Mercedes-Benz **service information**

TO: **OUR MERCEDES-BENZ PASSENGER CAR DEALERS**

DATE: December 1993 (supersedes S.I. MBNA 82/60, May 1992) **REF. NO.** MBNA 82/60a

SUBJECT: **MODELS 124, 140 and 202**
A. HEADLAMP ADJUSTMENT/OPTICAL RECALIBRATION
B. FOG LAMP ADJUSTMENT

The headlamps in models 124 (as of M.Y. 94), 140 and 202 are equipped with on-board aiming devices, which simplify the headlamp adjustment procedure. The aiming pads on the headlamp glass, known from previous models, are no longer required and have been eliminated. The use of on-board equipment to aim the headlamps has also eliminated the need for a workshop headlamp aiming device.

The adjustment procedures described in the Owner's Manual are repeated herein. Adjustment of the headlamp and fog lamp aim may be required periodically.

This Service Information also provides information on optical recalibration of the headlamps. Optical recalibration is **not** a routine procedure and is only required when replacing the complete headlamp unit if damaged or after accident repair.

A. HEADLAMP ADJUSTMENT/ OPTICAL RECALIBRATION

Preparation of vehicle for headlamp adjustment/optical recalibration:

- Correct tire pressure,
- Fill fuel tank or load trunk accordingly,
- Drive vehicle slowly onto a level surface (check with carpenter's level) **without** abruptly applying service brake which would alter vehicle level,
- Open hood,
- Remove the two access covers in the front crossmember above the headlamp units,
- Move retaining clips on back of headlamp units and remove covers.

HEADLAMP ADJUSTMENT

Note: Slight variations of the bubble from the exact center of the "0" mark (½ bubble width) do not indicate a need for headlamp adjustment.

Model 140

1. Vertical (height) adjustment

   Early M.Y. 1992 Model 140
   Turn adjustment screw (6) until air bubble in the level (1) is centered on the "0" mark (Figure 1).

   As of late M.Y. 1992 Model 140
   Turn adjustment screw (2) until air bubble in the level (1) is centered on the "0" mark (Figure 2).

   Model 140 Coupé
   Turn adjustment screw (2) until air bubble in the level (1) is centered on the "0" mark (Figure 3).

2. Horizontal (lateral) adjustment

   Note: Horizontal adjustment normally does not change and needs readjustment only after headlamp replacement or accident repair. Optical recalibration is required in these cases.

   Early M.Y. 1992 Model 140
   Turn adjustment screw (7) so that the pointer (5) for the scale (4) is aligned with the same mark as the other pointer (3) and scale (2, Figure 1).

   As of late M.Y. 1992 Model 140
   Turn adjustment screw (3) until the number "0" on the scale (4) aligns with the marker (5, Figure 2).

   Model 140 Coupé
   Turn adjustment screw (3) until pointers in sight glasses (4 and 5) show the same value (Figure 3).

