

PART II

NOTES FROM THE SEA

Readers are invited to discuss either the extracts or the comments in the Correspondence section of the Journal.

Gas Turbine Change

Just as H.M.S. *Bristol* was preparing for her contractor's sea trials, an inspection of her Olympus TM1B gas generators revealed corrosion on the LP compressor blading. It was decided to change both gas generators and this was done by Swan Hunter (Shipbuilders) Ltd. with assistance from Rolls-Royce (1971) Ltd.

It is thought that this is the first time that a ship has had a double main engine change. The photographs, Figs. 1 and 2, show two stages of the replacement procedure.

Gross Contamination of Fuel in a Y.136 'Leander' (Vol. 19, No. 2).

Comment by D.G. Ships

The examination of the port service tank subsequent to the events described revealed defects which could explain the presence of water leading to the flame out, but the introduction of water through mal-operation remains a possibility and serves to remind ship's staff of all classes of ship of the need for utmost vigilance in the operation of systems especially where they perform a dual function. The risk is appreciably higher where dieso is used as fuel. This has been adequately promulgated in FTTI 30/71 in the case of *Leander* Class frigates.

With reference to the letter of Lieutenant-Commander Hicks, published under 'Correspondence' on page 120 of Vol. 20, No. 1, a description of the 'thief's bottle' appears elsewhere in this issue, and will go a long way towards the detection and elimination of free water in fuel tanks.

The following notes are extracted from the periodical letter of the MEO of a Y.160 Leander

Combustion

Combustion is still a problem when manoeuvring and there is no guarantee that the flame is established at the burner tip. Leakage of fuel into the register control air piping via the burner operating cylinder, with consequent solidification and failure of the register to operate, requires attention.

Comment

Noted. The combustion problems in the Y. 160 Class are well known and approval in principle has been given to the adoption of an Alteration and Addition for the class to fit steam atomization. It is hoped that approval will be promulgated in the near future. It is intended that the A and A will be implemented at the first available opportunity and investigations are in hand to determine whether this can be undertaken during normal refit. As an interim measure, trials are at present in hand in H.M.S. *Hermione* to evaluate dieso burning under main boilers using the present on/off registers, modified for hand

