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sgt tirman

A Slight Case of Backfire

It was fun while it lasted.

You men of the spearheads, shooting it out with the Krauts, always had time for your favorite indoor, outdoor, no-door sport—hurling contempt over your shoulders at the rump-sprung softies of the rear echelons. Made you feel better, probably—and, anyhow, the rear-echelon jokers got used to such abuse early in the game.



There was just one crack they couldn't take lying down. That was when combat troops sounded off on the subject of preventive maintenance. "It's plenty solid up here," you'd boast, "but it gets lousier and lousier the farther back you go."

Which might've been the sorry truth, some places. But most places, it's a matter of record that PM in the rear echelons was absolutely on the ball—scheduled like clockwork, thorough as hell. Maybe their lives didn't depend directly on their vehicles, the way yours did, but that was no go as an excuse for neglect. Every cluckin' truck over there had a job to do. Not a one of 'em crossed the Atlantic just for the ride.

Okay—so you **still** say maintenance stank in the rear echelons. Well, who's rear-echelon now?

Unless you're digging out Japs on Okinawa or in the Philippines (as this is written), you're strictly and suddenly rear-echelon yourself. Now that crackerjack PM is no longer a combat necessity in your area, does **your** maintenance smell so damn sweet?

It better had, brother. It better had. The ships that were bringing new vehicles to the ETO turned right around in mid-ocean on V-E Day—and, as far as you're concerned, there aren't any more where your last buggies came from.

You'll have to make those last ones **last**. And you're the gents who can do it—back there in the rear echelons with most of the rest of us. Preventive maintenance is all it takes. Preventive maintenance scheduled like clockwork, thorough as hell.

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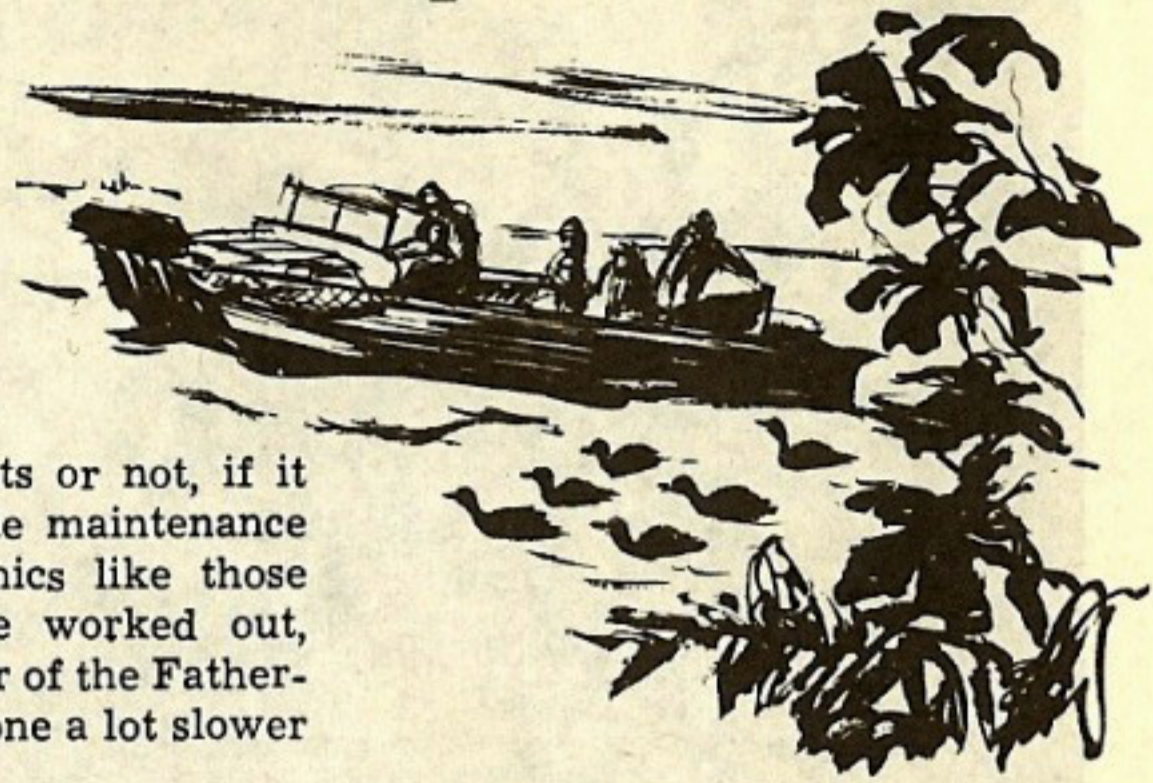


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NO SITTING DUCKS, THESE

They're "Tough Old Baskets" That Flocked Clear Across Europe—With the Aid of Some Well-Chosen Tricks



The ducks of the 453rd Amphibious Truck Co. are old soldiers that have never died, but the bloom of youth has long gone from their olive-drab hulls.

By the time they paused beside a cobbled road that snakes along the river Rhine, their hulls were battered and scaly with the paint of many a touch-up, old tires had replaced the rope fenders that had long ago shredded and dropped off.

And although in many of their ducks the fuel lines were rotting away from salt water, and the water prop-shafts were out on a couple more, the 453rd was rushing to the banks of the Danube for yet another amphibious adventure.

Already they'd come in on D-Day, brought the infantry across the Our, the Saar, the Moselle, and the Rhine.

How did they do it? Ask T/4 Tom W. Hansom, duck and truck mechanic with the 453rd. "We run 'em till they drop—and then we run 'em some more. They're

tough old baskets."

Tough old baskets or not, if it wasn't for the little maintenance tricks that mechanics like those of the 453rd have worked out, chances are the tour of the Fatherland would have gone a lot slower than it did.

FANBELT FIND

Changing fanbelts on the duck with the tire-inflation system, for instance—Sgt. Hansom learned from experience a much faster way of doing this job that often needs doing.

Unbolting the shaft at the engine, as recommended in the book, is too hard. It's too hard to get at the bolts that uncouple the driveshaft. What Hansom does is unbolt the driveshaft at the air compressor on the forward side of the radiator (Fig. 1). There's only four easy-to-get-at (with a 1/2" wrench) bolts there. Then just skin the shaft back (it'll slide back about an inch) and slip the fanbelt around the shaft.

Now to get the fanbelt on the

other side of the radiator where it belongs, squeeze it through the hole in the core that the air-compressor shaft runs through, drape it around the pulleys, adjust it, bolt up the shaft, and you're done.

You cut the job down to about 5 minutes.

GENERATOR FINGER-JOB

When the ammeter ain't ammin' and a check shows that the generator ain't generatin', Hansom has learned to look for one little thing on his ducks. Salt water, he says, creeps into the generator and corrodes the little springs that hold the brushes to the commutator. These stick and fail to press the brushes against the commutator.

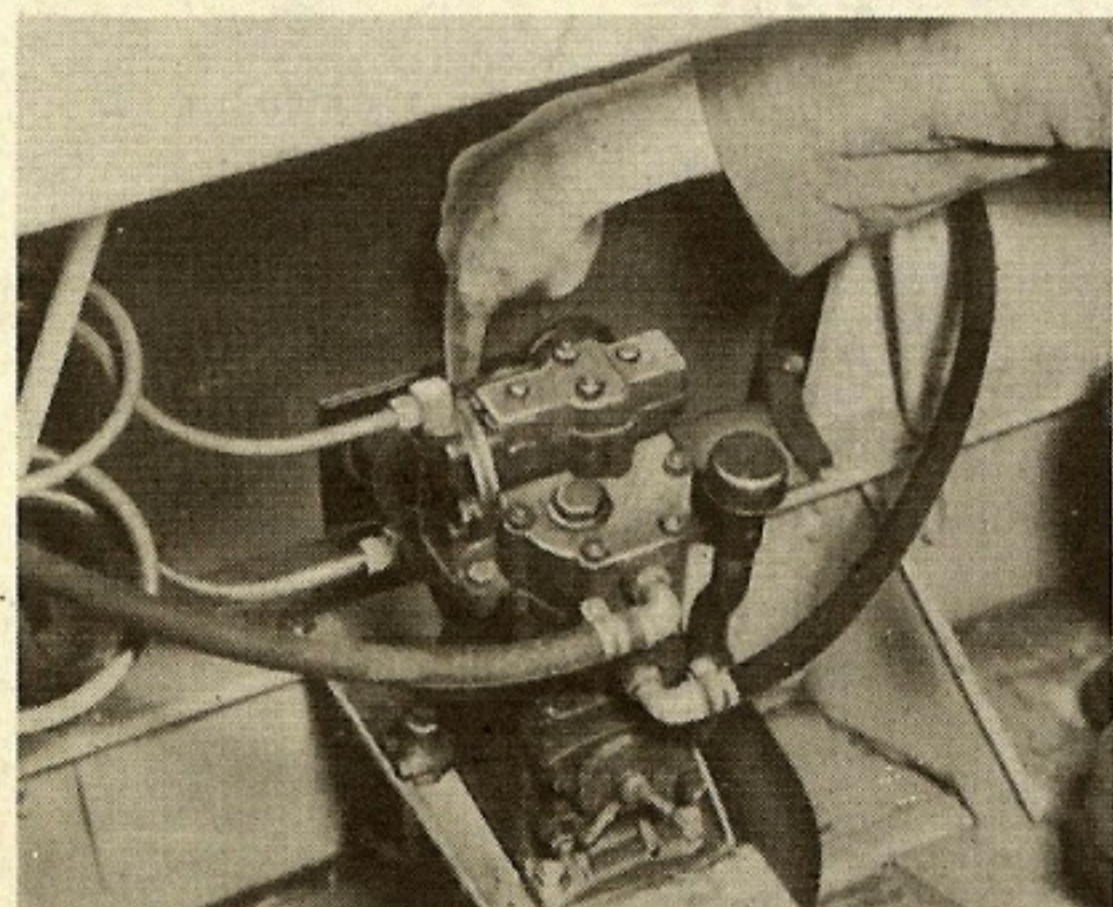


Fig. 1—After you've loosened the bolts and slid back the shaft, slip on the fanbelt.

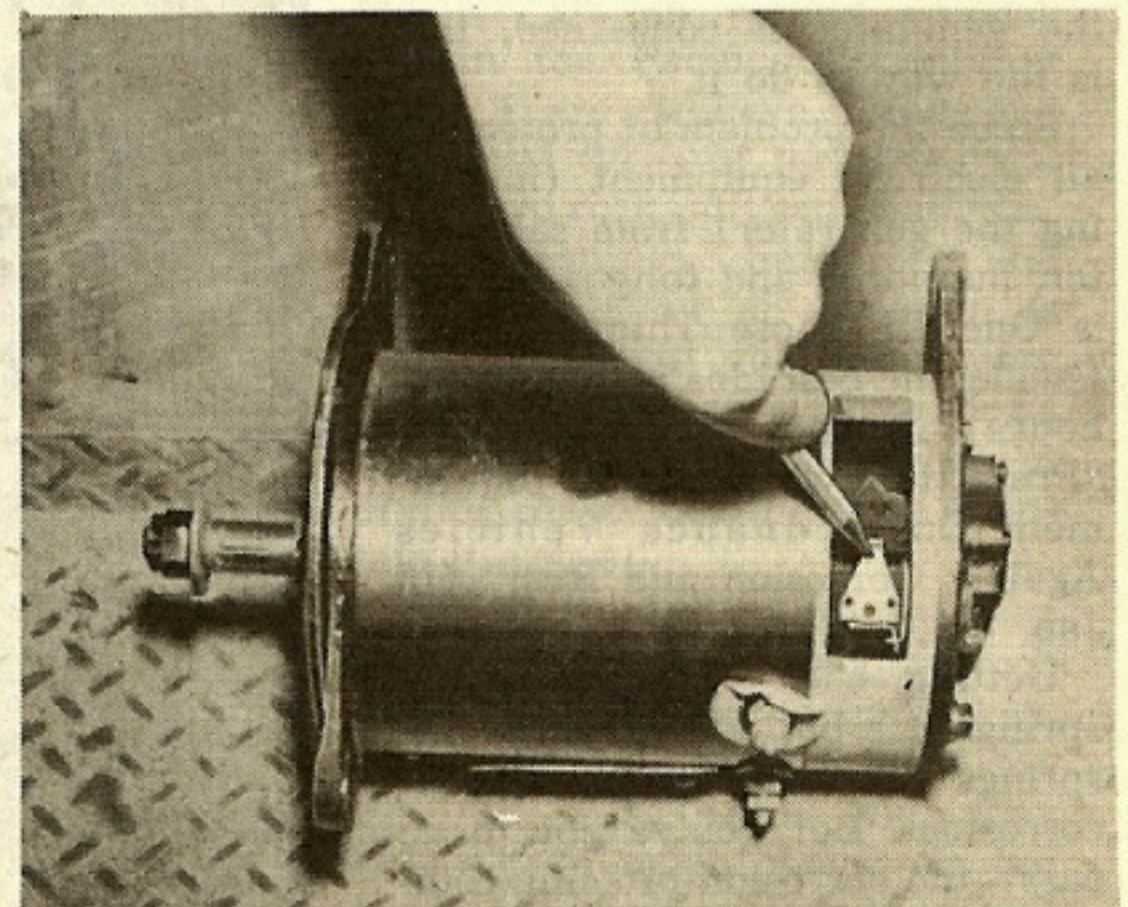


Fig. 2—Flick the levers so the corrosion will loosen up and the generator can start working.

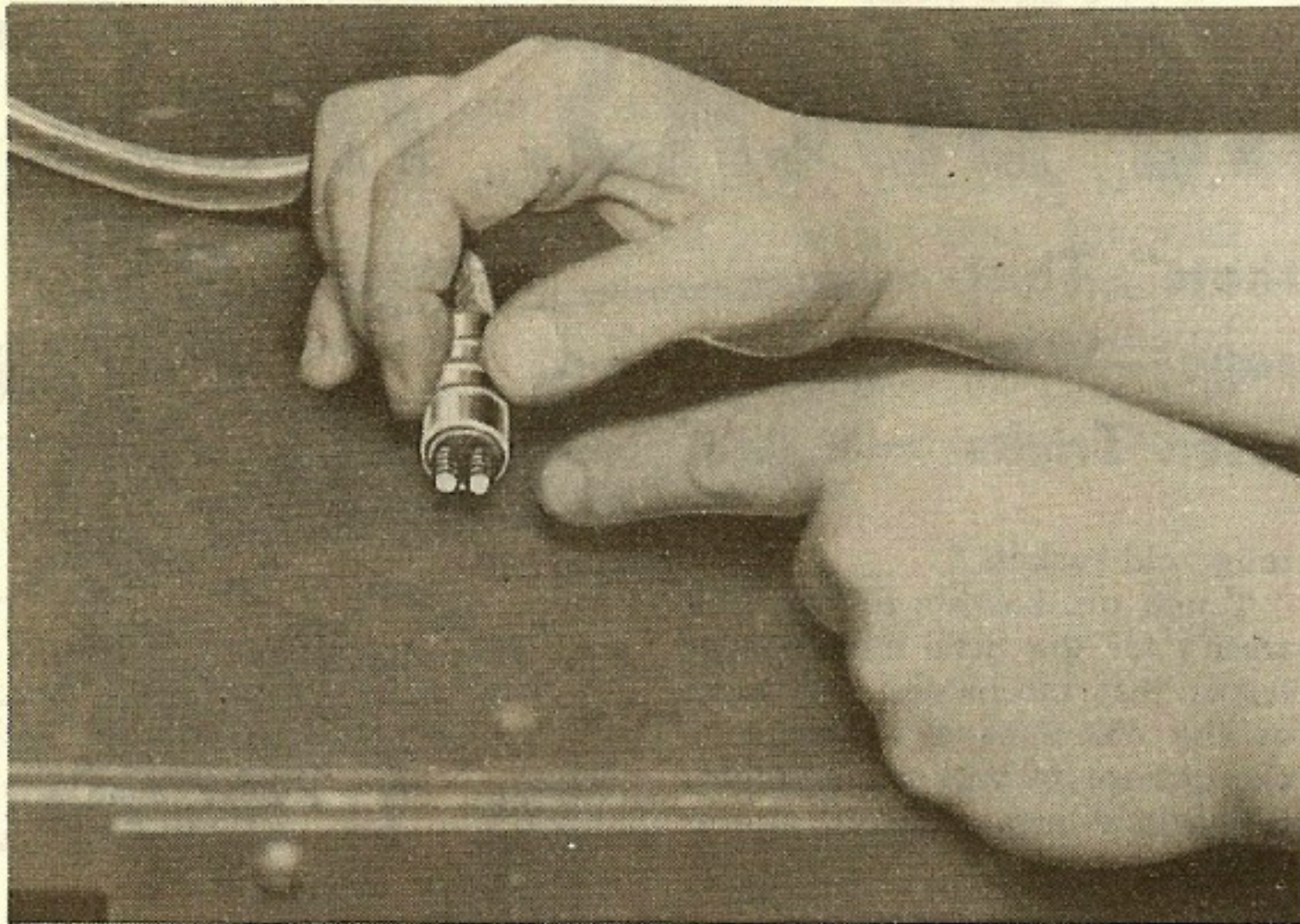


Fig. 3—Spot solder here when the spring connections go.

Now, instead of frothing at the mouth and replacing the generator, Sgt. Hansom has taught himself a little trick that gets his generator back in service in the bathing of an eye. All he does is flip open the commutator-cover band, reach in his finger, and flick the little arms or levers that work off the coil springs to press the brushes down (Fig. 2). This loosens the corrosion on the springs and gets the generator working instantly.

As you can imagine, this is no cure-all for corrosion in the generator, but as you can also and easily imagine, there are times and places when you've got to get operating in a hurry. As far as the generator is concerned, this is the way to do it.

Since the problem of protecting all electrical equipment (including the generator) from salt water, humidity, and fungus growth is One Of Those Things in the Pacific, the best idea is to get your hooks on a copy of TB ORD 242, "Protection of Electrical Equipment On Ordnance Vehicles Against Corrosion and Rust" (15 Jan. 45).

Getting back to the brush springs, the bulletin tells how the springs can be protected against corrosion. But you've got to go easy—the corrosion-proofing compound (red glyptal paint), if slopped on too thick, may cause

the brushes to stick in the holders and the brush levers or pins may bind. Another thing, glyptal is a good insulator and you don't want it to turn conductors into non-conductors.

To corrosion-proof the brush springs, do as follows: With the brush-plate assembly out, clean off all corrosion and rust (new springs should also be cleaned). Brush (brush only) a light coat of glyptal (not more than about .001" thick) on the brush springs, pins, or levers, and on the **outside surface** of the brush holders. (Keep paint off the inside of the brush

holder where the brush rides.) The stuff dries in about two hours.

That ought to do the trick as far as the brush springs are concerned—but remember Sgt. Hansom's trick of flicking the little arms to free them; it may get you out of hot water in a hurry some day.

To do a complete and all-over corrosion-proofing job on the electrical system, get ahold of TB ORD 242.

"MY PROBLEM IS . . ."

Lots of little things have cropped up to plague the men and ducks of the 453rd. The lights, for instance. The sealed-beam units in the headlights get hot when lit. When the duck splashes into the water, the cold water strikes them and they crack. What's the answer? The answer, with sealed beams, is to remember that they'll crack if run into cold water while they're hot, so try not to use them for a couple of minutes before dunking your duck.

The little spring connections in the tail lights also go to pot when salt water hits them (Fig. 3). So the 453rd simply remakes the electrical connection by spotting a little ball of solder in place of the springs.

The horn goes, too. It's no trick at all for salt water to find it. Whenever they can scrounge any, the 453rd replaces the old horns

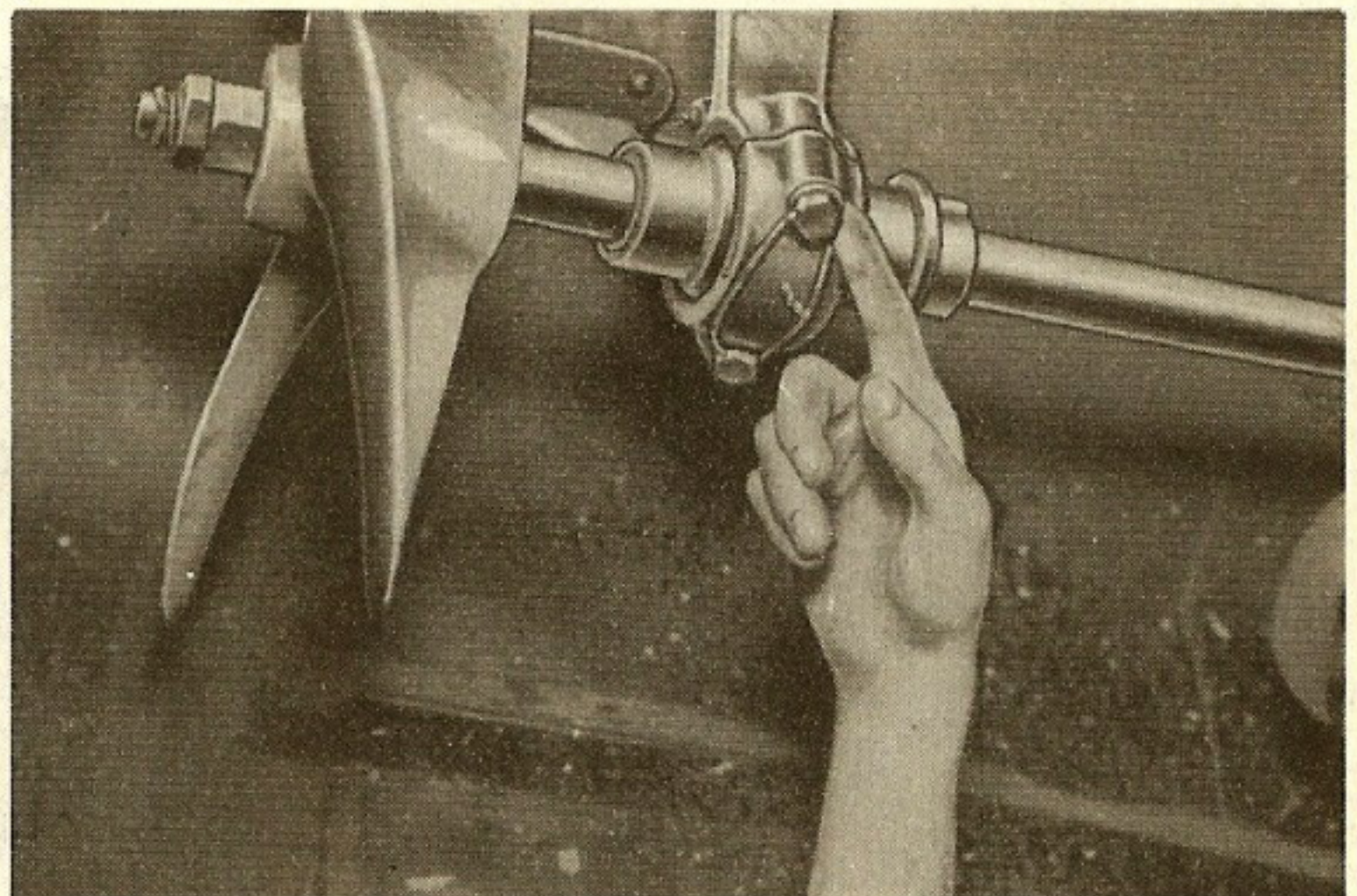


Fig. 4—Weld on a chain to keep from losing that bearing cap.

with air horns. They hook them up to the air-compressor system.

Like everybody else who's been losing the bearing cap (Fig. 4) off the propeller-strut-bearing assembly, the 453rd has been welding a little chain on the cap so that when it does drop off, it won't be lost forever. The caps are too hard to get.

The little pulleys that the rudder-control cables run through (Fig. 5) are made of some sort of fiber composition. Because the rudder should be sensitive enough to answer to fingertip control, the 453rd has found it very necessary to keep the fiber pulleys well-oiled on their pins. Otherwise, corrosion causes the pulleys to stick, the cables wear through, and next thing you know, steering your duck is like steering a pair of dead oxen.

The winch-cable guide located on the front of the hull (Fig. 6) sits up there asking for trouble. Nine times out of ten, reports the 453rd, whoever comes out to tow a stalled duck out of the water or mud, throws a hook or a line through the cable guide and uses it to tow the duck in. Not being designed for that particular job, the guide uproots and you're lucky if you don't wind up with a hole in the hull. The answer is advertising. Whosoever is charged with hauling in stuck ducks

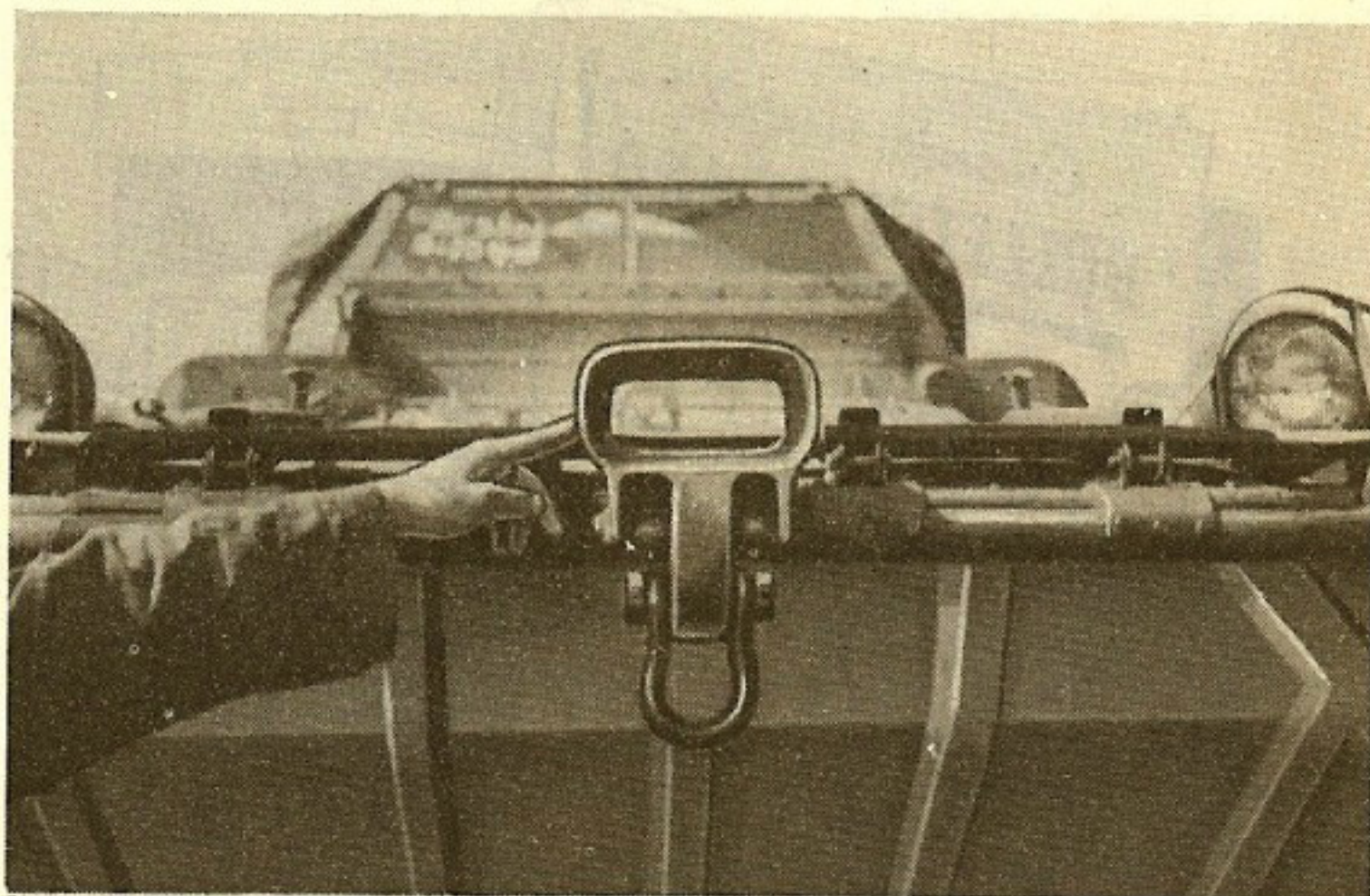


Fig. 6—Resist the temptation to use this guide for towing.

should be advised that the winch-cable guide is not a pintle hook—use the shackle furnished for the purpose, for towing from the bow.

Cracked exhaust manifolds have occasionally popped up to annoy the 453rd. In many cases, the reason is in the hull drain-plug that drains the bilge under the engine compartment. As the duck goes chugging along, the exhaust manifold gets red hot. If a couple feet of cold water is sloshing around under the engine, it strikes the manifold and crack goes the manifold. However, when time's a-wastin' and when replacement

manifolds are well up on the AWOL roster, the 453rd does not worry its pretty head about manifolds. If the crack is not too bad, why they just go ahead and operate. As T/5 John S. Fly of the outfit says, "What the hell, it doesn't hurt anything." Maybe not, but welding or brazing the crack would be safer.

After a couple of tires went flat suddenly and left a couple of ducks in the middle of an embarrassing situation, the 453rd decided to do without the benefits of the tire-inflation system. For the type of work they were doing and the little time they had to do it in, they found they couldn't watch the various connections of the air system closely enough. But in the Pacific, it's another story. There you have strange and numerous types of terrain—coral and sharp rock, soft sand and "unknown landings," hard sand and boulders. Many an invasion is going (and will go) a bit more successfully because somebody's duck tire-inflation system is in operating shape. Learn how to maintain it, you-all.