3. Reinstall headlamp unit covers and access covers in crossmember.

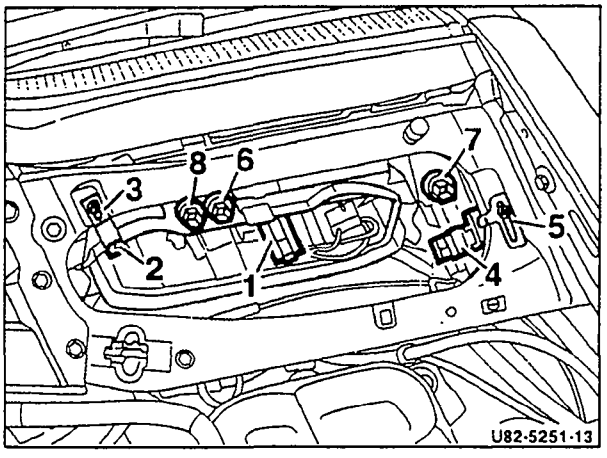

Figure 1 Early M.Y. 1992 Model 140

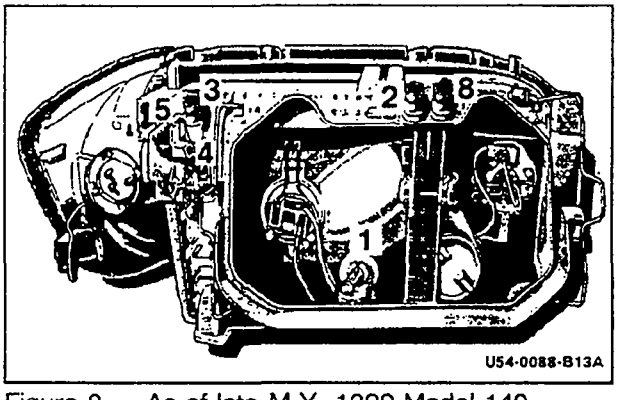

Figure 2 As of late M.Y. 1992 Model 140

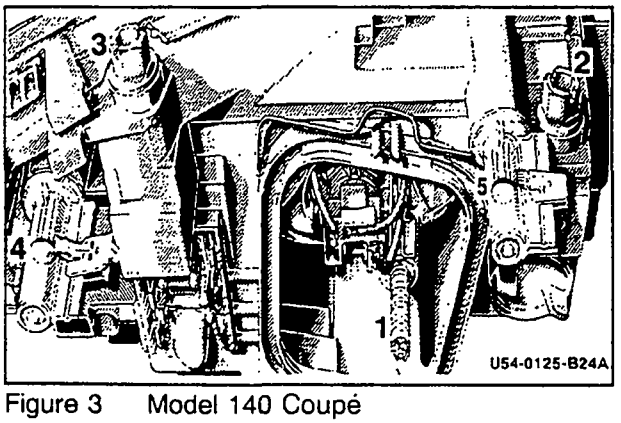

Figure 3 Model 140 Coupé

Model 124

1. Vertical (height) adjustment
   Turn adjustment screw (2) until air bubble in the level (1) is centered on the "0" mark (Figure 4).

2. Horizontal (lateral) adjustment

   Note: Horizontal adjustment normally does not change and needs readjustment only after headlamp replacement or accident repair. Optical recalibration is required in these cases.

   Turn adjustment screw (3) until the number "0" on the scale (4) aligns with the marker (5, Figure 2).

3. Reinstall headlamp unit covers.

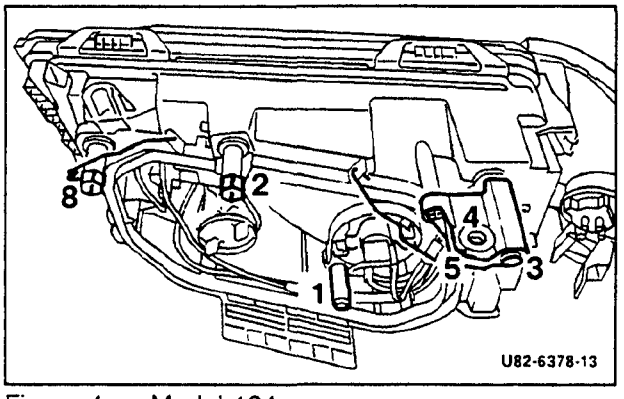

Figure 4 Model 124

Model 202

1. Vertical (height) adjustment
   Turn adjustment screw (2) until air bubble in the level (1) is centered on the "0" mark. Move scale (3) until pointer in sight glass (4) aligns with the number "0" on scale (Figure 5).

2. Horizontal (lateral) adjustment

   Note: Horizontal adjustment normally does not change and needs readjustment only after headlamp replacement or accident repair. Optical recalibration is required in these cases.

   Turn adjustment screw (5) until the number "0"on the scale (6) aligns with the pointer in the sight glass (7, Figure 2).

3. Reinstall headlamp unit covers.

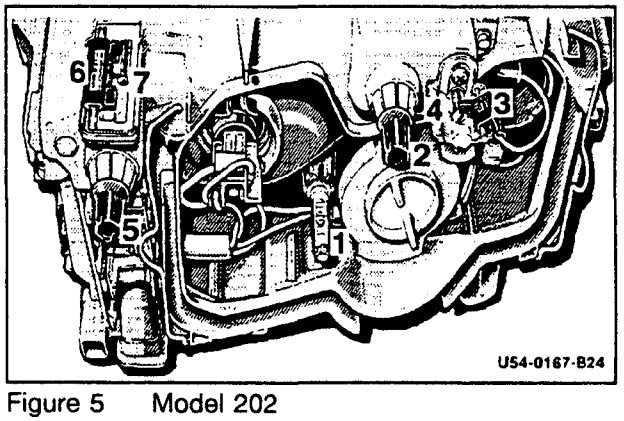

Figure 5 Model 202

HEADLAMP OPTICAL RECALIBRATION

Note: Optical recalibration of the headlamp is not necessary unless the complete headlamp unit is replaced, or after accident repair.

1. Park vehicle on a level surface 7.6 m (25 feet) from a vertical test screen or wall. Mark the screen or wall according to Figure 6. Align the vehicle centerline with the center mark on the test screen. The centerline of the vehicle must be at a 90° angle to the test screen.

2. Optical recalibration of the vertical adjustment is not necessary as the bubble level used for adjustment is attached permanently to the headlamp reflector. Only vertical adjustment is possible as described previously.

