ARMY MOTORS

VOLUME-3 ★ JULY ★ 1942 ★ NUMBER-4

Steering Wheel

What are little trucks made of?
What are little trucks made of?
Steel and rubber, and a tarpaulin cover...
That's what little trucks are made of.

Horace Corn

Steel and rubber and tarpaulin cover - tough materials, put together tight enough to take the beating of military driving. With, of course, a limit to what they can stand.

Sure, you say, so what?

Well, we just thought we'd use it to introduce some criticisms and opinions held by certain characters in and around Motor Transport.

The characters are divided into two camps: The Pessimists and the Optimists.

The Pessimists -- the least important -- are mostly on the outside although plenty of them eat and sleep for the army. They are the guys who say, 'Motor Transport's vehicles are basically *commercial* vehicles and weren't built to stand the gaff of military driving.'

For some time now, we've been answering them this way: 'Of course, our vehicles are basically commercial. Our soldiers are basically civilian too — but we give them a uniform, a gun, and teach them some military tricks — and then we've got soldiers. In the same way, we take commercial truck designs, slap a layer of muscles on, give 'em four-wheel drive, a trick here, a trick there -- and we've got military trucks.

All the time reaping a harvest from existing production lines, without waiting to grow up. (May 15th we grew up -- witness the new 'strictly-military' 3/4-ton).

Sure, we've got little peanut troubles growing out of compromises we've had to make. But who was it once said, 'A good compromise is better than an impractical perfection?'*

Another Pessimist argument goes like this, 'There's not enough safety margin on your trucks -- they depend too much upon the drivers for maintenance.'

That is strictly a dirty crack. In the first place, how do you go about cutting down maintenance needs on trucks? By stopping production lines, redesigning, retooling, retesting? In a pig's eye! And in the second place, we don't know a better class of people for the maintenance job than our drivers. Of course, we realize there's negligence. Negligence - due to the influx of untrained personnel to Motor Transport - which, we know personally, is being rapidly swept away by an equally huge training program.

But the second group of clowns, the Optimists — ah, there's our meat — are heartily in favor of our trucks. They like 'em fine. 'Great stuff,' they say, 'Rough and tough - go anywhere, do anything'.

(Continued on page 103)

*Sergeant Half-Mast page 126.

ARMY MOTORS

for July 1942

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Ready For Issue!

Blackout DRIVING BEAM

Remember that Blackout Driving Beam we hailed to high heaven back in April?

It's ready for issue.

Selected by the gents who represent the various arms and services, it will be installed on all vehicles and make driving in blackouts a pleasure.

Come and get 'em lads - as we utter these very words, there are thousands of them lying in the following motor bases:

STOCKTON QM Motor Base, Stockton, California.

Schenectady Gen'l Depot, Schenectady, New York.

Holabird QM Motor Base, Baltimore, Maryland.

Fort Wayne QM Motor Supply Depot, Detroit, Michigan.

Order from your nearest base — except if you have motorcycles, or trucks with 12-volt systems. Blackout-driving beams for these two are available from Holabird only.

The parts you'll need to put the beams on all vehicles, are identical - except for the mounting brackets. For this reason, the beams have been put up in seven (7) kits. In other words, certain vehicles will take only the mounting bracket included in certain kits. Be sure you get the right kit for your vehicle. Our charts (next page) show what vehicles need what kits.

In ordering, state the number of the kit you need. The kits are numbered officially 1 to 7.

Just to be real nice about it, we'll outline what your requisition should contain:

(1) Number of kits (by kit number).

(2) The make, type, and USA Registration number of the vehicles to which the kits apply.

Here's a sample requisition:

100 B.O. Driving Light Kits #2 - Dodge 1/2 ton, 4x4, Reg. No. 24163-24262 inclusive.

When you finally get your good, old, blackout-driving lights, mount them on your particular vehicles as shown in our pictures. These mountings are official.

In every case, the light must be mounted on the left side of your truck, not less than 42 inches above the ground and as near the driver's line of vision as possible.

Paint the heads of the mounting bolts after installation to prevent reflection of the light.

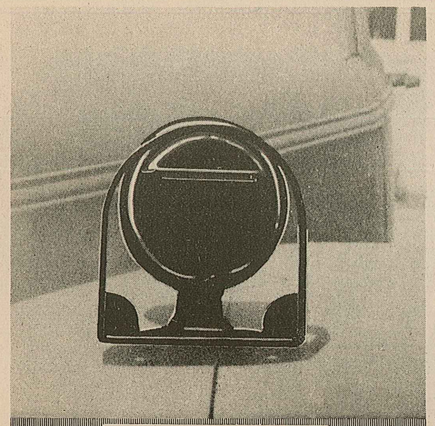
After mounting, aim the lamp — with the vehicle loaded and standing on a level surface - so that the beam it throws, points down 1° from horizontal. How do you know what's 1°? Stand a pole on the ground as close as possible to the lamp, draw a line on the pole where the bright spot hits it. Move the pole ten feet away - the bright spot should have traveled 2.1 inches down the pole.

Here's the way you make the electrical connection of the light:

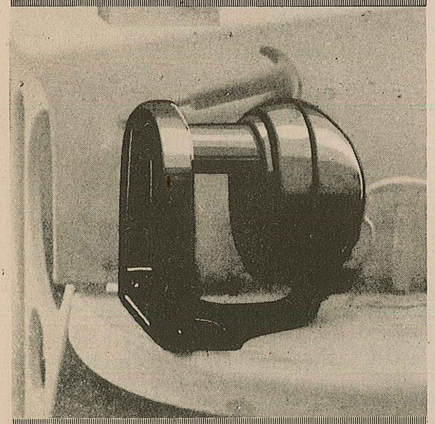
First of all, there's a switch ('auxiliary switch') supplied with each and every kit. Connect the lead from the lamp to one of the terminals of this switch. Then connect a short jumper from the other terminal of the switch to the terminal marked, 'BHT' on the regular light switch. That's all.

Your auxiliary switch, 'B.O. Drive' can be mounted below the instrument panel, but you'll do yourself a favor and get best results by drilling the panel and sticking it in there.

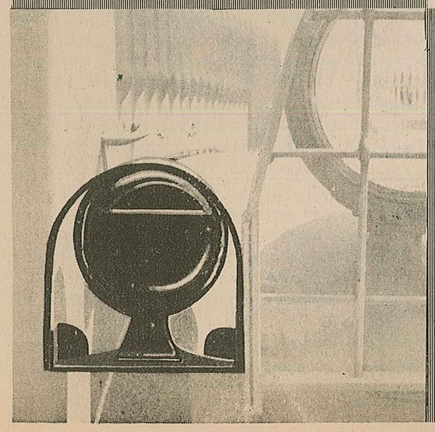
On the light for motorcycles (the Indian and the H.D. each take a different mounting bracket), the switch is mounted on the lamp housing



KIT NO. 1 ⬆
Passenger Cars

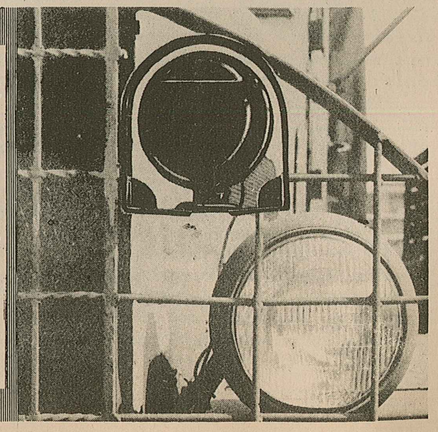


KIT NO. 1 ⬆
1/4-Ton 4x4



KIT NO. 1
Late Diamond T
4-Ton 6x6 ⬅

KIT NO. 1
Early Diamond T
4-Ton 6x6 Late
Corbitt & White
6-Ton 6x6 ➡



itself. All you have to do is connect the one lead coming out of the lamp body, to the 'BHT' terminal (blackout-marker-light circuit) of the cycle's ignition and light switch.

The kit for 12-volt vehicles has a 'resistor' in it. You can mount this resistor either on the panel or on the fire wall. Now make the connection this way: connect the lead from the lamp to one end of the resistor. Connect a short jumper from the other end of the resistor to one terminal of the B.O. Driving Lamp Switch. Connect another jumper from the other terminal of the B.O. lamp to the 'BHT' terminal of the regular light switch.

There's supposed to be a full set of instructions in each of the 7 different kits. But just on the off chance that you'll lose them, we have given you all the information you need to install the lamp on any vehicle. Our pictures complete the story. Notice that you have to cut the grill work to mount the beam on the early Diamond T, 4-ton, 6x6; and late Corbitt and White 6-ton, 6x6. Also, on the 1/4-tons, you have to move the hood hook back so that it sets behind the lamp.

Okay, guys, go get your lamps.

TABLES SHOWING WHAT VEHICLES TAKE WHAT KITS

Kit No. 1

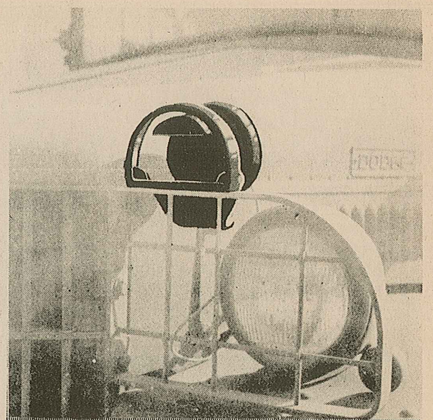
Ford	Sedan	W-111112	W-120495
Chevrolet	5-Passenger Sedan	W-11832	W-12091
Chevrolet	5-Passenger Sedan	W-12092	W-12124
Chevrolet	Standard Sedans	W-1310	W-1374
Chevrolet	Passenger Cars	W-16954	W-18032
Corbitt	6-ton, 6x6, Prime Mover for 3 AA gun	W-51110	W-51312
		W-51561	W-51760
		W-52648	W-52747
Diamond T	4; ton 6x6 Cargo	W-417678	W-418653
		W-001310	W-001331
		W-457477	W-458854
		W-003115	W-003621
		W-458855	W-459000
		W-461194	W-461768
		W-482049	W-482398
		W-004145	W-004269
		W-482399	W-482417
		W-486348	W-486897
		W-005916	W-006065

KIT NO. 1 *(Cont'd)*

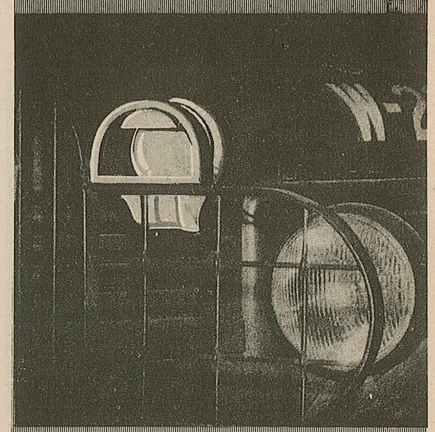
Diamond T.	4-ton 6x6 Ponton	W-486898	W-486917
Ford	5-Passenger Light Sedan	W-13434	W-14633
		W-14733	W-15332
Ford	1/4-ton 4x4 Lt. Reconn.	W-2017422	W-2018921
Ford	1/4-ton 4x4 Comm. Reconn.	W-2029494	W;2030460
Ford	1/4-ton 4x4 Comm. Reconn. Four Wheel Steer	W-234075	W-234124
Ford	1/4-ton 4x4	W-2054778	W-2069777
Ford	Passenger Car	W-110039	W-110788
Ford	Sedan	W-111112	W-120495
Ford	5-Passenger Sedan	W-12125	W-12205
Plymouth	5-Passenger Sedan	W-12206	W-12235
		W-12236	W-12265
		CCC - 1158	to 1307
Plymouth	Pass. 4x2	W-12267	W-13147
		W-13200	W-13349
Plymouth	5-Passenger Sedan	W-15499	W-16498
		W-19492	W-19495
White	6-ton 6x6 Prime Mover	W-53816	W-54141
Willys	1/4-ton 4x4	W-2031575	W-2047574
		W-2047614	W-2050213
Ford	Passenger Car	W-19542	W-19724
		W-1100.39	W-110788
Ford	1/4-ton, 4x4	W-2054778	W-2069777

Kit No. 2

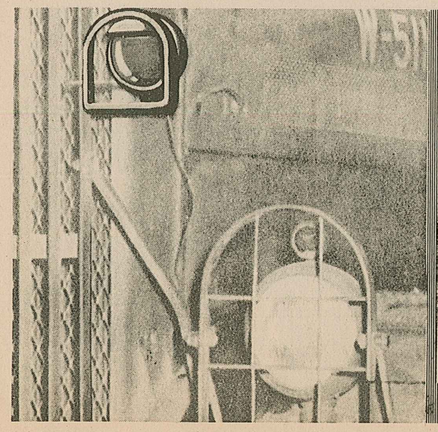
Dodge	1/2-T 4x4 Ambulance	W-72256	W-73371
		W-73372	W-73981
		W-74242	W-74631
		W-74733	W-75027
		W-77081	W-77340
		W-75400	W-77080
Dodge	1/2 4x4 Carryall	W-2025967	W-2026129
		W-2026533	W-2026643
		W-2052397	W-2053496
Dodge	1/2-T 4x4 Comm. Reconn.	W-2024487	W-2025966
		W-2026644	W-2029143
		W-2050397	W-2051696
Dodge	1/2-T 4x4 Com. Recon.w/w	W-2051697	W 2052046
Dodge	1/2-T 4x4 Panel Delivery	W-230519	W-230621
Dodge	1/2-T 4x4 Emerg. Rep.	W-003759	W-003788
		W-005371	W-005645
		W-005646	W-005912
		W-006868	W-006906
Dodge	1/2-T 4x4 P.U.	W-222266	W-230130
		W-231275	W-233206
Dodge	1/2-T 4x4 Oil Serv. Tank	W-80766	
Dodge	1/2-T 4x4 W.C.	W-234379	W-238778
		W-240179	W-242178
Dodge	1/2-T 4x4 W.C. w/w	W-238779	W-240178
		W-242179	W-242678
Dodge	1/2-T 4x4	W-247219	W-252218
		W-250690	
Federal	4-5 T. 4x4 Tractor	W-428590	W-429269
		W-457287	W-457476



⬆ KIT NO. 2
Late 1/2-Ton 4x4 Dodge

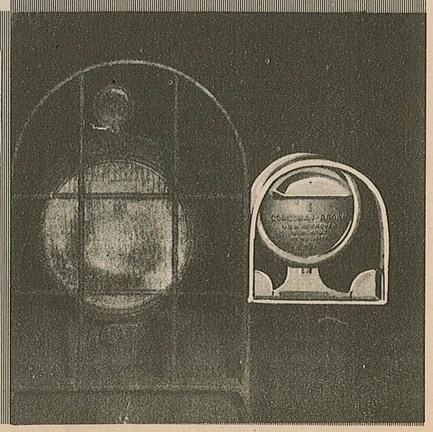


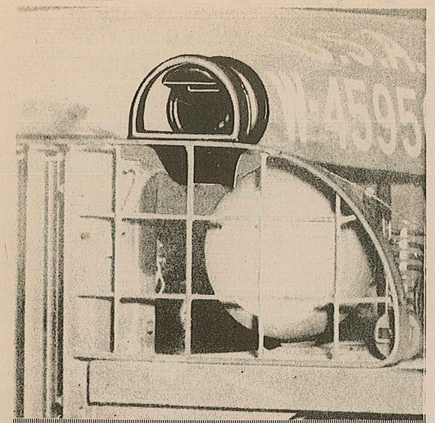
⬆ KIT NO. 2
Early Dodge 1-2-Ton 4x4



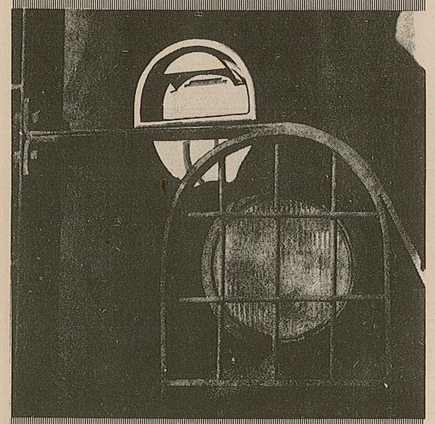
KIT NO. 1
Early Corbitt
6-Ton 6x6
Mack 5-6-Ton
COE 4x4 ⬅

