

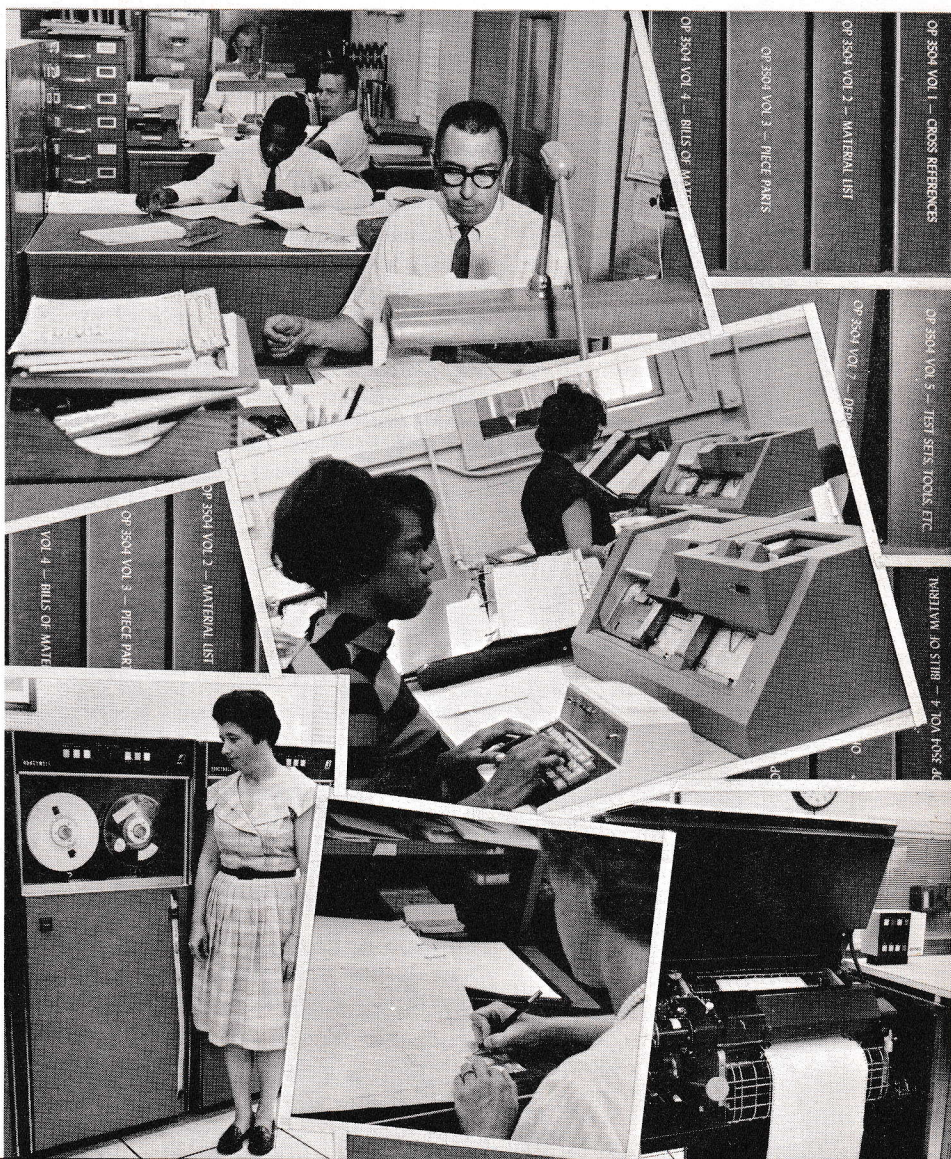
mine and depth-charge

THE TROUBLESHOOTER

▶ MOMATS UNITE

▶ FIRE RECORDERS
NEED LOVING CARE

▶ AVOIDING A PINCH



AN OFFICIAL NAVORD PUBLICATION

in this issue . . .

mine and depth - charge

THE TROUBLESHOOTER

Published by the Naval Mine Engineering Facility, Yorktown, Virginia

Roland H. Almonrode, CDR, USN Officer-in-Charge
Haines A. Miller Technical Director
Thomas R. Nevitt Editor
D. Jack LaBar Art Director

REGULAR FEATURES

<i>Rudminde Report</i>	1
<i>Hot Stuff</i>	6
<i>Job Right</i>	9

ARTICLES

<i>No Purple Heart, but</i>	2
<i>It Shouldn't Happen to a Fire Recorder</i>	3
<i>Spacer Gone, Resistor Broken</i>	4
<i>Minemen Share Commendation</i>	5
<i>Keep Eye Out for Loose Filling-hole Covers</i>	8

COVER PHOTO: A photographic glimpse of what makes NAVORD OP 3504 possible . . . a marriage of people and machines in which the NMEF technical staff supply and verify the facts, which are then converted into meaningful holes punched into data cards. A computer "reads" the cards and stores all the facts on magnetic tapes which make up the mine management-data bank. From this point the computer, a Honeywell 1200 operated by NWS Yorktown personnel, supplies the memory. Ask the computer 22 coded questions and it recalls the pertinent facts, and prints out the 22 sections that make up the seven volumes of OP 3504.

Actually the data bank contains much more . . . the OP 3504 "pulls" comprise only that data which is useful at the "field" level. Also contained in the bank is an infinite variety of data pertinent to procurements, stocks, and stock levels, etc., etc.

1 JULY 1968

The Troubleshooter, an official NAVORD publication, contains technical information pertinent to the assembly, testing, and delivery of US naval depth charges and mines. It is both authoritative and directive in nature, and reference may be made to a particular issue as the authority for adoption of ideas promulgated therein.

Troubleshooter is also the official journal of the Rudminde Program a world-wide defect-reporting campaign designed to promote a high level of undersea warfare readiness in US naval depth charges and mines. The Program's basic instrument is NAVORD Form 8500/1 (2-68) Everyone who encounters problems with these weapons should report them via this form direct to the Naval Mine Engineering Facility as prescribed by NAVORDINST 8500.3.

