

AMERICAN MOTORS PROPELLER SHAFT ALIGNMENT

American Motors

DESCRIPTION

Measurement of front and rear universal joint angle is accomplished by means of an inclinometer (tool J-22910) with the vehicle at usual load and curb height. Angles formed by the intersection of the centerlines of the crankshaft, propeller shaft and drive pinion must fall below the propeller shaft centerline. Angles formed above the centerline are negative and must be avoided.

CHECKING & ADJUSTING ANGLES

CHECKING

- 1) Shift transmission into neutral and raise vehicle on axle tubes or rear springs. Rear wheels must be free to rotate.
- 2) On Matador models, measure distance between top of each axle tube and side sill. Take measurement adjacent to rubber bumper on each side of vehicle. Add the two measurements then divide sum by two. This produces an average distance between axle tubes and side sills.
- 3) Clean yoke bearing caps and install inclinometer magnet with tool parallel to propeller shaft and record readings as follows:
 - Rear Axle Yoke Bearing Cap
 - Rear Propeller Shaft Yoke Bearing Cap
 - Front Propeller Shaft Yoke Bearing Cap
 - Front Slip-Yoke Bearing Cap
- 4) Difference between rear axle yoke bearing and rear propeller shaft bearing readings will give rear universal joint angle. For specified Matador rear universal joint angle, see chart Fig. 3. Rear "U" joint angle or all other models is $+2\frac{1}{2}^{\circ} \pm \frac{1}{2}^{\circ}$.
- 5) Difference between angles measured at front propeller shaft yoke bearing and slip yoke bearing is front universal joint angle. No NEGATIVE angle is permitted.

ADJUSTMENT

NOTE — If front universal joint angle is negative, front angle should be adjusted first, then check and adjust rear angle as required. Recheck front angle after adjustment. If front angle is positive, adjust rear angle first and then check and adjust front angle as required.

1) To adjust front universal joint angle, install shims between engine rear crossmember and frame side sill. Adjusting shims may be made by altering the rear crossmember shims used on Matador models.

NOTE — If it is necessary to add shims to correct front angle, manual transmission linkage must be adjusted after installation of shims.

2) To adjust rear universal joint angle on Matador models, install shims between rear suspension crossmember and mounting brackets side sills.

3) To adjust rear universal joint angle on Pacer, Gremlin and Hornet models, install wedge shaped shims between rear springs and rear axle tube spring pads.

4) To increase angle, install the shim so the tapered end faces the rear of car. To decrease angle, install shim so tapered end faces front of car. Adding shims raises the rear axle pinion and decreases the rear universal joint positive angle. Removing shims lowers axle pinion and increases the rear universal joint positive angle.

