

Making better decisions using mil gauges



Do you use a mil gauge to make buying or selling decisions? A mil gauge may trick you into thinking a vehicle has been repaired or has not been repaired when the opposite is true! Using a mil gauge requires some critical thinking and some vehicle repair knowledge. This paper will explain the technology behind mil gauge thickness meters, their uses and how using one can help you make better decisions in the lanes.

The use of mil gauges is not limited to the buying and selling of vehicles at an auto auction. Mil gauges are used to determine the thickness of coating (paint, primer, sealer etc.) from the substrate. The substrate can be either steel or aluminum in most cases. The way a mil gauge works is with magnetic induction. The meter creates a magnetic field that reflects back the amount of thickness expressed in mils (thousands of an inch, 1000 mils=1 inch). Some mil gauges are steel specific only so buyers beware as more and more vehicles are produced with steel alternatives like aluminum. Most mil gauges like the Elcometer 311 Highline™ can automatically detect the difference between the two substrates and produce a mil reading in seconds. Mil gauges can be electronic (less reliable) or mechanical (suggested).



Why so popular?

The popularity of mil gauges is growing with buyers, sellers and inspectors of vehicles. The main reason is to **catch prior repairs**. Certain disclosures are necessary for vehicles sold relative to prior repairs and/or structural repairs. Which can prove to be a costly mistake.

Example

A vehicle is suspected of a certain prior repair without the required announcement it should have had. Sound familiar?

While we all know that returning a vehicle back to its 'original condition' is untrue, not all prior repair is 'poor prior repair'. A question is often asked "How do you see *good* prior?" and the answer some would say is "you don't!" where the real answer

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is...you might! Professionals that inspect, buy and/or sell vehicles know that prior repair sometimes leaves indicators of a repair. Indicators like turned bolts, irregular gaps in panels and paint defects are dead giveaways. So why do we need mil gauges if we can see the repairs? Some say they do not trust mil gauges. Some swear by them. High quality repairs (typically value added repairs like Manheim's AutoBody repairs) are not obvious and help the overall value of the vehicle whereas poor prior can hurt the values and scare off potential buyers.

Mil gauge readings for an un-repaired panel are not uniform from make to make or model to model. Manufacturing procedures, output quantities and assembly plants are just three of many variables that can influence a mil reading. When using a mil gauge, it is suggested that the user take sample readings from various spots along the panel and the entire vehicle to determine a variance. If a (prior repair) then the user should reason why the reading is higher replaced parts due to less coatings) Typical readings for un-repaired mils to seven mils. Some readings vehicle make, model and coating (single stage, base coat-clear coat and tri-coats all differ).



variance is suspected inspect visually for the (sometimes lower for than the other panels. panels range from three may be higher depending on

To summarize, the use of a mil gauge will certainly help the user make better decisions about the status of the vehicle they are inspecting. The data (collected at different points of the vehicle) that the mil gauge presents should be backed up with a visual inspection.

ferrous and non-ferrous like a flashlight,



A high quality mil gauge that can read both ferrous panels is ideal. Bottom line is that just a mil gauge is just a tool to aid the inspector.

The Manheim technical Center at D.R.I.V.E. offers a Prior Repairs class that allows a student to properly identify and assess previous repairs on vehicles at auction or in repair facilities. Focus areas are visual inspections of repair 'tells' such as gaps, improper repair product application, panel repair identification and witness marks. Go to www.manheimdrive.com for class schedules and registration.