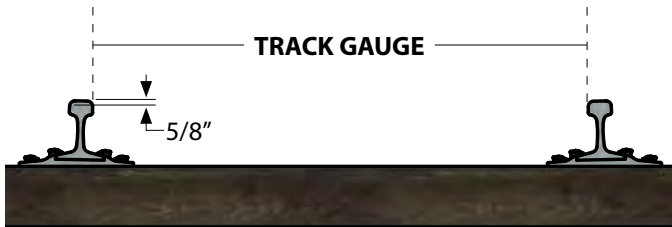


What is Track Gauge?

The gauge of a railroad track is simply the distance between the two running rails. This distance is measured against the inside faces of the rail heads at some distance down from the top of the rails. This distance down is known as the “gauge plane”. On standard North American railroad track the gauge plane distance is 5/8” down from the top of the rail.



While globally there are many gauges, standard North American tracks have a nominal track gauge of 56-1/2”. The actual track gauge will likely measure something above or below the nominal. All tracks’ gauge measurements will widen over time.

As wheels travel over the tracks the rails slowly wear away making the gauge measurement wider (larger than 56-1/2”). The wheels also force the rails outward as they pass. This repeated outward force eventually allows the track to loosen and creep the rails apart.

The acceptable variation between the nominal 56-1/2” gauge and the actual measurement depends on the class of the track. North American tracks are separated into nine classes. Each class represents a maximum speed in which passenger and freight trains may travel.

As the rated speed increases so does the class number. If you own and/or operate an industrial rail siding your track is likely to be “excepted” or class-1 track.

Class 1 track has maximum allowable speeds of 10mph (freight) and 15mph (passenger). “Excepted” track carries the same 10mph freight speed limit but cannot carry passenger traffic. In either case you are required to make periodic gauge inspections. Track gauge is one primary indicator of the track’s condition. Each class of track has limits to how far the measurement can differ from the ideal distance.

Class	Minimum Measurement	Maximum Measurement
Excepted	N/A	58-1/4”
1	56”	58”

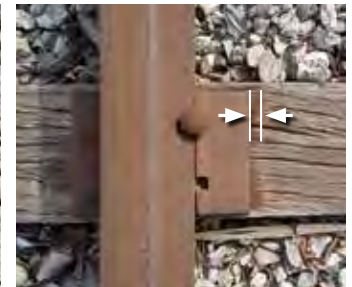
Measuring Static Gauge

The rails are pushed outward by a passing car or locomotive. Measuring track gauge without these outward forces present is “static gauge”. When these outward forces are present the measurement is “dynamic gauge”. For any track the dynamic gauge will be wider than the static gauge measurement. Dynamic gauge is always the preferred measurement since it measures the track’s gauge when it counts (with a railcar on it).

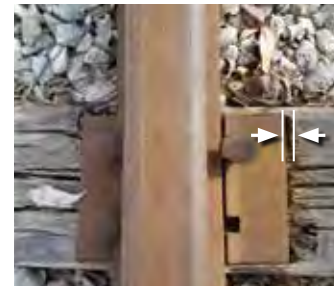
Aldon® offers a variety of tools for measuring static track gauge. When measuring static gauge it is important to visually inspect the track for signs of widening when a car or locomotive passes over the track. Look for these conditions to identify rails that are spreading under load.



Lifted spikes between the rails



Tie plates rubbing ties



Tie plates pocketing ties



Rail base and tie plate gap

If there is evidence of gauge widening under load you should make your best effort to estimate the dynamic gauge. This is done by measuring the static gauge and adding the amount of movement evident.

For instance, if the static gauge measures 57” and you notice a 3/8” gap on one rail. The estimated dynamic gauge is 57-3/8”. Note that the evidence of rail movement may be on one or both rails and may be a combination of conditions.

If your track gauge measures 57-1/2” you may need maintenance.

Track Inspector's Tape Measure

Aldon® offers a conventional locking tape measure that is specifically designed for railroading. This is a simple, quick, and portable way to measure track gauge. It utilizes a magnetic tip and clearly indicated gauge measurement limits for Class 1 through Class 6 tracks.

The tape measure's tip is magnetically stuck to the inside face of one rail head and measures the distance to the inside of the other rail head. Because it does not make precise contact at the gauge plane (5/8" below the rail head) it is not truly exact. For more exact measurement another tool is recommended.

Industrial yard track is Class 1 track. Acceptable gauge range is 56 - 58 inches.

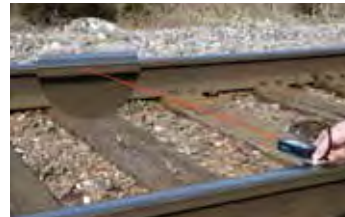


When gauge reaches 57-1/2", it should be corrected.
4124-316

Spot-Check Laser Gauge

The Aldon® laser track gauge is a faster and more accurate version of tape measures. Unlike the tape measure, the laser's base is designed to touch one rail on the gauge plane. The laser is then aimed at the other rail.

Using a laser gauge reader eliminates the human error of misreading the tape measure and the difficulties of measuring against a curved surface. The laser can measure in both metric and imperial units. The laser gives you the portability of a tape measure with greater speed and accuracy.



4022-26

Adjustable Level and Gauge

Aldon® offers aluminum track gauges specifically designed for measuring gauge distance at the gauge plane. This easy-to-use tool eliminates any human errors caused by not making proper contact on the rails.

The aluminum construction is lightweight and durable. The gauge is electrically insulated from track signal voltage so it does not disrupt railroad block signals.

To use, simply place the gauge on the track and telescope the tubes until contact is made with both rails. Snug the locking knob and read the measurement on the sliding scale. Using this tool is calibratable, fast, does not require batteries and can also check level between the rails.



4022-07

Rolling Track Gauges

When accuracy and speed are required a rolling track gauge is the right choice. Aldon® rolling track gauges are designed to make proper contact at the gauge plane and read track gauge as fast as you can walk. Rolling track gauges are more than 20 times faster than using a traditional aluminum gauge.

Aldon® offers rolling track gauges in two varieties. Our economically priced basic model precisely measures track gauge and is durably constructed. Our Roadmaster version can additionally check gauge through switches, crossings, and guard rails. Both models can optionally measure cross level and track distance.



4022-10



4022-14