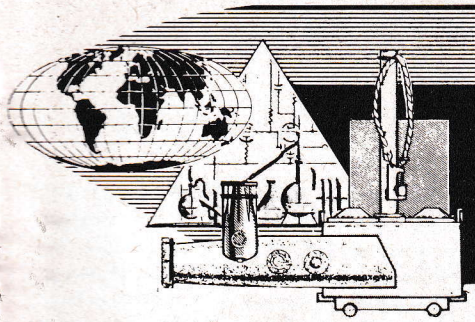
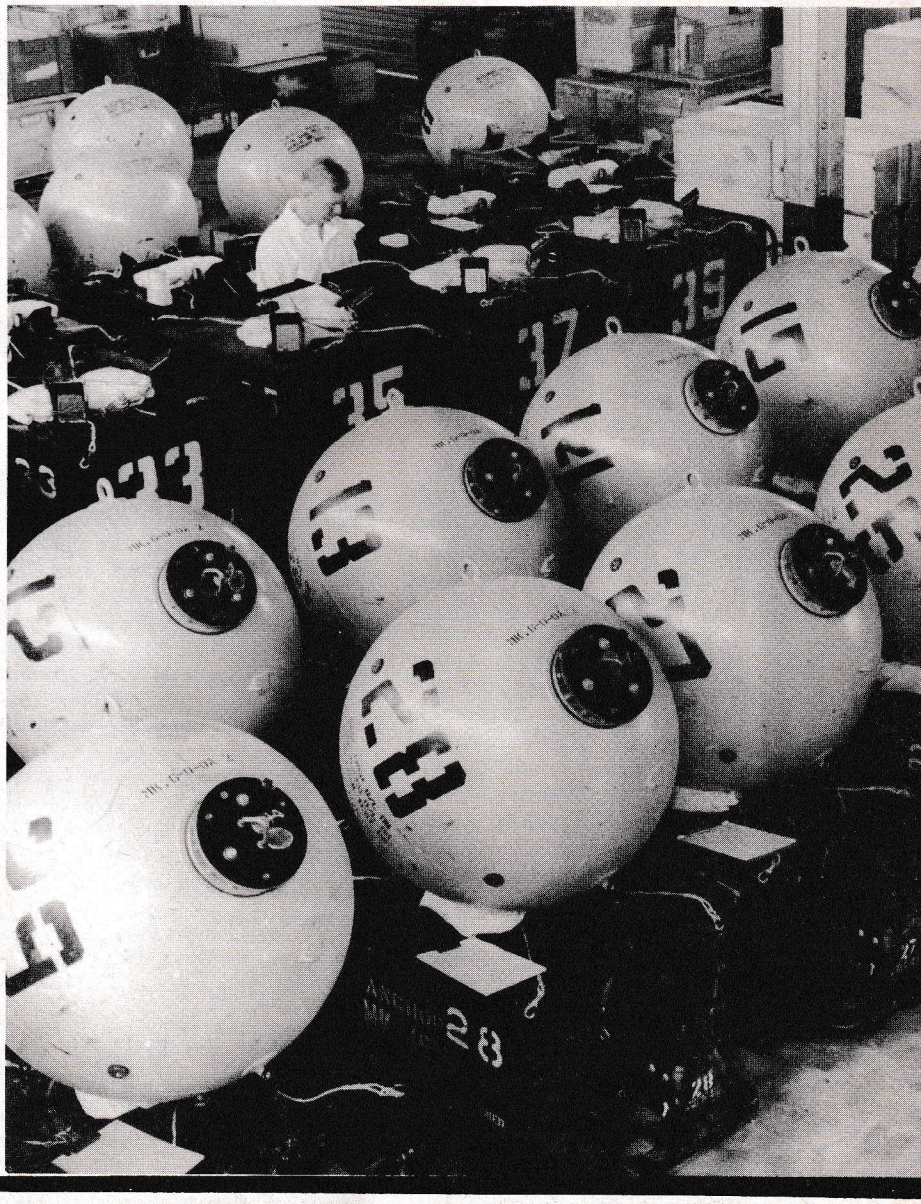
I-0618-257-4600 No. 4-60



mine and depth-charge

THE TROUBLESHOOTER

- *Material for Mine Mk 10-3*
- *When the Pot Leaks*
- *Tape Trick*



THE OFFICIAL JOURNAL OF THE *RUDMINDE* PROGRAM

in this issue . . .

THE TROUBLESHOOTER

mine and depth-charge

Published by the Naval Mine Engineering Facility, Yorktown, Virginia.

George T. Ragon, CDR, USN ..... Officer-in-Charge
Haines A. Miller ..... Technical Director
John V. Koman ..... Publications Chief
Frank N. Potter ..... Editor

REGULAR FEATURES

ARTICLES

COVER PHOTO: Ordnanceman Joseph Bowman gives extra attention to a group of Mark 6s being assembled in NMEF's shop for a special test to be performed by NMEF and Key West Test and Evaluation Detachment.

The Rudminde Program is a world-wide troubleshooting campaign designed to achieve and maintain a high level of undersea warfare readiness through the discovery and correction of material defects, through refinement of weapon design, and through encouragement of the unique knowledge and skills demanded of highly specialized segments of the U.S. Navy and Coast Guard. The program is sponsored by the Bureau of Naval Weapons.

The basic instrument of the program is Navord Form 2776—"Report of Unsatisfactory or Defective Mines, Depth-Charges, or Associated Equipment"—supplies of which can be requested from NSC Norfolk or NSC Oakland. Anyone who encounters problems with these weapons is encouraged to report them to the Naval Mine Engineering Facility using this Form. Instructions for its use and handling are contained in NAVORD INST.8500.7.

The Troubleshooter is an official BUWEPS publication; technical information contained in it supersedes pre-dated BUWEPS notices, instructions, and official technical publications, and should be acted upon accordingly.

The Troubleshooter is published quarterly by the Naval Mine Engineering Facility's Publications Division and printed by DPPO-5ND using funds approved by the Director, Bureau of the Budget, on 10 November 1958. Contributions, questions, notification of address changes, and requests for distribution should be addressed to: Editor, The Troubleshooter, Naval Mine Engineering Facility (Ts2), U.S. Naval Weapons Station, Yorktown, Virginia.

THE OFFICIAL JOURNAL OF THE *RUDMINDE* PROGRAM

SOUNDINGS

The Changing Scene In Undersea Warfare

POLARIS PROGRESS

THAT SETTLES THAT: How to integrate the Navy's Polaris into overall defense planning? Due to become operational this fall, the spectacular 1500-mile thermo-nuclear Polaris was seen by the Air Force as a most logical addition to the Strategic Air Command. Otherwise, it warned, SAC would not be able to coordinate, time, and assign targets for longer-range missles and bombers. Navy fought back.

Stepping into what he acknowledged was the toughest interservice feud yet, Secretary of Defense and former Navy Secretary THOMAS S. GATES made the decision: A new strategic-target planning office, responsible to the Joint Chiefs of Staff, will come up with the master plan for nuclear destruction of U. S. enemies in event of war.

They will also pick targets and set up priority schedules for all our strategic weapons, Polaris included.

ON THE SURFACE: Things look fair for equipping surface ships to launch Polaris missles. The LONG BEACH is slated to be first but because of labor trouble that has stymied her launching she may not make it until '62.

SUB DETECTION

WARM WARNING: Russian subs will be forced to find new ways to play hide-and-seek if all goes well with a new highly sensitive infrared detector now under development for U. S. Navy patrol planes. It's specially designed to locate deep-running subs — even nuclear ones.

SLEEK SEEKER: U. S., Britain, and France are the push behind development of a super-long-range anti-sub plane for NATO. Powered by a pair of turboprop engines, the ATLANTIC will have the most up-to-date magnetic-detection and radar gear yet.

THE OFFICER-IN-CHARGE of the Naval Mine Engineering Facility, NWS / YORKTOWN, GEORGE T. RAGON, was promoted to the rank of Commander effective 1 July 1960.

He served as Liaison Officer of the Facility from January, 1960 through June, 1960. In July he assumed the duties of the Officer-in-Charge.

CDR Ragon was born on March 30, 1924 in Bolivar, Tennessee. He was commissioned as Ensign upon graduation from the U. S. Merchant Marine Academy in 1944 with a B. S. Degree. In addition he has attended the University of Texas, and Navy schools completed include the Electronics Material Course, Mine Warfare Staff Officers Course, and the Advanced Mine Countermeasures Course.

He has served as Instructor at the USN Post-Graduate School in the Mine Warfare Post-Graduate Curriculum.

He served as the first Commanding Officer of the USS INFLICT (MSO-456) and just before reporting to NMEF he was Gunnery Officer of the USS ROCHESTER (CA-124).

CDR Ragon is married to the former Lyndal C. Jones of Bolivar, Tennessee. They have three children.

HARDLY HOOKEY: Phony fishing trawlers in cahoots and a school of Russian subs have been keeping tabs on our Sixth Fleet's movements in the Mediterranean. We, of course, have been keeping tabs on them.

PROP TALK PROBLEM: Bedeviled by easy submarine detection of their prop noise, destroyers may soon get help from a quieter method of propulsion: pump-jets enclosed in nacelles 15 feet long and almost 10 feet in diameter, in place of propellors. Now being tested by the USS WITEK, the experiment is part of a noise-reduction program. Prototypes of the encased prop-jets were tested at the David Taylor Model Basin.

Apparently it isn't only destroyers that are getting the quieting treatment. According to a recent report one of our submerged subs nudged the keel of a U. S. carrier — thought it was five miles away.

CREEPY

BOTTOM'S DOWN: RUM, short for Remote Underwater Manipulator, is an experimental ocean-floor-exploring crawler that trips the deep fantastic on treads from an ONTOS Marine Corps tank.

Developed for the Office of Naval Research by the Marine Physical Laboratory of the Scripps Institute of Oceanography, the modern version of a Jules Verne dream has a hydraulically-operated arm that can reach out for 15 feet and snatch all sorts of stuff off the briny's bottom, including mines and torpedoes. In tests it has also planted data-scrounging instruments and gadgets.