All this and lots more, the men of the 453rd Amphibious Truck Company learned the hard way. The kind of places they went, the kind of things they did, they didn't have much choice—in the battle for Festung Europa it was strictly sink or swim.

They swum.

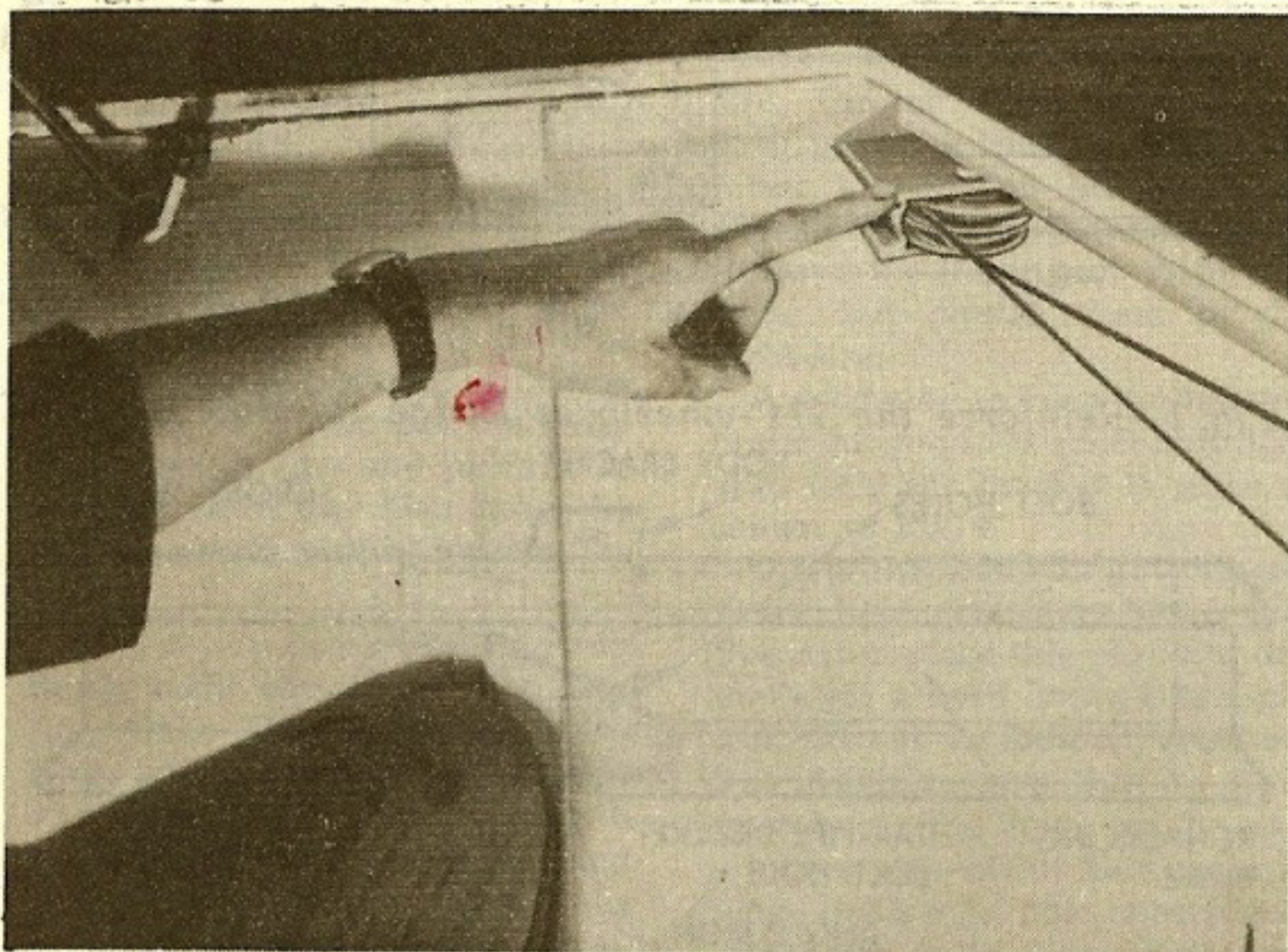
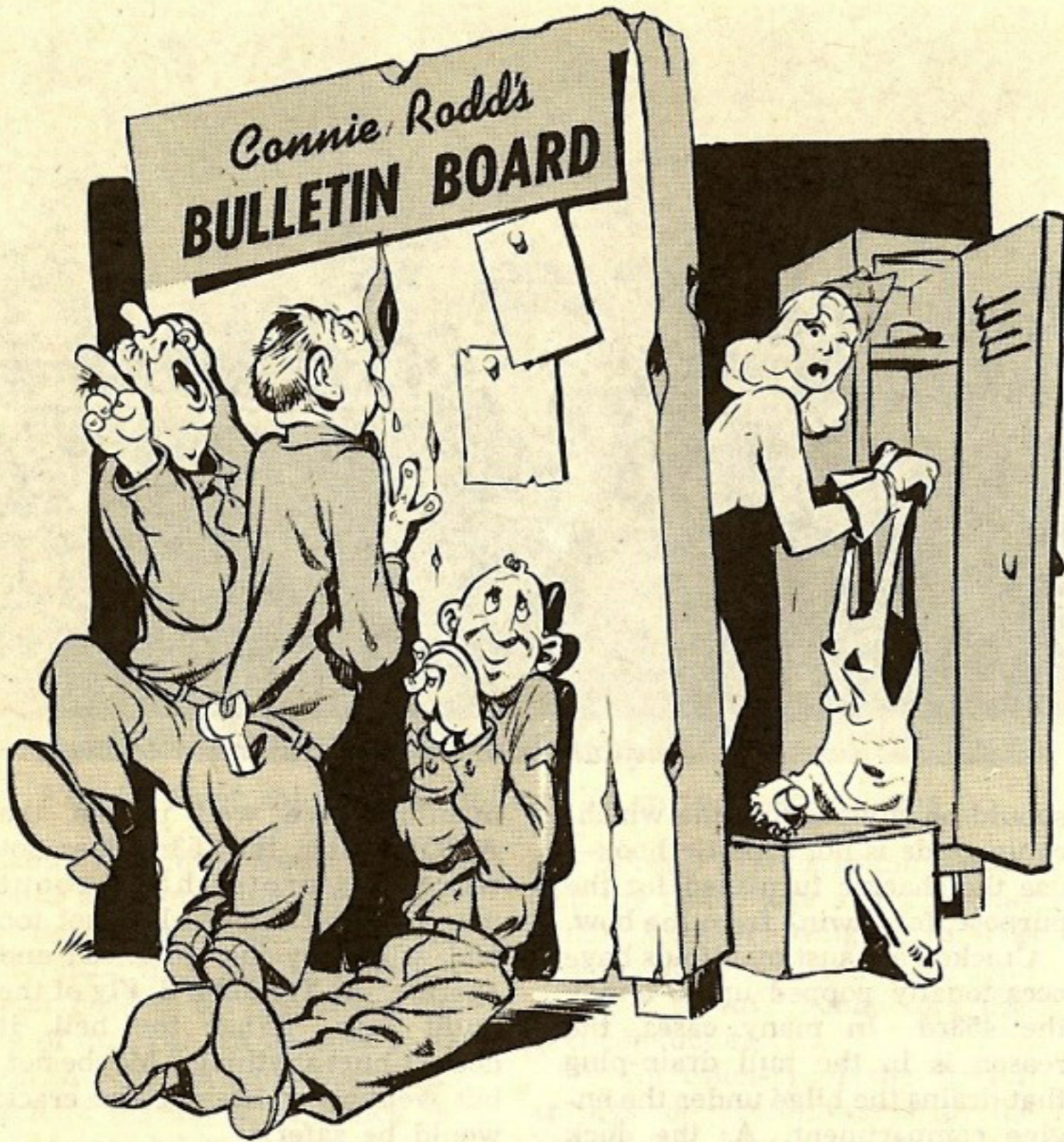


Fig. 5—Keep the pulleys oiled for good rudder control.



3/4-Ton Frame Side-Rail Beef-Up

You'll find that you can often trace a crack in the 3/4-ton Dodge frame side-rail to the tail-pipe-support mounting bolt hole. A break at this point can be reinforced with scrap angle iron if you catch it before it spreads too far. If it's not stopped there, it can travel into the web of the frame, and some day you might have to pick your Dodge up off the floor.

Better yet, if you heed TB 9-808-FE1 (29 Jan. 45), you can reinforce this weak spot to prevent a break from ever getting started.

This is how you reinforce the tail-pipe mounting-bolt hole on the 114" wheelbase Dodge: Get yourself a 12" piece of 3/16"x3"x1 3/4" scrap angle iron. (If you use structural angle iron instead, grind the angle to fit the frame channel curve.) Then taper both 3" side corners of this piece to a 60° angle (see Fig. 1) to keep the frame and reinforcement flexible. After removing the tail-pipe

mounting-bolt, fit the reinforcement in the frame channel so one end is butted against the cross-member, and attach it to the frame

by welding at the top and bottom (Fig. 1). When you've drilled the hole for the tail-pipe bracket-bolt (using the hole in the frame as a guide) and replaced the bolt, you're through with the job.

Here's how you reinforce this bolt hole on the 98" wheelbase truck (it's done a little differently than on the 114" wheelbase because of the side-rail reinforcing plate): First cut a 6" length from 3/16"x3"x1 3/4" scrap angle iron. Then shape the 3" side to a triangle so it'll fit snugly between the frame-reinforcing plate and the cross-member (see Fig. 2). After you've removed the two lower body-bracket bolts and the tail-pipe mounting-bolt (Fig. 2 again), fit your angle iron temporarily in the frame channel to locate the position of these bolts on it. Remove the angle iron to drill 1/2" holes for the two lower body-bracket-bolts and a 3/8" hole for the tail-pipe mounting-bolt. Now you're ready to attach it to the frame. You do this by positioning the reinforcement in the frame, replacing the body bolts and tail-pipe mounting-bolt, and then welding the reinforcement to the frame along the lower rim (Fig. 2).

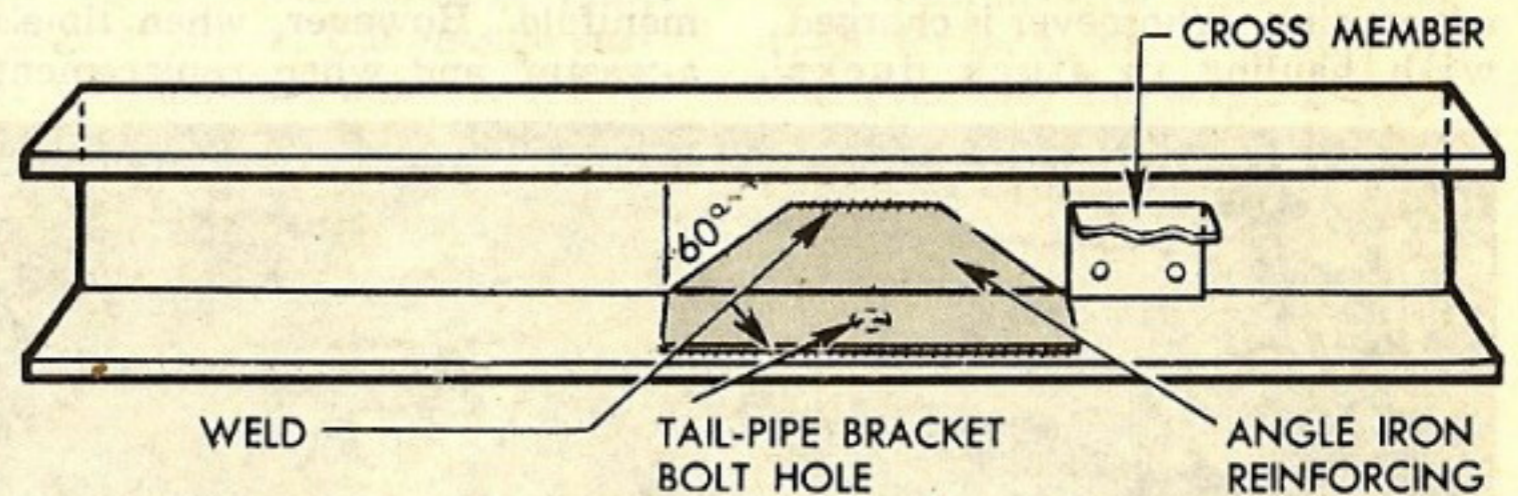


Fig. 1—Reinforce the 114"-wheelbase Dodge side-rail like this.

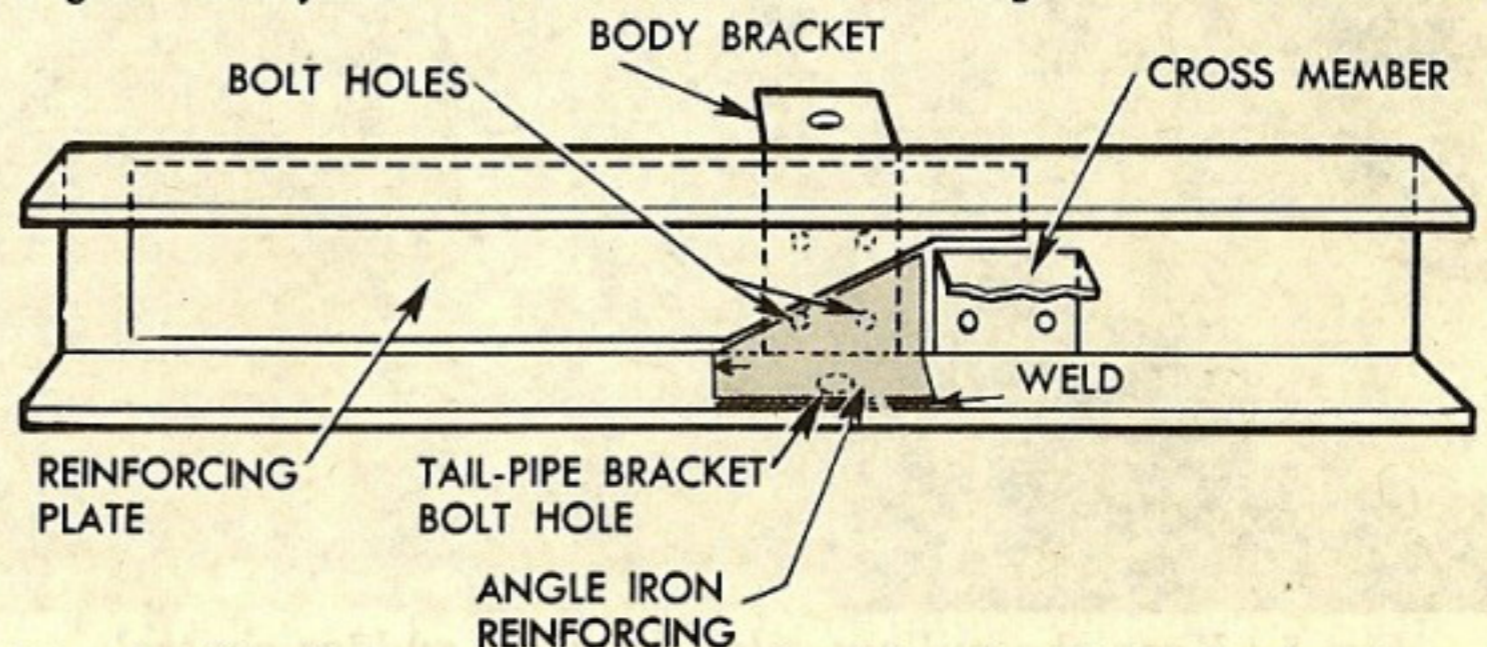


Fig. 2—Here's how to beef up the 98"-wheelbase Dodge frame.

With this reinforcement, your Dodge should be able to bounce around for quite a spell with its frame side-rail all in one piece.

Heinie Spark Plugs

In the European Theater, you may have run across or been issued German or other foreign spark plugs. One difference in these plugs that you have noticed is that the threads are longer than on American plugs. One result of these longer threads is that the plug sticks down farther into the cylinder and, according to some of the boys who have been using them, the plugs don't behave so well. They misfire. Also, some say that when the longer-thread plugs are used in the jeep, the valve or the piston or something knocks against the electrode.

The simple remedy for all of this is to use two gaskets with the foreign plugs. This sits the plugs higher up in the cylinder and does away with this bad effect of the longer threads.

More Fixes for Dump Trucks

Last October's ARMY MOTORS gave you some fixes to help hold up Gar Wood hoists on your 2½-ton GMC and 4-ton Diamond T dump trucks. I've gathered several more juicy tidbits on these dumps (from TB ORD FE30, 9 Mar. 45) that should give you a lift.

If the body of your dump truck tilts to one side as it rises, look to the rear body-hinges for your trouble. Maybe one of them is mounted either ahead of or behind the other. If so, remove the hinge that's out of line and place it so it's even with the other hinge by drilling new mounting holes in the frame.

When you can't lower your dump body completely, the tension links (Fig. 3) may be too long, which means they'll buckle and bind. To get these links down to the right size, first remove and straighten them out. Then have someone heat the links in a forge to shrink them to a free-fitting

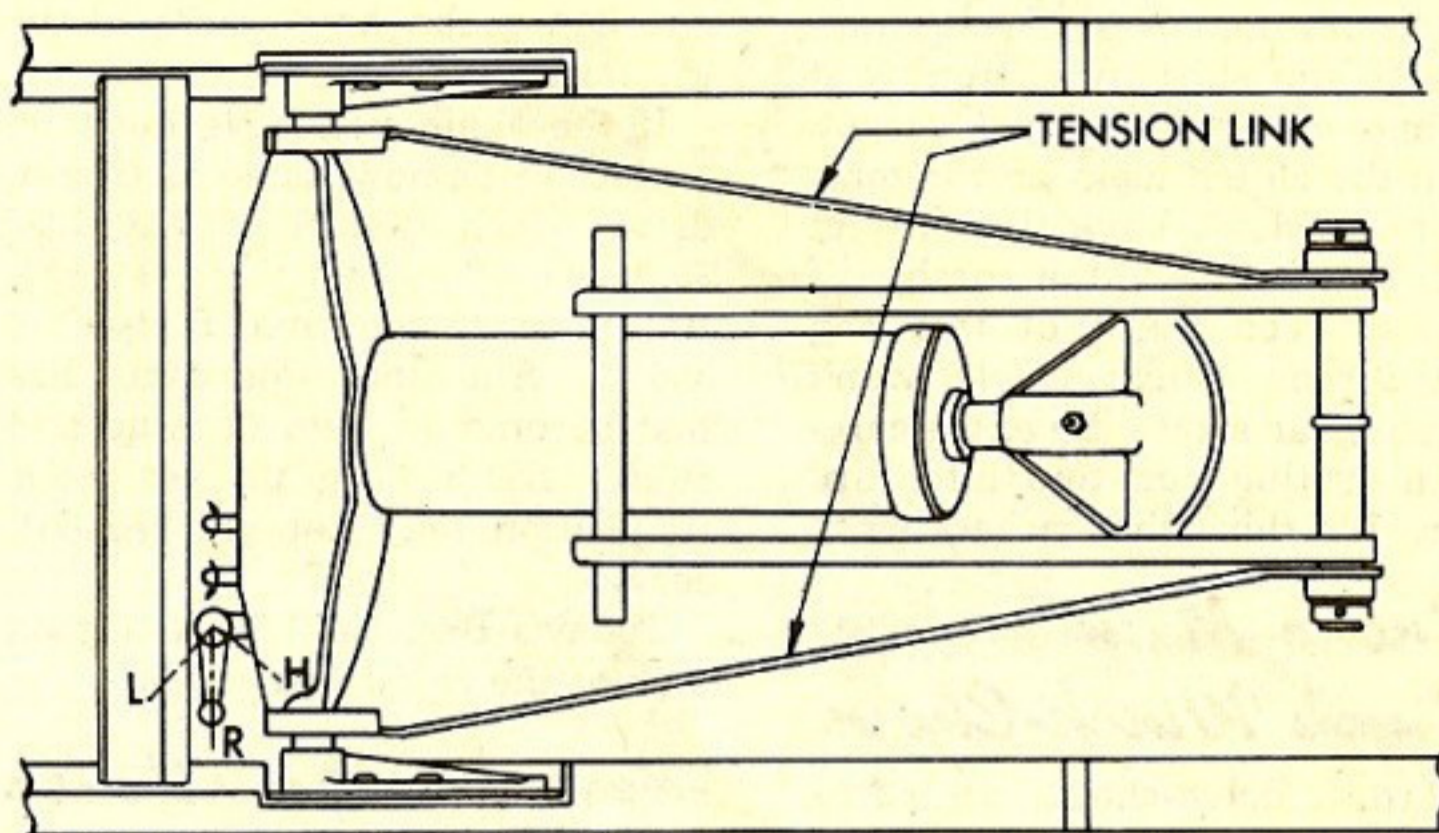


Fig. 3—You can shrink or stretch wrong-sized tension links.

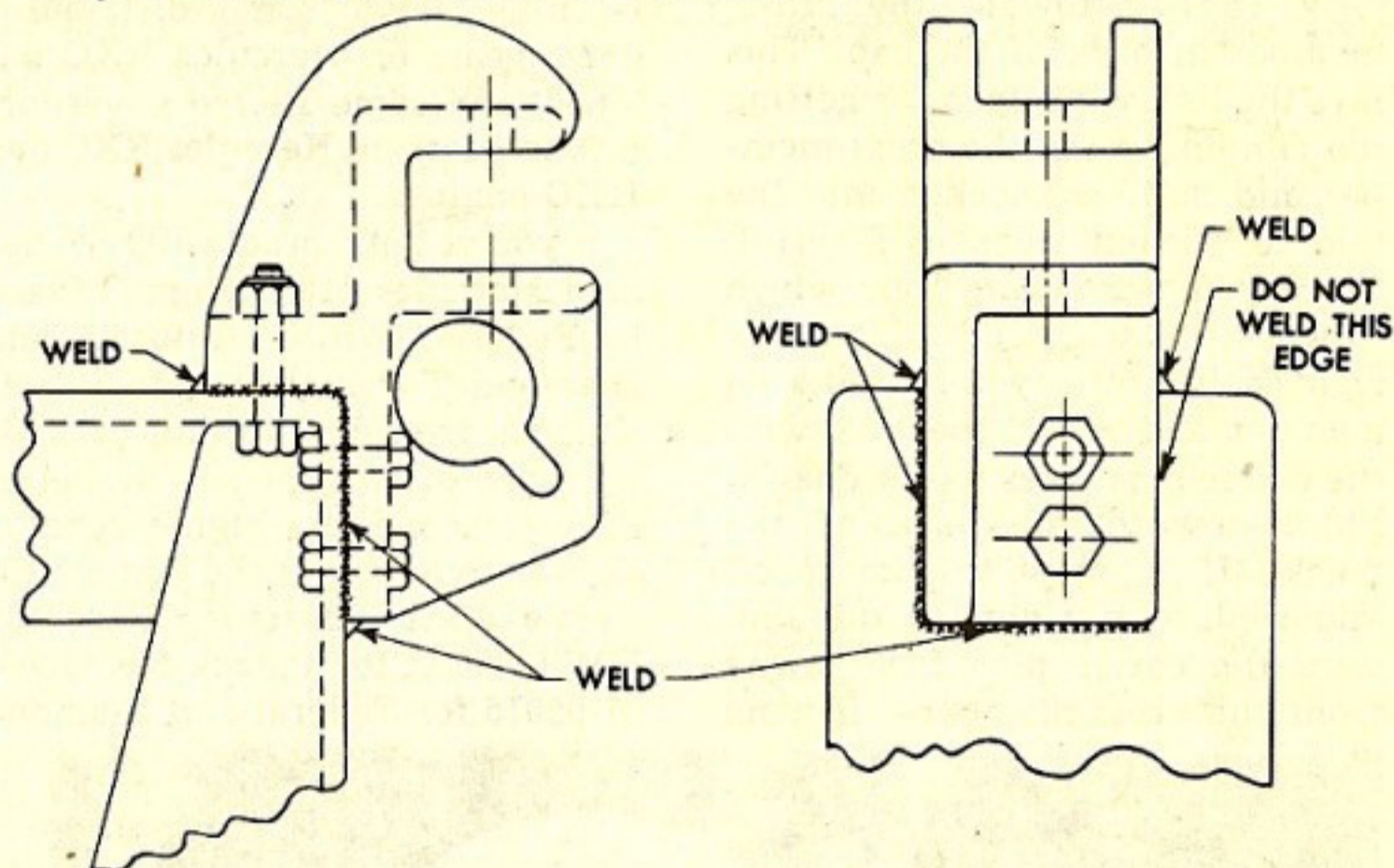


Fig. 4—Welding the tailgate bracket will hold the bolt tight.

size. On the other hand, if you can't raise the body fully, it could mean the tension links are too short. Then you do the same thing. Remove the links, heat them in a forge, but stretch them to the right size.

A good way to keep the tailgate upper-hinge-pin-bracket bolt tight is to weld the bracket in place as shown in Fig. 4.

Often the body-hinge lock-pin won't hold the body-hinge pin. You can replace this pin with one that's got a head and a cotter-pin lock. Mr. M. L. Gelhaar, Automotive Advisor, says that to keep from losing the hinge pin, he uses a longer pin—about half again as long—drills a ¼" hole in each end, and holds it in place with two cotter pins. Try it.

Shifting M8 & M20 Armored Cars

A sharp driver takes it nice and easy when he's shifting gears on his M8 or M20 armored car. These vehicles have a synchro-mesh transmission with a synchronizer that brings the gears to the same speed before they mesh. This naturally makes shifting a lot easier. That's why you don't have to bother to double-clutch like on most trucks—there'll be no clashing gears if you shift 'em right.

But you've got to give this synchronizer a chance to work, especially when shifting down. Shifting easily and pausing slightly before each shift will do it. I've been hearing about a lot of damaged

synchronizers, which is what happens if you shift by slamming it in there fast with all you've got. Then the clutch teeth on the mating gears don't have time to get together—instead of a mesh, it's a mess. Too much of this and pretty soon your vehicle won't stay in gear a-tall. Be extra careful in shifting from fourth to third gear. It's third that suffers most.

Phone Maintenance Truck Winch-Chain

Winch drive-chains on some 1½-ton 4x4 Chevrolet telephone maintenance trucks have been put on in production with the master link facing toward the cross-member in back of the cab. This lays the link wide open for getting too chummy with the cross-member and getting knocked into the middle of next week as a result. Since you may want your winch to work **this** week, I'd take a look right now while you're thinking about it and see if the link with the cotter pins faces like it does in Fig. 5—toward the back of the truck. If it doesn't, take it off and replace it right, so the link with the cotter pins faces away from the cross-member—then no

one can make any cracks about the missing link.

If the chain you have must be replaced, it's now listed as Chain, drive, winch, Item Stock No. G85-35-35400, Chev. Part No. 607834, American Coach and Body No. 5061-9. But since this chain has just become an item of issue and stocks aren't built up yet, your requisition may not get red-ball service.

Today's Best Bet: Take a good look at the chain you've got.

Hercules Distributor and Governor Gears

Here are a couple of words of warning about some distributor drive-gears on Hercules RXC engines, and some Pierce governor-driven gears on Hercules RXC and HXD engines.

If you've got a practically brand-new Hercules RXC engine (used in Federal, White, Autocar, and Diamond T vehicles), and it acts sluggish from late timing no matter how often you set it, better have someone in a higher-echelon shop take a look at the distributor drive-gear (Hercules Part No. HM-15096A; Item stock No. G509-01-95015 for Federal and Diamond

T; Stock Class Code No. 4300-15096A for Autocar and White). During last February and March, these engines got by in the factory with distributor gears that weren't up to par. They're likely to wear too fast and, what's more, ruin the distributor driven-gears (Hercules Part No. HM-15097A; Stock Class Code No. 4300-15097A for Federal, White, and Autocar; Item Stock No. G509-01-94803 for Diamond T). If the drive gear—and maybe the driven gear—has to be replaced, use only the gears daubed with green paint or marked "X4". The ones marked with green paint are **matched** drive and driven gears and are tied in pairs so you'll know they're to be used together.

The Pierce governor driven-gears (Pierce Part No. PG-G2335; Item Stock No. G509-01-95005) on Hercules RXC and HXD engines (used in Federal, White, Corbitt, Autocar, Diamond T, and Brockway vehicles) were supplied by three manufacturers. Recently some of these gears got made out of the wrong kind of steel. Shy away from them, too—they won't hold up. You can tell 'em because they're **light-colored without** any markings. However, if you're stuck with one of these inferior gears, replace it with any of the following: Dark-colored gear with "L & M" stamped inside the circle, dark-colored gear without an identifying mark, or light-colored gear with the letter "T" etched on the bottom.

