

SERVICE BULLETIN NUMBER: WB-041317-1

DATE: 4/13/2017

MODEL: All Products

TOPIC: U-Joint Angles

INSTRUCTIONS:

Out of spec u-joint operating angles reduces component life and is a leading cause of premature failure to transmissions, differentials, transfer cases, and PTO'S!

Note: Many resources are available regarding u-joint operating angles, yoke phasing, vehicle ride height, and driveline inspection; this bulletin will not cover them all.

You will need:

- Inclinometer for measuring angles and phasing
- Tape measure to measure length of tube and ride height
- Flat surface to park the vehicle and wheel chocks for stabilization
- Driveline worksheet for recordings



The worksheet includes a diagram of a truck's driveline with labels for various components and their measurement points. Below the diagram is a data entry table with the following structure:

Truck Unit #	Clutch Manufacturer	Main Driveline Series	Tested by
Fleet Name	Clutch Size	Interstate Driveline Series	Max engine RPM in top gear
Fleet Account #	# of Clutch Springs	Axle Manufacturer	Top gear ratio of trans
Truck Manufacturer	Clutch Description	Axle Model #	
Truck Model	Engine Type	Axle Serial #	
VIN #	Wheel Base	A-head Serial #	
Truck Model #	Steer Axle Tire Size	Vehicle Weight	
Truck Serial #	Drive Axle Tire Size	Vehicle Build Date	

Additional sections on the right include 'Before measuring Angles', 'Measurement Directions', 'To Measure Component Angles', and 'To check Driveline Phasing', each with diagrams and instructions.

Recommend using the Roadranger DAA software and inclinometer.

Example Roadranger DAA Worksheet

WELLER

Safety FIRST! Review owner's manuals, service manuals, and other OE provided instructions. Confirm driveline series and length is correct for torque, RPM, and vehicle specifications.

Wear appropriate PPE.

General U-Joint Angle Rules:

- i. Should have a minimum angle of 1°
- ii. Angles on each end of a shaft should be within 1° of each other
- iii. U-Joint angles shouldn't be larger than 3°
- iv. Yoke phasing is vehicle specific & set by operating angles

Inspection:

1. Print corresponding worksheet.
2. Park the vehicle on a flat surface, chock the wheels, and release the parking brake.
3. Inspect driveline for u-joint endplay and worn components.
Note: Spicer recommends U-Joint endplay should not exceed .006
4. Measure and record angles, shaft length, and u-joint phase. *Make Corrections as needed*

