

## PONTIAC PROPELLER SHAFT ALIGNMENT

Pontiac, Except Astre & Sunbird

### DESCRIPTION

Measurements of front and rear universal joint angles are accomplished by means of an inclinometer (J 23498 or J 22910) and adjustable length jounce pins (J 22910-2). These pins are mounted between top of axle housing and frame "kick-up" on both sides of vehicle, and are installed at a specific height to compensate for variables such as passenger load and weight in trunk, which would affect universal joint angles.

### CHECKING & ADJUSTMENT

#### CHECKING

Lift vehicle on twin post hoist or set vehicle on jack stands (under axle) so that vehicle is approximately level. Adjust jounce pins to specified height (see table) and mount between top of axle housing and frame "kick-up" on both sides on all models except Ventura. On Ventura models, mount jounce pins between top of axle housing and bottom of jounce restrictor bracket on both sides. **NOTE** — *Frame must contact top of jounce pin. Add weight to trunk to keep pins in place.* Clean bearing cups, then measure universal joint angles as follows:

**Front Universal Joint Angle** — Place inclinometer on front propeller shaft bearing cup, center bubble in sight glass, and record angle. Rotate shaft 90°, mount inclinometer on front slip yoke bearing cup, center bubble in sight glass, and record angle. To obtain front universal joint angle, subtract smaller figure from larger figure.

**Rear Universal Joint Angle** — Place inclinometer on rear propeller shaft bearing cup. Center bubble in sight glass and record measurement. Rotate shaft 90°, then mount inclinometer on companion flange yoke bearing cup. Center bubble in sight glass and record angle. Subtract figures to obtain universal joint angle.

#### ADJUSTMENT

**Front Universal Joint Angle** — To correct angle between engine/transmission centerline and propeller shaft, add or remove shims between transmission rear bearing retainer and transmission mount.

**Rear Universal Joint Angle (Ventura, Phoenix & Firebird)** — 1) Loosen "U" bolt nuts to 3 or 4 threads beyond bottom of bolts (do not remove nuts). **NOTE** — *Work on one side at a time.* Install desired shim between upper spring plate cushion and spring.

2) Place thick end of shim toward front of vehicle to decrease angle. To increase angle, place thick end of shim toward rear of vehicle. Install spacers between upper and lower spring plates with thick end of spacer in same direction as shim. Tighten "U" bolt nuts to 45 ft. lbs.

**Rear Universal Joint Angle (All Other Models)** — To correct angle, rear control arms or bushings may need to be replaced. See *Pontiac Upper Control Arm and Lower Control Arm* in *SUSPENSION* Section.

### Universal Joint Angles

Application (Jounce Pin Length)	⓪Front	⓪Rear
Lemans, Grand Prix (5.125")		
Exc. Wagon .....	2°52'	2°59'
Wagon .....	2°19'	3°14'
Catalina, Bonneville		
Exc. Wagon (4.8")		
7½" Axle .....	3°5'	2°10'
8½" Axle .....	2°36'	2°36'
Wagon (3.9") .....	2°54'	2°42'
Firebird (5.2")		
231" Engine .....	0°25'	3°45'
301" Engine .....	0°53'	3°49'
305", 350"R Engine .....	0°17'	3°41'
350"P, 400" Engine .....	0°53'	3°49'
403" Engine .....	0°17'	3°41'
Ventura, Phoenix (5.125)		
151" Engine .....	0°38'	2°17'
231" Engine .....	0°50'	2°17'
301", 305", & 350"L Engine .....	1°13'	2°35'
350"R Engine .....	1°20'	2°12'

⓪ — All angles are ± ½°

**NOTE** — *Measure jounce pin length between bottom surface of frame rail and top of axle tube on all except Ventura models. On Ventura models, measure distance between bottom surface of jounce restrictor bracket below frame rail and top of axle tube.*

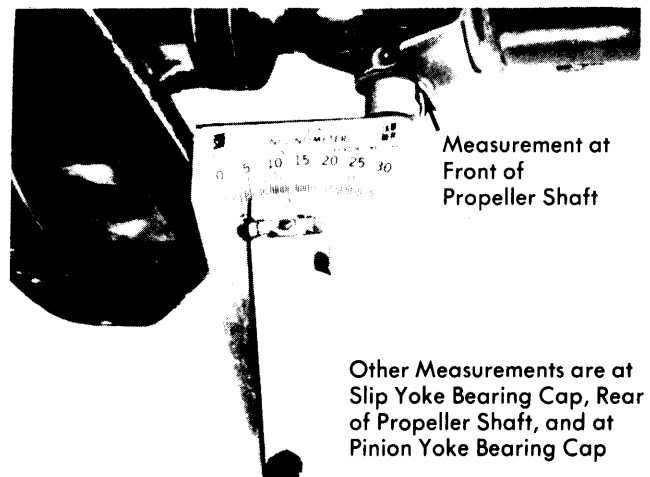


Fig. 1 Checking Universal Joint Angle (Typical Measuring Point)