Propeller Shaft Alignment

CADILLAC

All Rear Wheel Drive

DESCRIPTION

To properly measure front and rear universal joint angles, vehicle must be at proper trim height (distance from top of axle tube to bottom of frame). If necessary, add weight to meet trim height of 4". With vehicle level and supported at axles, an inclinometer is used to determine driveline angles. Adjustment may be accomplished by shims between transmission rear bearing retainer and transmission mounting, loosening all rear suspension control arm bolts and repositioning pinion nose or changing control arms.

CHECKING & ADJUSTING

CHECKING

Clean all bearing caps and place inclinometer adapter (J-23498-20) to rear propeller shaft bearing cap. Attach inclinometer (J-23498) to adapter. Center bubble in sight glass and record reading. Remove adapter and inclinometer, rotate propeller shaft 90° and install adapter and inclinometer on drive yoke bearing cap. Measure angle and subtract smaller reading from larger reading to determine rear universal joint angle. Repeat procedure on front universal joint to obtain front universal joint angle.

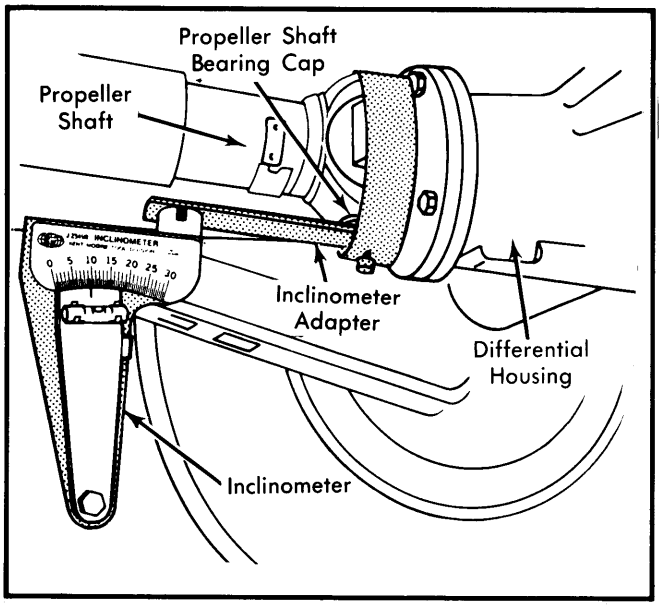

Fig. 1 Measuring Rear Universal Joint Angle Using Inclinometer (J-23498 and Adapter J-23498-20)

ADJUSTMENT

Transmission Shimming – Adding 1 shim at transmission mount will decrease front universal joint angle ½° and increase rear angle ¼°. Removing 1 shim will increase front angle ½° and decrease rear angle ¼°.

Repositioning Pinion Nose – Suspension bracket bolt hole tolerances will permit adjustment of rear universal joint angle by ±1°. Loosen all rear suspension control arm bolts and reposition pinion nose up or down. Tighten all bolts.

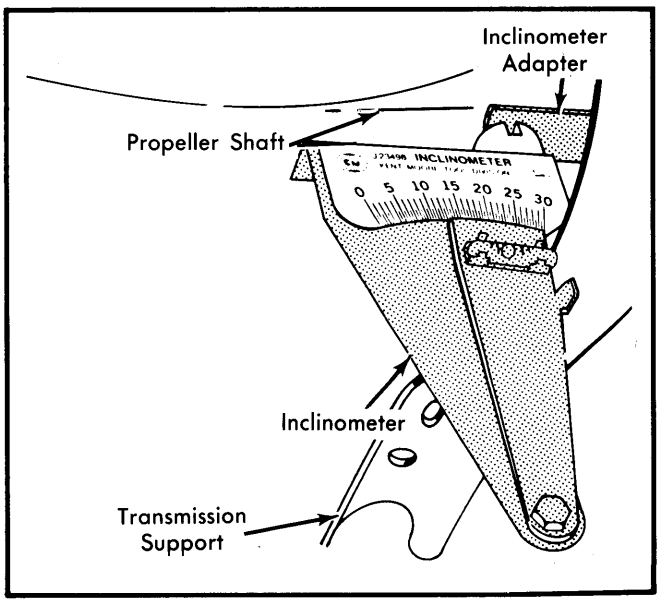

Fig. 2 Measuring Front Universal Joint Angle

Control Arm Change – Shorter or longer arms may be used to change rear universal joint angle ± 1°. A special control arm is available which allows ± 2° adjustment.

Universal Joint Angle Change with Rear Upper Control Arm

Control Arm Code	Rear Angle Change
YFL	+1°
YFM	+½°
YAN	0°
YFP	−½°
YFR	−1°

Correct Universal Joint Angle

Engine Application	Front Joint	Rear Joint
V6 Engine	3.07°	2°
V8 Engine	3.12°	1.57°
Diesel Engine	4.08°	1.46°