   Note: Even when properly adjusted, tolerances in the bulb filaments may allow a slight variation in the left-to-right headlamp beam height. Such variations **are not** justification for replacing the headlamp unit. If desired, the bulbs may be swapped side for side. Adjustment of the bubble levels should, however, remain at the "0" mark.

3. Perform optical recalibration of horizontal adjustment by turning the headlamp horizontal adjustment screw so that the headlamps illuminate the test screen as shown in Figure 7.

4. After recalibration, check, and adjust if necessary, the lateral indicators.
   - Model 140: Align pointers with "0" mark on scales. Lock with paint seals.
   - Model 124: Push adjustment indicator up, align with "0" mark and press down to lock.
   - Model 202: Align "0" mark on slide with pointer or mark on scale. Slide locks into place after adjustment.

5. Reinstall headlamp unit covers and access covers in crossmember.

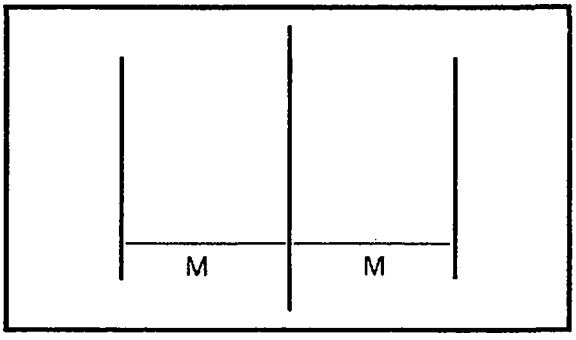

Figure 6 Dimension "M"

Model 124 (M.Y. 94 →):	581 mm (23")
Model 140 sedan:	664 mm (26")
Model 140 coupé:	648 mm (25.5")
Model 202:	598 mm (24.5")

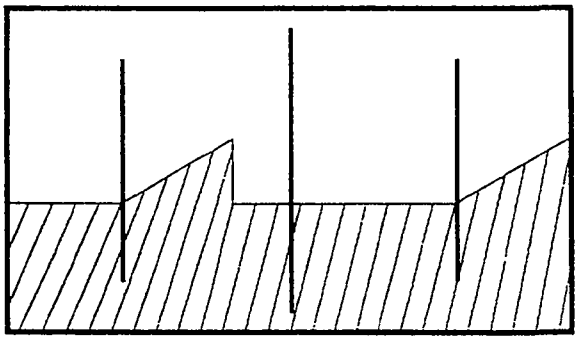

Figure 7 Crosshatched area = illumination area of headlamps

B. FOG LAMP ADJUSTMENT

Note: The following procedure does not apply to model 202. The fog lamps on model 202 are integrated into the main headlamp adjustment, separate fog lamp adjustment is not possible.

The fog lamp may only be adjusted in the vertical axis. Horizontal adjustment is not possible.

With vehicle still parked at test screen as described previously, perform adjustment as follows:

1. Mark the test screen or wall according to Figure 8. Determine dimension "H" (Figure 8) by measuring from the ground to the centerline of the fog lamp glass (small dot in lens), and then subtracting 6 inches.

   Note:
   This method of determining dimension "H" is only valid with the vehicle parked 25 feet from the test screen.

2. Turn fog lamp vertical adjustment screw (8) so that the fog lamps illuminate the test screen as shown in Figure 9.

3. Reinstall headlamp unit covers and access covers in crossmember.

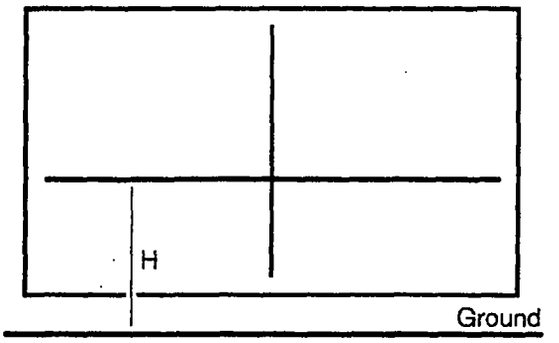

Figure 8 H = foglamp centerline height minus 6 inches @ 25 feet from test screen.

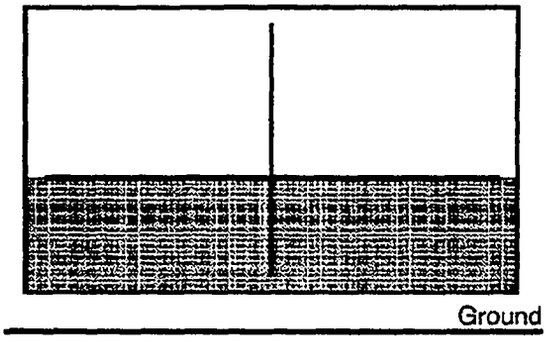

Figure 9 Shaded area = illumination area of fog lamps