

## 2001-2006 HVAC

### Air Compressor, Belt Drives - 203 Chassis

## TESTING & REPAIR

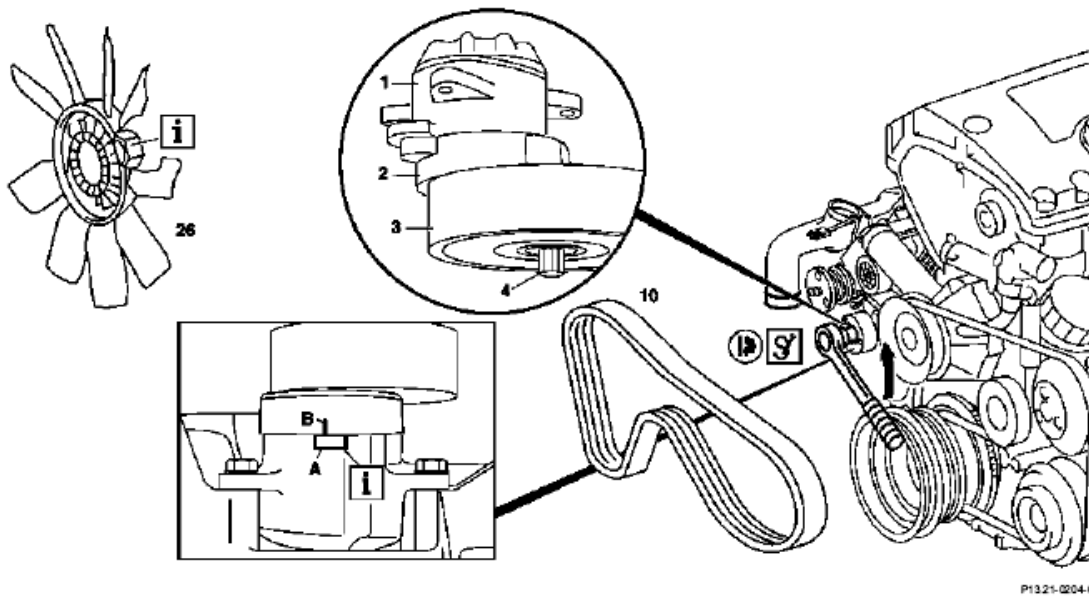
### REMOVE/INSTALL POLY-V-BELT FOR COMPRESSOR - AR13.21-P-1202A

ENGINE 111.943 /973 in MODEL 170

ENGINE 111.944 /975 in MODEL 202, 208

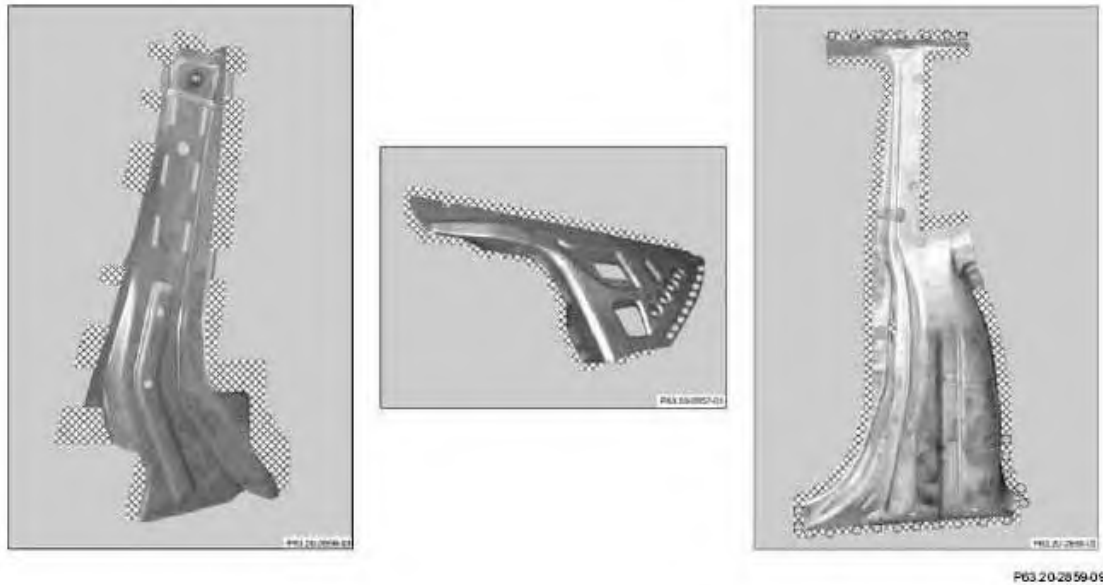
ENGINE 111.947 in MODEL 210

ENGINE 111.955 in MODEL 203



**Fig. 1: Identifying Poly-V-Belt For Compressor Remove/Install Components - Engine 111.955**

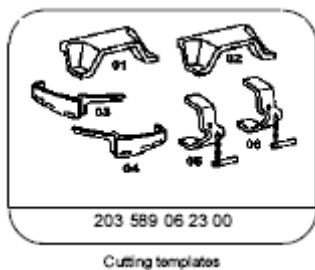
| ⓘ   | Removing                       |                                                                            |                         |
|-----|--------------------------------|----------------------------------------------------------------------------|-------------------------|
| 1   | Remove viscous fan clutch (26) | Vehicles fitted with viscous fan clutch<br>⚠ Danger! Left-hand thread      | AR20.40-P-5660A         |
| 2.1 | Remove fan shroud              | Vehicles with fan cowl                                                     | AR20.40-P-6800HA        |
| 2.2 | Remove electric fan            | Vehicles fitted with electric fan                                          | <b>AR20.40-P-5000PR</b> |
| 3   | Loosen poly-V-belt (10)        | Nm Swivel tensioning arm (2) and tensioning pulley (3) in counterclockwise | <b>Fig. 2</b>           |