ARTHUR R. GRALLA
Rear Admiral U.S. Navy
Commander, Ordnance Systems Command

Troubleshooter is published quarterly by the Naval Mine Engineering Facility's Publications Division and printed by NPPSO-5ND, in accordance with NAVEXOS P-35. Contributions, questions, address changes, and requests for regular distribution should be addressed to: Editor, The Troubleshooter, Naval Mine Engineering Facility (Code GEP), Yorktown, Virginia, U.S.A. Request copies of back issues from the Naval Supply Depot, 5801 Tabor Ave., Philadelphia Each transmittal of this document outside the Department of Defense must have prior approval of the Naval Mine Engineering Facility.

THE OFFICIAL JOURNAL OF THE RUDMINDE PROGRAM

RUDMINDE REPORT TO THE FLEET

BIRTH OF A MINE COMMAND

Another step in the development of East Coast troubleshooters in the mine business, the MOMATS, has brought a new mine command, Mobile Mine Assembly Unit, Atlantic, and a new set of initials, MOMINASYULANT, into being. The new official address is: Commanding Officer, Mobile Mine Assembly Unit, Atlantic, U.S. Naval Station, Charleston, South Carolina 29408.

Originally the concept of augmenting units for support of mine readiness was called just that, Mine Detail Augmenting Units, MDAUs. On the east coast they were administered by NAVAIRLANT. Then, in 1963 Mobile Mine Assembly Teams were established: MOMAT 0321 at Yorktown and MOMAT 0322 at Charleston. Then MOMAT 0327 joined their ranks, created by redesignation of Mine Project Four at Yorktown in 1965. MOMATs 0321 and 0327 moved to Charleston in 1967. All MOMATs were thus in Charleston, and on 1 July 1968 were combined to establish MOMINASYULANT.

LT. JANKE IS CO

Prior to their amalgamation Lt. Guy E. Meadows was OIC of 0321, Lt. Richard A. Billings of MOMAT 0327, and Lt. Roger A. Janke of MOMAT 0322. With the redesignation of the combined force Lt. Janke has been assigned command of the new unit, administratively assigned to Commander Mine Force, Atlantic Fleet.

Reorganization of the three teams into one unit was designed to improve administration, training, readiness, operating efficiency, and to reduce operating costs. Seven officers and approximately one hundred enlisted men make up the technical potential of the unit. Lt. R.A. Billings, Lt. G.E. Meadows, Lt. JG R.F. Ruthland, WO R.W. Padgett, CWO-2 G.W. Russell (ordered to report in November) operate as the unit detachment officers.

There are nine detachments within the unit which deploy in support of mine readiness. Although these detachments are often tailored for the job at hand, normally a detachment complement consists of approximately fifteen minemen, including one TCM, TMCS, or MNC, one MN1, two MN2, and the remainder MN3s and SN strikers.

The responsibilities of the unit are many and varied. They must maintain a high state of readiness for deployment; conduct assembly and final preparation of all types of mines; conduct maintenance on service mines in support of the Planned Maintenance System (PMS); maintain and provide drill mines for fleet exercises; provide technical guidance and training for mine laying and countermeasure units; maintain stock control of mines and support equipment for the Atlantic Fleet; support the World-Wide Surveillance Program; provide input into the Rudminde and Fleet Service-Mine Test Programs; and provide services to other activities as required.

The Unit's Motto, "Ready to go — Any Time — Any Place," indicates the adaptability, resourcefulness, and capability of this Mobile Mine Assembly Unit.

TROUBLESHOOTER 2-68

SOMETHING NEW IN PUBS

If you haven't already received your first revision to Volume 7 of OP 3504 you'll be getting it within a few days. In it you will find something new and, we hope, handy.

First, look at Section 8 — the section that lists all pubs referred to elsewhere in the volume. In Rev 1, and all subsequent revisions, you will find that all new listings since the previous revision are flagged by asterisks (*) in the left-hand margins . . . a fast, easy way to check your latest acquisitions for completeness.

Complementing this flagging of new listings is Section 10, a new section which lists all pubs which have been cancelled or superseded since the previous revision.

Beginning with Rev 1, holders of OP 3504 Vol 7 will receive automatic distribution of complete revisions quarterly, and changes monthly. Meanwhile, for those who like to be right up to the minute, here's a list of the new mine pubs which have been released since Rev 1 went to press:

OP 1452 Vol 1 Rev 4, Change 2
OP 1809 Vol 1 Rev 2, Change 23
OP 2718 Vol 1 Pt 1 Rev 1, Change 12
OP 2718 Vol 2 Pt 1 Rev 1, Changes 11 and 12
OP 3504 Vol 1 Rev 1, Change 2
OVS 062 Rev A, Change 1

ACHIEVEMENT MEDAL AWARDS

Lt. Lyal M. Stryker and Lt. M.D. Horn, now serving in the Fleet Liaison Department of the Naval Mine Engineering Facility, Yorktown,



Lt. Stryker and CDR Almonrode

have been awarded the Navy Achievement Medal by the Secretary of the Navy, Paul R. Ignatius, for outstanding performance of duties in moving the naval mine facility from Mildenhall, England, to Machrihanish, Scotland. Lt. Stryker was OIC of Detachment A, MOMAT 0321, at Mildenhall while Lt. Horn was OIC of Detachment B, MOMAT 0321, at Machrihanish.

Lt. Stryker, NMEF Fleet Liaison Officer, was presented with his medal by CDR R. H. Almonrode, Officer-in-Charge of NMEF.

