

ARMY MOTORS

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see page 192

steering wheel

Back in the old days before sliced bread, and mechanized military organizations came to the U.S., the soldier learned quickly that another name for his horse was transportation.

Naturally enough then, a close camaraderie sprang up between them. Who got cleaned, fed and bedded down first after a long haul? The horse.

Who stayed up all night with who when who had the animal colic? The soldier stayed up all night with the horse when the horse had animal colic.

They loved each other like brothers (and the resemblance was often striking). They lived together and from some of the odors, it is to be suspected, slept together.

Today though, it is different. The horse is no longer with us, we are mechanized. And what do we see?

The truck driver goes to work at 8:00 AM and hightails it at the stroke of 12 and again at 5:00 - leaving the truck parked wherever he can squeeze it in, as close to the mess-hall as possible.

Who cares? Does the truck have big brown eyes to look at him with? No. Can it nuzzle in his pocket for sugar? No.

This new-fangled thing called First Echelon, many a driver has never even heard defined. And though he may have stumbled over the expression, he believes it is some maneuver that helped the French to collapse. Far be it from him to do anything to help the enemy so he just ignores the term.

He puts gasoline in his truck, runs the wheels off it and says, "Why worry?" Detroit can put out more trucks than we can wreck. If I run this one into the ground, all the Salvage Officer has to do is inspect and condemn it. Then he can pick up a brand new one over at the Motor Pool. All he needs for that is a trip ticket.

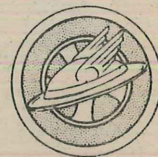
But this First Echelon work we are discussing, is not a favorite game like chinese checkers or gin rummy. It is merely a routine method for preventing the wheels and other various units from falling off the truck when it might be needed in a hurry. And it isn't a job that requires an Engineer's rating. It only requires common sense.

So why don't we all pick up our Driver's Manual and get it through our thick head what is this thing called First Echelon Preventive Maintenance?

Disgusted Motor Officer

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Incendiary Bomb TRUCK



THE first guy who rushes into the Holabird Ordnance Motor Base hollering, "Incendiary bombs!" will get killed in the rush.

He won't get killed by people rushing for the exits, he will get killed by people rushing for the nifty, little, hand fire-truck (pix below) recently designed and built by the Holabird shops.

The little truck is mobile and well-equipped enough to handle the showers of incendiary bombs that may one day

fall upon our military shops and establishments. It's a fore-sighted and realistic measure.

It's the answer to the question, "How am I gonna meet an incendiary bomb attack?" which you certainly should have asked yourself a long time ago.

The equipment on the truck

is mostly store-boughten but from the wheels up, everything else is strictly handmade.

The truck platform and uprights (or partitions) are of 3/4 inch plywood. They're made watertight all around the edges, by a protective trimming of metal. The mounts for the fire extinguishers are fashioned from a running-board stamping.

The sand buckets are simply five-gallon paint cans.

The two electric lanterns mounted on the front partition do double duty as headlights, but can be lifted off their mounts for hand use.

The six fire-extinguishers guarantee an ample supply of fire-fighting juice; the long-handled shovel makes for easy "sanding" of the hot potatoes; the axe and the crowbar can be used for the same mysterious reasons that civilian fireman use 'em for, and there's enough rope for you to hang yourself (from the rafters, to reach a bomb in the chandelier).

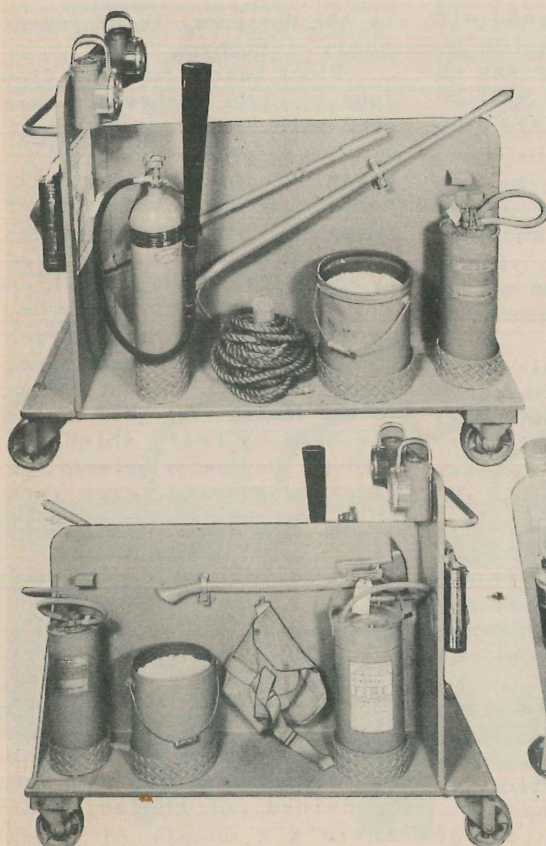
A place for a first-aid kit is provided underneath the gas masks on the front partition (there's two gas masks).

As Mr. Stanley F. Estremski, Sheet Metal Foreman at Holabird says, "It's well built."

Mr. Estremski built it.

If you've got the hankerin' to build a couple of these sensible little trucks for your own Post, Camp, or Station drop a line to our READER SERVICE EDITOR. He's got blueprints and specifications.

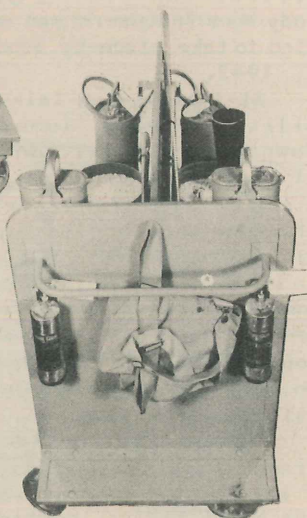
The Head Office would like every station to build a couple.



The left-hand side

The right-hand side of the homegrown Incendiary Bomb truck.

Front view. Grab the handles and go to blazes.



WOOD BODIES

**Well, they cut down the old pine tree
and they hauled it away to the mill...
Guess what they did with it.**

THEY've changed over to wooden bodies for all cargo trucks 1½-ton and up. America doesn't have enough steel.

But there's enough wood around...

Wood grows on trees in this country.

So they've changed over to wooden bodies for all cargo trucks 1½ ton and up.

That means that all your favorite cargo trucks - the 1½-ton Chevy, the good old 2½-ton GMC's, the 4-ton's, the 6-ton's - all the way up to the 10-ton trucks, will be wood from the chassis up. (Figs. 1, 2, 3 and 4)

The new wooden bodies started production about the middle of the summer and 100-percent conversion of the body manufacturers was scheduled to take place by September 1, 1942.

At last we can talk about military trucks 'lumbering' down the road, without fear of contradiction.

The difference between the new wood bodies and the present metal bodies, is mostly in the major parts. Body longitudinal sills and cross-members (understructure) are wood; body side-panels, the body front-panels and the tailgate are wood.

The smaller parts - the troop seats and the lazybacks - which were made of wood in the metal bodies, continue to be wood in the new bodies - with the added advantage of being interchangeable between the new and old bodies.

Bolts hold the new wooden bodies together - something like an average of 700 bolts per wood body. (Fig. 5) The metal bodies were of welded construction.

The bolts are used together with washers. Nails and screws are used sparingly.

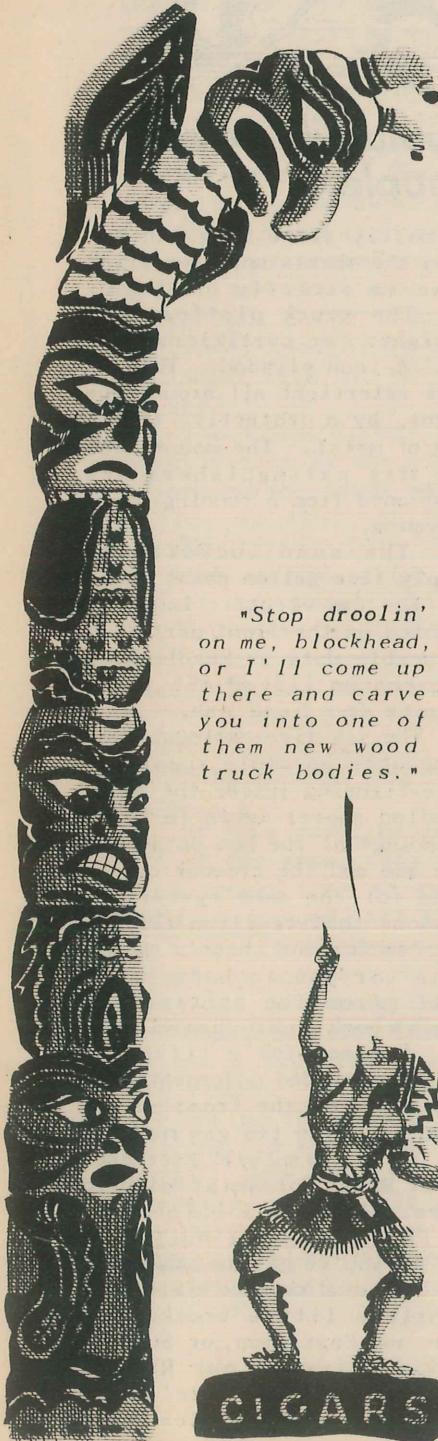
In all cases, bolts are rust-proofed to keep rust at a minimum.

The floors of the new bodies are reliably reported by the designer, to be ingeniously designed.

Floor boards anywhere from four to eight inches wide are used with an expansion joint or space between boards to allow for contraction and expansion in hot, cold or wet climates. The spaces between the floor boards are covered by metal 'skid strips' which will allow beer barrels, pepsi-cola cartons and even ammunition cases to be dragged along the floor without damage to the floor. The skid strips are held by bolts which run through the spaces between the floor boards and screw into nuts and washers. They're easily replaced.

One advantage of the board floor, is that repairs are a cinch.

Where a break or a failure crops up in the middle of one of the boards, it can be fixed simply by sawing out the injured section and replacing with a board of suitable length (provided, of course, that there's a couple of cross members below it on the understructure to support the



"Stop droolin' on me, blockhead, or I'll come up there and carve you into one of them new wood truck bodies."

repaired section).

In most cases, where an entire floor board needs replacing, the board to be replaced can be pulled out of the floor simply by the removal of one bolt (after the skid strip has been removed). The one bolt fastens the end of the board to the cross member at the cab end of the body (Fig. 2) and when it has been removed, one or two men with knotty muscles can extract it without too much trouble.

Of course, the body must be dismantled from the chassis at the time of this repair, to enable the carpenters to get at the end of the board. But any floorboard can be replaced without the removal of the side panels.

The method of attaching the body of the chassis remains the same as used in steel bodies - 'U' bolts.

An important interchangeability note is the fact that all hardware is interchangeable between all wood bodies. This includes metal bow-pockets, corner braces, and brackets between cross and longitudinal sills. The wood tailgate of the new bodies and the steel tailgate of the present bodies are also interchangeable with a slight modification: the chain eye of the tailgate has to be bent slightly.

Many kinds and varieties of wood are specified for the new bodies. This allows original construction and later repair to take advantage of the lumber stockpiles of varying kinds of wood scattered throughout the country.

For the most part, the woods used are hardwood and in every case they have been treated with a special preservative for protection against rot, and attack by insects, notably termites.

The preservative is called 'toxic sealer.' It does two things: it seals up the pores of the wood and protects it from the weather; it contains a poison which is known and hated by every termite in the country.

The woodwork is further protected (and camouflaged) by a coat of primer and two coats of lusterless O.D.

The effect of the new wooden bodies on maintenance and repair personnel should be wondrous to behold - although really, there's nothing to get excited about.

Those 700 or so bolts that hold the body together, are the business of the first echelon whose members, if our memory serves us, are charged with 'keeping body bolts tight.' All that's needed is the right size wrench and a little time.

Here's a tip: Take it easy tightening the bolts - don't use an extension on your wrench handle. This is wood you're working with - not steel - and the bolts are not hardened. Careless over-tightening will pull the bolts right through the wood.

The bolts are important and must be kept tight - otherwise, what's going to keep the body - which is composed of a lot of separate pieces - from falling apart like a box of spilled tooth-picks?

The only other thing the first echelon has to be on the alert for, is paint peeling off surfaces. (Guess why)

The repair echelons, will of course, find good use for their carpentry kits - especially the saw. And at least one man familiar with woodwork should be attached to each maintenance section.

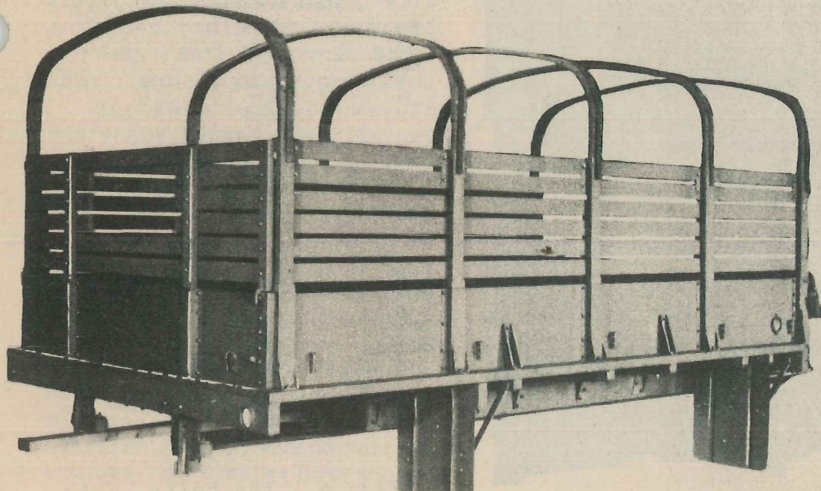


Fig. 1 - Woodpecker's delight. The new wood body for 2-1/2 ton cargo truck.

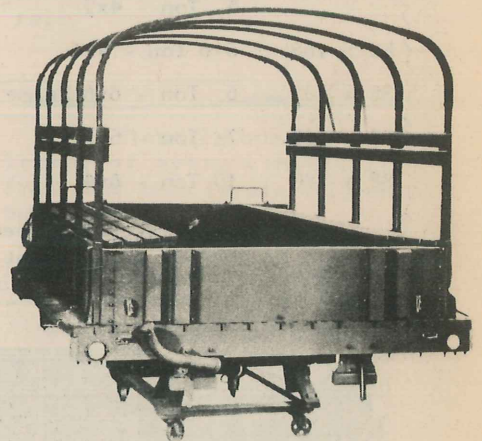


Fig. 2 - Cab end of the 1 1/2-ton wood body. Unfasten one bolt and slide a board out.

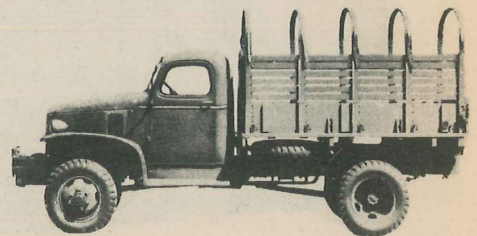


Fig. 3 - The new body for the 1 1/2-ton truck. All wood and 70 inches wide.

As an aid to repair echelons who will have to stock bolts, nuts, washers, etc., we have thoughtfully included in this article a list of the kinds and the quantity of bolts, nuts, etc., used in a typical wooden body (Fig. 6). It'll give some idea of how much of what should be stocked.

As time goes on, wood bodies will more and more

replace steel bodies, because as the steel bodies wear out, they'll be replaced from a stockpile of wood bodies. In other words, wood bodies are to stay. It won't do you any harm to find a wood body and start looking it over.

That way you won't be stumped when you've got to make a repair.

SIZE	TRUCK	TRUCK MANUFACTURER
70 x 108	1½ Ton - 4x4 & 4x2	Chevrolet
80 x 108	2½ Ton - 6x6 & 6x4 SWB	G.M.C.
80 x 144	2½ Ton - 6x6 & 6x4 LWB	G.M.C. & Studebaker
	1½ Ton - 4x2	Ford & Chevrolet
	2½ Ton - 4x2	International Harvester
80 x 180	2½ Ton - 6x6 COE	G.M.C.
88 x 132	4 Ton - 6x6	Diamond T
	4 Ton - 6x6 Ponton	Diamond T
88 x 147	7½ Ton - 6x4	Diamond T
	4 Ton - 4x4	FWD Model HAR
	3 Ton - 4x2	Mack Model EG
88 x 147	5 Ton - 4x2	Mack Model EH
	88 x 168	5-6 Ton - 4x4
88 x 132	6 Ton - 6x6 Prime Mover	White, Corbitt, Mack
94 x 140	7½ Ton - 6x6	Mack
88 x 180	10 Ton - 6x4	Mack & White

Fig. 4 - A list of the new wooden cargo bodies already in production for Army or United Nations requirements. They'll start hitting the field in September.

