

ARMY MOTORS

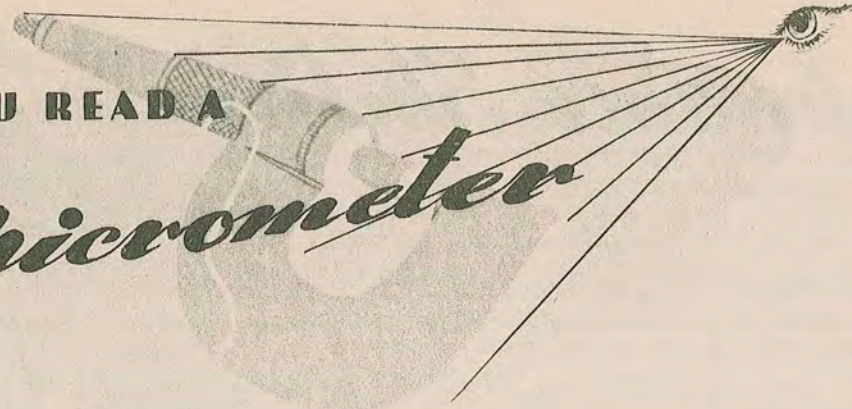
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OLD AND NEW DEPEND ON *you*

CAN YOU READ A

Micrometer

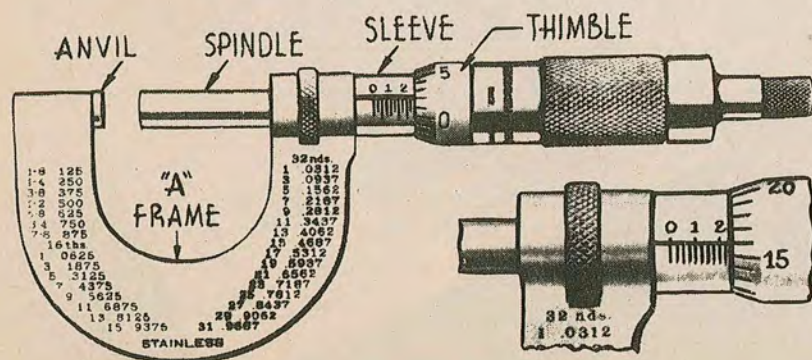


Precision machining is as dependent on the micrometer as an arch on its keystone. The fine clearances in modern engines are possible only because of the micrometer's infallible accuracy.

Yet an amazing number of people (don't blush...you have lots of company) haven't learned to use one because they think it takes a combination of supernatural power and black magic to coax a proper reading out of a harmless little mike.

First off, lets you call it a mike too. That makes it much less forbidding. The next thing is to negotiate one out of the shop sergeant's pocket. If he's too fast for you, pretend you were just checking up to see if he'd miss it. If it comes to the worst, let him chain you to the drill press while you learn how to use the mike following these directions.

O.K. Now hold it firmly (they don't bite) and look it over. Is it an inside mike or an outside mike? If it's like the one in the picture it's an outside mike. But they're both read alike, the only difference is, one makes inside measurements like cylinder bores, bearings, and so on; the outside mike gives readings on pistons, shafts, journals.



Look at the picture to find out what we mean when we say Anvil, Sleeve, Thimble or Spindle. You don't have to name them every time you take a reading, but you've got to put the thing you want to measure between the right parts.

Now let's investigate the hodge podge of little numbers and lines that are jumping all around in front of you.

Look at the lines on the thimble. Each one, starting with the first one above the zero, stands for one-thousandth of an inch (written .001). As you turn the thimble, each time one of the little lines comes even with the horizontal line on the sleeve it means you've moved the spindle .001 toward or away from the anvil. Got it? All right, let's send the spindle all the way down to the anvil and start reading as we open 'er up.

The first line you reach on the thimble, as you already know, is .001, the second is .002, the third .003, and so on 'til you get all the way round the thimble to zero again. Now look down at the sleeve and you'll see a little vertical line peeping out from under the thimble. The vertical line stands for twenty-five thousandths of an inch (written .025) and if you'll notice, you've reached the twenty-fifth line on the thimble. Now as you keep on turning and the thimble moves up the sleeve you'll notice that every fourth line on the sleeve has a number above it: 1, 2, 3, 4, 5, and so on up the line. Each of these numbers represents 100 one-thousandths of an inch or .100 (one tenth if you want to

say it that way), which makes sense because you can see it takes four complete turns of the thimble to reach each of the numbered lines.

Now let's set our mike like the one in the picture #2, and take our first reading. The edge of the thimble is a little to the right of the first line on the sleeve past the line marked with Figure 2. Knowing that this stands for .200 let's jot it on a scrap of paper just that way; then because we remember that the line to the right of the line marked 2 stands for .025 let's jot that down under the first figure. Next we note the graduations on the thimble and sure enough we're on the first line above 15 which we note on our pad as .016. The figures on your pad should look exactly like this:

.200
.025
.016

and added properly make a total of .241

Why of course it's easy, what makes us think there was anything tough about it in the first place? O!, that rumor-monger over there did, did he? Well, you just give him the special treatment the Army reserves for all rumor-mongers. And let that be a lesson. Don't assume there's anything you can't do until you've tried.

Of course you'll want to get this thing down pat before you forget all you've learned, so pick up a few odds and ends of metal and mike away at them; but bear in mind that the mike is a delicately adjusted precision instrument and shouldn't be bounced around on the floor. So you'll want to avoid forcing the spindle too tightly against the work being measured. Some mikes have a safety ratchet which starts clicking when you have the proper fit, others don't, so treat it as if you had paid for it.

Z-5 Change

One of the most important bulletins in the whole Motor Transport Technical Service Bulletin series has just been revised: Z-5 "Defects and Deficiencies of New Motor Vehicles and New Replacement Parts and Unit Assemblies."

The manufacturers guarantee their

vehicles against all but accidents and poor operation, and when something goes wrong with a new one it must be reported on a Z-5. Why? Well, if the fault is one that's been built into the vehicle, other vehicles of the same model all over the country will probably go wrong. If the first unit having trouble reports it, immediate action can be taken to correct the defect before a stack of trucks go on the dead line.

Repairing the trouble yourself and keeping mum about it helps no one in the long run. The same defect, if uncorrected, may be carried through into the next contract and the second batch of vehicles rolls off the assembly lines with the same mistake. See all the trouble it makes?

Get those Z-5's in soon and keep sending them in. If you haven't received Change 27, which contains the new Z-5, get in touch with Corps Area and tell them you want it. All 3rd and 4th echelon maintenance units are supposed to get them, and all officers responsible for quartermaster purchased vehicles are supposed to submit Z-5's.

Electrical

The Editor,
The Army Motors,

Dear Sir:

We have made some studies of the United States Army maneuvers in North and South Carolina in the interest of finding out how Delco-Remy electrical equipment has stood up and the troubles which occurred.

Several things were learned which we felt would be of interest to you and worthy of some mention in ARMY MOTORS. One thing which was noticed was that some places were steam cleaning the units. This caused moisture to get into the electrical units, such as the regulator, distributor, generator, etc., where it produced corrosion and insulation failures. In a number of civilian bus garages where steam cleaning methods are used, the electrical units are either removed or covered so that they are not subjected to the steam.

There still seems to be a tendency for drivers to make adjustments to regulators just because they notice that no appreciable charge is going into the battery. You