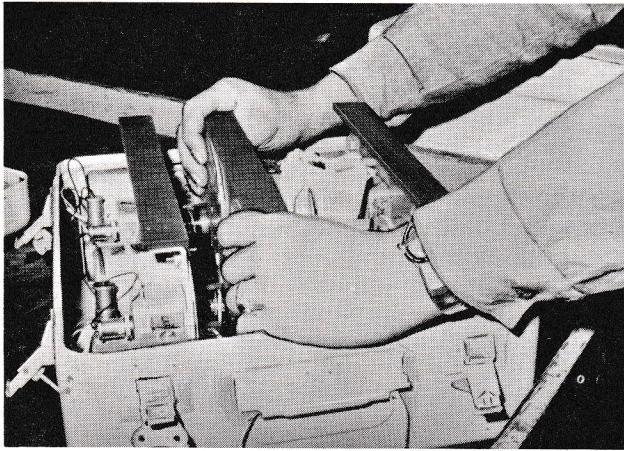
Lt. Horn, who more recently joined NMEF as Assistant Fleet Liaison Officer, was presented with his medal by Lt. R.A. Janke, then OIC MOMAT 0322, at Charleston, N.C. Both officers expressed their appreciation and praise of the loyal efforts of the men of MOMAT 0321 who made up the rosters of the detachments, and credit them with being responsible for the success of the move.



Lt. Horn

NO PURPLE HEART, BUT....

Just to prove that where safety is concerned you can't take anything for granted, one mineman has a wound that took six stitches to close. And all he was doing was trying to remove Mk 66 control units from their container!



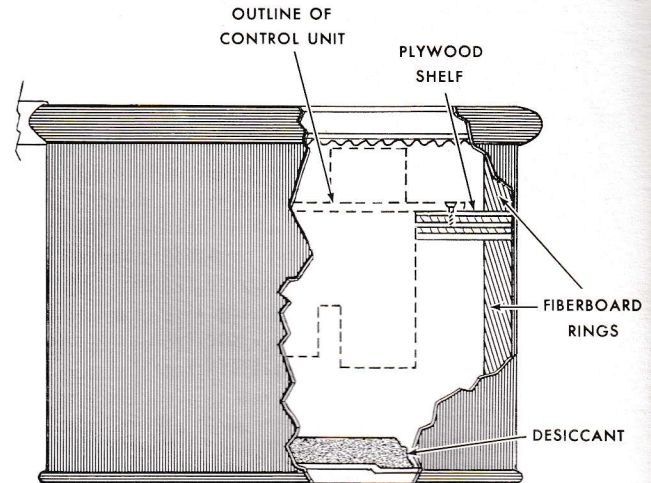
The containers hold six control units in three metal partitions, in a split-type case. When the man tried to remove the middle partition he had to pull it loose because the cushioning material stuck to the floor of the lower half of the case. When it came free his wrist was slashed by the flange supporting the partition nearest him.



Now the control unit container has been redesigned, primarily to eliminate a needlessly complicated and expensive multiple package for a simpler and less expensive unit package, but in such a way that the wrist hazard is eliminated too. The new package is a can 6-7/8-inches high and 9-7/8-inches in diameter with a plywood shelf into which the control unit is secured. Cushioning and a desiccant are included in the design. The units are packed eight to a fibre-board box in two tiers of

four each. A ring-type clamp with packing (O-ring) seals the lid on the container, which is reusable. The older containers are also reusable, though, so they'll be around for some time.

There was some justification in the accident report blaming the accident on the design of the container, but it is also true that it could have been avoided. If the man had removed the partition nearest him and then tackled the middle one there would have been no flange in the



New Packaging Unit For Mk 66 Type Control Unit

way of his wrist, and thereby you can benefit from his experience: remove the partition nearest you and work from front to rear when removing these units from the containers.



FIRST AID FOR GASKET, SET MK 66

"Rubber flange gaskets used with Test Set Mk 66 Mod 1 can become deformed in stowage if compressed tightly under their retainer strip in the test-set case," says Ernest D. Cofield, Mine and Torpedo Branch, NWS Yorktown. The result: a leaking seal and an inoperable test set or, even more serious, the danger of a blowout and possible injury to the operator.

To prevent such damage, always stow gaskets with sealing surface to the rear (that is, against the wall of the case) and make sure you do not overtighten the retaining strip.

The lightest pressure on the thumb screws will hold the gaskets in place. Also, to insure all hands get the word, stencil on the lid, above the instructions already there, a legend as follows:

**CAUTION — EXAMINE FLANGE GASKETS FOR PROPER FIT BEFORE USE
STOW GASKETS WITH SEALING SURFACE TO REAR OF CASE TO PREVENT DEFORMING
DO NOT COMPRESS WHEN TIGHTENING RETAINING STRIP**

IT SHOULDN'T HAPPEN TO A FIRE RECORDER

A recent FSMT yielded some results not expected as a part of the program: a remarkable record of destruction in the form of four Mine Fire Recorders Mk 17 Mod 0 damaged to an extent you wouldn't believe. The reject tags carried the simple notation "case broken," and broken they were. The tag on the fourth mechanism displayed a one-word explanation, "dropped". This wasn't so obvious, since it is hard to conceive what kind of drop would imprint the clock hands on the clock face, and dish the face in the process.

The photograph of the casualties was sent by DRILL-MINEPREPFAC, Long Beach, with this observation: "Due to the fact that an assembly or final prep activity would not install fire recorders in this condition, it is assumed that this destruction was accomplished during the post-analytic phase of the FSMT."

Be that as it may, we hope all responsible parties will be more careful with these fire recorders. They are expensive. Besides, what good is it to insure a timing accuracy of ± 30 seconds per day, put in fresh batteries, etc, if somebody is going to run over them with a 5-ton truck?