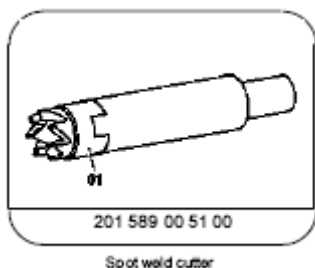
**Fig. 137: Identifying B-Pillar Grinding Area**

5. Grind connection surfaces down to bare metal in shaded areas. Grind spot welding flanges down to bare metal on both sides Coat insides of spot welding flanges with zinc dust paint.

**SEPARATING OUTER SIDE LONGITUDINAL MEMBER - AR63.30-P-1050-01P**



**Fig. 138: Identifying Cutting Templates (203 589 06 23 00)**

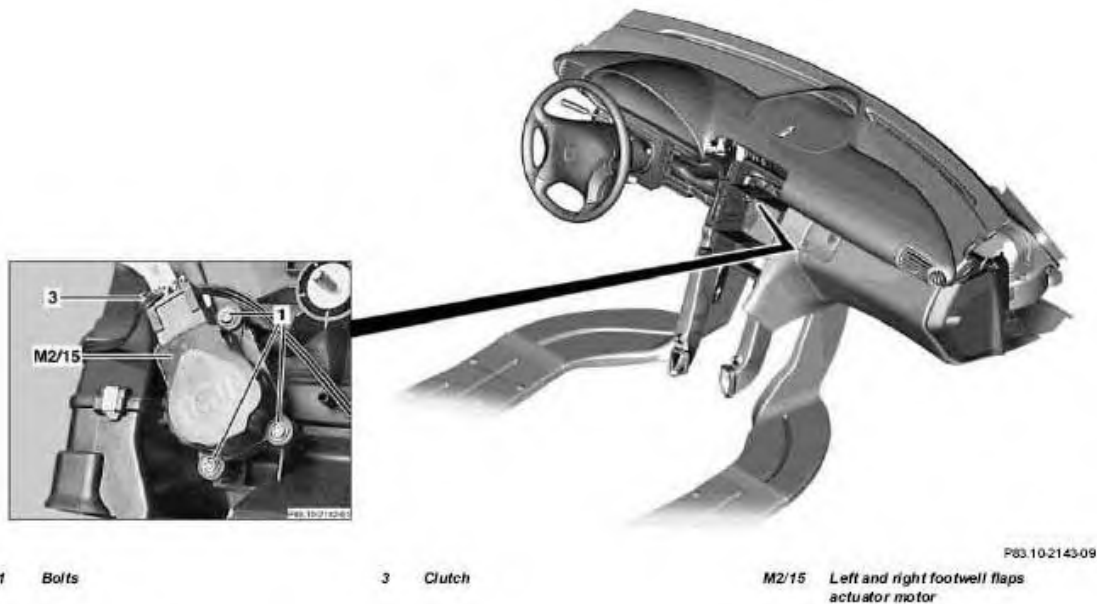


**Fig. 139: Identifying Spot Weld Cutter (201 589 00 51 00)**

**COMMERCIALLY AVAILABLE TOOLS**

| Number | Designation |
|--------|-------------|
|--------|-------------|

WH58.30-Z-1048-13A | STAR DIAGNOSIS diagnosis system, Compact Passenger Car 6511 1801 00 |

**REMOVE AND INSTALL LEFT AND RIGHT FOOTWELL FLAP ACTUATOR MOTOR - AR83.10-P-2008P****MODEL 203 except CODE (581) Comfort automatic air conditioning****Fig. 15: Locating Left And Right Footwell Flap Actuator Motor Remove/Install Components****Modification notes**

|         |                                                     |  |  |
|---------|-----------------------------------------------------|--|--|
| 16.5.06 | "Disconnect/connect ground line on battery" removed |  |  |
|---------|-----------------------------------------------------|--|--|

|  AP | Remove/install                                                                     |                                                                                                           |                               |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------|
| 1                                                                                     | Remove instrument panel                                                            |                                                                                                           | <b><u>AR68.10-P-1000P</u></b> |
| 2                                                                                     | Remove reinforcement for instrument panel                                          |                                                                                                           |                               |
| 3                                                                                     | Remove damping material                                                            |                                                                                                           |                               |
| 4                                                                                     | Remove bolts (1)                                                                   |                                                                                                           |                               |
| 5                                                                                     | Remove left and right footwell flaps actuator motor (M2/15) from heater/AC housing |                                                                                                           |                               |
| 6                                                                                     | Disconnect connector (3) from left and right footwell flaps actuator motor (M2/15) |                                                                                                           |                               |
| 7                                                                                     | Install in the reverse order                                                       |                                                                                                           |                               |
| 8                                                                                     | Synchronize left and right footwell flaps actuator motor (M2/15)                   |  STAR Diagnosis tool. |                               |