C-Ration Victims

Believe it or not, C-ration cans can be one of the biggest reasons for ruined tires. Guys knocking off time for chow throw the tops of C-ration cans on the road. The cans are razor-sharp, as you find out after cutting your fingers a few times. When a truck comes along and hits one of the can tops, the can cuts into it like a cookie cutter—really cuts deep. The cut spot then becomes a weak spot in the tire and, especially if it's a small tire like on a jeep, it pounds and pounds. Next thing you know, the cords are broken around the

(Continued on page 128)

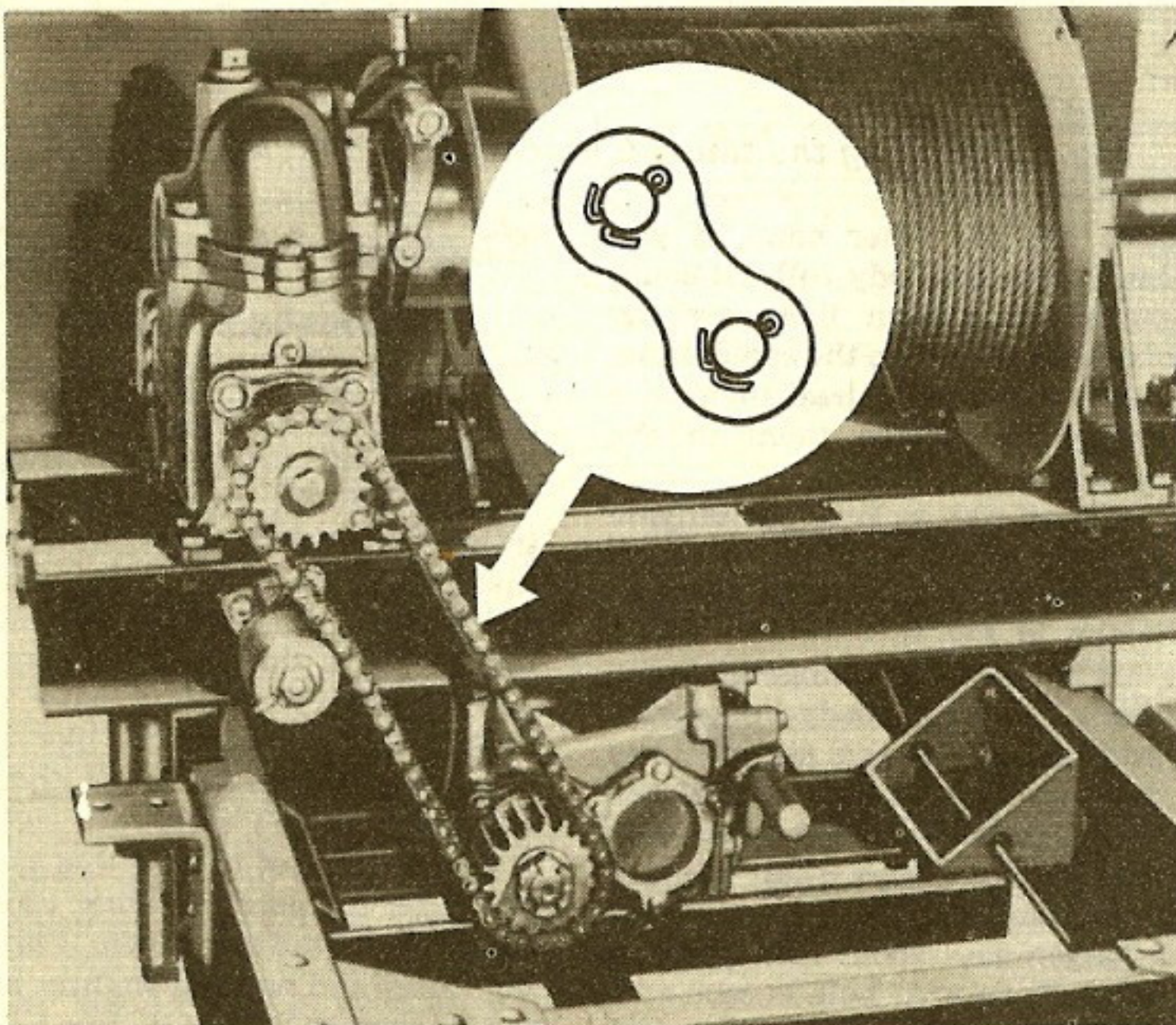
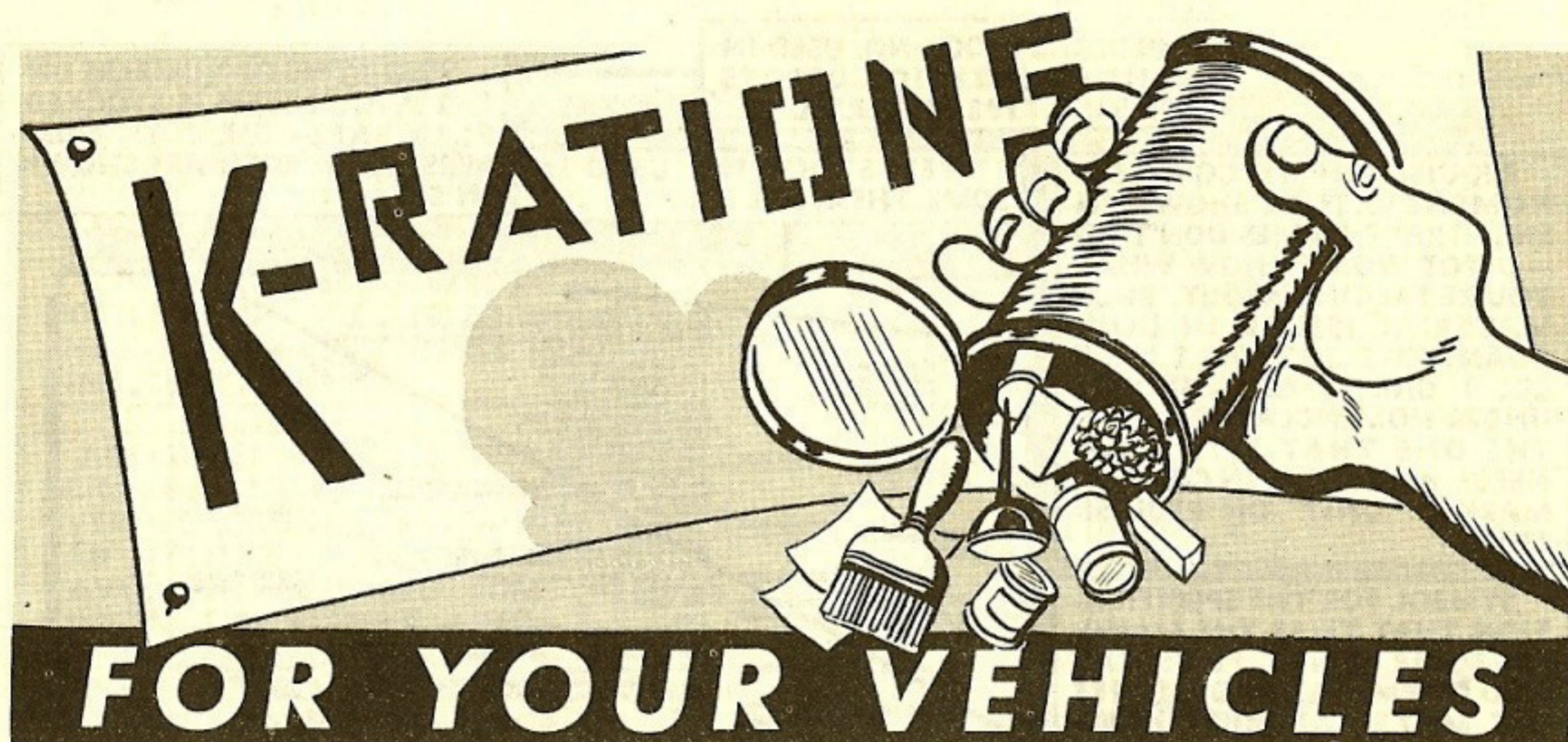


Fig. 5—Take a look and save a link in your winch drive-chain.



LATEST DOPE ON HOW TO GET YOUR CLEANING, PRESERVING, AND LUBRICATING MATERIALS—SOLDERING, BRAZING, WELDING MATERIALS—LUBRICATING EQUIPMENT, OIL-FILTER ELEMENTS

It may or may not be news to you, but there are Ordnance Supply Catalogs for all the above stuff—like those for Ordnance vehicle parts and accessories. Time was when they were scattered around in J-group SNL's, H-group SNL's, SNL M-3, and the old Parts Common Manual, but they've finally come into their own—their own K-group of SNL's (Fig. 1).

ORD 5, SNL K-1

Pertinent TM's and TB's prescribe the cleaning and preservative materials to use for a particular job—LO's prescribe the lubricants. But ORD 5, SNL K-1 is the book that tells you how to get them, where they're stocked, what they're called, what size containers they're issued in, and the specification number. All that if Ordnance issues the stuff—if it comes from Quartermaster, SNL K-1 says so.

Forget the old Parts Common Manual when it comes to ordering chemicals, paints, enamels, lacquers, varnishes, their thinners and primers, paint brushes, cleaning compounds and liquids, cements and sealing compounds, anti-freeze, rust preventives, lu-

bricants and cutting oils, hydraulic fluids, brake and shock-absorber fluids, paper stencils and blank paper, soapstone and putty, waste rags and steel wool. When you're requisitioning these materials, use SNL K-1. You can find out when, where, and how to use 'em in TM 9-850 (24 Aug. 44), TB ORD 224, "Paints and Painting" (27 Nov. 44), TB ORD 242, "Protection of Electrical Equipment on Ordnance

Vehicles Against Corrosion and Rust" (15 Jan. 45), and SB 9-31, "Rust-Preventive Materials" (19 Oct. 44).

GI cleaning, preserving, sealing, lubricating, and related materials for your trucks and tanks and guns are in ORD 5, SNL K-1 (see Fig. 2)—but if you've got a different idea about what's best for your buggy, you're the customer and you can try to get it. Just remember that the man who buys it at the other end of the line needs all the facts—(1) name of the material; (2) the manufacturer and his address; (3) any descriptive literature you might have; (4) what you're going to use the stuff for;

15. GROUP K.			
Materials required in the cleaning and preservation of ordnance general supplies and ammunition.			
Oils, greases, cutting oils, cement and sealing compounds, chemicals, welding, soldering, brazing, and abrasive materials, gases, and related materials, for ordnance maintenance work, with their containers.			
(Ammunition surveillance, inspection and testing equipment, and equipment for use with explosives, are not handled in this group.)			
SNL No.	Title	Date	Changes
K-1	Cleaning, preserving and lubricating materials; recoil fluids, special oils, and miscellaneous related items ORD 5 Cleaning, preserving and lubricating materials; recoil fluids, special oils, and miscellaneous related items	16 Sep 1944	†C 1
K-2	Soldering, brazing and welding materials, gases and related items ORD 5 Soldering, brazing and welding materials, gases and related items	23 Oct 1944	†C 1
K-3	Lubricating equipment, accessories and related dispensers ORD 5 Lubricating equipment, accessories, and related dispensers	28 Oct 1944	†C 1
K-4	Elements, oil filter ORD 5 Elements, oil filter	12 Aug 1944	

Fig. 1—Use ORD 2, Index, Ordnance Supply Catalog (published bi-monthly with changes published in the in-between months) to find out which SNL to use when requisitioning. This page from ORD 2 shows the latest K-group SNL's.

FEDERAL STOCK NO. USED IN ZONE-OF-INTERIOR DEPOTS FOR THIS TYPE MATERIAL.

TWO TYPES OF NUMBERS UNDER WHICH ITEM IS STOCKED. PLAY SAFE—USE BOTH NUMBERS WHEN BOTH ARE SHOWN IN SNL.

REQUISITION BY COMPLETE NOMENCLATURE SHOWN IN SNL. TRADE NAMES DON'T GO—DEPOT WON'T KNOW WHAT YOU'RE TALKING ABOUT. BULK MATERIAL ISSUED IN UNIT QUANTITIES, SUCH AS 1 LB., 5 LB., 1 GAL., 5 GAL., SHOWN UNDER NOMENCLATURE. PICK THE ONE THAT FITS YOUR NEEDS, AND PUT IT IN COLUMN MARKED "UNIT" ON REQUISITION.

ITEM STOCK NO. USED IN SOME THEATERS.

SYMBOL FOR THE SPECIFICATION THAT TELLS THE MANUFACTURER WHAT PHYSICAL AND CHEMICAL PROPERTIES THE MATERIAL MUST HAVE, HOW TO PACK IT, MARK PACKAGES, ETC. 50 DIFFERENT MANUFACTURERS MAY BE SUPPLYING THE SAME MATERIAL UNDER ONE SPECIFICATION. SPEC NUMBER GOES ON REQUISITION UNDER NOMENCLATURE.

SNL No.	Item Description	Unit	Quantity
51-F-360-700	(For scales of optical equipment.) FIRE EXTINGUISHER LIQUID (carbon tetrachloride base)		
51-F-360-710	(See SNL K-2, LIQUID, fire extinguisher.) (Engineer issue only)		
51-F-360-725	FLUID, hydraulic brake		
51-F-360-735	1 qt. (replaces 51-M-156-40)	(Note 1)	1.90
	1 qt. (replaces 51-M-156-50)	(Note 1)	
	1 gal. (replaces 51-M-157)	(Note 1)	
	5 gal. (replaces 51-M-158)	(Note 1)	
	(Formerly hydraulic brake fluid.) FLUID, shock absorber, heavy		
51-F-363-10	1 qt. (replaces 51-S-727)	(Note 1)	1.76
51-F-363-15	1 gal. (replaces 51-S-728)	(Note 1)	
51-F-363-25	5 gal. (replaces 51-S-729)	(Note 1)	
	(For Houdes shock absorbers and others prescribed.) (Formerly called SHOCK ABSORBER FLUID, heavy.) FLUID, shock absorber, light		
51-F-364-15	1 gal. (replaces 51-S-720)	(Note 1)	1.71
51-F-364-25	5 gal. (replaces 51-S-721)	(Note 1)	
	(For Houdes shock absorbers and others prescribed.) (Formerly called SHOCK ABSORBER FLUID, light.) GLUE, animal (flake or powdered), 1 lb.		
52-G-208	K001-10-33560		C-G-451, Grade J-2 0.23
51-G-344-10	K001-10-33595		O-G-491, Grade A 0.13
51-G-356	K001-10-33598		2.62
	1 gal. (For glycerine/water recoil mechanism fluids; with litharge for cement, etc.) GLYPYAL (see PAINT, synthetic (glyptal))		
14-G-511	K001-10-34810		SS-G-656 (proposed) 0.30
	GRAPHITE, amorphous, 1 lb. (Non-crystalline, powdered, for gaskets, etc.)		
14-G-539-990	K001-10-34815		SS-G-659 0.43
	K001-10-34818		
	K001-10-34820		
14-G-568			0.22
14-G-588			0.175
	GRAPHITE, lubricating, very fine, 1 lb. (For refilling, Graph-Air-Gun, No. 14-G-590.) GREASE, asbestos, 25 lb. pail (For waterproofing Ordnance material for deep water fording.)		

ORD 5 SNL K-1

Fig. 2 (above)—Typical page from ORD 5, SNL K-1. Fig. 3 (below)—Use this table from K-1 if you lack the SNL. Read across line to column for proper vehicle classification. Number shown in square below it is quantity that will be used in a 30-day period for 10 vehicles. Notes on the next page of K-1 tell what each item's used for, what substitutes can be used, etc.

VEHICLES	NOTE SYMBOL	UNIT OF MEASURE	ADJUSTMENT FACTORS		COMPANY OR BATTERY	MOTORCYCLES	PASSENGER CARS, TRUCKS, 1 TON AND LESS	TRUCKS, 1-1/2 TO 2-1/2 TON, AND SCOUT CARS	TRUCKS, 3 TON AND OVER	TRUCKS, AMPHIBIAN, 1 TON AND LESS	TRUCKS, AMPHIBIAN, 1-1/2 TON AND OVER	TRAILERS	FULL TRACK VEHICLES													
			SUPPER	WINTER									LIGHT	MEDIUM	AMPHIBIAN											
BASIS - NUMBER OF VEHICLES														10	10	10	10	10	10	10	10	10	10	10	10	10
BRUSH, paint, metal-bound, flat, No. 1, 3 in.	1	Ea			-	1	1	1	1	1	1	1	1	1	1	1	1	1								
CLOTH, abrasive, al.-oxide 5/0-180 (fine)		Qr			1	-	-	-	-	-	-	-	-	-	-	-	-	-								
CLOTH, wiping, cotton	2	Lb			-	10	10	15	20	15	20	10	15	15	30	25										
COMPOUND, anti-freeze	3	Gal			-	-	3	4	5	4	5	-	5	25	30	10										
COMPOUND, anti-seize	4	Lb								See Note																
ENAMEL, synthetic, olive-drab	5	Gal			-	0.5	1	1	2	2	2	1	1	2	2	2										
FLUID, brake, hydraulic		Gal			-	-	1	1	1	1	1	-	1	-	-	-										
FLUID, shock-absorber, heavy	6	Gal			-	-	-	0.5	1	-	-	-	0.5	-	-	-										
FLUID, shock-absorber, light	7	Gal			-	-	0.5	0.5	-	-	0.5	-	0.5	-	-	-										
LIQUID, extinguisher, fire (carbon tetrachloride type)	8	Re-til								See Note																
OIL, hydraulic	9	Qt			-	-	-	1	1	-	1	-	1	1	1	-										
OIL, lard	10	Gal								See Note																
OIL, neat's-foot	11	Qt			1	-	-	-	-	-	-	-	-	-	-	-										
PAPER, flint, class B, grade 2/0		Qr			1	-	-	-	-	-	-	-	-	-	-	-										
PRIMER, synthetic, rust-inhibitive	12	Gal			-	0.5	1	1	2	2	2	1	1	2	2	2										
SOLVENT, dry cleaning		Gal			-	2	2	5	7	5	5	1	8	8	10	8										
SPONGE, cellulose, coarse pore, type A		Ea			-	1	2	2	3	2	2	1	3	4	4	4										
THINNER, enamel, synthetic		Gal			-	0.1	0.2	0.2	0.4	0.4	0.4	0.2	0.2	0.4	0.4	0.4										

USE OF ADDITIVES IN MOTOR FUELS, ENGINE OILS AND GEAR LUBRICANTS IS ILLEGAL (TB 9-850-16). ISN'T LISTED IN SNL K-1.

STOCK NUMBER'S WRONG. BOTH FLUIDS ARE LISTED IN SNL K-1, BUT AREN'T ISSUED IN PINT CONTAINERS.

ALL THESE FITTINGS WERE SCRAPPED IN THE CHANGE-OVER TO ORDNANCE STANDARD FITTINGS. THEY SHOULD HAVE BEEN REPLACED SOME TIME AGO BY FITTING, LUBRICATING, PRESSURE-VENT-RELIEF, 2½ OZ. RELIEF PRESSURE, 1/8-27NPT, MALE (FED. STOCK NO. 45-F-479-985).

ITEM NO.	STOCK NO.	NOMENCLATURE	UNIT	Requisition No.					ACT. SHEL.
				1 CONTROL LEVEL	2 ON HAND	3 DUE IN	4 DUE OUT	5 QUANTITY REQUIRED	
1	51-S-4325	Solvent, carbon	Qt.	15	5			10	
2	51-S-718	Shock absorber fluid	Pt.	20	6			14	
3	51-S-726	Shock absorber fluid	Pt.	20	4			16	
4	45-F-478-600	Lubricating Fittings, 1/8" P.T. Straight Button Head Hardened	Ea.	20	7			13	
5	45-F-479-400	Lubricating fittings, 1/8" P.T. Straight Type, Pin	Ea.	20	8			12	
6	45-F-479-600	Lubricating fittings, 1/8" P.T. 90° angle-type, Pin.	Ea.	20	7			13	
7	45-F-448-35	Lubricating fittings, 1/8" x 1/8" lubrigard bushing, 1/8 male, 1/8" P.T. male	Ea.	20	10			10	

Fig. 4—A requisition like this, based on the Parts Common Manual, gets you nowhere fast.

(5) make and model of equipment you're going to use it on; (6) climatic conditions under which it will be used; (7) quantity you need and how long it will last; (8) what standard-issue materials you've tried for the same purpose and the results of trials; and (9) what savings you think will result from the use of the alternate material. All that should go on your special requisition, which travels through regular supply channels back to the Office, Chief of Ordnance. Such a requisition gives them something to get their teeth into.

Even if you don't have SNL K-1, there are ways to get the standard-issue stuff you need. The thing is to get it—and the surest, fastest way is to include on your requisition this information: (1) nomenclature of the material as it appeared in the publication where you found it; (2) title, number, and date of the publication it was taken from; (3) what you're going to use it for; (4) how much you need. With this to guide him, someone along the supply line will have the books to identify it, and will ship the proper material—material listed in SNL K-1, because that's what the field-service stores stock.

For the benefit of you men who don't know how much of the cleaning and preservative materials you'll need for a 30-day period in the combat zone, Fig. 3 reproduces a table from K-1 that you can use to figure your requirements.

ORD 5, SNL K-2

ORD 5, SNL K-2 has been the stamping ground for soldering, brazing, and welding materials, gases and related items since way back when—what ain't there, ain't on the shelves of the field-service stores, either. That's why you don't use the Parts Common Manual for requisitioning this material.

In addition to the list of items



issued, SNL K-2 has a cross-reference list of Federal Stock Nos. to Item Stock Nos., so a requisition hitting a depot in a theater where they're still stocking welding rods and solder, etc., by Item Stock Nos. (SNL numbers) can be filled without too much trouble. What's more, it lays down the rules about handling oxygen and acetylene cylinders, and all combustible gases.

ORD 5, SNL K-3

Streamlined lubricating equipment's advertised in ORD 5, SNL K-3. Grease cups and fittings aren't in SNL H-2 (Miscellaneous Hardware) any more, or in the Parts Common Manual, either; lube guns and oil cans aren't in SNL M-3 (Miscellaneous Accessory Units and Parts) which has been cancelled. They're all called "Lubricating Equipment, Accessories, and Related Dispensers," and they've now got an SNL all to themselves—K-3.

ORD 5, SNL K-4

ORD 5, SNL K-4 takes you behind the scenes to show what can be done with oil-filter elements stocked under 18 different stock numbers. All kinds of part num-

bers have been assigned to them from time to time—vehicle manufacturer's number, oil-filter manufacturer's number, etc., but they all add up to a total of only 18 different styles, shapes, and sizes to fit the oil filter in any Ordnance vehicle, and like is stocked with like under one of those 18 Federal Stock Nos. Recent vehicle SNL's refer to SNL K-4 for the stock number of the element they list, but earlier vehicle SNL's show Item Stock Nos. and the vehicle manufacturer's number for the element. In case you don't find the same number in the K-4 Interchangeability List, and the vehicle model you need it for isn't there either, find the filter model in the list. That'll tell you which elements you can use and the Federal Stock No. for same.

REQUISITIONING

The only way you'll know what Ordnance is buying and stocking for use in the maintenance of its equipment is to latch on to these four K-group SNL's. If you're satisfied with any old catalog that lists this kind of material, you'll be turning in requisitions like the one in Fig. 4, based on the Parts Common Manual.

Ordnance supply isn't always an over-the-counter deal, y'know, and here's what can happen to that requisition if you're an overseas outfit. 3rd echelon doesn't have the stuff, and bucks it back to 4th echelon for supply. 4th echelon doesn't have it and bucks it back to the base depot. The base depot cables the POE and they take over from there. With their 5-foot shelf of books, they can

identify the items and substitute what's being bought and issued now for those that aren't supplied any longer. In the meantime, all you have is a batch of back orders.

That shouldn't happen to a dog—and it won't happen to the requisition in Fig. 5 because it's filled in according to the book—the same SNL the Ordnance Department uses as its procurement list. The requisition calls for only the items that Ordnance is buying and shipping into the depots, both in the States and in the theaters, ready for you when you need 'em.

Even requisitioning by the right SNL isn't everlastingly guaranteed. There can come a time when any item gets scarce. But in requisitioning what Ordnance is buying, you're at least helping yourself to what's on the shelves.

Fig. 5—A shining example of how to fill out a requisition for K-group material.

SNL NUMBER AND DATE, INDICATING THESE ARE AUTHORIZED ITEMS.

COMPLETE DESCRIPTION OF MATERIAL AS IT'S SHOWN IN NOMENCLATURE COLUMN OF SNL.

ITEM ISSUED IN 425-LB. DRUMS. THEY WANT 60 DRUMS, EACH CONTAINING 425 LBS. CHECK UNIT OF MEASURE CAREFULLY IN SNL, AND ORDER NUMBER OF UNITS REQUIRED—NOT TOTAL NUMBER OF POUNDS OR GALLONS REQUIRED. WATCH THIS, OR YOU MAY FIND YOURSELF UNPACKING A SHIPMENT CONTAINING 2 OR 5 OR 10 TIMES WHAT YOU WANTED.

THIS MAN LIKES "TURCO" (THAT'S THE TRADE NAME FOR A CLEANING COMPOUND). NO HARM IN SAYING SO, SINCE HE GAVE ALL THE OTHER INFORMATION, BUT MAN IN DEPOT SUPPLYING THE COMPOUND PROBABLY WON'T BE ABLE TO TELL "TURCO" FROM "SPREX" OR THE COMPOUNDS MADE BY ANY ONE OF THE MANUFACTURERS UNDER SPEC ES-542B, AND STOCKED UNDER FEDERAL STOCK NO. 51-C-1568-320. THEY DON'T HAVE ANY MATERIALS STOCKED UNDER TRADE NAMES.

ITEM TO		Requisition No.							
ITEM NO.	Stock No.	NOMENCLATURE	UNIT	CONTROL LEVEL	ON HAND	DUE IN	DUE OUT	QUANTITY REQUIRED	ACT. SHRS.
Column 1-2-3+4-5									
SNL K-2, 16 Sept. 1944									
1	52-E-4150 (K1-10-23402)	Enamel, synthetic, stenciling, lustreless, gray, class 330, Spec. 3-173, Grade I	10gal.	18				18	
2	14-G-938-16 (K1-10-34880)	Grease, graphited, light, Spec., AY-683	1 Lb.	30				30	
3	52-R-410 (K1-10-89498)	Remover paint and varnish, Spec. TT-R-251, Type II	10gal.	100				100	
4	51-C-1568-320 (K1-10-13460)	Compound, vapor cleaning, Spec. ES-542b, "Turco" preferred SNL K-2, 23 Oct. 44	425 Lb.	60				60	
5	48-S-780	Solder, tin-lead, Grade B (40/60), acid core, 3/32 in. diam., 5 lb. spool	Ea.	10				10	

BASIS: These supplies are required for use in the overhaul of 200 Carriage, Motor, Multiple Guns, M-16, Half-track, as directed by O.M.O. No. ER-53-0, O.C.O., Detroit.

MARK: SHIPPING PAPERS, PACKING LIST AND PACKAGES, AS FOLLOWS: 2-09-003, REQUISITION FM-41-117-1783 T&E-45, TANK SHOP BUILDING 102.

BOTH FEDERAL STOCK NO. AND ITEM STOCK NO. GIVEN, SINCE BOTH ARE SHOWN IN SNL.

JEEP SLING

TO GIVE ¼-TONS A LIFT WITHOUT ALSO GIVING 'EM A PAIN IN THE REAR END

Ordinarily, when you evacuate a helpless jeep and have to lift it on or off a cargo truck with your wrecker, the victim is hoisted by wrapping a chain around it. This gets it where it's going. But often the jeep is in even worse shape when you're through because the chain damages the body. To prevent a lot of unnecessary repair work, the 881st Ord. HAM Co. got busy and devised a simple sling that holds the jeep firmly but never leaves a mark.

The sling is made of a reinforced 6" I-beam, a chain with a hook at one end, two chains with hooks on the other end, and two heavy metal rings near the center of the beam. You reinforce the I-beam on both sides, preferably with U-channel iron if you've got it; otherwise use plate. It's better not to extend these reinforcements along the beam's full length or it'll increase the sling's weight considerably. Instead, you can place one at each end and overlap them in the center for added strength under the ring holes.