When filled with oil, the RUM's hull can stand pressures at depths to three miles — and then some. Present models are powered from a control van on shore through over five miles of reeled, light, 4800-volt cable that carries command signals to the 48 relays and 4 TV cameras aboard the vehicle.

Later versions may be powered from a ship, giving RUM almost unlimited range. *(Continued on page 14)*

RUDMINDE REPORT TO THE FLEET

What's Been Reported? What's Being Done?

BY NOW YOU *Rudminders* should be getting some replies on those new cards we talked about last issue.

Others are getting their answers written directly on fotocopies of their Rudmindes. All this means speed . . . faster action on one man's problem so we can tackle the next man's problem that much quicker. At least that's how we hope this new system will work out.

Now all this is fine, but *your* part is important too. We'll bet more than one of you guys would jump over the side before you'd go thru some of the backtracking that's getting to be SOP in NMEF's Rudminde Branch *just to find out what gear some of the Rudmindes are talking about!*

Of course we're partly at fault ourselves. We're the first to admit that your Rudminde Form isn't all that it should be and we're trying to see what can be done about getting a new form worked up right now. So if you have any ideas on this score, strike while the iron is hot. Meantime though we'll have to make do with the form as it is. And that brings us to those unchanging souls who are still using NAVORD Form 1857 instead. This bird is a close relative to the dodo. It's called *Depth Charge Mk 14 Mod 0 Test Report* and was designed for use in conjunction with periodic tests of A-4 Mod 0 Mechanisms and B-19 Mod 0 batteries. It was printed in OP 669 as Appendix C back in 1949 but Change 3 to OP 669, dated 5 March 1956, sounded the death knell on its use.

So how about it fellers. You can quit reporting your troubles on Form 1857 to BUWEPS, and report them via Rudmindes to NMEF instead. *Live modern!* When you do, consider these block-busting hints:

▸ *Block 5.* Listing previous reports in this space is fine — but don't stop at that. Also list here info like what pub or procedure you used for test or inspection.

▸ *Blocks 10, 14, and 17.* Get dope for these blocks from the General Requisites for the weapon you report in Block 9. Sometimes you can find it in OD 12067-G or in OD 9363; you could also try OD 10604 if you have one. In any case fill in these blocks if you possibly can.

▸ *Block 12.* Calling for the "component affected" in this block can be misleading. What's being asked for is a rundown of the component you think caused the trouble. For instance, if improperly marked CA-529 leads cause reverse polarity that makes an MD-10 run backwards and ruin its switches, report the CA-529 in Block 12 but tell us in Block 41 what happened to the MD-10.

That's assuming it was some *gear* that was bad. Often, of course, your ruckus will be caused by bum dope in an OP. In this case you should write the OP number in Block 12. Be sure to mention its revision number and latest change number, too. Then, in Block 13, you can name the piece of hardware that the bum dope affected.

▸ *Block 15.* You won't always have the Contract or Lot Number but you'll usually find a "brand" on the component or part. It could be initials, a square, a diamond, or a circle with initials. Whatever you find, make a simple sketch of it in Block 15 or tell us there that you're attaching a sketch. This could help a lot.

▸ *Block 18.* Don't pass this one up. If we have the serial number, we can usually find out who the manufacturer was.

▸ *Block 30.* In "Number of Times Failure Occurred" we do not mean for example that if you rejected 20 extenders last year and are rejecting 20 now, that you should report 40. Report only the number rejected during the test or inspection covered by the present Rudminde.

▸ *Block 31.* Take the extenders we just talked about, in block 31 we want to know the number of extenders out of which you rejected 20. F'rinstance 20 defective (Block 30) out of, say, 60 tested (Block 31).

▸ *Block 41.* On top of telling us about the failure or defects — and its effects — try to give us info such as specs tested to and the page and paragraph of the pub or procedure used. Also put down the actual operating values you came up with during the test.

If your Rudminde's about a pub error, include in this block the page and paragraph of the pub reported in Block 5.

A Rudminde about the ruddy Rudminde form itself is plenty legit and could help us a heap in fixing up a new one like we mentioned earlier — and, we repeat, there's no better time than now for bearing a hand with our oar.

Grab a Rudminde form; mark it up with changes you think would help; stick in some comments about how the change can help; and slap the business in the regular mail. We'll be looking for yours.

Some *CONFIDENTIAL* Rudmindes are coming to us in *single* envelopes, and we're getting others that shouldn't have been considered classified. Before sending a Rudminde that you *feel* contains classified information or material, make doubly sure that you *know* it should be sent classified. Then stamp the Rudminde *CONFIDENTIAL* along with any classified attached material; put it all in an envelope; and stamp *this* envelope *CONFIDENTIAL*. Put this classified envelope inside another envelope. Address the outside envelope but DO NOT stamp it *CONFIDENTIAL*. Take the whole business to your administration office and have it sent by registered mail.

Now to your defects table. ▸▸

ITEM	USED WITH	REPORTED DEFECT	REMARKS
Antenna Assembly (Upper)	Mine Mk 6	Antenna assembly improperly cut (not proper length).	OP 1853 is not clear on this point. T-SHOOTER will get you the word on the matter.
Arming Wire Safety Lock	Clock Starters: Mk 1 Mods 3, 4, & 11 Extenders: Mk 12 Mods 3 & 4; Mk 14 Mods 1 & 2	Improper and incomplete shipment.	Shipping activity informed.
Battery BA-205/U	Mines: Mk 6-0, 4, 7, 8, 10, & 11; Mk 25-0 & 1; Mk 36-2; & Mk 49-0 & 1	Terminal cap screws counter-bored too deep, prevents assembly of TB-25-1 battery card.	NOL is investigating. Terminal cap screws cannot be changed because of other uses of this battery; however, part of the fault is in the grommets on the battery terminal cards attached to the cable assemblies not being crimped to correct thickness. Drawings are being changed.
Battery BA-236/U	Mine Mk 10 Mod 3, 7, & 9	Failed leakage test on Test Set Mk 127 Mod 3	Shipping activity informed of discrepancy.
Battery BA-241/U	Mines: Mk 25-1; Mk 36-2; Mk 49-1	No battery-history card with shipment.	Shipping activity informed.
Battery BA-249/U	Mines: Mk 18-0; Mk 25-2; Mk 27-2, 3, 4, & 5; Mk 36-1; Mk 36-3; Mk 49-2	Batteries discharged after recovery of drill mines.	NMEF studying field recommendations to wind clocks immediately after recovery to prevent discharge of the batteries and subsequent corrosion of mine components by leaking battery electrolyte.
Battery BA-250/U	Depth Charge Mk 14 Mod 0	Shipping activity shipped over-age battery.	Shipping activity informed.
Battery BA-251/U	Mines: Mk 25-0; Mk 39-0; Mk 49-0	No battery-history card with shipment.	Shipping activity informed.
Battery BA-1322	Mines: Mk 52-0, 1, 2, 3, 4, 5, & 6; Mk 55-0, 1, 2, 3, 4, 5, & 6	Shorted out and blew up.	BUSHIPS says this battery will explode if not handled properly. Refer to BUSHIPS INST. 10390.1 for proper handling. Report failures via Rudminde.
Cable Assembly CA-652	Test Set Mk 26 Mods 1 and 2; connects test set to Firing Mechanism M-11 Mod 5	Guide on amphenol plug improperly located	See "The Mating Game" MILLIE AMPS BRIEFS in this issue.
Cable Assembly CA-779	Mine Mk 6-0, 4, 7, 8, & 9	Cables were too short. Cable identification missing. Insulation frayed, and bare wire extended about 2" from connecting lug.	NMEF initiating action to remove old CA-779 from stock.
Cable Assembly CA-951	Mine Mk 52 Mod 5	Defective plastic moulding.	Included in investigation being conducted on CA-831/832 displaying similar defects.

ITEM	USED WITH	REPORTED DEFECT	REMARKS
Case, Mine, Mk 36 Mod 2	Mines: Mk 36-1; Mk 36-2; Mk 36-3	Weld nuts on battery brackets broken loose.	Look for an article on this in the next T-SHOOTER.
Case, Mine, Mk 36-2	Mines: Mk 36-1; Mk 36-2; Mk 36-3	Mechanism compartment studs broken during assembly.	See 'Easy Does It" MILLIE AMPS BRIEFS in this issue.
Case, Depth-Charge, Mk 9 Mod 3	Alternate F/Depth Charge Mk 9-2, 3, 4 & Mk 14-0	Bracket supporting nose ring broken where welded to case causing leakage of TNT and misalignment of nose ring.	Shipboard vibration is causing breakage. Inspect weekly for this defect — and oftener when running in heavy seas and after every high-speed run. Report all leaking cases via Rudminde and dispose of in accordance with NAVORD INST. 8026.9.
Case, Depth-Charge, Mk 9 Mod 3	Alternate F/Depth Charge Mk 9-2, 3, & 4; Mk 14-0	Tail support ring bracket weld cracked.	Same as above.
Clock-Delay Timing Panel (OE-SK-D-3090)	Hand-wound clock-delay mechanism	Operating instructions on front of panel incorrect for connecting CD-12-0.	NMEF has redesigned this test set. It tests clocks CD-4-0 through CD-18-0, and is designated Test Set, Timing Mk 384 Mod 0. Operating instructions with the new test set are correct. New design will be incorporated by ORDALT.
Clock Starter Mk 1 Mod 4	Mines: Mk 10-7; Mk 25-0, 1 & 2; Mk 36-1, 2, & 3	Would not extend within limits (NOrd 11179).	BUWEPS has authorized replacement of those clock starters manufactured under NOrd 11179. If you have any, request disposition and draw new ones.
Extender Mk 14 Mod 1	Mines: Mk 10-7; Mk 18-0. Alternate F/ Mines Mk 25-0, 1, & 2; Mk 36-1, 2, & 3; Mk 39-0	Extender would not operate within limits after installing new diaphragms.	Diaphragms were installed on the extender upside down. Otherwise these were OK.
Firing Mechanism A6-3	Mines: Mk 25-2; Mk 49-2	Bench tested OK. SR9-0 hair spring would burn out when tested in assembled mine with Test Set Mk 3-2.	See "Spring Fever" HOT STUFF in this issue.
Firing Mechanism A8 Mod 1	Mines: Mk 27-2, 5; Mk 36-3	Glyptal missing from screws that secure cover on control unit.	BUORD DWG 1690614 Electrical Compartment Assembly for Firing Mechanism A-8 Mod 1 does not specify using glyptal on screws for securing electrical cover.
Firing Mechanism K-4 Mod 0	Mine Mk 6-0, 4, 7, 8, 10, & 11	Low resistance between upper and lower copper plates.	NMEF is currently investigating this defect.
Firing Mechanism M5 Mods 1 and 2	Mine Mk 10-3, 7, & 9	Parts missing.	Shipping activity notified.
Gasket (1227597) Tail Cover (Full Type)	Mines: Mk 25-0 & 2; Mk 49-0, 1, & 2	Incorrectly packaged.	Gasket DWG 1227597 is obsolete. Use Gasket DWG 1509758.
Hydrostatic Switch HS-4 Mod 0 (Assembly "B")	Mine Mk 27 Mods 2 & 4	Switch failed to operate within limits specified in OP 685.	These switches are currently being reworked.