## 2007 Mercedes-Benz C230

2001-2006 ENGINE Complete Engine - Testing & Repair - 203 Chassis

|    |                                                                              |                                                                                                                                                                                                                                                                                                                                   |                                                                                                                              |
|----|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|    | oil pan                                                                      |  Model 211                                                                                                                                                                                                                                       | <b><u>*BA46.30-P-1009-01F</u></b>                                                                                            |
| 26 | Remove both front axle shafts                                                | Model 203<br>Model 211                                                                                                                                                                                                                                                                                                            | <b><u>AR33.30-P-0620P</u></b><br>AR33.30-P-0620I                                                                             |
| 27 | Remove supporting clamp (18) for engine support and on oil pan top section   |  Model 203<br> Model 211                                                                                                                                        | <b><u>*BA22.10-P-1014-01S</u></b><br><b><u>*BA22.10-P-1013-01O</u></b>                                                       |
| 28 | Detach bracket (15) of O2 sensor connectors at bottom of oil pan.            |  Firmly connect bracket (15) to transmission bell.<br> Model 203<br> Model 211 | <b><u>*BA22.10-P-1007-01S</u></b><br><b><u>*BA22.10-P-1007-01O</u></b>                                                       |
| 29 | Remove complete exhaust system                                               | Model 203<br>Model 211                                                                                                                                                                                                                                                                                                            | <b><u>AR49.10-P-7000QB</u></b><br>AR49.10-P-7000TS                                                                           |
| 30 | Detach exhaust shielding plate (16) for front axle gear propeller shaft (14) |                                                                                                                                                                                                                                                 | <b><u>AR41.10-P-0070P</u></b><br><b><u>*BA33.30-P-1001-03D</u></b>                                                           |
| 31 | Detach transmission ground (W49) from transfer case                          |                                                                                                                                                                                                                                                                                                                                   |                                                                                                                              |
| 32 | Disconnect engine wiring harness from automatic transmission                 | Model 203<br>Model 211                                                                                                                                                                                                                                                                                                            | <b><u>AR01.00-P-2410-02QB</u></b><br>AR01.00-P-2410-02TS                                                                     |
| 33 | Remove retainer (20)                                                         |  Always replace retainer (20).                                                                                                                                                                                                                 |                                                                                                                              |
| 34 | Detach shift rod (19) at automatic transmission and tie to the side          |                                                                                                                                                                                                                                                                                                                                   |                                                                                                                              |
| 35 | Support automatic transmission with assembly lift and transmission platform  | Transmission platform                                                                                                                                                                                                                                                                                                             |                                                                                                                              |
| 36 | Remove rear engine mount                                                     | Model 203<br>Model 211<br> Model 203<br> Model 203                                                                                                          | <b><u>AR22.10-P-1160PW</u></b><br>AR22.10-P-1160TW<br><b><u>*BA22.10-P-1004-01S</u></b><br><b><u>*BA22.10-P-1006-01S</u></b> |