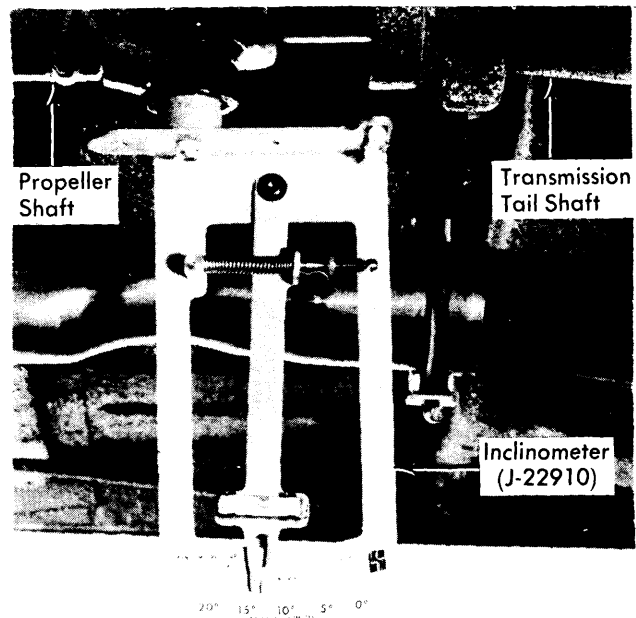


Fig. 2 Measuring Front Universal Joint Angle

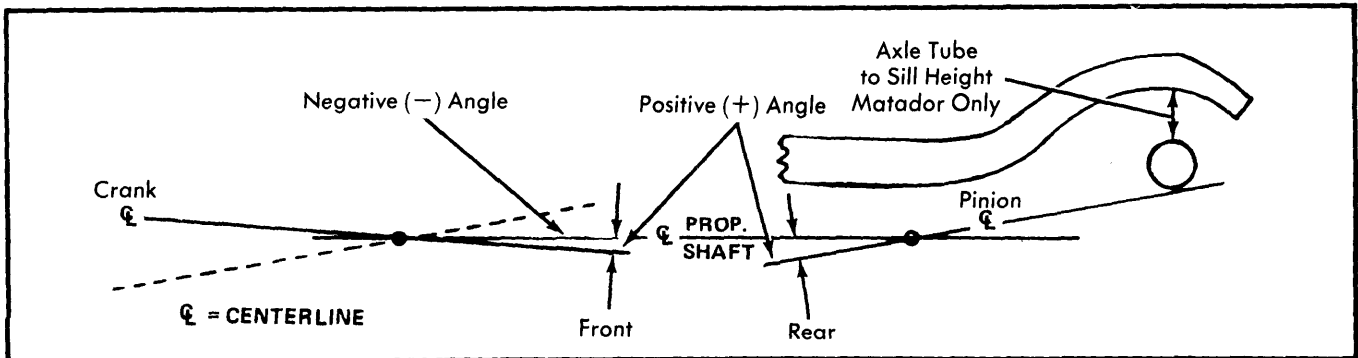


Fig. 1 Front and Rear Universal Joint Angles

Propeller Shaft Alignment

AMERICAN MOTORS PROPELLER SHAFT ALIGNMENT (Cont.)

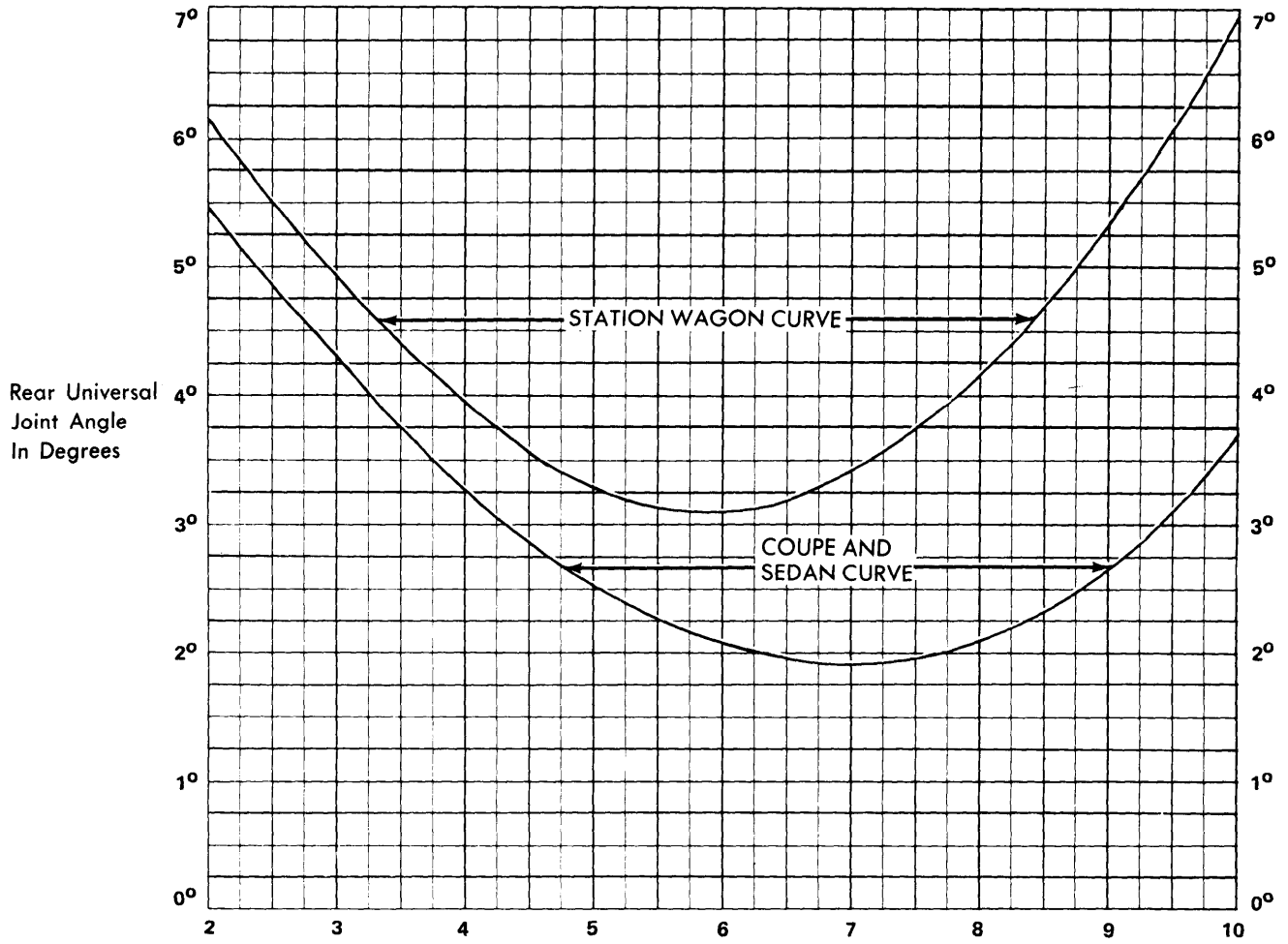


Fig. 3 Matador Rear Universal Joint Angle Chart