SPICER®

DANA

IS012013

MEASURING UJ & DRIVELINE ANGLES

SERVICE/TECHNICAL

DATE: 8/2/2013

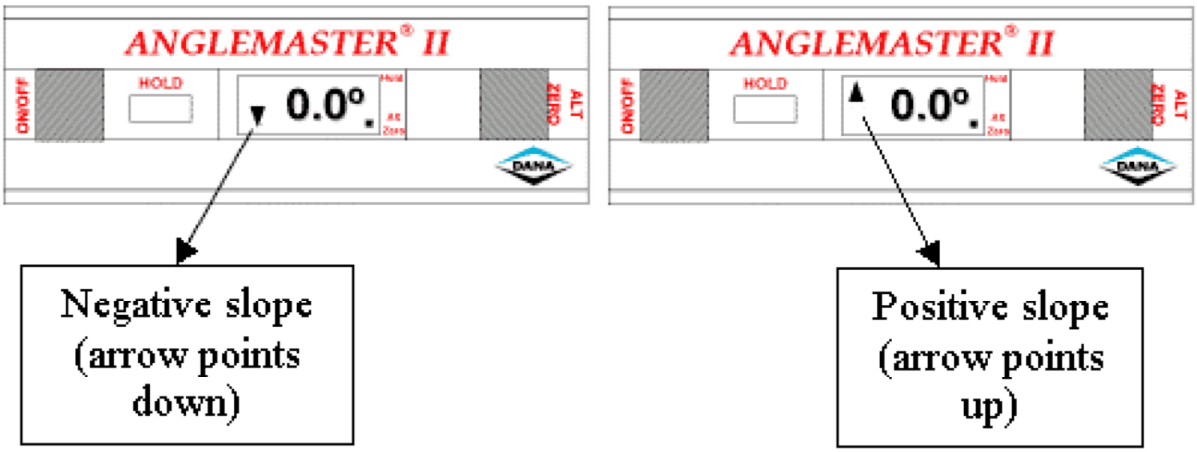
TO: All Service Departments.

DRIVESHAFT INFO

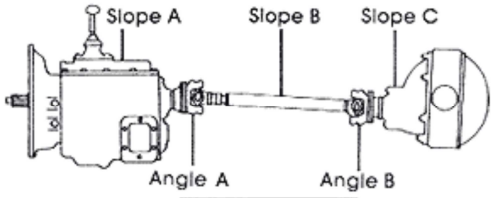
The Anglemaster can be used wherever there is a need for a precise measurement of angles and slopes. The information below is a step by step guide on how to use the Anglemaster in measuring driveline angles to avoid vibration problems associated with incorrect driveshaft and u-joint working angles.

Step by Step Guide to Measuring Angles

The slope at which a driveline component is installed is a slope of inclination. It is considered either positive or negative depending on whether the slope points up or down when viewed from the transmission toward the rear of the vehicle. A negative driveline slope points down, while a positive driveline slope points up.



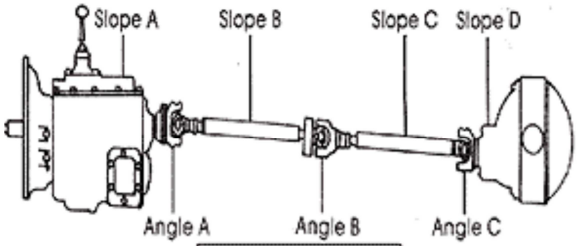
The operating angle of a u-joint is the relationship between two slopes, such as the transmission slope and the tube slope. If you imagine two lines parallel to each component, the angle where these two lines meet is the operating angle. (Angle A, Angle B, Angle C).



2-Joint Shaft

High angles combined with high RPMs result in serious vibration problems and reduced ujointlife. Driveline angles should be equal to or within 1° of each other. When checkingdriveshaft angles, be sure all tyres are inflated to their normal operating pressure. Parkthe vehicle on the surface which is as nearly level as possible both from front to back andfrom side to side.

Also remember to check driveshaft angles while the vehicle is unloaded,and again when it is loaded. This can tell you a lot about operating vibrations that are only present under certain conditions.



3-Joint Shaft

Using your Spicer Anglemaster digital driveline inclinometer, determine the operatingangles by placing the instrument on the driveline components. Begin with the transmissionand work toward the axle.

1. Place the unit on the first slope (Slope A) and allow the reading to stabilize approximately 10 seconds.

2. Push the "Alt Zero" button.

3. The display will read 0.0° and the "Alt Zero" button indicator will flash. The slope you are using will be the new reference.

4. Move the unit to the next adjacent slope (Slope B). The reading obtained is the operating angle of the two slopes (Angle A).

5. To obtain additional operating angles, push the "Alt Zero" button again, and then repeat the above process starting at the second slope (Slope B as the Alternate Zero and measure Slope C to get Angle B).

NOTE: For maximum universal joint life and to reduce driveline vibration, operating angles should be:

1. Between 1° and 3° and
2. Equal at either end of a shaft to within 1°

Current literature can be downloaded from www.spicerparts.com. Click on the Literature button or The EXPERT® icon, and navigate to the literature needed.

Should you have any queries on the above or require further information, please contact Dana Australia on 1300 00 DANA

Shane Carey
Sales & Service Representative
Spicer® Driveline Products

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