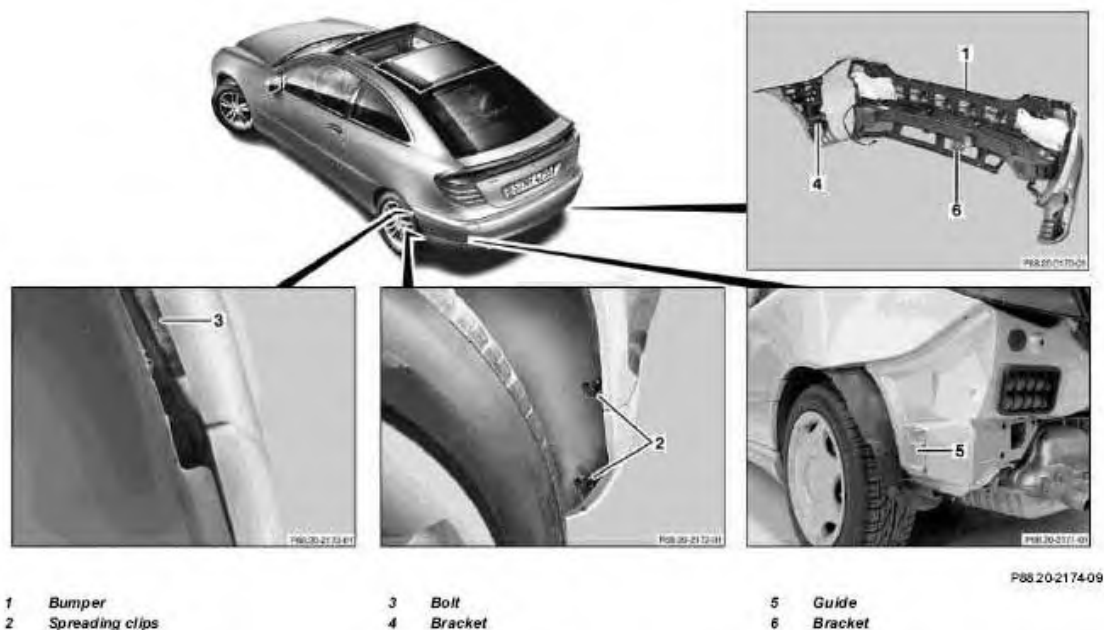
## 2007 Mercedes-Benz C230

2001-2006 ENGINE Engine Cooling System - 203 Chassis

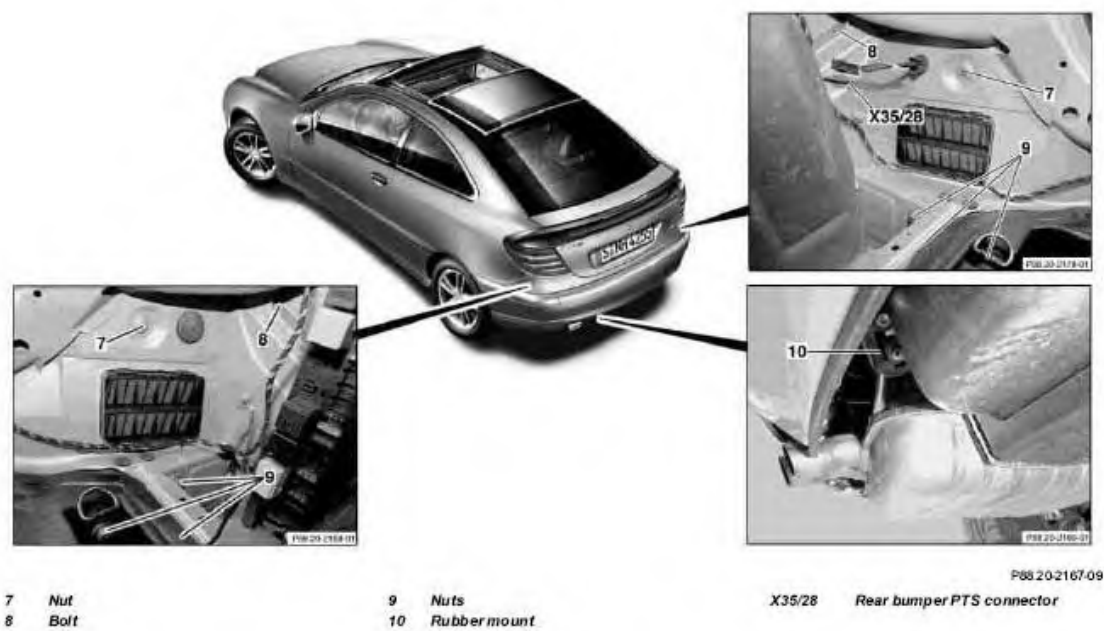
|    |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                         |
|----|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                        | Models 209.361 /461 with Engine 112.912<br>Models 209.365 /465 with Engine 112.955<br>Models 209.375 /475 with Engine 113.968<br>Models 209.376 /476 with Engine 113.987                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                         |
| 10 | Remove poly-V-belt (2) | <p>ⓘ Lock tensioning pulley with drift or pin (diameter 5 mm).<br/>Model 463.209 /232 /233 /244 /245 /250 with engine 112.945.<br/>Model 463.206 /240 /241 /247 /248 / 249 /254 with engine 113.962.<br/>Models 463.243 /246 with Engine 113.982<br/>Models 129, 163 with engine 112<br/>Models 129, 202, 208.370 /470, 210 with engine 113<br/>Model 163 with engine 113 except 113.965 /981<br/>Models 202, 208, 210, 220 with engine 112<br/>Model 220 with engine 113 except 220.074 /174<br/>Model 163.174 with engine 113.981<br/>Model 163.175 with engine 113.965<br/>MODELS 208.374 /474 with Engine 113<br/>Models 220.074/ 174<br/>Model 170.465 with engine 112.947<br/>Model 170.466 with engine 112.960<br/>MODELS 203.065 /265 with ENGINE 112.961<br/>Model 171.473 with engine 113.989<br/>Models 203.061 /261 with Engine 112.912<br/>Models 203.064 /264 /764 with Engine 112.946</p> | <p>AR13.22-P-1202B</p> <p>AR13.22-P-1202BA</p> <p>AR13.22-P-1202R<br/>AR13.22-P-1202SV</p> <p><b><u>AR13.22-P-1202SVK</u></b></p> <p><b><u>AR13.22-P-1202PV</u></b></p> |

## 2007 Mercedes-Benz C230

2001-2006 ACCESSORIES & BODY, CAB Detachable Body Components - 203 Chassis



**Fig. 58: Identifying Rear Bumper Remove/Install Components - Models 203.7 (1 Of 3)**



**Fig. 59: Identifying Rear Bumper Remove/Install Components - Models 203.7 (2 Of 3)**

## 2007 Mercedes-Benz C230

2001-2006 ACCESSORIES & BODY, CAB Doors - 203 Chassis

**Fig. 12: Identifying Front Power Window Motors**

|  |                                     |                                                                                                                                             |                                   |
|--|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|  | Front power window motors, location | The left front power window motor (M10/3) and right front power window motor (M10/3) are located in the bottom area of the inner door side. |                                   |
|  | Front power window motors, function |                                                                                                                                             | <b><u>GF72.29-P-4108-02PP</u></b> |

### REAR POWER WINDOW MOTOR, FUNCTION - GF72.29-P-4109-02PP

#### Function

The **left rear power window motor (M10/5)** and the **right rear power window motor (M10/5)** are DC motors which can turn clockwise or counter-clockwise depending on the polarity of the armature voltage.

