admiral Graf Spee *at the Coronation Review, Spithead, in 1937.*

Table of number of 28 cm. and 15 cm. shells mostly with high explosive fuse fired by the GRAF SPEE

Shells fired by the *Graf Spee:* Total complement being 200 of each type:

200-28 cm. shells with high explosive fuse	Remainder Nil
184-28 cm. shells with bottom fuse	Remainder 16
30-28 cm. armour-piercing shells (against the light cruisers because the other ammunition was nearly exhausted)	Remainder 170
414-28 cm. shells	Total remaining: 186

Hits: 8 on the *Exeter*
2 on the *Ajax*

10=2·7%

15 cm. and 10·5 cm.:

257-15 cm. shells with high explosive fuse	
120-15 cm. shells with bottom fuse	
80-10·5 cm. anti-aircraft shells with time fuse against the light cruisers on short distance	
377-15 cm. shells	
80-10·5 cm. shells	No hits

It will be seen that the total number of 11-inch shells remaining in the *Graf Spee* as she lay in Montevideo harbour was 186, viz. 31 each for her six 11-inch guns and so only sufficient for an action of some 40 minutes; and this was a powerful consideration in Captain Langsdorff's decision not to attempt a break out.

From Sir Eugen Millington-Drake's book 'The Drama of Graf Spee and the Battle of The Plate'. Published by Peter Davies.

Sources and bibliography

The sources used by the author were principally war diaries and documents of the Naval Operations Staff, the war diary of the pocket battleship *Admiral Graf Spee; Graf Spee*–Battle Summary N° 26, Naval Staff, Admiralty, London SW1, November 1944, and Supplement to the London Gazette, Tuesday, 17 June 1947, His Majesty's Stationery Office.

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For the details of the history of the ship's construction, the following books were consulted:

Erich Gröner, *Die deutschen Kriegsschiffe 1815–1945*, 2 vols., München (J. F. Lehmanns Verlag), 1964 and 1968; Siegfried Breyer, *Schlachtschiffe und Schlachtkreuzer 1905–1970*, München (J. F. Lehmanns Verlag), 1970. For details of the British story, the author is indebted to S. W. Roskill: *The War at Sea*, vol. 1, Her Majesty's Stationery Office, 1954. For further literature, reference should be made to the comprehensive book by Sir Eugen Millington-Drake, KCMG, MA (Oxon), *The Drama of Graf Spee and the Battle of the River Plate*, London (Peter Davies), 1964, which contains an almost complete bibliography on the *Graf Spee*.

Gerhard Bidlingmaier.

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GLOSSARY

AA (or HA) Anti-aircraft (or High Angle)
Abaft nearer the stern than the object referred to, e.g. abaft the capstan.
Abeam at right angles to the fore and aft line amidships.
A-cockbill when the anchor is hung by only the anchor ring.
Aft towards the stern.
Aloft up the mast or in the rigging.
Asdic Anti Submarine Detection device
Astern in the rear.
Athwart across or from side to side.
Athwartships across the ship; at right angles to the fore and aft line.
Aweigh the moment when the anchor is broken from the ground.

Ballast extra weight stowed in a ship for added stability.
Beam the breadth of the ship.
Bilge the part of the ship inboard near the keel.
Body plan the drawing indicating the athwartship section.
Bollard an upper deck fitting with two heads to which wires and hawsers are secured.
Boot-topping the line between wind and water which is usually painted with anti-fouling of different colour.
Bow the parts of the ship's sides most near to the stem.
Bower anchor the main anchor.
Braces wire or rope rigging controlling a yard in the horizontal plane.
Brail a wire or rope which encircles a sail or net for gathering-up purposes.
Bulkhead a vertical partition between decks which separates one compartment from another.
Bulwarks the plating around the edge of the upper deck which prevents men or gear being washed overboard.

Capstan a machine driven either electrically or by steam with which to weigh anchor or to haul in a hawser.
Chains the platform extending on either side of the ship, generally on the upper deck abreast the bridge on which the leadsmen stand to heave the lead when taking a sounding.
Con to direct the steering of the ship.
Cutter a fore-and-aft rigged boat with one mast, a mainsail and foresails.

DCT Director Control Tower
Deadlights the plates which fit over the scuttles to strengthen the ship's side and to prevent light from showing outboard when the ship is darkened.
Deck head the surface beneath the deck.
Derrick a spar which is fitted with tackles for lifting purposes.
Displacement the weight of a ship.
DNC Director of Naval Construction
Draught the depth of the lowest point of the keel below the ship's water-line.