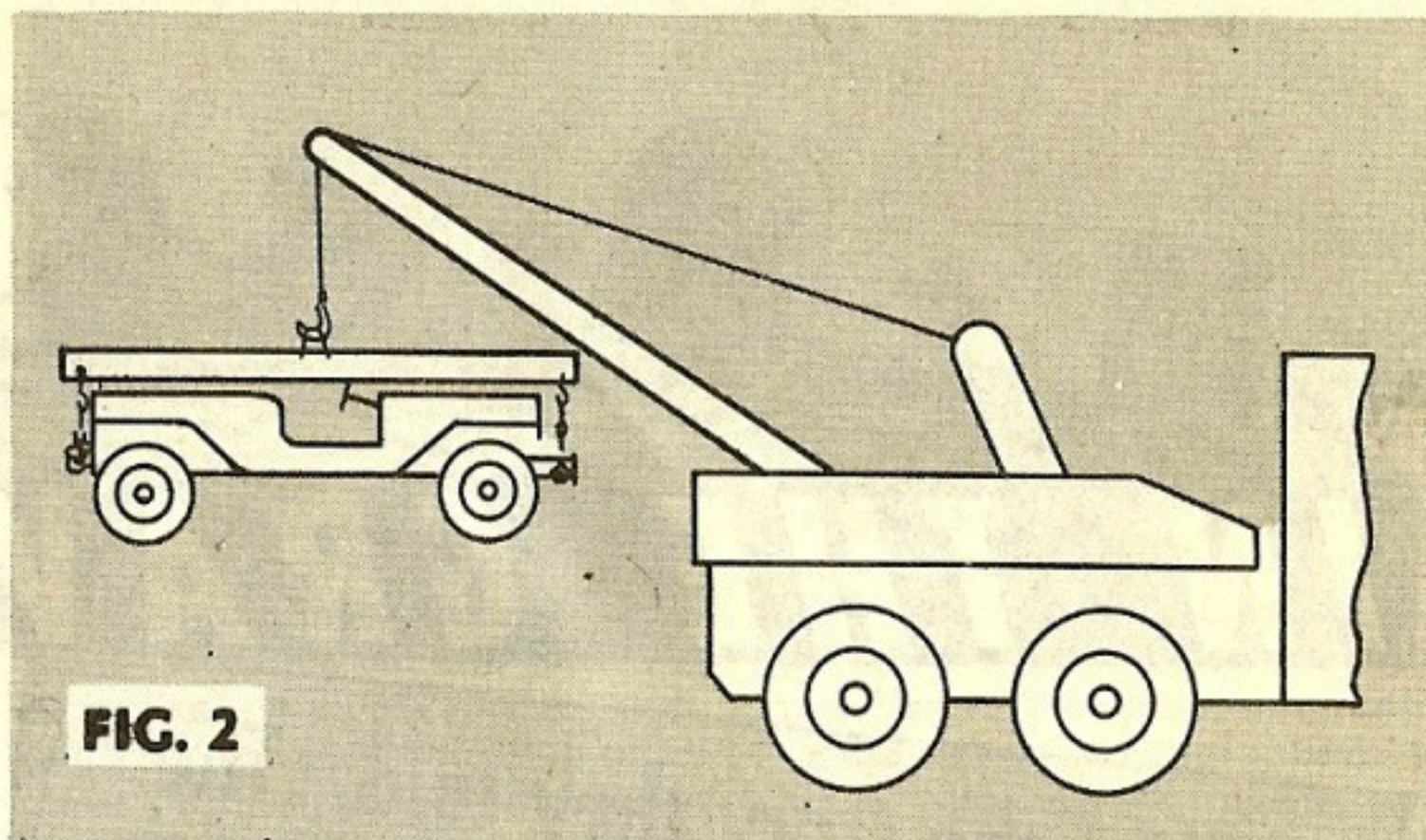


FIG. 2

In case you can't find an I-beam, two pieces of frame side-rail bolted or welded together will do just as well and you won't have to bother to reinforce it. You'll find the exact dimensions for building the sling in Fig. 1.

To put this sling to work, first lower the top and windshield of the ¼-ton and see that the rear seat is level with the back edge of the body. Then place the

I-beam lengthwise over the jeep with the single-chain end to the rear (Fig. 2). Hook the single chain in the pintle, or if there isn't any, under the rear edge of the frame. Then hook the other two chains under the two frame-ends supporting the front bumper. After you place the wrecker hook through the center rings, you can gently lift the jeep to where you want it with nary a slip.

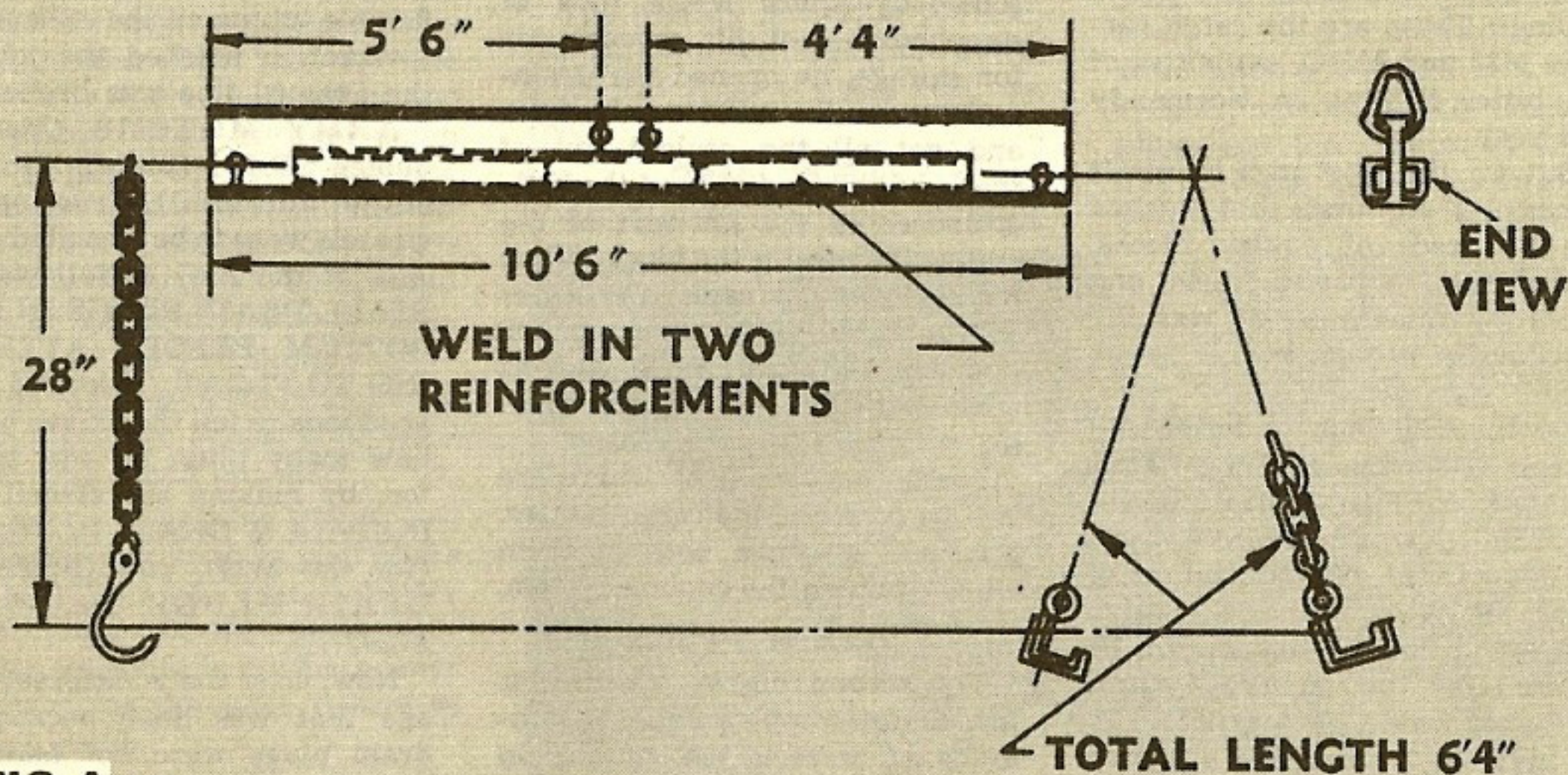
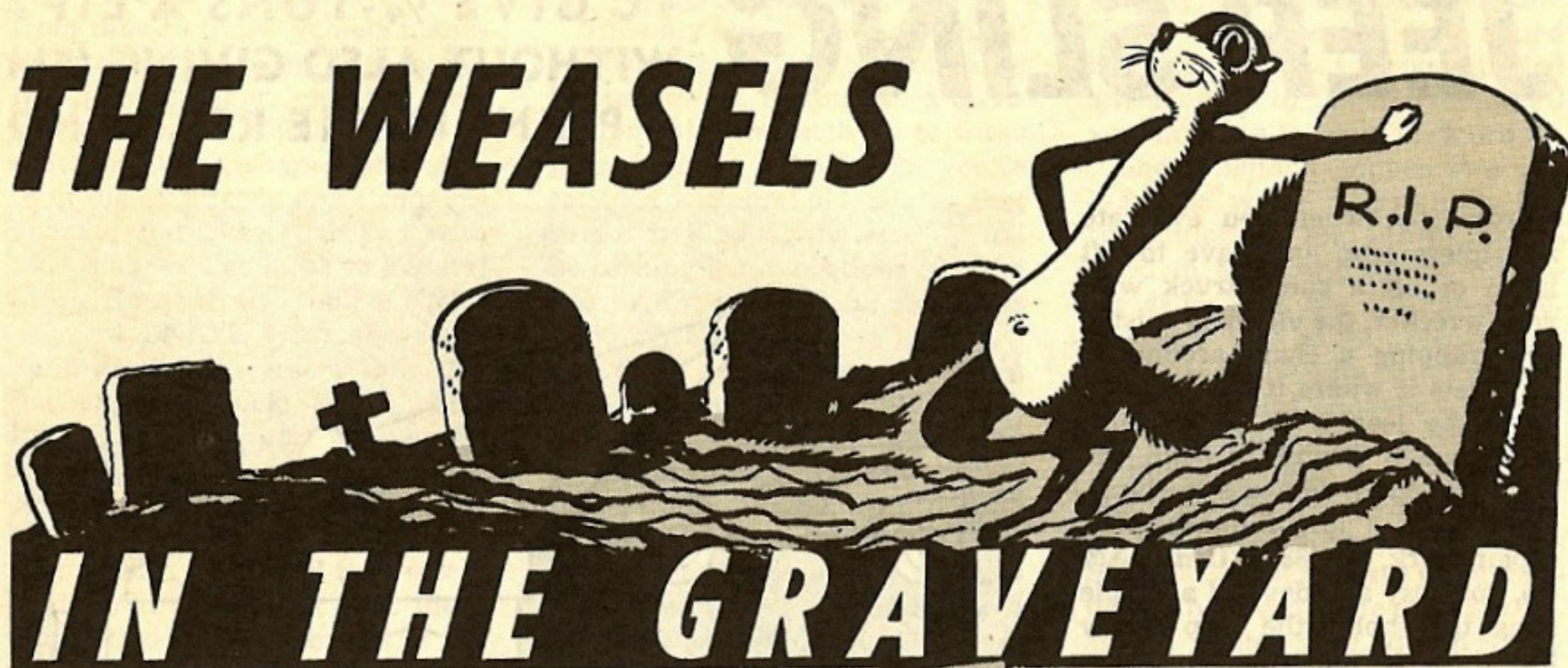


FIG. 1

THE WEASELS



IN THE GRAVEYARD

—And the story they told. Their ETO past can brighten the Pacific future for your M29's and M29C's

Weasels stand in a graveyard now in the gardens outside of Paris where the French kings used to play come-wiz-me with their dollings. These are the cargo carriers M29 and M29C, casualties of the bitter fighting in Normandy last year.

But for the most part it wasn't mines or shell bursts that cracked the hundreds of engine blocks, rusted out the power trains, and punctured the hulls. It was the old story of neglect and/or ignorance.

For the M29 Shop, under M/Sgt. Joseph A. Martinsek of the 3163rd Artillery and Fire-Control Co., 613 BAM Bn., those graveyard weasels spelled plenty of reconditioning work. For you they spell out a hell of a lot of lessons to be learned for the future—when hordes of weasels are expected to be used in the swamps and rice paddies of the Chinese mainland and the islands of Japan.

FROZEN ENGINES

For one little reason—and one reason only—were the engine blocks and water pumps split when winter came. This was the little draincock at the rear of the engine on the left-hand side. When somebody—there were lots of somebodies—put his weasels up for storage, he opened the draincock under the radiator all right, and got all the coolant out of there, but he forgot about the little draincock at the left-rear of the engine that drains the block. When the icy weather came, the water left in the block froze, expanded, and cracked the water jackets wide open. The water-pump housing split for the same reason.

Lesson number one: There are two petcocks on the cargo carrier. Be sure you open both of them when draining the cooling system.

DRAIN PLUGS

The second biggest reason for the almost complete bust of hundreds of weasels was the drain plugs—people forgetting to take out the drain plugs after water

operations or allowing the weasels to stand out in the driving rain with the drain plugs in. In both cases, the bilge compartment of the vehicles collected a couple feet of water—water got into the electrical units, rusting up starters, generators, and distributors; seeped into gear cases; and, when the vehicles were operated, was sucked into final drives right through the seals and crept in through the breather on top of the final drive.

Exhaust lines were rusted. A little rust started eating away at the connections of the rearmost flexible tubing on the exhaust line—vibration finished the job, and the exhaust line was broken.

ARMY MOTORS (Mar. 45) quoted SB 9-4 (there's also a TB out in the ETO), ordering that weasels were to be stenciled on the side of the hull as follows: **INSTALL DRAIN PLUGS IN HULL BOTTOM BEFORE ATTEMPTING TO FLOAT.** It looked like a good idea to tell the driver exactly how many plugs he was to look for, by making the stencil read: **INSTALL 5 DRAIN PLUGS, etc.** (for the M29), and **INSTALL 7 DRAIN PLUGS, etc.** (for the M29C).

Now, after the widespread damage that was done because the drain plugs were not taken out after operation or while the weasels were stored, it looks like

an even better idea to make the complete stencil read like this: **CAUTION: BEFORE FLOATING—INSTALL (how many?) DRAIN PLUGS. BEFORE STORAGE—REMOVE DRAIN PLUGS. DURING OPERATION—DRAIN HULL DAILY OR OFTENER.**

In case you didn't know, the five drain plugs in the M29 are all on the bottom-left side of the vehicle. In the M29C, in addition to these five, you have one drain plug each in the left bottom of the front and rear pontoons, a total of seven.

FUEL PRIMER

The fuel primer of the weasel has been tracked down as the source of trouble on a couple of occasions by T/3 John E. Montgomery, inspector of the M29 Shop.

Trouble develops in two ways: First, the packing glands (Fig. 1), under the knobs where the primer runs through the instrument panel, come loose and let air into the primer line. As you may know, when you pull the knob out, the primer pulls a charge of gasoline from the fuel-tank side of the fuel pump—on jobs equipped with mechanical fuel pumps. There's a line running from the primer knob to the fuel-tank side of the fuel pump to allow it to do this. Well, when the packing glands up around the primer knob get loose, air is sucked down into the line and parks there in front of the fuel pump. When the fuel pump tries to push some solid gasoline up to the carburetor, it bites on air. (This won't happen on weasels equipped with electric fuel pumps, because the primer line is independent of the fuel pump.)

With the flow of fuel thus interrupted, you can expect your vehicle to drag down to a stop.

Inspect the packing glands under the primer knob on your M29's and M29C's and make sure they're tight. Matter of fact, make sure all the connections on the primer are tight for the same reason as stated above.

The second trouble traced to the primer can really be blamed on gummy gasoline. There's a little

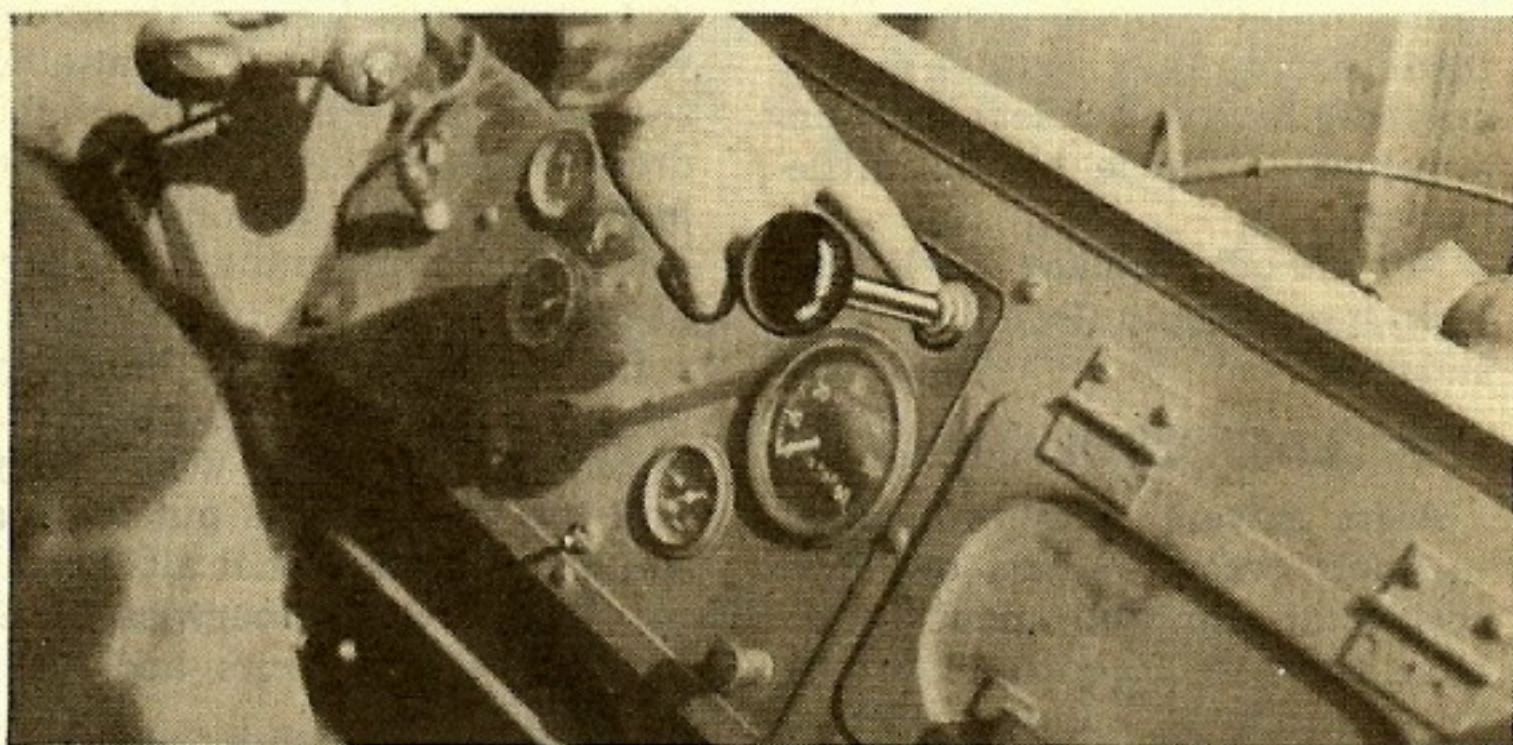


Fig. 1—You get the point—air gets into the primer line.

check valve (Fig. 2) in the primer line a couple of inches down from the primer knob. After you've drawn the knob out and sucked a charge of gasoline into the pump cylinder, you push the knob in to shoot this gasoline into the manifold. The check valve enters the picture here by closing and keeping the gasoline from being pushed right back in the line where it came from.

This would be all fine and dandy except for old gasoline stepping in and gumming up the works. The gum from the gasoline sticks the check valve open and vacuum from the intake manifold then proceeds to suck gasoline right into the cylinders. Try and adjust the carburetor sometime with this happening.

The remedy is strictly preventive maintenance. Get ahold of TM 9-850 (24 Aug. 44) and read the story.

OPEN PORTS

Spark plugs don't grow on trees,

carburetors don't grow on trees—most spare parts for the weasel have been critical because the weasel was thrown into the fight in a hurry. For this reason, units sending their weasels back to higher echelon for repair have been stripping off spark plugs, carburetors, and whatever else will come loose.

The tactical situation may make this necessary, but there's one thing that can't be excused. And that is simply yanking gadgets off the engine without plugging up the ports.

Cargo carriers by the dozens have come into the 3163rd with the guts of the engine all rusted and sadly in need of major overhaul. Water had poured into the cylinders through the open spark plug and carburetor ports and, in every case, the cylinder walls were thick with rust.

Okay, cannibalize the spark plugs and the carburetor if you need them badly enough on another weasel, but stick some-

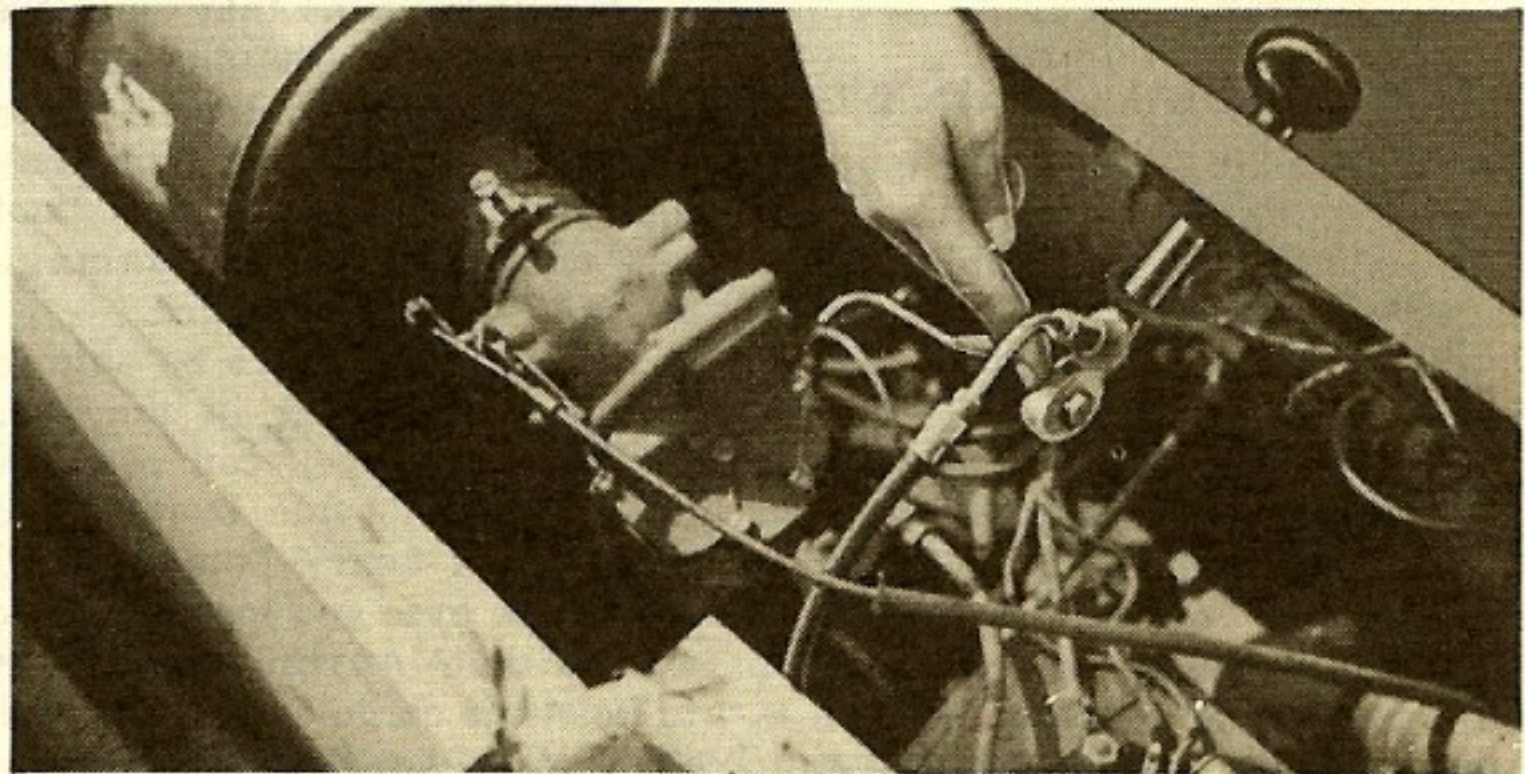


Fig. 2—Gummy gas can gum up the works at this valve.

thing in those open ports. Plug them with a rag, if you don't have anything better—but let's not ruin a valuable vehicle by this little neglect.

For the official slant on all this, look into Supply Bulletins 9-26 and 9-40.

LOST COOLANT

Alert drivers, slithering along in their weasels with one eye cocked at the instrument panel, have suddenly ground to a stop in a hurry as the temperature gage flew up like a cat off a hot stove. This has happened enough times to serve as a warning to all other weasel drivers.

The reason for the swift overheating is simply that all the coolant suddenly picks up and walks right out of the engine. According to Sgt. Montgomery, the complaint is that the lower radiator hose (the one farthest up front on the engine) is too short. Furthermore, being a wire and some sort of rubber arrangement, the early-type hose doesn't have enough give as the vehicle bounces around. When it suddenly pulls loose at the radiator, the coolant disappears like Sunday roast chicken at the mess hall. (The later-type hose, minus the wire, has put a stop to this.)

There's not much advice handy on the early-type deal except a word to drivers: The eye you normally use to survey the rear echelon of the babes along the roadside—why, just keep that on the heat-indicator gage instead. You may save a badly-needed engine that way and keep out of all kinds of trouble.

DIFFERENTIAL DRAINING

In servicing the rear axle on the cargo carrier, you'll notice one thing when you're draining and refilling with new oil. On the earlier-type vehicle, the rear axle had the drain plug located up on the underside of the differential-transmission housing. Draining from this plug does not empty the lower part of the differential housing. Result is that you'll leave the dirtiest part of the oil to contaminate the new oil you put in.

What can you do about it? Well,

you could hoist the vehicle up on your shoulders and tip it around so that all the oil runs out of the drain plug—or maybe you could figger out a way to sneak a suction pipe down into the lower part of the housing.

But probably about the only thing you'll be able to do, if you're in the kind of shop where they pull the rear axle, is put it on a stand and tip it so that all the old oil drains out. Otherwise, T. S. for the old-type rears and don't worry about it.

Late-type weasels have a drain plug at the lower left-hand corner of the differential which gives all that oil a way out.

LOADING AND UNLOADING

A stroll along graveyard row at the 613 BAM Bn. showed that practically every one of the beat-up weasels was particularly beat-up around the front and rear sections of the hulls. In many cases, the hull was punctured, finished as far as water operations were concerned—the front grill was smashed and usually prominent fixtures like the lights were ripped off.

What did it? Somebody didn't know a secret. The people loading the weasels off and onto trucks and railroad cars simply strung a cable fore and aft around the vehicle, and swung the vehicle on high like a sack of beans. The cable bit into the front and rear of the hull wreaking the aforementioned havoc.

Now if somebody had told these people (ARMY MOTORS told you in March and TB 9-772-7, 19 Apr. 45, tells you again) that there are two little lifting eyes, one on each side of the center bulkhead of the weasel, which are fine for lifting the vehicle from the sides and not fore and aft—all this damage would have been scotched.

You probably won't be able to find shackles to fit in the eyes through which you can pass the lifting sling or cable, but you can just stick a heavy bolt or small bar in the eyes and loop the sling around that. Anytime you've got to hoist the cargo carrier, or even just tip it, use the eyes in the bulkhead.

PULL TO THE SIDE

There has been some concern because the cargo carrier sometimes insists on pulling slightly to one side of the other. You knock yourself out adjusting track tension, but the vehicle still pulls to the side.

Is this something to lose your hair about? It is not. As long as your tracks and brake bands are in proper adjustment, don't worry about the slight pull to the side.

WEASELDOZER?

Although knowing all the tricks of operating and maintaining a weasel will save it from joining the graveyard shift, what many people fail to realize is that the cargo carrier is not a jeep and it is not a bulldozer.

Take the recent headlong rush through the Reich when armored columns were high-balling over the hard roads and everything that could carry gas, ammo, and rations was running back and forth over these same roads on little missions of supply. The weasel, in many organizations, was right up there with the rubber-tired and heavier tracked vehicles, doing the same kind of job over the hard roads. The result? The weasel broke down—tracks and suspensions went kaputt.

Well, like it says in TB 9-772-7, "These vehicles have been designed especially for use in transporting light cargo and personnel over terrain that is impassable to other vehicles, and sometimes even on foot." The weasel is a special-purpose vehicle, wonderful for soft ground and swamps—but not built for highway trucking.

Likewise, the weasel is not a bulldozer. The punctured and battered hulls of the weasels in the graveyard testify to that. Don't try to haul 6-by's around with them; don't try to bulldoze heavy vehicles out of ditches with them.

Wise up to your weasel—know it tactically and from the maintenance standpoint—and when you get to the Pacific (oh, my achin' back!), you'll find it's one of the vehicles that'll get you back to momma and the kids, toot sweet.

M4 Tank Track-Tightener

Bet you been sweatin' like a brewery horse, trying to tighten those stubborn tracks on your M4 medium tank. Well, T/3 Jimmy Hale, Aberdeen Proving Ground, made himself some track dogs that'll keep you from being a BO Joe at track-tightening time. If your tank has standard outside-guide tracks, it can tighten them all by itself—like this:

Get two pieces (one for each side of the track) of $\frac{1}{2}$ " plate about 14" long and 11" wide. Cut out the dogs with a torch to the dimensions displayed in Fig. 1. You'll also need a 2"-dia. bar 33" long.

Now you're all set to do the job the easy way. Attach a plate (Fig. 2) to the grousers on each side of the track and put the bar through the holes you made in the plates. Next comes the regular track-adjusting wrench (Fed. Stock No. 41-W-640-400). Put it on the hex of the eccentric idler-shaft so it contacts the bar (Fig. 3). Then, with the transmission in first gear, drive the tank slowly forward. Better have a buddy giving directions so you don't strip the hex right off by tightening it too much.

If the track needs loosening instead, put the wrench handle on the other side of the bar and place the track dogs higher off the ground—then run the tank in reverse. Either way, just take it easy and you're in.