The motors are actuated by the **left rear door control module (N69/3)** / **right rear door control module (N69/4)** .

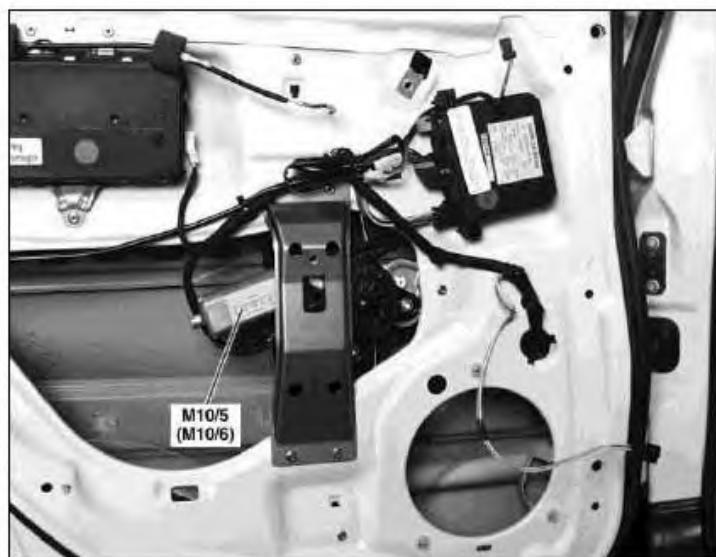
Each motor has a thermal safety switch and two Hall sensors for position recognition.

### REAR POWER WINDOW MOTORS, LOCATION/FUNCTION - GF72.29-P-4109PP

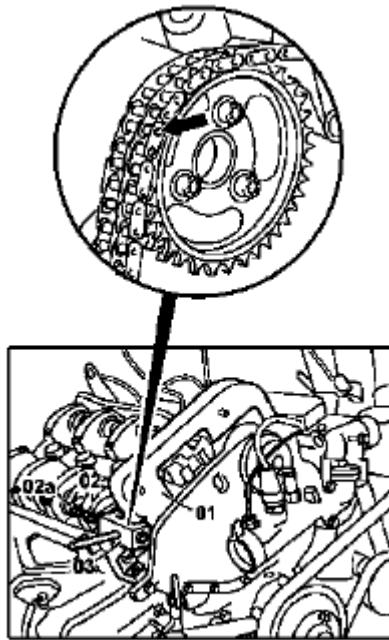
#### MODEL 203.0 /2

#### Arrangement

M10/5 Left rear power window motor  
M10/6 Right rear power window motor



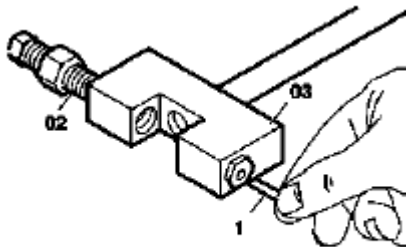
P72 292173-06



P05.10-0281-03

**Fig. 25: Locating Timing-Chain Bolts**

7. Unscrew thrust spindle (02), take off chain separating tool (03).
8. Pull removed timing-chain bolts (1) out of chain separating tool (03).



P05.10-0271-01

**Fig. 26: Identifying Thrust Spindle, Timing-Chain Bolt And Chain Separating Tool**

**SEPARATE TIMING CHAIN - AR05.10-P-7601-01Q**



Case

The navigation system calculates the data on how to reach the destination (navigation).

The navigation system is activated by actuating the "NAV" button on the COMAND operating, display and control unit (A40/3).

The COMAND operating, display and control unit (A40/3) includes a navigation processor with Digital Versatile Disk (DVD) disk drive for digital map data.

 In the navigation display "Please insert Navigation CD type DX" is shown if a navigation DVD is not inserted.

This information is intended to ensure that the customers insert the correct DVD. The navigation DVD drive can also play audio CDs.

### **Destination entry**

The destination is entered using menus on the control unit and is processed by the navigation processor.

The COMAND operating, display and control unit (A40/3) offers the following options for destination entry in navigation mode:

- Address input
- Destination memory
- Destination with map
- Special destinations (e.g. railway station, airport etc.)
- Travel guide
- Last destinations

