Propeller Shaft Alignment

OLDSMOBILE PROPELLER SHAFT ALIGNMENT

Oldsmobile (Exc. Toronado)

DESCRIPTION

Measurement of front and rear universal joints is accomplished by means of a suitable inclinometer (BT-6902). Readings must be made with car at curb height and with a full tank of gasoline. Jounce car up and down to assure curb height.

CHECKING & ADJUSTING

CHECKING

NOTE – *In addition to suitable inclinometer (BT-6902), special wood block spacers must be installed between rear axle housing and frame. Blocks must rest solidly on axle housing, not on casting flash.*

Wood Block Usage

Application	Wood Block Number	①Wood Block Length
Omega		5 1/4"
Cutlass		5 3/8"
88, 98 (Exc. 88 Wagon)		5 7/8"
88 Wagon		4 3/8"

① – Wood block length is ±1/4".

Transmission Angle (All Models) – 1) Install wood block of proper length between axle tube and frame. Install hold down clamps and adjust until wood blocks are snug. If clamps are not available, weight may be added to trunk to set proper height.

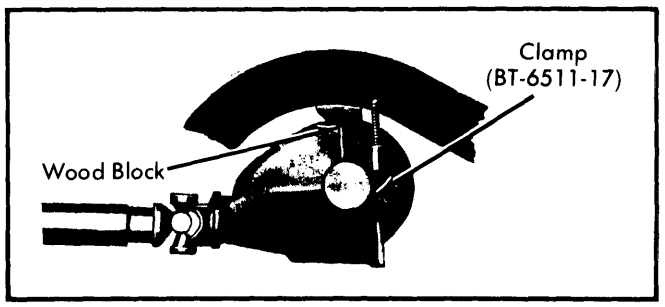

Fig. 1 Spring Hold-Down Clamp and Block

2) Clean all universal joint bearing caps and remove retaining rings from bearings if equipped. Turn drive shaft until slip yoke bearings are vertical. Attach inclinometer as shown *Fig. 2* and turn knob of tool until weighted end of cord is at "0" marking of gauge. (On 98 with TH 400 transmission, install adapter tool (BT-7409-1) prior to attaching inclinometer.)

3) Remove tool(s) and rotate shaft 180°. Reinstall tool(s) and check that cord is still at "0". Any deflection could be caused by nicked or dirty bearing surface. If so, clean and recheck. Remove tool(s) but DO NOT TURN ADJUSTING KNOB.

4) Rotate drive shaft 90° and attach tool(s) to drive shaft. Record gauge reading and remove tool(s). To double check, rotate shaft 180°, install tool(s) and check for same reading.

See Propeller Shaft Specifications for correct transmission angles.

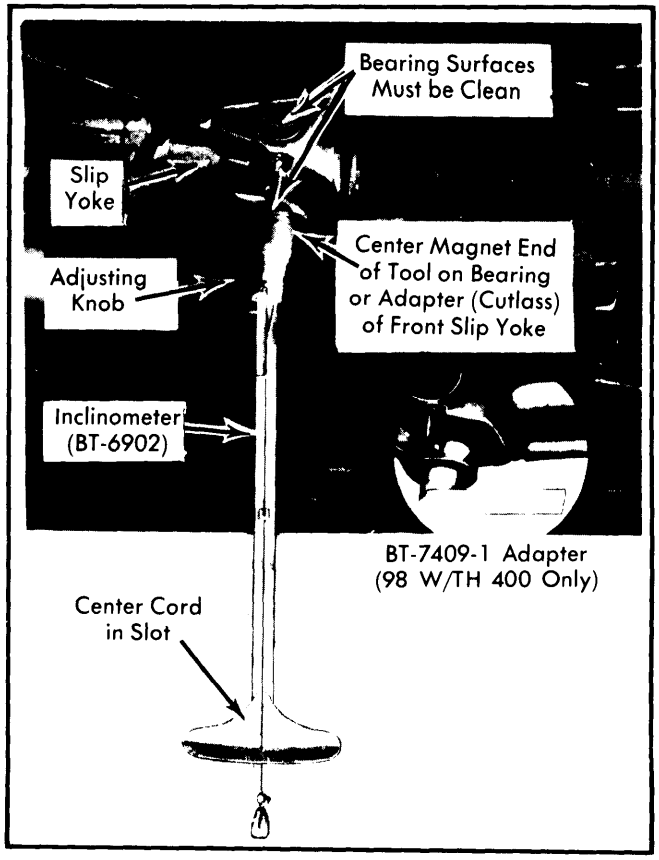

Fig. 2 Checking Transmission Angle

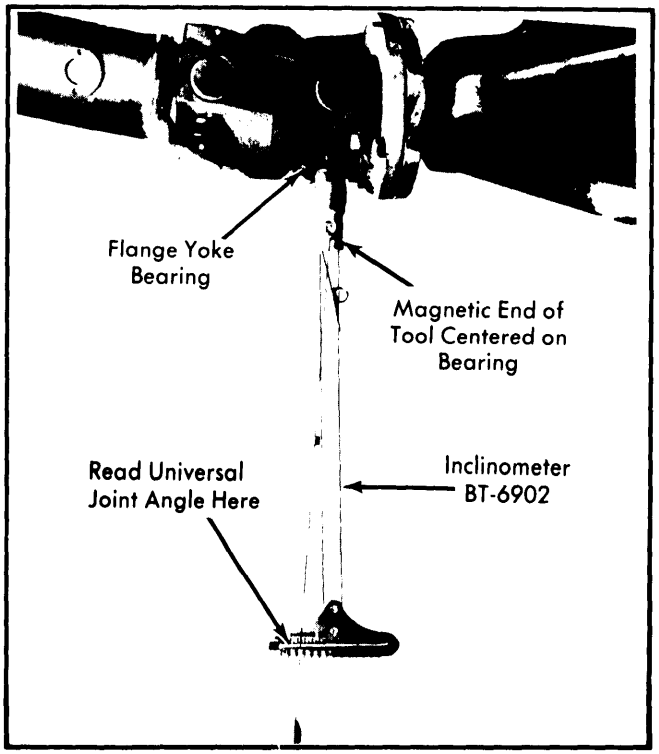

Fig. 3 Checking Rear Axle Nose Angle

OLDSMOBILE PROPELLER SHAFT ALIGNMENT (Cont.)

Rear Axle Nose Angle – Use same procedure as for transmission angle. Tool (BT-6902) must be modified by filing a ¼" by 1/16" notch in magnetic end for correct fitting of companion shaft yoke bearing on Starfire and Omega. *See Propeller Shaft Specifications for correct nose angle specifications.*

ADJUSTMENT

Transmission Shimming (Cutlass, 88, 98) – Addition of one shim will change transmission angle -½° and rear axle angle by +¼°. Removal of one shim will change transmission angle +½° and rear axle angle -¼°.

Differential Nose Angle Adjustment (Cutlass, 88-98) – If rear axle nose angles are not correct, control arms may be changed to correct this angle.

Rear Upper Control Arm

Service Control Arm	Rear Axle Nose Angle Change	Transmission Angle Change
Short Arm		
Cutlass	+1½°	-½°
88-98	+2°	-½°
Long Arm		
Cutlass	-1½°	+½°
88-98	-2°	+½°

Propeller Shaft Specifications ①

Application	Transmission Angle	Differential Angle
Cutlass	¼°	¼°
88		
Exc. Sta. Wag.	2°	2½°
Sta. Wag.	2¼°	3¼°
98	2°	2°

① – Angles are ±¼°.