KIT NO. 1
Federal 4-Ton
COE 6x6 ➡





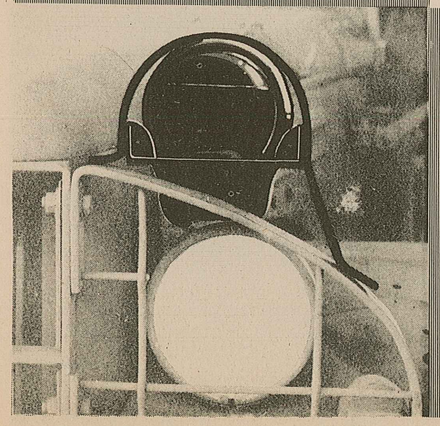
KIT NO.2
Studebaker 2-1/2-Ton 6x6



KIT NO.2
Autocar 4-5-Ton 4x4 Tractor
Autocar 5-6-Ton 4x4 Tractor

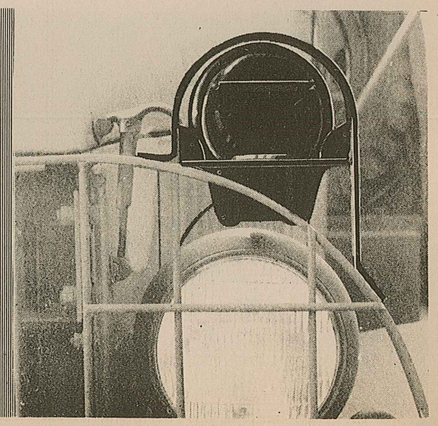
KIT NO 2. *(Cont'd)*

G.M.C.	2-1/2 T 6x6 Cargo w/w	W-489481	W-490680
G.M.C.	1-1/2 T. 3 T.S.A. Rep.	W-006318	W-006795
Mack	5-6 T. Ponton	W-51761	
		W-51763	W-52420
		W-52457	W-52489
Mack	5-6 T. Topographical	W-52490	W-52497
Mack	5-6 T. Cargo w/w	W-51762	
		W-52498	W-52600
Marmon-Herrington	1-1/2-T 4x4 Misc.	W-001248	W-001271
Studebaker	2-1/2-T. 6x6 Cargo	W-459537	W-460036
Walters Diesel	Prime Mover for 155 MM gun	W-51063	
Autocar	2½ T. COE T.T.	W-80238	W-80287
		W-413527	W-413 613
Autocar	2½ T. 4x4 Misc.	W-428106	W-428338
		W-428374	W-428588
		W-80568	W-80750
Autocar	2½ T. 4x4 T.T.	W-417599	
Autocar	5-T 4x4 Tractor	W-51313	W-51409
Autocar	2½-T. 4x4 Misc.	W-460205	W-460478
Autocar	5-T. 6x4 Cargo	W-52754	
Autocar	4-5 T. 4x4	W-461794	W-462750
		W-482421	W-482632
		W-482662	W-482674
Autocar	5-6 T. 4x4	W-53117	W-53196
		W-52930	W-53089
Buick Std. Sedan	Standard Sedan	W-1663 1	
Dodge	1½-T. 4x4 Cargo & Dump	W-313605	W-317173
		W-317174	W-317496
Dodge	1/2-T. 4x4 Misc.	W-00278	W-00279
		W-22134	W-24111
		W-24112	W-24113
		W-204249	W-205695
		W-24146	W-24506
		W-205790	W-205970
Dodge	1½-T. 4x4 Misc.	W 71074	W-71076
		W-317911	W-318587
		W-318588	W-320374
		W-3 20275	W-320441
Dodge	1/2-T 4x4 Carryall	W-205696	W-205719
		W-206490	W-206950
		W-2023309	W-2024486
Dodge	1/2-T 4x4 Cargo & Reconn.	W-24525	W-24607
Dodge	1/2-T 4x4 Cargo & Reconn.	W-206260	W-206340
Dodge	1/2-T 4x4 P.U.	W-24615	W-25789
		W-25792	W-27189
		W-27190	W-29999
		W-210000	W-214998
		W-214999	W-215478
		W-215536	W-215996
		W-001332	W-001391
Dodge	1/2-T 4x4 Comm. Reconn.	W-206951	W-209999
		W-2010000	W-2010500
		W-2010913	W-2014950
	w/w	W-2020437	W-2022216
Dodge	1½2-T 4x4 Comm. Reconn.	W-2014951	W-2015297
		W-2022217	W-2023308



KIT NO.3
Dodge 3/4-Ton 4x4

KIT NO.3
Chevrolet 1-1/2-Ton 4x4
GMC 2-1/2-Ton 6x6



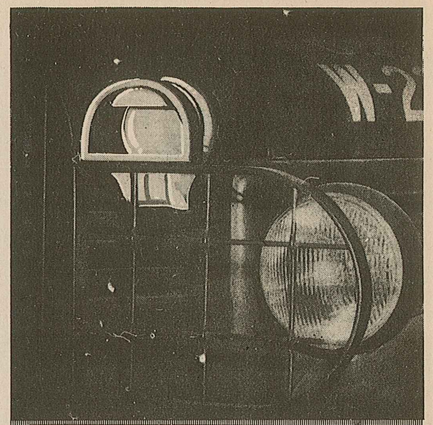
KIT NO. 2 *(Cont'd.)*

Dodge	1/2-T 4x4 Panel Del.	W-215997	W-216349
		W-221977	W-222265
Dodge	1/2-T 4x4 Ambulance	W-71077	W-71973
		W-71975	W-72249
Dodge	1/2-T 4x4 W.C. w/w	W-217349	W-221976

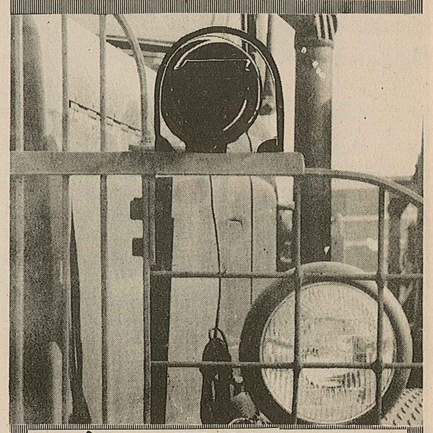
NOTE: 1-1/2-Ton 4x4 COE Chevrolet Stake and Platform uses this bracket.

Kit No. 3

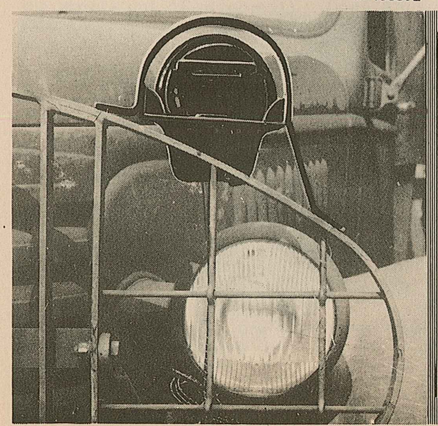
Chevrolet	1½-T 4x4 Cargo	W-320560	W-324604
		W-328951	W-330839
		W-324605	W-325073
		W-328310	W-328400
		W-331556	W-331683
		W-359275	W-360901
Chevrolet	1½-T 4x4 Cargo w/w	W-325074	W-326802
		W-330840	W-330965
		W-326803	W-327057
		W-360902	W-362126
Chevrolet	1½-T 4x4 Panel Del.	W.328401	W-328442
		W-331684	W-331695
		W-356736	W-356915
Chevrolet	1½-T 4x4 Dump	W-327058	W-328025
		W-330966	W-331555
		W-362127	W-362426
Chevrolet	1½-T 4x4 Dump w/w	W-328026	W-328309
		W-362427	W-362626
Chevrolet	1½-T 4x4 Stake & Platform	W-328665	W-328768
Chevrolet	1½-T 4x4 Misc.	W-002852	W-003114
		W-332064	W-338034
		W-339995	W-342977
		W-607641	W-607642
Chevrolet	1½-T 4x4 Misc.	W-345641	W-353244
		W-356916	W-359216
Chevrolet	1½-T 4x4 Comb.(S.P.) COE	W-343779	W-343838
Chevrolet	1½-T 4x4 Crash Truck	W-501274	W-501429
G.M.C.	1½-3 T. 4x4 Misc.	W-00640	W-00879
G.M.C.	2½-T 4x4 T.T., COE	W-412792	W-412872
G.M.C.	1½-T 4x2 COE - K-18	W-601379	W-601425
G.M.C.	2½-T 6x4 COE Searchlight	W-605305	W-605404
		W-605407	W-605455
G.M.C.	2½-T 6x6 Cargo	W-60435	W-60437
		W-410878	W-412340
		W-60464	W-60471
		W-412341	W-412781
		W.412790	W-412791
		W-413632	W-413690
		W-429270	W-457269
		W-463546	W-466455
		W-475306	W-481517
		W-484713	W-485739
		W-482640	
		W-483302	W-483901



KIT NO.5
Early Dodge 1/2-Ton 4x4 (Radio)
Mack 6-Ton 6x6

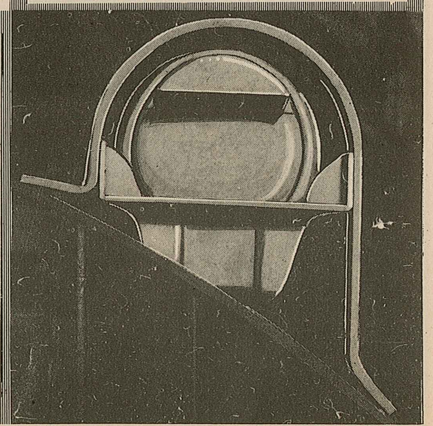


KIT NO.4
Ward La France 4-Ton 6x6; Autocar 4-Ton 6x6; White 4-Ton 6x6; Hug 6-Ton 6x6; Corbitt 8-Ton 6x6 TT

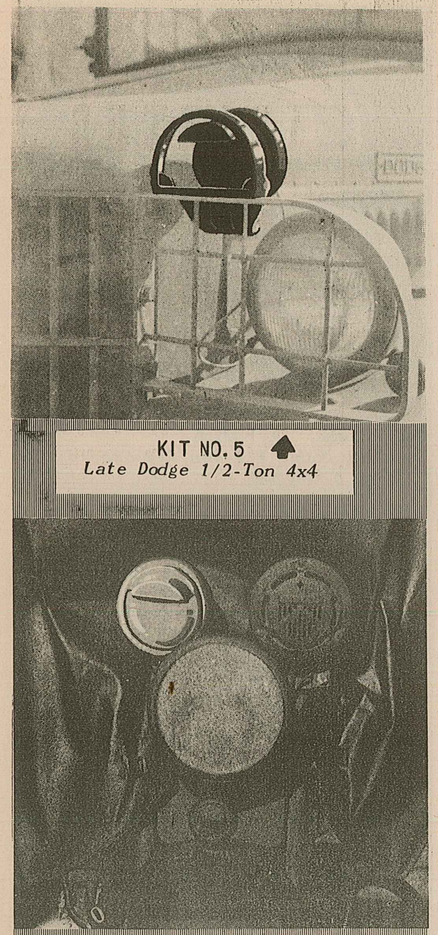


KIT NO.3 ✱
Farley GMC 2-1/2-Ton 6x6

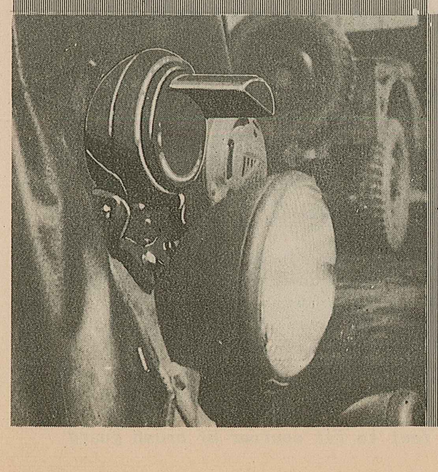
KIT NO.3
GMC 1-1/2-3-Ton 4x4 COE
GMC 2-1/2-Ton 6x6 Stake and Platform COE
GMC 2-1/2-Ton 6x4 Searchlight COE
Mack 2-1/2-Ton 6x4 Searchlight COE



✱*NOTE: It may be necessary to bend bracket mounting-feet to fit contour of brush guard.*



KIT NO. 5 ⬆
Late Dodge 1/2-Ton 4x4



KIT NO. 6 ⬆
Indian Motorcycle

KIT NO. 6
Indian Motorcycle.
⬅
KIT NO. 7
Harley-Davidson Motorcycle
➡

KIT NO. 3 *(Cont'd)*

		W-482702	W-483301
		W-492975	W-499999
G.M.C.	2½-T 6x6 Misc.	W-00956	W-00973
		W-412983	W-413460
		W-413767	W-417398
		W-417600	W-417677
		W-418851	W-419267
		W-605456	W-605479
		W-605482	W-605491
		W-001272	W-001289
		W-419233	W-420865
		W-80291	W-80306
		W-80308	W-80462
		W-420866	W-427999
		W-80463	W-80567
G.M.C.	4-T 4x4 Van Body	W-418659	W-418850
G.M.C.	2½-T 6x6 Dump & Cargo	W-428589	
G.M.C.	1½ - 3 T. 4x4 Misc.	W-001927	W-002851
		W-003678	W-003746
		W-605530	W-605879
G.M.C.	1½-T 4x2 (K-18)	W-607386	W-607640
G.M.C.	2½-T 6x6 Chassis	W-481896	W-482043
		W-483902	W-483911
G.M.C.	2½-T 6x6 Cargo w/w	W-466456	W-470705
		W-485740	W-486339
G.M.C.	2½-T 6x6 Fuel Tank	W-80922	W-80961
		W-80977	W-80999
		W-801000	W-801041
G.M.C.	1½-T 4x4 Misc.	W-004133	W-004144
G.M.C.	4-T 4x4 Van Body	W-52807	W-52926
Mack	2½-T 6x6 COE Searchlight	W-601455	W-601822
G.M.C.	5-6-T 4x4 Van Body	W-52807	W-52866
		W-52867	W-52926

Kit No. 4

Autocar	4-ton 6x6 Cargo (12 V)	W-00275	W-00277
		W-410775	W-410782
Hug	7½-T 6x6 Cargo (12 V)	W-5763	W-5766
Ward la France	4-ton 6x6 Cargo (12 V)	W-412981	
		W-00949	W-00955
White	4-ton 6x6 Cargo (12 V)	W-00287	W-00292
		W-412873	W-412951
Corbitt	8-Ton 6x4 T.T.	W-53771	W-53814
Corbitt	10-ton 6x4 T.T.	W-54144	

Kit No. 5

Dodge	1/2-T 4x4 Radio	W-606021	W-606356
		W-606357	W-607383
		W-607687	W-607943
		W-608358	W-609007
		W-60473	W-60479
		W-60430	W-60434
		W-60438	W-60463
		W-601426	W-601454
		W-605100	W-605304
Mack I	6-T 6x6 Cargo (12 V)	W-5789	W-5844
		W-5845	W-5875
Mack I	6-T 6x6 Cargo (12 V)	W-5889	W-5892
		W-5900	W-5995
Mack I	6x6 P.M. for 155 MM gun (12 V)	W-51556	

Kit No. 6

Indian	Motorcycle W/SC	W-62002	W-62995
		W-63726	W-63729
		W-63938	W-64247
		W-64278	W-64287
		W-69051	W-69055
Indian	Motorcycle Solo	W-64940	W-65439
		W-66648	W-67847
		W-68448	W-69047
		W-69056	W-69277
Indian	3 x 2 Tricycle	W-64289	
		W-64263	W-64277
Indian	Motorcycle Solo	W-615903	W-616902

Kit No. 7

Harley-Davidson	Motorcycle W/SC	W-62996	W-63725
		W-63730	W-63744
		W-63757	W-63930
		W-614898	W-614902
Harley-Davidson	Motorcycle Solo	W-63938	W-64247
		W-63746	W-63756
		W-64291	W-64939
		W-65443	W-65444
		W-65448	W-6647
		W-67848	W-68447
		W-610000	W-614687
		W-69888	W-69999
Harley-Davidson	Motorcycle W/SC&Radio	W-65446	W-65447
Harley-Davidson	3-Passenger Tricycle	W-64248	W-64262
		W-64290	
Harley-Davidson	Motorcycle Solo	W-614903	W-615902

STEERING WHEEL

(Continued from inside front cover)

And then they proceed to prove it. Is there a rut in the road? Pow! They take it hard (gouge a hunk out of a tire, knock the wheels out of alinement). Does this baby have horsepower? They take a loaded truck up a steep grade in high gear 'til its guts almost burst. And jump? They can take a jeep 8 feet off the the ground (no telling the shape it'll be in after it comes down).

That's the Optimists. Sometimes though, they're a little disappointed. Like the one who ran a truck full-tilt over a rocky field and came back complaining because his tires got shredded.

See what we mean? Two schools of thought: The Optimists and the Pessimists.

We don't give much of a damn about the Pessimists, but the Optimists....we've got three of 'em in a cage downstairs and every time we get bored, we go down and throw lighted matches at 'em.

Maybe one day they'll learn that our trucks are *tough*, see.... able to take the knocks and bumps better than any other trucks in the world.....

But oh, so gentle.....only steel and rubber and a tarpaulin cover.

Willys ADAPTER

You can't properly lubricate the propellor-shaft universal-joints on the Willys 1/4 ton without a special, little, grease-gun adapter.

This little adapter has been left off a great many jeeps - but the Willys people, willing as ever to come to the rescue, have arranged to ship a couple shovelfulls to the Fort Wayne depot for issue to the field.

The adapter is needed on all Willys 1/4 tons between the registration numbers:

2031575 to 2047574
2047614 to 2050213
2073590 to 2078697

All other Willys jeeps will have the adapter included in their tool sets at the factory.

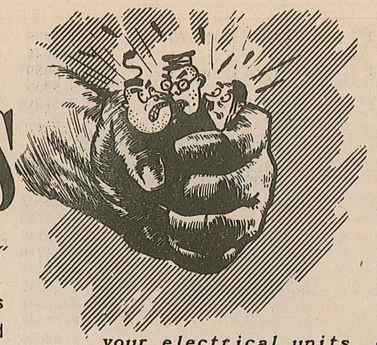
If your Willys jeep carries any of the above numbers, order your special, grease-gun adapter from the QM Motor Supply Depot, Fort Wayne, Detroit, Mich. Order by Willys part No. A-6151, Grease-Gun Adapter - Alemite 6517.

The adapters will be stocked at Fort Wayne in about two weeks. Wait until then before ordering.