### **Predictive text input**

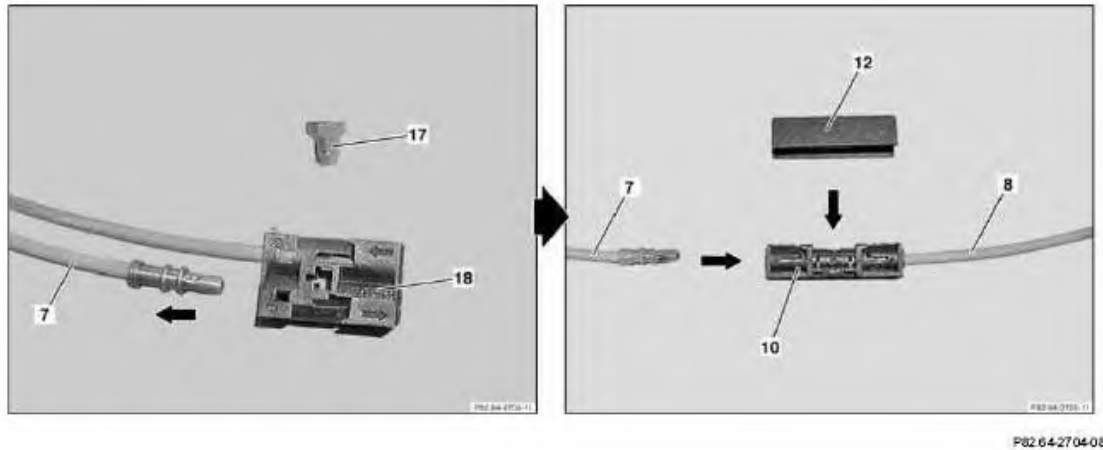
During entry of the destination, letters not yet entered are supplemented from a list. The entry aid relates to entry of the destination and street during navigation. In the menu "Special destinations" the submenus "Bypassing other locations..." and "National destinations..." are assisted. The menu "National destinations..." is subdivided into a further submenu.

### **Dynamic supplementation**

Dynamic augmentation is implemented upon manual entry of the destination. During entry of the destination, letters not yet entered are supplemented from a list. The supplemented characters have a black background. Deleting can be accomplished character by character.

### **Position finding**

The COMAND operating, display and control unit (A40/3) continuously calculates the location of the vehicle with the aid of the following procedures:

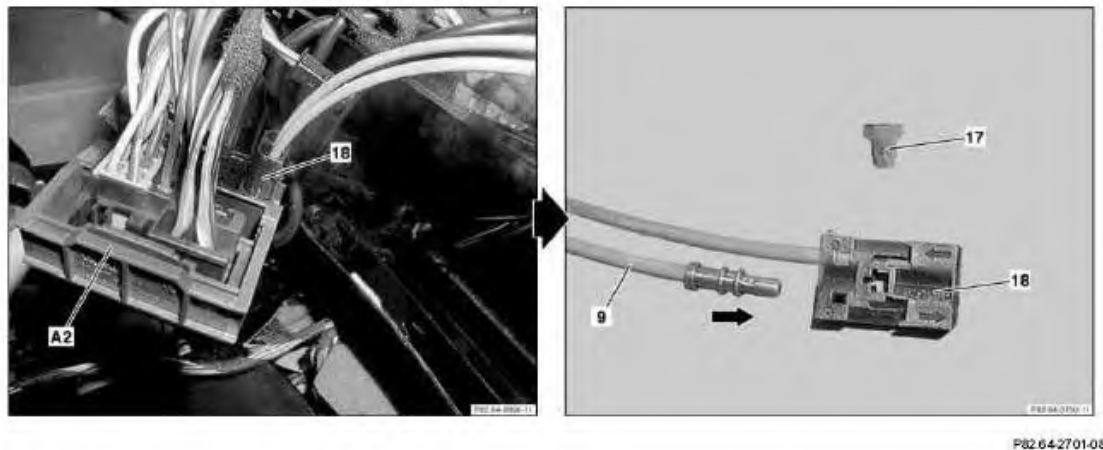


**Fig. 130: Identifying 2-Pin MOST Coupling**

14. Unclip blue retaining clip (17) from the black, 2-pin MOST connector (18).
15. Release the engagement lug and remove the fiber optical cable module (7) from the MOST coupling (18) and install it in the adapter coupling (10).

 **GF** Fiber optical cable module (7) must latch audibly.

16. Clip cover (12) on adapter coupling (10) and wind felt tape around.



**Fig. 131: Identifying 2-Pin MOST Coupling**

17. Install fiber optical cable module (9) in contact cavity 1 (input) of the black, 2-pin MOST coupling (18).

 **GF** Fiber optical cable module (9) must latch audibly.

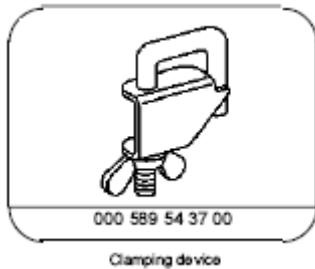
18. Install blue retaining clip (17) into the black, 2-pin MOST coupling (18).
19. Install black, 2-pin MOST coupling (18) into the black, 16-pin coupling at the radio (A2).

## 2007 Mercedes-Benz C230

2001-2006 ACCESSORIES & BODY, CAB Electrical System - Body - Testing & Repair - 203 Chassis

