

**NEW FRONT TOE-IN & CASTER SPECIFICATIONS/ADJUSTMENT****TECHNICAL SERVICE BULLETIN**

Reference Number(s): 40/2, Date of Issue: December 1983

**A. REVISED TOE-IN ADJUSTMENT OF FRONT WHEELS - MODELS 107, 116, 123, 126 AND 201****B. REVISED CASTER ANGLE - MODEL 126**

Model(s): All Mercedes Benz Models

Group: Chassis Alignment

Bulletin No.: 40/2

Date: December 1983

**SERVICE INFORMATION****A. REVISED TOE-IN ADJUSTMENT OF FRONT WHEELS MODEL 107,116, 123,126 AND 201**

Toe-in is the wheel alignment measurement indicating the amount that the front wheels point inward (or outward in the case of toe-out) in the direction of travel. The purpose of toe-in is to ensure parallel rolling of the front wheels, to stabilize steering, and to prevent excessive tire wear. The toe-in on the front wheels serves to offset the small deflections in the wheel-support system, which occur when the car is moving forward. In other words, even though the wheels are set to toe-in slightly when the car is standing still, they tend to roll parallel on the road when the car is moving forward. Incorrect adjustment of the toe will cause uneven tire wear or pulling to one side.

Revised toe-in specifications are shown in Table 1:

**WHEEL ADJUSTMENT, READY-TO-DRIVE CONDITION**

| MODEL       | TOE-IN (FRONT OF WHEELS PUSHED APART) | REMARKS                         |
|-------------|---------------------------------------|---------------------------------|
| 107         | +0°15' +/- 10' or 2.0 +/- 1 mm        | ---                             |
| 116 123 126 | -0°25' +/- 10' or 3.0 +/- 1 mm        | with steel spring suspension    |
| 116 126     | +0°15' +/- 10' or 2.0 +/- 1 mm        | with hydro-pneumatic suspension |
| 201         | +0°20' +/- 10' or 2.5 +/- 1 mm        | ---                             |

It is mandatory that the toe-in be measured with the wheels in the straight-ahead position and the front part of the wheels pushed apart. For this purpose, a new wheel tensioner is now available. The Work Instructions detail the use of this tool and the procedure for adjusting toe-in.

**SPECIAL TOOLS**

|                                      |        |  |
|--------------------------------------|--------|--|
| Jason                                |        |  |
| Saturday, April 21, 2012 10:38:49 AM | Page 1 | © 2005 Mitchell Repair Information Company, LLC. |

**1984 Mercedes-Benz 300SD****NEW FRONT TOE-IN & CASTER SPECIFICATIONS/ADJUSTMENT**

**IMPORTANT: This is a minimum tool required for all dealers and is available from the Teaneck PDC.**

**SPECIAL TOOL**

| <b>TOOL NAME</b> | <b>TOOL NUMBER</b> |
|------------------|--------------------|
| Wheel tensioner  | 900 589 01 27 00   |

**B. REVISED CASTER ANGLE - MODEL 126**

The revised caster angle for model 126 is shown in the table below:

**REVISED CASTER ANGLE FOR MODEL 126**

| <b>MODEL</b> | <b>CASTER ANGLE (STRAIGHT AHEAD POSITION)</b> | <b>REMARKS</b>             |
|--------------|---|----------------------------|
| 126          | 10°15' +/- 30'                                | w/ steel spring suspension |

**WORK INSTRUCTIONS****A. BALL POINT POSITION OF PITMAN ARM/INTERMEDIATE ARM**

1. The correct toe-in setting, caster and camber angle, and ball point position of the pitman and intermediate (idler) arms are critical factors for tire wear and accurate tracking (especially for series 70 tires). When adjusting, always use nominal values.
2. The ball point position of the steering linkage exerts considerable influence on wheel alignment while driving. Therefore, the specified values must be strictly adhered to, with the least possible height difference between the pitman arm and idler arm all joints.

