

THE FALKLANDS

MARINE ENGINEERING NOTES

BY

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Introduction

The Falkland Island Campaign is going to affect the thinking of Naval Planners for some time to come. It is therefore worthwhile recording some early thoughts on paper before time dulls the memory. Many of these thoughts are personal impressions based on facts, themselves clouded by the fog of war. They may not hold up when exposed to close scrutiny carried out with the benefit of computers and hindsight. The author was Marine Engineer Officer of one of the ships engaged in the conflict, and was also Staff Marine Engineer Officer to the Task Force Commander.

The Run Up

For many the Falkland Islands Campaign began early in April. With the exception of Exercise SPRINGTRAIN ships who were the first to be alerted, it is probably true to say that the rest of the nation watched the opening moves of the Crisis with a keen but passing interest. Many ships soon to be involved were alongside in home ports giving leave or in maintenance periods, confident in the knowledge that adequate notice would be provided if additional ships were required. However, events moved very quickly indeed and the Staff College assumption, that all wars are preceded by periods of heightening tension, bit the dust when, within a week of the announcement, the bulk of the fighting elements of the Task Force were on passage to the South Atlantic. Those whose ships were earmarked for the South Atlantic witnessed scenes of unbelievable corporate and individual endeavour. Bombs, shells, food, beer,

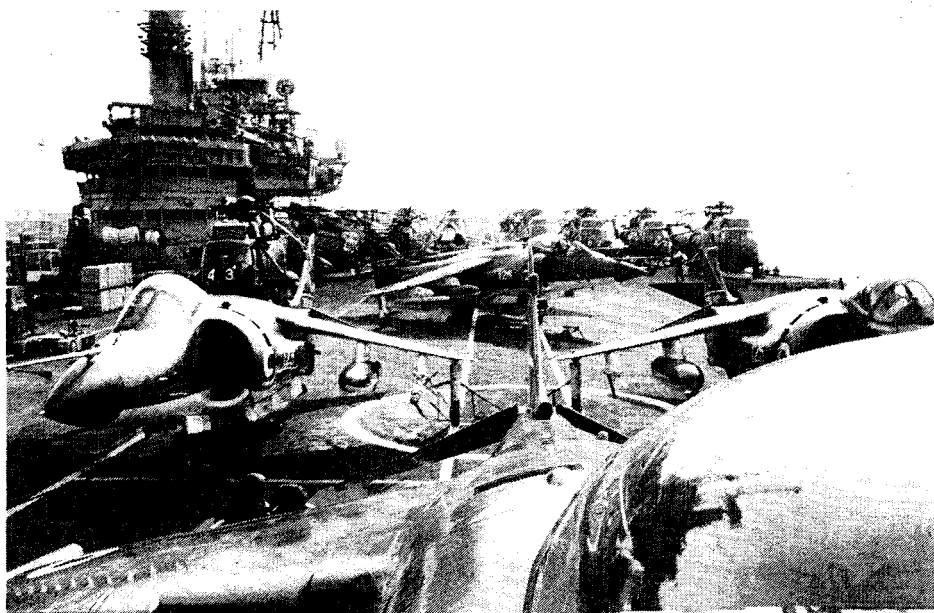


FIG. 1—THE LAST HARRIER TO EMBARK LOOKING FOR A PARKING SPACE

stores, spare gear, men, and information poured into ships in an apparently never-ending stream. The dockyards, FMGs and ships' staffs worked round the clock in an effort to bring ships forward against very tight deadlines. It is not an exaggeration to say that near miracles were achieved by men in some instances working under threat of redundancy or at least facing an uncertain future.

The first weeks at sea were also extremely busy. The long passage to the South Atlantic not only allowed the politicians time to resolve the crisis peacefully but also gave the ships, so hurriedly despatched to sea, opportunity to sort themselves out. Gear was stowed or redistributed around the Fleet in an interminable round of RAS and VERTREPs. Ships were able privately to prepare both physically and psychologically for war.

The days were fully spent in the material preparation of the ships and the training of the ship's company; closing down, action stations, action messing, securing for action, equipment checks, teach-ins, and briefings were the order of the day. The various authorities on 'Preparations for War' were dusted off, read and re-read—and in the main were found to be wanting. The Falklands campaign provided an excellent opportunity for ships to brush up their Standing Orders—especially the little used and read War Orders Section.