ITEM	USED WITH	REPORTED DEFECT	REMARKS
Parachute Pack Mk 26 Mod 0 and Fin Assembly Mk 9 Mod 0	Mine Mk 25 Mods 0, 1, & 2	Bomb-bay doors of P2V-type aircraft cannot be closed when mine is equipped with Parachute Pack Mk 26-0 and Fin Assembly Mk 9 Mod 0 when installed in lower stations.	Parachute Pack 26-0 and Fin 9-0 are for high altitude drops. P2V-type aircraft are primarily for low-altitude mine planting. When interference is encountered, remove fins.
Sensitivity Switch Mk 3 Mod 0	Alternate F/Mines Mk 25 Mod 1; Mk 36-2; Mk 49-1	The 90° Amphenol plug attached to CA-520 prevented installation of tail cover.	Sensitivity Switch Mk 3 Mod 0 is obsolete. Use Mk 3 Mod 1 which has straight amphenol plug; this will eliminate the problem.
Tail, Cover Assembly (416726)	Mine Mk 36 Mod 2	Tube - Assembly - Adapter opening obstructed by corrosion. No allowance for pressure-test set.	Test Sets Mk 271 Mod 0 are currently being manufactured. NAVORD LIST 22501, Mine Test Sets, Tools, and Equipment will be revised to show an allowance of these sets when they become available for issue.
Terminal Block TB-11	Mine Mk 27-2 & 4	Stamped for "Drill Use Only". Incorrectly packaged as service stock.	Shipping activity notified.

"BILL OF MATERIAL FOR MINE MK 10 MOD 3, SERVICE AND DRILL"

ITEM	DWG. NO.	SEQUENCE NO.	FED. STK. NO.	DOD CODE	OPNL ASSY.	NO. PER MINE	COST
§ Adapter & Connector Assy, button type (used in torp-tube loading)	1273604	(not yet procured, use Adapter Z1350-038-5356 until further notice)			All	1	
§Adapter Assy, coupling (used in torp-tube loading)	384033		Z1350-038-5356		All	1	.85
§Air-Dryer Mk 10 Mod 1	1240872		Z1350-038-5370		All	1	.09
§Anchor, Mine, Mk 10 Mod 3	362999	G0127-1030	J1350-038-5479	R022	All	1	650.00
§# Anvil, Releasing Pistol	1177136		Not yet assigned		1A, 2A, 3A, 4A	1	.50
§ Bar, Stowage, Mk 2 (used in torp-tube loading)	369411	Special Order			All	1	
§ Battery BA-236/U	342950	G0162-36YQ	J6135-100-0453	U236	All but B, C	1	6.31
# Battery BA-310/U	1236734	G0163-10YQ	J6135-274-4034	U310	1A, 2A, 3A, 4A	1	.94
§ Bolt, hex, corrosion-rsist, 1¼" 7NC x 3" (used in torp-tube loading)	MS35307-273		G5305-000-000		All	1	
* Booster, mine, Mk 6 Mod 5 (TNT-loaded)	713147	G0185-0650	J1351-310-2705	R708	1, 2, 3, 4	1	3.53
§ Bracket, air-dryer	402879	G0117-2760	J1350-038-5373		All but B, C	2	.05
Bracket, resistor (used on TB-7)	363074-13		Z1350-038-7576		All but B, C	1	.06

ITEM	DWG. NO.	SEQUENCE NO.	FED. STK. NO.	DOD CODE	OPNL ASSY.	NO. PER MINE	COST
§ Bushing, fiber-insulating (f/25W resistor, TB-7)	12-Z-7200-30		Z1350-671-5169		All but B, C	2	.02
§ Cable Assy CA-102 (SD-4/TB-7)	363073-2	G0198-1020	J1350-038-5947		All but B, C	1	3.10
§ Cable Assy CA-211 (SD-4/TB-7)	369286-3	G0198-2110	J1350-038-5952		All but B, C	1	5.60
§ Cable Assy CA-215 (BA-236/U to TB-7)	363074-5	G0198-2150	J1350-038-5954		All but B, C	1	1.00
§ Cable Assy CA-216 (BA-236/U to TB-7)	363074-6	G0198-2160	J1350-038-5955		All but B, C	1	1.00
* Cable Assy CA-404 (EX/TB-7/ sink device)	369286-1	G0198-4040	J1350-310-2708		1, 2, 3, 4	1	8.00
* Cable Assy CA-417 (EX/TB-7)	443317	G0198-4170	J1350-038-6016		1, 2, 3, 4	1	.32
* Cable Assy CA-649 (EX/AR-1)	541634	G0198-6490	J1350-038-6045		1, 2, 3, 4	2	.09
# Cable Assy (CA-954 (TB-7/sink device/TB-32)	1236466	G0198-9540	J1350-038-6118		1A, 2A, 3A, 4A	1	2.30
# Cable Assy CA-956 (BA-310/U to TB-32)	1236468	G0198-9560	J1350-038-6119		1A, 2A, 3A, 4A	1	3.90
# Cable Assy CA-957 (TB-32/CA-962)	1170979	G0198-9570	J1350-038-6120		1A, 2A, 3A, 4A	1	1.80
$# Cable Assy CA-961 (TB-7/ signal)	1236458	G0198-9610	J1350-038-6123		1A, 2A, 3A, 4A	1	2.40
$# Cable Assy CA-962 (rlsng pistol /CA-957)	1170974	G0198-9620	J1350-038-6124		1A, 2A, 3A, 4A	1	2.60
$#Cable Assy, Retention (float & rlsng-pistol)	1177129		Z1350-038-7398		1A, 2A, 3A, 4A	1	.90
§ Cam, replacement, No. 4 (f/CD-9-0, 1)	496073		Z1350-038-6305		All but B, C	1	2.10
§ Cap, case-latch	1125180		Z1350-038-6405		All	2	.02
* Case, underwater-mine, Mk 10 Mod 8 (Expl. load)	1338657	G0218-1082	J1351-093-0554	R731	1, 2, 3, 4	1	814.00
# Case, underwater-mine, Mk 10 Mod 9 (inert load)	1370141	G0214-1091	J1350-093-0520	R116	1A, 2A, 3A, 4A, B & C	1	1103.00
§ Clamp, ring-type (f/TD-16)	239302-5		Z1350-038-7863		All but B, C	1	1.60
§ Clock Delay CD-9 Mod 1	490519	G0225-0910	J1350-038-6280	R197	All	1	45.70
# Clock Delay CD-14 Mod 5	1346010	G0225-1450	J1350-038-6297	R206	1A, 2A, 3A, 4A	1	45.70
§ Clock Starter Mk 1 Mod 9	416533	G0265-0190	J1350-038-6721	R233	All	1	11.60
§ Collar, rubber (used w/TD-16)	239302-6		Z1350-038-7864		All but B, C	1	.18
$# Connector, female, barrel-type (CA-962 to CA-957)	12-Z-7113-6446		N5895-000-0000		1A, 2A, 3A, 4A	1	1.00
§ Cushion Mk 23 Mod 0 (f/SD-4)	384965		Z1350-038-6815		All but B, C	1	.24
§ Cushion Mk 32 Mod 0 (f/BA-236/U)	36092-2		Z1350-038-6825		All but B, C	1	.6
§ Cushion Mk 34 Mod 0 (f/BA-236/U)	36092-1		Z1350-038-6829		All but B, C	1	.3
$# Cutter, releasing-pistol	1177138		Not yet assigned		1A, 2A, 3A, 4A	1	1.5
§ Detonator Mk 46 Mod 1 (elec.)	1252238	G0315-4610	J1351-093-0658	R766	All but B, C	*2 #1	1.8