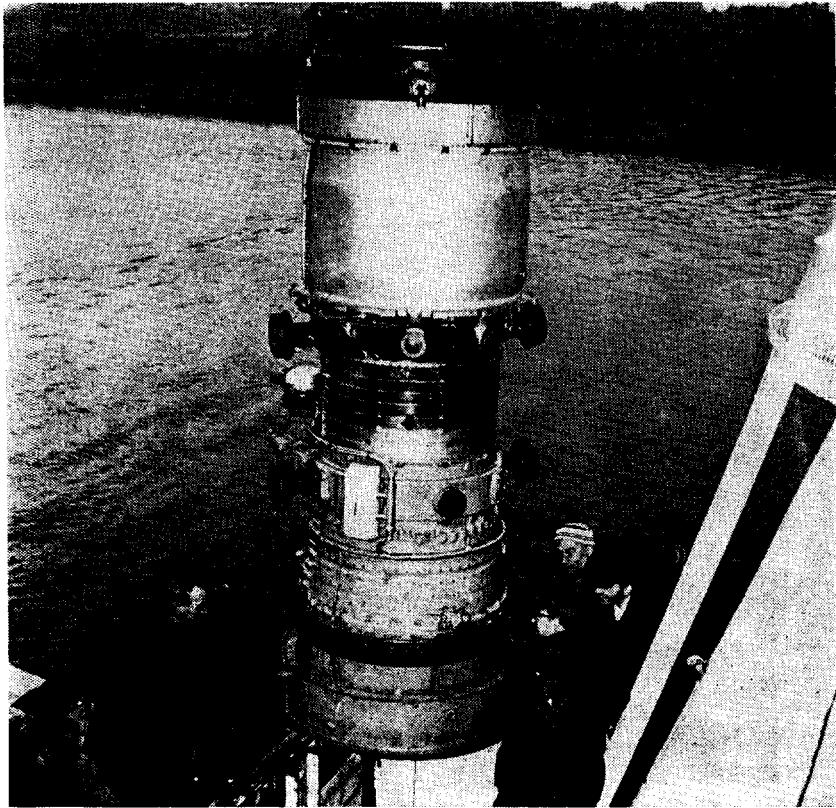


FIG. 1—THE PORT OLYMPUS GAS GENERATOR BEING WITHDRAWN THROUGH THE PORT INTAKE TRUNK

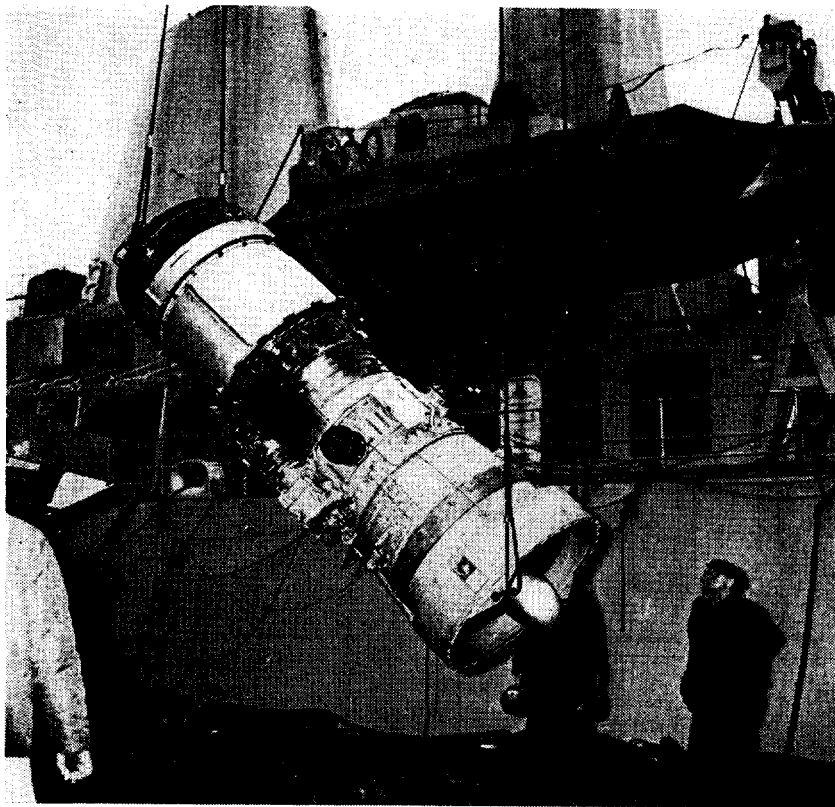


FIG. 2—THE PORT OLYMPUS GAS GENERATOR BEING ROTATED TO THE HORIZONTAL PLANE BEFORE BEING PUT INTO ITS TRANSPORT CRADLE

control. If these trials are successful, all Y. 160s will be so converted pending the adoption of steam atomization. Under these circumstances contamination of the control air piping will no longer occur. If the trials are unsatisfactory, Main Boiler Modification No 7 should be undertaken. This modification is not additional to the adoption of steam atomization or burning of dieso under hand control. It should be noted that, despite the known combustion problems, the situation is further aggravated if swirlers are not positioned in the correct manner as indicated in DCI 1084/69. DG Ships' recent letter N/S 40435/71 requested S 2022A action to forward figures for swirler positioning.

System and Machinery Layout

The drain system in general and the superheater header drains in particular are extremely badly laid out below the plates in front of the boilers. To remake or refit a joint or valve usually entails removal of all items in the vicinity. As the majority of the fastenings have to be chipped or sawn off, there is a vast amount of additional work. 50 hours were recently taken to renew one joint.

The evaporator corner of the boiler room is the usual running sore associated with these items. It would not appear impossible to construct a large saveall suitably coated, under the pumps and pipe all leaks away to the centre of the bilge.

Comment

These items are currently being investigated by DG Ships.

Evaporators

The evaporators work well and 24–26 evaporating hours per day are sufficient to maintain all the necessary supplies. Water has never been rationed. The elements are acid cleaned every 500 hours and were changed at about 3,500 hours.