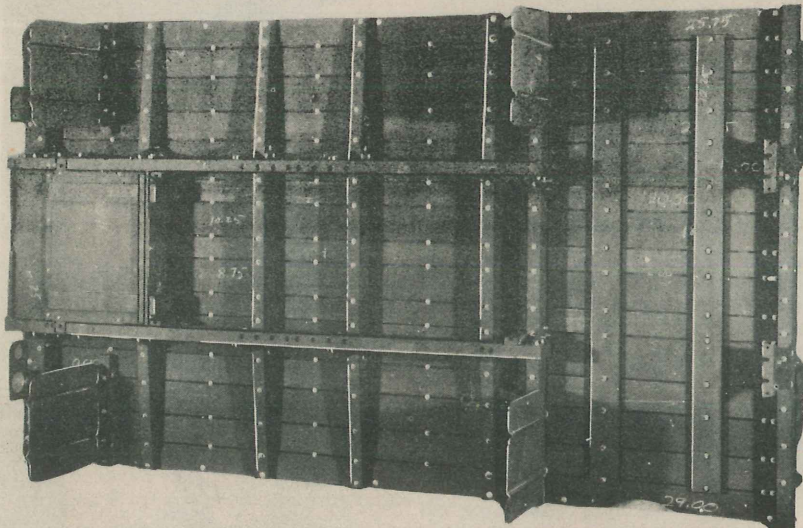
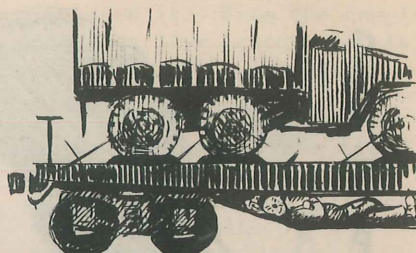


Fig. 5 - Bolts, bolts, bolts, bolts, - they hold the body together.

QUANTITY	SIZE
Helyx Nails	
27	#6 x 1-3/4
33	#9 x 2-3/4
64	#6 x 2
4	#2 x 1
Carriage Bolts	
4	5/16-18 x 5
6	3/8 - 16 x 3
10	3/8 - 16 x 5-1/4
13	5/16-18 x 3
3	5/16-18 x 5-1/4
9	5/16-18 x 1-3/4
74	3/8-16 x 3-1/4
2	3/8-16 x 3-1/2
8	3/8-16 x 2-1/4
8	3/8-16 x 2-1/2
16	5/16-18 x 6-1/2
56	5/16-18 x 7
8	5/16-18 x 5-1/2
9	5/16-18 x 4-3/4
24	5/16-18 x 2-1/2
63	5/16-18 x 1-1/2
2	5/16-18 x 2
8	3/8-16 x 1-3/4
2	3/8-16 x 7
2	5/16-18 x 4-1/2
4	5/16-18 x 2-3/4
Nuts	
343	5/16-18 hex
122	3/8-16 hex
4	1/4-20 tee
32	5/16-24 tee
4	1/2-20 hex
8	1/4-20 hex
4	1/2-13 hex
2	5/18-18 hex
2	1/2-20 hex, slotted
4	7/16-14 hex.
Screws	
2	#12 Rd. Hd. Cross Recess
Cotter Pin	
4	1/8 x 1-1/4 plain
Step Bolts	
6	3/8-16 x 4-1/4
4	3/8-16 x 3-1/4
8	5/16-18 x 1-1/4
3	5/16-18 x 2-1/2
4	5/16-18 x 4-1/4
48	5/16-18 x 1-1/2
8	1/4-20 x 2-3/4
4	3/8-16 x 2-1/4
4	3/8-16 x 4-1/2
2	3/8-16 x 5
4	5/16-18 x 1-3/4
15	5/16-18 x 6-3/4
12	5/16-18 x 3
4	3/8-16 x 6-3/4
50	3/8-16 x 3
Lock Washers	
408	5/16
8	1/4
128	3/8
8	1/2
10	5/8
4	7/16
Flat Washers	
234	5/16
2	5/8
4	1/2
20	3/8
2	1/2
Machine Bolts	
4	1/4-20 x 1-1/4 binding head
4	5/16-24 x 1-1/2 binding head
28	5/16-24 x 1-1/4 binding head
8	3/8-16 x 3/4 hex. hd.
2	1/2-20 x 10-1/4 hex. hd.
8	5/8-18 x 16 hex. hd.
2	5/8-18 x 1-1/2 hex hd.
4	7/16-14 x 1 hex hd.
4	3/8-16 x 1 hex hd.
8	5/16-18 x 3/4 hex hd.

Fig. 6 - The bolts, nuts, screws, etc., used in the 80x144" cargo body.

By Rail To The Port Of EMBARKATION



Some people have no shame.

Imagine a Motor Transport organization of the United States Army pulling up to a Port of Embarkation in this year of war, 1942, in the same disgraceful ragtag and bobtail condition as a band of gypsies after an all-night rainstorm. Fagged with lack of maintenance, sadly in need of repair.

And there you have the discouraging picture that has been turning the hair of Port of Embarkation officials grey.

Although it has become the accepted fashion (sneer), to run around this, our own, our native land, with our hair and diapers down, and with the butt end of our battered vehicles dragging, it is by no means *au mode* to present ourselves for shipment overseas arrayed in the same dirt and domesticity.

Ordinary decency would suggest that we sew a button on our shirts and comb the cobwebs out of our hair.

One report tells of 17 engines replaced in one outfit that appeared at the Port of Embarkation. A stunned Port

of Embarkation officer reveals that many organizations "do not even know the meaning of the words first and second echelon!"

To relieve the situation somewhat, we have been provided with a check list that serves very well as a footnote to our article on 'movement of vehicles by rail' that appeared in the March Army Motors.

It is the last, desperate cry of a beaten Port of Embarkation officer. Give it your rapt attention, use it when preparing to move by rail.

Motor vehicles should arrive at the Port of Embarkation in excellent mechanical condition, completely serviced. Although repairs up to and including 3rd Echelon will be made as a last resort, the Ports of Embarkation will only be prevented from becoming dangerous bottlenecks, if organizations present themselves in perfect condition.

1. Radiators and blocks should be drained - or if filled with anti-freeze, wire a tag to radiator brace-rod reading, 'Anti-Freeze in Radiator' and state type used.

2. Each vehicle should carry one tagged ignition-key wired to the steering post underneath the hood. Type-write on the tag the W.D. number and the Code number.

3. Fold and place all truck paulins in the cab.

4. Move bows forward to the front of the truck, place them side by side. Wire and hold them together with a stick of wood nailed to the bows. Half-ton pickup, weapon carrier and one-ton trailer bows should be placed in the body of the truck, wired together, with the paulin folded under them.

5. Wire tags to steering column, giving the following information:

W.D. NO. _____ CODE NO. _____

CHASSIS LUBRICATED
Mileage _____ Date _____

GEAR BOXES FILLED
Mileage _____ vvl 761
S.A.E. _____

WHEEL BEARINGS PARCED
Mileage _____ Type _____

OIL CHANGED
Mileage _____ Grade _____
S.A.E. _____

6. Stencil Code No. and letter of every vehicle on front and rear (preferably on bumpers).

7. Overinflate tires 10 lbs. Round off sharp edges of blocks to reduce chafing.

8. Oil, box, and stencil fire-extinguishers, tow chains and tools with the W.D. and Code number of the vehicle, and place in the vehicle cab. All such boxes are separately lettered on the bill of lading. Empty tool boxes and leave 'em unlocked so inspectors won't have to break 'em open. If locked with a padlock, fasten the lid with a piece of wood through the staple.

9. Don't store military impedimenta in vehicles for rail shipment.

10. Liason Officers should report to the Automotive Officer on arrival at the Port of Embarkation.

11. Under no circumstances will the War Dep't. Registration number be painted out.



Connie Rodd's BULLETIN BOARD

Here's honey again, the cute little trick what's running our Bulletin Board. She's got all the latest dope on repairs, replacements and shop hints.

Shifter Shaft

Every once in a while lately, I've been getting a lil' ole report about the shifter-shaft of the 1 1/2-ton Chevy transfer-case freezing up. These reports also mention ruined oil-seals on these same shifter-shafts.

Well, just the other day I got a real nice letter from Mr. Bald of the Yellow Truck and Coach Mfg. Co., explaining that this condition was caused by dry paint on the shifter-shaft. Mr. Bald says vehicles used to enter the paint-spray booth at the factory and come out with paint sprayed all over such exposed parts.

However, says Mr. Bald, the procedure has now been changed and all exposed parts are either masked or covered with grease before entering the paint booth.

But some of the previous

jobs have already gone out with paint on the shifter-shafts. The paint dries on the shaft and drivers have a struggle with the transfer-case shift lever. Not only that, but the paint is worked up into little balls which get into the oil seals and ruin them.

You'll have to do something about it. Here's what: simply slip the shifter-shaft out of the transfer case and clean off the paint with paint thinner. Or if the paint's too hard, get it off with a piece of emery cloth — being careful not to scratch up the shaft. And if the oil seals are cluttered up with, or show signs of damage from the dried paint, change them.

Be extra careful to check the shifter-shafts of vehicles that have been in storage for some time. Besides paint, they may have road dirt or something on them.

FORD Grease Gun Adapter

In the July ARMY MOTORS you were told that a little grease-gun adapter had been left out of the tool sets of certain Willys and Ford 1/4 ton's delivered to the field. Without this little grease-gun adapter, you can't properly lubricate the propeller-shaft universal joints of the jeeps.

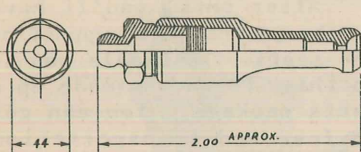
We told you that you could get this adapter for the Willys on requisition from Fort Wayne, ordering by Willys part No. A6151, Grease-Gun Adapter - Alemite 6517.

We also promised we would let you know when the same adapter for the Ford 1/4-ton was ready.

Well, now I'm letting you know. It's ready.

Order your "Grease-Gun, push-type adapter for Ford 1/4-ton, GPW Part No. 17126,"

from Fort Wayne.



I don't have a picture of the adapter to show you, only the blueprint. If it'll make you any happier, you can look at that.

Differential Leak

There have been a number of cases reported from the field, of lubricant leaking from the differentials of the Ford GPW. It seems that the lube follows the threads of the differential-carrier bolts right through the housing and drips out on the ground.

It isn't so bad if the lubricant merely wets the outside of the differential housing - but if the leak is big enough to lower the lubricant level in the differential case, then you'd better do something about it.

Do this:

Take out the carrier bolts, clean the threads, cover them with permatex No. 2 or paint them with white lead (if you got any of this critical material) and screw them back into place.

In most cases, you'll find that this is good and plenty. The permatex or the white lead will act as a seal.

But for those very rare cases, that don't behave according to Hoyle, I'm going to prescribe a last-ditch measure that's only to be used as a last-ditch measure.

If you find that my prescription described above is not enough to keep your lube from leaking out, try this:

First, you'll notice that there's a couple of threads too many showing on the outside of the carrier bolt holes.

Tap the outside ends of the holes and install a pipe plug covered with the permatex. The pipe plugs being tapered, will, of course, seat firmly in the bolt holes and seal them tightly.

But keep your head on straight - don't use this last suggestion until you've definitely proved the first one won't work.

(Funny thing - just after I finished writing this item, a letter came in from Sgt. Raymond H. Gorman, Ft. Hancock, N. J., on this very subject. You can read about Sergeant Raymond's experience in the 'Contributions Department'.)

Hydro-Vac Tubing

I'll bet my last pair of nylon hose that when you throw a wrench on the tubing nut to loosen the vacuum line at the relay-valve body on the Hydro-Vac (on the GMC, Chevy, etc.) the nut will sieze the tube and cause you to twist the tube too.

The safer way, according to the best brake specialist I know, is to remove the four screws holding the valve-seat housing to the body, and lift it, plus the tubing and nut, out as a unit.

3/4 ton Battery Cable

A couple of friends of mine were witness to a little fireworks display on a 3/4-ton Carryall.

The battery is out on the running board, you know, and the cable has to travel from the battery, under the body over to the engine. However, in assembling the body to the frame at the factory, it looks like they hit the battery cable with the body and banged it against the frame. This cut the insulation or at least

weakened it. From the couple of times I've heard about it, it apparently happened on quite a few 3/4-ton. In no time at all after the trucks are delivered to the field, the bare battery-cable contacts the frame and produces a short-circuit.

Fireworks.

So if you've got a 3/4-ton Carryall, I suggest you slide underneath and examine the cable at the point where it crosses over the frame cross-member, between the frame and the body. If the insulation is crushed or damaged, wrap a little electric tape around it. That'll hold it.

Remember, the cable is not caught between the body and the frame - it merely got scissored between them in the assembling. All you've got to do is repair any damage to the cable insulation

Canvas Paint

A very unfunny thing is going to happen to some of these officers riding around in 1/2-ton-Dodge Command Cars.

They'll be riding along in a convoy that's under attack from the air and all the bombs will appear to be aimed right at them.

They will be.

The top of the 1/2-ton command car is a dead giveaway to the enemy in the air and also makes a brilliant target - because the color in the canvas top of any command car that's been out in the field for a couple of months or more, bleaches to an oyster white.

It seems that the command-car top is not like truck tarpaulin at all. It's made of 'sport-cloth' which is simply two layers of canvas with a layer of rubber sandwiched in between. And in every case, the stuff loses its protective coloring after only a short time.

Fortunately, however, we dug up a little solution a couple of months ago - and this time we can give you the Federal Stock No. and tell you where to get it.

It's a protective paint or coating for canvas. It's waterproof, fireproof and won't bleach out. You can brush it on the top of your command car and renew the camouflage value the top is supposed to have.

The paint is available in one and five-gallon cans and can be used to coat any other canvas, besides command-car tops, that needs touching up. Ft. Wayne tells us that it's stocked at the eight major depots.

In one-gallon cans, order the canvas paint by Federal Stock No. 52-P-5034; in 5-gallon cans, order by Federal Stock No. 52-P-5035. Here's the nomenclature: 'Paint, waterproofing, fireproofing, olive drab; chlorinated paraffin base. To be Hooper's Fire Chief, or equal, and shall produce a treatment conforming to Fed. Spec. CCC-D-746 when applied by brush. Ready mixed for waterproofing truck covers and curtains.'

If you ask me, it locks like a little of the recipe got mixed in with the nomenclature - but that's what they gave me. Anyway, order yourself a can of the paint and coat your canvas top.

An officer and a gentleman never makes himself conspicuous.

Rubber Cubs

Although they're not using rubber to form minor parts on vehicles anymore, there are still a lot of tactical and administrative jobs running around carrying parts made of rubber - like spring bushings, grommets, shock-absorber-link bushings, torque-arm pivot bushings, engine mountings, etc.

These rubber parts are supposed to soak up all the

little movements around the truck, but when they're out of kilter or worn, they'll rub against metal parts and squeak. Maybe you'll hear these squeaks and maybe you won't, but if you feel that you'd like to lubricate them, try using a little hydraulic-brake fluid. It's harmless to rubber. Don't use engine oil or any other mineral oil - it'll cause rubber to 'grow' or swell up like it had poison ivy.

Another good reason for lubricating rubber parts with brake fluid, is that the brake fluid acts as a protective coating against any engine oil or mineral oil that might drip on the rubber parts.

Well, take it for whatever it's worth.

Leg room & Litters

All you fellas in the field who've been barking yourself hoarse about the fact that you don't have enough leg room on the earlier-model 3/4-ton Dodge Weapon Carriers, can lie down now and be still.

The same goes for the rest of you who've discovered that on the earlier 3/4-ton Ambulances, a litter won't fit into the left-front bracket.

The Fargo Motor Corporation has landed and the situation is well in hand. Here's a couple of bulletins they handed me: The first tells how to increase the leg room on the 3/4-ton Dodge T213 (Bucket-seat) Weapon Carrier. It applies only to vehicles with a Body No. prior to 42906951. (You can find the Body No. stamped on a metal plate located just ahead of the hood lacing on the cowl ledge under the left upper-hood section and you need only the last four figures of the Body No.)

The leg room is to be increased by reversing the lower leaf of the seat hinges. Take out the bolts and turn the leaf over so that it extends forward instead of to the rear. Then replace the bolts.

This will move the seats back 1-1/2 inches.

After this, you'll have to change the rear support of the seats. To enable you to do this, Fargo has made up a parts package. You can get it free and transportation prepaid by writing direct to Fargo Motor Corporation, 7900 Joseph Campau, Detroit, Mich.