ITEM	DWG. NO.	SEQUENCE NO.	FED. STK. NO.	DOD CODE	OPNL ASSY.	NO. PER MINE	COST
$# Disc, releasing-pistol	1177135		Not yet assigned		1A, 2A, 3A, 4A	1	.10
$# Explosive Fitting Mk 2 Mod 1 (f/rlsng pistol)	1251373	G0386-0210	J1351-671-5189	R793	1A, 2A, 3A, 4A	1	1.80
* Extender Mk 14 Mod 0	362639	G0340-1400	J1350-038-6865	R315	1, 2, 3, 4, B, C	1	11.80
# Fin Mk 4 Mod 0	1358333	G0345-0400	J1350-038-6976	R345	1A, 2A, 3A, 4A	1	24.00
§ Fin Mk 7 Mod 0	1370689	G0345-0700	J1350-038-6979	R348	1, 2, 3, 4, B, C	1	53.00
§ Firing Mech M-5 Mod 2 (Blue)	1697641	G0371-0522	J1350-038-3422	R382	1, 3, 1A, 3A	1	550.00
# Firing Mech M-5 Mod 2 (Red)	1697641	G0371-0521	J1350-038-3421	R381	2, 4, 2A, 4A		550.00
# Firing Mech, Dummy for M5s	SK124977	G0371-0010	J1350-038-7013	R410	B, C	1	21.10
# Float Mk 14 Mod 0	1358330	G0387-1400	J1350-038-7220	R423	1A, 2A, 3A, 4A	1	30.00
$# Fuse, type 3AG (f/fire-mech cable)	12-Z-13003-155		N5920-000-0000		1A, 2A, 3A, 4A	2	
§ Gasket (ballast-weight opening)	343052-4		Z5330-290-9300		All	1	.20
$§ Gasket, EX, CS, & Sink Device, (full type)	385823		Z5330-285-3587		All	3	.14
$§ Gasket, filling-hole, (full type)	385822		Z5330-291-2262		All	1	.20
$§ Gasket, tail-opening	363078-1		Z5330-291-2258		All	1	.58
Gasket, releasing-pistol	1177134		Not yet assigned		1A, 2A, 3A, 4A	1	.10
$# Gland, packing, rlsng-pistol	1170978		Z1350-038-7397		1A, 2A, 3A, 4A	1	.05
§ Guide-block, (tapered, used in fwd hsng)	1378951		Z1350-038-6521		3, 4, 3A, 4A, C	1	6.00
§ Guide-block, (untapered, used in fwd hsng)	1378950		Z1350-038-6520		1, 2, 1A, 2A, B	1	6.00
§ Hydrostat Mk 2 Mod 2	1518530	G0493-0220	J1350-701-7085	R445	All	1	48.00
* Insulation, extender-well	497673		Z1350-093-0693		1, 2, 3, 4	1	.08
§ Lanyard Assy, (used in torptube loading)	1441799		Z1350-672-0329		All	1	2.80
§ Latch, case	1207854	G0232-5030	J1350-038-6539		All	1	1.00
$# Nut, gland, rlsng-pistol	1170976		Z1350-038-7396		1A, 2A, 3A, 4A	1	.10
§ Nut, hex, brs, #8-32 (f/25W resistor, TB-7)	43-N-4742-60		G5310-265-9632		All	1	.40
§ Nut, lock, hex, brs, ¾"-10 (used in torp-tube loading)	388420-8		GA5310-188-1964		All	8	.23ea
$# Pin, shear	1177137		Not yet assigned		1A, 2A, 3A, 4A	1	
# Pistol, Releasing, Mk 5 Mod 0	1170966	G0666-0500	J1350-038-7556	R524	1A, 2A, 3A, 4A	1	8.60
# Projector Mk 18 Mod 0	1358328	G0545-1800	J1350-038-7381	R537	1A, 2A, 3A, 4A	1	5.40
§ Relay TD-16 Mod 0	810590	G0835-1600	J1350-038-7859	R554	All but B, C	1	15.90
§ Resistor Assy, 5-ohm, ½W (used on TB-7)	443315		Z1350-650-2129		All but B, C	1	.15
Resistor Assy, 5-ohm, 25W (used on TB-7)	959199	G0684-0262	J1350-038-7572		All but B, C	1	.54

ITEM	DWG. NO.	SEQUENCE NO.	FED. STK. NO.	DOD CODE	OPNL ASSY.	NO. PER MINE	COST
# Retainer Assy, hydrostat	363002-1		Z1350-038-7324		All	1	.80
§ Screw, cap, soc-hd, ¼"-20 x ⅝" (fwd housing)	43-S-4366-20		G5305-281-3173		All	4	
§ Screw, cap, soc-hd, ¼"-20 x ⅞" (fwd guide block)	43-S-4366-40		G5305-558-3686		All	10	
§ Screw, cap, soc-hd, ¾"-16 x 1⅜" (fwd guide block)	43-S-4368-55		G5305-281-3176		All	3	
§ Screw, cap, hex, brs, ¾"-10 x 2½"	388420-7		G5305-655-9451		All but B, C	8	.34ea
§ Screw, fil-hd, brs, #6-32 x ⅝" (f/TD-16)	MS35271-31		G5305-290-2341		All but B, C	6	.47g
* Screw, fil-hd, #6-32 x 1" (f/SW, AR-1)	43-S-15532		G5305-290-2757		1, 2, 3, 4	2	.41g
§ Screw, RH, brs, #8-32 x 3" (f/ resistor assy, 25W)	12-Z-1084-917		G5305-013-3249		All but B, C	1	
§ Screw, fil-hd, brs, #10-32 x ⅞" (f/TB-7)	43-S-9830		G5305-290-3289		All but B, C	2	1.05
§ Shaft, latch	231462-4		Z1350-038-6620		All	1	.60
§ Shim, guide-block (fwd)	1389681		Z1350-093-0634		All	6	.02
$# Signal Mk 26 Mod 0	1358326	G0545-2600	J1351-038-7383	R812	1A, 2A, 3A, 4A	1	23.00
# Spacer, (f/BA-310/U)	1672269		Not yet assigned		1A, 2A, 3A, 4A	8	
* Spacer, booster, Mk 2 Mod 1 (f/ booster 6-5)	883387		Z1350-038-5891		1, 2, 3, 4	1	.8
§ Spring, latch	231462-6		Z5340-664-4716		All	1	.3
# Spring (f/float & fin)	1177130		Z1350-038-7399		1A, 2A, 3A, 4A	1	5.2
$§ Sterilizer SD-4 Mod 1 (w/can & screws)	384265	G0747-0415	J1350-038-7692	R605	All but B, C	1	73.0
* Switch, Anti-Recovery, AR-1 Mod 0 (f/EX)	489544	G0764-1360	J1350-038-7730	R616	1, 2, 3, 4	1	4.
* Target (f/TB on EX Mk 14)	497853		Z1350-038-7759		1, 2, 3, 4	1	
* Target Strip (f/TB 7-0)	1384998		Z1350-671-5239		1, 2, 3, 4	1	
§ Terminal Block TB-7 Mod 0	363068	G0800-0700	J1350-038-7799		All but B, C	1	4.
# Terminal Block Mk 32 Mod 0	1358340	G0800-3200	J1350-038-7823		1A, 2A, 3A, 4A	1	12
$# Washer, gland, rlsng-pistol	1170975		Z5310-209-0346		1A, 2A, 3A, 4A	1	
* Washer, insulating, fiber ("Bushing," f/EX & CS)	12-Z-7907-1		Z5330-093-0668		All but B, C	16	
* Washer, lock, int-tooth, #6 (f/AR-1)	12-Z-3042-3		G5310-595-9344		1, 2, 3, 4	2	
§ Washer, spring-lock, brz, #6 (f/TD-16)	43-W-5740-30		G5310-209-1136		All but B, C	6	
§ Washer, spring-lock, brz, #8 (f/25W resistor)	43-W-5740-40		G5310-194-7343		All but B, C	1	

§ = Service and Drill Mines * = Service Mine only # = Drill Mine only $ = Expendable each drill

HOT STUFF

Somebody order a stone

Dear B. Butt:
An explosive-loaded mine case just arrived here with loose filling-hole-cover nuts and it looked like a ground wire had been installed under one of them. Now go ahead and blow your stack. But remember, you said we should cut you in when we find stuff like this.

F.H.L.

Dear F. H. L.,

This leaves me almost speechless. But not quite. You mean to say that after all my bleeding warnings about everybody keeping their bleeding tools off'n those bleeding filling-hole fastenings some jerko went and used one to attach a ground wire? One of these days that stout individualist is going to be filling a customized hole all his own . . . and so's everyone else who's anywhere near him when she blows.

A couple more reports like this and we'll be adding a course in harp playing to the curriculum at the Mine Warfare School.

B. arnacleknuckle

You cawn't miss it

Dear Chief:
My advance copy to OP 1684 3d Rev seems to have left out some tests during assembly of the 36-1 mine. Like voltage-polarity and current-drain, also continuity tests of the CD-14's DA switches.

M.R.M., MN1

Dear M. R. M.,

The current-drain and switch-continuity tests on the CD-14s have been dropped from assembly in this book. Instead they are in during the component tests with the 75-1 test set (see OP 1452).

The polarity test on your CD's receptacles is performed during the polarity test on TB-21 per page 39. TB-21 is tested with Test Set Mk 2 Mod 3 and a second polarity test is performed on the TB-8 after assembly in the mine, per page 84.

Table 6 calls for current-drain and voltage tests on the SD-4 on page 45, and the voltage-polarity test on the TB-21 and the current-drain test on the SD are performed before assembling the mine.

Personally, like you, I'm by no means sure I buy it this way. Right now the official revision to this book is on its way through the presses, but we'll look into a change to simplify things as soon as it's out.

B. arnacleknuckle

Get a load of this

Dear Barnacles:
When I check test sets for proper operation, I find that existing OPs, OSs, and RTPs often specify voltages without stating whether they are load or no-load. It do make a difference.

N.D.T. MN1

Dear N. D. T.,

Somebody dropped the ball here for sure. Until we can get this information cranked in where it belongs, here's the scoop on sets which must have their external voltage sources adjusted under load (other tests sets either do not have external voltage sources or have external voltage sources which do not require adjustment under load). Just remember to consult each test set's *latest* operating

instructions before you put this info to work:

▶ First, the sets with external voltage sources that should be checked under load: Test Sets 8-1, 9-1, and 30-1. On the 8-1 and 9-1 add a note to the operating instructions that you should connect a 5-ohm 30-watt resistor between pins 2 and 6, and jumper pins 1-2 and 5-6 on J1. This will simulate the firing-mechanism load. To the instructions for the 30-1, add a note to adjust BA-236 to 7 volts using a 25-ohm 5-watt variable resistor.

▶ Second, the sets with external-voltage-source load specs in their operating instructions: Test Sets 13-0, 72-0, 75-0, 137-1, and 181-0. The specs for these sets are fine as they are. Just make sure you use 'em.

And that, men, is the best scoop I can dig up for now. Let me add one specific rule: *Never place a load on standard (1.091 nominal) cells.*

B. Armaclebutt

Strippers avast!

Dear Barnacles:

When I transferred in here one of the first jobs I got was to tap threads in the iron maidens in some float shields that had been used in air drops. I always thought it was SOP to grind the threads off the last quarter inch of the screws. I'm sure you know about this time and money saving wrinkle, so why don't you send out the word to all hands?

