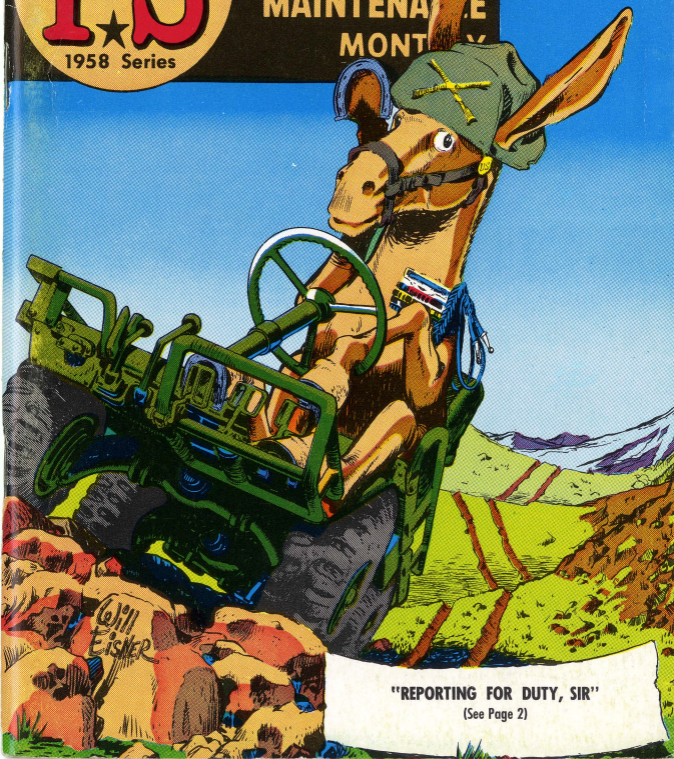


Issue 68

PS

1958 Series

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY



"REPORTING FOR DUTY, SIR"

(See Page 2)

Ladeeze and Gentlemen... Step right up  
and meet the one, the only—

# MECHANICAL MULE



This tin critter is the infantry man's best friend—(next to his rifle, o'course). It can carry up ammo, carry back casualties, mount a reckless rifle, haul a mortar, and what's even better, now and then it comes putt-putting in with a back-load of hot chow.

It can go just dog-gone near anywhere a rifleman can go. Cross-country, up hill, down dale, and around, in and out between the trees and the rocks. You can steer this little beggar on all four wheels when you have to and it'll weave in and out of a ten-foot circle. In other words, it'll turn on a dime and hand you back a nickel change. It can carry a load that weighs more than it does. She's a dilly.

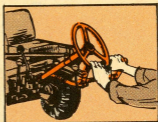




This talk's about the new "Mechanical Mule," the Carrier, light weapons, infantry, 1/2-ton, M274. It's a sort of a four-wheel cart with an air-cooled engine to drive it. There's a driver's seat up front for operation cross-country in rear areas.

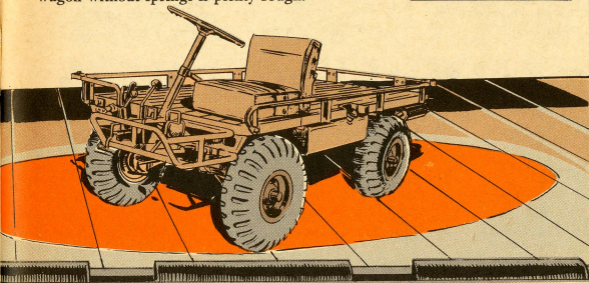
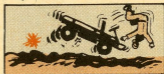
When you get up where the trouble is and unfriendly characters are so impolite as to point firearms in your

direction, you climb the blazes down off that seat, pull the steering wheel brace loose, swing the steering wheel over front and down and you can back the machine anywhere you want to—while keeping your head down for your health. You can walk behind it or crouch when needed. Half-Mast, being lazy, aims to rig him a sort of toboggan so he can plumb lie flat down and drive.



Your Mule will be around about 4x8 feet, give or take a few inches. With the seat stowed and the wheel over front, she's only 27 inches high. In riding position, your buggy's still less than 4 feet high. Except for the foot and a half or so that the seat takes up in the front corner, the whole platform is available for loading. So, you can keep the load pretty low, too. Payload capacity of the vehicle is 800 pounds—which is more than its big sister, the Jeep, can carry.