The parts package (Part No. 996448) includes:

- A. Two seat, rear-support assemblies, No. 966490.
 - B. Four cap screws, No. 122017.
 - C. One instruction sheet.
- Give Fargo the following info:

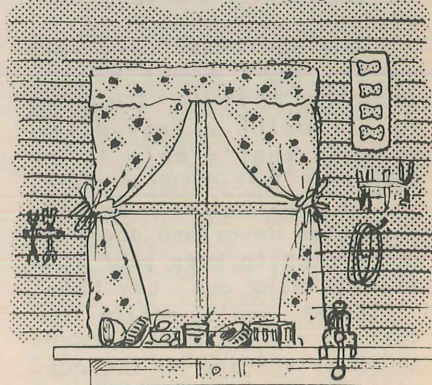
- A. USA Registration No. of each vehicle.
- B. Factory serial No. of each vehicle.
- C. Body No. of each vehicle.
- D. Name of organization to which vehicles are assigned.
- E. Name and address of post and any special shipping instructions.

Order the parts package by Part No. 996448 - not by the component parts numbers (which I have included for reference only).

The second bulletin from Fargo gives all the dope on replacement of the litter-bracket on the WC-54, 3/4-ton Dodge Ambulance. It applies only to ambulances delivered before August 1st. (Delivery date is stamped on the chassis serial No. plate on the glove compartment).

It seems that when a litter is suspended on the left side

Continued on page 192.





We hear that War Department Circular 223 is being grossly misinterpreted. But grossly.

W. D. Circular 223 says a few things about rubber conservation - one of which is that vehicles should not be run over 35 miles per hour.

So whatdid a couple of Motor Officers go and do but set their governors down to 35 mph, thinking to themselves, "My drivers are a straight-shootin' and trustworthy bunch of guys who won't go over 35 if I simply tell them not to.

Especially if I fix their governors so they can't."

But the governor wasn't put on to make the driver behave - well, it was in a way - but it was set so that it would allow the engine to deliver it's full measure of power without exceeding the safe number of rpm's.

Setting it down to 35 removes the margin of safety that the driver needs in those little emergencies that occur frequently on even the smoothest highways; and worst of all, it prevents the engine from reaching its power peak.

Don't mess with the governor to keep vehicle speed down to 35 - convince your drivers.

* * * *

A Motor Officer came in to tell us that certain personnel in the field - he referred to them as 'hammerheads' - have been punching holes in the floors of their 1/4-ton jeeps to let the water drain off.

In the language of the streets, this is highly un-

necessary and definitely irregular.

There are already a couple of drain holes in the floor of the jeeps to let rain and other water out. All you have to know is where to look for them.

Look for them up around the front corners of the floor - about where you put your feet when you sit in either of the front seats. You won't actually see drain holes, what you'll see are brass drain plugs. Take the plugs out and you got drain holes.

Now be careful - the drain plugs closely resemble common body bolts which are scattered hither and yon about the floor. But the difference between body bolts and drain plugs is that the body bolts are hex-headed (six sides) and the drain plugs are either square-headed or have heads with slots in them to accomodate a screwdriver. Get it? The drain plugs are either square-headed or slot-headed.

Take them out whenever you've got water sloshing around in the body but leave 'em in at all other times. They keep water from coming up into the body when you run through puddles and streams.

* * * *

And talking about drain plugs, on 6000 separate occasions (ABC figures) we've mentioned that the jeeps have an outside shell around the gas tank to protect the gas tank from flying stones, rocks, bullets, etc., and also to

serve as a 'sump' or drain. It serves as a drain because it is open to the floor and some of the water on the floor will drain down into it.

To get rid of the water that drains into it, there are two caps on the outside of the shell - one on front and one on the back.

Now the best thing for you to do is take the back cap out and leave the back drain hole open all the time - except of course, when you're fording streams or something. Then you'd better put the back cap in so the water won't wash in and fill the shell and body too.

That's all there is to the drain plug situation.

* * * *

Here's something we don't hear about -- we see it, twice daily and five times on Sundays.

Eight and nine guys piled up on a jeep and goin' like hell.

And how can we forget the time we saw a jeep hauling a loaded one-ton trailer. Sure it can do it. We can haul a sack of rocks around too - but not for long.

* * * *

The guys that run the Z-5 dep't are going crazy over two things: One is the Z-5 forms that come in without the concurrence of an inspector at a 3rd or 4th echelon shop; two, is the engines, complete axle assemblies, transfer cases, etc. that come in with the simple notation, 'Defective.'

How are the poor guys at the depot supposed to know what's defective?

And in the first place, how would the guys at a 3rd echelon shop (who often send these units on to the depot) know that an engine, transfer case, or transmission is defective when theoretically they don't have the tools or equipment to tear down and examine such heavy units?

The duty of a 3rd echelon organization when they get an assembly that's too big for

170 them to handle, is to pass it on to the nearest 4th echelon shop for inspection. The 4th echelon shop should then tear the unit down, decide what's defective and why — take that defective part and pass it on to the supply depot.

They're not supposed to send the entire unit on through channels when only a small part of it is defective — the defective part itself is good and plenty. The rest of the

unit should be repaired — if repairs are needed — and put back into stock.

One-half of the Z-5 dep't is already going around with its tongue hanging out. A little more aggravation and the other half'll start slipping.

* * * *

Somebody showed us a motorcycle tire-pump that looked like it was bounced up against

a brick wall a couple of times. It was dented and bent and practically ruined.

That's what happens when it's tossed into a saddlebag with a lot of hard tools. The motorcycle jolts around and everything in the saddlebags jingle-jangle-jingles.

Keep your tire pump on the mounting that was created for it. That goes for anything else that a rough ride in the saddlebags can ruin.

Carbon MONOXIDE



**The closed cab season is upon us.
Will you be a gas case before the
winter is over?**

Back in the Stone Age, they would frequently find a guy lying dead in his cave for no reason that anybody could make out. Young, healthy guys, too — with no club or claw marks and no snake bites.

Today, they also find guys dead in their closed truck-cabs or garages. Young, healthy guys — also with no claw, club or snake bites.

But today we know the reason.

Carbon monoxide.

The Stone Age guy died from the carbon monoxide gas that poured forth from his poorly ventilated camp-fire. Any carbonaceous material that burns slowly or without complete combustion gives off carbon monoxide.

Guys die today because this odorless, colorless, merciless gas creeps up into the cab from leaks in the exhaust system; or because they linger too long in closed shops or garages with the doors closed.

It's a twice-told tale which you probably heard a dozen times. But do you know the story behind the story?

It begins with *incomplete combustion* - incomplete combustion is what you get in your engine.

There's nothing wrong with that — you need incomplete combustion to get full power out of your engine.

It takes a ratio of 15 pounds of air to 1 pound of gasoline to get complete combustion. But that doesn't give power.

To get power, you need a ratio of 12½ to 13½ pounds of air to one pound of gasoline which yields about 75% or 85% of complete combustion. A by-product is carbon monoxide. It's supposed to be carried away by the exhaust pipe.

But with leaks in the pipe, the carbon monoxide is aimed right up at the driver sitting in his closed cab. And then a strange and fearsome thing happens.

The carbon monoxide is breathed in by the driver along with air. And the hemoglobin (the red stuff in the blood that's supposed to pick up the oxygen and feed it to the tissues) picks up

carbon monoxide 200 times faster than it picks up oxygen.

The hemoglobin can't pass the carbon monoxide on to the tissues. Carbon monoxide is a stable compound and likes to stick around. So it stays in the bloodstream and there's no room for oxygen. The tissues slowly starve — the brain and the heart are the first to go.

As if that isn't bad enough, carbon monoxide comes to the bloodstream for keeps. Like a poor relative, you can't get rid of it. You die. Years later, doctors can open you up and discover traces of carbon monoxide in what was your bloodstream.

Gruesome, ain't it?

But all jokes aside, it's time to get up your guard against the gas you cannot taste, see or smell. Don't take a nap in a truck cab with the windows shut and the engine running to keep you warm. They may not be able to wake you up.

Watch out for leaky mufflers, exhaust pipes and gaskets — have them repaired or replaced. Don't work on your truck in a closed building with the engine running.

You're too young to be carbonated.

How to Master the VACUUM GAGE



It's got more tricks than a barrel of monkeys. Learn to use it now.

THEY used to tell the story of Cpl. Willie McHugh whose squad was the best-behaved in the old Rainbow Division. Willie never had any trouble.

One day the sergeant asked Willie how he did it, and Willie answered, "Oh, I can read their minds."

When the sergeant denied this on the grounds that you can't read a vacuum, Willie just smiled and pulled forth a gage about the size of an alarm clock with a long rubber hose attached to it.

It was a vacuum gage.

Now although that story about what Willie did with it sounds a little like noise, the things you can do with a vacuum gage are remarkable and no end helpful.

It shortcuts diagnosis and leads like a bloodhound to the probable sources of engine trouble; in the hands of a mechanic who knows how to use it, the vacuum gage is a crystal ball - sees all, knows all and tells all.

The reason, of course, is that the vacuum in an engine must behave in a certain way under certain conditions. Any misbehavior is a clue to trouble. The vacuum gage detects misbehavior.

Specifically, the vacuum gage, attached to any manifold outlet, can tip you off to worn rings, weak valve springs, gum on the valves, inoperative distributor advance-mechanisms, clogged muffler, leaky gaskets and manifolds, poor idling mixture adjustment, and a kitful of similar aches and pains.

Just hook up the hose watch the gage needle dance,

and go to work happy.

But first, of course, there's a couple of things you'll have to know:

How is vacuum formed in the engine? What disturbances and trouble cause reactions on the vacuum gage? What are the reactions?

Well, vacuum is formed on the downward stroke of the piston that draws fuel into the cylinder. The exhaust valve is closed and the intake valve is open - the intake manifold and the cylinder are as one single chamber. The piston moves downward increasing the area of the chamber which reduces the pressure to a point well below atmospheric pressure.

And there you have your vacuum.

The natural and expected thing is for outside air to rush in and fill the vacuum. If the air finds its way into the chamber by the approved or sunshine route - through the throat of the carburetor, past the butterfly valve and into the manifold and cylinder, all's well and good. If it leaks in from any other place, engine operation suffers.

That's where your vacuum gage steps in. Attached to any manifold outlet, it indicates the possible sources of the leak. We said sources because the gage can only give you an approximation, it narrows the possibilities down - which is a lot better than hunting high and low over the vehicle for the trouble.

The reactions on the gage are many and varied and to the experienced or interested mechanic, read almost as simply as McGuffey's First Reader. Our little chart on the next page is about as complete a catalogue of vacuum-gage reactions as you could want.

Before using your vacuum gage, there are a couple little things you've got to check. Does your vehicle have a combination fuel and vacuum-booster pump (for the windshield wipers)?

You'll have to disconnect the booster pump from the manifold before attaching the gage. Otherwise your readings won't be dependable. Either plug the connection or attach the gage at this point for the test.

Are your head-nuts, manifold-nuts, and vacuum connections from the manifold tight? Tighten them. Leakage at any of these points not only upsets the air-fuel ratio, but also produces low vacuum readings.

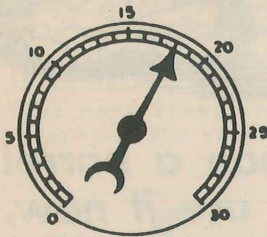
Give your vacuum gage every break.

To the tune up man, the vacuum gage is a friend indeed. It saves time wasted on a tune-up job where the compression factor in the cylinders is not up to scratch. Trying to tune an engine with low or uneven compression in the cylinders, is like trying to tune a nickle whistle - it can't be done.

And, of course, you can't cure a low or uneven compression by a tune-up, so take

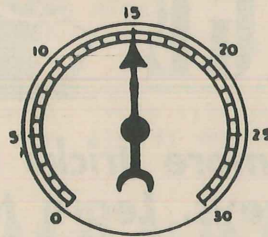
Vacuum Gage Reactions

STEADY NEEDLE BETWEEN 17-21



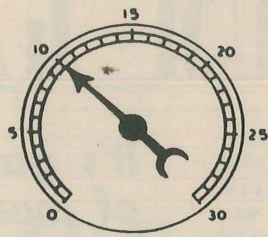
1. Normal motor.

STEADY NEEDLE BETWEEN 14-16



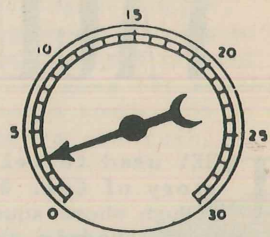
2. Poor rings or oil. Late ignition timing. (Possibly some needle motion).

STEADY NEEDLE LOW VACUUM



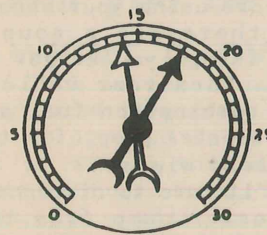
3. Loose valve guides. See also Nos. 2 and 4.

STEADY NEEDLE LOW VACUUM



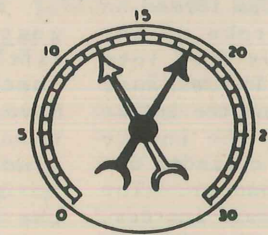
4. Intake manifold or heat riser leak. Also see Nos. 2 and 3.

IRREGULAR DROP NORMAL VACUUM



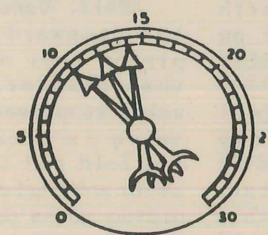
5. Gummy valve stems. Mixture too rich or too lean. Occasional plug miss. Internal carburetor trouble. Also see No. 8.

REGULAR DROP NORMAL VACUUM



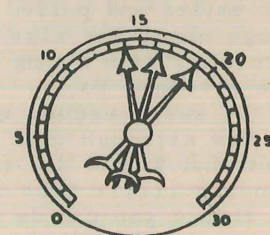
6. Valve held open. Valve chipped, or burnt, or leaks. Warped valve seat. Head gasket leak.

SLOW MOVEMENT LOW VACUUM



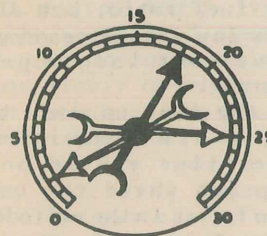
7. Late valve timing. Also see No. 8.

SLOW MOVEMENT LOW VACUUM

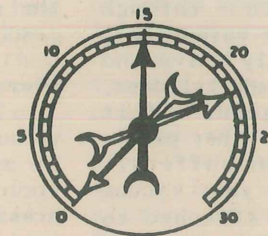


8. Carburetor out of adjustment. Plug gaps too close. Points not synchronized. See also No. 5.

OPERATING MOTOR BY QUICKLY OPENING AND CLOSING THROTTLE

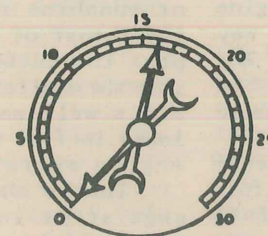


9. Needle drops to 2 when opening throttle, and rebounds to 25 when closing, indicates normal motor.



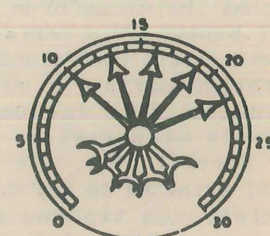
10. Needle drops to 0 when opening throttle, and does not rebound to 25 on closing. Poor rings, pistons, or oil.

MOTOR RACING OR IDLE



11. Normal reading at start, but gradually drops, indicates choked muffler.

MOTOR RACING



12. Wide variations of needle increasing with motor speed indicate weak, or broken valve springs.

your vacuum gage in hand and find the deficiency before attempting a tune-up.

You can make the vacuum-lift test before tune-up without starting the engine, for the readings are taken at starter speed. Attach the gage to the manifold, disconnect the throttle-shaft connector link, turn the throttle-arm stop screw out so that the butterfly valve is completely closed, and then with the ignition switch off, spin the engine with the starter. If everything is in good shape, the hand will lift to 17 or more inches of vacuum — which is another way of saying the compression factor is normal. Don't worry about the slight waver in the needle — it's due to the valve overlap which is registered at this low rpm.

With the compression factor declared by your vacuum gage to be normal, go ahead with your tune-up. (Incidentally, vacuum gage readings vary with altitude above sea level, because atmospheric-pressure decreases with altitude. Deduct approximately 1 inch from suggested readings at sea-level, for each one-thousand feet above that point that the reading is taken).

But what if the vacuum gage doesn't give you the high sign? What if the needle doesn't lift to 17 or more inches?

Trouble.

If the needle fails to rise above the *five-inch* mark — the intake manifold, manifold gaskets, or the heat riser sleeve is faulty or leaking — and should be removed and checked.

If the hand moves up to a point between *10 and 15 inches*, and vibrates back and forth badly — look for a blown cylinder-head gasket or bad valve-condition. By attaching a compression gage to the cylinders individually, you'll more likely be able to isolate the weak sisters before pulling the head.