Comment

Modifications to the evaporating sets are currently being tested and if successful will appreciably extend the time between acid cleaning as well as lengthening the life of the elements.

Lagging

The main machinery space lagging is deteriorating fast. The initial problem of cracking at change of section still persists; cracks have also appeared in some straight runs. The thin outer coating is easily damaged and crumbles away. The substrate now appears to be burning away in many places. Extensive relagging will be necessary at the refit.

Comment

This was the first application of non-asbestos materials and it is appreciated that troubles experienced subsequent to acceptance are of a more serious nature than at first thought. Although non-asbestos lagging in accordance with DG Ships Specification 9015d is now standard and appearance standards have been raised, where ships staff feel that particular areas do not fulfil requirements, an item should be inserted in the defect list to have these re-lagged during the first refit. It should be observed that a great deal of relagging will take place in wake of repair of machinery by replacements. The final sealing coat on non-asbestos lagging should be applied after CSTs to allow adequate drying out. NAVICOAT has now been superseded by SEALFAS which is superior in all respects. The burning away is more probably crumbling away due to dehydration.

Personnel

The loyalty, ability and willingness of the MEA(P)s has been very impressive. Therein lies the strength of our Branch and it is perhaps something that the Navy has come to expect over the years, but we should not take it for granted.

The junior rates are a youthful and on the whole keen and conscientious bunch. On several occasions serious incidents have been avoided by very efficient watchkeeping.

NOTES FROM MEN AT SEA

The following are extracted as written from a set of 'Notes from Men at Sea (in the Marine Engineering Department of H.M.S. Blake and fellow travellers)' in response to a departmental exercise carried out during a long passage.

'Our First Year in the Navy' by two JMEMS

We started off our first year in the Navy by joining H.M.S. *Raleigh* on 4th January. It was a very nerve-racking experience at first. We were collected at Plymouth station by a very bossy leading hand—well he seemed it at the time—and transported across the speedy Torpoint ferry to the other side of the water. There were about 30 lads, some long-haired, some cropped, all were nervous as we approached the main gates and wondered if we'd made the right decision after all. But our minds were soon put at rest, we were welcomed to H.M.S. *Raleigh* by a good-humoured CPO. From then everything seemed to go by like a flash; people giving us our bedding, mugs and everything else that was needed for that day. While our CPO was explaining everything, there was a tailor measuring us up for what we thought were new suits to go ashore in, but we soon found out it was for our uniform which we were looking forward to wearing.

The biggest shock was when we were told we had to make our cap tallies, iron our trousers and collars and, worst of all, our silks. We had to be in the New Entry block for one week in which to get organized for starting training. We signed lots of forms and certificates; the main performance being 'signing on'. We were told to make a decision, and that it would be a big one; if we chose we could leave right away and forget the whole thing. One lad did; he was only there 24 hours and he changed his mind. We thought he was a fool as he hadn't even found out what it was really like yet.

When we finally left the New Entry block, we started proper training. We were more settled in now and were ready to take anything they threw at us—we hoped. We did drill training, which scared us stiff—GIs shouting their heads off at us, telling us we all had left feet—but we soon got used to them. Our main training was engineering which was very interesting. We stayed at *Raleigh* longer than we should have; 15 weeks was the set length of time spent there, but we were fortunate enough to be selected for the Royal Guard at Earls Court for the Royal Tournament. We trained very hard for two months till we were perfect. Before going to Earls Court we celebrated the Queen's birthday at *Raleigh* by having a 106-strong guard; the Flag Officer, Plymouth, represented the Queen. It was a great experience for us in our first year in the Navy. All the time we were at *Raleigh*, we were helped by our D.O.s and Chiefs.

When we finally left *Raleigh*, after all the hard training which gave us confidence in ourselves, we went on draft. We were sorry to see all our friends go their own way, but we knew we would make more friends wherever we would go. Fortunately enough, another JMEM and myself were sent to the same ship which was H.M.S. *Blake*. We had to meet her out at Spithead. It was just like joining again only we weren't so nervous; we were looking forward to it.