Engine 272

AR20.00-P-1010QB



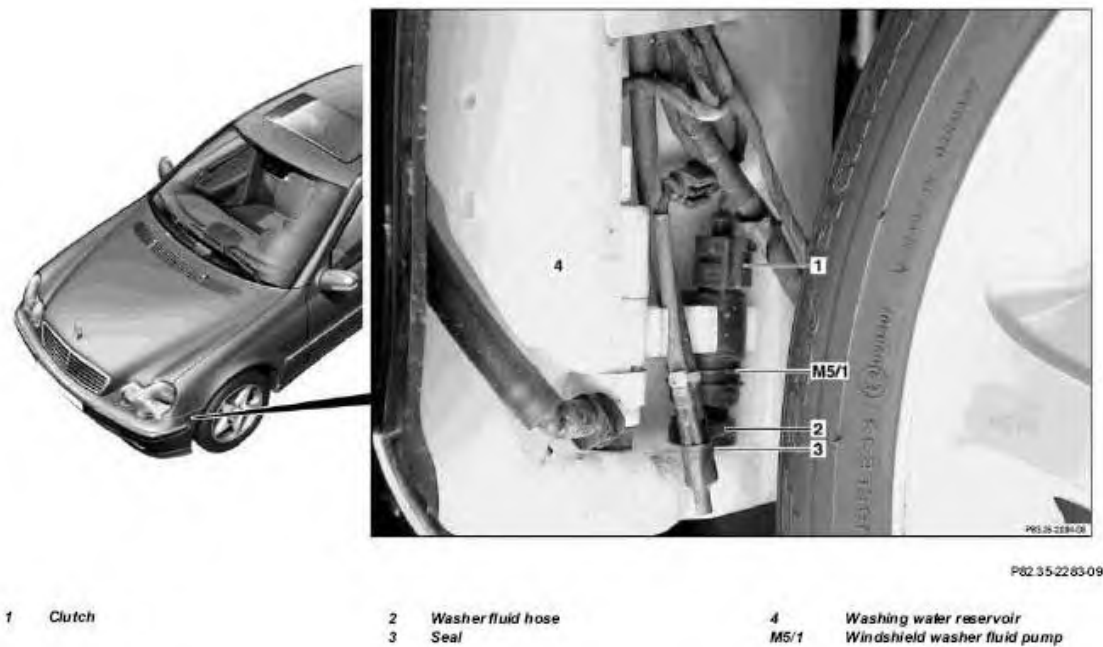
**Fig. 84: Identifying Clamping Device (000 589 54 37 00)**

### COMMERCIALLY AVAILABLE TOOLS

| Number             | Designation                                             |
|--------------------|---------------------------------------------------------|
| WH58.30-Z-1020-02A | Hose clamp pliers (length 235 mm, clamping range 40 mm) |

### REMOVE/INSTALL WINDSHIELD WASHER SYSTEM PUMP - AR82.35-P-6002P

MODEL 203, 209



**Fig. 85: Identifying Windshield Washer System Pump Remove/Install Components - Illustrated On Model 203.0**

Illustrated on Model 203.0

MODIFICATION NOTES

**Remove**

1. Pull off radial sealing ring (32) using  counter-support (036) and  internal extractor (037).



P33.30.2054-01

**Fig. 124: Identifying Seal Ring, Counter-Support And Internal Exactor****Install**

2. Coat sealing lip of new radial sealing ring with universal hypoid gear oil.
3. Press radial sealing ring into the front axle gear housing using a  drift (032) and suitable extension.



P33.30.2043-01

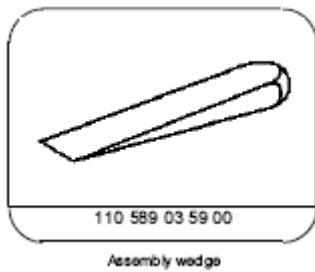
**Fig. 125: Identifying Drift**

**INSTALL NEW RADIAL SEALING RING ON OUTSIDE RIGHT OF FRONT AXLE GEAR -  
AR33.30-P-0540P**

**MODEL 203.081 /084 /087 /092 /281 /284 /287 /292**

**MODEL 220.083 /084 /087 /183 /184 /187**

**Shown on model 203**



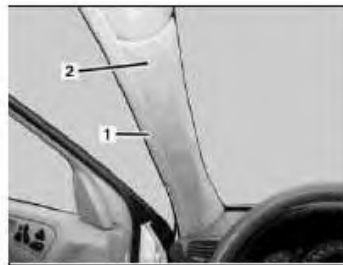
**Fig. 89: Identifying Assembly Wedge (110 589 03 59 00)**

**REMOVE/INSTALL PANELING ON A-PILLAR - AR68.30-P-4050P**

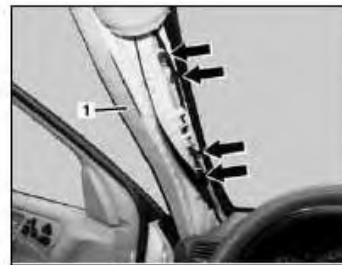
**MODEL 203**

Shown on model 203.0

- 1 Edge guard
- 2 A-pillar paneling



P68.30.2198.01



P68.30.2188.01

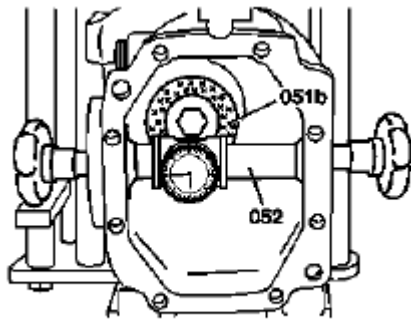
**Fig. 90: Identifying Paneling On A-Pillar Remove/Install Components**

| (GB) (J) | Remove/install                                                    |                                                                                               |                    |
|----------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------|
|          | Note on function reliability of windowbag                         |                                                                                               | AH91.60-P-0693-01A |
| 1        | Remove edge protection (1) in area of A-pillar paneling           |                                                                                               |                    |
| 2        | Press off A-pillar paneling (2)                                   | <b>BB</b> Move assembly wedge directly to each clip (arrows) and press off.<br>Mounting wedge | <b>Fig. 52</b>     |
| 3        | Remove A-pillar paneling (2) out of instrument panel guide upward |                                                                                               |                    |
| 4        | Install in the reverse order                                      |                                                                                               |                    |