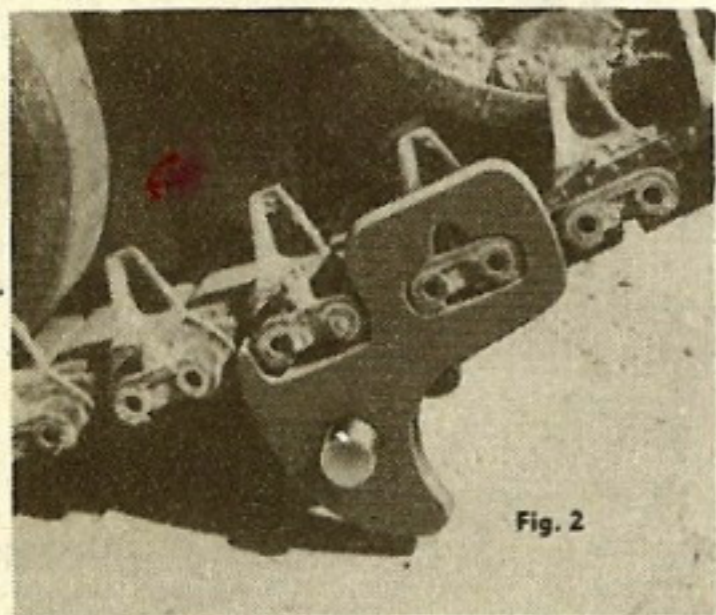


Fig. 2

WITH THIS DEVILISHLY CLEVER DEVICE, YOU CAN RELY ON YOUR TANK'S MUSCLES INSTEAD OF POOPING OUT YOUR OWN

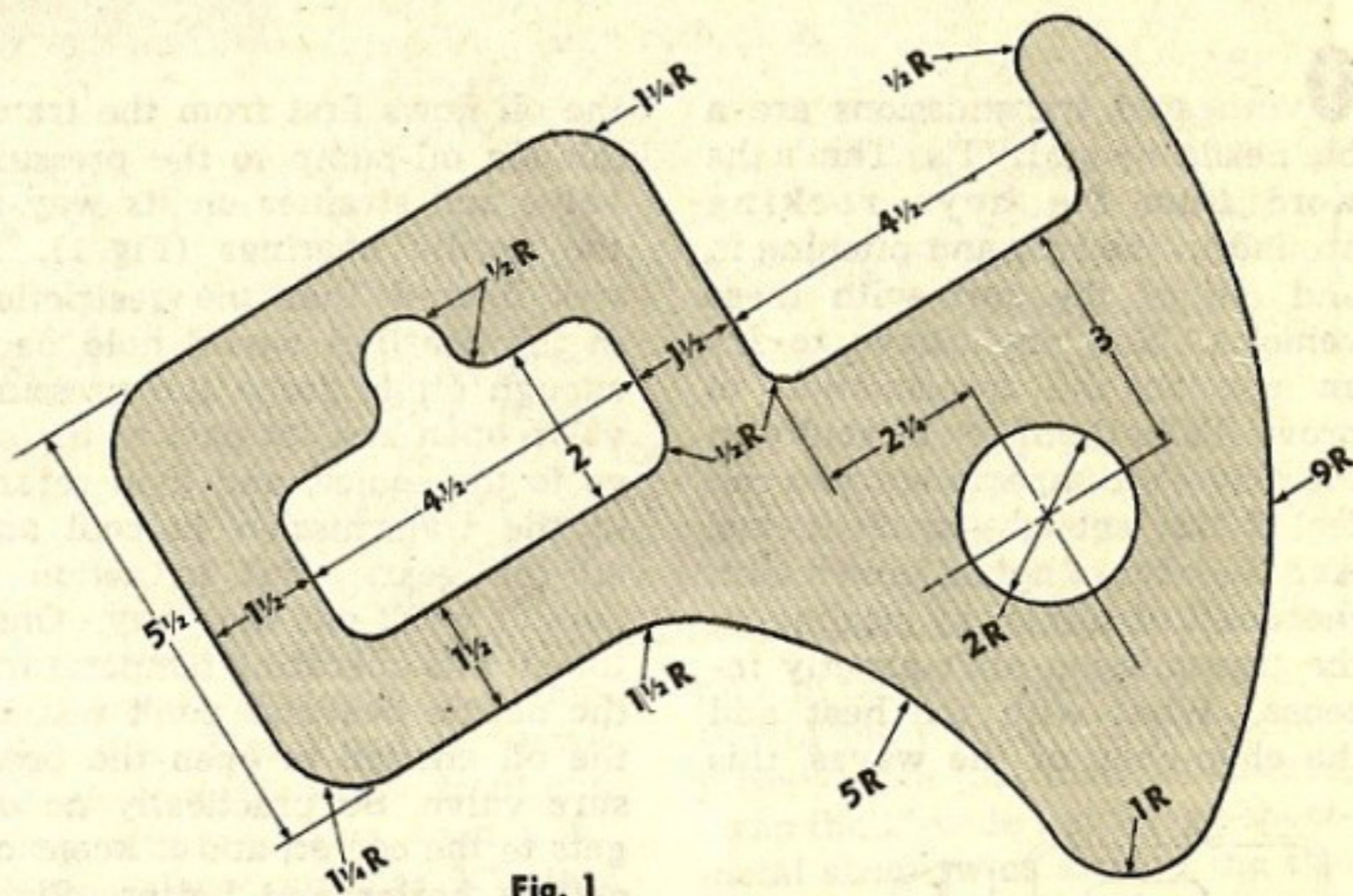


Fig. 1

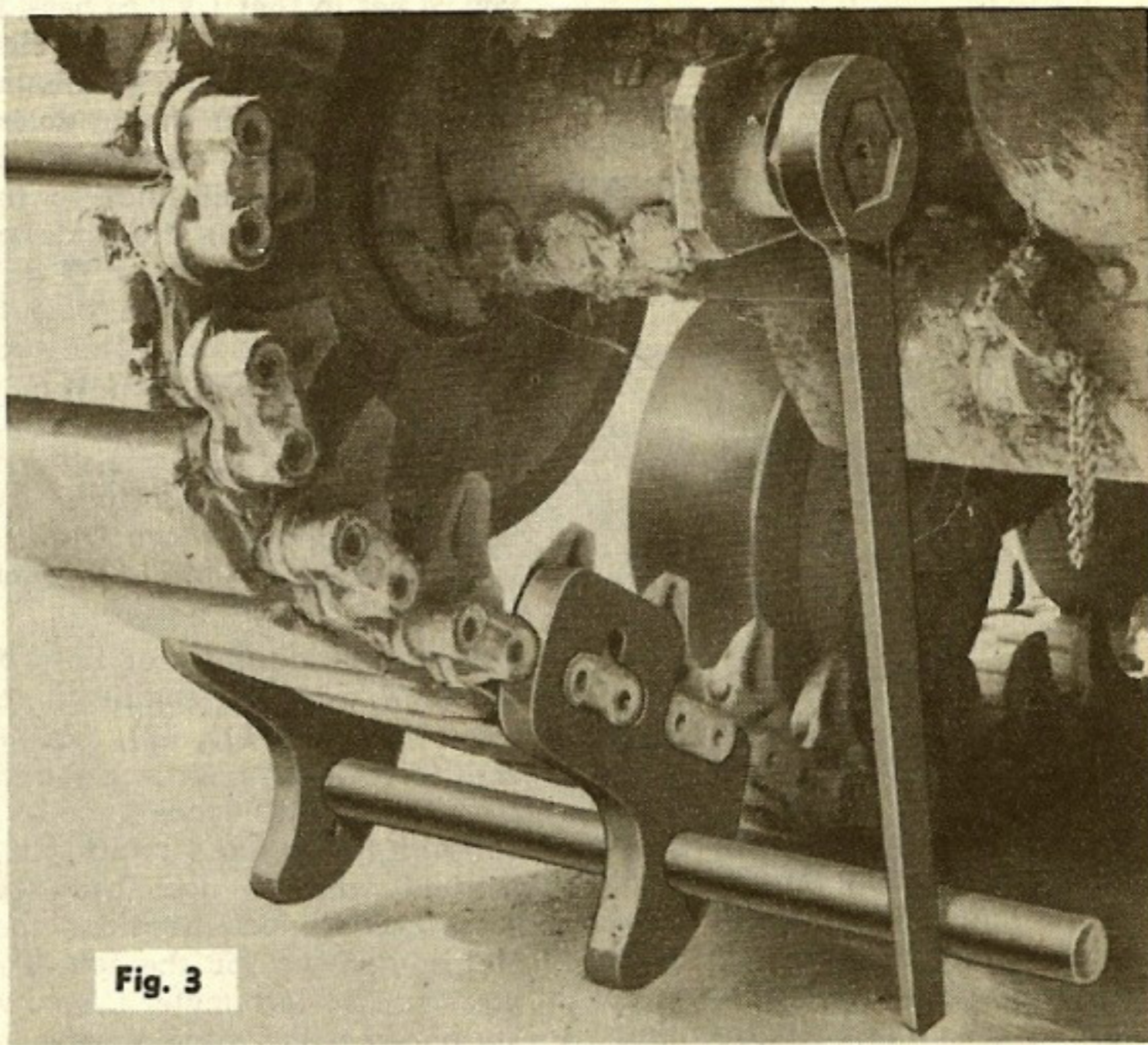
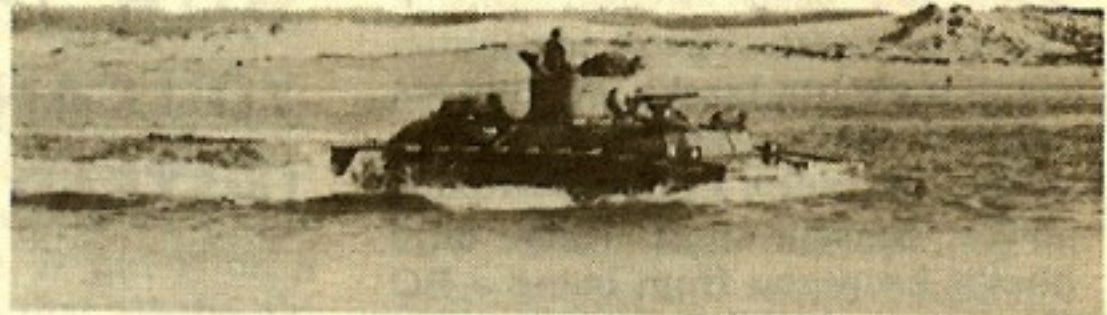


Fig. 3

Fig. 1—Get your torch to work and cut the plates to this size. Fig. 2—Attach the plates like this to tighten the track—put 'em higher to loosen it. Fig. 3—Ready and waiting for you to shift into gear and move slowly forward. Horsepower saves manpower and sweat.

LVT Transmission Oil-Lines

REARRANGING 'EM THIS WAY WILL PREVENT OVERHEATING—YOU CAN DO IT WITHOUT ANY SPECIAL KIT



Overheated transmissions are a big headache on LVT's. That's the word from the boys rocking around in the seas and pitching in and out of the surf with these vehicles. You don't have to fry an egg on the transmission to prove it's hot, either. If you're in the driver's compartment you can feel it fast enough—smell it, too. And the odor of hot oil mixed with the smell of salt spray sizzling on the transmission ain't exactly incense. What with the heat and the chop-chop of the waves, this

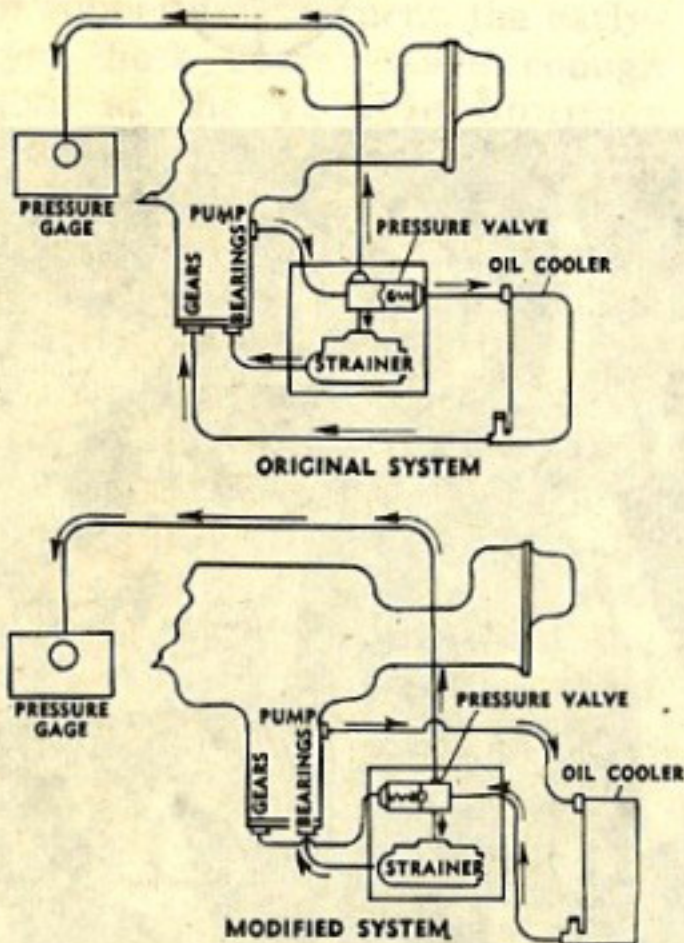


Fig. 1—These diagrams show the oil flow before and after.

pekyoolyar odor is enough to force any seagoing landlubber out of the hatch. What the heat does to the gears and bearings inside the transmission is still worse—it eats up the oil and lets them burn out in a hurry.

The present arrangement of the transmission oil-lines causes this overheating. The way it is now,

the oil flows first from the transmission oil-pump to the pressure valve and strainer on its way to the needle bearings (Fig. 1). It was figured that the restriction in the bearings would hold back enough oil to force the pressure valve open and let part of the oil go to the cooler, and then return to the transmission to cool and oil the gears. But in action it doesn't work out that way. Once the oil hits operating temperature, the needle bearings don't restrict the oil enough to open the pressure valve. So practically no oil gets to the cooler, and it keeps on getting hotter and hotter. Since you're not in that LVT to bask in the ocean breezes, you can't simply sit and let the transmission cool off. What you should do instead, and as soon as possible, is rearrange these oil lines so the oil flows from the transmission directly to the cooler (Fig. 1 again), and then on to the pressure valve and strainer. (The red-bordered MWO ORD G1-W34, 8 Jun. 45, backs this arrangement.) Even if you've never had this trouble, rearrange the lines anyhow, because any rough workout is likely to put the heat on your transmission.

The rearrangement of lines on the LVT with the engine in the stern—LVT (A)(1), (2), (A)(2), and (A)(4)—is a little different from the way it's done on the LVT (4) with the engine forward. Each method will be described separately. You don't need any special equipment for the job—and you can use any material you've got handy that fits the dimensions given. Otherwise, order the pipe fittings through regular channels. They're listed in SNL H-1, H-6, and H-7.

ENGINES IN THE STERN

First disconnect and remove the transmission oil-inlet and outlet hoses (Fig. 3), the transmission-oil-pressure-gage hose, and the hose running from the strainer to the output-shaft cover. Then remove oil line FOM-4X1053B, the two elbows FOM-4X1008B, and elbow FOM-P335. (You can put these 4 pieces back in stock as you won't use them again.)

Since you've got to twist the pressure valve onto a pipe, remove the pressure-valve-and-strainer bracket from the transmission by taking out the two capscrews. Put the 3"x3/4" pipe nipple where you removed elbow FOM-P335 (see Figs. 2, 3, and 4), and then add a 3/4" 90° elbow and the 15 1/2" piece of 3/4" pipe. Screw the pressure

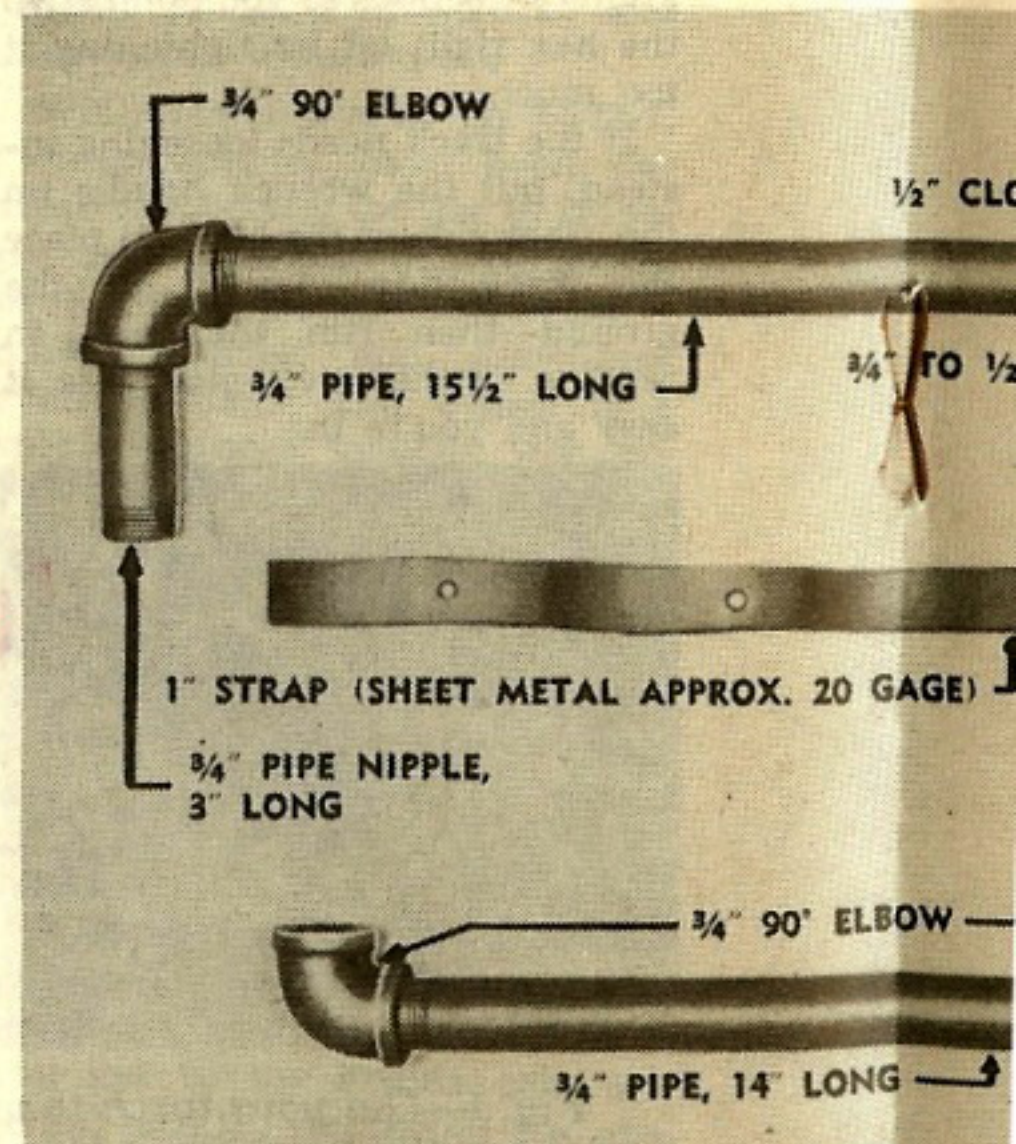


Fig. 2—These are the pipe fittings needed for the transmission oil-lines when the engine's in the stern.

ENGINES IN THE STERN

This is what you'll need to do the job (Fig. 2) on the LVT (A) (1), (2), (A) (2), or (A) (4):

Material	Item Stock No.	Qty.
Bolt, hex head, 1/4" 20NC2 x 1/2"	H001-01-16001	1
Coupling, pipe reducing, 3/4" to 1/2"	H006-02-21515	1
Elbow, pipe, 90°, 3/4"	H006-02-64528	4
Elbow, pipe, 90°, 1/2"	H006-02-64526	1
Nipple, close, 3/4"	H006-02-29060	2
Nipple, pipe, 1/2" x 2" long	H006-02-72065	1
Nipple, close, 1/2"	H006-02-29050	1
Nipple, pipe, 3/4" x 3" long	H006-02-27090	1
Nut, 1/4" 20NC2	H001-07-18001	1
Pipe, 3/4" x 14" long		
Pipe, 3/4" x 15 1/2" long (cut from standard pipe)	H007-01-00725	
Strap, light gage sheet metal, 1" wide x 16" long		1

ENGINE FORWARD

For this job, you'll need one each of the following hardware (see Fig. 5):

Material	Item Stock No.
Bolt, hex head, 1/4" 20NC2 x 1/2"	H001-01-16001
Bolt, hex head, 3/8" 16NC2 x 1"	H001-01-16026
Coupling, 1/8" (welded to 3/4" elbow)	H006-02-56005
Coupling, 3/4"	H006-02-56025
Coupling, pipe reducing, 3/4" to 1/2"	H006-02-21515
Elbow, 90°, 3/4"	H006-02-64528
Elbow, 45°, 1/2"	H006-02-64446
Nipple, close, 3/4"	H006-02-29060
Nipple, pipe, 1/2" x 2" long	H006-02-72065
Nipple, close, 1/2"	H006-02-29050
Nipple, pipe, 3/4" x 10" long	H006-02-71634
Nipple, pipe, 3/4" x 5 1/2" long	H006-02-71624
Nut, hex, 1/4" 20NC2	H001-07-18001
Nut, hex, 3/8" 16NC2	H001-07-18003
Plug, pipe, 1/8"	H006-02-83200

valve onto the other end of this pipe by turning the whole bracket. Then replace the bracket on the transmission. Also replace the 29"-long hose between the oil strainer and the output-shaft-cover fitting, and the 34"-long oil-pressure-gage hose between the oil-pressure-gage line and the pressure valve. To join the connections between

the pressure valve and oil-cooler-outlet pipe (Figs. 2 and 4), install a 3/4" close nipple in the front end of the pressure valve, then a 3/4" 90° pipe elbow, another 3/4" close nipple and 3/4" 90° elbow, the 3/4" pipe that's 14" long, and another 3/4" 90° elbow. Connect the 22"-long hose between this elbow and the oil-cooler outlet, which is the

pipe in the floor closest to the outside of the vehicle. To keep these pipes you've just installed secure, wrap the 1"-wide light-gage-sheet-metal strap twice around the two pipes as close to the elbow as possible (Fig. 4), drill a 1/4" hole through the center of the strap between the pipes, and fasten the sides together with a 1/2"-long 1/4"

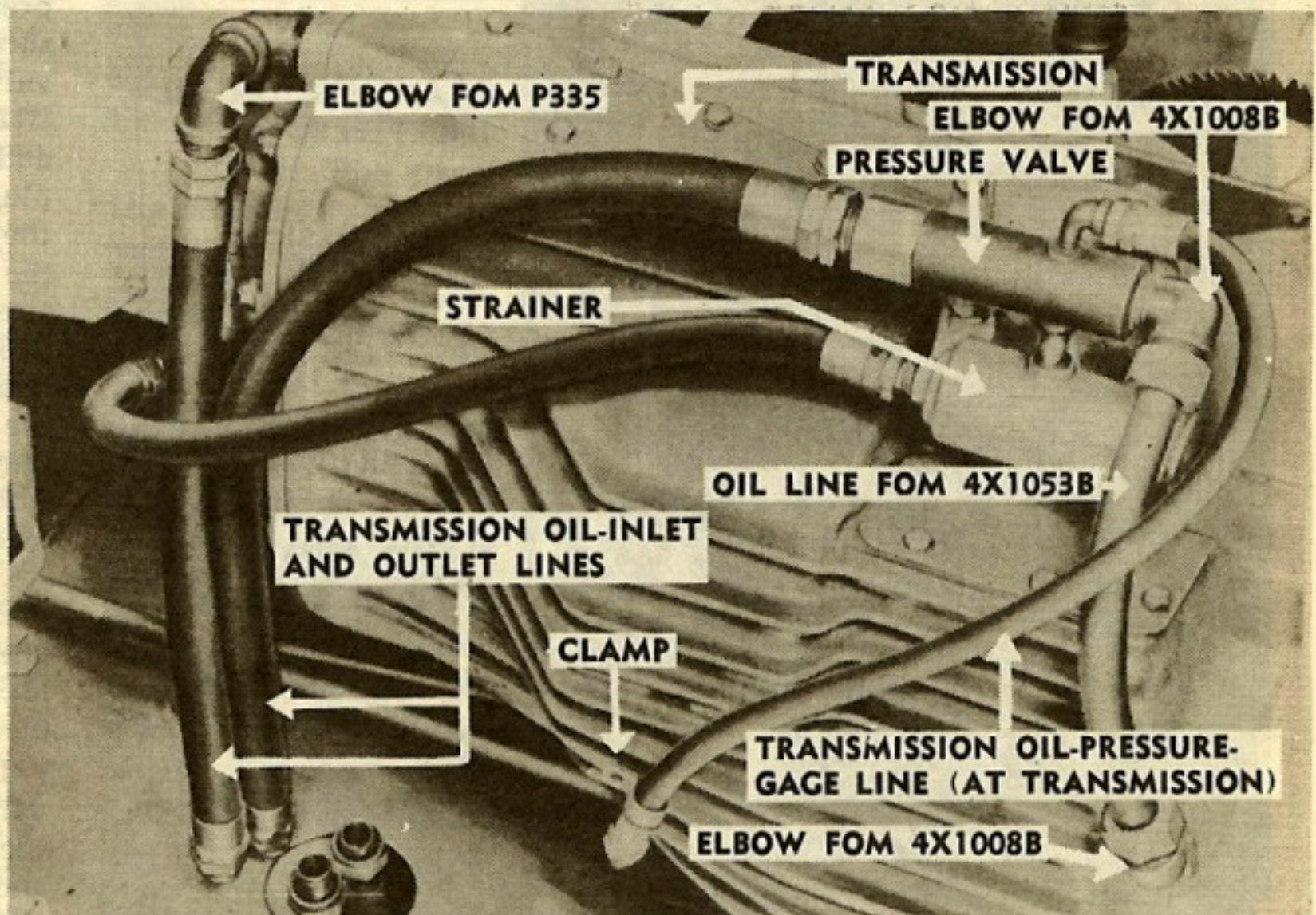
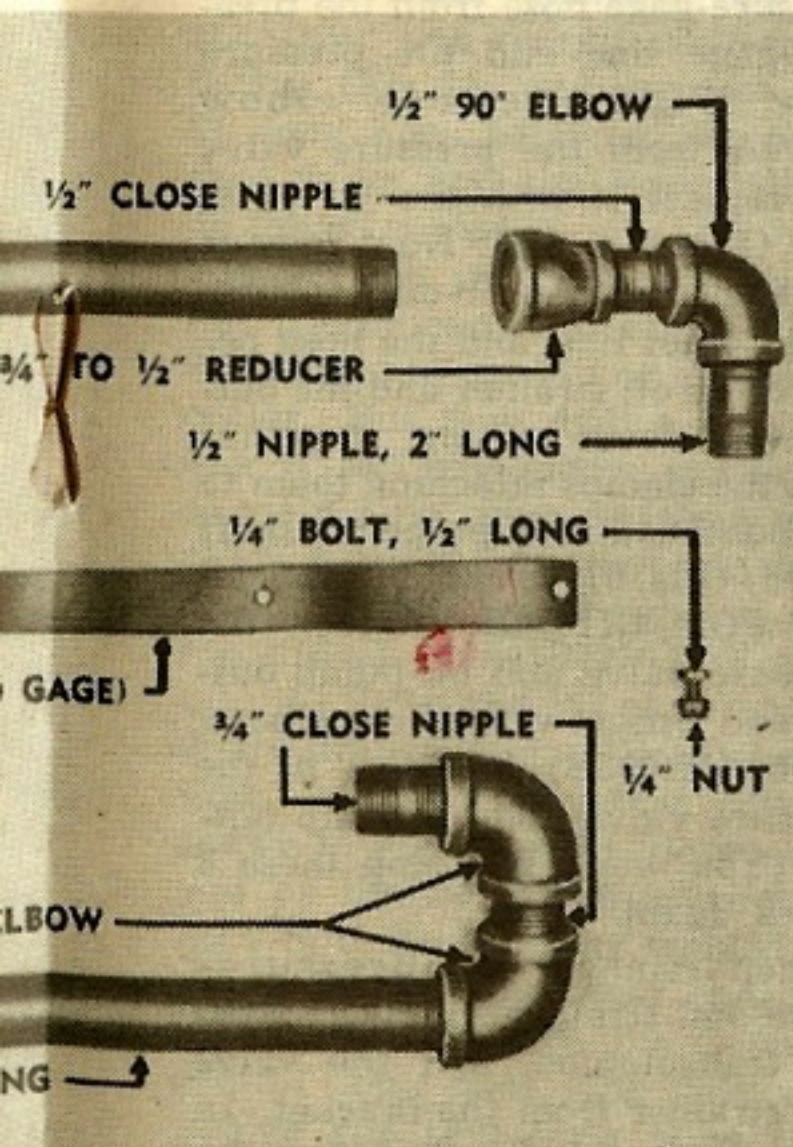


Fig. 3—After removing these five oil lines and three elbows, you're ready to twist 'em around as shown in Fig. 4.

gases needed to rearrange the transmission in the stern.