Incidentally, we hear that the same adapter on the Dodge 1/2 ton can be used on the Willys. It's not the best practice, but in an emergency it will work.

P.S. As you may have guessed, the Ford jeep will probably need one of these adapters. However, we haven't heard from them yet - so you'll just have to wait.

how to maintain SUPPRESSORS



Suppression devices are coming on all tactical vehicles. They've been on jeeps for many moons now, they're being installed on new trucks at the factories, they'll be on old trucks as soon as the Signal Corps gets around to making up kits.

Suppressors stifle and get rid of static and interference that fog up broadcasting and receiving. They're the latest and biggest wrinkle in Motor Transport. If you thought you knew all about Preventive Maintenance, guess again, brother - you've got a lot to learn. Last month we told you some elementary things about suppressors, this month, we going to tell you about checking and taking care of them.

LEARNING how to take care of suppressors requires almost as much study and deep thought as learning how to fall downstairs. It's that easy. You don't have to be a radio man, you don't have to be a mechanic. All you have to remember is one simple rule, 'Keep them tight, keep them dry, keep them clean'.

Advanced students can remember two other rules: (1) Always replace damaged suppressors with new ones; (throw the old ones away -- they can't be fixed satisfactorily) (2) Whenever your vehicle is repaired -- be it engine, body or chassis repairs -- make sure the suppressors involved are put back exactly the way they were before.

Is all this important? Are suppressors that urgent?

Ask yourself this question: Are clear, quick orders and messages on the radio important?

(The correct answer is Yes. Now read on).

Suppressors on the blink, can hit you two ways. (1) They can stop your truck altogether or at least make it run like an old fish wagon; (2) They can static-up your own or any other radio in the neighborhood so badly you'll wish you'd of stood in bed.

Today we've got for you a whole pack of juicy little tips on tracking down bad suppression devices, but we're going to let you in on a little secret before we start passing them out.

In two out of three cases, it's not bad suppression-devices at all that's letting static into the radio - it's simply something worn, loose, or dirty somewhere in the electrical system. Remember that! First thing — check your electrical units, connections and wires before you start fiddling with the suppressors.

Okay, you've checked the system for bad spots -- let's go.

You'll carry one rule-of-thumb with you as you go: anytime you think you've located a bad suppressor -- 'resistor-suppressor', filter, condenser, etc. -- you'll confirm or deny your suspicions simply by taking the filter off and replacing it with a new one.

That's not all you've got to go by -- there are certain other clues to help you uncover bad suppressors

An ammeter filter with a short circuit in it, for instance, betrays itself by showing discharge on the ammeter with the engine stopped and all electrical units turned off. Of course, other leaky electrical units will show discharge on the ammeter but you can make a positive check by taking the filter out of the circuit (connect the wires around it) -- then if the ammeter needle returns to zero, you were right -- the ammeter filter is bad. Replace with a new one.

Just think of a bad suppressor as a washed-out road or a road-block -- it hinders the flow of electricity through the circuit.

In this way, a bad spark plug suppressor or distributor filter sabotages the ignition system; an open-circuited generator filter won't allow the generator to show charge on the ammeter while the engine is running.

In the case of the generator filter, take the filter out of the circuit and connect the wires to the original terminals. If the ammeter needle shows charge, you know the filter you've just taken off, is the bad one. Replace it with a new one.

There's nothing mysterious about bad suppressors -- they're just like any other electrical trouble - only easier to fix.

Noise means trouble. To make things clear (and corny) -- when the baby starts to shout in the middle of the night, something's wrong. When the radio starts to whine or sputter something is likewise wrong.

With the baby, it might be that the nasty, little ape simply doesn't like the idea of the old man getting a good night's sleep. With the radio, it might be a sign that something's flukey in the suppression system.

The best procedure in both cases, is a good, orderly check up. Check all bonds — see that they're clean, tight, and in good condition.

If that doesn't fix things, your trouble is probably in the generator or ignition system.

There are two kinds of noise, one from the generator system, the other from the ignition system. Here's an easy way to trace the noise down to either one or the other: Start the engine and run it at a speed equal to a road speed of 30 to 35 miles per hour. Turn off the ignition. If the noise is still there, so long as the engine turns, the trouble is in the generator system. If the noise disappears as soon as the switch is cut, it's in the ignition system.

That helps some — now you've got to narrow it down still further. Say the noise came from the generator system. If the noise is a whine, increasing and decreasing in pitch and intensity with the speed of the engine, it's coming from the generator itself — one of the filters in the generator circuit is not doing a job. It might be the generator filter, generator condenser, armature filter or ammeter filter. The thing to do is replace the defective unit — but first, make sure it isn't just a case of bad contact — check connections and mountings.

Another cause of generator noise is a dirty or burned generator commutator. If the commutator is just dirty, clean it with number 00 sandpaper. If the commutator is burned, you'll have to have the generator removed and overhauled.

The regulator might be making the noise. If so, it sounds like an ignition noise - a clicking sound. Check the mounting of the regulator itself, check the regulator filter and leads for looseness. If the noise is still there, you'll probably have to replace the filter.

If even after you replace the filter, you still get noise, you're going to need a new regulator.

Now, let's go back and say that the noise came from the ignition system. It'll be a rapid, clicking noise, increasing or decreasing as the engine is raced or slowed down. Take a good look at each of the little resistor-suppressors on the spark plug wire just where it enters the plug. Are they clean, tight, and dry? Are any of them cracked or scorched? Try a new one for old ones under suspicion, and listen for noise.

Now, finally, check the ignition and distributor filter. How about the mountings. Tight? Dry? Are the filters connected to the right terminals on the coil?

Track down the suspected filter, replace it with a new one and listen for noise on a radio.

That's all there is to it. You've checked the electrical system for bad spots, you've gone over the bonds, you've waltzed through the generator and ignition system...in fact, you've just about checked everything.

And ten times out of ten, you will have eliminated the source of static and interference.

Maybe though, you'll run across some little freak sometimes — like finding that wheel static can best be removed by putting a coil spring in the hub cap, thus grounding it to the axle-things like that.

On the whole though, you'll find our standard procedure advertised above will usually work.

If not, you know where to reach us.

Tapered ROLLER BEARINGS

Why do we have to have such a thing as a *tapered* roller bearing? Why can't we just use straight roller bearings and be done with it?

Here's why: In certain places a *thrust* load is placed on the bearing. Since a *straight* roller bearing can't take a thrust load (Fig. 1) we have to use a tapered roller bearing which can take them or leave 'em alone.

Two locomotives and a tiger for the tapered roller bearing!

Figure 1

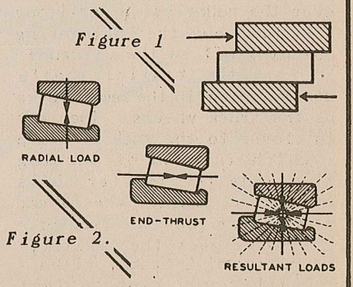
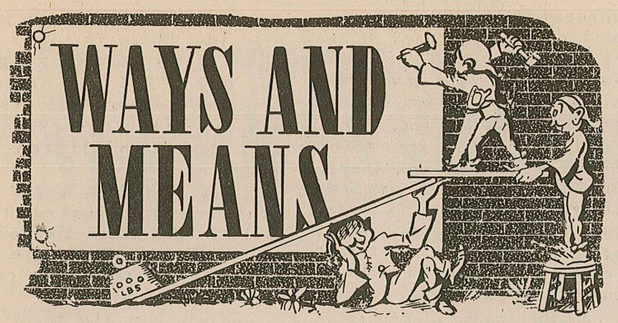


Figure 2.

WAYS AND MEANS



When Capt. R.H. Clarke, Chief Test Officer of the Holabird Engineers, finally went and turned one over himself, he decided enough was enough.

"Hey you birds!" he roared over the phone from the Engineering building some six blocks away, "how about printing something about these trailers turning over behind jeeps and 3/4 tons?"

"Why Captain," we answered demurely, "you know your every wish is our command."

"Well, listen...." he bellowed - at this point we quietly hung up the phone, went over and opened up the window. His voice came in quite clearly.

"...a guy will be driving a jeep in stumpy or rocky country with a 1/4 ton (due in the field soon) or a 1-ton trailer on behind. Suddenly he spots a rock or a stump and not wanting to run over it and maybe ruin his tires, he swerves over so the obstacle passes to the side of the truck. But...!"

"But..." we repeated gently to ourselves, staring fixedly over the countryside until our eyes made out the Engineering building off in the distance.

"...the trailer wheels don't follow in the same tracks as the truck wheels. They cut in closer to the rock or stump - which instead of passing alongside the trailer, hits one of the trailer wheels and WHAM! - over goes the trailer."

"Over goes the trailer," we murmured, "tiska, tiska."

"What you want to tell these fellas in the field is to take it easy cutting around rocks and stumps when towing 1/4 ton, one-ton or even semi-trailers. It doesn't take much to upset them." There was a brief pause as the Captain cocked his ear at the receiver, "Hello," he said.

No answer.

"Hello!..hello!...HELLO!" he shouted.

We stood firm at the window breathing in deep, vitamin-filled draughts of fresh air.

Three or four hours later as we hurried past the Engineering building on our way to an important burlesque show downtown, we could hear strange noises issuing from an inner-office.

"Hello!" they seemed to say, "Hello!..Hello!...HELLO!"

JEEP OIL

Which is it - *four, or five* quarts of oil to fill the engine of the MA, MB, Willys and GPW Ford Jeeps????

The answer is: they take four quarts - not counting the oil filter. Five quarts when a new oil filter cartridge is installed.

The factory manual says five quarts - and it has been interpreted both ways. Just remember, four quarts for the engine, and one quart for the filter.

Nothing to it.

HOT PAINTING

If you're in the tropics or some other ridiculous hot-weather place, you're probably having trouble spraying paint on your vehicles.

The trouble is that the thinner in the paint drys out - evaporates - quickly as it leaves the gun and doesn't accompany the paint to the surface you're aiming at.

To correct this condition, the zombies in the Holabird Chemistry Lab say that you ought to add about a level tablespoonful of kerosene to each quart of paint.

Try it.

IRON FILINGS

It looked like a clear case of sabotage when a number of organizations in the field pulled wheels off Willys and Ford 1/4 tons and found iron filings in the wheel-bearing grease.

Soldiers frowned and looked apprehensively at each other; high ranking officers spoke in guarded whispers behind locked doors.

Panic was averted, however, when a little man with an olive drab mustache at the Willys factory picked himself up off a chair, yawned, scratched his head, and went out to investigate.

Twenty minutes later, he came back still rubbing his eyes sleepily, and dictated the following:

"Early last spring it was discovered that there were burrs (fuzzy metal edges) on the threads of the spindle.

When the spindle nut was screwed on, it cut the burrs off and these promptly made their way into the wheel-bearing grease.

"The question immediately arises, "How did these burrs get on the threads in the first place?"

"The answer lies in two of the machine jobs necessary on the spindle. First, threads have to be cut on the spindle - this is done with one machine. Then, a keyway is grooved right through the threads; another machine does this. There's where the trouble begins - as the keyway is cut through the threads, it leaves the fuzzy burr. And, as mentioned before, the first time the spindle nut is screwed on the spindle, it cuts off the burrs and pushes them into the wheel-bearing grease.

"This condition was remedied as soon as it was discovered at the factory and probably won't be found on Willys delivered after March 27th starting with serial number 146371."

You guys with Willys 1/4 tons carrying a serial number before 146371 (or Ford 1/4 tons of about the same vintage) go out and feel of your wheel-bearing grease. If it yields iron filings, clean it out thoroughly and repack the wheel-bearings. If the bearings have been scratched up or otherwise ruined, get them changed.

VALVE SPRINGS

That well-known American sportsman, the jeep factory representative, offered to lay us nine to one that if one valve spring breaks, the others are not far from breaking too.

We'll lay *you* twenty to one, he's right. So to really do the job right and save yourself the trouble of replacing the valve springs one after the other, *replace them all, when you've got to replace one.*

INTERCHANGE-ABILITY

The distributor body, governor weights and breaker points are interchangeable between the jeeps (Ford GPW and Willys MB) and the Dodge ½ ton.

You know, you really ought to look into that big, black interchangeability book sometime. It's going to save your life one of these days.

SHIFTER-LEVER PINS

When the gent who cracks the whip got tired of jeep jockies in the field wrenching up transfer-case shifter-levers by the roots, he ordered a Technical Service Bulletin. TSB I-7 to be exact.

This TSB describes how the shift-lever pivot-pin may be furnished with enough lubricant to keep it working freely.

It doesn't apply to Willys MB jeeps bearing registration numbers above W-2032575 — the pins on these have been drilled and furnished with lubricant fittings at the factory (with no change in the part number). See Figure below.

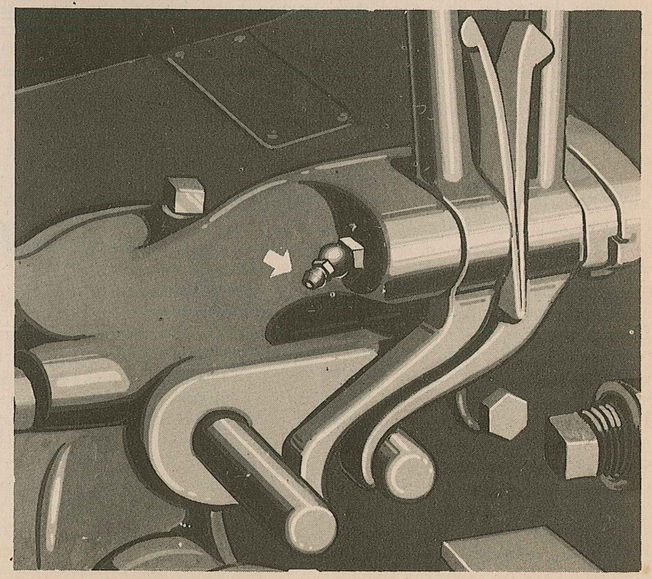
It *does* apply to Willys jeeps bearing registration numbers from W-2031575 to W-2032574.

If you're charged with one of these jeeps, go out and take a look at the transfer-case shifter-lever pivot-pin. If it's not furnished with a lube fitting, you'll have to replace it. Why? Because without proper lubrication they rust and stiffen, and 'Strongarms' in the driver's seat pulls the hell out of the lever. Don't even try to oil the pin as it is - it won't work.

Get the replacement.

Order the pins, part No. A 972 and fittings, part No. 638224 from the Motor Transport Supply Depot, Fort Wayne, Detroit, Michigan. Specify vehicle registration and serial numbers.

Has your jeep got this grease fitting?



CRACK DETECTION

When a truck has been running around for a long, long time, it is possible that certain metal parts in it like axle shafts, hubs, etc., will develop what they call *fatigue cracks*.

This is all right — when you get old you'll get full of cracks too.

Though sometimes deep and dangerous, these cracks are hard to detect by ordinary inspection methods. Therefore, we positively welcomed the other day, a scented note from the General Motors Corporation describing an easy, inexpensive method of discovering these cracks in shop or field.

Simply clean the part *thoroughly* with solvent (kerosene, etc.) then wipe dry and warm slightly to evaporate the solvent that might have penetrated into the invisible cracks you're hunting for.

Mix up a solution of kerosene and a little oil. If the part is small enough, let it soak in this solution for a couple of minutes. If the part is too big, slosh the suspected portion of it with the solution.

Dry the part. Now with a solution - which you have prepared beforehand - of any liquid which will dry quickly and leave a white coating (a thin emulsion of zinc oxide powder in pure wood alcohol will do nicely) coat, brush, or spray the part.

Let the part stand for a few minutes and watch for brown lines to appear. Whereever there is a crack, the kerosene solution penetrates it. After the part stands for a while, the kerosene in the crack discolors the white coating laid on by the second solution. In that way, all surface cracks (no matter how tiny) brought to light — are indicated by a thin brown line.

You can speed-up the appearance of the stains by tapping the part with a hammer.

Sounds like a perty good idea. Why don't you try it?

TIRE BLOCK

Here's an ancient and honorable idea that may save some of you newcomers a lot of trouble in changing tires or fixing flats.

It's nothing but a hunk of wood shaped like this:

Now say you're running along somewhere in a heck of a hurry, and BANG! goes the outside tire of your rear duals. Well, instead of hauling out your jack and sweating and fuming with it, you simply slip one of these blocks under the adjacent wheel and ride the truck up on it. There you are! Now you've got the flat tire right up where you want it, as well as any jack could do it.

Be careful though - set your hand brake, be sure the truck's in gear, and throw chocks under the wheels on the ground: you won't want the truck walking away from you in the middle of the job.

NEW VEHICLES

Just because a truck is new doesn't mean it's got no troubles. So when you draw a vehicle from a depot or a pool, do a little investigating. Like looking for pools of water resulting from condensation which occurs in the dangdest places.

The carburetor air cleaner, for instance, the crankcase breather and the oil in the crankcase - they often collect enough water to float a...a... a...

They really do.

WASHING CABS

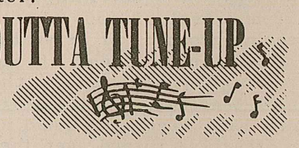
Using a hose to wash out cabs is strictly no good. The stream of water is liable to go anywhere and usually does.

Among the electrical things it ruins is the Series Parallel Switch...and ruined Series Parallel Switches in Diamond T, 4 ton, 6x6's is our reason for writing. It seems that so many switches have been ruined by water washing down into them, they can't fill all the requisitions asking for new ones.

Use some other trick in cleaning your cab — use an air hose to blow the dirt out, use a broom or something. If you must use water, just dampen a rag and go over the floor carefully.

