A NEW SPEEDOMETER FOR SOIL SURVEY WORK


At the request of Mr. L. A. Wolfanger of the United States Bureau of the Stewart-Warner Speedometer Corporation designed and made Model 131-A especially to meet the needs of Soil Survey work with Ford cars.

This model resembles ordinary speedometer heads in outside appearance but differs in the odometer element which resembles the diagram below.

The "season" mileage side can not be set back; registers up to 1000 miles and repeats; shows tenths and hundredths of a mile by the two red figures giving direct readings in "spaces" when mapping is on the scale of 2 inches equals 1 mile.

For tire mileage records, etc. it is necessary to make note of each 1000 miles traveled.

The "trip" mileage side is especially adapted to mapping on the scale 1 inch equals one mile and to using the alidade with 50 divisions or "spaces" per inch. The readings are given direct in spaces. That is, the illustration can be read 75.8 spaces. This side of the speedometer registers to 100 spaces of a mile, equivalent to 100 spaces or 2 inches on the map, then repeats and be set back to zero at any time by means of the trip setter.

All figures of the odometer turn up quickly at their proper time, except 1/500 wheel, which moves continuously in direct proportion to the movement of the car, and since it is possible to estimate 1/10ths each figure on this scale the instrument will give readings to 1/5000 of one mile or about one foot.

With constant tire pressure this device will give consistent results. Tests on the road the readings between two points a mile apart checked with 3 to 8 feet without being affected by the speed of the car, and one 30 mile trip checked within 50 feet for the total distance each way.

In order to obtain absolutely correct readings it may be necessary to prepare a conversion table, but in practice the following plan will do. An exact measured (chained) mile should be marked on a straight, hard, smooth road near headquarters of the Soil Survey area. The car should be fitted with a make of casing which will give a reading of 50 spaces or less when inflated to maximum pressure (60 lbs.) and driven over the measured mile. If the reading is less than 50 spaces this may be corrected to make it read 50 by reducing the air pressure. A reduction of air pressure from 60 pounds to 50 pounds will increase the speedometer reading about .26 space per mile, and reduction from 60 pounds to 40 pounds increases the readings about .49 space per mile.