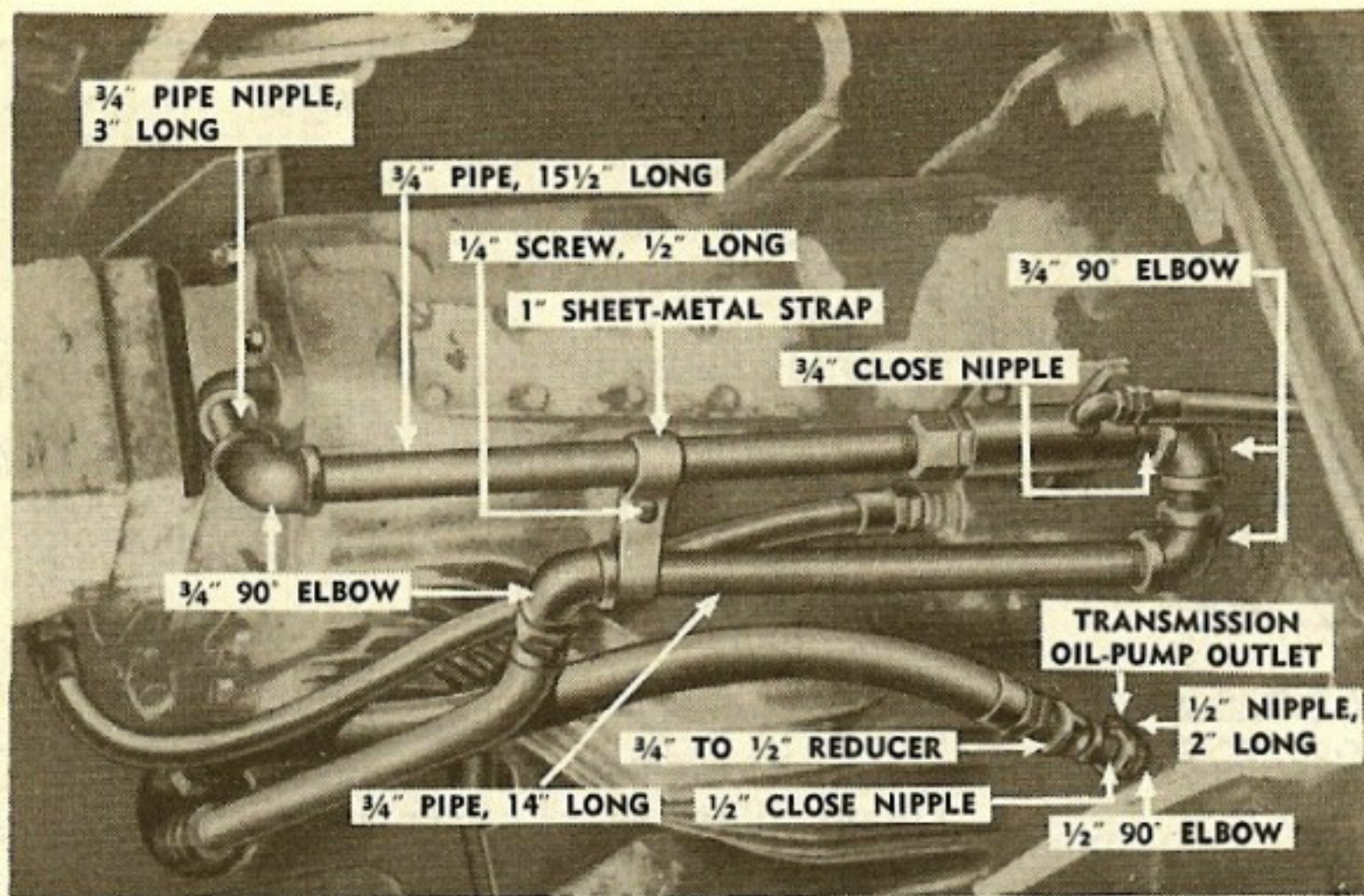


Fig. 4—This is what the job looks like after you're through juggling the oil lines (engines in the stern).

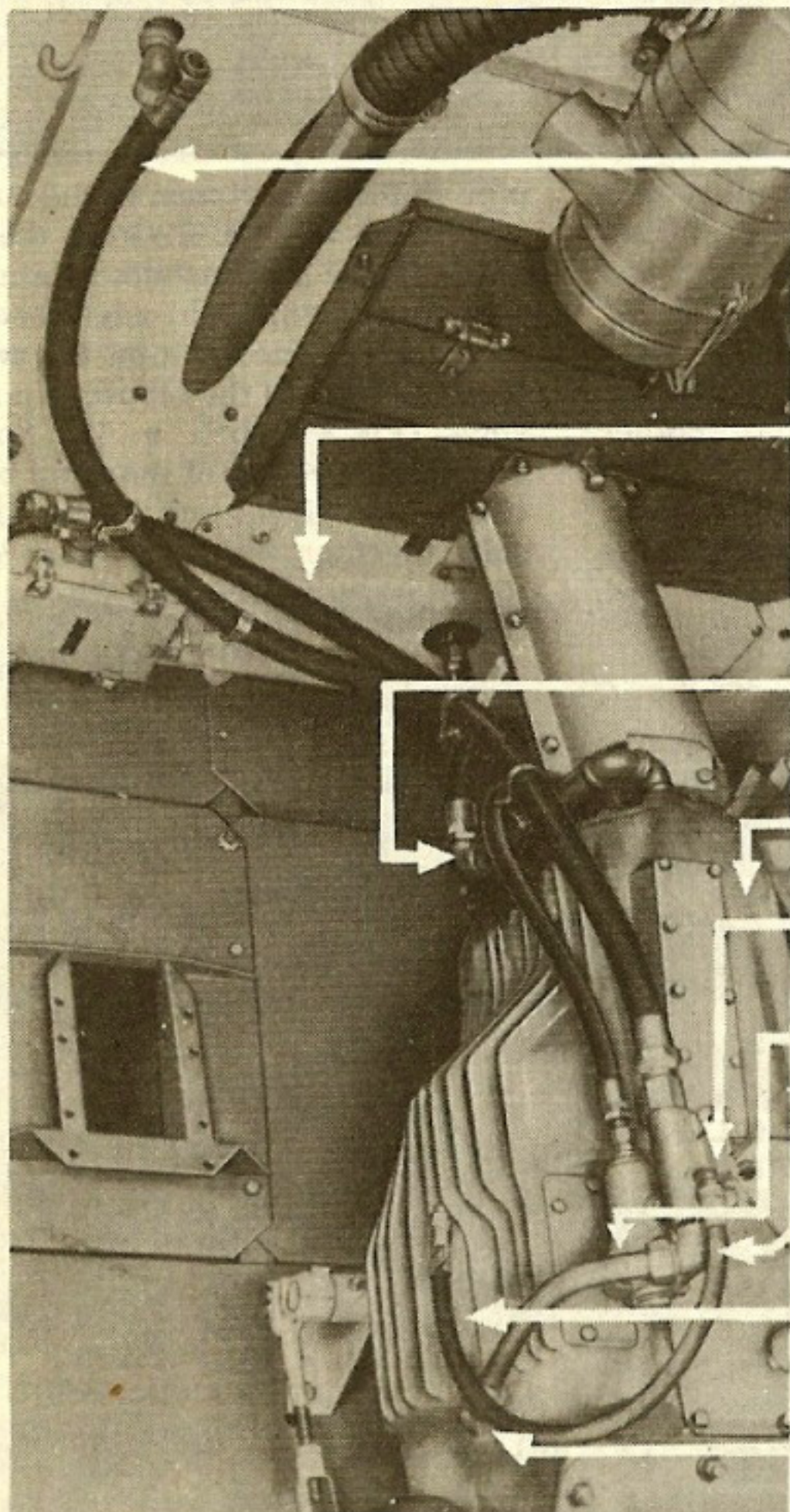


Fig. 6—This way the oil gets pumped to the pressure valve first and it might not get to the cooler.

bolt and a $\frac{1}{4}$ " nut.

You're ready now to connect the last line—between the oil-pump outlet and the oil-cooler inlet (Figs. 2 and 4). Install the 2"-long $\frac{1}{2}$ " pipe nipple in the transmission-oil-pump outlet, then add a $\frac{1}{2}$ " 90° elbow, the $\frac{1}{2}$ " close nipple and the $\frac{3}{4}$ "-to- $\frac{1}{2}$ " pipe reducing-coupling. Screw the 35"-long hose into this coupling and connect the other end to the transmission-oil-cooler inlet, which is the pipe in the floor closest to the transmission.

After you've connected the last hose, try out this new arrangement for oil leaks by starting the engine and running it at 1500 rpm for 15 minutes with the transmission in neutral and the clutch engaged. If any leaks show, make the job solid, of course. Everything shipshape? Well, all you've got to do now is unkink yourself.

ENGINE FORWARD

Arranging the oil lines on the LVT (4) with the engine forward takes a little more time because the pressure-valve-and-oil-strainer bracket has to be moved from the transmission and attached to the bracket on the prop-shaft guard.

After disconnecting the oil-pressure-gage hose from the pressure-gage line and the pressure valve (Fig. 6), remove elbow B7270A from the pressure valve and replace it with the $\frac{1}{8}$ " pipe-plug (Figs. 5 and 6). Next remove the transmission-oil-outlet line, the oil-inlet line, and the hose between the oil strainer and the output-shaft-cover fitting, together with the clamps attaching them to the bulkhead and propeller-shaft guard (Fig. 6). Take off the oil line FOM-4X1053B between the pressure valve and oil-pump outlet, and unscrew the two elbows (FOM-4X1008B) located in the pressure valve and oil-pump outlet. (You won't be using these 3 pieces again.)

Then remove the pressure-valve-and-strainer bracket from the transmission, and the valve and strainer from the bracket. In order to fit this bracket onto the prop-shaft bracket, cut off the bot-

tom part with a hackshaw and drill two extra $\frac{3}{8}$ " holes in it as shown in Fig. 5. Since you'll need to drill an extra hole in the prop-shaft-guard bracket to attach the valve-and-strainer bracket, fit the cut-off end of the valve bracket flush with the joint where the two halves of the prop-shaft guard are joined together. Then line up the holes in the two brackets so you can see where to drill the extra hole in the prop-shaft bracket. After this, you can attach the pressure valve and oil strainer to its bracket again.

You're all set now to start connecting the lines. So install the $5\frac{1}{2}$ "-long $\frac{3}{4}$ " pipe (Fig. 5) in the open end of the transmission-oil-inlet elbow (Figs. 6 and 7), and screw the end of the pressure valve (where transmission-oil-outlet hose was formerly connected) onto the other end of this pipe by revolving the whole bracket towards the prop shaft and the strainer above the pressure valve. Then bolt the pressure-valve-and-oil-strainer bracket onto the prop-shaft-guard bracket, using the screw and nut that formerly attached the hose clamps, and a new $\frac{3}{8}$ " bolt and nut. Reinstall the 29"-long hose between the oil strainer and output-shaft-cover fitting (Fig. 7), and connect the 37"-long hose between the pressure valve and the lower elbow on the oil cooler.

Next, join the fittings between the transmission oil outlet (Fig. 8) and the upper elbow on the oil cooler. But first, drill a $\frac{1}{4}$ " hole in a $\frac{3}{4}$ " 90° pipe elbow, and braze or weld a $\frac{1}{8}$ " pipe coupling to it (Figs. 5 and 8). Another way is to drill and tap this elbow so you can thread elbow B7270A (Fig. 6) into it. Twist the $\frac{1}{2}$ " close nipple in the transmission-oil outlet and then, in turn, the other fittings shown in Figs. 5 and 8. Screw one end of the 24" oil-pressure-gage hose into the coupling welded on the elbow and the other end into the oil-pressure-gage line. Connect the 73"-long hose (the only one you've got left—we hope) between the coupling you just installed and the upper elbow on the

(Continued on page 128)

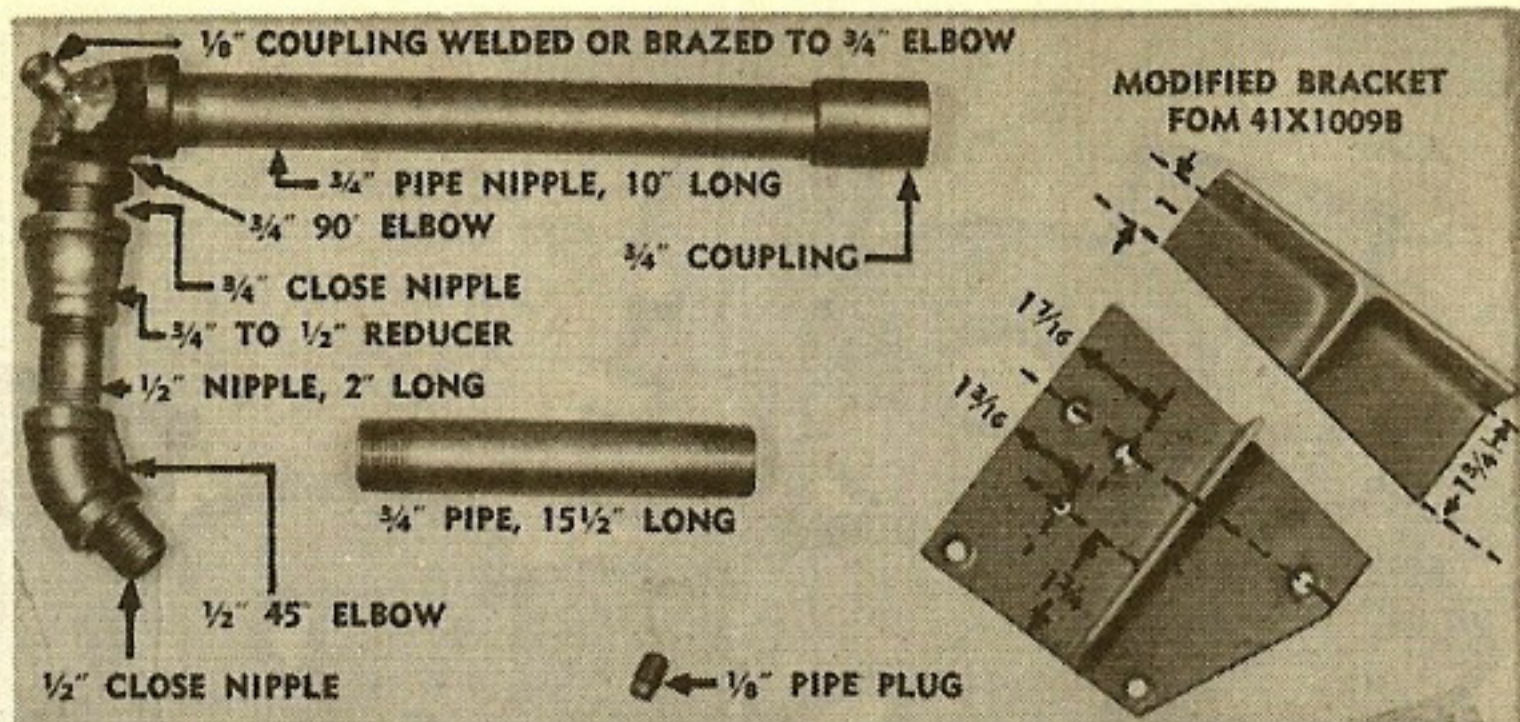


Fig. 5—You'll need these pipe connections to rearrange the oil lines when the engine's forward.

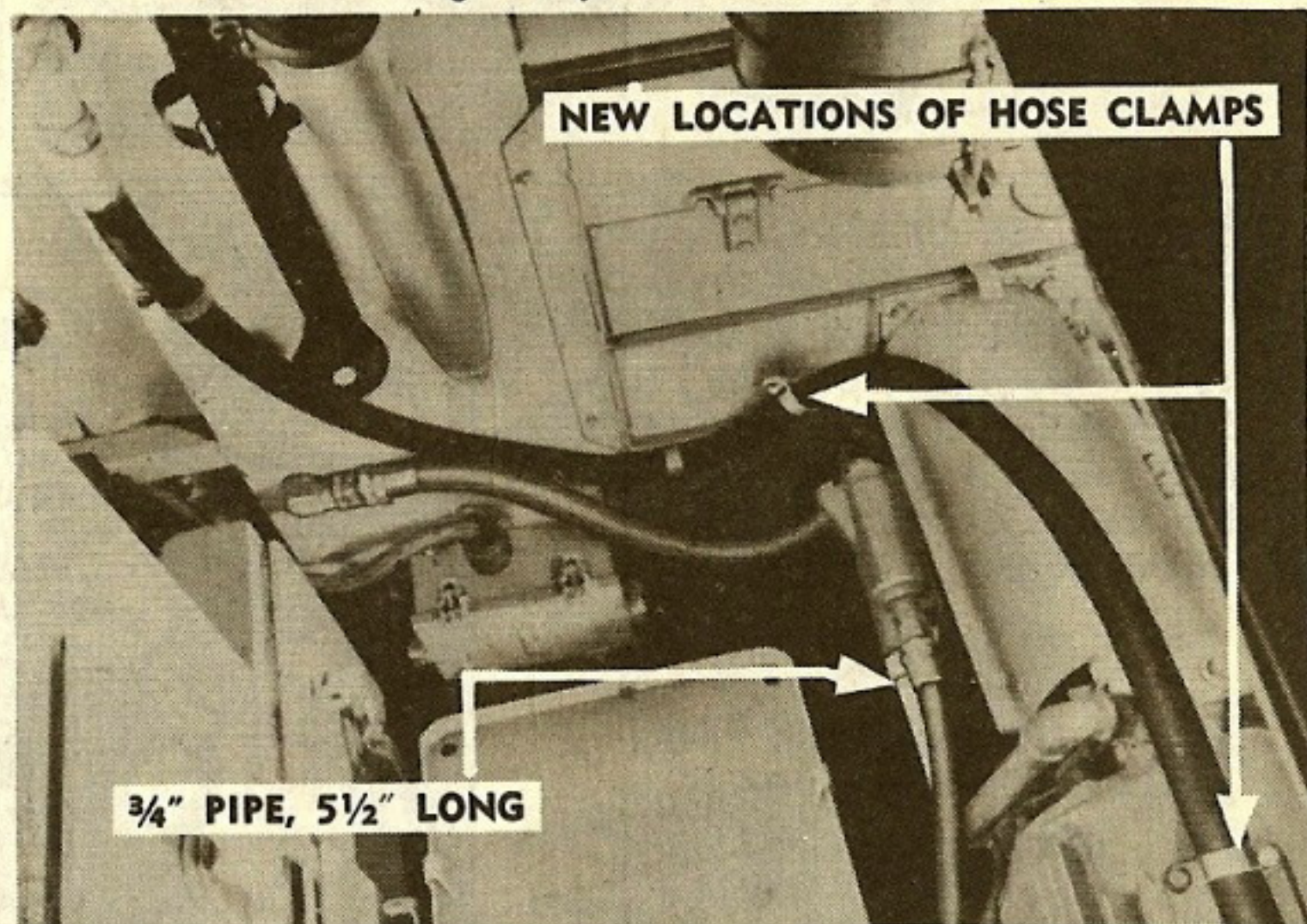


Fig. 7—The pressure valve and strainer are removed from the transmission and attached to the prop-shaft-guard bracket.

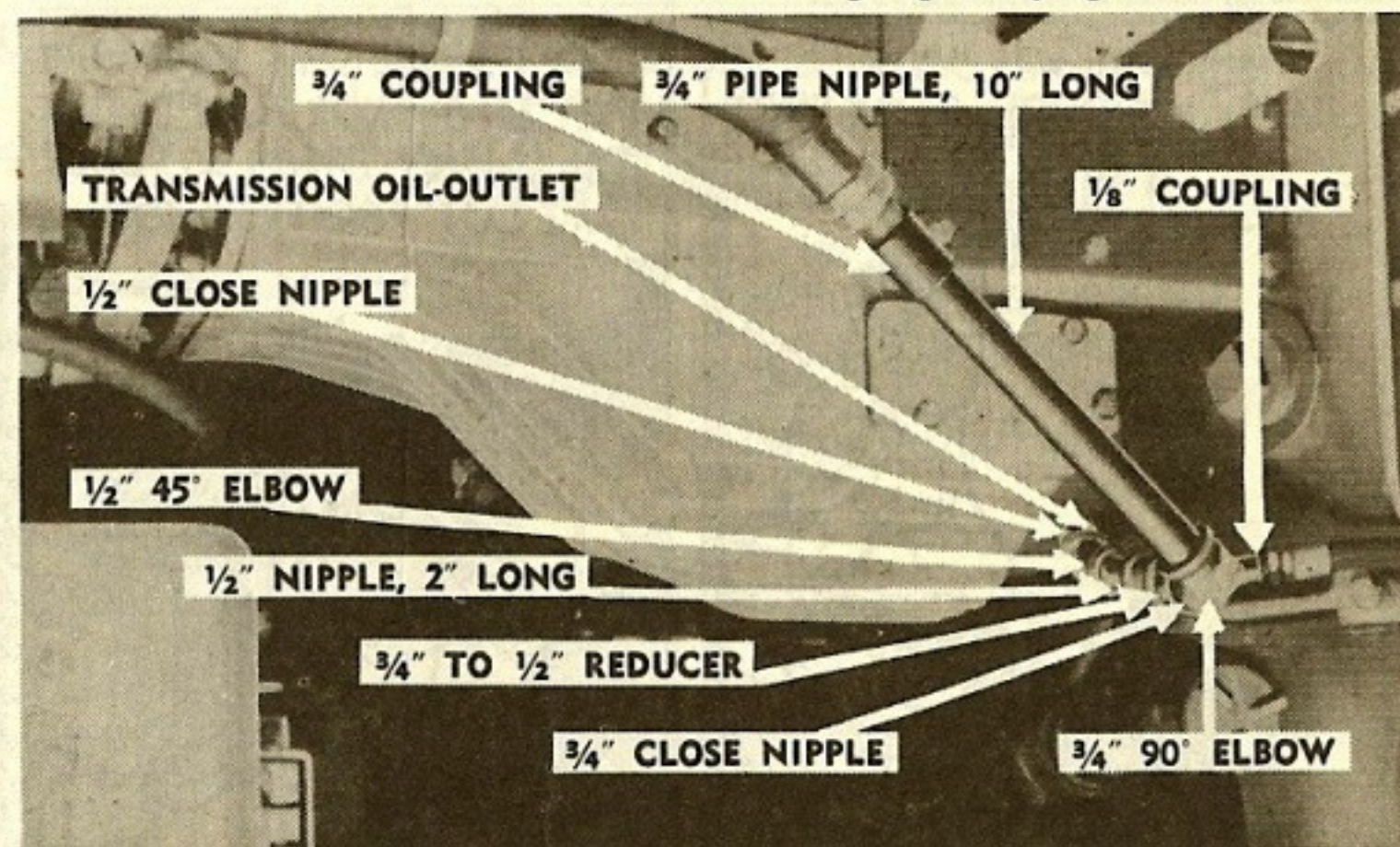


Fig. 8—These connections'll extend the long hose so it'll reach from the transmission oil-outlet to the cooler inlet.

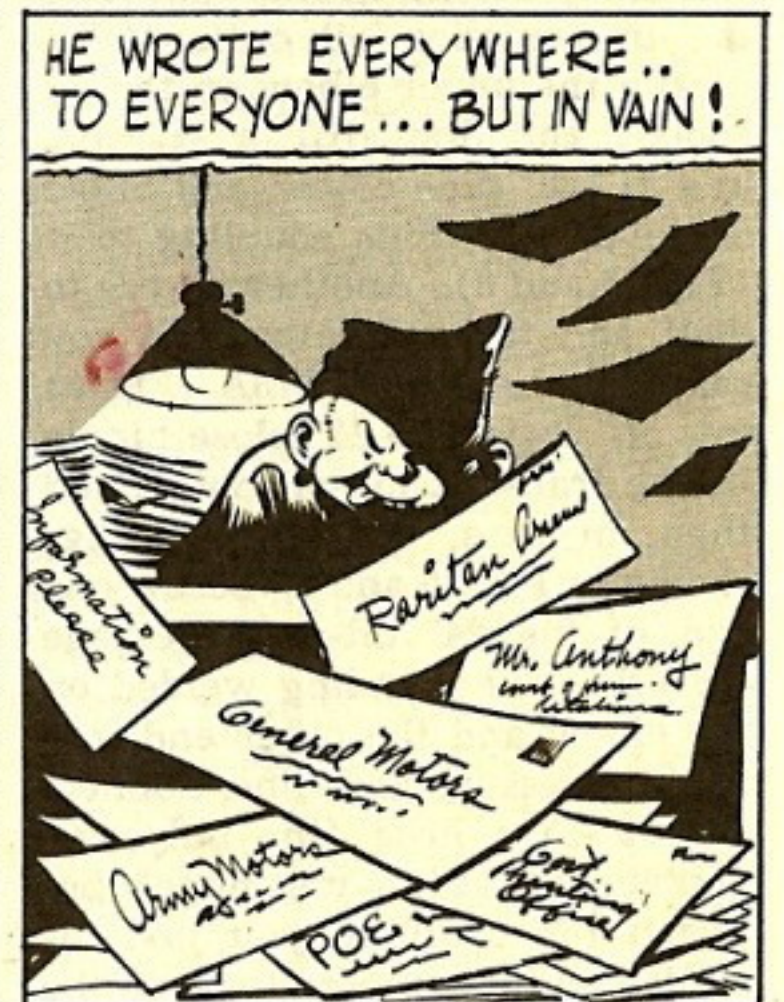
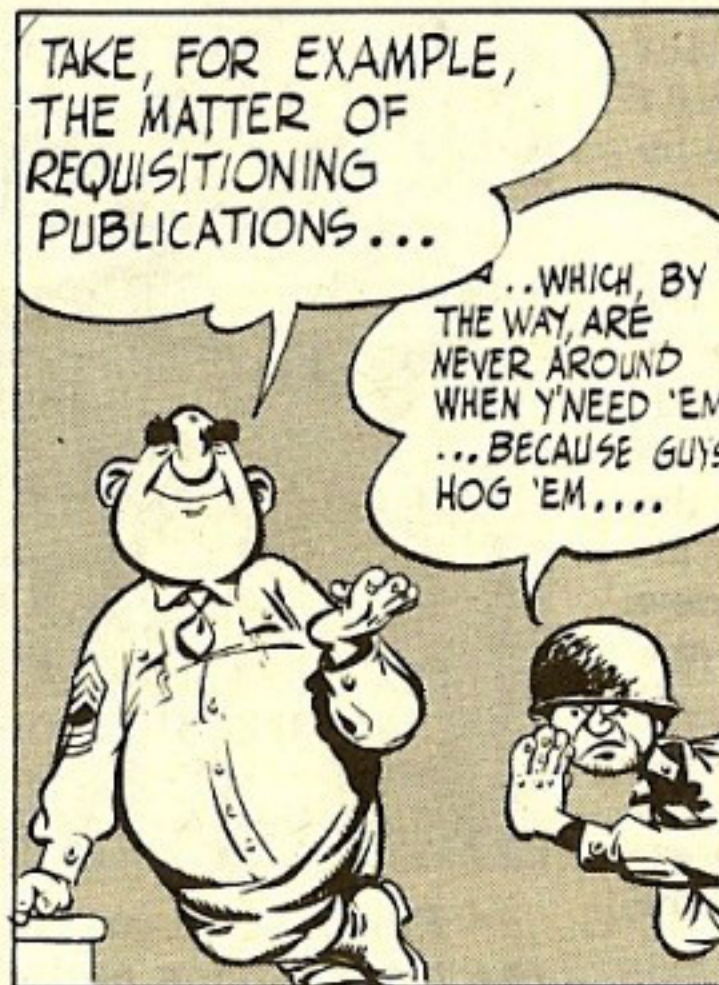
JOE DOPE