There are a couple of disadvantages to this beast. First, she'll only do about 25 miles an hour, and second, you've got no springs. You farm boys know that a wagon without springs is plenty rough.





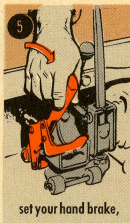
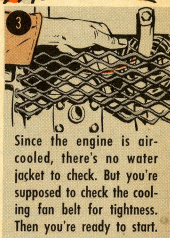
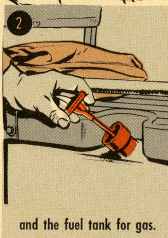
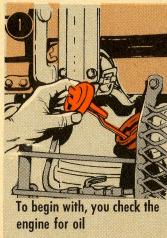
Anyway, this machine isn't designed for the road. Given good roads you'll pick it up, shove it in the back of a deuce and a half truck, block it and then fling the load in behind that. The crew climbs in on top of that and away you all go.

This tin critter only weighs about 900 pounds, so four good men can pick it up real easy. She's designed to be operated up front where the trucks can't go. There's no cab on her, but then nobody in the front-line area has a cab up anyway, so you get wet when it rains.



## OPERATION

So leave us look at this little brute and see how you operate it.





There's one trick to remember with any pull-type starter on a Mule or on a chain-saw or anything else. That is to pull easy on that cable until you know that it has fully and firmly engaged the dogs. You ease out on the cable till you feel a stout pull, then you give your yank to start the engine. If you just jerk and pull on it, you batter the starting dogs and you may tear up the starter. Never let go of the starting cable handle after you pull it forward—rapid rewinding by the starter sheave could cause the cable to snap or break.



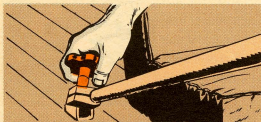
Once your engine takes off o'course, you close the choke, adjust the hand throttle as it warms and close the hand throttle for idle.



Put the auxiliary shift lever forward for high-range, depress your clutch, engage your conventional transmission in low gear and drive off—same as any other vehicle.

You operate in high-range, of course, on good roads, or good trails. But if you find you have steep hills or extremely rough terrain to cross, stop, shift to low-range, take off again in the low ranges using your conventional transmission through low, second and high, same as before. To stop, it's the same as any vehicle. You slack off your throttle, apply your brake, declutch, shift to neutral and, if you park the vehicle, set the hand brake. At which time you can reach under and shut off the ignition switch.

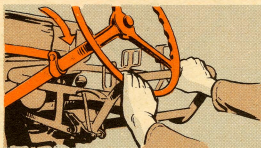
That's all there is to it for safe cross-country operation. But when you encounter either extreme rough cross-country or enemy fire then you'll want to get down off the vehicle and operate it from the ground.



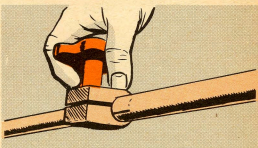
To do this, you release the latch on the steering wheel brace



and the lock pin in the steering gear box.



Put the wheel over forward



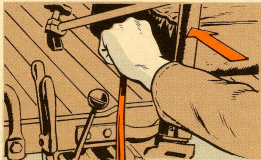
and latch it.



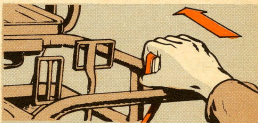
Then shift the vehicle into low-range—that is, bring your auxiliary shift lever to the back position.



Now when you come to engage the main transmission, you'll have to squeeze the clutch pedal down by hand...



and put your main transmission in reverse.



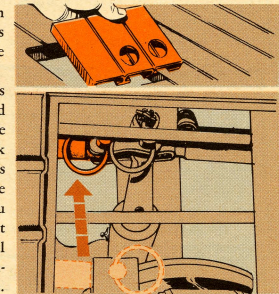
Then release clutch slowly.

Being in low-range and in reverse, the vehicle will move as slow as 4-MPH so it'll start off easy and you can walk right along behind following it. You set your speed by your hand throttle. You can duck as far as the situation requires, and you can steer from the position you're now walking in. If the territory is going to call for extremely sharp turns, if you've got rough ground—lots of trees, rocks, and so on—you can put the vehicle into four-wheel steer.