Adjusting shims are available for the intermediate (idler) arm, if required:

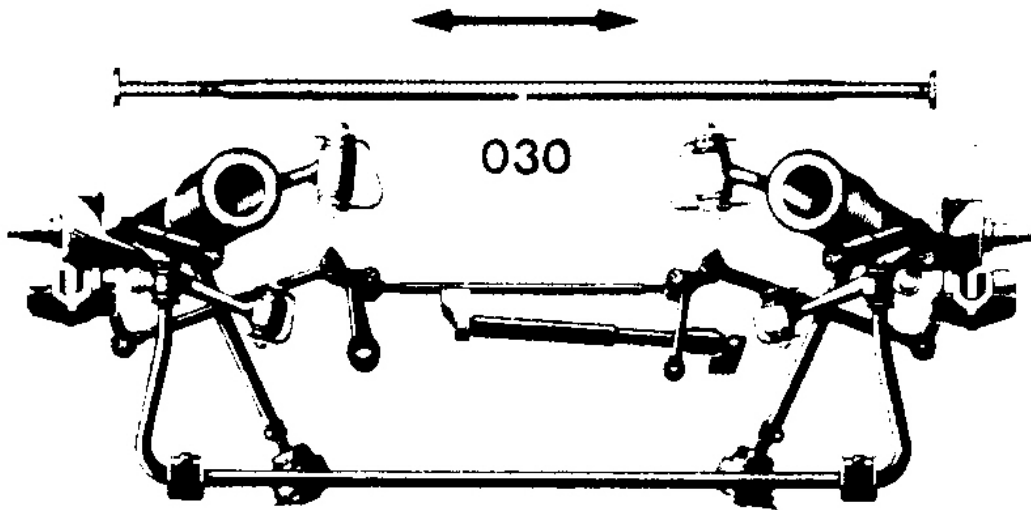
**SHIMS FOR INTERMEDIATE IDLER ARM**

| <b>PART NAME</b> | <b>PART NUMBER</b> | <b>REMARKS</b>        |
|------------------|--------------------|-----------------------|
| Shim (3.5 mm)    | 115 463 00 52      | Fitted as standard    |
| Shim (2.7 mm)    | 000125 017010      | Additional for repair |
| Shim (2.0 mm)    | 123 163 01 52      | Additional for repair |

**CAUTION: Total shim thickness must not exceed 8 mm. If necessary, thoroughly check the steering linkage and replace any damaged or worn part.**

**B. REVISED TOE ADJUSTMENT OF FRONT WHEELS**

1. To measure or adjust the toe-in, the front wheels must be pushed apart using the wheel tensioner (030, **Fig. 1**). By pushing the wheels apart (as shown in **Fig. 1**), slack in the steering linkage is eliminated. This simulates the wheel position during normal driving.



**Fig. 1: Pushing Front Wheels Apart Using the Wheel Tensioner**

- To measure or adjust the toe-in, the wheels must be in the straight-ahead position. For this purpose, remove the closing plug on the bottom of the power steering gear and lock the piston by inserting the center position control screw.

**Preparation for Toe-in Measurement**

- Line up the wheel tensioner pads between the inner front tire walls (at a height as close as possible to the wheel centers).
- Measure the toe-in value. If not within specified values, adjust toe-in to nominal specified value.

**WHEEL ADJUSTMENT, READY-TO-DRIVE CONDITION**

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**CAUTION:** The specified force of the wheel tensioner and the correct toe-in value for driving the vehicle is obtained only by following the adjusting procedure. Do not use the wheel tensioner when making camber and caster adjustments.

**NOTE:** Excess toe-in results in increased tire wear on the outside shoulders of both wheels, while insufficient toe-in results in increased wear on the inner

**1984 Mercedes-Benz 300SD**

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**shoulders of the tread.**

**SPECIAL TOOL**

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|------------------|--------------------|
| Wheel tensioner  | 900 589 01 27 00   |