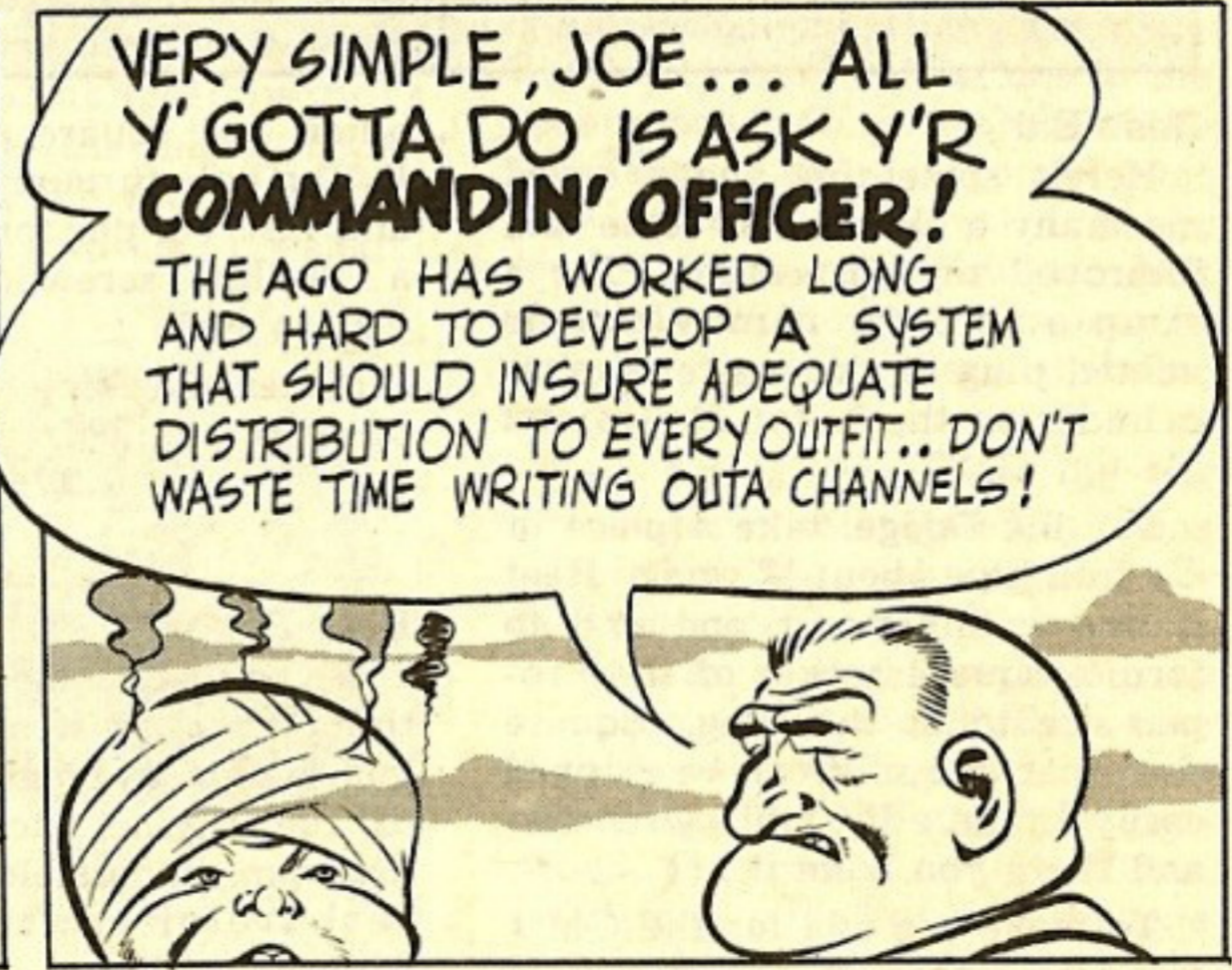
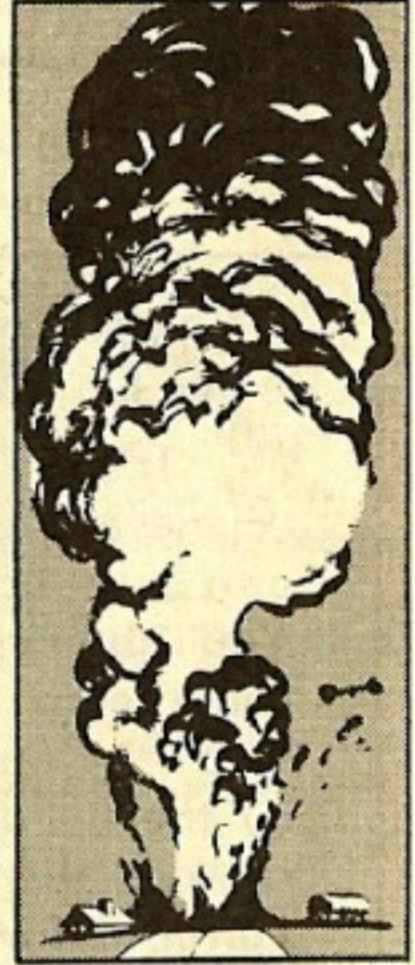
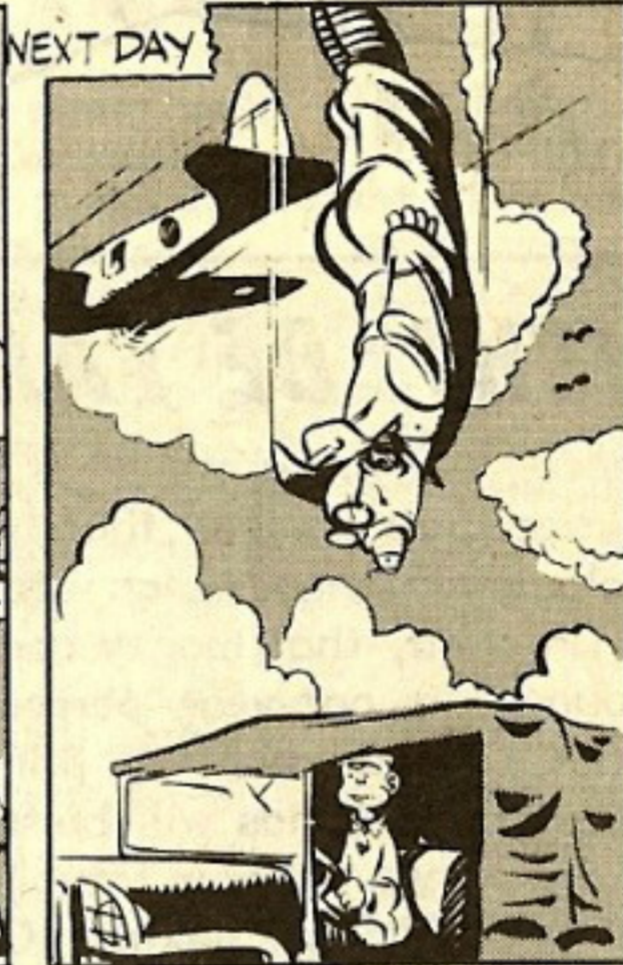
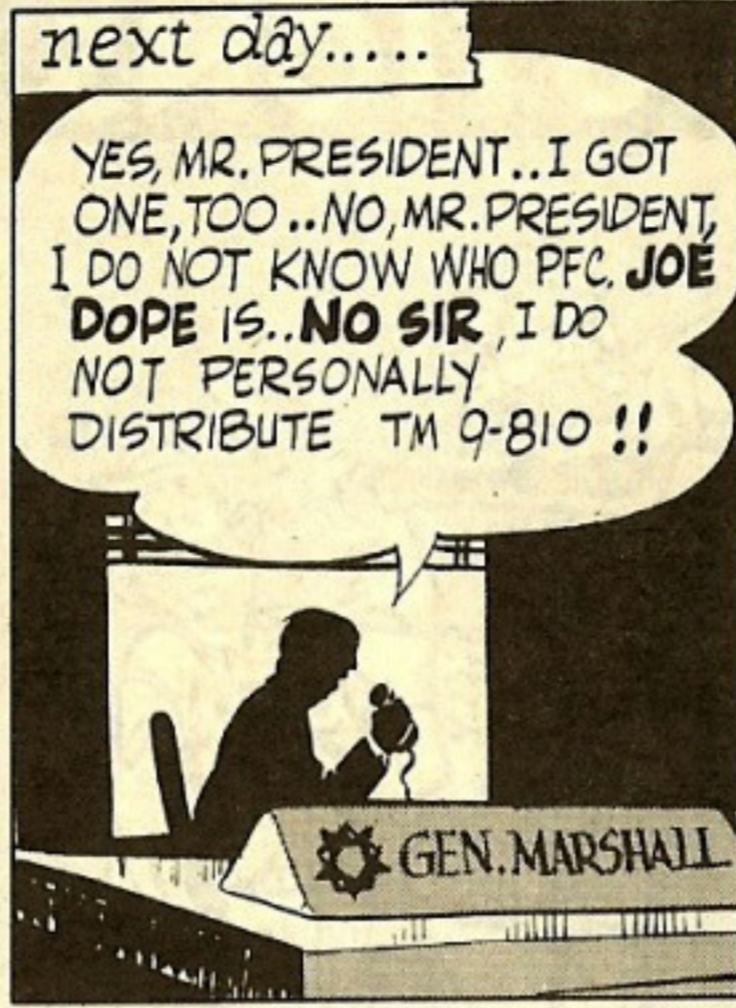
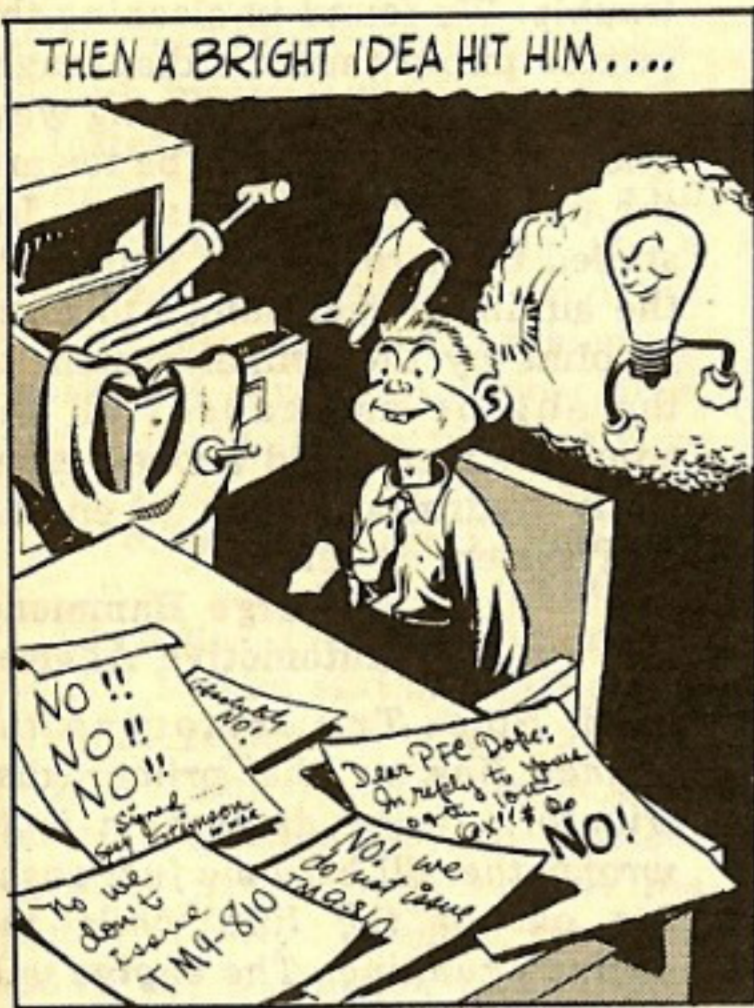


"IN THE ART OF WARFARE," SAYS BARON VON SHLAGKAMPE, "ARMIES AND THEIR LEADERS ARE FOREVER PREY TO THE DIRE RESULTS OF IMPONDERABLES. THE FATE OF NATIONS OFTEN HINGES UPON SOME INFINITESIMAL CIRCUMSTANCE"

OR

AS PFC. PHILANDER P. FINK, LATRINE ORDERLY, PUTS IT, QUOTE ... @*!!# # @?!!#;! !!%67%# UNQUOTE





In the area serviced by the **258th Ordnance Battalion**, no less than 27 of these cases cropped up in just a couple of weeks. To put a stop to it, the 258th worked up an easily-made modification that does the trick. What they do is drill a couple drain holes and file a couple channels in the bottom of the lower housing of the distributor (see Fig. below) so the oil that screws up the shaft can run right down into the pan again before it screws up the points.

It's done in the following manner: Drill two $\frac{1}{8}$ " holes on a 45° angle on either side of the lower housing, $\frac{1}{2}$ " from the bottom of the lower shaft—drill completely through the housing. Then, using a three-cornered file, file out an oil-return channel from the bottom of the drilled holes to the bottom of the housing.

The distributor operated on is Delco-Remy Part No. 1110161.

Dear Editor,

Here's a little discovery I made when we were badly in need of all our vehicles and were using roads where it was imperative that we have the front-wheel drive in action.

I ran across a loose bearing on the front-wheel driveshaft in the transfer case of one of our $2\frac{1}{2}$ -ton GMC's and didn't have any replacements or spare parts. After I removed the yoke and bearing cap, I found that all the shims

had been taken out. I took off the entire shaft, gear, and bearings, and lifted the outside bearing from the shaft. Then I removed the spacer that's between the two bearings and had our welder braze a small layer of bronze on one side of the spacer. After filing it down smooth, and with the right adjustment to take out the free play in the bearings, I reinstalled the assembly.

This moved the bearing out against the cap and had the same effect as moving the cap in against the bearing, which you do when you remove shims from beneath the cap. The truck has been in daily operation for over a month without any signs of failure of the bearings.

T/4 Robert H. Goulet
APO 969

Ed. Note—Your stunt for getting correct bearing adjustment (with a split-type axle) is very much okay. Of course, you know how important it is to get a proper braze thickness and a true face to support the bearing cone.

This might make the job a bit easier if you can get the parts: The main-drive-gear outer bearing has shims (Item Stock Nos. G67-23-00630, G67-23-00640, G67-23-00650; Mfr's Part Nos. GM-2031413, GM-2031414; Ord. Part No. 2031415) which are an exact fit for the spot where you used the braze. You could use these shims instead of lengthening the

bearing spacer, and when replacement bearings are available, removing the temporary shims would be simpler than getting the braze off. But if you haven't got these shims, your field fix will work fine.



Dear Editor,

While overseas at an isolated island base we needed some cutter bits for our machine tools. Requisitioning and waiting took much too long, so my shop foreman at that time (T/Sgt. **Robert W. Diener**, now an officer but present address unknown) made some excellent ones by forging the cores of cal. .50 A.P. cartridges into $\frac{1}{4}$ " and $\frac{3}{8}$ " square tool bits. This steel is excellent for most tool uses and is always available in the field.

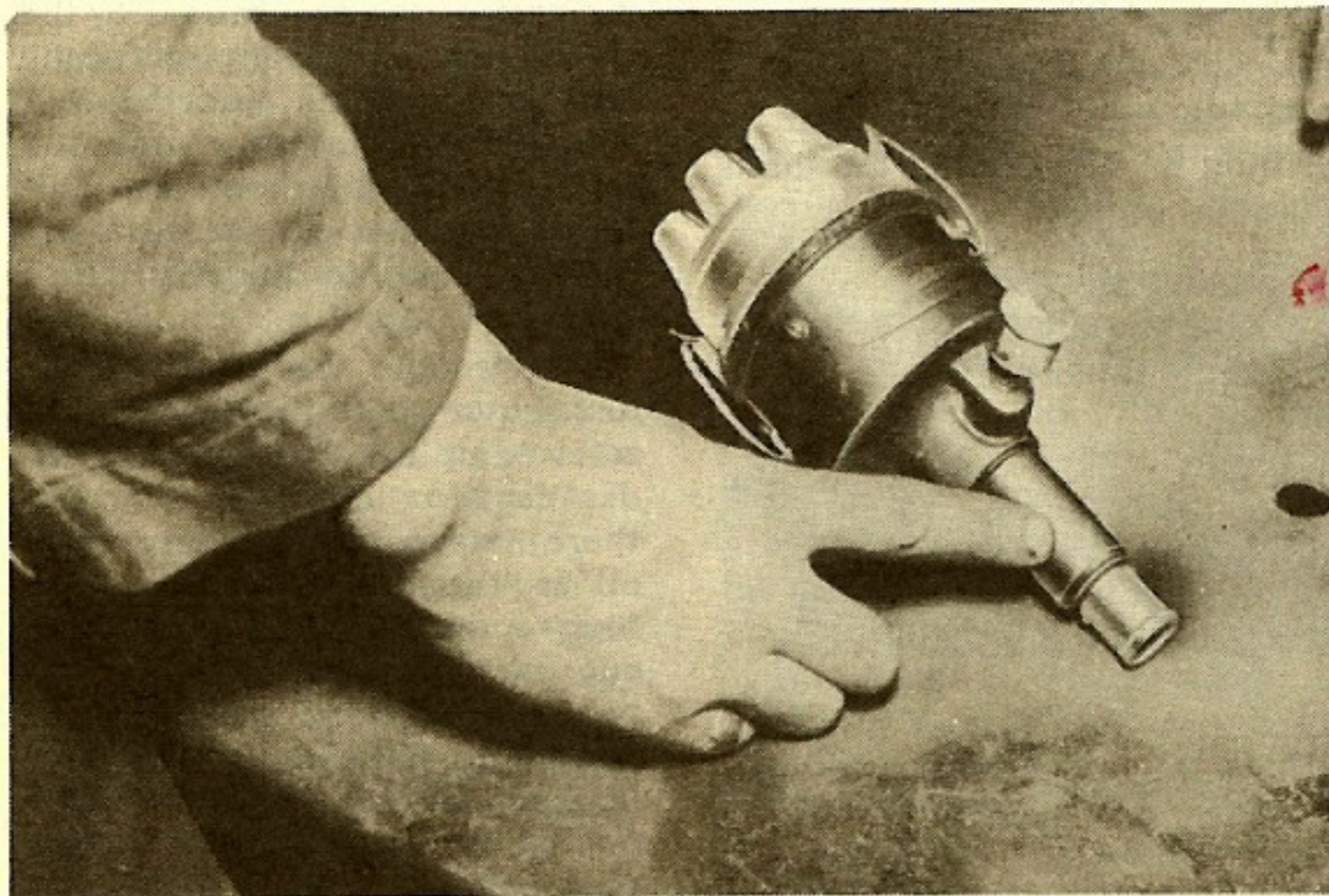
Capt. R. F. Gilkeson
New York POE

Dear Editor,

I've made a small modification on the plate covering the fuel filter and clutch cylinder on the M8 armored car. I enlarged the hole in the plate that fits over the fuel filter so that when the plate has to be taken down, you don't have to darn near break the brake line. After cutting the hole 4" wide by 4" deep, I made a plate much like the inspection plate that was on before, in order to cover up the hole and keep the dirt out.

It also helps in the field when you can get a socket on the lower fuel-filter bowl so it can be drained every day and in a hurry, instead of trying to get at it the old way and almost cutting your hand off.

S/Sgt. T. R. Nye
APO 18020



SGT. HALF-MAST McCANICK'S



QUESTION DEPARTMENT

Dear Half-Mast,
Sure I'll pop a question at you for a free subscription to "Ommy Motus."

Why are the No. 4 and No. 6 ignition wires crossed on the Cadillac tank engine? I've been an M5 and M5A1 instructor at two tank schools for a long time and have heard (and given) some answers, none of which are satisfactory.

You can start digging for that one.

Pfc. W. R. L.

Dear Pfc.,
Didn't have to dig too deep. The crossing of those No. 4 and No. 6 ignition wires dates back to when this engine was used in the Cadillac car (remember?). Under very low-speed engine operation in high gear, the current flowing through No. 6 ignition wire to the spark plug caused current to flow in No. 4 wire, making both plugs fire at the same time. This in turn caused a rough-running engine at low speed. The solution was to cross the two wires and break the induction.

Since you don't run up against anything like that in tanks—be-

cause tank engines ain't operated under load at low speed—and since you tankers didn't like 'em that way, anyway, the wires were uncrossed in the M24 light tank.

Half-Mast

Dear Half-Mast,
This argument comes up every time we have a monthly check-up. It's about stoning or sanding the rotor to clean the contact end. I say the rotor gets shorter all the time even if only a few thousandths at each sanding or stoning. The TM's don't give any special setting for the distance between the rotor and distributor cap, so my contention is to file the rotor good and clean and to use an old distributor cap with part of the top cut out to measure the clearance. If the clearance is too big, the brass contact-end of the rotor could be built up with solder or it could be hit lightly with a hammer while resting on a vise or something solid. I always set the distance between .018" and .020" and get very satisfactory results—smooth motor and good spark. It takes only a few minutes to check

and may save a lot of trouble later.
Pfc. J. B.

Dear Pfc.,
Your idea of cutting a discarded distributor cap to measure the distance between the contact end of the rotor and the spark-plug-wire contacts is solid. The gap setting of .018" to .020" is okay, too. But when your monthly check-up comes around, it'd be better to clean the contact end rather than file or stone it. Hitting it with a hammer to make up for the material lost in filing is pretty ticklish. If the end's too badly burnt and there's no new rotor in sight, building it up with solder will work—but stick in a replacement as soon as you can.

Half-Mast

Dear Half-Mast,
I'd like to know the proper way to install the outer grease-retainer on a jeep—the one right behind the CV joint. Is the retainer put there to hold the grease in the differential or to keep the grease in the CV joint? In other words, does the lip of the retainer face in, or out toward the joint? I've seen them installed both ways and would like to know the right way.
J. B. B.

Dear Mr. B.,
That oil seal (grease retainer) in back of the CV joints on jeep front axles oughta be installed with the lip facing the joint—it'll hold the grease in the joint better that way. It won't affect the differential anyhow, since the differential has its own seals in each side of the housing.

Just by way of dishin' out a little extra info, Willys ain't putting those CV-joint oil seals in the front axles any more. Since they began using some Tracta joints, which require a bronze bushing instead of a seal to keep the axle centered, they've been using the bushing on all their front axles. It works okay with Rzeppa and Bendix joints, too. But if yours is a Ford-built jeep, it'll have oil seals and Rzeppa joints, strictly.

Half-Mast

Dear Half-Mast,

In your article on cracked GMC exhaust manifolds in the Oct. 44 issue, I believe you missed out on one important point. While we were stationed in the States, we had too many cracked and warped exhaust manifolds, and we did everything to track down the trouble. We made sure they were installed properly and checked the heat regulator for the proper season, but still they continued. Then finally we found the real cause of our headaches. The drivers coming in from a day's run would wash their trucks and squirt the hose on the engines—a short-cut in getting ready for an inspection. Result: Cracked and warped manifolds. We then made arrangements to have every battery motor sergeant supervise the washing of all his trucks. The trouble ended right there, and since we've been in the ETO I can happily say that we never have any broken manifolds. I believe in having trucks clean, but I also believe that the driver who doesn't know how to wash a vehicle will do it more harm than good.

M/Sgt. L. N.

Dear Sergeant,

You got something there—probably no end of manifolds have been cracked by squirting water on 'em while they're hot. But, brother, that ain't the whole story. In addition to that, and to what you read in October, there's several more important reasons why they break.

Such as tightening 'em up unevenly. I know there's a tough temptation to skip the bolts that

are rusted or hard to get at. But if you don't pull 'em all up evenly, you're askin' for distortion and cracks.

There's also been a shortage of certain critical metals like molybdenum and manganese, which are ordinarily used in manufacturing manifolds. But you oughta be able to get the new-type, stronger manifold made with chromium and molybdenum (GM Part No. 2190406, mold-casting number 2190407M). These are now going on 2½-ton GMC's in production.

Another thing, the manifolds keep breaking in the same places, so it looks like some fault in design. The new replacement I mentioned has larger end holes for extra clearance, which oughta help some. The deal is still being studied and tested for further changes, maybe.

But the basic cause of breakage is heat expansion, and that happens in spite of good materials and pre-heating. TB ORD 186 (12 Sep. 44) gives you some manifold PM that oughta help considerable.

Yeah, I remember. Tailpipes clogged up with mud can raise hell with manifolds, too. A field cure for that is in the works right now—and oughta be in your favorite maintenance mag, come August.

Half-Mast

Dear Half-Mast,

In ordering tools for ¾-ton Dodge trucks, I find that the 8" crescent wrench is not included in SNL G-502 (1 Jul. 44).

Is this an oversight or is it supposed to be that way? Let's have

the right dope, seelvooplay.

M/Sgt. E. V. M.

Dear Sergeant,

The reason the 8" crescent wrench ain't listed in that SNL is 'cause it ain't supposed to be. The tool experts up and decided that the other wrenches listed will fill the bill, so they're only including crescent wrenches among the tools for heavier stuff like tanks and giant tractors. The way I get it, they're not an item of issue any more on any of the lighter vehicles. Compronnay voo?

Half-Mast

Dear Half-Mast,

What, if anything, can be done about oil leaks from the fuel-pump fulcrum-pin on 1½-ton 4x4 G-7107 Chevrolets? They are the source of a steady oil dribble on pumps of short service or new origin and seem to require some modification or improvement. The trouble seems to be universal. Any suggestion would be very acceptable.

S/Sgt. C. H. C.

Dear Sergeant,

There's a couple things that might be causing the leaks. On trucks which have piled up a high mileage, the hole in the casting may be worn out-of-round. On new pumps, you can probably blame the leaks on a sloppy line-ream in production.

Best cure is an Internal Parts Repair Kit (Mfr's Part No. AC-1538172, Item Stock No. G085-36-61485)—or you can just order the fulcrum pin and washer under Mfr's Part Nos. AC-1521578 and AC-1521288, Item Stock Nos. G085-30-03640 and G-67-15-02000. The production fulcrum-pin is of the bullet-type, but the replacement pin is a header-type which is peened over after being installed. The peening oughta stop oil leaks through the hole in the casting.

Another method, that don't require any new parts, is to remove the pin and peen the casting hole so the pin'll have a tight fit when it's re-installed. This'll also cure your pain in the neck, but it may not last as long as a new fulcrum pin.

Half-Mast

SAVE WASTE FAT

Don't burn off all your blubber over a maintenance problem that's got you stymied—you may have to live off that fat some day. Send your problems to M/Sgt. Half-Mast McCanick, who has plenty of fat to spare. The old boy's been riddled with riddles for years but there's very few holes in his answers. Write direct to **Half-Mast, ARMY MOTORS Magazine, Office, Chief of Ordnance, Detroit 32, Michigan.** If your question's fascinating enough to be published, you'll also get a one-year **personal** subscription to this Greaseball's Home Companion.

Dear Half-Mast,

We're having some electrical trouble with our trucks and believe it's in the regulator. We have a tester but are afraid of setting the regulator to where it will burn up. How about some information? Maybe it'll help some other troops, too.

Cpl. P. P.

Dear Corporal,

The voltage and current regulator sure have to be set accurately, like you say. Setting the current regulator too high will put an overload on the generator and may burn it out. Setting the voltage regulator too high will overcharge the battery and also cause a very high line-voltage, burning out lights and ignition points.

But sometimes what looks like regulator trouble ain't in the regulator at all. To track down the real cause, you can make a few simple tests that require no instruments—except your portable trouble-shootin' skull.

You can't make this test when your battery is in a fully-charged condition because the voltage regulator will cut down the charging rate too much. If that's the case, step on the starter for a few seconds. To make sure the ammeter's working, turn on the lights to see if it shows a discharge.

First check the charging circuit—that is, from the generator-armature connection to its connection on the regulator, from the battery connection on the regulator to the connection on the ammeter, and from the other ammeter connection to the starter-switch connection. Look for any loose connections and soldered joints broken loose, and check the condition of the wire. Also be sure all cables between the frame and engine are in good shape, if you've got rubber engine mountings. Start the engine and run it at about 1500 rpm. If the ammeter still doesn't show any charge, go on to the next test.

Your trouble can be in only two places—either in the generator or in the regulator unit containing the cutout relay, the current regulator, and the voltage regulator. Test the generator next. Slow the

engine down to idling speed. Then use a test wire, connecting one snap to the armature connection on the generator and one to the field connection on the generator. Slowly increase the speed of the engine. If the ammeter now shows a charge, you'll know the generator's okay. But if the ammeter still shows no charge, there's one more test to prove the trouble's in your generator. Remove the armature wire, field wire, and regulator wire from the regulator and connect them together. When making this test, leave the test wires on the generator connections—this cuts the cutout relay out of the circuit. Now if the ammeter still shows no charge, you can be damn sure the generator is your trouble-maker.

However, if, when you put one snap on the armature connection of the generator and one on the field connection of the generator, the ammeter registers a strong charge—that proves there's something wrong in one of the regulator units.

Half-Mast

Dear Half-Mast,

Will it be necessary to carry the new cardboard lube order in each vehicle? I'm of the opinion that the holders as specified in TB ORD 117 won't accommodate this new and inferior-constructed form. Furthermore, these forms will easily deteriorate if placed in the glove compartment of the vehicles.

Lt. J. H. R.

Dear Lieutenant,

WDC 114 (21 Mar. 44) says: "They will be carried with, or attached to, the equipment to which they pertain." FM 21-6, which lists 'em, says the same thing.

Right—the new card-type LO's don't fit the holders authorized by TB ORD 117, but they do (when folded) fit right into the vehicle TM, and that's where they're supposed to be kept when they're not in use. Goes without saying—the TM belongs on the vehicle. If the cards are used as often as they should be, they'll get ragged and dirty, but there's more where they came from.

Anyway, TB ORD 117 was re-

scinded back in the 20 Jan. edition of FM 21-6. That happened about the time the new-type LO's were announced.

The new decal-type LO's, for most trailers and generator sets, get plastered right on the equipment itself.

Half-Mast

Dear Half-Mast,

I'd appreciate it if you'd answer a couple of questions:

(1) Why are carburetors tilted toward the center on some engines, like on the Dodge?

(2) The stationary air-guide fins on M8 armored radiator cores collect a lot of leaves and other debris. Wouldn't it help the cooling if they were removed to prevent deflection of the air stream through the core? In combat our drivers found it impossible to keep the cores cleaned daily.

T/Sgt. R. J. R.

Dear Sergeant,

The reason for tilting them carburetors is to get a full, even flow of gas on steep grades. The Dodge you're talking about must be a ½-ton 4x4 before engine number T211-42001, though.

Keeping stuff like leaves out of the M8 radiator cores is a damn nuisance, I'll agree, but removing the air-guide fins ain't the answer. They're put there to direct the air through the radiator core and keep the cooling system cool. Without 'em, you'd still have the same trouble, anyhow, because leaves would either stick on the radiator face or fall in the shroud. Only thing to do is to keep them leaves out in the first place, by putting ¼" mesh screen around the openings on the underside of the engine-compartment-door covers. No reason why you can't do this yourself, if you can get a piece of ¼" mesh screen about 59" long and 3½" wide. Weld the screen's top and bottom edges to ½" strap iron to make a frame. Shape the frame to fit inside the compartment-door covers. Then weld it in place.

Half-Mast

The Month's Directives

A check-list of recent official publications affecting lower-echelon vehicle maintenance. All are distributed to the field through established channels —not by the Office, Chief of Ordnance-Detroit or the Publications Department, Raritan Arsenal. For further dope on distribution, consult **FM 21-6** or your organizational or post publications officer.