And that brings us to another mystery: what is causing the disappearance of the recorders' reusable shipping and storage containers. These drum-like metal containers, the original packaging of the fire recorder, were designed to hold two mechanisms protected by sponge-rubber cushioning material. Recorders should remain in these containers, except for inspections, whenever they are not installed in a mine. When the recorders have served their purpose in the mine, and post-recovery analyses are complete, they should be repackaged in these containers as soon as the necessary maintenance is accomplished. When the post-recovery analysis site is remote from the assembly site, assembly personnel should forward the containers to the analysis site promptly, for use when the recorders are later removed from



WANTED — missing containers like this one: one for every two mine fire recorders, complete with two "doughnut" cushions and three pads.

the mines. All this is spelled out in OP 3233, yet Long Beach recently received lots of 15, 5, and 2 recorders in three separate cardboard boxes with crumpled newspaper as the packing material. So what's to be done? Try these:

- ▶ Don't "drop" fire recorders.
- ▶ Store and ship recorders only in their authorized containers.
- ▶ Return all excess containers, with packing material, to issuing activities (DMPF, Long Beach, Calif., and MOMINASYULANT, S.C.).
- ▶ Re-read OP 3233.

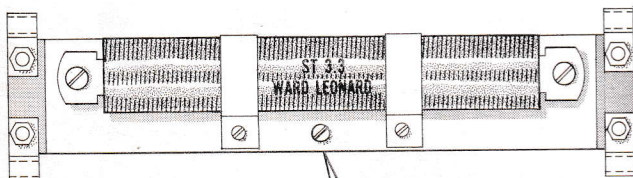
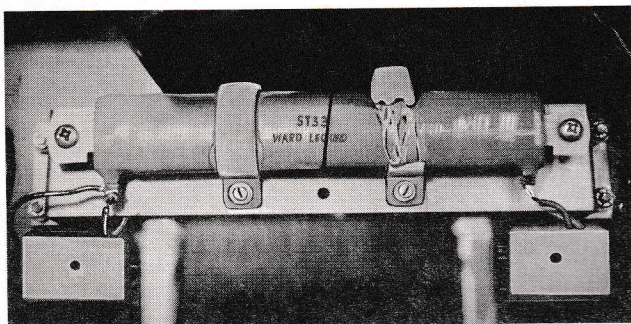


Casualties of an FSMT. Recorder on the left is the one that was "dropped!"

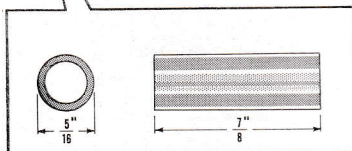
SPACER GONE, RESISTOR BROKEN

The absence of a spacer seems to coincide with damage to a resistor in a number of Power Supplies Mk 111 Mod 1. Two such broken resistors were discovered at NAD Hawthorne during inspections of Test Set 340, with which the power supply is used, both ST 3.3 Ward Leonard resistors, one of which was cracked and the other, shown here, actually broken. Neither resistor failed, however. There was no open circuit in either case.

Both power supplies were manufactured by Bristol Dynamics under contract N197-2365 and a sampling of other Mk 111 power supplies indicates that the spacer is apt to be missing in all mechanisms manufactured under this contract. The spacer is present in power supplies manufactured under other contracts. So if you have a power supply manufactured under contract N197-2365 examine it for a missing spacer, readily detected by a missing screw in the hole in the center of the supporting resistor bracket.



The tubing fits under the bracket at this point. Screw passes through and holds it in place.



ARROW ERROR

In the Cure for Bottoming Screws, Troubleshooter 4-67 Job Right, the draftsman didn't quite get the point — only half right. In the drawing for plate 9P00113 the arrow indicating the 3-inch diameter only extends to the 2-1/2-inch centerline when it should have stretched to the outer centerline. In the drawing for plate 9P00109 the arrow indicating the 2-1/2-inch diameter is extended to the 3-inch centerline. The point should rest on the smaller diameter centerline. Ye Editor missed it but the Rudminders didn't.

The spacer is not in the supply system as a repair part but it is easy to make one by cutting a 7/8-inch length of 5/16-inch diameter aluminum tubing. To install, place the tubing between the bracket and the wall of the power-supply case, line up with holes in bracket and case, pass a flat-head machine screw 6-32 x 1-1/4 inches long through the hole in the bracket, through the tubing, and out the hole in the case, and secure with a 6-32 lock nut. If these items are not available in your shop here are stock numbers for items that work: Tubing, aluminum alloy, 4710-279-0422; machine screw, flat-head 6-32 x 1-1/4", 5305-984-6222; lock nut, 6-32, 5310-590-3194.

GASKET SHELF LIFE

The care, protection, and shelf life of gaskets, preformed packings (O-rings), and rubber diaphragms have been the topic of debate for some time, resulting in a variety of local ground rules. So now the supply people at Ships Parts Control Center, Mechanicsburg, Penna, have made some across-the-board rules for use while they prepare a list of such items, giving shelf life for every item or group, including all used in mines.

Under these interim rules consider all items as having a shelf life of five years measured from the cure date on the packaging identified with the item. A manufacturing or packaging date on the package can be considered the same as a cure date. At the end of five years in safe storage a sampling of stock should be inspected for defects such as cracks, loss of elasticity, deformation, etc. If deemed serviceable after such checks the shelf-life period should be extended for one half the original storage time or two-and-a-half years. At the end of this period examine stocks again; if again found serviceable they can be returned to the shelf for another two-and-a-half years. At the end of this second extension of time (that is, after 10 years on the shelf) they should be surveyed as unfit for issue, regardless of apparent condition.

Items for which the cure, or manufacturing, or packaging date cannot be determined should be assumed to be at the end of the 5-year shelf-life span if without defect upon visual inspection. They are now good for five more years subject to required re-inspection.

Naturally there are exceptions. Diaphragms of silastic rubber used in Firing Mechanism K-4 Mod 1 require inspection only after ten years in storage. Diaphragms in Arming Devices Mk 5 Mod 1, Mk 10 Mod 0, and Mk 11 Mod 0; Hydrostatic Switch Mk 22 and Extender Mk 16 are installed upon manufacture or depot overhaul.