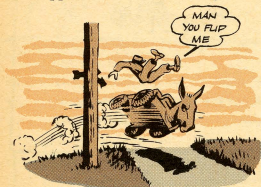
To do this, stop the vehicle and open the small plate on the platform which is located just to the right and behind the seat.

In there you'll find the steering clevis for the rear wheels—it's on a long rod and it's hooked up to a bracket on the right hand frame member. Pull a lock pin out of that clevis pin, pull the clevis pin out of the bracket, and move the rear wheel steering rod over 'til you can put the clevis pin back through that hole on the front wheel steering bell crank. Be sure to seat the clevis pin firmly home and put the lock pin in again.

You're now in four-wheel steer. Which means your rear wheels will turn in the opposite direction from your front wheels and the vehicle'll practically turn on a dime.



You can also use four-wheel steer when driving from the driver's seat if the condition of the terrain requires a sharp turning radius. Now, be careful not to drive too fast in four-wheel steer and not to leave the vehicle in four-wheel steer when you know you're going to be driving fast, because you'll find it's extremely responsive and you might flip it.



**CAREFUL**—One thing you've got to remember. This vehicle has only one brake drum. It's located on the front-axle power input, and it's the only brake on the vehicle. This brake is adequate and'll give you control and stop you safely in any but the wildest kind of driving. However, you do want to use your gears for descending long grades. Shift clear down to low in the transmission and, if necessary, into low-range. Descend your grades in gear to save wear on the brake drum. Then when you need the brakes you'll have 'em.





## COLD WEATHER-



In temperatures from 40° F to -10° F you refill your engine crankcase with OE 10. In temperatures from 0° F to -65° F you refill your crankcase with OES. In addition, of course, you'll change lubrication according to the lube order. That's the only change you make for cold weather.

## HOT WEATHER-



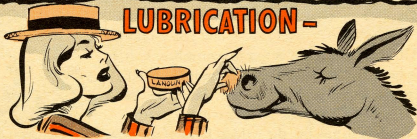
No special treatment for hot weather. Use OE 30 for all temperatures above freezing.

## DUSTY OPERATIONS-



For operation under extremely dusty or sandy conditions the only special precaution you've got to take is to keep checking your engine oil level and keep your air cleaner clean. Clean and refill your air cleaner daily or oftener if it needs it.

## LUBRICATION-



Daily: The only daily lubrication needed is to check the engine oil level and be sure the air cleaner is filled to its bead level with the same oil you are using in the crankcase.

**Weekly:** Check lubricant level in front axle, rear axle, transmission, steering gearbox, drop gears, steering knuckles and wheel bearings. Grease universal joint. Clean the rain-deflector/pre-cleaner (take it off and wash it in solvent). Use your oil can (with PL) on the brake, clutch and throttle cables and disconnects, the hand throttle, the shifting control rods and brackets, the steering locking and sector joint, the storage clips and access door locks, the tow bar clamp screw, the steering column brace, the tow bar bell-crank and the tow bar drag link.



**Monthly:** Check and clean the crankcase breather. Lubricate tie rod sockets, drag link sockets, U-joints, steering connecting rod, brake linkage, clutch linkage, shifting linkage, pedals, etc. In fact, all the grease fittings.

**160 hour:** Crankcase draining is done on the basis of operating hours, 160 of 'em to be exact. Drain while the engine is hot, and clean and inspect the oil filter at the same time. Also take off the sump (oil-pan) and clean it. Refill to the full mark, then run the engine a few minutes and check oil level again, adding a little oil if necessary to make up for that which went into the oil passages and oil filter housing.



**Annually:** On an annual service, you'll check the front axle drain (drain 'er and refill); the drop gears; the universal joints; the steering knuckles and wheel bearings fill (drain and refill); and the transmission rear axle (drain and refill 'er—she takes 2 quarts).

You've got considerable disassembly involved in getting at some of these. The clutch pilot-bearing has to be lubricated when the power pack is out of the vehicle. The chances are it'll go back to battalion maintenance or higher for the inspections.



Tire pressure is 12-PSI.

Publications out on the Mule are:

- TM 9-8034-10 (for the driver);
- TM 9-8034-20 (for the mechanic);
- TM 9-8034-20P (parts list).