Eyes of the ship the extreme fore-ends of the ship near the navel pipes.

Fairlead an upper deck fitting through which a rope is rove in order to alter the lead.
Falls the boat's falls are the tackles used for hoisting a boat.
Flare the curve outwards of the ship's side forward.
Flush deck when the deck is a continuous unbroken line from stem to stern.
Fore and aft line the line from stem to stern in line with the keel.
Forecastle or fo'c'sle that part of the upper deck which lies forward.
Forefoot that part of the stem lying between the water line and the fore end of the keel.
Foul anchor when the anchor is snarled by the cable or has picked up a wire.
Foremast the forward mast.
Freeboard the height of a ship's side above the water line.

Gaff a spar secured to a mast in a fore and aft line and at an angle. In a warship, the battle ensign is flown from here when at sea.
Gang plank a plank stretching between two ships, or from a ship to the jetty, upon which to walk.
Gripes matting with thimbles and lanyards with which to secure a boat at the davits.

HA (or AA) (see AA)
Hawse pipe the pipe leading to the cable locker through which the anchor cable runs.
Heel of the ship the angle of a ship from the perpendicular.
Housed the mast is housed when partly lowered down.

Jury mast a temporary mast fitted in an emergency.

Kedge anchor an auxiliary and lighter anchor.
Knot measurement of speed. 1 knot = 1 nautical mile (6080 ft.) per hour.

Lanyard a short rope, generally used for setting up rigging.
Lazy guy an additional guy which is fitted to a boom for securing purposes when the ship rolls.
List if a ship heels permanently she is said to have a 'list on'.
L.W.L. load water line: the line to which the vessel is trimmed when normally loaded as intended by the designer.

Mainmast the mast abaft the foremast.
Mast head the top of the mast.
Midships the centre part of the ship.
Mizzen mast the aftermost mast.

Navel pipe the hole fitting on the forecastle through which the anchor cable runs to the hawse pipe and down to the cable locker.

Pelorus a gyro compass fitted with a bearing ring and mounted on the bridge.
Pendant a long shaped flag which is narrower at the outer end; usually numerals, manoeuvring or special pendants to indicate the various stages in weighing and anchoring.
Port the left hand side of the ship looking forward.
Profile the shape of a ship as seen from her side.

Quarter the after part of the ship's side near the stern.
Quarterdeck the part of the upper deck which is at the stern.

Rake the angle of a funnel or mast from the perpendicular in the fore and aft line.
Ratlines ropes seized horizontally on to the shrouds in order to form a ladder.
Running rigging rigging which runs through blocks.

Scantlings the dimensions of timber used in the building of a ship.
Scotchman a length of steel or wood used to prevent chafing.
Scupper holes in the bulwarks which allow the water to drain from the upper deck.
Scuttles circular 'windows' or port-holes in the ship's side.
Section unless otherwise defined, a section is the shape of a vessel as if she were cut through athwartships.
Sheer the curve of the deck at the head and stern above the midship portion.
Sheer plan the shape of a vessel as viewed from the side.
Shrouds the wire ropes supporting a mast in the athwartships direction.
Standing rigging fixed rigging such as the shrouds and stays.
Stanchion a vertical metal support for guard rails, awnings, etc.
Starboard the right hand side of the ship looking forward.
Stay the wire ropes supporting a mast in the fore-and-aft direction.
Stem the foremost part of the ship.
Stern the aftermost part of the ship.

Taffrail the rail around the stern.
Topgallant forecastle a small deck lying above the upper deck and above the forecastle.
Topgallant mast a small mast fitted above the topmast.
Topmast the upper part of a mast, generally a separate spar.
Triatic stay a wire rope between the foremast and mainmast mast-heads.
Trim how a ship floats in the water.
Truck a small circular horizontal fitting on the extreme top of the mast.
Tumble home if the sides of a ship incline inwards near the upper deck they are said to 'tumble home'.

Underway when a ship is neither made fast or aground, she is said to be under way.
Up and down the anchor cable is 'up and down' when it is vertically taut from the anchor to the bow.

Vang a rope or wire controlling the outboard end of a gaff.

W/T Wireless/Telegraphy
Waist the part of the upper deck amidships which lies between the fo'c'sle and the quarter deck.

Yard Horizontal spars set athwartships on the mast to carry signal halyards and W/T aerials, etc.