Safe storage involves keeping such items on the shelf so their packaging retains the original shape (lying flat), rather than bent, twisted, or otherwise deformed. They should be kept in their packaging, protected from light, atmosphere, oils, chemicals, heat (steam pipes), sharp-edged or abrasive materials, etc., which would contribute to premature deterioration. For more, request a copy of SPCCINST 4400.26.

by B. Arnaclebutt, MNC



One good turn too much

Dear Chief Butt

The Jolly Green Giant must be putting on those hydrophone-insert covers in the mechanism compartment of the Mk 57 mine. At least it seems so when it comes to removing them. Couldn't we lower the torque on those covers? Or come up with a gimmick to ease their removal?

FCR

Dear FCR

What we have is no gimmick, but a case of unnecessarily high torque put on those covers, apparently by the manufacturer. This is hard on you. It's also hard on those inserts, since too much twist turns the insert with the cover, resulting in leaks.

This over-tightening by the manufacturer is being corrected in the production process by changes in the design documents. Meanwhile when you come across one that's really tight we suggest you use your 2-1/4-inch open-end wrench, 7W00595. Loosen with a steady pull, no jerking or hammering (those covers are brass), and when installing think of the next man who'll have to remove and limit your torque to 20-25 lb-ft.

B. Arnaclebutt

Cracked cover cure

Dear Barnacles

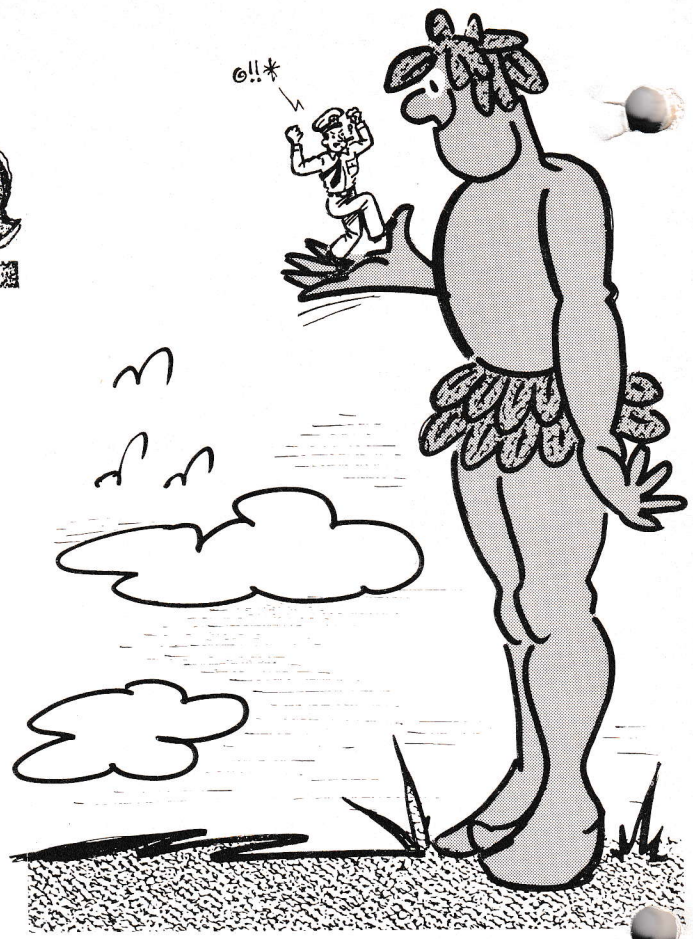
We have a good Test Set Mk 250 except for one thing: the plastic bell-type cover that comes with it is cracked, making the leak-test function inoperative.

How it got that way we don't know. Perhaps somebody dropped it. But since it is not replaceable as a repair part the only way to get a good cover is to get another test set. This doesn't seem very efficient when all that would be involved in replacing a good cover for a cracked one would be to unscrew the stop cock from the damaged cover and install it in the good one. Agree?

CMJ MN1

Dear CMJ:

The wheels are turning to put that bell-type cover in the supply system as a repair part. The reason they were not started before is because your



Rudminde was the first to report the problem. We thank you on behalf of all other minemen who may be in the same bind.

These covers, 4T55202, will not be available for replacements over night. It takes time for procurement. But you can often make a fix on a cracked cover that is still in one piece using adhesive and sealing compound, cellulose nitrate, MIL-A-388A, Type II, 8040-270-8150, which will be listed in OP 3504 as 7A00044. It is transparent and has good bonding characteristics for plastic and brass. Instructions for use are supplied with it.

B. Arnaclebutt

Search-coil testing

Dear Hot Stuff

The current OP 1452 test procedure for search coils requires only an insulation resistance check between coil and core using a megger. In the days when Test Set Mk 128 was used for search coil tests, insulation resistance between coil jacket and winding was included in the procedure.

To me, both insulations are of equal importance to the proper functioning of the search coil. Am I warm? . . . or wet!

IRT MNC

Dear IRT:

Relative importance of the insulation in the two areas of the search coil is not involved. Instead the reasoning is based on the relative susceptibility of the two insulations to undetected failure.

What our "testers" are saying, then, is that resistance integrity between coil and core is more sensitive to the hazards of handling, shipment, and storage, and evidence of its breakdown is not apparent upon inspection, whereas in the case of jacket insulation cracked or broken sheathing is evident upon visual inspection. Besides, this insulation is very heavy in relation to the low operational currents that flow in the coil, and therefore the possibility of electrical leakages from causes other than obvious damage is remote.

But what if the 1 000-to-1 exception does come up? Don't sweat . . . it will be revealed during the operational test of the mine.

B. Cornaclevitt

Booster cracks

Dear B:

During inspection of stocks of Mk 6 Mod 5 boosters that have been aboard this station for about ten years, 19 out of 82 exhibited cracks in the solder along the seams of the cans. The nineteen were placed in Code H and disposition requested.

This type of crack appears to be a common failing of this booster and we believe all users should look closely at booster-can seams before putting them into use.

