

Automatic Road Unevenness Recorder

ZI P-132



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Automatic Road Unevenness Recorder comprises of a trailer of single wheel with a pneumatic type mounted on chaise over which are installed profile recording and integrating devices. The machine has panel board fitted with two nos. of electronic counters for counting the unevenness index value. The digital meter for unevenness index value from 50 mtrs. To 1000 mtrs. For automatic displaying of UI values Data Storage in memory to display on panel board. The operating SPEED OF THE MACHINE IS 30 + 1-1/2 KM/Hr, and is towed by a vehicle. Its wheel on the pavement surface and the vertical reciprocating motion of the axle is converted into unidirectional rotatory motion by the integrator unit, the accumulation of this unidirectional motion is recorded by operating sensor inserted in the circuit of electronic counter once for every one centimeter of accumulated unevenness. Wheel revolutions are also indicated on the other electronic counter through a sensor actuated by the cam fitted on the hub of the wheel after every one meter of the wheel movement. There is an arrangement introduced for digital display of unevenness index value with a setting of distance form 50 mtrs, to 999 mtrs. In this arrangement suppose we get the distance value of 50 mtrs. Then after every 50 mtrs. We will get calculated U.I. Values on the digital meter In such manner we can set distance in 200 mtrs, and so on upto 9999 mtrs. There is a memory of keeping UI values upto last 999 memories. The machine can be supplied with a pair of transportation wheels which will permit towing speed upto 60km/Hr, without disturbing the accuracy of the unevenness measuring wheel. An Automatic profile recording system for making a continuous record of the relative movements of the pneumatic wheel to yield a recorded surface profile on graduated recording paper. A motor is fitted on the machine which is driven through the sensor and electronic controller form the wheel of the unit and the vertical motion of the axle drives a pen which marks on the moving recording paper. The pavement profile is recorded on the recording paper in the ration of 1:400 for and 1:1 unevenness of the road surface.

USES

The degree of surface finish or the, riding quality of the road/runway pavement can be assessed.

The system will record surface irregularities of highways and runways, which can be immediately attended to for rectification.

The records so obtained can be well studied for judgment and decision in classifying pavement surfaces by the authorities for serviceability of the pavement and stage for repair or upgrading.

Helps in evaluating the performance of the Specifications adopted for roads and runways and the developments of unevenness with age and under traffic.

ADVANTAGES

1. Timely improving the riding quality will result in:-
2. Low maintenance cost of pavement and vehicles
3. Increase in the load carrying capacity of the vehicle
4. Prolongs the working life of the vehicles and the driver
5. Comfortable ride to road users
6. Less fatigue to d driver in the interest of road safety
7. Minimize stresses in both road structures and vehicles

SALIENT FEATURES

Helps in assessing and improving the riding quality of pavement

Gives unevenness index value of pavements

Data obtained with various units is inter comparable

Safe and stable in operations

Durable and dependable

Cent percent indigenous

A compact and versatile unit at economic price

Automatic Road Unevenness Recorder is a single wheel trailer and towed by vehicle like jeep at a speed of 30km/hr uses a micro-controller, which contains a microprocessor and is designed for industrial is used

12 volts 11 plate Battery is used

The distance section segment size is adjustable as per the requirement form 50 meters to 9999 meters

Keys are positioned in such a way that the user uses in intuitively

Date Memory EE RAM Date Memory can store up to 999 segments data, battery backup to remember data

TRANSPORTATION WHEELS

Two numbers transportation wheel assemblies with type size 4.00x8, which will permit speed upto 60Km/Hr. The design of these such as to produce a load on the towing hitch of approximately 65 kg.

Spring retainers are provided for locking up, the unevenness measuring wheel, so that it could be locked in positions and the unit carried on these transportation wheels without disturbing the accuracy of the unevenness-measuring wheel.

Wheel assemblies are fitted with shockers and a spare tyre is also provided. The wheels can be fitted to machine within few minutes.

Transportation wheels are also useful for transportation of the machine when the unevenness-measuring wheel gets punctured while in use.

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