Propeller Shaft Alignment

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 (Single Joint) — Place inclinometer on rear propeller shaft bearing cup, center bubble in sight glass, and record measurement. Rotate shaft 90°, mount inclinometer on companion flange yoke bearing cup, center bubble in sight glass, and record angle. Subtract figures to obtain universal joint angle.

Rear Universal Joint Angle (Constant Velocity) — Place inclinometer on rear propeller shaft bearing cup, center bubble and record reading. Place inclinometer on rear flange yoke bearing cup, center bubble in sight glass and record measurement. Subtract figures to obtain universal joint angle. *NOTE — When measuring constant velocity joint angle, measurements are made on faces of bearing cups joining propeller shaft and flange yokes to the two crosses. DO NOT measure on bearing cups on coupling yoke.*

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.

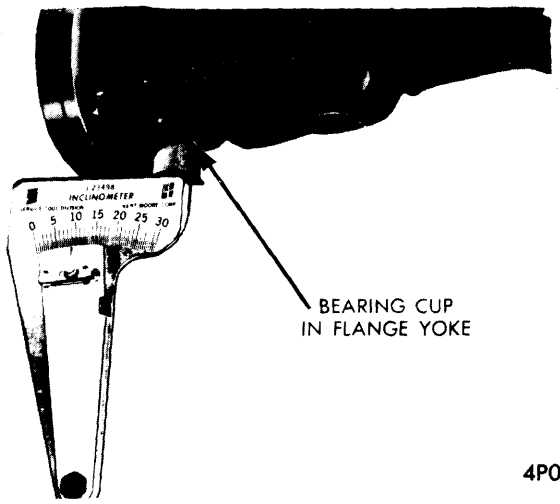
Rear Universal Joint Angle — To correct angle, rear control arms or bushings may need to be replaced. *See Pontiac Upper Control Arm and Lower Control Arm in SUSPENSION Section.*

UNIVERSAL JOINT ANGLES

Application (Jounce Pin Length)	①Front	①Rear
Le Mans, Grand Le Mans		
Exc. Wagon (5.125")	2.9°	3.0°
Wagon (5.125")	2.3°	3.2°
Catalina, Bonneville, Grand Safari		
Exc. Wagon (5.125")	0.5°	10.1°
Wagon (6.312")	1.1°	2.0°
Firebird		
6 Cyl. (5.200")	0.3°	3.7°
V8 (5.200")	0.9°	3.8°
Grand Prix (5.125")	2.9°	3.0°
Ventura		
6 Cyl. (5.125")	1.2°	2.6°
260" V8 (5.125")	1.3°	2.2°
350" V8 (5.125")	0.6°	2.3°

① — Angles are ±.50°.

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.



CHECKING UNIVERSAL JOINT ANGLE (TYPICAL)