MN2 BCS

Dear BCS,

All users should certainly look closely at booster-can seams — and the rest of the cans' surfaces as well — for cracks that expose the explosive contents, which is the key to whether they are a problem. We know, for example, that many Boosters Mk 6 Mods 1 and 5 have cracks in the solder along the seam. But as long as these cracks are in the solder and not in the crimped seam itself the boosters should not be rejected.

Since these boosters are made of rolled brass, though, they may also be expected to have season cracks caused by failure of metal under internal stress. This is a different breed of crack altogether and may occur anywhere on the surface of the can. A booster exhibiting this type of crack must be rejected.

To summarize: If explosive content of a booster is exposed by a crack in any location, or if the booster can is damaged as by a blow, rejection is mandatory and no repairs are authorized. Put them in Code H and request disposition.

B. Cornaclevitt



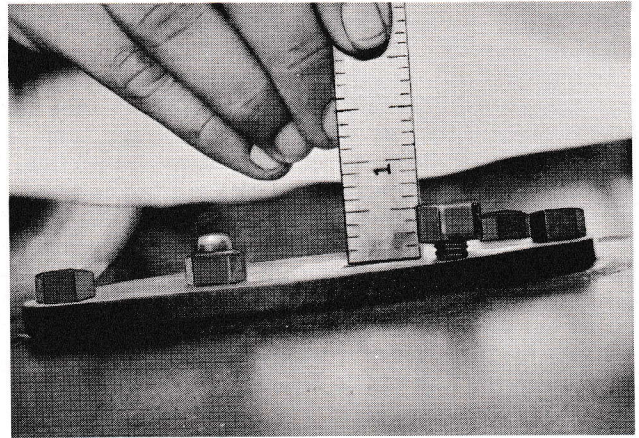
Detachments Charlie and Echo from MOMAT 0322 pose for their picture when on duty at Keflavik, Iceland, WO J.F. McDonough OIC. Jim describes his Icelandic domain as a land of frost and ice, volcanoes, sod huts, glaciers and aurora borealis; among other things. From where ye Editor sits it sounds like a good place to be on a hot, muggy day. The men in the picture are, left to right: Front row: MN1 G.W. Oxendine, MN3 P.J. Pestel, MN3 W.R. McMillion, MN3 F.A. Wiggins, MNC C.E. Hunt, WO J.F. McDonough (OIC), TMCM R.F. Anderson, MN3 J.T. Nichols, MNSN D.L. Lewis, MN3 E.H. Harris, MN3 J.R. Feyrer. Second row: MN2 J.M. Weidner, MN2 W. Bich, MN2 J.A. Hostetter, MN3 P.C. Lucas, MN1 G.A. Hellein, MN3 R.F. Gunther, MN3 R.L. Johnson, MNSN D.L. Dayton. Third row: MNSN R.C. Mullin, SN D.L. Warren, MNSN J.A. Erickson, MNSN R.H. Gilbert, MN3 R.B. Hoerter, MN3 R.A. Ferguson, MN3 J.G. Villanueva.

The dogs (sea dogs?), left to right, are Helga, Sugar, George, and Ralph. Ralph seems to be pretty well hidden in the arms of Wiggins.

KEEP EYE OUT FOR LOOSE FILLING-HOLE COVERS

Regardless of all precautions to prevent it, on occasion an explosive-loaded mine case is going to come out of storage with a loose filling-hole cover. Retaining nuts on these covers are supposed to be placed under a final torque of 16 to 20 lb-ft by the loading activity, and should never be touched afterwards for any purpose by mine assembly activities, including the purpose of torque verification. A very loose one, however, warrants a Rudminde for sure, and consignment to Code E pending disposition instructions, even though it's true that some sea water will not interfere with the effectiveness of the main charge.

Shown here is an example of how loose a filling-hole cover can be. Thanks for the photograph go to MN1 J.R. Cottrell, Iwakuni, Japan, who sent it along with his Rudminde.



INSURING FLOAT MK 16-SALT CHAMBER SEAL

OP 2718 VOL 2 PART 1 REV 1, in chapter 5, under Signal Float Preparation, says to finish sealing the salt chamber to the body of the float. The question which has arisen is why is it necessary to add epoxy to the epoxy that's already there?

True, the manufacturer seals the salt chamber in the float with epoxy. But because of the time element between manufacture and ultimate use, and because the wooden float body expands and contracts when exposed to ambient humidity changes, the float will often separate from the epoxy, breaking the seal.

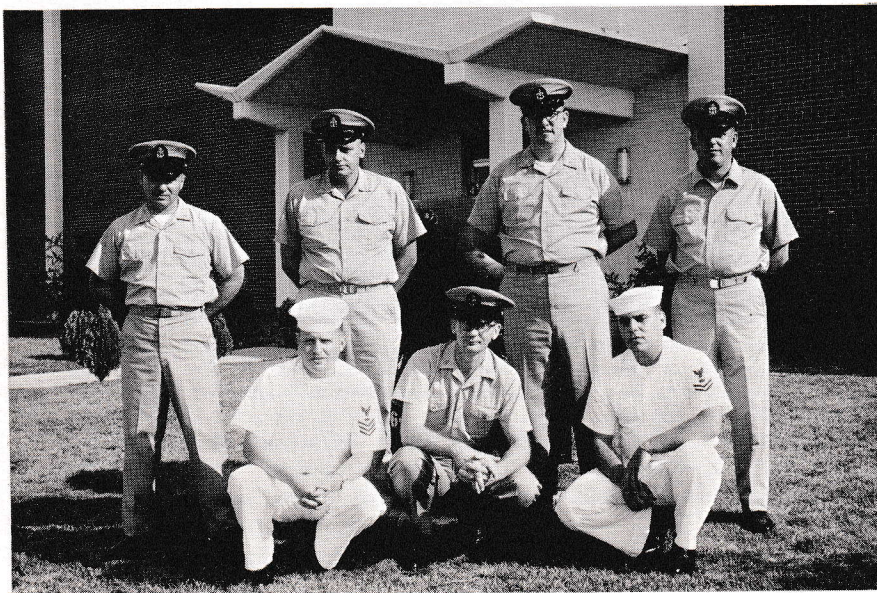
It is necessary, then, to reseal the chamber to the float body with epoxy, at the last possible assembly phase before planting per Instruction Sheet SA(D)-2a in Part 2 of the OP. The 2-3/4 ounce package of epoxy called out in the OP (7G00533) will "top off" approximately

three floats. The epoxy specified has a one year shelf life limitation and therefore should not be overstocked.