After all the pandemonium of carrying all our luggage by train from Plymouth to Portsmouth, we finally reached Portsmouth Dockyard, where we were put on a boat and taken to the *Blake*. We met a doctor from the ship, who told us not to worry about anything, so we were happier. We joined *Blake* on 25th June, 1971. We went through a work up which was hell, and finally the trip which would take us to a lot of countries.

The trip we went on was a very good one for our first ship. We started off by visiting Bermuda, where we stayed for three days. This was the first country we had been to; as it wasn't the last, we were wondering what all the other countries would be like—different people, different languages. Out of all the places we were planned to go—Acapulco, San Francisco, San Diego, Barbados, Tenerife, Gibraltar, Malta—we were looking forward most to San Francisco. We had heard so much about it that we were wondering if it was as good as they said it was. Well they weren't wrong, it was a fantastic place; the people were friendly and took very good care of us. There were so many places to see that there was not enough time, even though we were there for ten days. We went to San Francisco for British Week, and saw Princess Alexandra and many other famous people.

We have been in the *Blake* five months now and have enjoyed it so far. We've had a lot of experience in just five months, but a tremendous amount more is still to come. We have enjoyed our first year in the Navy and I hope we enjoy the rest of our time as Marine Engineering Mechanics.

'They Also Served' by the POMEM's Union

Never again will his callused hands wield shovel or slice in defence of Empire; never again will he, with stony heart and muttered curse, urge on the willing effort of scrawny back labouring under penance of nuggets of good 'Welsh'—the Stoker Petty Officer is no more.

Cast in the mould of Britain's industrial revolution, his skills were verily in his hands; broad back and sinew, forged in the very essence of that which he used for motive power. Ears ringing yet with slap of canvas on tall mains and mizzens—forget it not—his direct forbears were those same ancients of old. The environment and times in which he lived produced a naval character unique in the annals of sea-faring men. His fleeting appearance on the rich tapestry of marine engineering evolution has left its immutable mark. He, poor mortal, is no more but hark still to the lip service paid his name.

In his stead a new breed has sprung, shaped by the dictates of that which heralds itself as progress; fashioned as surely as mankind's evolution has shaped him from the primates. The 'black diamond' lost ground to be eventually engulfed by the onslaught of a fawning, malleable, gushing torrent from the bowels of the earth. Here, at last, was a fiery giant that could more readily be tamed and bent to the whim of man, and subtler too, for the bending needed not the root of aching back nor sweat-drenched countenance. Time-honoured shovel—You were, for the most part, cast away: precious few finding their burnished way into hallowed niches behind plate glass; your place usurped in the realm of universal emblemism by oh so mediocre crook of steel.

The word Mechanic was added, and thus the Possum born; hybrid character that he was, for the Navy, slow to change, still needed his skills in part for the ash-pit and furnace door. The passage of time brought decreasing dependence on the product of those stately giants of eons past. Surely he was weaned away to a new technology, until not a ghost of his former self remained.

Usage has that curious way of changing respectability with the passage of time. It is as if there were a case for the 'fixing' of certain labels after they had outrun their span of usefulness; should not this have been the fate of the title of our trusty friend of old? Then surely came the day when its fame diminished;

occasioned by the image it struck in the minds of those not of its era. It became increasingly tough to press young men into the service of Queen and Commonwealth—Empire had passed away. In nineteen hundred and fifty five the word *stoker* passed into posterity: the ghost had been laid—*sum cum laude*! In his place we had the Pom, complete with brackets and the echo of his allegiance to marine engineering.

The Pom survived some fifteen years and was present during the birth pangs and inception of the General Engineering Course—a sort of neutral transplant operation; an admirable scheme which seemed to lose impetus some time after the initial fanfare and slipped quietly into smokeless chimneys. During the early months of 1971, the Pom disappeared into oblivion and today the Pomem reigns in his place. What of the future? Changes are certain: the challenge which the all-gas-turbine warship (COGOG) offers is an exciting one for a start. It is patently obvious that educational standards will have to rise to keep pace with ever new technology; it is equally certain that the modern *Stoker Petty Officer* (dare we call him that, if only in a whisper?) will be more than a match for all that may be asked of him in the future.