## 2007 Mercedes-Benz C230

2001-2006 ENGINE PERFORMANCE Mixture Formation - Testing & Repair - 203 Chassis

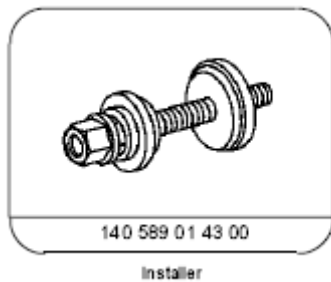
|                                                                                     |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                        |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                                                                                     |                                                                                                                                        | Model 171.473<br>Model 203.076/ 276<br>Model 209.376/ 476 as of 24.4.04                                                                                                                                                                                                                                                                                                                                                                             | <u><b>AR09.10-P-1150AC</b></u>                                         |
| 3                                                                                   | Take off resonance housing (2/1)                                                                                                       | Vehicles with air filter located on the engine side.                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        |
| 4                                                                                   | Remove plastic cover                                                                                                                   |  <b>Danger!</b> Remove bolt (1/4).                                                                                                                                                                                                                                                                                                                                 |                                                                        |
| 5                                                                                   | Detach the engine wiring harness from the fuel distributor (17)                                                                        | Model 211                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                        |
| 6                                                                                   | Remove throttle valve actuator                                                                                                         | Engine 112.960 /961,<br>113.990 /991 /992 /995                                                                                                                                                                                                                                                                                                                                                                                                      | <u><b>AR07.61-P-1401SVK</b></u>                                        |
| 7                                                                                   | Release fuel pressure via service valve (1/1)                                                                                          |  <b>Danger!</b> Make sure to collect fuel.<br> Pressure hose                                                                                                                                                                                                                      | <u><b>Fig. 3</b></u>                                                   |
| 8                                                                                   | Detach feed line (17/2)                                                                                                                |  <b>Danger!</b> Make sure to collect fuel.<br> Disconnect fuel feed line at fuel distributor                                                                                                                                                                                      | <u><b>*BA07.52-P-1001-01A</b></u>                                      |
| 9                                                                                   | Disconnect electrical connectors at fuel injection valves (Y62)                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                        |
| 10                                                                                  | Remove top charge air distributor                                                                                                      | Engine 112.960 /961,<br>113.990 /991 /992 /995                                                                                                                                                                                                                                                                                                                                                                                                      | <u><b>AR09.41-P-1320SVK</b></u>                                        |
| 11.1                                                                                | Remove bolts (17/1) and lift fuel distributor (17) and fuel injection valves (Y62) off the intake manifold                             | Except engine 112.960 /961,<br>113.990 /991 /992 /995<br> <b>Danger! Installation:</b> Check O-rings for damage and replace if necessary. Coat with lubricating paste before inserting.<br> Bolt, fuel distributor to intake manifold<br><br>Lubricating paste                | <u><b>*BA07.52-P-1002-01A</b></u><br><u><b>*BR00.45-Z-1002-06A</b></u> |
| 11.2                                                                                | Remove bolts (17/1) and lift fuel distributor (17) and fuel injection valves (Y62) off the lower section of the charge air distributor | Engine 112.960 /961,<br>113.990 /991 /992 /995<br> <b>Danger! Installation:</b> Check O-rings for damage and replace if necessary. Coat with lubricating paste before inserting.<br> Bolt, fuel distributor to bottom part of charge air distributor<br><br>Lubricating paste | <u><b>*BA07.52-P-1003-01A</b></u><br><u><b>*BR00.45-Z-1002-06A</b></u> |
|  | <b>Checking</b>                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                        |
| 12                                                                                  | Check fuel injection valves (Y62) with STAR DIAGNOSIS                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                        |



P35.31-0413-01

**Fig. 74: Identifying Measuring Device**

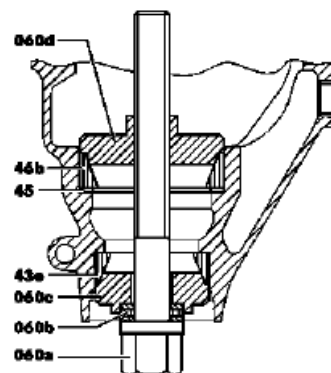
**PULLING TAPERED ROLLER BEARING OUTER RACES INTO REAR AXLE HOUSING - AR35.31-P-0550-14A**



**Fig. 75: Identifying Installer (140 589 01 43 00)**

1. Draw in the front tapered roller bearing outer race (43e) and rear tapered roller bearing outer race (46b) up to the stop in the rear axle housing using the installer.
- ⚠ Ensure that the shim (45) is inserted in order to guarantee satisfactory operation.
  - ⚠ When drawing in do not cant over the tapered roller bearing outer races in order to avoid damage.

- 43e Front tapered roller bearing outer race
- 45 Shim
- 46b Rear tapered roller bearing outer race
- 060a Threaded spindle with hexagon
- 060b Axial needle roller bearing
- 060c Small installation washer
- 060d Large installation washer



P35.31-0271-02