But don't use a stream of water.

OUTTA TUNE-UP



The sergeant dabbed at his eyes, "And after grinding the valves just like they said in the school," he sobbed, "we get it back together, and it runs worse than when we started on it!" He pointed at a jeep, whose little engine was idling so spasmodically it shook like jelly. What ailed it? Three guesses.

Valves set too close?

Right.

Breaker points and spark plugs gapped wrong?

Yes.

Idling mixture too rich.

Yep.

It's the little things that count.

77th Infantry Division Artillery

WEATHER *YES!*

Motor Bulletin

BULLDOG EDITION

VOL. 1 NO. FORT JACKSON, NORTH CAROLINA JULY 15, 1942

BLEEDING FIENDS BLOW TIRES

Break-In Period Critical

New trucks are not supposed to carry or pull a load until after the 500-mile break-in period. Sometimes we can't stick closely to this one, but let's keep the use of the new trucks for this purpose to a minimum. At least, don't abuse them. No truck should be run over 25 miles per hour for the first 500 miles. Speeding is very apt to take the life out of the trucks before we have a good chance to use them. REMEMBER, these are the vehicles we are depending on to win the war.

The 77th Infantry Division Artillery MOTOR BULLETIN is a newsy, little mimeographed sheet put out weekly down at Ft. Jackson, South Carolina to delight and educate the Motor Transport Personnel down there. So delighted and educated did we become upon viewing the first half-a-dozen copies, we couldn't resist reprinting some choice excerpts: Feast your eyes.

Carburetor Boiling Easily Remedied

Boiling in the carburetor occurs when the gasoline in the float chamber of the carburetor becomes so hot that it boils, thus forcing large gobs of gasoline into the intake manifold. It produces exactly the same effect as overchoking (flooding). Remedy - Open hand throttle fully; leave choke button in; push down on starter (being careful not to push for for more than 20 seconds at a time). Don't mess with the hand throttle until the engine is running smoothly, at which time adjust it to the desired position. What happens when you do this? Well opening the throttle, sets the butterfly valve in the carburetor wide open - allows plenty of air to rush in. The air offsets the flood of gasoline and gives you a proper air-fuel ratio.

This method should be used only when the engine is flooded.

Sergeant Says...

M/Sgt. McClellan, 306th FA Bn., says, close down windows and curtains when trucks are parked in the open - saves cleaning the truck bed and upholstery repairs.

Incidentally, a piece of burlap large enough to cover the windshield, keeps the dew and frost off at night, serves as an anti-reflector for tactical use.

ADVICE TO THE LOVELORN

Don't sit under the apple tree.

Screwy Ideas Ruin Rubber!

Bleeding of tires is a practice used by the uninitiated to adjust pressure during a long-run. It works like this - One, Pvt. John Dumjon, driver, starts out early one morning for Holabird to show the boys a thing or two about maintenance. It is the cool beginning of a fine, summer day, with the temperature about 82°. The truck has almost-new 9.75-20 tires, and the pressure at the before-operation inspection is fine - 70 lbs. So, our hero starts off at 45 miles per hour.

At 150 miles he stops for lunch. His momma done tole him (♪) tires oughta be checked, so he does and finds the left front tire at 85 lbs. Naturally, he doesn't know that the temperature is 214° in the tire, but he does know that the figure on the dashboard says 70 lbs. (Too bad so many people can read without thinking.) So, he bleeds the tire to 70 lbs., thereby reducing the temperature from 214 to 198 degrees, temporarily.

One hundred forty miles later he stops again and finds that the pressure in that tire is now 74½ lbs. Carramba! he says, and bleeds it down to 70 lbs. and from 229 to 221 degrees, while silently cogitating as to why his gas tank doesn't get fuller and fuller of gas like his tires get fuller and fuller of air.

So - 200 miles farther on his tires reach a temperature of 252°, very near the curing temperature of the tire. The elasticity is fatally affected, and bingo, the tire blows, and at only 73 lbs. of pressure.

Seriously speaking, the point is this: Tires are built to stand the increased pressure due to increased temperature over normal, long runs. Admitted, that long runs on hot days are hard on tires. *But* - bleeding of the increased pressure has just exactly the wrong effect - the greater flexing caused by bleeding generates more heat, the tire reaches the critical temperature, and .....BANG!

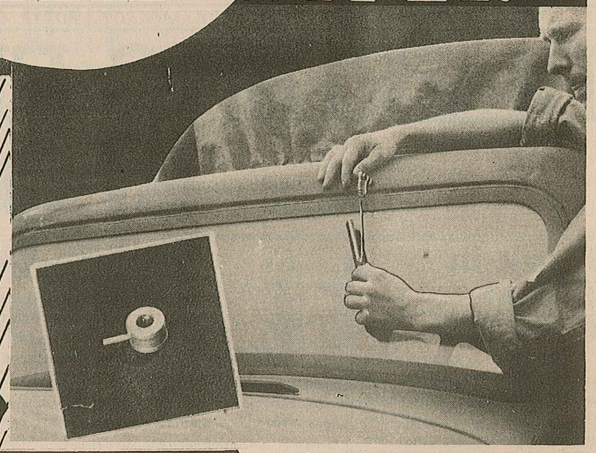
"S" Myst'ry Solved

Know what the letter 'S' stands for on some of our vehicles?

It means the vehicle has been 'suppressed' to remove interference in radio broadcasting.

But that's not all - it means you've got a new and important job: you've got to maintain the suppressors, you've got to keep them clean, dry and tight.

WINDSHIELD WIPER



The question is, 'Can a harmless, little windshield wiper arm only 12 inches long drive a grown man crazy?'

The answer lies in a little story told to us recently by a congenital idiot of our acquaintance.

Seems a flint-hearted inspector by the name of Ratt, one day found ten windshield-wiper blades missing out of a company of 58 trucks. Whereupon he flew up into a tree in a rage.

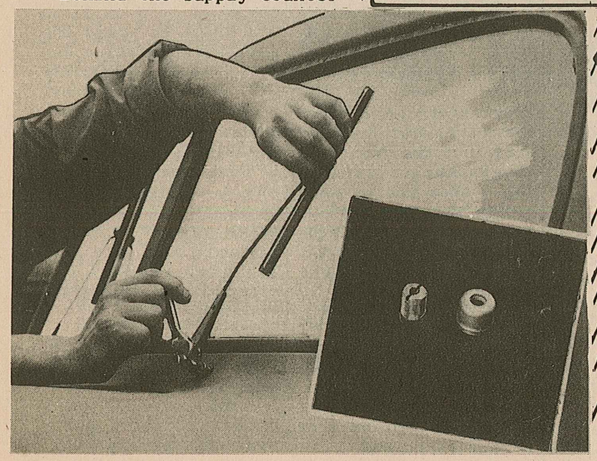
To get him down, the company commander consented to immediately dispatch a soldier to the supply depot for replacement wipers.

When three months had passed and the soldier had not returned, the worried captain rounded up a posse and proceeded to the supply depot. There they found the soldier, bearded and wan, his only sign of recognition a feeble attempt to salute them with his tongue which was hanging loosely out of the corner of his mouth.

Behind the supply counter another pitiful creature struck a belligerent pose and stoutly declared that he was Adolph Mussolini.

Fig. 2 - Adapter (insert) converts the 'lock-pin' type.

Fig. 1 - The adapter (insert) converts the 'screw' type shaft to 'drum' type.



Scattered wildly over the room were windshield-wiper blades and arms. Every now and then the creature behind the counter picked up a wiper blade and tried to fit it to a wiper arm. "This goes with this," he would cackle, "but this won't fit the truck!" Then both he and the soldier would throw back their heads and shriek.

Well, the soft-hearted captain was so struck with the pity of it all, that he drew his service yo-yo and beat the brains out of both lunatics, thus ending the story.

Now those are facts - cold, hard facts; and the engineers to prevent just such tragedies, some time ago brought out a 'Universal Windshield-Wiper-Arm-Set', Federal Stock Number 8-A-1500, designed to fit any truck, anywhere.

The 'universal arm' is adjustable for length, 7½ to 12 inches; for use on the 'screw'-type and 'lock-pin' type of wiper shaft, it comes complete with adapters (insets

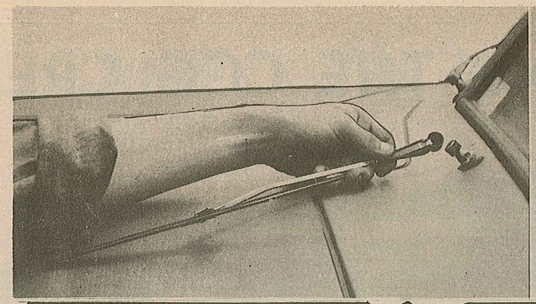


Fig. 3 - The 'drum' type doesn't need an adapter.

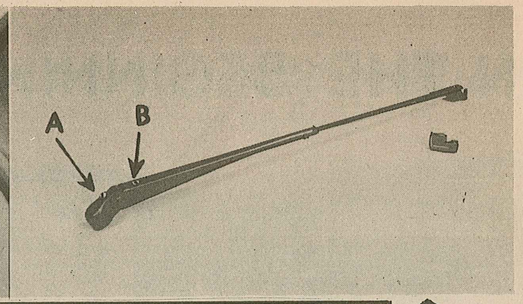
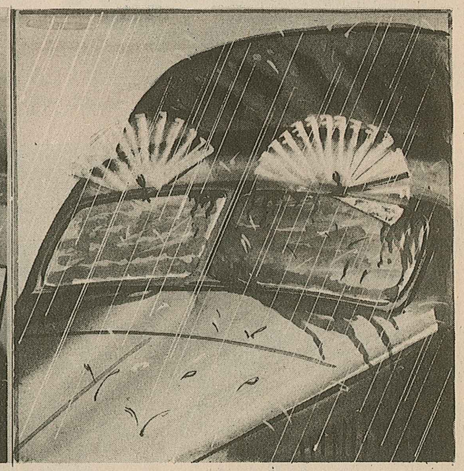


Fig. 5 - This arm and adapter helps make all blades fit the universal arm (A - clamp-screw; B - spring screw)

Figs. 1 and 2). It fits the 'drum' type without adapters (Fig. 3). When used on trucks with 'swing-out' windshields or to replace the 'grasshopper' type of arm, an 'extension adapter', Federal Stock Number 8-A-600, is necessary (Fig. 4). (Must be ordered separately - it's not in the kit).

Another little gadget in the kit (Fig. 5), makes it possible to use the 'slotted' type of wiper-blade on the arm. Between this little gadget and the fitting already on the wiper arm, you can use any type of wiper blade in the Army (or so they tell us).

Fig. 4 - 'Grasshopper' type of arm calls for an extension adapter (insert).



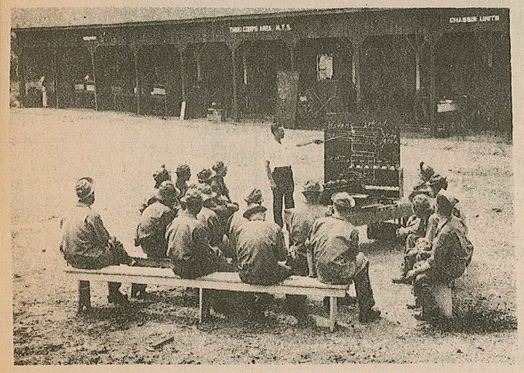
When you get the kit, you'll find it as full of little packages as a grab-bag - these are the adapters mentioned above. Just follow the the simple directions printed on the outside of each package and you won't have any trouble.

Here's a tip: After you've got the arm in position, give the clamp-screw (Fig. 5) an extra twist (after you've run the wiper a few strokes to see that it's wiping the windshield, not the roof). They've been known to fall off when this little detail is overlooked.

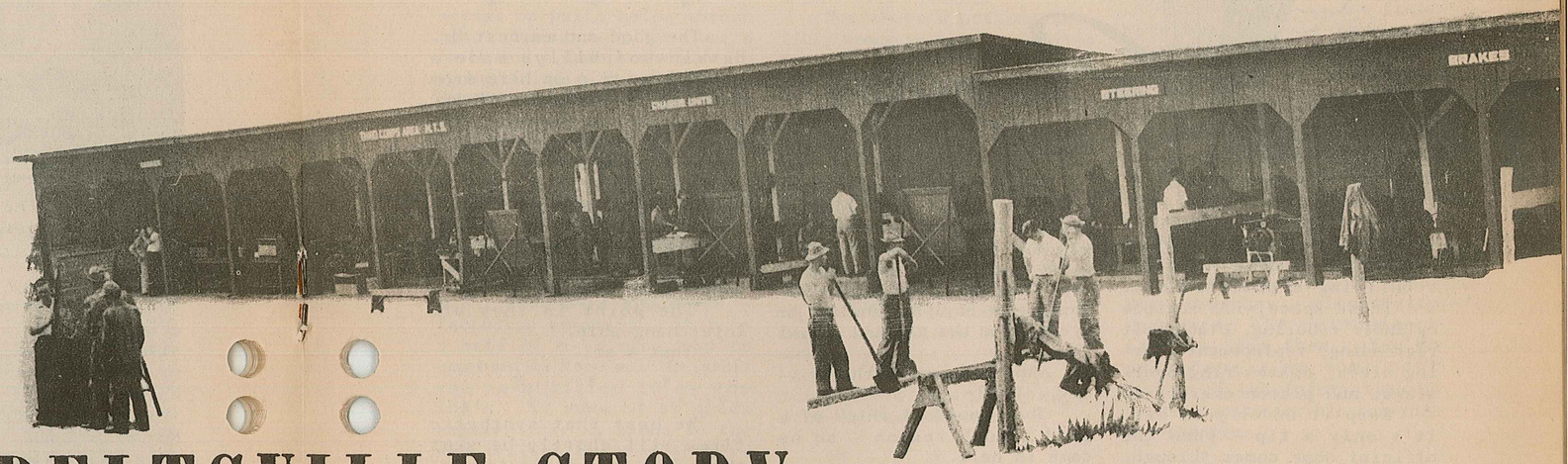
In some cases it's necessary to take a turn on the spring screw (Fig. 5B) to adjust the spring tension of the arm. Turn to the right for more tension (more pressure of blade against the windshield); turn to the left for less tension (less pressure against the windshield).

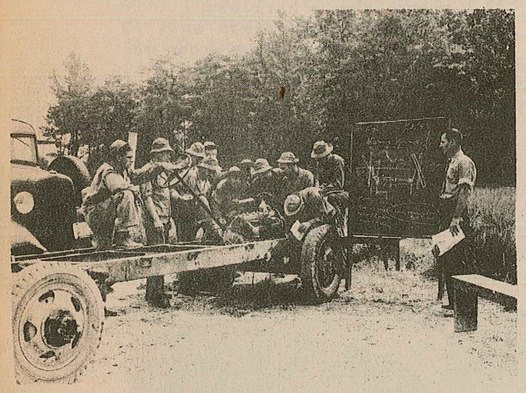
Now, ask yourself the question: Can a harmless little windshield-wiper arm only 12 inches long, drive a grown man crazy?

IN THE BEGINNING THE CCC CREATED A CAMP... *It's in the army now!*



WHEN IT GETS STUFFY IN THE SHED, CLASS IS HELD OUTSIDE...THE INSTRUCTIONAL EQUIPMENT IS EASY TO MOVE. *The entire class protested vigorously when asked to face away from the camera but swung around quickly when told that a blonde named Mamie was entering the shed.*





ANOTHER OUTDOOR CLASS EXAMINES THE "VICTORY" MODEL CIVILIAN AUTOMOBILE WITH AIRFOAM SEAT CUSHIONS. *After the screams of "What magazine is it gonna be in?" "Will it be in Life magazine?" "Will my pitcha be in da papahs?" had died down, this group consented to pretend like they were learning something.*

The BELTSVILLE STORY

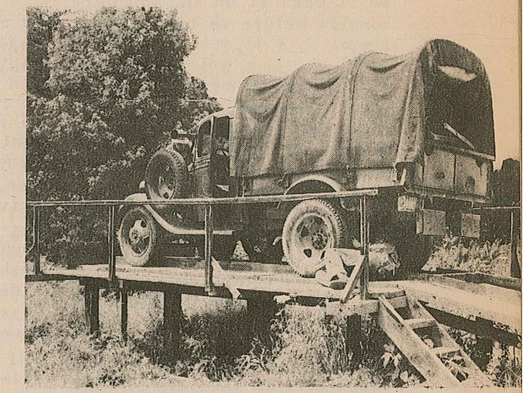
Unnatural things are happening in the wilderness near Beltsville, Md. The birds are singing, the bees make honey in the sun, and the weeds grow tall and fat.

But every once in a while, a statement about a carburetor falls upon the air, a spark plug spits blue flame, and a half-a-dozen, dirty faces follow closely as a crankshaft revolves upon a stand.

This is a motor-transport school in the field, education au naturel. Down in that little hollow underneath the trees, an instructor makes technical remarks to a semi-circle of soldiers. A long, open shed, facing away from the sun, hums with demonstration engines and mechanical instruction.