P.P.A. MN1

Dear P. P. A.:

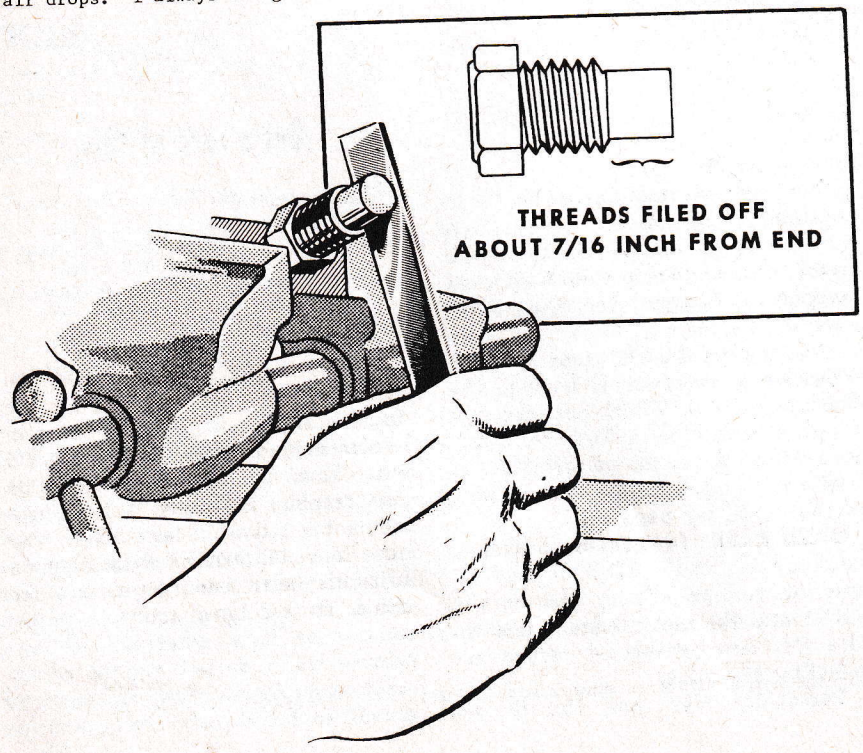
Good ol' P. V. WILLIAMS wrote us from NAF Navy #3867 about this too. Last I heard, BUWEPS might specify modified screws to save all hands the trouble. You could be seeing them soon. Meantime, for the benefit of the rest of the force, here's the word:

The shields they're talking about, men, are those cans that hold floats on air-laid Mk 25, 36, 52, and 55 mines. What happens is that the shields take a real jolt when the mines hit the water. This buggers the screw threads that extend through the iron maidens to secure the shields to the Mk 25 and 36 mines. Then when you go to remove 'em, they louse up the threads in the maidens and you have to keep tapping 'em out.

The answer is to send a bunch of screws to public works to get the last 7/16 inch of their threads machined off. If you can't manage that, file 'em off by hand like we show you here. Either way they'll usually come through repeated air drops just fine, with the result that you can use those float shields over and over again with no further sweat.

Remember, *this modification applies to the shield cap screws for Mk 25 and 36 mines only.* So do not alter them for use with Mk 52 and 55 mines. The hookup is different for these mines and the end threads are used.

B. Armaclebutt



The big push comes with practic

Dear B. A.:

Can you tell me why DWG 1635373 "Leakage Test for Mine Case Mk 49 Mod 0," calls for 25 psi pressure differential without leakage for the bulkhead between the charge and instrument compartments; when DWG 1634636 Leakage Test for Mine Cases, and DWG 1619600 Rev B, Leakage Test for Mine Case Mk 52 Mod 0, state that this pressure differential shall not exceed 6 psi?

N.E.W.

Dear N. E. W.,

Yes, The Mk 49-0 mine case is als used for the Mk 49 drill mine. Durin practice use (what else?) water is e pelled from the charge compartme under pressure greater than the e ternal pressure on the mine case. make sure that water won't leak in the instrument compartment and check the strength and suitability the welds on the bulkhead, a high pressure differential limit is specifi for this mine case than for othe similar to it.

B. Armaclebutt

Spring fever

Dear Chief:

Ran the bench test like in OP 1844 and the A-6-3 checked out jus right. Hooked the mech up to the mine per OP 1765 and that SR-9's hair spring got so hot that it popped.

I know who done it, Chief. What I don't know is what done it

D.S.C. MN2

Dear D. S. C.,

Your trouble, obviously, wa short. Now I've got no puritan gr

TROUBLESHOOTER

ith the combination of shorts and hot springs when the latter are in Arkansas. But in a mine shop there's just no excuse.

The answer, after you're rigged up for the operational test, is to zero an independent ohmmeter and connect it across the A and either of the F terminals of the TB-18 in Mine Mk 25-2, or the A and F terminals of Control Box 15 in Mines 36-3, 27-3, and 27-5.

If you get a reading of about 1500 ohms disconnect the ohmmeter and go ahead with the test. Otherwise check the test set's leads 1 and 2 where they connect to the extender. If these leads are shorted you'll get hot springs every time.

Don't forget, you've got to use an independent ohmmeter for this one-minute check. *Don't try to use the one in your Test Set 3-2, even as a last resort!*

B. Arnaclebutt

Depth-charge jive is deep, man!

Dear B-Butt:
How come NAVORD LIST 22501 doesn't have an allowance for "hardware"? Looks to me like "Plant Account Equipment" in this list and "Shop Stores" in NAVORD LIST 22500 aren't interpreted right.

H.A.W.

Dear H. A. W.,

When you say NAVORD LIST 22501 doesn't have an allowance for "hardware" you probably mean *mine* hardware. If so, you'll find that NAVORD LIST 23922 Rev A does a pretty good job.

As for the interpretation of "Plant Account Equipment" and "Shop Stores" referred to in lists 22500 and 22501, I agree that it doesn't make sense to me either. From what I can dig up, list 22500 refers to Shop Stores but not in the sense of the word as we know it. I'm told that "Shop Stores" used in this list means readily available tools and equipment — like from the tool crib. Depth-charge test sets allowed an activity naturally become Plant Account Equipment. Hope this clears things up for you.

B. Arnaclebutt

Better you should be color-blind

Dear Chief:
In OP 1799's section on the A-5 and 2 firing mechanism, a note at the bottom of page 2 says to cut CA-365's brown lead where it emerges from the cable cover. If we do this on mechanisms made by Bendix Aviation Corp., we'd be cutting the plus 1.5 filament section of the battery connected to C on the clock-delay terminal strip of the firing mech. We've got a black lead, though, that's connected to Q for the 12-volt section of the battery.

T.P. MN2

Dear T. P.,

Okay! Come in on Q and cut. The technicolor bit is out. The reason for your hue and cry harks from NAVORD OS 3170 for firing mechs which includes: "Color coding of wires not coded on drawings shall be determined by the manufacturer, but all color coding shall be maintained the same throughout production."

So, we've got three outfits making up these mechs; Bendix and RCA used black at Q; Dukane used brown. OP 1799 will be changed to say (in black and white) cut CA-365's lead to the Q terminal; so never mind whose hue is which.

B. Arnaclebutt

Great hoax from little acorns

Dear Chief:
We've run into trouble adjusting the potentiometers on A-8-0 firing mechanisms. The glyptal put on the pot's adjusting screws sets up so hard we can't remove the acorn nut over the screw without often breaking the retaining pin.

LT V.B.M.

Dear Lieutenant,

Sealing cement used on the adjusting screws of pots having self-locking bushings is causing your trouble. Other pots used in these firing mechanisms have non-locking bushings; glyptal or other quick-drying cement should be used on these pots but *not* on pots having self-locking bushings. A change to OP 1844 1st Rev will be coming along but if all hands make a note on page 32 about this business of no cement on the adjusting screws of pots having self-locking bushings, a lot of pin-breaking trouble can be prevented. While this possible trouble still lurks in the stockpile, ease those acorn nuts loose carefully — and keep your fingers crossed!

B. Arnaclebutt

Thick! thick! thick!

Dear B. Arnaclebutt:
The common alignment bar of switch terminals in the switch box of Test Set Mk 96-1 is too thick to accept the spade lugs from Circuit Breaks 1-0. We all know the lugs should be snug against the contacts so we use a small jeweler's file to reduce the bar's diameter near the contacts, holding back the springs with a screwdriver while filing.
Why can't this bar's diameter be reduced in new procurement of this set?