Organization

The foundations of an engineering organization for the South Atlantic ships were laid down in mid April, after briefing by the C.-in-C. Fleet at Ascension Island. The Naval Task Force Commander hoisted his Flag in H.M.S. *Hermes* on 17 April. However, it was a further week before the main elements of the Task Force joined up and that, in turn, only one week before the shooting war began on 1 May. It had been agreed at the Ascension Island brief that no special engineering organization would be set up for the South Atlantic Force. Thus, apart from the method by which M.V. *Stena Seaspread* with her



FIG. 2—COMBAT AIR PATROL LAUNCH: NOTE BOMB AND MISSILE PARK

embarked maintenance team would be tasked, the organization would be the same in war as it was in peace. A minor change, imposed later, was in respect of the number of OPDEF signal addressees which, for security reasons, was reduced. In retrospect, it is believed that this policy was the correct one. The OPDEF procedure appeared to work well to those in the front line, with advice and hardware flowing down the very long signal and logistic pipelines. The engineering organization of the ships at sea, however, was fragile and its resources, until the arrival of NP 1810 and *Stena Seaspread*, limited. Consideration had been given to providing FOF1 with an engineering staff for the duration of Operation Corporate. It had, however, been agreed that, in accordance with previous practice, the Marine Engineer

Officer of the Flagship should become the Staff Marine Engineer Officer. This arrangement appeared satisfactory but will almost certainly be an aspect that will come under the 'lessons learnt for the future' microscope. In an endeavour to reduce the number of signals received by the Flag, only OPDEFs classification E1 and E2 were copied to the CTG. If help was sought, either in the form of advice, spares, or workshop facilities, very often a parallel activity was initiated both among the ships in company and at the home base.

However, it was clear to everyone in the South Atlantic that the normal areas of support were a very long way away, and that salvation lay closer to home either within the ship itself or from those in company. Ships' lathes became heavily-used items of equipment, and ingenuity and improvisation the norm. On two separate occasions in different ships, the wardroom toaster provided a vital piece to keep an important equipment running! The workshop facilities of the large ships proved invaluable. Until the arrival of *Stena Seaspread*, the CVSs and LPDs provided the only heavy machine shop and welding capability. Although some very fine work was done by these ships, it could clearly be seen that this was an interim arrangement only. Despite, for example, the splendid work done by H.M.S. *Invincible* for the battle-damaged H.M.S. *Glasgow*, the only real answer lay in a dedicated repair vessel, realized in this conflict by *Stena Seaspread*.

Stores and spares deficiencies were handled under the well-tryed MATCONOFF system which worked throughout the entire period of the war. Initially MATCONOFF was able to satisfy up to 60 per cent. of demands, but this fell to approximately 30 per cent. as stores dwindled amongst the first wave of ships. As with the local engineering organization, MATCONOFF groaned slightly under the weight of the number of ships and equipments involved and no doubt will merit attention in the wash-up.

H.M.S. 'Sheffield'

The loss of H.M.S. *Sheffield* on 4 May marked the final transition step from peace to war. Anti-flash gear was a blessing, not a nuisance; condition Zulu was accepted as a necessary inconvenience; and defence watches made sense to everyone rather than a few. Many lessons from *Sheffield* were applied immediately by ships in company. In providing a first taste of what the Argentinians were capable of launching at the force, it concentrated minds on the actions and reactions required to the threat posed by an air-launched Exocet.

Engineering Matters

It was perhaps gratifying that no new problems were experienced by ships in the South Atlantic. It is perhaps less gratifying that known deficiencies—especially those associated with spares shortages—largely remained unsolved throughout the crisis. Areas of particular interest were:

- (a) *Fuel*—The quality of dieso arriving in the South Atlantic was as varied as the tankers that transported it. The quality problem was compounded by the shortage of the numerous types of filter element used in the fuel systems of COGOG ships. The fact that modern Royal Navy warships demand the very highest quality fuel that must pass through filters that are apparently uncleanable needs to be re-examined. In wartime all fuel must be usable and the filtration system capable of handling it without the need for an enormous onboard stock of filters. Dirt in fuel tanks stirred up by rough seas caused problems for most new arrivals to the South Atlantic. In at least one case, this hurdle had to be overcome by tank cleaning whilst in the TEZ; the problem did not persist. Some degree of MBC was also apparent in the fuel systems of all COGOG

vessels. BIOBOR J F was available and used in a small number of ships where MBC contamination was significant; however, it was reported that in the short term large quantities of dead MBC caused more problems than the modest blockage caused by the active spores.