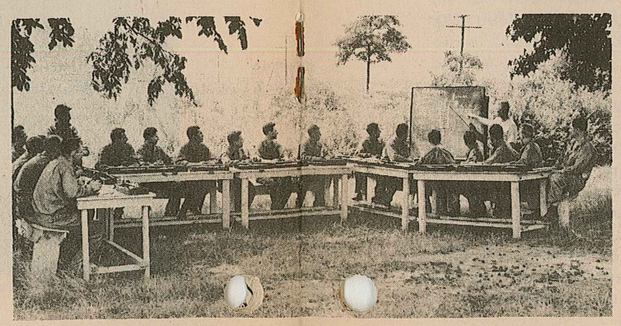
Once upon a time, this clearing in the brush, studded with 'temporary' buildings, was a CCC camp. Some time later the CCC released it and the Army took the camp. Shortly afterwards the Motor Transport Service, OQMG, embarked upon plans to turn the abandoned camps into instruction centers.

That, in a nutshell is the latest news from the training front. The Quartermaster General adopting some 44 camps recently abandoned by the CCC, and turning them into *extension*, motor transport schools. *(Continued on page 116)*

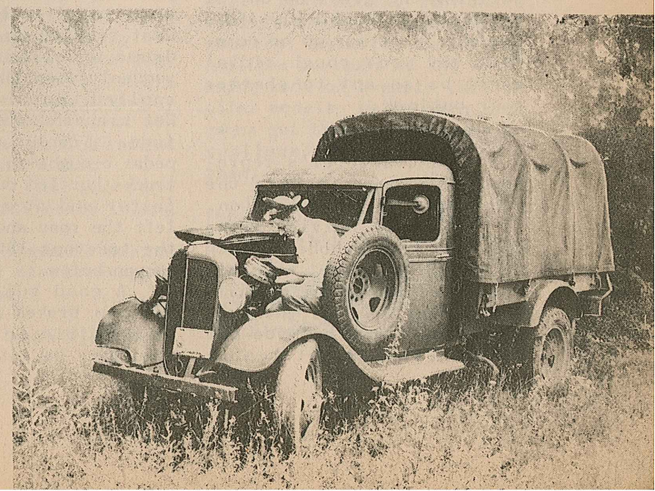


THE LUBRICATION RACK LEFT BEHIND BY THE CCC. *Students can hide in the tall weeds for hours at a time before being discovered. Although ramshackle now, this rack, like many other facilities around the camp, is being rapidly improved for school use.*

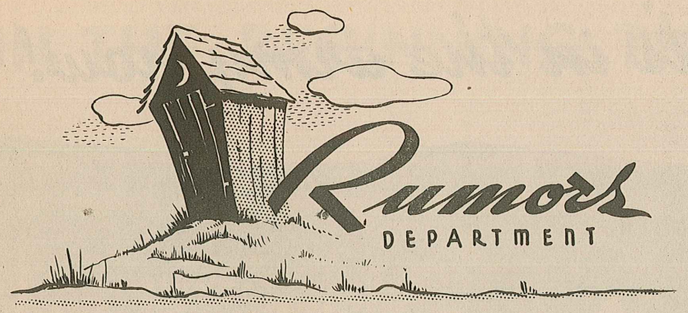
THE "*rear-axle*" CLASSROOM IN THE SHED. *(The rear-axle on the stand must be a female). A small group like this gives everybody a shot at the instructor. (The guy on the floor always sleeps under rear axles).*



ACCORDING TO THE INSTRUCTOR, THE FURNITURE OF THE C AND E CLASSROOM IS MOVED OUT FOR A SESSION BENEATH THE TREES OCCASIONALLY. *(We are inclined to believe it had something to do with not paying the rent.)*



TROUBLE SHOOTING IN THE FIELD. *The 'Engine' course winds up with the students being sent out on the roads near camp to fix vehicles purposely disabled by the instructors. Student above is looking for a hot pastrami sandwich rumored to have been left in the air cleaner.*



Don't breathe a word but we hear that Washington's all set to standardize on engine rebuilding specifications.

These specs will include cylinder reboring, crankshaft regrinding, replacement bearing sizes, piston-ring oversizes, and piston oversizes.

Keep it under your hat, it's only a tip - when the official dope comes through, we'll pass it on to you personally before we tell a soul.

* * *

Reports of windshield breakage on jeeps come in here so often, we go to sleep at night with the sound of glass tinkling in our ears.

The trouble is some guys make too full use of their equipment - they think that because the glass in the windshield very conveniently swings out, they ought to swing it out.

Don't do it - there's plenty of ventilation and visibility in the jeep (if the windshield's clean) without swinging the glass up out of the frame. Ride with the whole windshield either up or down. That way your rough-ridin' won't be so apt to shatter your outlook.

* * *

A manufacturer's representative came in here the other day with a question.

He'd been driving along the road from Rehobeth Beach to Dover, Delaware, when all of a sudden half-a-dozen whirlwinds tore by. As the dust slowly settled, he made out that they were not really whirlwinds at all, but 2½ ton GMC's. He trailed them for a few miles satisfying himself that they were averaging something over 55 mph. Finally, he stepped on the gas and caught them.

"Why?" he asked the drivers, "Why?"

They couldn't think of a good enough reason - so he came in here.

"Why?" he asked us, "Why?" We couldn't think of any good reason so we're asking you. "WHY?" we ask you, "WHY?"

* * *

Two army recruiting trucks that pitched off the Raton Pass in New Mexico during the last war, furnish a warning to drivers of this war.

When driving in steep or mountainous country, use your brakes as little as possible - depend on your lower gears to slow down and control your truck.

The drivers of the two ill-fated trucks of the last war, wound down the mountain, pressing hard and often on the brake pedal to lose momentum. Heat sizzled up in the brake drums and lining, and then suddenly, when the brakes were applied, nothing happened. Hot brakes don't hold - they fade. Frantic stabs at the pedal brought no results. The trucks hurtled down faster and faster and at a sharp turn, left the road and crashed into the treetops 150 feet in the canyon below.

A good rule to follow: Use your brakes *last*, as little as possible in mountainous country - go into a low gear, come down the mountain in the same gear you had to use to go up.

You hear?

* * *

The good and earnest Mr. Hawkins of Willys made a breathless trip up here from the burning sands of CENSORED to give us this message: Two kinds of brush guards have been put on Willys MB jeeps - one is the welded type of guard which went out on a number of jeeps delivered, the other is the 'pressed' type which replaced the welded type on later deliveries.

The point is they are interchangeable.

That's all.

* * *

We hear that synthetic tires will shortly be sent throughout the field to certain organizations for testing purposes. If your outfit happens to be selected, you will take off your present tires and store them, if you have room, or send them to the nearest 'motor maintenance subdistrict' for storage.

The synthetics are made by four different companies and come in four sizes. You're supposed to put all-of-a-kind on any one truck, - that is, all the same size and make - don't mix them. The synthetics will be marked with the letter 'S' and you're supposed to keep a careful record of their use and behavior.

Looks like you're in on the biggest thing that ever happened to rubber in this country. Co-operate - fair treatment will give the synthetics a fair trial.

* * *

Too many stories are coming in of parts being thrown into salvage when with a little fixing (sometimes with no fixing at all) they can be made as good as new. The situation on parts is becoming critical due to the terrific volume needed here at home and abroad. (Incidentally, this is a bit of a tipoff to you on the unbelievable number of vehicles now pouring into Motor Transport).

So how about putting the screws on parts being thrown into salvage - give them a check and a double-check, turn yourself inside out to reclaim or rebuild them. Get them back on the stockroom shelves.

* * *

Some of the outfits ordered to embarkation points preparatory to going overseas, are making the mistake of getting rid of much of their motor transport equipment - including vehicles. This is a hell of a thing - you're supposed to keep all the stuff you're entitled to by the TBA's. If some of it needs repair, take it along to the embarkation point - they've got all the facilities to make repairs up to and including 3rd-echelon.

Any vehicle or equipment needing 4th-echelon repair should be sent off to the nearest 4th-echelon shop. If it's ready by the time the outfit is ready to ship out, it goes along; if not it's replaced from a pool maintained by the point of embarkation.

Take everything you're entitled to.

* * *

They're leaning over so far backwards to follow the letter of the law out in Texas, that everybody out there is practically in a back flip.

You know where it says in FM 25-10, 'When the driver anticipates a stop, he should make full use of the engine braking effect, disengaging the clutch in time to avoid stalling the engine.'

Well, here's what they're doing: A driver operating a vehicle on a smooth, dry, level road approaches an intersection where he is to bring the truck to a full stop. About twenty-five or thirty yards away from the intersection, he double-clutches, drops from fourth to third gear and re-engages the clutch, thereby 'using the engine as a brake!'

Now there's nothing terribly wrong with this and it's certainly the kind of thing you should do on a slippery, hilly, etc. road. But the main reason for doing it, besides the better control it gives, is to save wear and tear on the brake lining. Dropping down from a higher to a lower gear to get a braking effect on a perfectly smooth, level road wears the clutch facing unnecessarily. Wear on the clutch is certainly as bad as wear on the brakes - so what's the use.

Well, they always do things in a great, big way - deep-in-the-heart-of—*

* * *

Comes an item from an inspector who was cordially invited by a driver with a fine, sneering curl in his lip, to witness how easy it is to stick QM vehicles in an open field. The driver drove his tractor, pulling a 2000 gallon tank trailer (loaded), out into the sandy loam of the field and promptly got stuck. The engine was accelerated to about 1500 rpm and as the inspector waited for the next sensible move on the part of the driver, that clown stuck his head out of the window with a see-what-did-I-tell-you expression on his ugly face.

The inspector swallowed his disgust and patiently instructed the driver to engage the front-axle drive, shift the gears to low range, reverse the car for about six feet, and then pull forward through the same place.

Result: The car went through at practically idling speed.

The driver was so amazed that the hair almost dropped out of his head.

P.S. We sure wish some of our inspectors would keep outta them jungles.

* * *

The literati in the field have become more and more brazen in their stealing of maintenance manuals. No sooner does a vehicle arrive at a pool or depot, than they rush to the tool boxes and clear out every maintenance manual. We swear to blazes we don't know what they do with them - from the looks of some of their vehicles we're sure they don't read them.

New vehicles are not lending libraries - please stop borrowing the maintenance manuals from them. You're only depriving some poor sucker of the information he needs to care-for-his-car-for-his-country.

* * *

By this time it's no longer a rumor - it's a positive fact: The new fashions in military vehicles call for open cabs (spot airplanes easier) and wooden bodies (metal shortage). Our highly-placed informant (a flagpole sitter) tells us the new vehicles are already popping off production lines and by this time, some may even be out in the field.

Suppose this'll turn our sheet-metal men into lumberjacks.

Another open secret: *Amphibians*. As the Quartermaster General said in these pages last month, we need a vehicle that can run across-country, water or no water. And from the looks of the tests being made on a whole raft of pilot models, we're darn soon gonna get them. Complete with trailers that *float* behind them.

Sailing...sailing...over the... (but who ever heard of a boat with a flat tire?)

* Texas.

THE BELTSVILLE STORY

(Continued from page 113)

The new field schools, which will be administered by military personnel and staffed, for the most part, by civilian instructors, will function under the watchful eye of parent schools like Holabird, the Field Training Division of the Motor Transport Service, and the Corps Area headquarters concerned.

Springing to life like mushrooms, the new schools are ready for action almost as soon as the 'instructional cadre' sets a few supporting timbers beneath sagging buildings and chases out the hornets already in attendance.

In the case of the Beltsville camp, plans turned into action in the early morning of June 16th, when a small cadre of five civilian instructors from the Holabird Motor Transport School broke through the tangled wilderness and surveyed the scene of their future classrooms. The breeze fluttering their white polo shirts, they gazed about them, armed only with enthusiasm and a half-dozen copies of the 'F' course - the 'General Automotive Course for Enlisted Men' prepared by the Technical Service Division at Holabird.

"Holy smoke, Pat...," quavered one of them viewing the desolation.

But Gordon 'Pat' O'Connor, Chief Instructor - patriarch of the little group-consoled him with a pat on the shoulder and a few choice words to show that he thought so too.

Nevertheless, the little group pitched in and after a brief setback by a savage horde of bumblebees, hornets and wasps, managed to lay out a rough ground-plan for the new school.

Reinforcements, in the form of a handful of engines, engine stands, automotive parts, and blackboards followed soon afterwards from the parent school at Holabird - and school was in session.

All they needed was students.

These were sent up from Camp Lee, Virginia - 150 of them, selected for high aptitude, though only six weeks in the Army. Plans are to expose them to the course at Beltsville for three months - then pass them on to field units or to specialist schools elsewhere.

The instructors, after the school has become firmly rooted, may be scattered far and wide over the country to lend their experience to perhaps as many as 44 other available CCC camps, likewise to be turned into small, extension motor-transport schools.

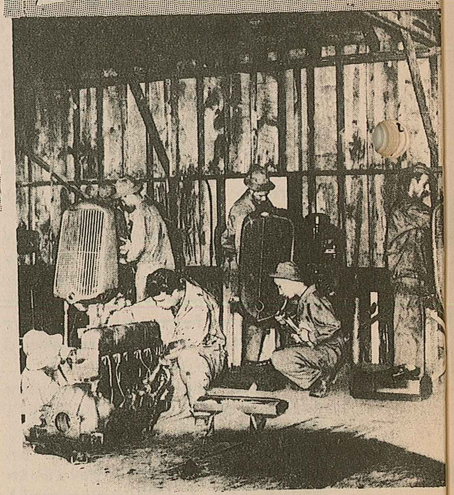
That's the plan of the OQMG - to turn out a horde of trained mechanics needed to service the huge, motor-transport armada pouring off the production lines. This in preference to 'short-cutting' or speeding-up the course of instruction which might turn out a large order of what is familiarly known as 'half-past' mechanics.

Backbone of the new program, is the 'F' course - the standard 'General Automotive Mechanic Course for Enlisted Men'. This standard course, prepared by a group of educational and technical experts in the Technical Service Division, with military requirements and 'field' limitations on tools and equipment in mind, has already met with the considered approval of both instructors and students at Beltsville.

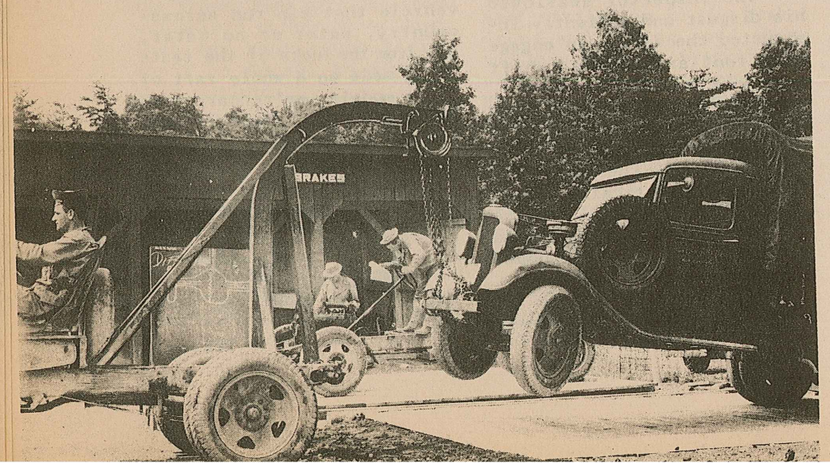
"Best * ©///#~~*XX ! course I ever saw," says Pat O'Connor.

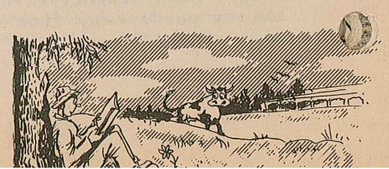
"Poifect!" say the students.

THE "ELECTRICAL" GROUP. *This is a small, open-end shed. Although not all their equipment has been delivered from the junk pile the students are learning how to pose with what they have.*



THIS IS BRENDA, THE WRECKER THAT DID AND IS DOING 80% OF THE WORK AROUND CAMP. *Here she is hoisting up a 1½ ton truck which will shortly come down with a crash, catapaulting the screwball in the front seat 600 yards into the woods behind the camp. (Brenda also has a soft tire).*





Broken down into 'Engines', Chassis', and 'Carburetion and Electrical', the course moves in assembly-line fashion from one end of the vehicle to the other. The school is arranged physically to carry out the assembly-line idea. The long, open shed, for instance (see pix) houses, in order, 'Dead Engines';'Live Engines' (with trouble-shooting on 'Engines in Vehicles' taking place on roads outside the camp) 'Chassis Units', which include clutch, transmission, propeller shaft; rear axles; frames and springs; steering; wheel-alinement and tires; brakes - and then the special features on military vehicles like transfer cases, live front axles, etc.

Aside from being a novelty and an expedient, holding classes in the open air under the Beltsville conditions has a number of advantages. In the first place, students get the sense of working in the 'field' which, for the most part will be their workshop when they graduate. In the second place, equipment and conditions being slightly on the 'thin' side, they learn to improvise. And finally, when the classroom tables are moved out under the shade of the old apple tree, the drowsy atmosphere of the classroom disappears and the students soak up more.

The remarkable thing about the whole Beltsville project is the way it sprang into being.

One day it was a ghost town of sagging shacks. Suddenly the 3rd Corps Area TM Training Officer dropped in, looked something over, said, "Hum!" Next day it hummed - a thriving community comfortably housing and educating almost 150 people. And practically no money spent or 'critical' equipment consumed!

Speaking of critical equipment -- to save metal, plans have been made for the 'classroom' engines to sit on wooden stands instead of the metal stands traditionally used. The engines themselves are mostly junkpile refugees salvaged by the instructors.