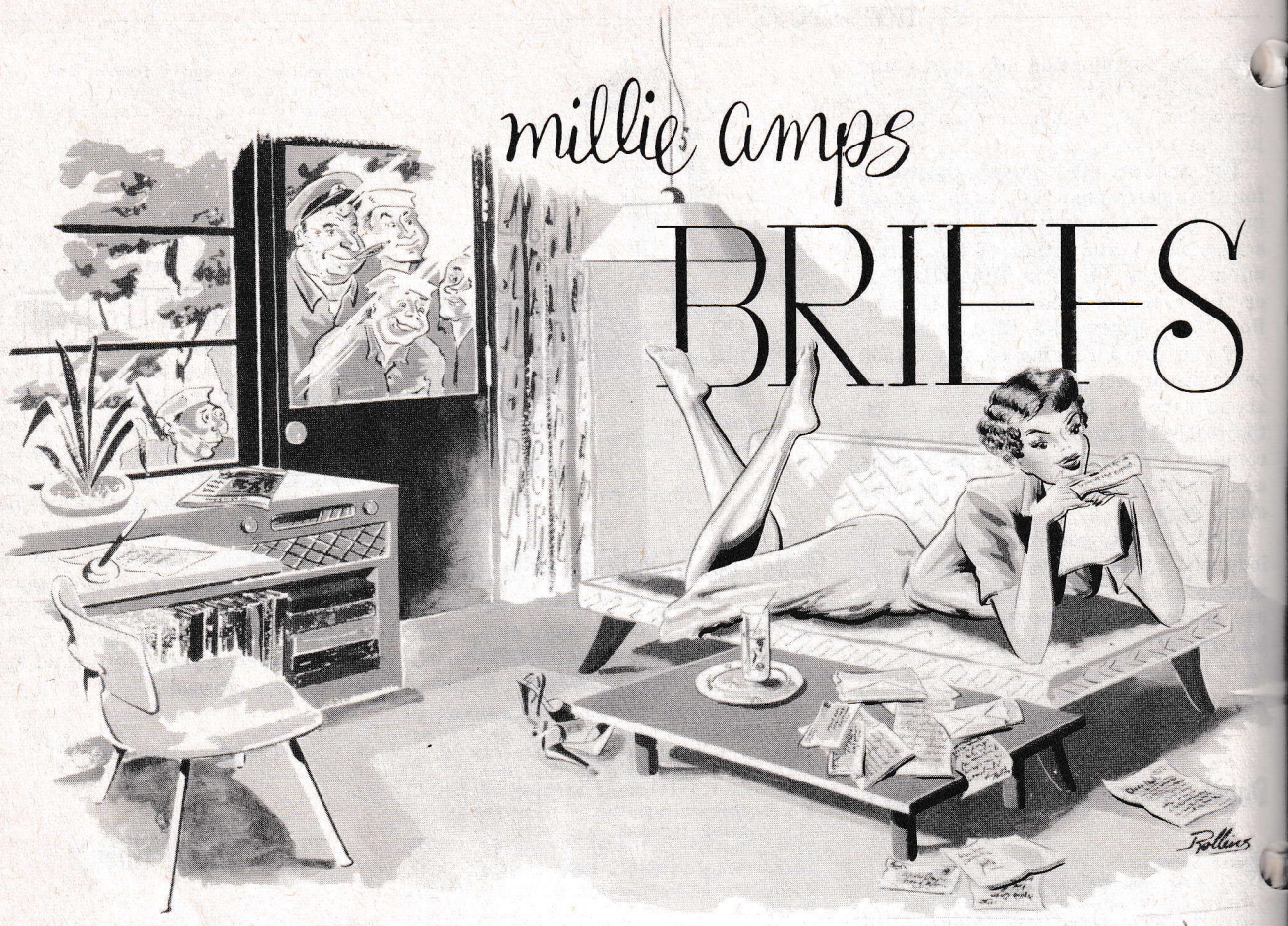
M.D.H. MN2

Dear M. D. H.

This man's mine force could sure do with more guys like you. And while I'm generally against cutting down on the size of bars wherever they are, I'd sure like to do something about this one. Trouble is there's just no procurement of those 96-1 sets in the mill. So you'll just have to keep on filing. Maybe this will get some other guys to start doing it too.

B. Arnaclebutt

millie amps BRIEFS



A Couple of Pointers

Well! I sure got told about the difference between a P2V-5F and a P2V-7. Can't call 'em wrong in the T-SHOOTER and not hear about it. That plane we showed on page 9 of the last issue is sure enough a P2V-7. Like, f'rinstance, the 7s have real curvy bubble canopies and longer bomb bays. And if that isn't enough to make you notice, just glance at her tail; the number there sure doesn't read P2V-5F. That's what they said. Believe me, I'm blushing!

Wench gets wrench

Taking us at our word B. W. RONDER, Navy 3002, sent off to NAD/ HAWTHORNE for that 0-50 inch-pound Torque Wrench Z5120-540-6603 just like Big Mouth said in HOT STUFF last issue. Later, Ronder (and maybe some of the rest of you) got word from BUWEPS that this item was not available. That was my cue.

Dressed in my Sunday best I pulled in my tummy and puffed out my — you know — and marched right into a certain office up in that old Bureau. The outcome? They're procuring enough of those wrenches to fill out the basic tool kits for you men, and *I* got taken to dinner at a yummy little spot on Connecticut Avenue. The moral?

— Never underestimate the power of a woman!

Flying saucers yet

When we got ELMER JACO's Rudminde we trotted out OP 1684 2d Rev and sure enough, there in figure 9 is a circular object floating in space behind part of Cushion Mk 18, just like he said. The call-out says it's a newsboard spacer but it's really a sort of mirage. Like when you look at the same illustration in the Advance Copy to the 3d Rev, the gizmo's gone! And that's as it should be.

The newsboard you really need is a rectangular one (1/16" x 8½" x 31") that gets formed into a cylinder to line the compartment before you install Cushion Mk 18 and Firing Mechanism M-9. It's always been supplied with the Mk 18 Mod 0 cushions, but has only recently been included with the Mod 1 as well.

Actually, we've discovered that this spacer has two drawing numbers: DWG 38360-4 and DWG 541096. Either one is okay with either Mk 18 Cushion — Mod 0 (Z1350-038-6802) and Mod 1 (Z1350-038-6807).

Cans ahoy!

LTJG A. P. EMSLEY reports from the USS CUSHING that inspection of their Mk 9-2 depth charges showed 8 instances of TNT exudate creeping out of cracks next to the rivet heads in the Mk 6-4 boosters. In some cases rivets had even pulled free and in one case the booster's head socket had pulled right off the can. Heavens to Betsy, Lieutenant — an accidental detonator explosion in that baby could

ve blown the main charge in every depth-charge you had on deck!

So let this be a warning to every last one of you lovers with 9-2 depth charges on the after decks of your cans. Until our boys here can come up with a dependable cure, better step up your inspections and get rid of questionable explosive components in accord with NAVORD INST 8026.9 fast.

By all means send Rudmindes to NMEF too. Remember, indoor sports when you're ashore are okay by me. But I just can't imagine any of you would go for plunging decklines at sea!

Little Joe & Big Joe

D. L. DUNLAP MNSA Rudminded us that he was having trouble cocking the camshafts on Mk 10-5 anchors. The tool he was using kept slipping out. Now, in the special tool kit for Mk 10 mines you may find two tools that look alike but aren't quite the same size. The smaller one, which D. L. D. probably was using, is a Tool (for horn guard locking ring) which was included in the kit once upon a time for use on the now obsolete Mk 10-1 mine. The larger one, it's Camshaft Tool Z1350-310-2751, cocks the old camshafts real neat with no slipping out.

It's often these little annoyances you men notice and tell us about that help us help you keep the mine business up-to-date — like B-Butt and his antique Museum Pieces. I mean, really!

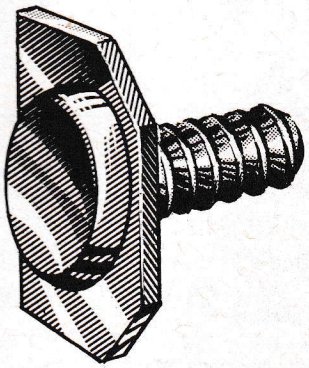
So, thank you D. L. D. T-SHOOTER will soon publish the latest list for that special tool kit for Mk 10 mines.

Easy does it

J. R. HAWKS, Navy No. 955, reports studs missing from mechanism compartments in Mine Cases Mk 36 Mod 2. While this could be a result of careless installation of the firing-mech mounting plates, Hawks suggests that there is also an inherent design weakness here . . . says he'd like to see the design of this mount improved. And he's probably right.

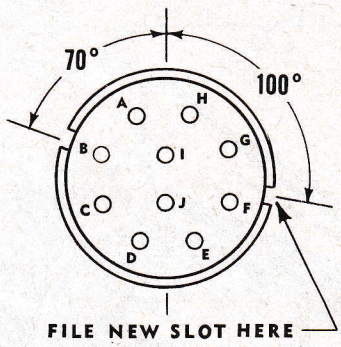
These cases were hastily designed in the course of a real shoot-'em-up war and are far from perfect. But they will work, and so they'll have to do for now as-is so we can concentrate enough money and effort on our new mine designs.

Meanwhile why not go a bit easy on those unstable studs while you're



getting the mechanisms in place. Of course you'll find some studs that just won't stand the gaff. Take it from me. And this is where Replacement Stud FSN Z1350-623-0244 comes in. You'll find it included in the next revision to NAVORD LIST 23922.

Since it does not require welding, it's even okay for use in explosive-loaded 36-2 cases.



The Mating Game

J. M. DICKISON at NAD HAWTHORNE, is interested in mating. And it's not even spring, bless his heart!

Seems he was getting ready to check some M-11-5 firing mechs with his trusty Test Set 26-2 when he found that the amphenol connector on the CA-652 supplied with his set wouldn't mate with the amphenol on the mechanism's CA-564.

The trouble here is that amphenols 3101A-18-1SZ on CA-652s of 26-2 test sets manufactured under NOrd 14823 have their alignment keys 170 degrees from where they should be. And if any of the rest of you get 26-2 sets from NOrd 14823, you can do exactly like our good friend J. M. D. Take the CA-652's amphenol apart and file a new slot in its plastic insert.

The slot there now is near the prong hole marked "B". If you file a new slot right by the hole marked "F", then reassemble the amphenol placing the key of the front shell in the new slot, you'll find that the amphenols on your M-11s' CA-564s will go in like Flynn.

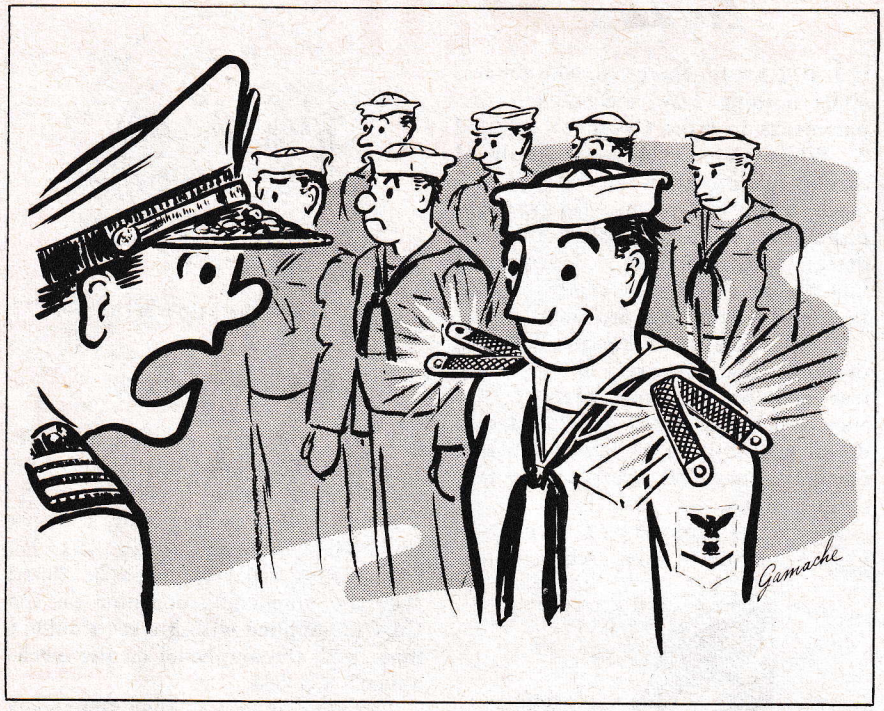
In my book, that's mating first class!