MORE ON MOISTURE BARRIERS

Back in Troubleshooter 4-66 we brought all hands up-to-date on the application of moisture barriers to mine case openings. What was not included was that the foil side should be on the inside or not exposed. The consideration here is not the effectiveness of the material as a barrier but the relative susceptibility of the surfaces to damage. So, if you find barriers wrong-side-out it is not necessary to change them for that reason alone.

While we are on the subject, and keeping up with GSA stock number changes, the tape to use in applying the barriers is 7T00082, 8135-914-1614.

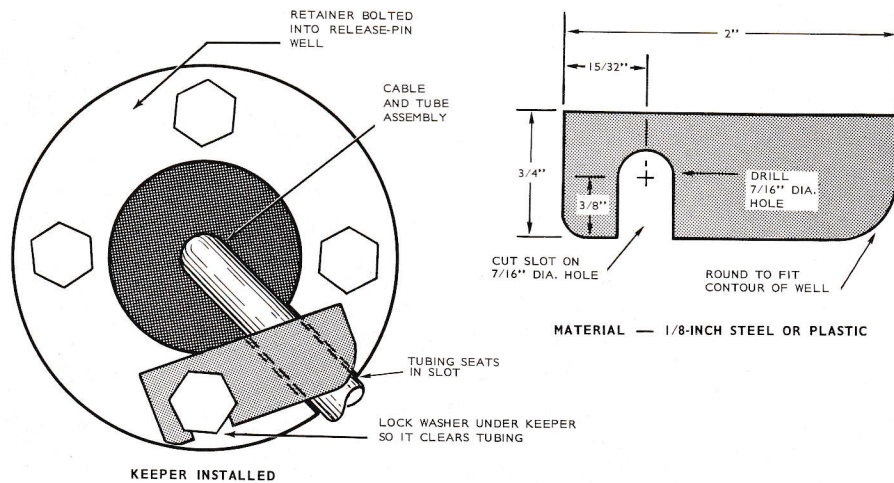


JUNE GRADS

U.S. Naval Schools, Mine Warfare "B" Course graduates, Class 6801, pose before the entrance to the new school building at Charleston. Left to right they are: Front row: MN1 G.R. Kelly, TMCS W.G. Bean, faculty advisor for the class, and MN2 L.E. Duffio. Back row: MNC L. Carvell, MNC R.L. Johnson, MNC J.E. Trick and MNC D.L. Chmura.

MNCs Carvell, Trick, Chmura and MN1 Kelly are assigned to MOMATS at Charleston, MNC Johnson will remain at the school as an instructor. MN2 Duffio is Sigonella bound. TMCS Bean transferred to the Fleet Reserve August 68.

Do You do this Job Right?



Cable and Tube Assembly Keeper, Anchor Mk 56 Mods 4 & 5

WHAT TO DO IN A PINCH

While assembling Anchors Mk 56 Mod 4 it's relatively easy to damage the copper tubing that carries the electric cable to the explosive driver, by getting it pinched between the anchor housing and the anchor sleeve. The copper tubing is led into the well by a series of bends which tend to make it act like a spring. And this, combined with the fact that the retainer that is supposed to retain it doesn't retain anything but the bushing sleeve in the release-pin well (unless the explosive driver is installed) is the situation that makes the trouble.