Other vacuum gage tests

are made with the engine running. For instance if a tachometer is not available for setting engine idle-speed adjustments, jack the rear wheels up clear of the floor, and with the transmission in high gear, turn the throttle stop-screw until the speedometer reads 7MPH. Then adjust the idle air-needle until you get the highest reading possible on the gage. Check the speedometer and see if the speed is above or below the 7 MPH minimum. If it has drifted, reset the throttle stop-screw to bring it back to that speed.

Here's some more tests:

Having secured the proper idle-mixture by setting the engine idle-speed to the highest vacuum-reading, race up the engine quickly, then release the throttle arm. The

vacuum-gage needle should drop to 2 inches, and recoil to 24 inches or more. If the needle recoil is less than 24 inches, chances are you've got diluted oil or leaky piston rings.

Rev up the engine to about 30 MPH and hold the throttle stationary. Does the needle at first drop back, then gradually climb up to a peak of from 1 to 2 inches higher than the idling reading and remain steady? No? The automatic advance mechanism in the distributor is off the beam. Inspect it.

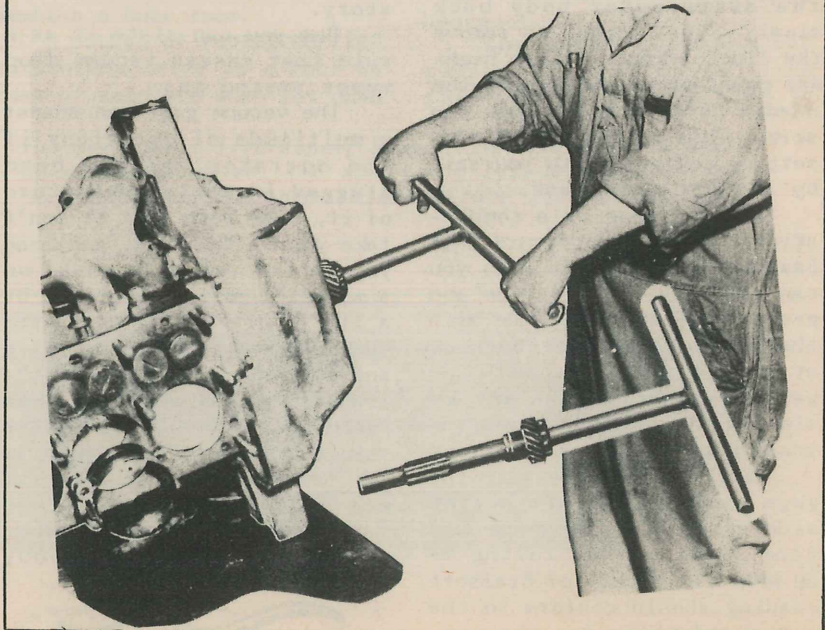
Hold the throttle arm steady at about 30 MPH engine speed. If the needle fluctuates rapidly between 10 and 21 inches, you've got weak valve-springs that aren't closing the valves properly. (The fluctuations will in-

(Continued on next page)

DURING a bench overhaul, you're continually turning the crankshaft over to install rings, adjust connecting-rod bearings, valves, etc. There are several ways of doing this, but we like this one best: Make a "T" handle by welding two pieces of round bar-stock together to form a handle 20 inches long and a shaft

12 inches long. Then weld the shaft into the spline-shaft pilot-bearing-end of a junked main-drive-gear. When the splines of the gear are placed in the clutch disc, the crankshaft can be turned with the handle.

This is a lot better than jerking the crankshaft around with a screwdriver stuck in the flywheel teeth.



crease with the increased engine-speed).

Worn intake-valve guides are notorious power and oil thieves. They introduce oil from the valve chamber into the firing chamber and at the same time allow atmospheric pressure to enter the manifold. This lowers the vacuum reading just like a leaky manifold gasket. To distinguish between a manifold gasket leak and a valve-guide leak, try this stunt: Four heavy oil over the intake manifold gaskets. This will seal them temporarily. If the vacuum reading does not immediately rise, the valve guides are pretty certain to be the offenders.

Your vacuum gage can set ignition-timing suprisingly close when a neon timing-light is not available: With rear wheels off the floor and transmission in high gear, set the throttle stop screw until speedometer shows 14 to 15 MPH, (no more). Loosen the distributor-lock-plate screw and turn the distributor body in retard direction until the needle reaches 16 or 17 inches. Then turn the body in the opposite direction to advance until needle reaches its highest point and starts to fluctuate ahead. Hold it at this point for an instant, then turn the distributor body back slowly - just enough to remove the fluctuation. At that highest point on the gage where the needle holds steady, lock the screw. This is the best timing setting. Prove it to yourself by a short road-test.

If your gage is a combination vacuum and pressure gage (as most in the field are) you can test fuel-pump vacuum and pressure. Test the vacuum with the engine idling or turning at starter speed, and with the gage attached to the intake side of the pump. The reading should be 8 inches or more.

Test the pressure with the gage connected to the outlet side of the pump and the engine running from idling to 30 MPH. The pounds-of-pressure reading should conform to the recommendations for the par-

ticular pump on your truck.

You can uncover a clogged muffler with your vacuum gage. It'll be indicated by a normal vacuum reading when the engine is first started, and then a gradual fade or drop in the reading, as the muffler area is filled up with exhaust-gases, and back-pressure is formed.

Among the lesser uses of the vacuum gage, is the windshield-wiper-hose test at the wiper motor. The reading should be the same at that point as at the manifold. Leaky or restricted hoses can be quickly located in this manner.

With the vacuum gage, you can give your drivers a very convincing demonstration showing that a fast and heavy foot on the accelerator does nothing but waste gas.

Hook the gage in at the windshield wiper motor and drive off in the truck, jamming the accelerator to the floor-boards and feeding it too much gas as so many drivers do. There will be a big drop in the vacuum, the needle will read low. Explain to the driver that any time the vacuum drops excessively, gas is being wasted. An exhaust analyzer attached to the exhaust pipe would confirm your story.

But you can state it as a rule that excess vacuum drop means wasted gas.

The vacuum gage can answer a multitude of questions if the operator has his head plugged in while making use of it. The fact that it won't take you by the hand, and lead you to the actual trouble on a moment's notice is apt to be a little disturbing at first. But a short term of practice and study will prove that the instrument can say 'hot' and 'cold' with amazing accuracy, when tracing down a complaint.

Now pull your vacuum gage out of that pile of grease rags where you threw it when they first gave it to you, dust it off, and use it.



Fire Extinguisher Refill

Something is being done with our carbon tetrachloride fire extinguishers that's a big waste of time, labor and materials.

According to reports reaching the pink and shell-like ears of Ft. Wayne, Michigan, the fluid in fire extinguishers is being emptied every six months and replaced with new fluid.

Since the fluid used in our fire extinguishers is carbon tetrachloride; and since carbon tet does not lose its effectiveness in a fire extinguisher because it is not exposed to the atmosphere - to change it every six months is a waste of time, labor and material.

Don't.

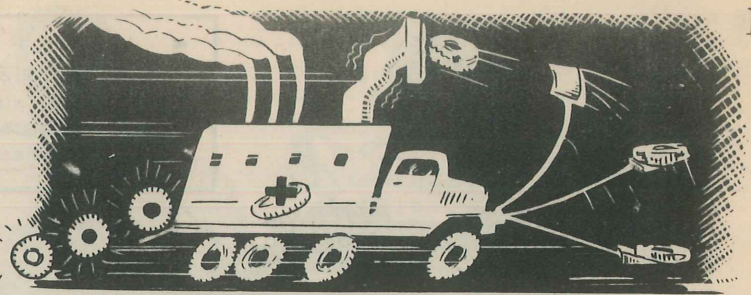
However, if you do need carbon tet for a legitimate refill of your extinguishers, jot this down on your cuff: Carbon tetrachloride has been purchased for every depot in 55 gallon drums. Order from your favorite depot by Federal Stock No. 51-F-353.



In case you didn't know, carbon tet is a "dehydrated" fluid (no water), and can be used with the utmost safety on a blaze where a high-voltage current is present - it is not a conductor of electricity.

P.S. We don't mean to imply that every fire extinguisher uses carbon tet - some use other materials. Check the nomenclature plate of your fire extinguishers and use only the material it recommends.

Mobile Tire Repair Shop



BACK of the fighting front, in the thickets or woods, you sometimes come suddenly upon long rows of beds, the smell of formaldehyde and the brisk activity of pretty nurses.

And you know you've stumbled upon a field hospital.

But, what if in the deep trees, you suddenly come upon a huge room formed of semi-trailers? You smell the smell of burning rubber, and witness the brisk activity of soldiers, who — if they aren't pretty — seem to be as deeply concerned with healing as the nurses.

Well, just so you'll know, you've come across a field tire hospital.

They call it a Mobile Tire Repair Shop. And it's a good indication of how strongly the Army feels about rubber.

Over in this neck of the woods, they've got a hospital for wounded soldiers. Over in that neck of the woods, they've got a hospital for wounded tires.

The new Mobile Tire Repair Shops will follow the fighting fronts, and repair and retread

A new field hospital for wounded and worn-out rubber.

the tires of tactical vehicles. They can be set up in an hour and taken down in half an hour by a 15-20 man crew. Entirely self-contained, they'll go where the Army goes and get damaged or worn-out rubber back into service in jig time.

Each Mobile Tire Repair Shop consists of five 22-foot trailers drawn by 4-5-ton tractors. Each trailer is permanently equipped with its own portion of the tire-repair machinery. When the unit is ready to be set up, the trailers are drawn up side by side. The tractors move quickly out of the way and the sides of the trailer bodies let down to form flooring between trailers. There's 2100 square feet of floor space and the whole resembles a huge room.

A number of easily carried tarpaulins serve as a roof in case of rain and when let down

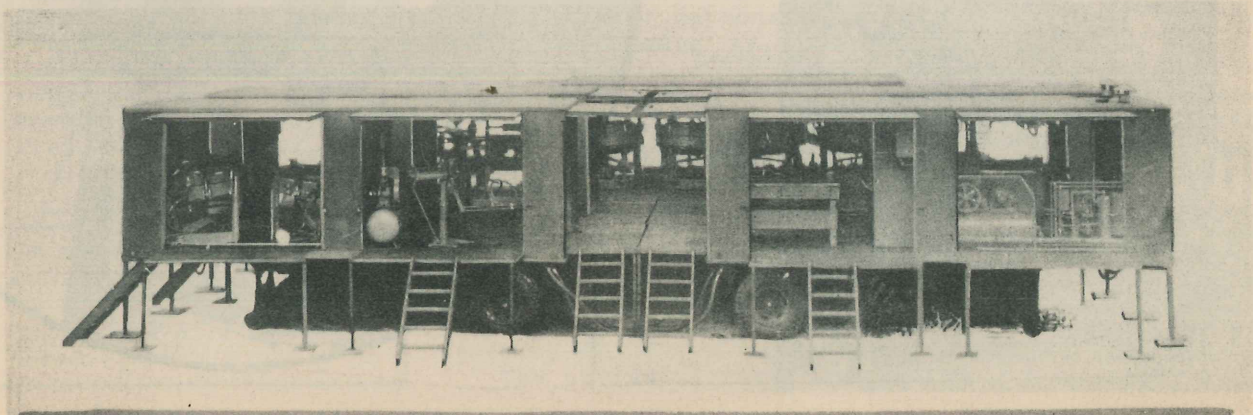
over the sides, double as blackout curtains.

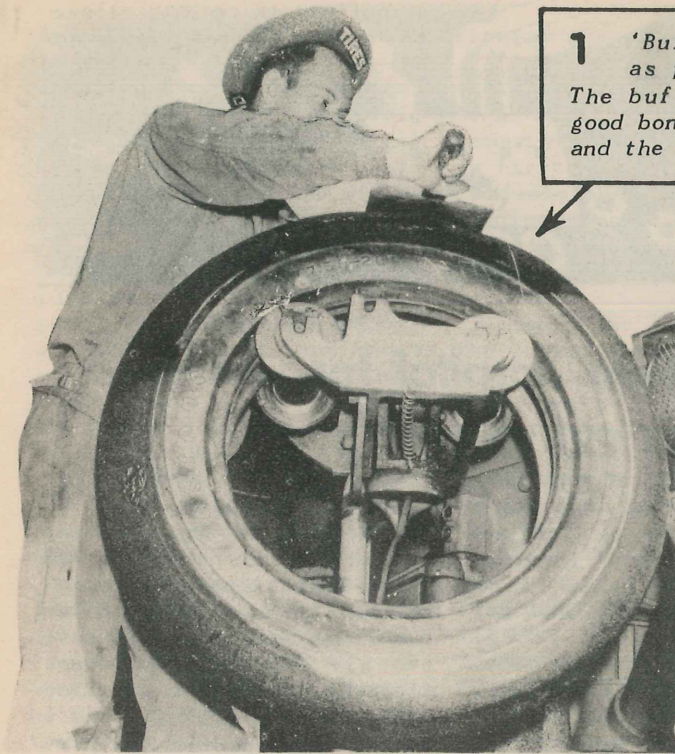
The Shop has its own power and utilities plant. A GMC truck-engine generates electricity; an oil-burner boiler furnishes steam; and there's two air compressors — one electric, the other gasoline operated. An oil tank and a water tank complete the picture.

One Mobile Tire Repair Shop is expected to service an entire division. In a 24-hour working day, at maximum production, it can take care of about 120 sectional tire repairs and turn out about 70 retreads. A bald-headed tire entering the front door, will leave by the back door with a full retread in about four hours.

The shop equipment can repair all Army tires, from the 6.00-16 to the 14.00-24

The new Mobile Tire Repair Shop. The trailers are hauled up close together, the sides are let down and work is done as though it were a big one-room factory. ↓



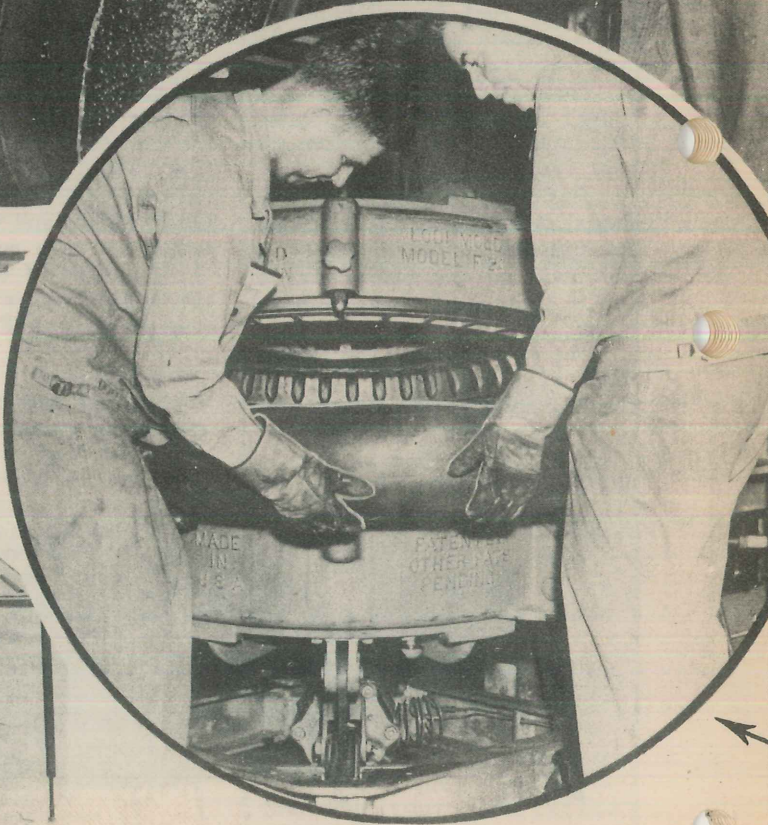
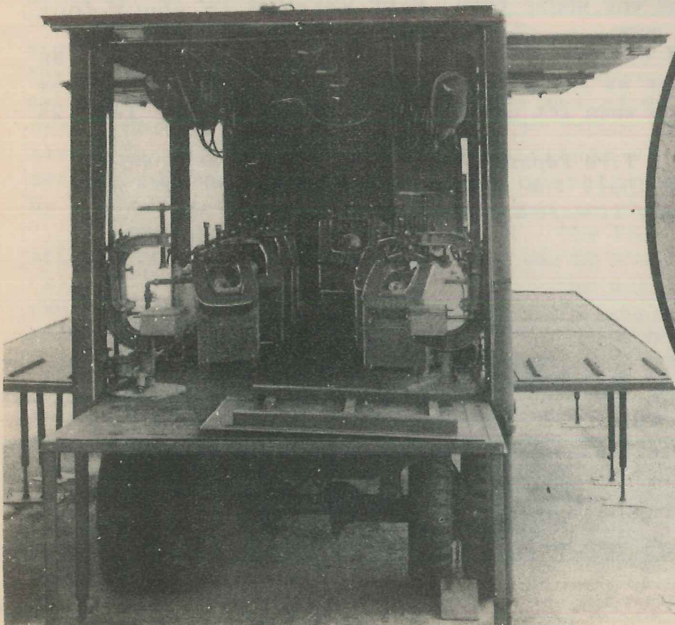


1 'Buffing.' As little rubber as possible is roughed off. The buffed surface guarantees a good bond between the old carcass and the retread.