WAR DEPARTMENT AGO PUBLICATIONS

AR—Army Regulations
FM—Field Manual
TM—Technical Manual
TB—Technical Bulletin
LO—Lubrication Order

MWO—Modification Work Order
TC—Training Circular
WDC—War Department Circular
SB—Supply Bulletin

ASF CATALOG, ORDNANCE SUPPLY CATALOG

ORD 1—Introduction
ORD 2—Index
ORD 3—List of Major Items for Issue to Troops, Posts, Camps and Stations
ORD 4—Allowances of Expendable Supplies
ORD 5—Stock List of All Items
ORD 6—Sets of Equipment
ORD 7—Organizational Spare Parts and Equipment
ORD 8—Higher Echelon Spare Parts and Equipment

ORD 9—List of All Parts or List of All Service Parts
ORD 10—Tool, Load, and Supply Guide
ORD 11—Ammunition
ORD 12—Obsolete General Supplies
ORD 13—Items Common to Two or More Major Items
ORD 14—Interchangeability List
ORD 15—Cross Reference Lists
ORD 16—Captured Foreign Materiel

ARMORED CARS

CAR, ARMORED, LIGHT, M8
ORD 7, 8, 9, SNL G-136, G-176, C7 (18 Apr. 45).
CAR, ARMORED, UTILITY, M20
ORD 7, 8, 9, SNL G-136, G-176, C7 (18 Apr. 45).
Ord 7, SNL G-176, C1 (18 May 45).

GUN MOTOR CARRIAGES

ALL GUN MOTOR CARRIAGES ON M4 MEDIUM TANK CHASSIS
TB ORD 271, Shock-absorber serviceability standard (horizontal-volute-type suspension).
TB ORD 275, Controlled differential and transmission assembly power-train units.
CARRIAGE, MOTOR, 105-MM HOWITZER, M7B1
ORD 9, SNL G-199 (1 May 45).
CARRIAGE, MOTOR, 75-MM HOWITZER, M8
TB ORD FE36, Blackout driving-light resistor on early-type differential-case covers.
ORD 7, SNL G-127, C1 (25 May 45).

CARRIAGE, MOTOR, 155-MM GUN, M12
ORD 7, SNL G-158 (23 Apr. 45).
CARRIAGE, MOTOR, MULTIPLE GUN, M16
LO 9-710-5 (12 Mar. 45).
CARRIAGE, MOTOR, 76-MM GUN, M18
ORD 7, SNL G-163 (31 Mar. 45).
CARRIAGE, MOTOR, 90-MM GUN, M36
ORD 7, 8, 9, SNL G-210, C3 (15 Apr. 45).
CARRIAGE, MOTOR, 90-MM GUN, M36B1
ORD 7, SNL G-233 (15 May 45).
CARRIAGE, MOTOR, 90-MM GUN, M36B2
ORD 7, SNL G-237 (2 May 45).

CARRIERS

CARRIER, CARGO, M29 AND M29C
TB 9-772-FE4, Lubricating fittings on bogie-wheel support, track idler, drive-wheel hubs.

TB 9-772-6, Removal and disposition of starting crank.

CARRIER, CARGO, M30 (T14)
ORD 7, SNL G-158 (23 Apr. 45).

HALF-TRACKS

(See also Individual Vehicle Listings)

HALF-TRACK VEHICLES (WHITE, AUTOCAR, DIAMOND T)
ORD 9, SNL G-102, C1 (15 Apr. 45).

LIGHT TANKS

TANK, LIGHT, M5 AND M5A1
TB ORD FE36, Blackout driving-light resistor on early-type differential-case covers.
TANK, LIGHT, M24
TB ORD FE34, Commander's vision-cupola locking-pin; hatch hold-open lock.
TB ORD 271, Shock-absorber serviceability standard.

MEDIUM TANKS

TANK, MEDIUM, M4-SERIES
TB ORD FE34, Commander's vision-cupola locking-pin; hatch hold-open lock.
TB ORD 271, Shock-absorber serviceability standard (horizontal-volute-type suspension).
TB ORD 275, Controlled differential and transmission assembly power-train units.
TB ORD 287, Special socket wrench and extension bar for servicing T-80 track.
TANK, MEDIUM, M4
ORD 7, 8, 9, SNL G-104, Vol. 6, 11, 14, C5 (7 Mar. 45).
TANK, MEDIUM, M4, 105-MM HOWITZER
ORD 7, 8, 9, SNL G-104, Vol. 6, 11, 14, C5 (7 Mar. 45).
TANK, MEDIUM, M4A1
ORD 7, 8, 9, SNL G-104, Vol. 6, 11, 14, C5 (7 Mar. 45).
TANK, MEDIUM, M4A3, 75-MM GUN, DRY
ORD 7, 8, 9, SNL G-104, Vol. 8, C3 (18 Apr. 45).
ORD 7, SNL G-104, Vol. 8, C1 (22 May 45).
TANK, MEDIUM, M4A3, 76-MM GUN, WET
ORD 7, SNL G-205, C2 (24 May 45).
TANK, MEDIUM, M4A3, 105-MM HOWITZER
ORD 7, SNL G-104, Vol. 15, C2 (23 May 45).
TANK, MEDIUM, M4A4, 75-MM GUN
LO 9-754 (2 Apr. 45).
BULLDOZER, TANK MOUNTING, M1, HYDRAULICALLY OPERATED (LA PLANTE-CHOATE BM-4) AND EXCAVATOR, MINE, T5E3
ORD 7, 8, SNL G-228, C2 (20 Apr. 45).

VEHICLE, UTILITY, ARMORED, M39

ORD 7, SNL G-163 (31 Mar. 45).

VEHICLE, TANK RECOVERY, M32-SERIES

MWO ORD G1-W25, Automatic tow hook (M32 only).

TB 9-738-3, Fixed fire-extinguisher system, operating instructions.

HEAVY TANKS**TANK, HEAVY, M26**

TB ORD FE34, Commander's vision-cupola locking-pin; hatch hold-open lock.

TB ORD 271, Shock-absorber serviceability standard.

ORD 7, SNL G-226 (3 Apr. 45).

TRUCKS**TRUCK, 1/2-TON, 4x2 (FORD)**

LO 9-U318 (20 Feb. 45).

TRUCK, 1/2-TON, 4x4 (DODGE)

TB ORD 284, Unauthorized use of "217" cu. in. engine.

TRUCK, 3/4-TON, 4x4, AMBULANCE (DODGE T214)

TB 9-808-FE2, Reinforcement of attendants' seats.

TRUCK, 3/4-TON, 4x4 (DODGE T214)

TB ORD 284, Unauthorized use of "217" cu. in. engine.

TB 9-808-7, Difference between 6 and 12-volt electrical system (WC-51 only).

TB 9-808-8, Transfer case noises.

TB 9-808-9, Lubrication instructions.

ORD 7, SNL G-502 (27 Mar. 45).

ORD 9, SNL G-502 (1 May 45).

TRUCK, 1 1/2-TON, 4x2 (CHEVROLET)

LO 9-U314 (12 Mar. 45).

TRUCK, 1 1/2-TON, 6x6 (DODGE T223)

TB ORD 284, Unauthorized use of "217" cu. in. engine.

ORD 7, SNL G-507 (30 Apr. 45).

TRUCK, 2 1/2-TON, 6x4 (STUDEBAKER)

LO 9-807-1 (17 Mar. 45).

TRUCK, 2 1/2-TON, 6x4 (GMC)

MWO ORD G508-W14, Ventilative blinds, K-60 van bodies.

TB ORD 281, New-type radiator-mounting repair kit.

ORD 7, 8, 9, SNL G-508, C4 (18 Apr. 45).

ORD 7, SNL G-508 (23 May 45).

LO 9-U315 (5 Mar. 45) (CCW-353 only).

TRUCK, BOMB SERVICE, M27

ORD 7, 8, 9, SNL G-508, C4 (18 Apr. 45).

ORD 7, SNL G-508 (23 May 45).

TRUCK, 2 1/2-TON, 6x6 (GMC)

MWO ORD G508-W14, Ventilative blinds, K-60 van body.

TB ORD FE30, Repair and maintenance of hoists and dump bodies (CCKW-352, 353).

TB ORD 262, Interchangeability and maintenance of generators, regulators, pulleys and belts (CCKW-352, 353, AFKWX-353).

TB ORD 281, New-type radiator-mounting repair kit (CCKW-352, 353, AFKWX-353).

TB 9-801-FE2, Loading-aid kit 7069664 for M55 gun mount (CCKW-353).

ORD 7, 8, 9, SNL G-508, C4 (18 Apr. 45).

ORD 7, SNL G-508 (23 May 45).

TRUCK, 2 1/2-TON, 6x6, AMPHIBIAN (GMC DUKW-353)

FM 55-150, C1, Amphibian truck company (2 Apr. 45).

FM 55-150, C2, Amphibian truck company (17 Apr. 45).

TM 9-802, Operation and maintenance (23 Feb. 45).

TB ORD 262, Interchangeability and maintenance of generators, regulators, pulleys, and belts.

TRUCK, 2 1/2-TON, 6x6, AUTOMOTIVE REPAIR, M8, M8A1 (LOAD B)

ORD 7, SNL G-139, Vol. 2 (10 Apr. 45).

TRUCK, 2 1/2-TON, 6x6, WELDING, M12, M12A1

ORD 7, SNL G-142, C4 (7 May 45).

TRUCK, 2 1/2-TON, 6x6, SPARE PARTS, M14

ORD 7, SNL G-144, Vol. 1 (31 Mar. 45) (Load A).

ORD 7, SNL G-144, Vol. 2 (31 Mar. 45) (Load B).

TRUCK, 2 1/2-TON, 6x6, MACHINE SHOP, M16, M16A1 (LOAD B, B1, B2)

ORD 7, SNL G-146, Vol. 2 (13 Apr. 45).

TRUCK, 2 1/2-TON, 6x6, ELECTRICAL REPAIR, M18, M18A1, M18A2

ORD 7, SNL G-149, C2 (1 May 45).

TRUCK, TIRE REPAIR, 2 1/2-TON, 6x6, M32 AND TRAILER, TIRE REPAIR, 1-TON, 2W, M25, (LOADS A AND B)

ORD 7, SNL G-234, C2 (10 Apr. 45).

TRUCKS, 4-TON AND UP (ALL MAKES)

TB ORD 279, Windshield-wiper regulator-valve adjustment.

TRUCK, 4-TON, 6x6, DUMP (DIAMOND T)

TB ORD FE30, Repair and maintenance of hoists and dump bodies.

TRUCK, TRACTOR, 4-5 TON, 4x4, C.O.E. (AUTOCAR U-7144-T)

ORD 7, SNL G-510, C1 (29 May 45).

TRUCK, TRACTOR, 5-6 TON, 4x4, PONTON (AUTOCAR U-8144-T)

TM 9-817, C1, Operation and maintenance (1 May 45).

TRUCK, 6-TON, 6x6 (BROCKWAY, WARD LA FRANCE)

ORD 7, 8, SNL G-547, C2 (10 Apr. 45).

TRUCK, TRACTOR, 20-TON, 6x4, DIESEL (FEDERAL 604)

ORD 7, SNL G-648 (14 May 45).

TRUCK, TRAILER, 40-TON, TANK TRANSPORTER, M25

ORD 7, 8, 9, SNL G-160, C2 (28 Apr. 45).

LO 9-767 (2 Apr. 45).

TRUCK, TRAILER, 45-TON, TANK TRANSPORTER, M19

ORD 7, 8, 9, SNL G-159, C1 (20 Apr. 45).

TRUCK, WRECKING, HEAVY, M1, M1A1 (WARD LA FRANCE, SERIES, 1, 2, 3, 4, 5, KENWORTH 570, 571, 572, 573)

ORD 7, SNL G-116, C2 (26 May 45).

CRANE, TRUCK-MOUNTED, M2

TB 9-771-FE1, Turntable engine-fuel-filter servicing door.

TRACTORS**TRACTOR, HIGH-SPEED, 18-TON, M4**

ORD 7, 8, 9, SNL G-150, C1 (15 Apr. 45).

ORD 7, SNL G-150 (11 May 45).

TRACTOR, HIGH-SPEED, 13-TON, M5

ORD 7, SNL G-162 (13 Apr. 45).

LO 9-786 (28 Feb. 45).

TRACTOR, HIGH-SPEED, 38-TON, M6

ORD 7, SNL G-184 (15 May 45).

TRAILERS**TRAILER, BOMB, 3/4-TON, M29 (T50)**

LO 9-701 (29 Mar. 45).

TRAILER, BOMB, 1-TON, 4W, T53

LO 9-797 (20 Feb. 45).

TRAILER, 1-TON, 2W, WATER AND CARGO

TM 9-883, C1, Operation and maintenance (25 Mar. 45).

TRAILER, 3-TON, 4W, ANTENNA MOUNT (SIGNAL CORPS K-84)

TM 9-873, Operation and maintenance (5 Apr. 45).

SEMITRAILER, 3-TON PAYLOAD, 6-TON GROSS, 2W, VAN (STEEL PRODUCTS)

LO 9-U337 (17 Feb. 45).

SEMITRAILER, 3-TON PAYLOAD, 6-TON GROSS, 2W (HIGHWAY)

LO 9-U340 (21 Feb. 45).

TRAILER, 5-TON PAYLOAD, 4W, VAN (CORBITT T15)

LO 9-U351 (25 Jan. 45).

TRAILER, 5-TON, 4W, CARGO, T49

LO 9-875 (15 Mar. 45).

SEMITRAILER, 5-TON PAYLOAD, 8-TON GROSS, 2W, STAKE AND PLATFORM (SNL G-675 MODELS)

LO 9-890 (12 Feb. 45).

SEMITRAILER, 6-TON PAYLOAD, 10-TON GROSS, 2W, SHOE REPAIR (SNL G-664 MODELS)

LO 9-895 (3 Feb. 45).

SEMITRAILER, 10-TON PAYLOAD, 14-TON GROSS, 2W, STAKE AND PLATFORM, W/ DOLLY (SNL G-676 MODELS)

LO 9-892 (24 Feb. 45).

SEMITRAILER, 11-TON PAYLOAD, 15-TON GROSS, 2W, VAN (KENTUCKY)

LO 9-895 (3 Feb. 45).

SEMITRAILER, 11-TON PAYLOAD, 15-TON GROSS, 2W, VAN (TRAILER CO. OF AMERICA)

LO 9-U356 (12 Mar. 45).

TRAILER, 22-TON PAYLOAD, 6W, LOW BED (FRUEHAUF CPT-22)

TM 9-898, Operation and maintenance (28 Apr. 45).

TRAILER, 22-TON, LOW BED, (LA CROSSE)

LO 9-897 (30 Mar. 45).

TRAILER, CHEMICAL HANDLING, M1 AND M2

ORD 7, SNL G-74 (4 May 45).

TRAILER, BOMB, M5

ORD 7, SNL G-74 (4 May 45).

LO 9-760 (10 Feb. 45).

TRAILER, AMMUNITION, M23

LO 9-793 (6 Mar. 45).

PASSENGER CARS

CAR, 5-PASSENGER, LIGHT SEDAN (FORD)

LO 9-U311 (15 Feb. 45).

(Incorrectly listed in June issue as LO 9-U331.)

LANDING VEHICLES

VEHICLE, LANDING, TRACKED ARMORED, MKI

MWO ORD G1-W29, Final-drive-shaft-flange tapered studs.

TB ORD FE32, Limiting draft mark.

TB 9-775-8, Equipment list.

ORD 7, SNL G-214 (8 Apr. 45).

LO 9-775 (1 Mar. 45).

VEHICLE, LANDING, TRACKED MKII

MWO ORD G1-W29, Final-drive-shaft-flange tapered studs.

TB ORD FE32, Limiting draft mark.

ORD 7, 8, 9, SNL G-167, G-168, C6 (28 Apr. 45).

LO 9-775 (1 Mar. 45).

VEHICLE, LANDING, TRACKED, ARMORED, MKII

MWO ORD G1-W29, Final-drive-shaft-flange tapered studs.

TB ORD FE32, Limiting draft mark.

ORD 7, 8, 9, SNL G-167, G-168, C6 (26 Apr. 45).

LO 9-775 (1 Mar. 45).

VEHICLE, LANDING, TRACKED, MKIV

MWO ORD G1-W29, Final-drive-shaft-flange tapered studs.

TB ORD FE32, Limiting draft mark.

LO 9-775-1 (13 Mar. 45).

WAMITBWYTANS?

(See back cover)

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VEHICLE, LANDING, TRACKED, ARMORED, MKIV

MWO ORD G1-W29, Final-drive-shaft-flange tapered studs.

TB ORD FE32, Limiting draft mark.

ORD 7, SNL G-214 (8 Apr. 45).

LO 9-775-2 (15 Mar. 45).

SCOOTERS

SCOOTER, MOTOR, W/SIDE CAR (CUSHMAN 32)

LO 9-U326 (1 Mar. 45).

SCOOTER, MOTOR, 3W (PACKAGE KAR. CUSHMAN 39)

LO 9-U325 (15 Feb. 45).

MOTORCYCLES

MOTORCYCLE, CHAIN-DRIVE, SOLO (HARLEY-DAVIDSON WLA)

ORD 7, 8, 9, SNL G-523, C2 (30 Apr. 45).
LO 9-879 (12 Mar. 45).

EQUIPMENT

COMPRESSOR, AIR, GASOLINE-ENGINE-DRIVEN, 3 CU. FT. CAPACITY, W/TANK, CURTIS VG-C-2, COMPLETE (66-C-1369)

ORD 7, SNL J-107, C1 (1 May 45).

GENERAL

AR 850-20, C2, Precautions in handling gasoline (17 May 45).

AR 850-60, C3, Compressed-gas cylinders, safe handling, storing, shipping, use (2 May 45).

WDC 129, Fuels and lubricants, procurement and use (28 Apr. 45).

WDC 138, Consolidation of FM 21-6 and WD Pamphlet 12-6 (10 May 45).

WDC 143, Local purchase, Ordnance items (15 May 45).

WDC 146, Accounting for lost, damaged, destroyed property (17 May 45).

FM 21-8, C4, Military training aids (30 Mar. 45).

TM 38-220, Stock control manual for Posts, Camps, and Stations (May 45).

TM 9-2857, Storage batteries, lead-acid-type (15 May 45).

WD Pamphlet 12-6, Administrative and supply publications (1 Apr. 45).

TB ORD FE33, Continental engine, R975-C4, correction of valve-timing data on engine name-plate.

TB ORD 282, Emergency instructions for lubricants and cleaning materials.

TB ORD 288, Tanks, carriages, and vehicles with Ford GAA, CAF, CAN tank engine, servicing spark plugs.

SB 9-2, Standards for overseas shipment and domestic issue (19 Apr. 45).

SB 9-5, C2, Disposition of excess and unserviceable Ordnance general supplies (25 Apr. 45).

SB 9-10C, C1, Ordnance materiel price list (4 Apr. 45).

SB 9-32, C4, Issue of materiel not meeting serviceability standards (21 Mar. 45).

SB 9-35, List of manufacturers and their symbols (1 Apr. 45).

SB 9-35, C1, List of manufacturers and their symbols (1 May 45).

SB 9-45, C1, Ordnance materiel price list (4 Apr. 45).

SB 38-1-9, Disposition of critical, surplus, and obsolete items (3 May 45).

ORD 1, Introduction (23 Apr. 45).

ORD 2, Index (1 May 45).

ORD 5, SNL H-2, Miscellaneous hardware (16 Apr. 45).

ORD 5, SNL H-10, Ferrous metals (20 Mar. 45).

ORD 5, SNL H-15, Batteries (21 Mar. 45).

ORD 5, SNL J-5, Sec. 1, C1, Lifting, holding and forming tools (20 Apr. 45).

ORD 5, SNL J-6, Sec. 1, C1, Percussion, digging, and wrecking tools (6 Apr. 45).

ORD 5, SNL J-7, Sec. 1, C1, Welding, forging, soldering, and brazing equipment (8 Apr. 45).

ORD 5, SNL J-9, Sec. 1, C1, Measuring and testing instruments (10 Apr. 45).

ORD 6, SNL G-27, Sec. 2, Tools, automotive and semi-automotive (1 Apr. 45).

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- GENERAL**
 Accessories & Equipment: 21.
 Body: 20, 56.
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TRUE CONFESSIONS DEPT.

Dear Editor,

I'm not one to set myself up as a know-it-all, but in your April article on the GMC crankcase-ventilating system, I believe you are misleading the boys. You not only contradict yourselves, you also contradict the mechanical principle of the ventilating-system control—that little valve on the side of the manifold.

As I understand it, and as you explain it, the valve works inversely to the manifold vacuum. That is, when the vacuum is strongest, the valve closes, and as the engine revs up, the vacuum goes down and the valve opens wide, allowing the blow-by to escape from the crankcase. Now on the third page of your article (page 14), you tell drivers that on a hard pull they can aid the breathing system by letting up on the throttle for a second, allowing the vacuum to build up in the manifold and suck out the excessive blow-by.

Maybe I'm wrong, but as one of my drivers puts it, "It ain't like that." Keep that throttle open, the manifold vacuum down, and, conse-

quently, the ventilator valve open if you want to keep the crankcase free of that blow-by and pressure. If you recall, it is when, after that long climb, you start downgrade and the manifold vacuum is at its highest and the ventilator valve has closed that the engine slings the oil out through the breather on the oil-filler pipe.

T/4 Martin V. Brown, APO 18215

No wonder you've been beating what's left of your brains out, trying to decode that first paragraph under "Transmission" on page 73 of the June ARMY MOTORS. Several lines of type got snaffed in the shuffle. Should've read like this:

Hold on now if you're following TM 9-729 in checking the adjustment of both transmissions. Page 156 (step 17) of the TM may get you sort of confuddled. It says, "the rear edge of the selector lever should be approximately $\frac{1}{8}$ " from the front edge of the slot in quadrant when the engine speed drops." Change that to read $\frac{1}{8}$ " in front of the front edge. If the linkage is adjusted $\frac{1}{8}$ " back of the front edge, it means a $\frac{1}{4}$ " error in lever travel and upsets the adjustment.

CONNIE RODD

(Continued from page 102)

cut spot and you've got a damage that can't be repaired.

Now maybe this sounds like one of those things that happen just once in a while. But if you're overseas, go out and take a look at the tires in your own outfit—if you don't find at least half-a-dozen C-ration-can cuts, I'll eat my weight in Spam.

What can you do about it? You, me, all of us—when we eat those tasty C-rations, leave us all throw the cans off the road.

Is Your Weasel Track-Flappy?

Just in case your weasel gets its auxiliary track-cable broken (I've had many reports that it's happening), I'm going to give you a sneak preview of what'll soon be an official repair of same. It's done by merely reinforcing the break (assuming there's only one) with a 1-foot length of the same cable—which you're going to have to pick up from a discarded track-assembly, because it's not an item of issue. You can tell if it's okay to use by bending and twisting it—feeling for a break inside. That,

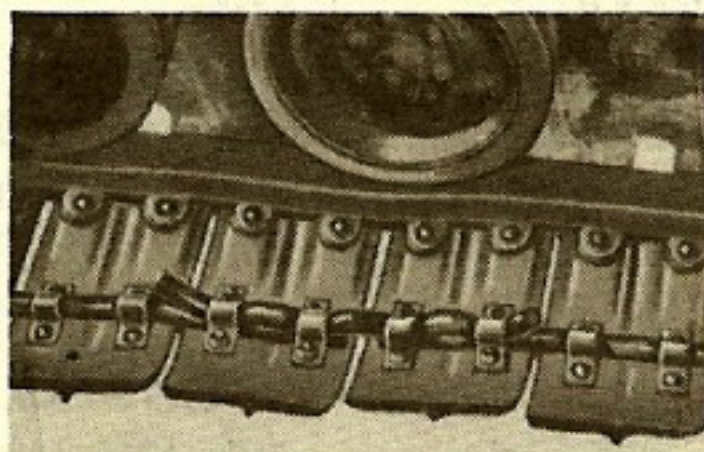


Fig. 6

together with eight $\frac{1}{4}$ " bolts ($\frac{3}{4}$ " long), lockwashers, and nuts, is the only material you'll need beyond what you've already got.

On each of the two track plates involved, there are two clamps (Studebaker Part No. SD-908199) to secure the cable to the plate. Each clamp is attached to the plate by two rivets. There's also a support (SD-908200) for each clamp. Sum total: 4 clamps, 4 supports, 8 rivets.

Remove them all and place the physically-fit piece of cable over the break, so there's an equal length on either side of it. That'll be just long enough to leave about 1" of cable outside the second-clip extremity on each side of the break.

When you're reassembling the pieces, you can forget that there ever was a support to go with each clamp. They wouldn't fit under

the clamp now that there's an extra piece of cable there, so you can throw all four of them away. Then tighten all the bolts (used in place of the rivets) evenly so the clamps will be held solidly in place. And there you have it—pretty as the picture (Fig. 6).

LVT'S (Continued from page 115)

oil cooler. You're finished now except to attach the hose clamps on the transmission and bulkhead (Fig. 7). Use one of the transmission-case-cover screws to hold the clamp in place on the transmission. And spot-weld a $\frac{1}{4}$ " 20NC2 nut on the bulkhead and hold the clamp in place with a $\frac{1}{2}$ "-long $\frac{1}{4}$ " 20NC2 hex-head bolt.

To test your job for oil leaks, run the engine at 1500 rpm for 15 minutes with the transmission in neutral and the clutch engaged.

The LVT factory recently changed to this same method of arranging the transmission oil-lines. In production, longer hoses are being used instead of pipe fittings. But the idea is the same—getting the oil to the cooler to save gears and bearings from being ruined by an overheated transmission. And also to keep you from feeding your rations to the fish.

• • NEWS FLASHES • •

The items on this page include latest news, revisions, and corrections
verified after the publication deadline

Beginning with the May issue, WD Pamphlet 12-6 and FM 21-6 were combined into one master index under the title, "**List and Index of War Department Publications**" (FM 21-6). Everything you formerly found in the two indexes is under the one cover now—FM's, TM's, TB's, SB's, LO's, MWO's, FSMWO's, maintenance forms, and all the rest. You can check new publications released since the previous edition by running down the list and finding those titles marked with an asterisk (*). Whatever you need and don't have, just up and ask the Old Man to order (see pages 116-117 in this magazine).

The super-duper FM 21-6 is distributed to all organizations down to company level—a new edition every month.

* * *

ORD 1, Introduction (to the Ordnance Catalog) oughta be out in the field by now. So finally you can find out all about the Ordnance Supply Catalog—what it is, what's in it, how to use it, and how to prepare a requisition. Copies go to divisional headquarters and to Ordnance companies on initial distribution.

ORD 1, Introduction is dated 23 Apr. 45 and supersedes the old IOC (1 May 43).

* * *

All you half-trackers can have a new fuel-tank cap that's a better pressure-relief type than your old one. It comes in Kit No. G102-W37, Package Stock No. G102-5700423. Green-bordered **MWO ORD G102-W37** (23 Apr. 45) says you can get the cap next time your half-track is in for overhaul or repair of a major assembly.

* * *

Anything you want to know about batteries is pretty sure to be in **TM 9-2857**, "Storage Batteries, Lead-Acid Type" (15 May 45). Their construction, how they operate, how to maintain 'em, and what happens if you don't. In fact, there's something in the new TM for everyone from driver and organizational mechanic to 5th-echelon battery rebuilder.

Batteries stole the show in another publication that hit the field a little earlier (**ORD 5, SNL H-15**, "Batteries," 21 Mar. 45). That's the list of batteries and electrolyte (and 1 battery separator) stocked and issued by Ordnance. The cross-reference list of stock numbers at the back of this SNL ought to uncover the places where a battery might have been stocked some time back. For further identification, there's a cross reference of manufacturer's number to battery number. All of which may help to bring some lost batteries out of hiding.

2nd-echelon special tools for M4 medium tanks and vehicles with related chassis come in two separate sets—one for vehicle maintenance in general and a separate supplemental set for the suspension. When requisitioning tools for these vehicles, make sure you order both sets. There's a supplemental set for horizontal-volute suspensions, and a different one for vertical-volute suspensions. You'll need to order the supplemental set for your vehicles' type of suspension, as well as a special set for the vehicle as a whole. A note to this effect is already in the ORD 7's for some of these vehicles, and will be added to the other ORD 7's as they're revised.

* * *

The May edition of ORD 2, Index cancelled **ORD 5, SNL M-3** (Miscellaneous Accessory Units and Parts). Items in that SNL which are still stocked and issued have been transferred into Group H, J, or K SNL's—wherever they happen to belong. This leaves only two active SNL's in the M group—ORD 5, SNL M-1 and ORD 5, SNL M-5. Once an SNL's cancelled, of course, you don't use it any more for requisitioning purposes.

* * *

TB ORD 284 (9 Apr. 45) says to discontinue immediately—if not sooner—the practice of replacing 230 (cu. in.) Dodge engines with 217 (cu. in.) engines, in $\frac{3}{4}$ -ton 4x4's and 1½-ton 6x6's, since this requires a change in the front frame-cross-member and in the clutch housing. The 217 engine belongs only in ½-ton 4x4's—and if ever a 230 engine is removed from a ½-ton to be rebuilt, you replace it with a 217.

To help you identify 'em, engine models T202, T211 (after no. 42001), T214, T215, and T223 are **230** engines and have the number 870229 or 1071829 cast into the cylinder block below the starting motor. Engine models T207, T112, and T211 (up to no. 42001) are **217** engines.

The whole story on conversion of these Dodge engines was told in TB ORD FE7 (22 Jun. 44).

* * *

Last December, ARMY MOTORS beat the drums for the new high-pressure pop-off valves for prop-shaft U-joints. The last word (a change to **TB ORD 218**, 8 Nov. 44, will soon say it) is that before installing new U-joint repair kits and prop-shaft assemblies, you should take a look at what kind of pop-offs they've got. If they're the old low-pressure type, replace them with the high-pressure relief valves (Fed. Stock No. 45-V-18129-3). Then you'll know you've got all modern improvements.

81.14.470

WANT A MAG
IN THE BAG
WITH YOUR TAG
AND NO SNAG
?

see page
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sgt. tirman