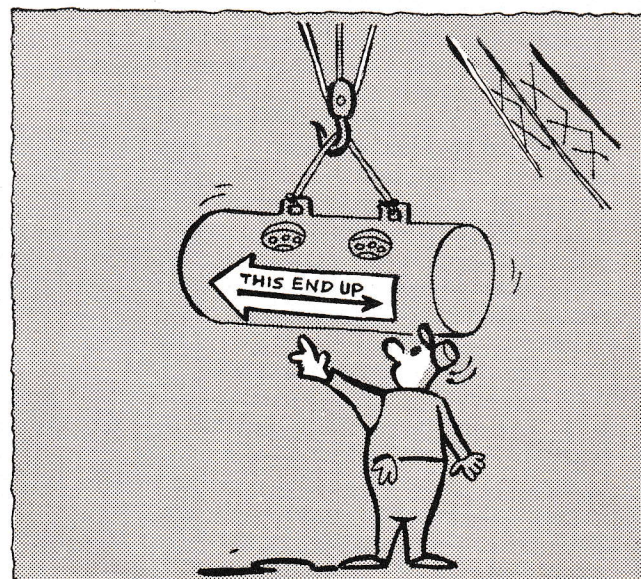
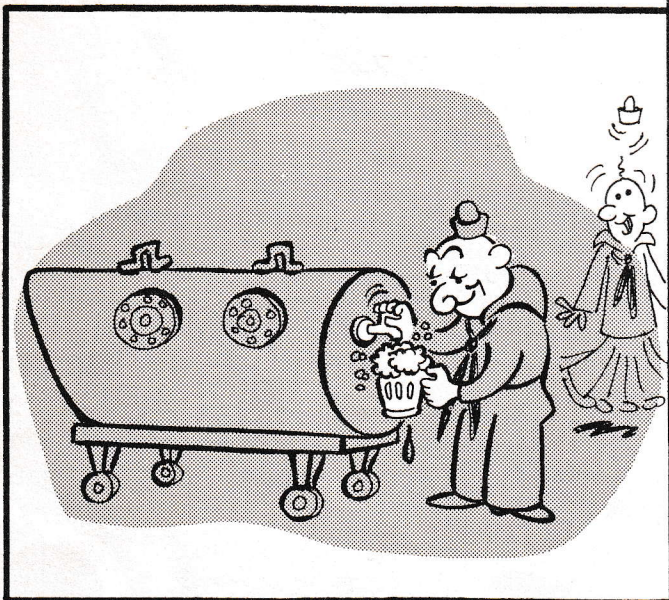
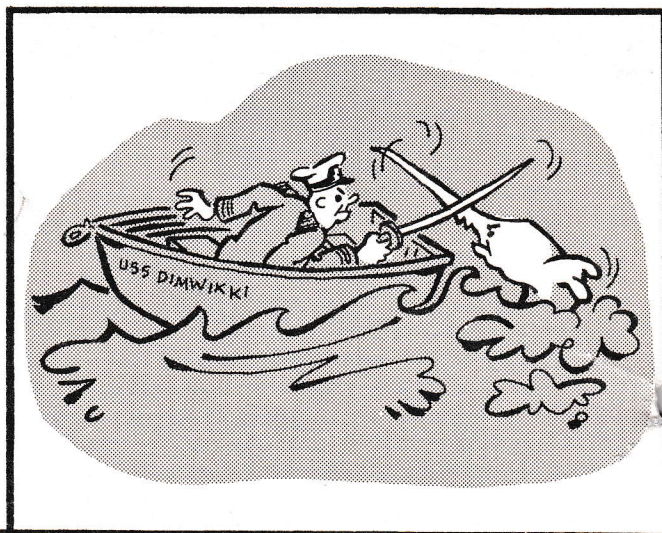
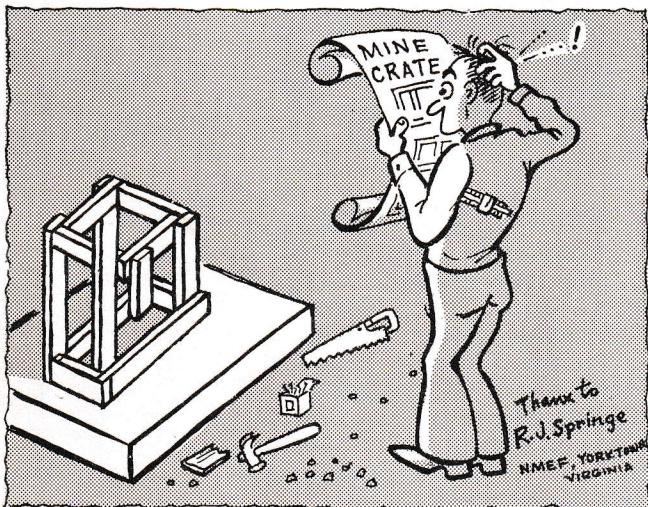
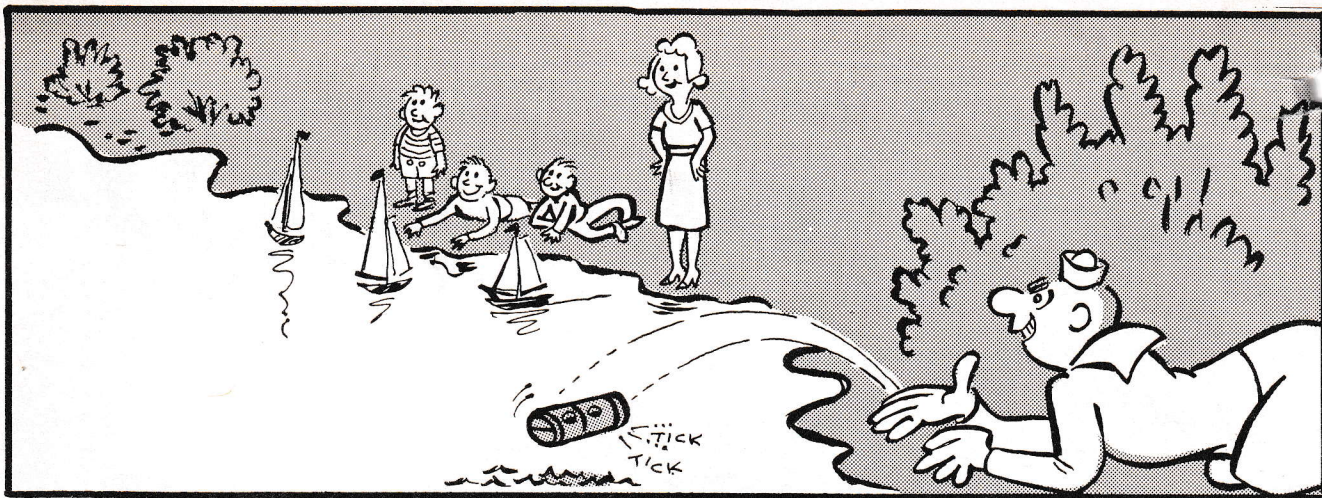
When fully assembled the retainer holds everything securely in place, but in Assembly Condition D the explosive driver is not installed and the tubing is free to escape its alignment slot and spring out of the well. Under these conditions two men would be required: one to keep the tubing fitted into its slot, and another to manipulate the anchor sleeve, except that W. L. Johnson, retired MNC and now an inspector in Quality Assurance, NWS Yorktown,

came up with a keeper to keep it a one-man operation.

Johnson's keeper is made from a piece of 1/8-inch steel or plastic, 3/4" x 2", shaped as shown here. It doesn't have to be strong but it must be rigid. In use it is fastened by a retainer slot (hold the free end of the keeper against the wall of the retainer recess and tighten the bolt with the lockwasher under the keeper). The keeper should stay in place after the sleeve is secured to insure against damage to the tubing should it spring out during shipment and handling.

Eventually a keeper will be placed in the supply system as an assembly part, one which will serve both as keeper, and as a cover for the release-pin well.

The Editor



BUT *Real* PROBLEMS ARE NO JOKING MATTER....
USE RUDMINDE!