Crazy mixed-up kit

H. M. CAMPBELL wrote me a note pointing out a few things wrong with T-SHOOTER 3-60's *NOMENCLATURE and NUMBERS for YOUR BASIC TOOL SET*. Makes me wish the guy who compiled that tool list was still around so's I could bug him a bit about this — even though his list (with Campbell's corrections) is the best of several such lists that have turned up in the last couple of months. My boss, JACK KOMAN, answered Brother Campbell personally. And because I'm sure all you other men also have a yen to keep your basic tools straight, here are the corrections you should make to your T-SHOOTER list:

NOMENCLATURE ond NUMBERS for YOUR BASIC TOOL SET LIST

1 Pinch Bar ¾" Oct, 26" LG	G5120-224-1372
1 Wrench, Open End 1⅛" & 1¼"	G5120-277-2694
1 Wrench, Ring-Nut DWG 386161 for Clock Starter 2"	Z5120-038-7988
1 Wrench, Ring-Nut DWG 385379 Mk 14 Ext 3½"	Z5120-038-7978
1 Wrench, Ring-Nut DWG 180391 Mk 12 Ext 4"	Z5120-038-7991



Braid for you boys

In T-SHOOTER 1-60 my "Straps Chaps" told you about how DOYLE R. GLAZE and his mates were do-it-yourselfing some ground straps out of lengths of copper braid. Well, Doyle and Co. can put aside their cutting and punching and join the rest of you in ordering handy-dandy, ready-made, store-boughten ground straps from Hawthorne, Oahu, and Yorktown just like we promised. Ask for Z1350-767-8197. Just remember you were told about it first by T-SHOOTER. Remember, too, that ground straps are never, but NEVER, to be hooked up to filling-hole cover fastenings like you see Ol' B-Butt catching that drafty headed horse's derriere doing in the picture over Scowly Face's column. Really, Chief, such language!

Millie Camps

SOUNDINGS *(Continued from page 1)*

SWIMMING, ANYONE?

IRAN THAT-A-WAY: A tiny, finny, but nameless fish has Iran's navy and marine experts in wet pursuit. Equipped with a beard-like poison sac, it has been blamed for the deaths of 28 persons in the Shatt Al Arab River. One child emerged with one clinging to his leg . . . flushed red, then turned black and died within minutes.

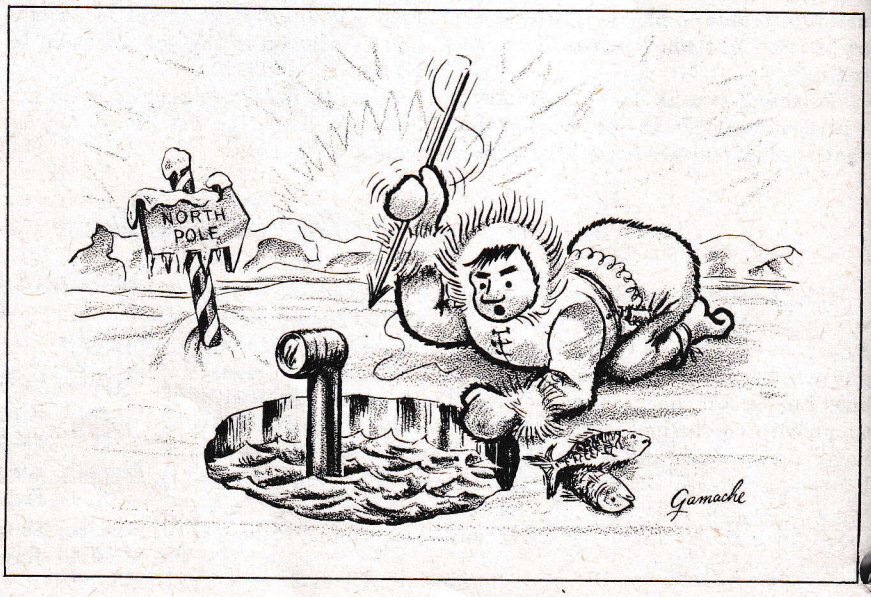
Some have ventured a connection between the advent of the deadly fish and the fact that horse carcasses had been dumped into the river after the outbreak of a widespread horse disease.

B. O. BELOW: Like the land-based polecat, which is friendly enough if you let him alone, a little sea dweller called the sea cucumber has an odor all its own. According to Navy Researcher DR. SIDNEY GALLER, the stuff it spits out (scientists call it "holothurin") causes fatal convulsions in some types of fish and may be the end of a long search for a dependable repellant for sharks. According to Galler, it "looks promising."

One still unresolved question: which will be bothered most — the swimmer or the fish?

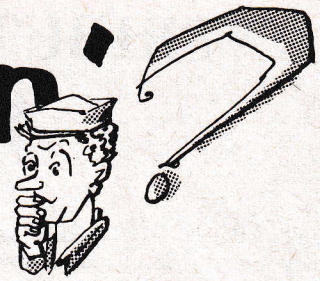
SUB DUCKS 'BERG: Then to rout all doubt about it she did it again, and thus our nuclear sub SEADRAGON rang up another first! Number one was a small iceberg 74 feet high and 108 feet deep in Baffin Bay. Later she sailed neatly under another, a big baby 879 feet by 1470 feet and more than 300 feet deep!

The trip was the one she took last summer through a new direct-route Northwest Passage via Peary Channel.



Pub-S-Crawlin'

with Clark Starter, MN2



SO YOU KEEP WONDERING what to do with all that scoop in T-SHOOTER's table of publication errors that we print every issue. So you drop a letter or card to find out — you and about a hundred others!

Then there's that question about whether or not the stuff is "official." Everybody asks that.

So we keep telling you it is, and still the queries keep coming in. So ye T-SHOOTER Ed. has had enough. That table, he says, has just got to go. If you've got something to say, Clark, why not come right out and tell 'em. That's what he says.

Here I go, then, with a brand new format that we hope will set everything straight. From now on I'll be giving you specific directions to make *write-ins* wherever we think they will do the most good. And they *are* official.

Now that doesn't mean they're intended to take the place of regular changes to your pubs. Anything you pick up in this column will ultimately be included in a regular OP or OD change, made up of complete new pages to put in your books.

Trouble is, those fancy jobs seem to take a long time to prepare and even longer to get through the factory to you. That's why these write-ins seem like a real good way to keep your books up-to-date 'til they do.

So use them. *From now on make it a point to get your books out and update them everytime you get a new T-Shooter issue.*

One more thing: why not drop one more card and let us know what you think?

▶ **OD 7318 2d Rev (Mine 10-3).** Add stock numbers for these items:

310.0	1350-671-5214
316.0	W8030-292-1102
237.0	G5330-198-6163

OD 7337 2d Rev (Mine 50-0). The nuts used on the filling-hole flange are not listed in this OD. So write in a new item on sheet 19 under item 17: *18. Nut, hex, zinc-plated steel, 3/8-16 UNC-2B/MS 35690-602-7895.* It takes 8 for each filling hole.

▶ **OD 8485 (New Mine Accessories).** In the margin of page 29 beside the description of Parachute Pack Mk 20-0 write: *Pack Mk 20-0 contains Parachute Mk 27-0.*

▶ **OD 9673 (Mine 52-3).** On sheet 7c change the number for Spacer A to: *1251741.* Change item 242.0 on sheet 28 to: *Spacer A, DWG 1251741.*

▶ **OP 681 (Firing Mech M-11 All Mods).** On page 33, paragraph 10e, lines 3 and 4, delete "A" and insert "C".

▶ **OPs 956, 1765, 1797, 1798, 1807, 1808, 1809, 1892.** Delete all references to mine-jettisoning depths. The reason? 1) It's been decided they should no longer be in assembly OPs; 2) A lot of them are wrong anyhow.

▶ **OP 956 3d Rev (Mine 25-0).** Table 8 and Figure 4 disagree on how you should connect CA-23 to the TB-19. The table has it right, so scribble in something on figure 4 to show the color codes and numbers on each pair of switch leads reversed. This will set your book straight until you get a printed change.

▶ **OP 1452 2d Rev (Mine Accessories).** Turn to page 39. In line 17 cross out *figure 104* and replace with *by turning the adjusting screw as shown in figure 102.* This is a correction to Change 3 instruction.

On page 53 change the last sentence of paragraph 3 just above the warning to read *The resistance of Explosive Fitting Mk 1 Mod 0 should be between 3.0 and 7.0 ohms.*

On page 126 under *Testing Resistors* change b.(1) to read: *Use Multimeter AN/PSM-4A.*

On page 142 change *0.2-inch* in paragraph *c* to read *0.3-inch.*

On page 144 insert the words *Turn TEST SWITCH to LKG* just ahead of sub-paragraph *a* in the upper left.

▶ **OP 1765 2d Rev (Mine 25-2).** Par 51*c* on page 54 tells you to hold the REV switch on your set in the UP position for a few seconds. Change it to read: *Return the REV SW to its center position as soon as cycling starts.* This will help until you get a completely new test in the next change.

▶ **OP 1798 2d Rev (Mine 36-2).** Page 50 par 41*1 a1* reads: *Install one Cushion Mk 21 Mod 1 in the bottom of the clock well.* Change it to read: *Install one Cushion Mk 22 Mod 0 and one Cushion Mk 21 Mod 1 in the bottom of the clock well.*

▶ **OP 1844 1st Rev (Firing Mechs A-6 and A-8).** On page 34 insert the following steps after . . . *in Figure 23D or 23E* (9th line):

1. Disconnect the purple pressure-switch lead and the white lead of CA-194 from the Jones block on the firing mechanism.

2. Clip lead S of Test Set 65-1's CA-745 to the disconnected pressure-switch lead, and clip CA-745's lead T to the Jones-block terminal from which the pressure-switch lead was disconnected. Also cross out the last word on page 34J and the first 5 lines on page 34K.