2 Cementing the tire. The surface soaks up the cement, and the chillun soak up the cement.



4 Sectional-repair molds for small tire damages. Notice how the sides of the trailer come down to form a runway between it and the other trailers.



e. The rough
cement like
masses candy.



3 Putting on the camel-back (new tread). The guy at the wheel does his best work starting fixedly at cameras.

and retread the 6.00-16, 7.50-16, 9.00-16, 7.00-20, 7.50-20 and 9.00-20. There are, of course, tires outside this range, but not enough to warrant the additional equipment needed to take care of them.

Tires delivered to the shop are serviced in assembly-line order. First put on a compressed-air operated "spreader", they are examined inside and out. Cuts and wear are examined and tires classified to show the type of treatment required:

- A-1 retread for military use.
- A-2 repair for military use.
- B-1 retread for administrative use.
- B-2 repair for administrative use.
- C-1 retread for limited use.
- D-1 good for unlimited use with small repair (plug nail holes, etc.)
- E-1 scrap
- F-1-a limited use - not worth much reconditioning.
- F-1-b require special repair methods.

The 'retreading' process begins with a 'buffing' from shoulder to shoulder. The tire is placed on a wheel and revolved against a rasp which roughs off only as much rubber as has to come off. Buffing produces a rough surface which guarantees a good bond between the carcass of the tire and the camelback or tread to be cemented on.

The buffed carcass is

stippled with cement, allowed to dry, cemented again and allowed to dry.

The camelback is "stitched" on. Stitching does not mean that the camelback is sewn on, it means merely that the camelback is pressed and worked onto the cemented surface of the tire electrically and by hand.

The tire is finally placed in a mold containing the proper matrix (or pattern), an airbag is fitted inside the tire like a tube and inflated, the mold is closed hydraulically and the heat turned on.

The heat of the mold runs between 290° and 298° and the tire is left in it six minutes for every 1/32 of an inch of rubber put on the tire.

At the end of that time, the tire is fit as a fiduciary and ready for use.

In sectional repair, practically the same thing happens except, of course, the area treated is smaller. The damaged spot is first "skived" (injured rubber and cord is cut away and edges of the damaged spot tapered); then buffed and cemented. Cushion gum, cord fabric and tread stock is used to build up the tire - then a vulcanizing (air) bag is placed inside to back up the repaired section and the tire goes into a special sectional-repair mold.

It comes out ready to run.

The kinds of repairs that can be made depend on the size of the damage and the location - but generally speaking, breaks or injuries up to six inches, and damages extending not more than six inches across the tread can be fixed.

Already some 30 of the new Mobile Tire Repair Shops have been purchased, and training centers - besides one already functioning at Holabird - will be set up at Ft. Devens, Mass., Atlanta, Ga., Ft. Lewis, Wash., Ft. Stockton, Cal., and Normoyle Motor Base, Texas.

They'll be turning out T.D.'s (Tire Doctors) to man the new field hospitals for ailing rubber.

5 Into the mold. The carcass with the camelback 'stitched' on, is put in the mold and 'cured'. The mud and snow pattern is impressed in the tread.

Care of STORED VEHICLES

A preview of the official revision of AR 850-18 -- "how to put vehicles in storage and what to do with them."



First came the ugly rumors - then, when a fearful little band of inspectors deployed throughout the field and returned with confirmation of the rumors, the authorities knew that the time for action had arrived.

The first stories merely reported the field as 'utterly confused over what to do with vehicles in 'limited storage' - and this of course, was no cause for alarm.

But when reports came in of certain outfits running their stored trucks for about fifteen minutes daily to 'charge the batteries, distribute lube throughout the engine, etc.,' followed by a story of three separate and distinct organizations using mothballs to put their vehicles in storage*, the revision of 850-18 began.

Running trucks for a few minutes or a few miles daily to keep 'em in shape is strictly no good. You all know that for every gallon of gasoline burned, a gallon of water is produced. Well, a good part of this water makes it's way into the crankcase - and while normally, it's evaporated by the engine heat, running the trucks for only fifteen or so minutes never works up enough heat to evaporate the water.

Consequently, it stays in the crankcase and forms sludge, acid and headaches.

Anyway, that's the sort of thing that brought about the

revision of AR 850-18 which will start to hit the field sometime in the near future. But in the meantime the first part of it dealing with Limited Storage of Vehicles has been okayed so we can't think of any reason why we shouldn't pass it on to you.

The following is a liberal translation of the sections with the title 'General' and 'Limited Storage'. We'll shoot you the rest of the revision on 'Dead Storage', as soon as we get ahold of it.

GENERAL

Before sticking your vehicles into live or dead storage there are a couple of things you've got to prepare and provide for:

1. Storage site. Store your unused vehicles in closed or covered buildings. If no buildings are handy, the great outdoors will do -- but in selecting a site, try to pick a smooth, and well-drained spot. Except when the tactical situation calls for concealment, parking under low hanging limbs of trees should be avoided. (Low-flying Tarzans, sharp twigs and birds, you know).

2. Preparation for Storage. Before being tucked away, vehicles, their parts and equipment have to be thoroughly cleaned, lubricated and inspected. Do this according to W.D. Q.M.C. Form 260, dealing with technical inspection.

And unless you have a good reason why not, the vehicle should be thoroughly repaired and put in good mechanical condition. If you can't make repairs before storing, attach a tag to the steering wheel specifying the repairs needed, and send a written report of these items to the officer in charge of the vehicles. Finally, when your vehicles have been either repaired or tagged, your next step is to prepare them for either limited or dead storage. As we mentioned above, we've got the dope on 'Limited Storage' - 'Dead Storage' will come later.

3. Spacing vehicles in park. Don't throw your vehicles on the lot just any old way. Put them close enough together to conserve space and provide plenty of shade for the tires - but space them with enough room between vehicles to allow for servicing and inspections. Maybe it's fun to see how close together they'll go, but it doesn't make the job, say, of checking the batteries, any easier.

4. Severe conditions. Remember, these regulations are for normal and average conditions. Extreme temperatures, quick temperature changes, very wet or very dry climates, dust, salty spray, corrosive vapors from nearby industrial plants, or any other condition that might annoy a truck that's sitting

*A barefaced lie.

quietly minding its own business, calls for special protective measures. Figure them out to meet your own circumstances.

LIMITED STORAGE

What is Limited Storage? If vehicles are to be out of service for 30 days or something less, or if vehicles have to be ready for operation on call but are mostly just standing around, they are placed in what is called limited storage. The following protective measures must be taken.

Battery. Preparing the vehicle for limited storage begins with the battery. If it shows signs of corrosion, remove it, plug the vent holes and clean it with a solution of soda ash or baking soda and water to neutralize the acid. When you use soda ash, make the solution eight ounces to the gallon of water. If it's to be a baking-soda cocktail, use one pound of soda to a gallon of water. Clean the cable ends with the same solution.

After the soda bath, rinse the battery off with cold water — not hot water or steam. When you're done, don't forget to take the plugs out of the vents. Then scrape the battery posts and cable terminals to insure good contact — even the few minutes the battery is out being cleaned is enough for an insulating coating of oxide to form on the terminals.

Coat the battery terminals, whether the battery is removed for cleaning or not, with petrolatum or light grease.

Never store a vehicle without first taking a hydrometer reading of each battery cell. If the reading is 1.225 or less, the battery needs to be recharged. Add distilled water (or if you can't get any, pure drinking water will do) to bring the electrolyte level above the plates, but not more than 1/4" above.

If you expect to run into sub-zero temperatures, you'd

better charge vehicle batteries to at least a 1.275 gravity reading, to protect it against freezing. The electrolyte's resistance to freezing increases with the amount of charge.

Cooling system. Give the cooling system a good going over for leaks, and again, if you expect to hit freezing temperatures, test the anti-freeze solution and add as much anti-freeze as you need.

Tires. Nothing is more important or more scarce than rubber (or had you heard?) so tires get the works. Clean 'em, inspect 'em and see that they are properly inflated, spares and all. If any of them need repair or retread — replace them with serviceable tires. Don't put vehicles on floors, cinders or other surfaces that are soaked with oil or grease. If any oil, grease, gasoline or kerosene comes in contact with tires under any circumstances at all, wash it off immediately.

Road test. After giving the vehicle all these services, give it a road-test. Run it at least five miles — the air will do you good — and besides it never hurts to check the general condition of the unit. Correct any defects or jot them on the tag you're going to put on the steering wheel.

Engine. Start the engine inspection at the oil dipstick. Bring the oil up to the proper level, adding the grade called for under temperature conditions expected during the storage period.

Remove the air cleaner from the carburetor, start the engine and let it run at a fast idle. Pour one pint of oil ('Oil, lubricating, preservative, medium, Ordnance Department Specification ASX-674, of the latest issue in effect.') into the carburetor throat. Pour it in slowly so it won't kill the engine — turn off the key im-

mediately after the oil has been poured into the carburetor. With the ignition switch off, and the throttle wide open, turn the engine over five revolutions with the starter. This will leave a protective oil-film on the piston, the cylinder wall and other upper-cylinder parts. Replace the air cleaner.

Brakes. Check the wheels and release the brake. If they're air brakes, drain the air reservoirs thoroughly by opening the drain cocks wide. When no water shows in the air stream, close the drain cocks tightly.

Exteriors. Sandpaper off any rust you find on any part of the truck before storing it. To protect the wood or metal, repaint any painted surface that appears to need it.

Coat exposed, polished metal-surfaces with oil. (Oil, lubricating, preservative, medium.) Even nice, shiny chromium will rust easier than you expect. Also use this oil to coat winch cables and chains.

Close the windshields, and the cab-doors and windows on closed-cab types. Raise the top and install curtains and close the windshield on vehicles with open cabs. Paulins and curtains must be in place and firmly secured. Unroll rubber floor-mats, where provided, and put them in place on the floor. Leave equipment like pioneer tools, tire chains, and the fire extinguishers in their proper place in the vehicle.

When finally you have your trucks all neatly stored, you can't just go away and forget 'em. Vehicles in limited storage need a little routine inspection every week. Here's a 'minimum weekly inspection under ordinary circumstances:'

If it needs it, give the battery the same service it got when you first stored it. If you add any water when freezing weather is expected, re-

charge the battery with a portable charger, or remove it for recharge - *don't try to bring it up by running the engine.*

Inspect your tires again, repair any leaks that may have shown up while the vehicles were sitting, and inflate tires to normal pressure.

When vehicles are in 'on-call' limited storage for more than thirty days, give them the following monthly service in addition to the weekly inspections:

Remove the oil-filler cap and start the engine. Watch the oil-pressure gage - if it doesn't pick up immediately, turn off the engine and report the fact to the officer in charge. If the gage registers oil pressure, let the engine idle. Close the choke as soon as the engine will run without it. When the radiator temperature reaches 180 degrees F.

(if necessary cover the radiator to build up this temperature) advance the throttle to a fast idle, (not faster than 800 R.P.M.) and let the engine run at this speed and temperature for 30 minutes. After you stop the engine, put back the oil-filler cap.

Caution: If you've got a volatile anti-freeze like alcohol in the cooling system, check it every five minutes and add more as needed.

Repeat the ENGINE SERVICES, THE COOLING SYSTEM SERVICES, and THE EXTERIOR SERVICES, Inspection when removed from limited storage. When you take a vehicle out of limited storage, take care of all repair items noted on the steering-wheel tag, give it the complete monthly maintenance inspection prescribed in Q.M.C. Form 260, plus any repairs the inspection shows to be necessary.

No More KEYS?

That's the way we headed our story last month telling you to file and jam your ignition keys into the ignition locks of all your vehicles so they'd be stuck in permanently for the duration. (New vehicles coming off production lines will have a lever-operated ignition switch).

"Well, what about the tool box lock and the tire lock?" a flood of letters shouted.

So it looks like we gave the impression that all keys were to be thrown away.

But that's wrong - keep your keys for the tool box and tire locks. We're only going in for 'keyless' ignition switches so vehicles can be moved quickly in case of fire or attack.

Hitching a Star to Your Wagon

Now that AR 850-5 dated August 5, 1942 requires that all motor vehicles assigned to tactical units have a big, white, five-pointed star painted on them, an old argument promises to rear its ugly head.

The old argument revolves around the question of 'How to draw a five-pointed star.' Of course there wouldn't be any argument if it was possible to give the field stencils through which the stars could be painted. But it's not possible. So now the various and sundry geometricians, astrologists and just plain witch-doctors among us, will begin to hold forth on the subject of how to draw a five-pointed star.

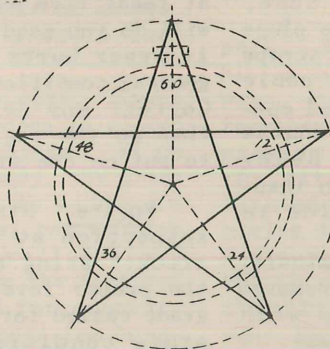
Some will recommend a compass and ruler, some the rule of thumb - but we picked up a little trick that looks simple and seems to work fine.

All you need is a round pocket watch, a ruler and a pencil.

You simply lay the watch on a hunk of paper, run the pencil around it to outline its circumference (see sketch) - then while the watch is still lying on the paper, you make a dot at the 12-minute mark, at the 24-minute mark, at the 36, 48, and 60-minute marks.

Now you put your watch back in your pocket

and with a ruler, draw a line from the center of the circle on the paper, out through the 12-minute mark. Draw a similar line from the center out through the 24-minute mark, the 36, 48, and 60-minute marks. And the ends of the lines (which of course are all of the same length) are the five points of your star. (You can make sure the lines are all the same length



by drawing a big circle the size the star is to be and then just bring your lines out from the center until they cut the circle).

All you have to do then is connect up the five points as shown in the sketch and you've got a perfect star.

* Two kinds of PAINT *

For your star, the War Dep't prescribes Enamel, White, Lustreless*: Fed. Stock No. 52-E-4199 (1 gal.), 52-E-4199-15 (5 gal.). For Unit Identification Symbols, use gasoline-soluble paint (AR 850-5 says solvent - a typographical error). How can you get it? The Chief of Engineers, Wash., D.C. has a spec for such a paint - No. 1227A (write for it). A good paint maker - such as Sherwin-Williams, Glidden, DuPont, H. B. Davis, Pittsburgh Plate Glass Co. - will make it. Or wait - Oct. 10 the Depots are supposed to stock it.

The New ALL PURPOSE OIL



**A molehill has been made
out of a mountain. A miracle
has come to pass...**

Once upon a time we had to use more different kinds of oil than you could shake a dipstick at, in all our assorted makes and models of engines.

But now TC 32 (Training Circular 32) has burst upon the scene, and we have to use only ONE oil - one oil in three different grades (to take care of the changing seasons): SAE 10, SAE 30, and SAE 50.

No more special diesel oils for diesel engines, no more aircraft oils for radial tank engines, or Navy symbol oils for motor vehicles, motorcycles, lighting units, etc.

Glory be to the Fuel and Lubricants Committee above us. Hallelujah.

The new oil is known as ALL PURPOSE ENGINE LUBRICATING OIL, ARMY SPECIFICATION 2-104A and orders have already been issued making the use of it

mandatory in all Army Ground Force vehicles. And although we know you obey such orders quicker than the Provost Marshal can say, "Sixty days on the trash wagon," we also know that you like to know the reason why.

So we're going to tell you why this particular oil was selected, how come it's used in all engines alike, and what it's got that other oils ain't got.

To Automotive and Petroleum circles the new oil has long been known as 'Heavy Duty, Detergent-type' oil. Although first developed for use in high-speed diesel engines, it's now widely used for hard service in both gasoline and diesel engines, especially in buses, trucks and industrial equipment.

The new oil has two out-

standing characteristics. First, hard service and high temperatures don't cause it to become acid - and corrode bearings - or to form sludge - and gum piston rings. Second, it has the strange and happy power of acting to clean and keep clean, all the parts of the engine it comes in contact with.

In this respect it behaves as though it had soap in it. And as a matter of fact, it does. This cleansing power is called 'detergency' and the new oil is called a 'detergent-type' oil.

Besides being called a 'detergent' oil, the new oil is known also as an 'additive-type' oil because special chemicals have been added to it to give it a greater stability than the best straight mineral oils have. The additives make it highly resistant to the peculiar chemical changes in an engine that produce sludge, gum and acids. The chemicals are also responsible for the detergent action mentioned above.