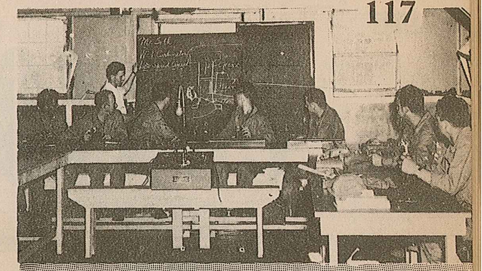
And what about the response of the students? As one man, they offer to roll up their sleeves and beat the ears off anybody with a harsh word to say against the camp or any part of the idea. The environment is fine, each group is small and uncrowded enough to provide plenty of attention for everybody, the outdoors instruction is a novelty -- and the food?

"Poifect!"

If the school at Beltsville is a sample of things to come in the 44 other CCC camps now in the Quartermaster General's hands, the old argument that the 'Army will make a man out of you,' is about ready for a change. Something like 'The Army will make a mechanic out of you,' might do.

But at any rate, let's all stand up and say nice things about the Field Training Division, Motor Transport Service, ably headed by Colonel G. A. Greaves The FTD planted the seeds of the idea and watered it with sweat. Credit the FTD in the golden book for the coming crop of mechanics.

Long may they wave.



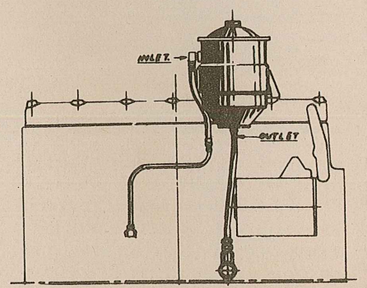
THE "CARBURETION AND ELECTRICAL" CLASSROOM. *Half the C and E group takes carburetors (in the picture), half takes electrical, Tables and seats were built for the school.*

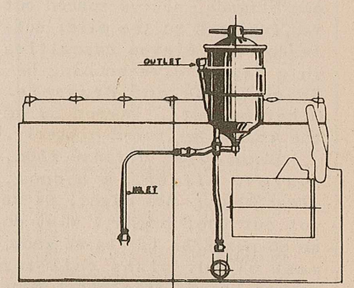
OIL FILTER CONNECTION

This sad little story will interest you only if you've recently gone crazy trying to figure out the oil filter connections on the 1/2 ton, 4x4, Dodge WC series (engine model T-207, T-211, and T-215).

Seems that page 64 of TM 10-1123 (maintenance manual) covering the T-207 engine series, shows a wrong hook-up - there's no such oil filter hook-up on the WC series Dodge.

The only two hook-ups used on the 1/2 ton, 4x4 are illustrated below. Paste a reference to them in your maintenance manual.





CONVOY DEFENSE

When you read stories of the R.A.F. blasting Nazi supply columns or see pictures of a line of trucks battered and burned after artillery or air attack - that's right in your department, Driver, Motor Officer, Truckmaster.

Well, then isn't it about time you gave a little thought to "Convoy Defense"?

FROM AN ARTICLE IN "QUARTERMASTER REVIEW"

Brigadier T.N.F. Wilson, in charge of a brigade of veterans at Dunkirk, gave words of cheer on a recent lecture tour about how it feels to be dive-bombed. The effect, he thinks, is 90% psychological. If the morale of the bombed outfit is high, the men will grin and bear it. But he saw many a French driver jump from his truck and run into the woods when the Stukas came over - leaving a truck to block traffic or crack-up on the roadside.

Brigadier Wilson declared road discipline, the subject most talked about in our own maneuvers, vital above and beyond everything else. His own brigade, always spaced out ten vehicles to the mile, suffered only eleven casualties in a day of dive-bombing between Lille and Brussels. Other outfits, jammed up on the roads, suffered bitterly.

Your first defense then, against attack, is a cool, clear head. All right, we've got our cool heads - what do we do next? As far as we know, most of our plans call for combat troops to protect convoys. But it's not hard to imagine circumstances when these will be conspicuous by their absence - leaving the unprotected motor trucks out on the old, greased limb.

What then?

Here's a few things they teach down at Camp Lee, Va.:

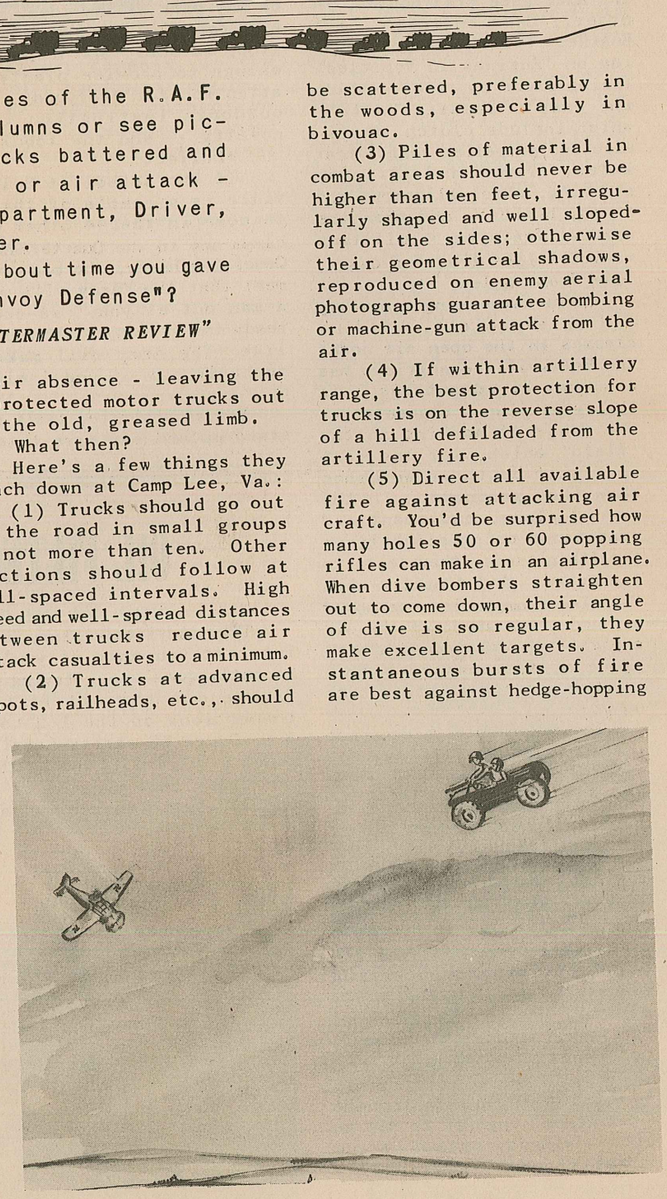
(1) Trucks should go out on the road in small groups of not more than ten. Other sections should follow at well-spaced intervals. High speed and well-spread distances between trucks reduce air attack casualties to a minimum.

(2) Trucks at advanced depots, railheads, etc., should be scattered, preferably in the woods, especially in bivouac.

(3) Piles of material in combat areas should never be higher than ten feet, irregularly shaped and well sloped-off on the sides; otherwise their geometrical shadows, reproduced on enemy aerial photographs guarantee bombing or machine-gun attack from the air.

(4) If within artillery range, the best protection for trucks is on the reverse slope of a hill defiladed from the artillery fire.

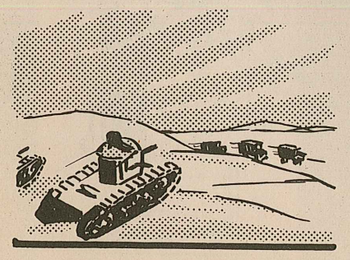
(5) Direct all available fire against attacking air craft. You'd be surprised how many holes 50 or 60 popping rifles can make in an airplane. When dive bombers straighten out to come down, their angle of dive is so regular, they make excellent targets. Instantaneous bursts of fire are best against hedge-hopping airplanes since they flash by in a couple of seconds. This kind of fire confuses their aim, forces them up and away.



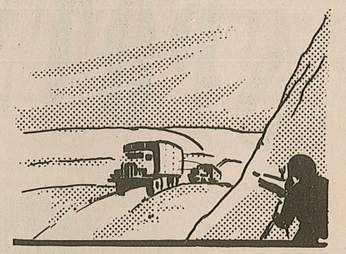
(6) Camouflage: Aviation pilots and observers agree that a small column of trucks, camouflaged with fresh cut foliage, moving slowly over a road at about 10 mph and well to the right is almost impossible to see. (EEEEEEEEEYYYYYYAAAAAAYYYYY!)

In the defense of convoys, there's only five kinds of attack you've got to worry about: (1) *Road mines* - These tear a hole in the road big enough to hold Goering. Cross country vehicles take them in their stride (except the first vehicle that discovered the mine.)

(2) *Enemy mechanized troops* - Careful reconnaissance of the route to be traveled ought to uncover these. In the case of a large convoy, a small advanced detachment should precede the regular column. This detachment can keep the enemy busy while the main column about-faces and scrams. A flank attack, can of course be countered only by dispersing or spreading the the vehicles.



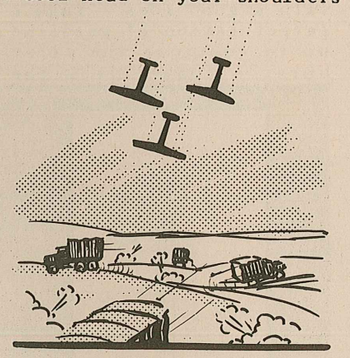
(3) *Ambush* - Defense against ambush is about the same as above.



(4) *Artillery fire* - This is, unfortunately, effective and accurate. Probably the best defense (when 'offensive' defenses are not available) is to run through the area under fire, in non-uniform groups, irregularly timed.

(5) *Air attack* - Defense against air attack depends on the circumstances. If the road runs through wooded areas, leave it and run the trucks in among the trees; on barren, level ground, break formation and zigzag at high speed, etc.

But at any rate, a clear, cool head on your shoulders



triples your chances of coming through with that same head on your shoulders.

Discipline of the group is the watchword. Individuals acting instinctively and on their own, breed confusion. Mass discipline - the unit responding to orders all together and coolly - reduces casualties to a minimum.

Say, why not run a convoy out on a field or a road and practice defense against the different kinds of enemy attack - hold 'little maneuvers?'

Willys SUPPRESSOR

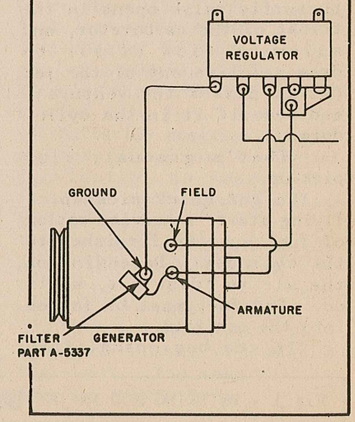
Because of a shortage of supply, a bunch of Willys jeeps (delivered under contract No.W-398-QM 10757 if that'll help you any) were shipped out to the field without condensers on the generators.

The vehicles are in the serial number group from 103001 to 113045 inclusive.

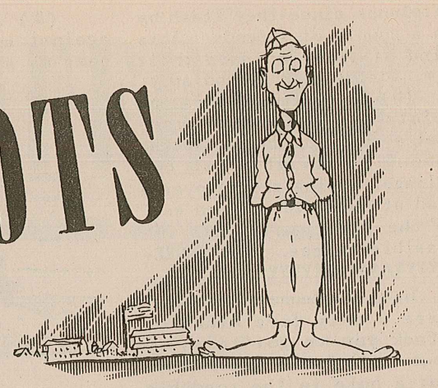
Since the lack of this condenser will put a loophole in your vehicle's suppression system, we'd advise you to requisition one from Ft. Wayne. They're ready for issue there now.

Order "Generator condenser filter", part No.A-5337, specifying your vehicle serial number. Install according to our diagram.

Add the part No. and location to your Parts Book and maintenance manual.



FLAT SPOTS



Does your Jeep have a *flat-spot* on sudden acceleration? That sudden nobody-at-home response as you push the gas pedal down?

Flat-spots in acceleration came with high-compression and high-speed engines. In the old, low-compression engines with their heavy pistons and flywheels, quick acceleration was a golden dream - and you probably couldn't get a flat-spot if you wanted one. High compression and light-weight moving parts opened the way for quick pick-up, and a snappy get-away. But they also introduced flat-spots to an already-suffering motoring public - and gave engineers the problem of carburetor 'calibration' or 'balance' to solve.

Speaking simply, an engine picks up speed *gradually* - the butterfly valve opens in the throat of the carburetor, and allows a flow of air to draw gasoline out of the jet (as it passes the venturi), and deposit it in the cylinders.

That's gradual, slow pick-up.

To get quick pick-up, a flying start, a heavier ration of fuel must be furnished to the cylinder. Depending on the air to 'draw' it, won't do. The fuel must be forced into the manifold.

In the beginning, this full, forced charge of gasoline was obtained by an accelerating pump added to the old carburetor. 'Mechanically' controlled, the pump was hooked by linkage to the throttle shaft. The charge it furnished took care of the first burst of power needed for quick pick-up.

But the first burst of power was all it took care of - after that there was an immediate slump, the pump had shot its bolt. The result, of course, was a 'flat' spot.

But then suddenly somebody got hit in the head with a good idea - rush a larger ration of gasoline up to continue the first burst of power from the pump - do it by making the jet bigger. No sooner said than done....and the flat-spot was licked.

Hands were shook all around and a few beers were hoisted on high to celebrate the occasion - until somebody suggested they take a ride. They did - and were up a stump again.

Enlarging the main jet had made the mixture too rich for cruising.

Finally, however, some unknown genius gave birth to a brainstorm - and the fight was over. Make the jet even larger, he said, and suspend a step-cut, metering rod (Fig. 1) in it. The rod would be dipped in or out of the jet by a linkage as the throttle was worked. The rod would be tapered - the tip small and the body larger - so that as it rode in or out of the jet, it would regulate the amount of fuel needed to keep the cylinders hopping along at a fast pace.

Thus with the throttle suddenly opened, the rod lifts out of the jet leaving only the small end there - allowing plenty of gasoline to pass. As the desired speed is reached and the throttle drops back to normal, the thicker part of the rod drops down into the jet cutting down the flow of gas through the jet. Result, an economical cruising speed is obtained.

That's the way your Carter carburetor works today.

Well, then, why do you still have trouble with flat spots?

To make a long story short, it's mostly a matter of timing. Take any perfect machine and disrupt the action between the parts and you'll get poor results. That's the way it is with your carburetor.

If the increased intake from the main jet is off-time or late, after the charge from the accelerating pump has been used, there'll be a lag - a flat-spot. The flow of fuel is interrupted.

What you'll have to do is *synchronize*, adjust for smooth action between the accelerating and the high-speed metering systems.

First, however, let's do the obvious thing - let's check the various parts to see that they're clean and in good condition. You can synchronize until you're blue in the face and still a poorly seating check-valve, worn piston, a weak arm-spring, a worn, clogged, or loose jet; or a worn throttle-connector rod and throttle shaft-arm assembly will bolix up the works.

When the parts involved are finally declared to be in good shape, go ahead with your adjustments.

Adjust the pump stroke with the pump gage T-109-117S (in the 3rd echelon Carter carburetion tool set) or a steel scale. Back off the throttle-lever adjusting-screw 'C' (Fig.3) until it's not touching the casting. To check the pump stroke, place the gage on top of the bowl cover, open the throttle wide – then measure the top of the pump rod. Close the throttle tight, and measure it again. The difference should be 17/64.

To adjust the stroke, bend the throttle-connector–rod at 'A'.

Your next adjustment is of the metering-rod, first, of course, making sure the parts are not worn or clogged. A worn metering-rod calls for both a new rod and jet - since they both wear equally.

Remove the metering rod (be sure the throttle-adjusting-rod screw 'C' is backed off) and put gage #T-109026 through the cover and into the center of the metering-rod jet. With the throttle closed tight, loosen the nut, move the metering-rod pin into the slot until it slips into the notch of the gage, then tighten the nut on the pin. Install the metering-rod and presto! it will be properly positioned in the jet.

(Of course knowing you as we do, we're sure you won't make the mistake of installing the metering-rod so that it misses the hole in the jet completely. But we have known it to happen, so be careful).

Here's another cause of flat-spots:

Sometime in the past, carbon formations in the bore of the carburetor may have made it necessary for you to increase the butterfly opening in order to get a proper idling speed. This upset one of the functions of the butterfly valve - to partly cover the idling port until a fuel reserve is needed. This fuel reserve is needed in the period between idling and 20 mph (when the high speed system cuts in). *But* with the butterfly position altered and the idling port uncovered constantly, no reserve is available and you get a flat spot.

How to fix it? It's simply a matter of cleaning the carbon out of the bore. Then, no more flat-spot.

Last but not least, slow ignition timing produces a flat-spot. You know what to do – get after it.

These are our prescriptions. We can't think of anything else that causes flat spots. If you can, let's hear about it.

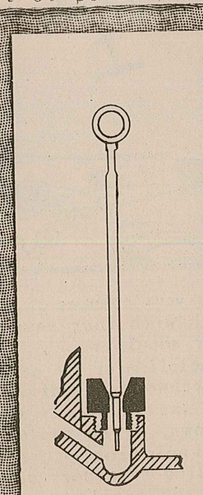


Fig.1 - METERING ROD IN JET

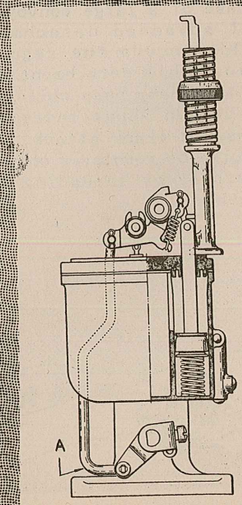


Fig.2 - PUMP TRAVEL GAGING
Bend at 'A' to adjust pump travel.

