

TREMEC Driveline Angle Finder App Instructions

The TREMEC Driveline Angle App is designed to measure driveline angles on RWD vehicles equipped with a one-piece driveshaft as viewed from the side of the vehicle.

By using your smartphone as a measuring device, the App will calculate each universal joint angle and provide an overall driveline operating angle. The results are compared to acceptable angle limits for a typical RWD street performance application and will provide a PASS/FAIL response.

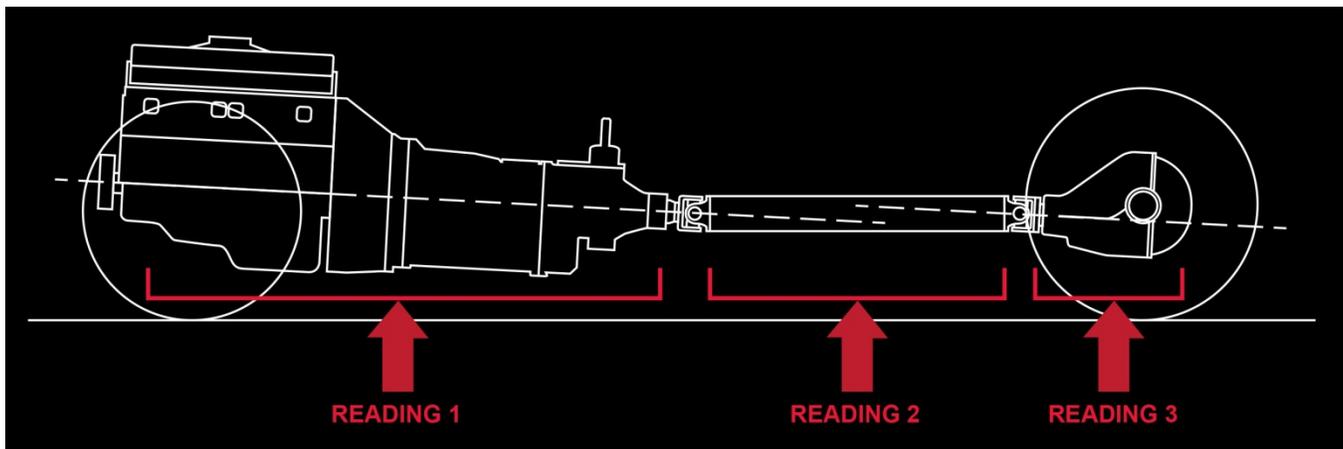
Note: This App is not designed to measure compound angles resulting from horizontal offsets (driveline as viewed from above), and may have some limitations based on the specific smartphone used. Caution must be used when interpreting results.

If the results provided by this App are within an acceptable range but driveline vibrations are still experienced, it is recommended that you consult a driveline professional for a thorough inspection.

Measurement Instructions

The vehicle should be on a level surface with its weight supported by all four tires. If available, the use of a drive-on hoist is preferable. Be sure to take proper safety precautions by using wheel chocks, jack stands, etc.

You will be asked to take three readings with your smartphone at various points on the vehicle (see diagram). Use a flat edge of your smartphone and make sure surfaces are clear of debris to ensure accurate readings



Important: All readings must be taken from the same side of the vehicle, Orientation from the driver side is recommended.

Step 1:

Place smartphone on flat surface parallel or perpendicular to engine crankshaft or transmission output shaft. Hold device steady and press NEXT to record measurement.

The display will indicate whether slope is up or down.

Most machined surfaces on engine or transmission should be parallel or perpendicular to engine crankshaft or transmission output shaft. To ensure accuracy, it may be suitable to observe the measurement from multiple points before recording and proceeding to the next step.

Press "BACK" to return to the Measurement Instructions, and "NEXT" to continue to step 2.

Step 2:

Place smartphone on flat surface of the driveshaft. Hold the device steady and press NEXT to record measurement.

This measurement is best recorded from an area of the driveshaft free of any balancing weights or seams that may distort the surface.

Press “BACK” button to return to Step 1, and “NEXT” to continue to step 3.

Step 3:

Place your smartphone on a flat surface on the rear axle that is parallel or perpendicular to the pinion. Hold device steady and press NEXT to record measurement.

The display will indicate whether slope is up or down.

To ensure accuracy, it may be suitable to observe the measurement from multiple points before proceeding to the next step. Some applications may require removal of driveshaft to record measurement from pinion flange. Driveshaft-to-flange position should be marked prior to removal in order to maintain original indexing. Check to ensure that u-joints are properly phased (in line) and in good working order. Reinstall driveshaft using manufacturer’s recommended torque specs. Failure to do so may result in distortion of bearing caps, resulting in vibration and premature u-joint failure.

Press “BACK” button to return to Step 2, and “NEXT” to proceed to results.

Results:

IF ALL ANGLES ARE WITHIN SPEC:

Congratulations! Your angles are within the acceptable limits. Press the “?” icon for more information about these results.

Your angles appear to be within the acceptable range, however please note:

- This app does not account for compound angles resulting from the horizontal offset of major components in the vehicle, or those that may not be properly squared in the vehicle chassis. Either of these conditions may result in universal joint angles being greater than indicated, and vibrations may still occur.
- This app targets a maximum universal joint angle of 3-degrees and an overall driveline operating angle (the difference between Angle 1 and Angle 2) no greater than 2-degrees.
- Driveline angles change with suspension movement and during acceleration/deceleration. To fine tune your angles, you may want to run the app again with the vehicle loaded and make adjustments as necessary.
- For additional support or information, please consult your local driveline professional or contact TREMEC Customer Service at 800-401-9866.

IF ONE OR MORE ANGLES EXCEED SPECS:

Sorry! It appears that one or more of your angles is incorrect or exceeds the recommended limits. Press the “?” for more information about these results.

Your angles appear to be outside of the recommended range. Please consider the following information:

- This app targets a maximum universal joint angle of 3-degrees and an overall driveline operating angle (the difference between Angle 1 and Angle 2) no greater than 2-degrees. If either universal joint angle exceeds the recommended limit, the driveline operating angle will always result in a failing grade.
- If the results are within the accepted range, but were flagged as incorrect, it is because the app has detected the engine/trans and rear axle to be at opposing angles rather than complimentary as desired. Due to the narrow limits of this app, the condition may not cause significant vibration. However, angles that are ‘equal and opposite’ are most desirable. See diagram at beginning of app for example of appropriate configuration, noting the dashed lines.
- Results of “0.0” throughout the driveline are also considered ‘out-of-spec’ because a slight amount of preload is recommended for proper function of the needle bearings in the universal joint bearing caps.
- Correcting out-of-spec angles may require raising or lowering the engine/transmission or rear axle assembly, or rotation of the rear axle assembly.
- Remember, this app does not account for compound angles resulting from the horizontal offset of major components in the vehicle, or those that may not be properly squared in the vehicle chassis. Either of these conditions may result in universal joint angles being greater than indicated, and vibrations may occur.
- For additional support or information, please consult your local driveline professional or contact TREMEC Customer Service at 800-401-9866.