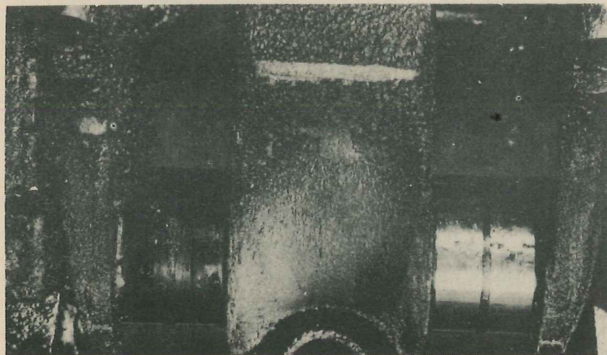


Fig. 1 - The sludge-covered crankshaft after a run in an engine filled with regular oil.

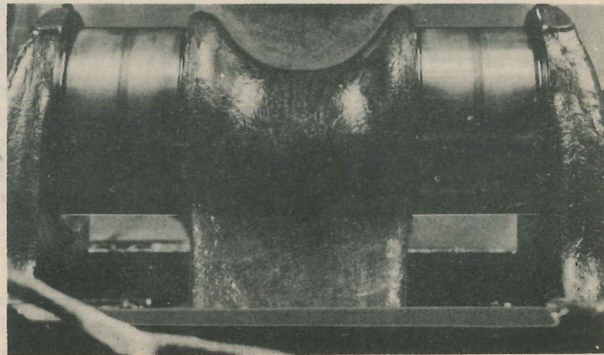


Fig. 2 - The crankshaft covered with cleanliness after running in new All-Purpose Oil.

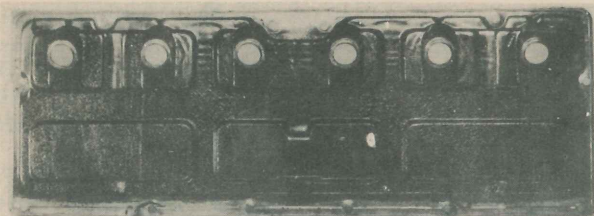


Fig. 3 - The valve side plate comes in all sludged up after the test with regular oil.

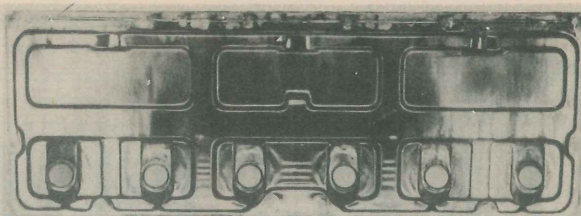


Fig. 4 - After a run with All-Purpose Oil, the same plate is as clean as a baby's dream.

Furthermore, the additives explain why the new All-Purpose oil can be used in all engines alike.

Remember when you were warned that using diesel lubricating oil in a gasoline engine would destroy the bearings? And that using gasoline engine lubricating oil in a diesel would cause seizures and sludging?

Well, with the additives, the new oil is tailored to fit both engines. The additives remove the harm that might otherwise be done to one type of engine and also build up the oil to stand the operation in the other type of engine.

For instance, no ordinary mineral oil could stand the extreme pressure and heat of a diesel engine and still keep it clean. So they put in chemicals to add to the stability of the oil and detergent or cleansing agents to keep sludge and carbon formations from cluttering up and hardening in the rings, valve guides, etc.

Again, the additives formerly used in diesel lubricating oils would eat up or otherwise destroy the bearings in a gasoline engine. To put a stop to this, they changed the additives. Today, they are as meat and drink to the bearings in a gasoline engine.

And that in a nutshell is why the new oil is called All-Purpose and can be used in diesel and gasoline engines alike.

Some outfits in the field have been a little previous in this matter of detergency and additives in oil.

They've been buying chemicals in fancy bottles and fortifying their regular engine oil with them.

This reminds us of an old friend of ours, Dr. Fagela Yocum who conducted a three-card monte game at the corner of Broad and Callowhill Streets in Philadelphia. Fagela used to put up kerosene in blue bottles and sell it to the farmers who came to town on Saturdays, as 'Dr. Slocum's Eureka Engine Brightener.'

Maybe it did some good and maybe it didn't. Products like these are sold widely as 'gum removers' or 'break-in oils'. They're usually nothing but kerosene, light oil or paint thinner. Some authorities accuse them of reducing oil stability — but in any case, they're not to be added to the Army's new oil (by order of TC 32).

The new oil is scientifically blended and any amateur additives are liable to upset the balance.

This little rule cancels out the hectic footnote to Training Circular 32 which Washington requested us to print in our issue of May, 1942. (It's that red insert entitled 'SCOOP.')

In it, Washington told us to tell you to add 10% of kerosene to the new oil in zero-weather operation to guarantee 'flowability.'

But that's out now. Recent tests in laboratories have proved that the new oil will flow and behave 'til hell or a reasonable facsimile freezes over.

There's no exceptions then,

to the rule: Don't add anything - patent medicines or whatnot — to the new oil.

Just to show you how the new oil cuts down sludging, take a look at the crankshaft pictures in Figures 1 and 2. The engine used in the test was first run with regular, high-grade engine oil — and came out with the shaft blanketed with sludge (Fig. 1). Then it was cleaned and run the same way with the new oil — and came out pure as the driven snow.

In Figures 3 and 4 you see the before-and-after condition of the valve side-plate in the same two test-runs. With the regular oil, the plate took on a coating as thick as the one on your tongue Sunday morning, not to mention a lacquer-like deposit. With All-Purpose engine oil, the plate stayed almost as slick and clean as daddy's bald head.

The pistons and rings reap special benefit from the detergent or cleaning action of the new All-Purpose oil. Look at the pictures of the pistons and rings after the tests (Figs. 5 and 6).

After a run with regular oil, the pistons look like they got hit with the bottom of a bird cage. They're heavily coated with varnish and the slots in the oil ring are clogged up with coarse sludge — all of which caused a jump in oil consumption.

But after a run with the new oil, the pistons are bright as cheap jewelry and the oil rings are free from sludge and gum.

Because the new All-Purpose oil has a detergent action which cleans and loosens up the sludge deposits in the engine, it's pretty important to follow the procedure outlined in TC 32 in changing over from your regular oil.

The sludge loosens and flows down to the crankcase. You've got to get rid of it by draining and cleaning the crankcase, by changing oil filters, cleaning oil screens, side plates, etc., as directed.

Once the engine is clean, the new oil will keep it clean - except, of course, under such abnormal operating conditions as cold weather, excessive idling, and cases where the engine is fed too rich a fuel mixture. These conditions produce 'fuel soot' which gets into the oil and forms sludge - especially if there's water in the crankcase. No oil can prevent trouble of this sort.

Perhaps you've been in the habit of checking the condition of your oil by picking it up and staring at it. If it looks too dirty to your bulging eye, you change it.

This dubious practice won't work with the new oil.

It carries the tars and tiny carbon particles in solution; and even if you look at it after it's been in the engine only a few hours, it still looks black.

To your old way of judging it looks dirty - but it's not.

The new oil forms less tar than regular oil - what little it does form is carried in suspension.

So don't be afraid of the

dark appearance of the new oil - it's characteristic of detergent oil.

Although the new oil stands up better and lasts longer than our old oils, you'd better keep changing it at regular periods, to get rid of the dirt it collects.

Drain it often under severe conditions, or when engines are idled excessively in cold weather to get rid of water and soot in the crankcase and to avoid the danger of excess oil dilution.

The new oil has no bad effect on filters but some non-approved filters have a bad effect on the new oil. For instance, clay-type filters or filters with chemically-treated materials tend to remove the additives from All-Purpose oil. Use only approved military filters.

Some of you are going to become a little upset by what the new oil does to engine bearings - especially copper-lead bearings which take on a polished black appearance. But don't worry, it doesn't mean a thing. As long as no heavy, rough deposits form on the bearings, the queer color has no significance.

All oils procured under U.S. Army Specification 2-104A can be mixed together in any proportion with perfect safety. And in an emergency, straight mineral oil can also be mixed with them - but only in an emergency because straight mineral oil reduces the effectiveness of the new oils. Why? In the first place, the mineral oil may not be of the same high quality as the new

oil; in the second place, adding mineral oil cuts the percentage of additives present in the total amount of the oil.

So as soon as possible after that emergency - if you added a large quantity of straight mineral oil to the All-Purpose oil - drain and refill.

Don't mix strange diesel oils (not procured under Spec. 2-104A) with the new All-Purpose oil. Some of the earlier detergent diesel oils were highly corrosive to copper-lead and cadmium-alloy bearings. They eat little bearings.

Since you may be putting the new All-Purpose oil into engines that have seen long service with the old type of oil and so have thick deposits of sludge lying around, and since the new oil will loosen these deposits, you'll have to beware of the torrents of sludge clogging up oil screens and oil lines.

Your initial changeover procedure as outlined in TC 32 should remove most of the danger from this condition - still it won't hurt to keep your weather-eye peeled on the oil-pressure gage. Watch it for sudden drops.

And watch those oil filter elements - change 'em when they need changing.

Do your part and leave the rest to the new All-Purpose engine oil. It's the finest lubricant in the world and is guaranteed to do everything to cut down engine troubles that an oil can do.

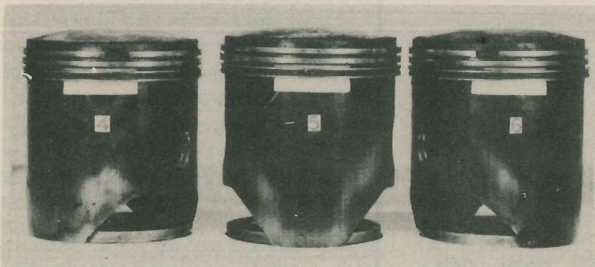


Fig. 5 - Pistons run with regular oil have sludged-up skirts and clogged ring-lands.

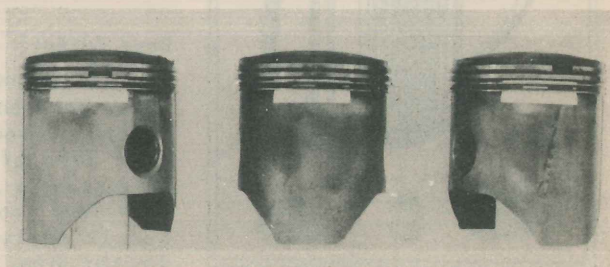


Fig. 6 - The new All-Purpose oil leaves the pistons and rings clean as an elk's tooth.



CONTRIBUTIONS

Got a good idea? Have you invented something lately? Got a gripe? Jot it down and shoot it along to the Army Motors. Maybe you've solved a problem everybody else is worrying about. Pass it along to us and we'll buck the news to the rest of the boys in the field. You'll get a personal subscription to the Army Motors if we like your idea - you lucky stiff.

Dear Editor:

When bleeding brakes in the field without a brake-bleeding pressure tank, you've got an operation that can easily run into work. You must get another man to pump the brake pedal, and you have to be sure to keep the master-cylinder reservoir full so you won't pump more air into the system, and have to bleed it again. Experience taught us.

When I found a discarded fire extinguisher on our scrap pile, it gave me an idea for a pressure-bleeder that could be carried about in a repair truck, so I went to work on the scheme. I got a pressure gage from an old, field gas-line-range, and soldered it and an inner-tube valve-stem

into the filler cap of the extinguisher.

For the fluid outlet pipe I ran some 1/4" copper tubing from the top to within 2" of the bottom of the tank, with an elbow pipe-fitting soldered at the top of the tube and on the outside of the tank.

A 7-foot length of hose with a radiator shut-off cock in the middle is fitted to the elbow on the tank. A fitting at the other end of the hose screws on the fittings soldered into the master-cylinder filler plugs. I used a master-cylinder filler-plug for each type of cylinder, so the tank could be used on any vehicle.

I have used the bleeder for some time, and find it is a real time-saver.

Sgt. Robert H. Fortin
Ser. Co., 5th Infantry
A.P.O. #833
(Address not on letter)

Ed. Note: If you use an extinguisher or any other old tank for this purpose, be mighty careful how much pressure you put in it. A bomb hasn't got anything a weak tank ain't got, if it explodes.

Dear Editor:

If you ever tried to hit a low note on a trombone in a telephone booth, you'll have some idea of the difficulty of getting a loaded grease gun in a Jeep tool-box. When the gun is empty you can get it in the box with some persuasion, but when it's full of grease, well, that's something else again.

Here's our idea, which is presented as much to win a subscription to Army Motors as to simplify the life of a Jeep driver: Fasten a couple straps to the front (inner side) of the dash-board, strap the grease gun to them, and there it is - safe, secure, and out of sight.

Lt. William B. Taber, 3d.
27th Inf. Tr. Battalion
Camp Croft, S. C.

Shifting wheels from front to rear on the 3/4 ton Weapons Carrier can lead to brake trouble with a capital "T".

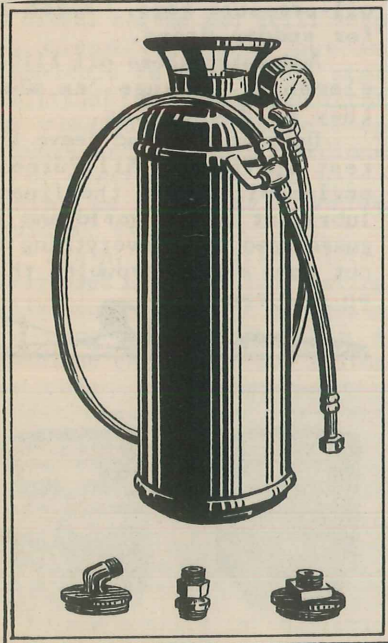
We had four of these vehicles with dancing brake pedals and erratic brakes, and after a long search found that the wheel rotating operation was the indirect cause.

The wheels fit much closer to the edge of the drum on the rear than they do on the front. So when the front wheels have balancing weights on them on the inside of the rim - and are shifted to the rear, the balancing weight is wedged against the drum, forcing it out-of-round.

Either cutting down the weights, or redesigning them would be my idea of the best solution of the trouble.

Yours very truly,
Alfred W. Kennedy
Civilian Mechanic
Fort Williams, Me.

This may be the answer to a lot of erratic-brake complaints we've been getting from the field. ED.



Sergeant Fortin's clever, brake-bleeding tank, made from a fire extinguisher.

Dear Editor:

We've been finding grease leaks at the four holes in the axle housings, on some of our Jeeps, where the differential-bearing cap-screws go. Since there are several threads left at the end of these stud holes, I have been making studs from bolts of the same size, slotting them for a screwdriver, covering them with permatex, and screwing them in the holes to stop the grease. It works for me - so it should work for others.

1st Lt. Robert S. Vogt
169th Inf., Camp Shelby, Miss.
(Corporal Connie Rodd has a few other angles on this subject on page 167. Ed.)

Dear Sir:

Here's a few tips I picked up about curing oil-pressure troubles on our fleet of CCKWX-353 2-1/2 ton GMC's while separated from my organization and with no 3rd echelon shop to tell my troubles to. Maybe they'll help some other Motor Sergeant out of a fix.

For one thing, I found that when the oil-pressure gage fails to register, it doesn't always mean that the oil isn't circulating. And though I agree that the first thing to do when the gage needle drops is to cut the switch, sometimes a check-up shows that an easy repair will bring the truck in under its own power.

Once I found that an accumulation of sludge and rust on the inside of the oil gage had kept the oil pressure from registering. The lead line itself was clogged in other cases. It's an angle that'll bear checking. When removing the gage or taking out the line for inspection it's always a good idea to disconnect the battery cable at the starter, so you won't get a short circuit under the dash. You can clean out the gage with a small sharpened stick and blow out the clogged line.

Sometimes the pump gears wear a path in the pump-body

cover, and the gage shows sub-normal oil pressure. You get the same thing from foreign matter blocking the screen or pickup line. In these cases I took the pump apart, cleaned it thoroughly, and then smoothed-up the cover with a hand-stone.

I learned these tricks the hard way and since they worked for me, I want to pass them on to someone else who may find himself out in the sticks all alone, and no oil pressure.

James R. Crawford, W.O.JG.,
45th QM Regt. Trk.
Camp John T. Knight
Oakland, Calif.

One Sergeant Kulzyth, down in Fort Benning has a great muscle saver. In fact it saves a couple sets of muscles, for with his device one man can install a transfer case with the greatest of ease whereas formerly it took three

or more men to get one struggled up without it.