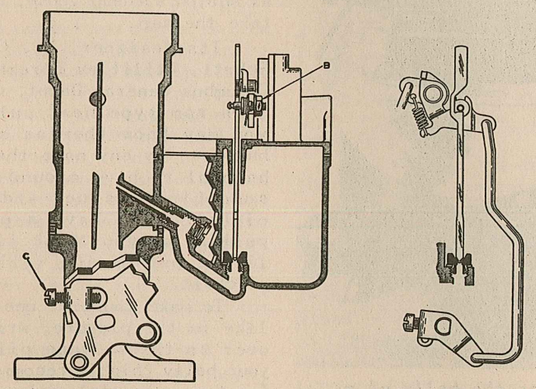


Fig. 3 - METERING ROD GAGING - *Remove the metering rod and install the gage. Loosen nut 'B' and move the pin until it slips into the notch in the gage.*

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.

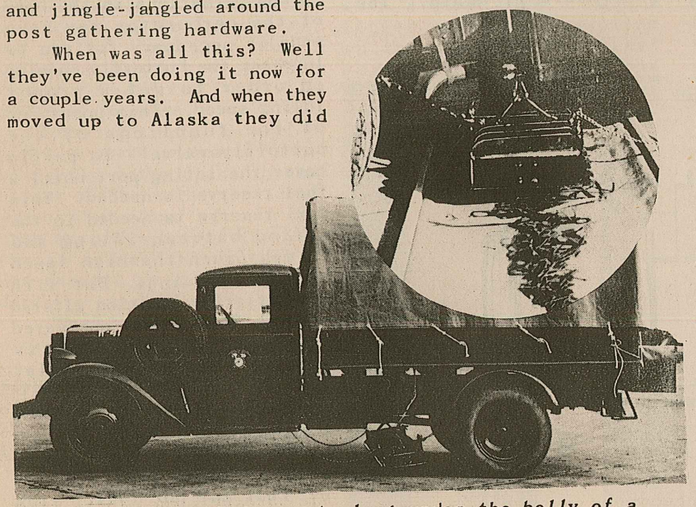
Have you got horseshoe nails and old cavalry-spurs adorning your company streets? Have you got a sprained back and a worried look from the tire situation? Do you want to do something about it? You do, don't you? Well, here's the answer from far-off Fort Richardson.

The 180th Quartermaster Company, formerly stationed at Fort Lewis, got annoyed about the alarming amount of rubber being murdered by odds and ends of metal that studded the roads like quills on a porcupine.

They didn't wait for a rubber shortage to start doing something about it. They made themselves a traveling magnet and jingle-jangled around the post gathering hardware.

When was all this? Well they've been doing it now for a couple years. And when they moved up to Alaska they did the same street-cleaning job on Fort Richardson.

Master Sergeant Justin H. Degrange, shop superintendent for the outfit and contributor of the device, says the whole works was assembled from the salvage heap. (At the rate we're getting gadgets from salvage heaps, we'll need a few articles on "How to Wreck Trucks to Replenish the Scrap Barrels.")



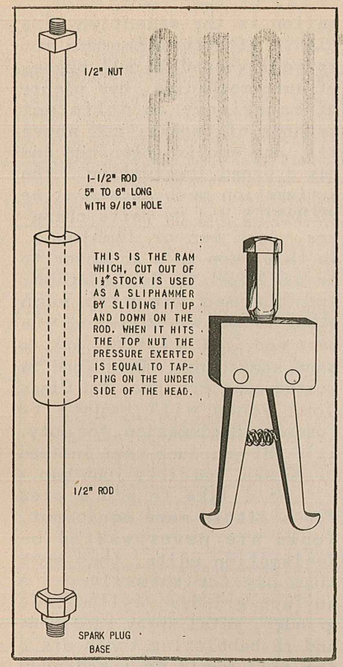
The finished magnet slung under the belly of a truck bears no resemblance to the heap of scrap it was assembled from. Inset shows the results of a few hours run at Fort Lewis.

At any rate, if you see your own salvation in this little-giant-nail-picker-to-end-all-nail pickers, just write us for complete plans and specifications (including advice on the best time of day to raid the salvage pile) and we'll ship them out by return mail. Address: Reader-Service Editor, Army Motors, Holabird Quartermaster Motor Base, Baltimore, Maryland.

Before we even let you smell this one, we'd like you to listen carefully and absorb a few cautions. Don't, *please don't* screw this gadget in the spark-plug holes so tight that you strip the threads in the head – also, please don't hammer the threads right out of the head. Sure as Adolph's a dead goose, we'll take the rap.

Its designer, Mr. O. E. Schott, Utilities Foreman at Columbus General Depot, calls it a ram-type head puller; you may know them as slip-hammers; by any name they're helpful to have around when something's stuck and you either don't have a power puller, or you think just a little persuasion will unstick it.

To make yourself one just like in the picture, wriggle over to the salvage pile on your belly (highly recommended for top-sergeants), and rummage for a retired spark plug, a piece of 1½-inch stock about 6 inches long, 18-inch length of ½-inch rod, and a ½-inch nut.



Slick example of tools that can be made from discarded odds and ends of scrap from salvage. What have you made?

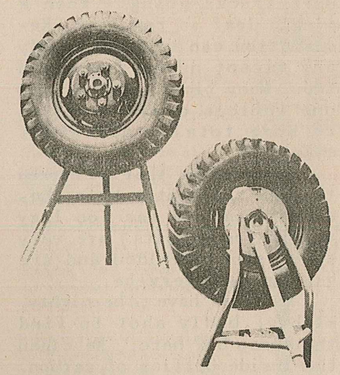
Weld the long rod into the spark-plug base, and thread the other end to take the nut. Drill a 9/16 hole in the steel stock, slide it on the long rod and screw on the nut.

A useful variation on the head-pulling-type ram can be made by welding an adjustable hook (like in the inset) on the rod to pull any number of odd-shaped parts like grilles, brush guards, etc.

One closing caution: since head-sticking corrosion usually gets a pretty good grip, try to loosen it as much as possible with a little rust remover around the studs, try to jimmy the head loose at the edges before using the ram, and if possible use two rams (one at each end of the head) with light hammer-blows to exert even pressure.

Always as good as our word, we're living up to a promise made last month to give you any news that came our way on the subject of wheel balancers.

This one, known as the static type, and looking like a fugitive from an archery range, was made by our old friends in the I.R.T.C. Motor Pool out at Camp Roberts. Great fellas, they are - it's got to the point now, where we *expect* at least one good idea from them every month.



While it won't do the job like a dynamic balancer, it's as efficient as any store-bought static type.

Assistant MTO, Lieutenant Edward P. Galba, who sent us the story, says they stripped a front brake-and-wheel assembly from a wrecked half-ton Dodge and removed all excess parts, leaving only the wheel hub, the bearings, and the backing plate.

They cleaned all the parts thoroughly to guarantee high-sensitivity rotation, and bolted the whole works to a piece of ¼-inch plate which they had welded to a trio of salvage-pile legs for a rigid stand.

Their claim for the device, which we believe to be reliable (coming from sources close to the Pacific ocean), is that with the use of 2, 3, and 6-ounce weights they have completely overcome shimmy, undue wear, and tire cupping.

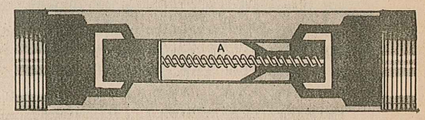
The excellent pictures of the device, sent in with the story, should clear up any construction questions you have left.

We've been getting so many ideas for highly technical devices that we're pretty positive the guys in the field didn't check their brains at the induction station.

Pfc. Kenneth Hoesli in Camp Forrest, Tenn. worked out a device to overcome a hazard that's had the engineers stumped for many moons. Here it is:

It's a by-pass valve to be placed in each of the four brake lines, which, when one line is damaged, closes that line, and allows the other brakes to stay in service. When you apply the brake, and a broken line seats the valve and closes off that portion of the system, pressure in the lines (behind the valve and in front of the master cylinder) holds the valve tight against its seat until the line can be repaired. If you've ever had a brake line spring a leak you'll know what he means, for the whole system goes haywire, and you wind up in a haystack. If you're lucky.

The return-valve in the master cylinder maintains pressure in all lines when the brakes are not in use. Therefore, Hoesli designed the spring that holds his valve off its seat (when in ordinary operation) but too weak to



Pfc. Hoesli's idea for a valve to be placed in brake lines. The valve (A) seats, blocking off line if pressure drops.

open the valve when the return pressure has dropped because of a leak.

Although it doesn't detract from Private Hoesli's shrewd headwork, this type device has been found impractical after years of experimenting. Heres why:

Engineers have found it practically impossible to maintain the fine balance needed in hydraulic-brake systems when the simple principles are complicated by additional units. So the several systems they have made to serve this purpose have been abandoned as impractical. Though we will doubtless see something of the sort in production sometime in the future, the workable answer is yet to be found.

If your complaint is the same as his, that although plenty of guys beef about reclamation (we suppose he means us), there are no set-ups that show just how to go about it, Master Sergeant Degrange thinks you'll welcome a few words about what his outfit has done to standardize and perfect a reclamation shop.

Okey, Sarge – take over:

A separate department, 20 feet by 30 feet (all we can crowd in) is set up in the shop and equipped with lathe, press, anvil and a complete line of hand tools and plenty of bench space. Large bins are provided to hold the different classes of scrap, brass, cast iron, etc.

As parts for units are exchanged at the Stock Room (and I mean *all* old parts must be turned in) the old parts go to Reclamation for inspection. If repairable, they are sent to the regular shop departments, repaired and returned to stock. If unrepairable, they are dismantled, every part inspected, the serviceable ones being returned to stock and the rest again inspected for other uses.

Remembering a song he knew during the last war, "There's a little bit of good in every bad little girl," Sergeant Degrange says one ingenious mechanic even went so far as to salvage some bad knocks and rattles by recording them for classroom-playback.

A special rack (constructed from scrap) is used to hold reclaimed spring leaves. When we get enough leaves, we assemble complete springs to keep more trucks going. When a single leaf is required, Reclamation can usually supply any except numbers one and two. Many times, leaves from one vehicle can be adapted to some totally different type.

Main leaves that are broken through the center hole (because somebody was too lazy to tighten U-bolts) are very successfully welded and are giving good service.

Mufflers have to be mighty, mighty, badly shot to find the scrap box here. We clean the inside baffles of carbon, roll new covers, weld and they serve the same purpose and look as good as new.

Broken windshield and door glass is cut to make back curtain or cab glass. It didn't take the Reclamation mechanics long to learn how to cut and polish safety glass as well as anyone — and with only makeshift equipment. Good glass cutting equipment would pay its way in a short while.

Broken speedometer cables from the larger trucks are cut down, new tips of the proper kind installed and presto, there's new Jeep, Ford, and other speedometer cables.

Dimmer, starter, and ignition switches flow through in a steady stream, a part here, a part there, a little paint on the outside, and who knows but what the manufacturer rushed it by Air Mail.

We believe that one of the most important policies to the successful operation of Reclamation is the selection of a highly efficient foreman who is well versed in all phases of auto mechanics, has plenty of experience in different methods of repair, and above all, one who is ingenious and has a broad imagination. The Reclamation mechanics must be MECHANICS and no parts changers, junk men or dumbjohns. In this shop it's an honor to be assigned to Reclamation, and the men vie with each other to see who dreams up the best and most practical way to save something. When word is posted that Pfc. Sec. 3rd Class John Jones will report to Foreman, Reclamation, for duty, it's "Hi-ya, luck-bag" instead of "G'wan, you dirty junk man."

We'd like to add a plea for a little more equipment. Tools are never wasted on Reclamation units, they more than pay for themselves. A surface grinder, cylindrical grinder, metal spray equipment and re-babbitting tools are a few that would be a godsend, particularly in places like this that are a long way from sources of supply.

Something else that would greatly improve Reclamation, are suggestions from various centers as to their methods, new kinks, uses made of reclaimed material or anything of interest to Reclamation Mechanics, and Brother, we mean mechanics. Not junk men.

Contributions

You can add to the value of your contribution by following these tips when submitting material:

First — while we don't expect fancy, draughtsmanlike sketches, you can help us do your idea justice by making your drawings clear and neat, with lots of descriptive nomenclature.

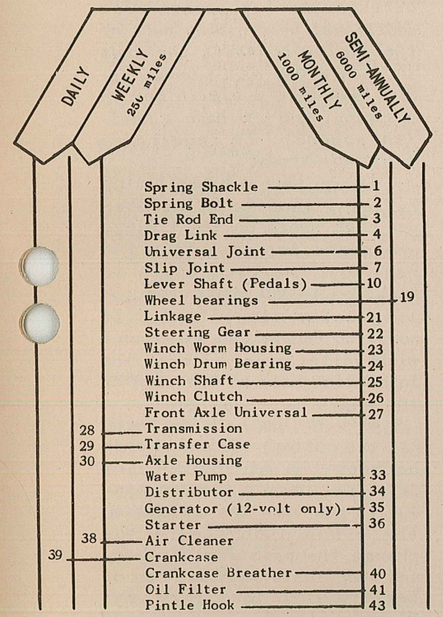
Second — whenever possible, send us good photographs, and tell your photographer you want high-contrast, gloss prints. Have them made as large as you can afford, within reason. Say, at least, no smaller than 4x5 inches.

LUBE CHART FOR 3/4 TON DODGE 4x4

Models WC-51, WC-52, WC-53, WC-54, WC-56, WC-57, WC-58

Because the production lines are way ahead of the printing presses, a few thousands of the new 3/4 ton Dodges were delivered to the field without maintenance manuals.

To help you get oil and grease into the right places on them, here's a beautiful, new lubrication chart - which, we are proud to state, is even better than the lubrication chart in the manual. Don't be afraid to use it - it's official.



TOOLS

Cleaning Rag
Screwdriver
Open End Wrenches
Adjustable Wrench
Drive End Wrench 3/8 in.

INSTRUCTIONS

Trucks operated in severe service, dust, sand, etc. require more frequent lubrication.

Clean and lubricate all parts shown in order indicated except those requiring disassembly.

Clean all vents.

Check and adjust level in housings and change lubes in housings according to present practice.

D-Requires disassembly
I-If crossmember interferes, grease through opening in the front compartment floor.
R-Requires removing and replacing plugs or parts.
V-Vent
W-If equipped with winch

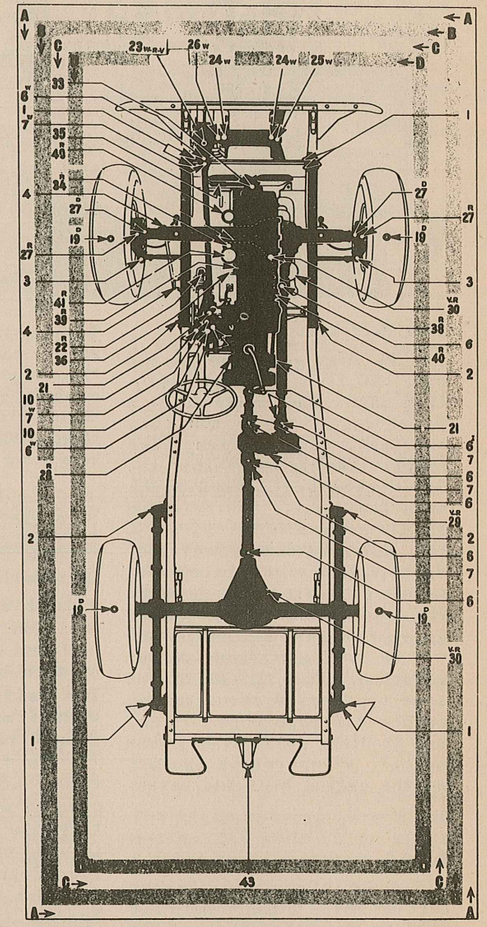


CHART OF LUBRICANTS

BELOW VEHICLE

Frame A – GREASE, general purpose No. 1 (above + 32°)
No. 1 or No. 0 (+ 32° to – 10°)
No. 0 (below – 10°)

B – LUBRICANT, gear, universal (GO)
Except item 21 – OIL, engine

ABOVE VEHICLE

Frame C – OIL, engine (OE)
Except items 33 – GREASE, water pump; and 22, 23 – LUBRICANT, gear, universal

Frame D – GREASE, general purpose No. 1 (above + 32°)
No. 1 or No. 0 (+ 32° to + 10°)
No. 0 (below + 10°)

Except 19 – No. 2 Grease.

TABLE OF CAPACITIES WITH RECOMMENDATIONS AT TEMPERATURES SHOWN

	Capacity	Above +32°	+32° to +10°	+10° to 0°	Below 0°
Crankcase	5 qt.	OE SAE 30	OE SAE 10	OE SAE 10	OE SAE 10
Transmission (*)	3 qt.	GO SAE 90	GO SAE 90	GO SAE 90	GC SAE 80
Transfer Case	2 qt.				
Axle Housing (each)	2¼ qt.				

(*) With power take-off 3½ qt.

3/4 TON Lube Tips

C. PRE-LUBRICATED UNITS – Clutch release bearing, 6-volt generator bearings, power take-off (used with winch), throttle control linkage, transmission drive pinion pilot bushing, speedometer cable.

6. UNIVERSAL JOINTS – Lubricate from under chassis except where cross member interferes. On such models, front fitting on transmission to transfer case shaft reached through covered opening in floor of front compartment.