▶ **OP 2310 (Mine 52-0 Oper. Characteristics).** In the margin of page 1 write: *Parachute Packs 20-0 and 20-1 are interchangeable.*

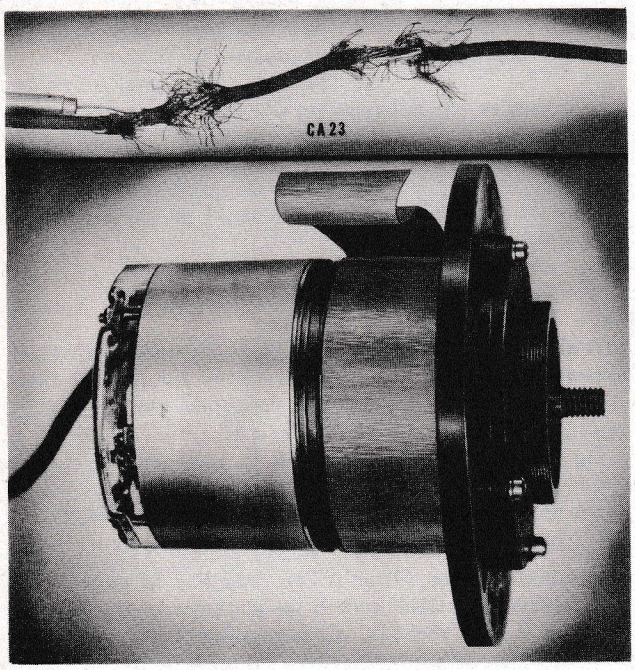
▶ **OPs 2282 through 2286 (Mine 52-1 through 5).** Make a note of this: additional copies of these OPs are no longer available. They will be superseded by OP 2608.

CONTRIBUTIONS FROM THE FLEET

JUST ABOUT AS OFTEN as someone asks "How do they ever think up all those ideas for *Contributions?*" some other stout soul says "Heck, I thought of that idea a couple of years ago." or maybe "I've got an even better gimmick for doing that job."

The best deal in any case is to tell it to T-SHOOTER. If you've been able to go ahead and work out something helpful or interesting, that's fine by us even if someone else has been working on the same thing. Whatever the case, get the story to us somehow. It doesn't have to be fancy writing. Sketches can be plenty rough.

As always, thanks and congratulations to the men who continue to make this T-SHOOTER feature possible.



R. L. JOHNSON, MN2, NAS/WHIDBEY ISLAND, sent this one in. Seems he was weary with having the clock cable get caught between the lower flange of the clock starter and the clock-well flange, and get chewed up when he tried to remove the clock and clock starter from the well. So he made up an aluminum cable guard with the same outside diameter as the bottom flange of the clock starter. It comes apart so it can be fitted into the space between the clock starter's top and bottom flanges. It is secured in place by spring clips which hold the halves together.

At first we thought it would be a good idea to have this item added to stock; but then someone pointed out that there's stuff in stock that'll turn the same trick.

Take a 25-inch length of 2-inch masking tape — just enough for two wraps around the clock starter — and there you have it! Basically, it's Johnson's idea, simply a cheaper design. Keep up the good work R. L.

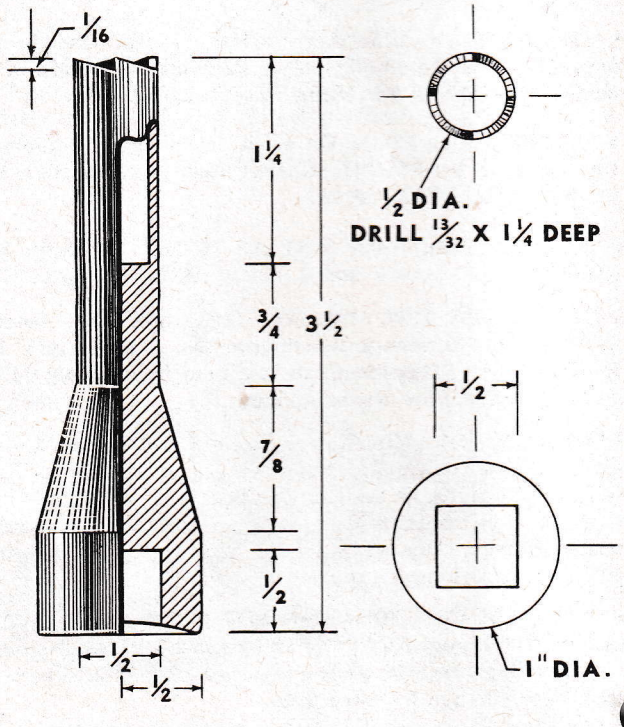
DURING a Fleet Service Mine Test the men at Oahu got fed up with digging those fiber washers from around clock starter and extender well studs. Apparently they thought the last gadget we showed for doing this was far too complex. Anyhow they came up with an extractor very similar to the one we show you here. Their extractor was turned clockwise with a speedwrench and ground through the fiber washer, chewed it out, so to speak.

One of the men here at NMEF had a go with this tool at some of those wedged-in washers but all he got was "A" for effort — until he thought of having the tooth angle on the business end of the tool switched for counterclockwise action.

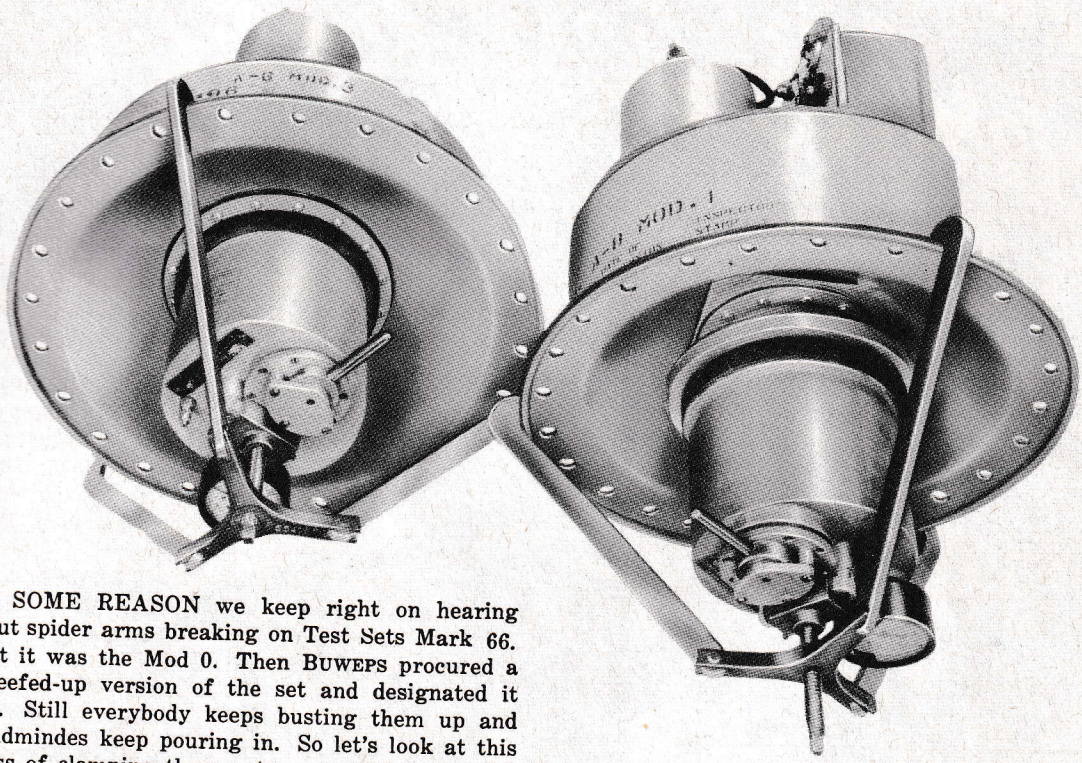
The different twist did it! The teeth hooked into the fiber washer, broke it loose, and backed it up and out on the stud's threads.

We've changed the original sketch to show the teeth angled for "easy-out" operation. Looks like it wouldn't take much more than part of a ½-inch drive extension and some simple lathe work for you to have one of these temper-savers for your tool set.

We don't know who first thought of this simple way of getting those stubborn washers out, but he sure showed the sort of stuff that puts us ahead in the mine game.



Do You do this Job Right?



FOR SOME REASON we keep right on hearing about spider arms breaking on Test Sets Mark 66.

First it was the Mod 0. Then BUWEPS procured a new beefed-up version of the set and designated it Mod 1. Still everybody keeps busting them up and the Rudmindes keep pouring in. So let's look at this business of clamping these pots on your A-6 and A-8 Firing Mechs and see if we can find out where some of you go wrong.

First, before you install the pot, take half a minute to make sure whatever gasket you're going to use is in good shape. If the gasket looks bad install a spare from your set's carrying case.

Next, take another half minute to make sure there's none of those foreign bodies the textbooks are always talking about on any of the mating surfaces. If the surfaces are good and clean you'll get an airtight seal with half the tightening you'll need if they're dirty.

Then position the pot on the A-6's plate, or the pot's adapter on the A-8's plate if it's an A-8 you're testing. Keeping your language clean, work the pot around so's the spider's three hooks are positioned *between holes* in the firing mechanism's flange with plenty of room to let you move the cam lever and read the pressure gage without getting a stiff neck. Also make sure the pot's mouth (or adapter) is neatly centered within the circle formed by the screws that secure the diaphragm's protection plate, just like we show here. When everything's set, tighten the pot's clamping device so the pot just *starts* to bear down on the gasket.

Now you're ready to secure the pot's clamping device. This is where the trouble usually begins, but if you've done everything just like I said, about 1½ turns of the wrench will give you an air-tight seal. So try it. If you get leaks after pumping the pot up to 35 psi, give another turn. If you've tightened more than about three turns and still get leaks, chances are you should remove the pot and start over again using a new gasket.

And there you are. Remember, that 66-1 test pot is a plenty rugged piece of gear. When used right, its aluminum spider arms will be under a tension equal to only about 1/20th of their yield strength and the bronze head under a tension of only about one fifth.

The moral, then, is to cease and desist from taking up on that screw as if it were a house jack. Or maybe instead of so much advice all you need is some new gaskets. If so order flange gasket DWG 496637 and, if you need one, adapter gasket DWG 542099.

the Editor

We have the world's best weapons

Use 'em right!