- (b) *GTCU Life*—The problem of GTCUs and GTCU component life was grasped very early by C.-in-C. Fleet staff at Portsmouth. A number of life concessions were granted without which a significant number of engines, especially those in ships deployed out of the U.K. for some time, would have been severely limited. Because adequate supplies of fuel were available throughout the crisis, it was not necessary to run economically on Tynes. In many instances 'engine hours remaining' became the governing feature of engine usage. It was fortuitous that no short life engines appeared on the same shaft lines as unserviceable engines.
- (c) *GTCU Reliability*—At first glance the total number of Tyne/Olympus GTCU OPDEFs was disappointing and took up a great deal of the ME briefs to the CTG. However, on the plus side, rarely was a COGOG vessel without both shafts and, under circumstances of extreme emergency, engines described as unserviceable could, and were, run for limited periods of time. Since fuel stocks were not a problem, loss of a Tyne was less embarrassing than loss of one or both Olympus. Although it must also be said that loss of one Olympus only rarely affected a ship's ability to carry out a mission.
- (d) *Diesel Generators*—Diesel generators proved to be a very mixed bag. In the COGOG ships where the diesel generators are vital to the ship's operation, the story ranged from very good to very bad. Although only one generator completely failed during the period of the war, a significant number of ships were permanently without one generator for the duration of the campaign. For ships that operated for over two months under constant threat of air and submarine attack the permanent denial of a generator was a heavy burden on the MEO and diesel maintainers, presenting difficulties over the question of dispersal of power supplies versus maintenance requirements.
- (e) *Watchbills*—It was interesting to note the variety of solutions to the watchkeeping problem achieved by different ships—even within the same class. The old adage that 'different ships have different cap tallies' was amply demonstrated. It is perhaps curious to the outside observer that up to half a dozen different watchkeeping routines were in use—each apparently as successful as the others. To an engineer familiar with a four-hour four-watch system in peacetime, it is strange that it is necessary to turn the watchbill upside down, with its attendant changes to routine, mealtimes, etc., during war. Is our peacetime watchkeeping system out of date perhaps? The long winter nights in the South Atlantic also brought their compensations. By staying in Zulu time, it was possible to have, as practised in H.M.S. *Hermes*, a normal awakening and breakfast, two hours in the office followed by standeasy, and 'Dawn Action Stations' at 1045. Other ships adjusted their times and routines to suit their own circumstances. Intelligent manipulation of times and routines played an important role in alleviating some of the 'nuisance factor' that inevitably accompanies war.

Maintenance

The length of the campaign demanded that ships maintained themselves despite being under continual risk of attack. This was accepted by the Fleet



FIG. 3—WINTER IN THE SOUTH ATLANTIC: 'INVINCIBLE' AND 'BROADSWORD' FROM 'HERMES'

Commander as a sensible measure designed to ensure ships availability. Commanding Officers and MEOs sought permission when necessary to maintain, i.e. if speed or fighting capability was impaired. If the ships ability to carry out its tasks was unimpaired, the maintenance was done on an opportunity basis, as and when the programme allowed. Thus, overnight shut down of boilers was popular for the rectification of steam and feed leaks, or occasionally a detachment to pick up an air drop would provide sufficient opportunity to get on top of an ever growing list of defects.

Essential planned maintenance was carried out in addition to corrective maintenance. The arrival of *Stena Seaspread* in San Carlos Water after the Surrender allowed ships very short *ad hoc* maintenance periods in still water with FMG support.

'Stena Seaspread'

The role of *Stena Seaspread* will provide a great deal of discussion in the Falklands Campaign wash-up. There was clearly a need for a vessel of this type with its organic workshops and pool of skilled labour. The question of its position relative to the Fleet it came to support and the method of tasking will need very close examination so that full value can be obtained from such a high value asset. To those at sea in the early days of the war, the presence of *Stena Seaspread* would have made valuable contribution to the Battle Group and would, for example, have made the struggle to keep H.M.S. *Glasgow* afloat much easier. Her enormous firefighting capability might have proved decisive in the battle against the fires in H.M.S. *Sheffield* and *Atlantic Conveyor*.

In Retrospect

The ships sent to the South Atlantic ran extremely well for long periods over 8000 miles from their traditional means of support, a remarkable achievement. Defects were tackled as they occurred with a real sense of purpose and with professional pride. Tasks normally left to the dockyard or FMG were done

under very difficult circumstances with the minimum of help from outside sources. Confidence in the ships, equipment, the men, and their training was high. There is no doubt that the morale of the Engineering Department of the Task Force ships was very good indeed. Perhaps one of the most important lessons learnt was that the ship's staff of even the smallest vessels were able to tackle any job that occurred without extensive outside support, and that lathes, welding torches, and skill of hand still have a very significant part to play in the running of any warship.