27 FRONT AXLE UNIVERSAL – 4 plugs (2 each joint). Unscrew both top and bottom plugs and screw angle fitting in top hole. Fill until grease shows at level plug. Reinstall both plugs.

30. AXLE HOUSING (Front and rear) – Maintain lubricant to level of filler hole. Clean vent at top of housing. Rear axle vent holds brake T-fitting

35. GENERATOR – 6-volt generator has pre-lubricated bearings.

38. AIR CLEANER – Remove cover, inspect oil level. If raised to 'Caution Level' or below 'Normal Level', clean reservoir cup and refill to 'Normal Level'. Remove filter element, wash in kerosene, dry and dip in fresh OIL, engine, SAE 50 above + 32°; SAE 10 below + 32°.

39. CRANKCASE BREATHER - If oil level is between 'running level' and 'half-full' add one quart.
Oil should not be added unless level is below 'running level'. The level should never be allowed to drop below the 'Half-full' mark.

Sgt. "HALF-MAST" McCANICK'S Question Dept.

Dear Half-Mast:

We just got some 2½-ton 6x6, GMC trucks, Model 1942 - CCKW 352. When operated at a speed of 25 to 30 mph they overheat, with the temp gage needle leaning up against the 212-degree peg like a drunk on a lamp post. If the speed is increased from 35 to — (Ed. Note: We didn't hear you, Sarge, 35's the limit) the temp will return to normal. The engines have been run 24 hours, at least. How come?

We have another 64-dollar question. Our '41 GMC of the same type has a zero-reading on the oil gage when idling, and it drops considerably from normal, at operating speeds, as the engine heat increases.

E/Sgt. J.G.G.

Dear Sergeant:

About those 6x6 Jimmies gettin' hot. I can't help but believe that they just aren't broken-in enough, or that some minor adjustment will cool their brow — for we haven't had any kicks before. Try adjusting the fan belts, check the timing and valve clearance, inspect for mud-insulation on the oil pan, oil condition, dragging brakes, paint on the radiator core, and all the little routine checks including checking head and manifold bolts, and see what you can see.

The '41 model with its flighty oil pressure — is something else again. Recommend that you take a gander at Technical Service Bulletin #M-10, and #M-13. They cover this same complaint, and will probably be just what the doctor ordered. Might have to change the oil pump. Let us know how you come out.

Half Mast

Dear Half-Mast:

It's hard to keep our position secret when a couple half-ton weapon-carriers sweep up to a stop with a flourish. The wails and squawls that come from their brakes are enough to wake up the dead.

So far, we've cleaned them, adjusted them, and pleaded with them, but still they squeak. The linings are in good condition, about half worn down, but no rivets or dirt are contacting the drum. What's the cause of that?

Pvt. A.L.B,

Dear Private:

You've brought up a subject that's reared its ugly head off and on since the beginning of the horseless carriage. If I even tried to outline the many causes of brake squeak — there wouldn't be enough room left on this page to hide a comma.

But we'll touch on an item that's likely to be your trouble on these particular Dodge trucks, and if it doesn't stop the squeak, we'll mail you an anchor and hawser to help stop 'em quietly.

The most important, and most common condition that causes brake squeaks on linings that are partially worn, goes something like this: *Wear at the toe and heel of the shoe not being uniform, shoe-to-drum contact—area varies between the two points with additional wear. Soon part of the lining contacts the drum in such a way as to cause vibrations like a violin bow on a string, and you have a hellish squeak. It requires a major adjustment.*

If you have a brake-lining refacing tool to bring down the high spots on the lining, and gages for measuring the heel and toe clearances in relation to the drum, the job is greatly simplified. If not, you can get an adjustment with feeler gages through the inspection hole at the edge of the drum.

Give the heel of the shoes (at the bottom) .006 clearance between the lining and the drum, by turning the anchors. But if you turn the anchors in the wrong direction -- you change the position of shoe, and complicate matters — so be sure to turn them this way: First, with the drum removed be sure that the little arrows on the head of the anchor bolts are pointing towards each other. Don't start the adjustment until they are. Then to decrease the distance between the drum and heel of the shoe, turn the right hand anchor-bolt counter-clockwise, and the left hand anchor clockwise. This moves the shoe outward and downward.

You give the toe of the lining a .012 clearance by turning the brake shoe cams, as in any minor adjustment.

By thus centralizing the shoes in the drums, the most common cause of squeak is eliminated.

If brake drums have been undercut without shimming up the linings or otherwise making sure of good contact, squeaks may occur.

Let's hear how you come out on this one.

Half Mast

Dear Half-Mast:

The 1942 Ford and Willys jeeps are giving us some trouble. It's not very serious, but trying to find a solution has all our civilian instructors tearing out what little hair they have left.

When we accelerate these trucks quickly, they seem to hesitate and choke down for a few seconds. They tend to jump and jerk until they pass over what might be described as a *flat spot* in the engine.

Do you have a tonic for these little 'summer complaints'?

M/Sgt. G.L.P.

Dear Sergeant:

Turn to 'Flat Spots' on page 120 -- a complete article on the subject and inspired by your letter, was a little too lengthy to include in my department.

Half Mast

Dear Half-Mast:

A nearby outfit sent us a Hydrovac unit for repairs, which brought up the following questions:

1- How can we tell what ails it? A Hydrovac without the truck is like a button without the pants.

2- Our supply base doesn't have the parts, where ketchum?

3- With no test board, how will we know if we've fixed it?

4- Would you advise by-passing the unit, to put the truck back into service?

T/Sgt. L.D.

Dear Sergeant:

With a sick Hydrovac, and no truck to test it on, or parts to fix it, you are neatly draped over a barrel. See if you can't get a replacement unit for the truck.

By-passing the unit could easily 'lead to bloodshed'. Trucks were equipped with them because they needed additional braking power when loaded. Without the unit a guy might stop a couple feet too late, come an emergency.

The grief some of the other boys ran into was failure of the vacuum device to release the brakes after application. They found the valves were not contacting the rubber seats. Then, in the case of low or spongy pedal, bleeding the unit was found to be the solution.

Let us hear from you again, with an easy one.

Half Mast

Dear Half-Mast:

I'm new at this army game and was sure pleased to find your department in Army Motors. It's especially appealing to me because of the high caliber of the questions as well as the answers.

Many of the instructors here at Camp Barkeley often call my attention to things on the various trucks that are interchangeable, like the fact that all instrument-panel gages can be used on any vehicle; or that all blackout-lighting equipment can be used on any of the trucks. We find many of these facts to be so helpful in replacement work that we wondered why there isn't a book or a manual on the subject.

Like to compliment you highly on your magazine in general and on your write-up of the 3/4-tonner in particular.

Civilian Advisor D. P.

Dear Mr. Advisor:

It is to blush at your rosy view of me literary efforts. I am sorry you haven't been reading Army Motors long enough to have seen our stories on the manual you say is needed. In fact it's two of them, and they'll bring sunshine and harmony to your parts rooms. One is the Parts Common Manual, the other Parts Interchangeability Charts. You can get one of each (if you're entitled to them), by writing through channels to the Parts Standardization Branch, Office of the Quartermaster General, Washington, D. C.

Half Mast

Dear Half-Mast:

When I read Army Motors I feel like a broke and hungry drifter with my nose crowding a bakery window. I see the food on the inside, but it's always just out of reach.

Take the Parts Common Manual and the Interchangeability Charts I saw in the December issue; the article said to write the O.Q.M.G. for copies. There's a regulation against writing direct to the O.Q.M.G., so I sent my request through Corps Area. That was several months ago.

I'm still drooling at the window.

Pfc. N.L.B.

Dear Private:

I think I can help you get the right answer. Maybe you better get your CO to write for the books you want and ask him to stress the urgent need your parts department has for them. I don't think anybody intentionally gave you the nod, it was probably just an oversight and I wouldn't take it too much to heart. Try once again, (using the proper channels), and let us know how you make out. Just keep in mind that the Parts Standardization Branch of the O.Q.M.G. spends a raft of time and effort on those books, so they sure want you guys to have 'em as soon as possible.

Half Mast

Dear Half-Mast:

There's something screwy around here. Maybe it's me, but I hope it's the Fat Man. Here's the story: We're just poor boys from the Deep South and we love GMC's like we love our corn pone and pot liquor.

We're nice to them, and they're nice to us.

So, when a fat man came to us and told us he was a GMC factory representative, we listened. Then he talked some more, and our old shop foreman retired to a dark corner under the bench, and wouldn't come out.

We got suspicious.

It seems the fat man told the foreman to change our usual oil-changing procedure, which with us, as with our forefathers, has been to drain the old oil, add flushing oil, run motor, drain flushing oil, and then add new oil.

Instead here's what he told us to do:

1- Crank engine and run it with old oil for 30 min. at 185°. 2- Drain old oil. 3- Put in 18 qts. of #10 cylinder oil. 4- Run 30 min. at 185°. 5- Drain #10 oil. 6- Fill up with reg. oil. 7- O.K.

Finally the foreman darted out from his hiding place long enough to ask the following:

A - Isn't that a waste of #10 oil? We're supposed to be conserving oil, you know. B - What, if anything, do we gain by such foolishness? (We pulled the crankcase after the fat man's operations, and it was as dirty as hell). C - Got an aspirin?

Hoping that you will tell us that the fat man is wrong, I'll remain your friend and admirer - until the mail brings me your answer.

Tech. Sergeant S.T.B.

Dear Sergeant:

1- Here's your aspirin -- I buy 'em by the crate.

2- Is the fat man wrong? Yes, and no.

That's the trouble with fat men, they tell you something — and don't tell you the 'why' of it. Disgustin' ain't it? But here's the story:

You see, the oil situation changes. We now have an oil that has to do a lot of jobs, doesn't mix so well with all the oils that went before, and it has certain detergent qualities (cleansing, purging) that don't go so well in a sludge-loaded engine. So they give out rules. (You better get a Training Circular Number 32, and read up on 'em).

If your engine is new, or is rebuilt and just completed its 300-mile run-in period, you can fill it with the new all-purpose engine oil without any precaution other than changing the oil filter and using the proper grade. (And until the new oil is in general use, vehicles having it should be marked in some suitable way, like a tab on the oil dipstick).

If the engine is reasonably new, and considered to be fairly free of sludge -- which you can usually find out by examining the oil filter cartridge — a new oil filter can be installed (the old one is okey if clean) and the new oil be used. The old oil is drained while the engine is at operating temperature.

The vehicle should be operated normally for 300 miles and the oil-pressure gage watched for pressure drop to make sure loosened sludge isn't blocking the passages. The oil should then be drained, the filter element examined — replaced if dirty, and the crankcase refilled with fresh oil.

Now — here comes the part about using new oil to flush an engine you think is sludge filled. The object is to remove the sludge so it won't clog up the lines and leave you with burned out bearings. You drain the old oil while the engine is hot, clean the filter case, and install a new cartridge. Put in new oil, (one-half the usual capacity) and run the engine at a fast idle for one-half hour, watching the pressure gage constantly.

Inspect the filter unit. If it's heavily sludged — replace it with a new unit, and change the oil in the engine again to the half-full mark. Repeat the operation until the unit comes through the performance clean.

Then with the crankcase full, give it a 100-mile run on the road, but keep an eye on the pressure. Change the oil and the cartridge, and if they are reasonably clean, the vehicle can go in regular service. But continue to keep an eye on the pressure gage to be sure no loosened sludge clogs up the lines.

If the oil pressure drops at any time during operation, or if the engine is found to be exceptionally dirty inside, it should be cleaned mechanically by removing the pan.

Half Mast

Dear Half-Mast:

We've had some trouble with body panels on our WC Dodges. The metal has been tearing where the seat holders are mounted on the ½-ton weapons carriers. We experimented a bit and found that by moving the seat holders so they overlapped the stake-pocket flanges, the strain was distributed over a wider area and the tearing action stopped.

Have you had any reports of this trouble; and if so, what do you think of our plan to correct it?

Private L.H.S.

Dear Private:

Good...Good...your idea for the change-over is entirely practical. But somebody should have told you long ago it's the manufacturer's job to fix them. In fact most of them have *been* fixed. Any you have that weren't, are to be strengthened by cowl-to-side-panel reinforcements ordered gratis on a consolidated requisition through your quartermaster. Your area service-manager will arrange for factory help on the change-over. Army Motors original mention of this was on page 176 of the September issue.

Half Mast

NEWS FLASHES

Where Credit is Due

A LETTER FROM MAJOR C. J. EDDLEMAN INFORMS US THAT WE GOT A BUM STEER ON THE PORTABLE WHEEL-LIFTER THAT APPEARED ON PAGE 92 OF THE JUNE ARMY MOTORS. CREDIT FOR THE DESIGN, CONSTRUCTION, AND ILLUSTRATION REALLY BELONGS TO TECHNICIAN FOURTH GRADE THOMAS A. VANCE, INGENIOUS MAINTENANCE-MAN AT THE AIR CORPS ADVANCE FLYING SCHOOL, VICTORIA, TEXAS. ARMY MOTORS REGRETS THE ERROR.

Dry-Clutch Indian

IF YOU HAVE AN EARLY-MODEL, SHAFT-DRIVE INDIAN MOTORCYCLE, IT MAY HAVE A PLUG ON THE TOP OF THE CLUTCH HOUSING ON THE LEFT SIDE UNDER THE AIR CLEANER. SPOT-WELD OR GRIND IT OFF — ABOVE ALL, DON'T PUT OIL IN IT — IT'S A DRY-PLATE CLUTCH.

A.P.O. Numbers

ONCE YOU'VE BEEN ASSIGNED AN APO NUMBER, USE IT. ALWAYS USE IT — DON'T TRY TO SPEED UP THE MAIL BY USING ANY OTHER ADDRESS... IT MAY MEAN WEEKS OF DELAY IN CORRESPONDENCE, TO SAY NOTHING OF THE FACT THAT IT'S AGAINST REGULATIONS TO PASS ON THE ADDRESS OF A TEMPORARY STATION.

Valve Caps

GIVING THE GENERALS FIDDLESTICKS TURNED OUT TO BE JUST THE RIGHT PSYCHOLOGY FOR INFLATOPHOBES. DO WE HAVE TO SUPPLY THE OFFICERS BLACKSNAKE WHIPS TO REMIND YOU TO KEEP VALVE CAPS ON ALL THE TIRES ALL THE TIME?

Fort Jackson

KNOW WHAT THE GOVERNOR OF SOUTH CAROLINA SAID TO THE GOVERNOR OF NORTH CAROLINA? "FORT JACKSON SURE AS HELL AIN'T IN NORTH CAROLINA." (page 109)

The Cover

IF YOU SHOULD HAPPEN TO GET A BRIGHT IDEA THAT YOU'D LIKE TO ADOPT THE HULA DANCER ON OUR FRONT COVER AS A REGIMENTAL INSIGNIA (WE DON'T KNOW WHY YOU WOULD), YOU'LL DO WELL TO TAKE A LOOK AT AR850-15, WHICH HAS A FEW CHOICE WORDS ABOUT PRESCRIBED MARKINGS FOR VEHICLES.

Brake Lining

IT'S SO EASY TO GET THE RIGHT BRAKE LINING BY ORDERING KITS SPECIFIED IN THE PARTS COMMON MANUAL, THAT EVERYBODY IS WONDERING WHAT MAKES A LOT OF YOU SEND IN REQUISITIONS FOR ROLLS OF LINING. BESIDES NOT NEEDING TO BE DRILLED, GROUND, CUT, BURNED, OR COUNTERSUNK, PACKAGED LINING IS ALWAYS THE RIGHT KIND FOR YOUR TRUCK AND COMES COMPLETE WITH RIVETS READY TO INSTALL. ROLL-TYPE LINING IS TO RENEW EMERGENCY BRAKES ONLY.

Replacement Filters

ONE OF THE THINGS THAT CAN HAPPEN IF YOU DON'T INSTALL THOSE REPLACEMENT FILTERS THE WAY WE SAID TO ON PAGE 41 OF THE MAY ARMY MOTORS, IS A PRESSURE BUILD-UP THAT FORCES YOUR OIL THROUGH THE OVERHEAD-VALVE ROCKER-ARM SHAFT, THEN OUT TO THE GREAT OPEN SPACES BY WAY OF THE LOUVERS.

What do you need?

YOU'VE been out there in the field for some time now. In the beginning, they gave you a job — they made you a driver, or a 2nd, 3rd or 4th echelon mechanic, maybe a Motor Officer or the head of a truck company.

A bunch of hardworking men over in Washington studied your job, figured you'd need certain trucks, tools, and equipment. They gave 'em to you.

All right, you've been out in the field some time now doing that job, using those trucks, tools and equipment. How are things working out?

Is there anything more that you need? Is the stuff you got okay?

You're the greatest testing laboratory in the world. Probably every possible angle or freak that's going to turn up in your work, has already turned up. Have you been able to beat them with the tools you've got?

We're not asking for gripes because we like to hear gripes, we're not asking for suggestions because we're looking for a lot of extra, unnecessary work.....

We're just trying in our own clumsy way to help you do your job better. If you've got a case, we'd like to handle that case and bring it to the attention of the people who run this show. (If you can keep your mouth shut, we'll let you in on something: the people who run the show, asked us to ask you).

Don't send us in a swell idea for a combination crane and steam-hammer for 2nd echelon use. Be practical — realize the limitations of your job and the mobility it requires.

Well, let's not waste time — if there's anything you need, you've needed for a long time — now's your chance to unload. Shoot your letters in here where your opinions are welcome — don't be bashful. Answer the simple interrogation: WHAT DO YOU NEED TO HELP YOU DO YOUR JOB BETTER?

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