

rutting subsystem

ICC has several subsystems for collecting rutting information with its MDR. The basic system uses data from three, laser height sensors mounted in a protective enclosure attached to the front of the vehicle. They are collinear and equidistant from each other, normally spaced 34.5 inches apart to match highways' predominant rut spacings.

The next level is five-point rutting with laser height sensors. The additional height measurements come from angle measuring lasers mounted on top of the bumper or normal lasers mounted in extensions. In either setup, the lasers are configured to make measurements

on the pavement 12 to 18 inches beyond the sides of the vehicle. The five-point measurement is similar to obtaining readings from laying a straight edge across each wheelpath. This arrangement has the advantage of determining separate left and right rut depth measurements.

The final level which gives the most accurate results is the addition of 2 to 30 lasers across the front of the vehicle in protective enclosures or a fully integrated INO rut measuring system. This final level will report an extremely accurate rut measurement and transverse profile of the pavement surface. The lasers used for making height measurements are Selcom

lasers that are firing at a rate of 16,000 samples per second; this permits for continuous longitudinal coverage at highway speeds. The INO system uses laser camera technology and is capable of taking a 14 foot wide transverse profile. Each profile is comprised of 1,280 points, which is logged at a longitudinal interval selected by the user (down to 1.5 meters). ICC then uses proprietary software to turn the transverse profile data into accurate rutting information. Our system can determine rut cross-sectional area and volumes, detect edge drop-off, report wheel path location and identify double or triple rutting.



Standard 3 Point Rut System

Bumper supports up to 30 lasers for height measurement. Side Extensions are available for additional coverage.



Angled Measuring Laser for 5 Point Rut Depth



INO System for Transverse Profile and Rut Information



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