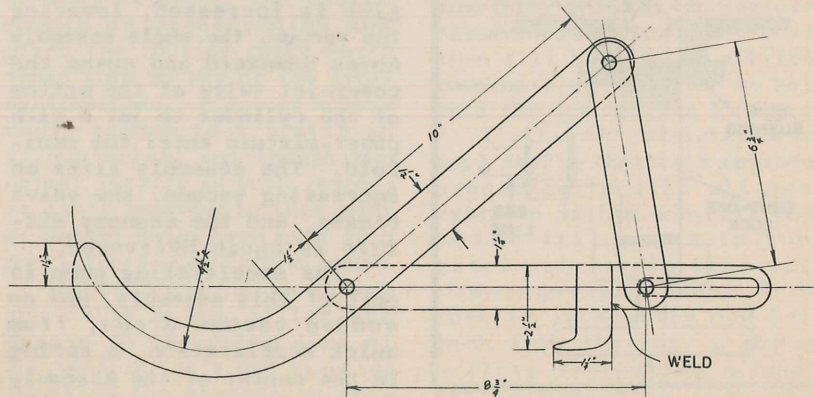
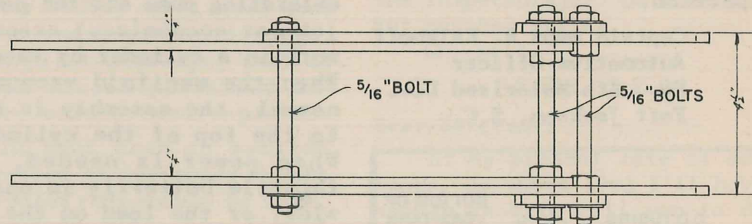
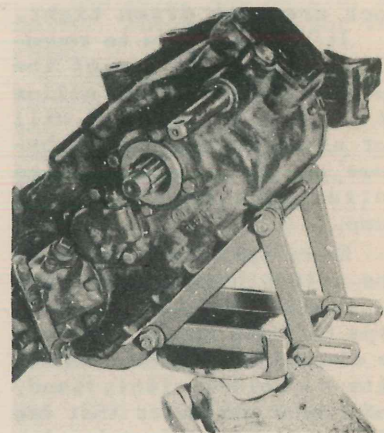
The cradle seen in the pictures and drawings is for the 2½-ton GMC, but cradles for the transfer cases on other vehicles can be made along the same lines.

Besides being handy and dandy in lugging heavy cases about and installing them, the cradle is a neat stand to hold cases in position while drilling out sheared studs, or doing other mechanical work on them.

Sergeant Kulzyth says that any good blacksmith can turn out the cradle in a very short time and at little expense. Just follow the simple directions.

For both transportation and elevation - it's tops.

X-Ray view of Sgt. Kulzyth's handy transfer-case cradle.



Dear Editor:

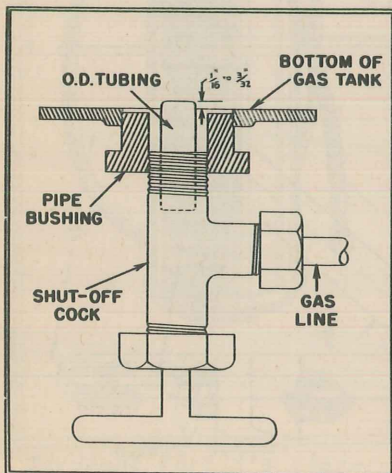
During the Carolina Maneuvers we solved a problem that might develop elsewhere at any time. On the GMC short-wheel-base trucks, and others that draw their fuel from the bottom of the tank, trash will collect over the inlet of the shut-off cock, and cause fuel stoppage. This is the way we cured it:

We drilled a 1/4" hole about 3/4" deep in the tank end of the cock. A piece of 1/4" O.D. copper tubing was sweated into the hole and cut off just long enough to project between 1/16" and 3/32" above the bottom of the tank when the reducer and the shut-off cock are both drawn tight.

It's a good idea to round-off or bevel the top of the tube so the splashing action of the gas in the tank will not allow the opening to become plugged. All foreign matter will fall into the sump.

Every 1,000 to 2,000 miles the entire bushing and cock assembly should be removed from the tank so the sump can be cleaned of the pine-needles, bits of solder, lint, sand, and rubber particles that are the usual yield from an inspection.

Captain Amos W. Kalkhoff
Automotive Officer
Hq., 8th Motorized Div.
Fort Jackson, S.C.



Self-cleaning gas pick-up.

Dear Ed:

I'd been hearing rumors about some of the Automotive Officers and Advisors having headaches with the 3/4-ton Dodge, Zenith carburetors. I was congratulating myself on the fact our ten 3/4-tonners were behaving themselves beautifully during the maneuvers — when the epidemic hit them too.

The first symptom was poor idle — or worse, no idle at all. After a few revolutions the engine would load up and die. It acted as if it were flooding from a leaky needle-and-seat, or from a punctured float.

It wouldn't accelerate, but acted lean — spit and stalled instead of getting away when we stepped on it. It showed a vacuum-gage reading of about 15 to 16 inches.

We couldn't find the trouble from the outside, for turning the idling screw had no effect on the dying out, and we couldn't see the discharge jet through the carburetor intake to tell if the accelerating pump was increasing the flow of gas. So we took the carburetor apart for inspection.

Then we saw it. The accelerating pump and the power-jet (or economizer) assembly work in a cylinder by vacuum. When the manifold vacuum is normal, the assembly is held to the top of the cylinder. When power is needed, the throttle butterfly is opened wide, or the load on the engine is increased, lowering the vacuum, the whole assembly moves downward and opens the power-jet valve at the bottom of the cylinder to let a rich power-mixture enter the manifold. The assembly lifts on increasing vacuum, the valve closes, and the economy mixture is again delivered.

The accelerating pump is part of this assembly, and on sudden vacuum-drops, from quick acceleration, a spring in the center of the assembly forces the lower part of the assembly (the pump piston)

downward, discharging the gasoline into the main discharge tube.

The action of the assembly is very delicately balanced, and when anything gums or clogs the jets and parts, motor performance goes to the dogs. It was in this accelerating pump and economizer assembly that we found the trouble. Grit and gum had got into the assembly, causing it to become scored and sticky.

We cured the trouble by dissolving the gum with solvent and polishing the cylinder and assembly lightly with metal polish — or with crocus cloth when the score ridges were rough.

If you try my remedy, remember to clean the fuel-pump bowl and the gasoline filter before you put the carburetor on again so it won't fill up with trash again.

Once it's on the engine you can't tell whether the accelerating pump is working properly or not. You can't see the discharge spray, and you can't hear it work with the engine stopped — because it works by vacuum. So by bumping two Motor Sergeants' heads together we devised a test for checking it before re-installing the carburetor. Here it is if you want to try it:

Remove the two, long fuel-bowl screws at either side of the bowl, and lift out the cover and all the working parts. Take this much of the carburetor to another truck and with its engine idling hold the windshield-wiper hose to the vacuum passage that comes down the front of the carburetor from the top. Then remove the hose quickly — the pump should shoot out a charge of gas. Do this several times until you're sure it's working okay before returning it to the truck.

Don H. Holbrook
Automotive Advisor
2nd F.A. Observation Bn.
APO 308
Leesville, La.

Sgt. "HALF-MAST" McCANICK'S

Question Dept.



Dear Half-Mast,

We're all ajitter. At least we're all ajitter when we let the clutch out in low gear on our Ford 6-cylinder staff car. It has 12,000 miles on it, and chatters like a chimpanzee when starting in low or reverse. In shifting to second and high it isn't noticeable.

So far, all we've done is look for an adjustment on the clutch, thinking the fingers might be uneven — thereby allowing the pressure plate to engage the clutch plate at an angle.

We figured this problem would be peaches and cream to an old wrench hand like yourself. What's the score?

S-Sgt. W.A.S.

Dear Sergeant,

I've never had much luck stopping clutch chatter with outside adjustments, in most cases it calls for a complete clutch overhaul to really get the job done. Along about 1933 we had an exception to this, when most all manufacturers were experimenting with soft motor-mounts. Mechanics all over the country tore out clutches by the armloads, made adjustments, and then put them back together, only to find the chatter was still there. The trouble was in the motor mounts, which had to be replaced or adjusted to stiffen them. Sloppy mounts can still cause clutch chatter, so should

be included in an inspection.

There is an inspection cover in the top of the clutch housing on the Ford 6, and you might take a gander through it to see if any grease or other foreign material is gumming up the works. But it is next to impossible to get a decent clutch-finger adjustment on any modern car, without removing the assembly, and checking it on a jig. Any other operation can come under the heading of 'time wasted', in nine cases out of ten.

Certain other troubles besides loose motor-mounts, grease or gum in the clutch, and uneven adjustment of the clutch fingers, can cause chatter. They are: loose rear radius-rods, glazed linings, loose pilot-bearings, weak or broken clutch-plate and unevenly worn pressure-plates.

In your case an outside inspection of the motor mounts and radius rods should be made. If they're okay, the clutch should be disassembled and given the routine check which would turn up any of the other difficulties. A lot of things could happen to a clutch in 12,000 miles, and though the normal service is much longer, it isn't improbable that wear or damage could have made this one jittery — at this mileage.

Since a chattering clutch can cause a lot of fatigue damage to the drive line of the vehicle, it's bad practice to allow the chatter to continue.

Give 'er the works — and you won't be sorry.

Half Mast

Dear Half-Mast:

Now I don't want to crab or anything, but I can't see why the manufacturers can't get together with their inspectors on the amount of lubricant they want put in transfer cases, differentials, and transmissions.

Just to show you I know what each unit on every type truck is supposed to hold, I'm going to give you the manufacturers' lube recommendations on every unit in the army.

(ED.NOTE: And he did, by golly! But we ain't got the room).

That's what the manufacturers say, and that's what we put in. But what do you think the inspectors do? They hop in the trucks, dash up and down the motor park for a half-hour, and drain all the expanded lube that will run out the oil-level hole when the truck's on level ground.

Then they say, 'See...you put in too much oil'.

What are we supposed to do? Fill it to the hole, then drive 'em and drain 'em (like the inspectors)? Or have you got another system.

Oh, me!!

S/Sgt. J.F.O.

Dear Sergeant:

At my present rate of advance, by about 1992 I'll have enough rank to tell you to do something when the manufacturer recommends not to do it. Until then I'll have to do a little compromising in order to hold onto the few stripes I've got.

I've heard, (strictly hearsay, see!), that it's approved procedure to fill all gear cases to within one-half inch of the filler (or in some cases oil-level) hole with room-temperature lube. To be sure it is exactly one-half inch from the top, a lot of outfits are making a handy little dip-stick from odds and ends of welding rods or

other sturdy wire. One such gage was illustrated on page 93 of the June Army Motors.

Half Mast

Dear Half-Mast,

We have changed some of our trucks that were originally equipped with duals to run with *single* rear wheels. We did it merely by taking off the outer duals and using the inner wheels in their usual position.

Here's another thing I'd like to do, but some of the mechanics feel that it would place too much strain on the wheel bearings: I want to turn the inner dual around, giving the truck a wider track, so it won't turn over so easily.

How about it?

St. Sgt. L. W.

Dear Sarge,

If your trucks are running around practically empty, and promise never to run into tough going or big loads — then your scheme of using one dual on each side and reversed to give you more track — would likely be harmless. But it's pretty hard to say what a truck will be used for in an emergency, and a big load or a rough trip could, as your mechanics say, play hob with the wheel bearings.

Rear-axle bearings are designed to carry a given share of the load placed on the dual wheels. On some types, the inner wheel-bearing carries about 60% of the load, while the outer bearing carries about 40% of the load (assuming that the road surface is flat and the dual tires are correctly inflated).

With this in mind, let's make a little test — let's deflate the inner tire on each side. What happens? Well, as far as the bearing load is concerned, you get the same effect as removing one wheel. *All the weight is thrown onto the outer wheel — and the outer bearing is struggling*

along under a load FOUR times its rated capacity.

Look at it from a leverage standpoint. Take a pry bar — the farther out you get, the more leverage you get. The same holds true when you move wheels out on the axle. The farther away from the load you go, the more you increase the 'bending moment'.

Speaking mathematically (woo-woo!), the measurement from the edge of the rear spring to the center point between the dual tires is 10 inches. The bending moment then, in inch-pounds in the axle housing at the spring mounting, is the load $W \times 10$, (the weight being equally distributed between the two dual tires).

But when all the weight is tossed to the outer dual by deflating or removing the inner dual — the distance increases to the center of the outer tire, the bending moment becomes $W \times 15$, or 50% more than normal.

What do you get for your trouble? Increased deflection of the axle housing, and in the case of a shock load, like dropping off a high curb, maybe a permanent set in the axle housing.

So I guess you can see why they aren't so hot about changing wheels around in the field. You get away with it today — tomorrow you get trouble.

Half Mast

Dear Half-Mast,

The 1942 Jeep is giving us a lot of trouble with valve-spring breakage. Spring No. 1 and spring No. 8 are always breaking, and no one can figure out why they do so. Can you tell us what is causing it, and what to do to cure it?

And another thing, what makes the transfer case rattle so much at high speed?

Pvt. R.C.

Dear Private,

The only reason for No. 1

and No. 8 valve spring breaking, that I can think of, is the fact that their position in the ends of the block might allow them to accumulate more sludge and moisture. Clean up the broken valve springs and examine their surface closely with a magnifying glass. You will probably find some rust-pits or signs of acid etching. That is the usual cause of breakage. Order a complete set of valve springs for the vehicle, and install them, for they are now cadmium plated, and resist the action of acid and oxidation. Be sure to install the closed coils up against the block, with the open coils fitted to the retainer.

Your question about the transfer case rattle is too brief for me to be certain what the trouble — if any — may be. If the rattle is the natural noise in the gears from the taking up of tolerances in the drive line as different types of terrain are encountered by the various wheels — it's to be expected. The best bet to be certain — is to check several trucks of the same model over the same road and compare the sound in each. If one transfer case is much noisier than the others — and there is a possibility of a bad bearing or other faulty part — it should be taken down for examination.

Half Mast

Dear Half-Mast,

Over here in Australia we sometimes have to make our own fix — and quick — when we have trouble with a vehicle. This is the way we cured the trouble mentioned in your May Questions-and-Answers column about the rear main-shaft-extension bearing burning out on Chevy trucks. Since they weren't getting sufficient lubrication from the gear grease in the case, we decided to lubricate them ourselves, with a grease gun. So we drilled and tapped

a hole in the bearing-retainer-casting (the casting around the main shaft-extension) just to one side of the vent, directly above the bearing lock sleeve, and then drill out a slot in the bearing lock sleeve, slanting towards the extension-shaft bearing.

With the assistance of my QM buddy, who like myself attended school at Holabird last year, we went to his trusty lathe and whipped out a five-inch extension tube with threads to fit the tapped portion of the retainer — on one end — and to take a zerk fitting at the other.

Now we are able to take an ordinary grease gun filled with gear lube — and give the bearing a weekly drink. There are possibly other ways of getting grease to this bearing — but this seems to me to be a very simple expedient that anyone in the field could accomplish. And since we have put this system to work there have been no more galled bearings and shafts burned blue.

We considered putting a seal back of the lock sleeve to hold the grease in the bearing, and still to allow the vent to work. But here in Australia seals are hard to get. (Spot it Sarge?)

Well, that's all Sarge, 'til the next time.

Cpl. W.M.H.

P.S. (Not for publication) Listen Sarge - have you hoisted any beer at _____, or _____, or _____ (certain nite spots in Baltimore) lately?

Dear Corporal:

If you fellows learned to use your head like you did on that bearing lubrication job - in school here - it certainly wasn't time wasted while you were skinning your knuckles down in the shop.

Give me one good mechanic who uses his head — and I'll trade 10 'assemblymen' and a check for a short beer for him.

The manufacturer of this transfer case has been tracing

down all these complaints of burned-out bearings on the main shaft, and they say that in every case — so far — they have found the trouble to be from rain water, wash water, dirt, or from condensation forming in the bearing-retainer housing. They think some of it comes in through the breather. To correct the condensation they advise bolting a protective shield to the case that will keep out water. And when washing the truck, always to protect the breather somehow, so water won't squirt in. If that's what is bothering your cases, just take them apart and clean them.

If lack of lubrication to the rear bearing is actually the cause of the trouble on your vehicles — I'd say your repair is as simple and practical as any the man in the field could make.

Half Mast

P.S. You won't see me in any of them hot spots, Corporal. Not with you in Australia — you won't.



Dear Half-Mast:

Sorry that my first letter has to be a request for information, for I should have written some time ago thanking you for your fine publication, and telling you how much I have enjoyed reading it.

But my staff is a little disturbed regarding your article in the June issue suggesting a weekly check of the Hydro-Vac air cleaners. While it's true the check can be easily made on the Chevs and GMC, long-wheel-base trucks, on the GMC short-wheel-base truck it's a tough one. You

have to move the front 'U' bolt on the bed to get at it. Do you know an easier way to do it, or maybe get the factory to change the arrangement of this particular truck?