By a FCMEA(P)

H.M.S. *Blake* came to notice at the time of her conversion to the role of helicopter carrier, functional but not pretty, and her subsequent not too happy service in commission. The press found her cost questionable; dockyard men looked glum at the mention of her; servicemen looked even more glum at the prospect of a draft to her. There were whispers that she would never pass the 'Still and West' again. Drafts to *Blake* were 'bottom of the pops'. With mixed feelings, I joined *Blake* at the end of her DED.

I was given a seat in the Ship Maintenance Office—a converted midshipman's cabin—where I, literally, rubbed shoulders with Hull and WE counterparts. I think it can be said that a useful steam, amps and sawdust harmony has been achieved.

It is worthy of note that the traditional boiler rooms and engine rooms parts of ship division was gainfully reorganized into forward and after units. Another innovation, which one suspects is peculiar to *Blake*, was to instal the FCMEM as the overall departmental regulator. This turned out to be far less painful than some had anticipated.

On joining, it was immediately obvious that a tremendous amount of hard work had been, and was being, done with plenty more to come. Throughout all the graft and overtime involved, a phrase which became more and more familiar was 'We'll be all right when we get to San Francisco'.

The outcome of all the toil was a successful HATS followed by steaming past the 'Still and West' to carry out an equally successful SATS. Next came a satisfactory work-up at Portland.

We then sailed for our 'British Week' assignment at San Francisco; all sailings and ETAs being on time (except one when hurricane Olivia gave chase). Also achieved was an overnight eighty per cent full-power run to get an appendicitis sufferer to the nearest hospital.

Our eventual return and arrival at Gibraltar for an AMP, with all boilers overdue for external cleaning, marked the successful culmination of a cruise which I believe resulted in lost stakes to some punters in Portsmouth Dockyard.

By the way, we *were* all right at San Francisco.

By Junior fellow technocrat (Daedalus)

The ME department in *Blake* is seen by most of the 'Air World' as a race of mythical creatures who inhabit the bowels of the earth protected by an awesome

Cerberus who resides in the office with purple door.

Providers of relative wind, purveyors of the necessities of life itself (fuel, air, water and hydraulics), whose wrath is terrible to behold as it belches soot, sulphur and smoke over us in some fiendish chastening rite.

To propitiate this demon, attractive young aircrew officers are periodically offered up as a sacrifice for a whole week, to return full of dire tales of the wonders of the underworld. They have even been known to eulogize at mess dinners, particularly when wedged between Commander(E) and Senior.

Especially renowned are such blandishments as an offer to accompany the Chief Acolyte in some mystic communion called 'Senior's Rounds'; innocents accepting the offer of the Greek bearing gifts have not been heard of for upwards of four hours or more, and have returned changed men having suffered some strange metamorphosis.

However, provided sacrifices in the form of small libations of strong liquor are periodically made, it is possible to live with these strange creatures and to enjoy with them the fruits of their labours as they transport us to Prospero's Isle and other delectable foreign lands, whilst enabling our winged spirits, our Ariels, their task perfectly to perform.

By WEO

As a wiggly amp man, ex boily oil, ex hot fog, I have had the fortunate experience of rubbing shoulders with and banging my head against most aspects of shipborne engineering over a period of three decades.

Perhaps one only remembers the good things of the past but one cannot help wondering where the parameter 'Reliability' features in the design specification for modern equipments. All too often today's maintainer is unable to say with any degree of confidence that his equipment will work correctly when required. There is an obvious need for high performance and sophisticated equipments if the Navy is to remain a viable force but there seems little point in having a high performance machine which is not reliable. I am confident that I speak for all us at sea when I say we would happily give up a portion of performance in exchange for good reliability.

Modern materials, modern engineering techniques and modern design know-how should all lead to a very high degree of reliability but all too often the end result is a maintainer's nightmare and an operators' frustration.

The cheerfulness with which one hopes one meets the seagoing engineering challenge is in danger of becoming a mirthless and cynical grin.