Here is the trouble-maker in our 3/4 ton, 4 x 4, ambulances. The standard wood litter will not fit into the left-front-upper bracket, due to the spare-wheel housing and litter making contact. We hear that the bracket was built to fit a new type aluminum litter which is not now being made. Something ought to be done about this one litter-bracket or the ambulance will hold only three litters, when it should carry four.

Major N.C.T.

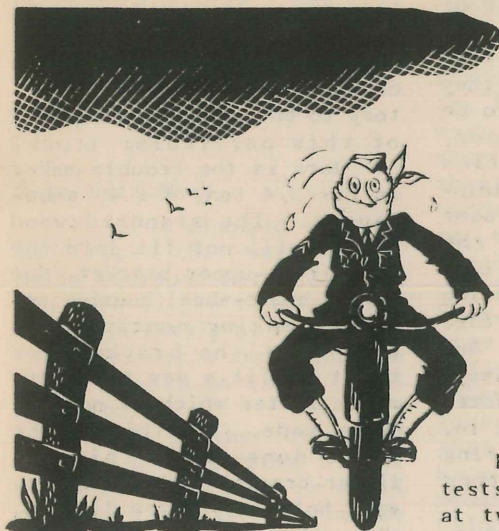
Dear Major:

Don't apologize for asking questions. Remember what Steinmetz said when they posted a NO SMOKING sign over his bench in the laboratory? He shifted his cigar in the corner of his mouth, and said, 'No smoking, no Steinmetz.' Likewise, no questions, no Half-Mast.

We hadn't checked the short GMC when we said how easy it is to clean the Hydro-Vac air cleaner and it looks like you've got something there. I'm right now shooting word to GMC, and will let you know what they say about moving the U-bolt which is the only solution I can see, short of relocating the cleaner.

The ambulance litter bracket on the 3/4-ton, as you say, is in a bad spot. The factory has started sending out information to Motor Officers so they can change the bracket on vehicles with a delivery date prior to 8/1/42. The rest of the dope on this angle, and some helpful information on the moving of seats in the 3/4-ton weapons carrier to get more leg room will be found in Connie's department, page 168, column 2.

Half Mast



Motorcycle SUPPRESSION

*Suppressors on motorcycles
will stifle radio static.*

However, after extensive tests which included grimaces at twenty paces, suppression won out (with some shielding used), and that, God willing, is what you can expect on chain-drive motorcycles in the near future.

The shielding system which you may have observed on some 2000 experimental shaft-drive Harley-Davidson and Indian motorcycles now in the field, doesn't count. Like the shaft-drive itself, the system was experimental. If and when the shaft-drives go into all-out production, suppression will be used.

For each of the Army's two makes of chain-drive motorcycles, — Harley-Davidson and Indian — an individual system of suppression is used. Differences in motorcycle design make this necessary.

However, both systems include the use of flexible, copper-braid *bonds* to route annoying noises to ground; *condensers* which iron out static-making electrical currents; and *resistor-suppressors* - little bakelite-encased carbon resistances which eat up wild currents running along the ignition wires.

And both, in the words of our enthusiastic correspondents in the field, are *tres, tres* good.

On the Harley-Davidson, the following suppression system will be used:

The coil is inclosed in a metal shield (box) and grounded by flexible-braid bonds

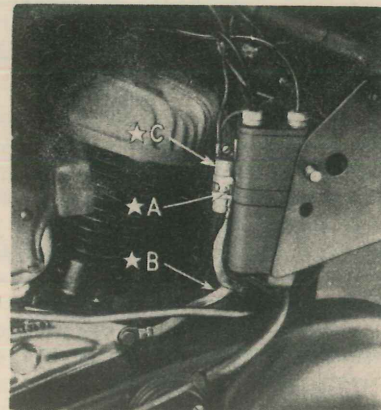
(the ground terminals of the coil are attached to a metal strip soldered to the coil housing - a bond leads from this to ground).

There's a condenser on the coil.

The low-tension wire from the breaker to the coil is shielded with a metal jacket grounded at both ends.

Suppressors are attached to the ends of the sparkplug wires (they snap on to the plug terminals).

There's a condenser connected to one of the signal lamp terminals — the other terminal is grounded to switch panel base; there's a condenser connected to each relay front terminal, and a condenser mounted on the generator. (The end terminal of this condenser is connected to the RELAY terminal of the generator by a short wire).



The condenser on the shielded coil of the Harley. Note braided bond running to ground.

THERE are two ways of suppressing motorcycles. The first way is to take and hit the driver over the head. The second way is to sprinkle devices called resistor-suppressors, bonds, and shields over the cycle.

We're talking, of course, about suppressing electrical noises which spit out from places like the ignition system, etc. and static-up and otherwise interfere with communication on nearby radios.

For the past two months we've been barking about suppressing such interference on trucks — but now we discover that the Signal Corps doesn't intend to stop there. Everything's getting suppressed: trucks are, motorcycles are about to be.

We even hear that the noises made by our old sergeant spitting through his front teeth will be suppressed.

It all adds up to clear and static-free communication by radio — which we all cheerfully admit, is a good thing.

At first there were two schools of thought on the subject. One school favored *shielding* — the system of metal-encasing parts that throw out electrical impulses. The other school promoted *suppression* - the system of by-passing and filtering out blameworthy electrical impulses.



As you may have noticed, the above system puts a damper on four separate and distinct sources of noise. First, the bonding takes care of loose, moving parts which either generate static electricity by rubbing together or else pick up electrical impulses from other places and radiate them off as interference...

Second, the condensers take care of the noises from the generating system by smoothing the rising and falling current that comes out of the generator...

Third, a couple of the condensers and the resistor-suppressors take care of interference from the ignition system...

And fourth, the braided-wire shield imprisons noise-making impulses within the wire of the low-tension circuit.

(If you noticed all that, step right up — we'd like to shake your hand).

On the Indian, you've got a slightly different story following along the same principles: There are *three resistor-suppressors*, two at the spark plugs and one at the distributor...

There are *two condensers*, one at the battery terminal of the coil to ground, the other in the generator primary circuit.

The spark plugs are *shielded*...

The distributor is *bonded* to the engine block...

Shake proof washers are used under the coil bracket and the condensers.

That's all there is to it.

Concerning unsuppressed machines already in the field, we hear that crews will be sent out to take care of them. New motorcycles coming off the production lines will have the suppression devices built in.

As far as maintenance goes, the whole system is simple and compared to the suppression system on trucks, is ridiculously easy.

Here's the maintenance program in a nutshell:

BONDS - Keep 'em clean and in good condition, see that the points of contact are tight, and free from rust and dirt. (If an accident or something requires that you get a loose metal part replaced, see that the bonds are put back exactly as they were before).

CONDENSERS — Be sure they're clean and tight at their mounting locations.

RESISTOR-SUPPRESSORS — See that they're clean, dry and tight where they cut into the spark plug wires or distributor. If cracked, broken or scorched, replace them — don't try to repair them, it doesn't work. (That goes for everything in your suppression system).

SHIELDS — These, as we have already said, are simply braided-metal jackets over the length of the wire. See that the jacket is unbroken and in good condition, see that the connection, at both ends of the wire, is tight.

Checking suppression is child's play. There are two kinds of checking. One, you check to see if the suppressors are suppressing noises: Simply post somebody at a nearby radio and substitute a new suppressor for the suppressor you think is bad.* If the interference is removed, the replaced suppressor was the bad one.

Two, you check to see if the suppressors are interfering with the operation of your motorcycle: As above, you simply substitute a new suppressor for the suspected one. If the trouble is removed, you have discovered the bad one.

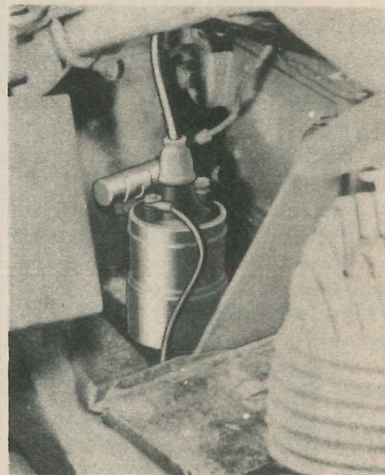
It's a process of trial and error in both cases. Go over the gadgets substituting new ones for old — presently you will stumble over the troublemaker.

Having a deep understanding of human nature, we know that you will view your new suppression devices with mistrust and low regard. But let us inform you right off, Roscoe, that the suppressors are 99 44/100% innocent of all the crimes you will try to pin on them.

In the first place, prolonged laboratory and dynamometer tests show that suppressors steal no power or performance away from motorcycles. In the second place, don't blame the suppressors for every little thing that happens. Statistics show it's usually a bad spot somewhere else in the electrical system that causes trouble. A high-resistance or a short-circuit will cause radio interference and affect engine performance.

Look for bad electrical spots before checking your suppressors.

But in any case, remember the simple slogan, 'Keep 'em clean, keep 'em dry, keep 'em tight,' and the odds are eight to five, you'll never have trouble with suppressors.



The condenser on the coil primary lead of the Indian model-741 motorcycle.



*Don't forget to run the engine, Jack — you need it to create static; and stop it while you're changing suppressors, these cycles are air-cooled you know.

CONNIE RODD

Continued from page 168

of the ambulance body, the spare-wheel housing interferes with the left-front leg of the litter.

To fix this, Fargo has worked up a replacement bracket. This new bracket will stick out five inches more toward the center of the body and the litter, when hung on it, will jut out at an angle.

Everything is jake now except that the handle at the other end of the litter won't bump up against the little rubber bumper put on the rear door of the ambulance for just that purpose.

So, in addition to the new bracket, Fargo has included in the parts package, a round wooden bumper, three inches in diameter, to replace the 1-1/2-inch rubber bumper. As a matter of fact, they've included two of these bumpers - one for each door.

Installing the new bracket and the bumpers is pretty easy because you use the same attaching screws and mounting positions as the old parts used. Furthermore, the new parts come already painted. To make the installations, all you've got to do is take off the spare wheel, remove the old bracket and put in the new - then replace the spare wheel. And of course, replace the rubber bumper with the wooden bumper. You'll find instructions with the parts. ORDER THE PARTS PACKAGE BY NO. 1056054 (not part Nos. below - they're for reference).

One No. 930656 left, front litter bracket - olive drab.

Two No. 930670 litter-pole door bumper - olive drab.

Two No. 162747 litter-pole door-bumper screws.

Remember now, only ambulances delivered before August 1st need this replacement.

To get this parts package, again write to Fargo Motor Corp., 7900 Joseph Campau, Detroit, Michigan, and include the following information:

1. USA registration No.

of each vehicle.

2. Factory serial No.
3. Delivery date of the vehicle.
4. Name of organization to which vehicles are assigned.
5. Name and address of post and any special shipping instructions.

P.S. If you are outside the boundaries of the continental United States, direct your orders for these parts for either or both vehicles to your Port of Embarkation.

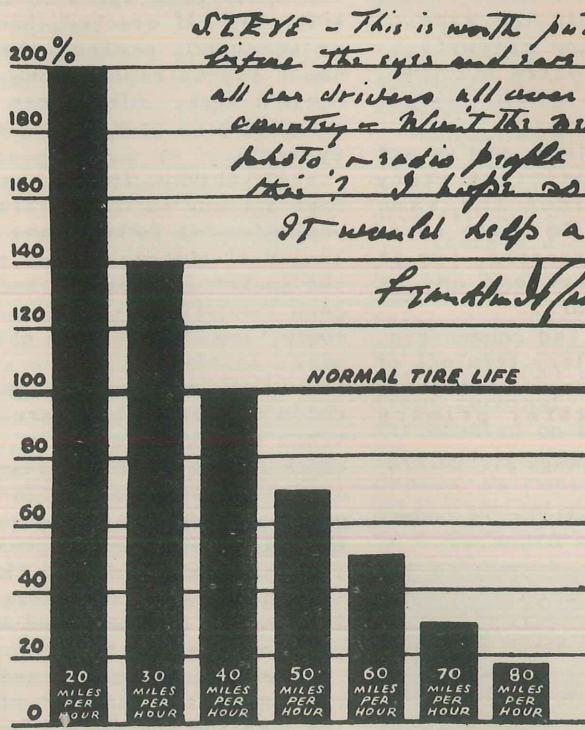
Our Cover

Every driver in every truck, tank and half-track in the U.S. Army is supposed to have a personal copy of the 'Driver's Manual.' That's a fact. So if you've been overlooked, or are just too lazy to ask for a copy, now's the time.

Sixty thousand copies will be ready after October 13th waiting for your commander to order yours from the AGO through Service Command Headquarters.

THE NEW YORK TIMES. SU

THE PRESIDENT ASKS YOU TO STUDY THIS
TIRE WEAR VS. CAR SPEED



STEVE - This is worth putting before the eyes and ears of all car drivers all over the country - Won't the news, photo, & radio people do this? I hope so - It would help a lot.
Franklin D. Roosevelt

EXPECTED TIRE LIFE

Reproduction from the interim report of tires and treads, prepared by the Society of Automotive Engineers board. Note the Chief Executive's message to Secretary Early asking that wide publicity be given the chart. The New York Times

Text of the President's note to White House Secretary Steve Early is: *STEVE - This is worth putting before the eyes and ears of all car drivers all over the country - Won't the news, photo & radio people do this? I hope so - it would help a lot.*

News Flashes

WASHINGTON, AUGUST 24 - Change No. 1 in AR 850-5 authorizes organizations (companies, squadrons, etc.) to design a distinctive insignia and decorate trucks and operating equipment with same. Something like the cartoon figures or monograms that Walt Disney has made up for other Arms and Services. Your proposed design (either a description or a sketch) must be submitted for approval to the Commanding Generals, Army Ground Forces, Army Air Forces or Services of Supply (whichever's your boss). If your outfit doesn't have an artist handy, send your idea for an insignia to The Quartermaster General's Office - they'll help you prepare it.

HOLABIRD ORDNANCE MOTOR BASE, SEPTEMBER 18 - New T/O 9-8 just approved, gives details of new, Ordnance Light-Maintenance Company for triangular divisions. New company will service combat vehicles, artillery and small arms, as well as motor-transport vehicles. It will displace former QM maintenance platoon and Ordnance section in triangular divisions.

WASHINGTON, D.C., JULY 24 - Maintenance organizations, wondering where to send the bill for an overhaul job on a CCC truck, or how to collect for a batch of new radiators put in those tractors for the Alaska Highway Commission, will find all the answers in OQMG circular letter #303.

WASHINGTON, D.C., JULY 24. Complete instructions for repair, communications, paper work, and movement of vehicles to or from all motor-pools, are contained in OQMG circular letter #306 released this date.

TECHNICAL SERVICE DIVISION, HOLABIRD ORDNANCE MOTOR BASE, SEPTEMBER 20 - Section 7, or Change No. 1, to the Motor Repair Shop Manual was mailed from this Division today to all known users of the Manual. Persons who have the Manual, but did not receive Change No. 1, are advised to request a copy from this Division.

SOMEWHERE IN THE U.S. JULY 22 (PERSONAL TO MR. HUGH MILLER). Our mail and records department forgets to look for return addresses on letters before destroying the envelopes. What we mean is, your request for literature can't be filled until you tell us where you are. (That goes for the rest of you reading Hugh's personals). Put your address on the letter as well as the envelope.

Correction ★

Federal Stock Number given for Bendix Cleaner on page 136, August Army Motors was incorrect. The number should have been 51-S-4345.

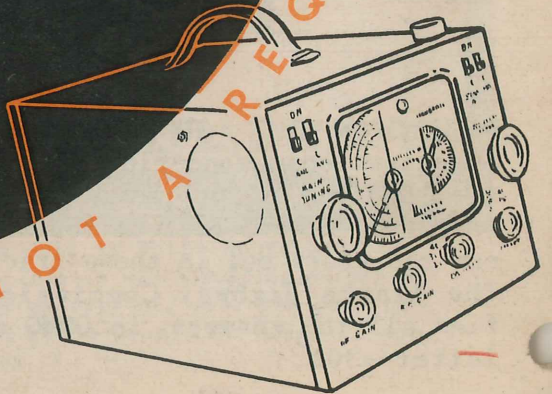
SEND A LETTER - NOT A REQUISITION

It's yours for the asking.
This beautiful radio.
If you are teaching the F-Course on
static suppression, the Signal Corps
will send you one absolutely free.
Nice of them isn't it?
But you can't really appreciate it
until you see it.

It's a dorb.
It's portable, well built, highly
sensitive and efficient. And it'll
squawk like a hungry parrot to show
your students a faulty suppressor
or poor bond contacts.

Are you sold?
Have your director write a letter
to the Signal Corps General Development
Laboratory, Fort Monmouth, Red Bank
New Jersey, attention of Captain
S. H. Levering.

Ask for the S-29 receiver.
Do it right away.
You'll be glad you did.



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