

STARTUNED®

INFORMATION FOR THE INDEPENDENT MERCEDES-BENZ SERVICE PROFESSIONAL

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Understanding WIS for Collision Centers

Save time and effort. It's easy to use.

Mercedes-Benz



Ever assemble a piece of IKEA furniture without following the instructions? How'd that turn out? Well, the same principle applies to reassembling a German car after a collision: The instructions are there for your benefit – ignore them at your own risk.

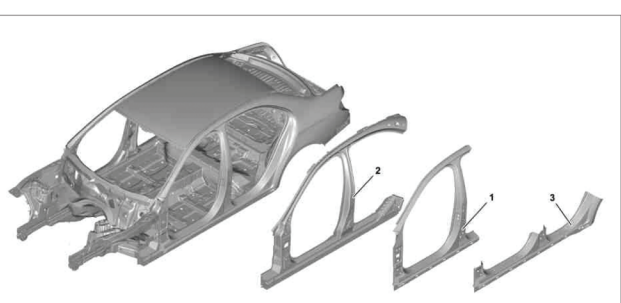
Okay, you've been doing collision repairs for decades, right? And the cars always go out looking good, hardly any customer complaints, and you almost never need the instructions, am I right? I mean, how hard is it to pop in a new quarter panel or adjust the door? You can probably do it in your sleep.

But how sure are you that those repairs are as safe for the customer as the original? Did you do the least amount of work to accomplish the result? Hit any 'gotchas' along the way? Scratch your head wondering how to approach a seldom-seen repair? There's a better way, and it not only takes just a few minutes, but can actually save you time, money, effort and other troubles down the road.

Cover image: The well-known STAR TekInfo platform has become the ISP Portal. Here, you can sign up to access the Mercedes-Benz Workshop Information System and a wealth of other information. Mercedes-Benz Certified Collision Centers already have access as part of their certification.

The Mercedes-Benz Workshop Information System (WIS) contains all the work instructions for any work on a Mercedes-Benz vehicle, including virtually all collision repairs. Whether you're stitching together a new frame rail or just hanging a new fender, the tested, approved and unarguably best way to approach that repair is documented in WIS.

Getting access to WIS is easy: If you are a Mercedes-Benz Certified Collision Center, you already have access through your included STAR TekInfo subscription. (See our series of articles starting in the [September 2020 issue of StarTuned](#) to learn more about the advantages and benefits of - and requirements for - getting certified). If you need access to STAR TekInfo, just visit startekinfo.com and sign up. Subscriptions as brief as a single day are available at reasonable prices.

AR63.20-P-1350LWE		Replace complete B-pillar	10.05.2019
<p>Model 213</p>  <p>1 B-pillar paneling 2 B-pillar reinforcement 3 Longitudinal member paneling</p> <p>PE3 20-8830-09</p>			
<p>Caution</p> <p>Risk of death by vehicle slipping or toppling off of the lifting platform.</p> <p>Risk of injury caused by scraping or cutting body parts on sharp vehicle parts.</p> <p>Risk of death when touching components on vehicles with high-voltage on-board electrical system.</p>		<p>Align vehicle between vehicle lift columns and position the four support plates at the vehicle lift support points specified by the vehicle manufacturer.</p> <p>Always wear protective gloves when working on or near sharp and non-deburred vehicle parts. Deburr repair panels.</p> <p>Do not touch damaged or defective components and open lines of the high-voltage on-board electrical system. Persons who wear electronic implants (e.g. cardiac pacemakers) must not carry out any work on high-voltage on-board electrical systems.</p>	
<p>General information on body repair</p> <p>Information on preventing damage to electronic components due to electrostatic discharge</p> <p>Note on high-voltage on-board electrical system</p> <p>Note on high-voltage battery</p> <p>Pretreatment of bonding surfaces</p> <p>General information on repair of vehicles with ultra-strength steels</p> <p>Notes on acoustic foam and structural foam in the vehicle</p> <p>Evaluation of high-voltage components</p>		<p>AS00.00-Z-0010-01A</p> <p>AS00.00-Z-0017-01A</p> <p>AS54.00-Z-0001-01A</p> <p>AH60.00-N-0001-01A</p> <p>AH54.00-P-0001-01A</p> <p>AH54.10-P-0006-01MEV</p> <p>AH60.00-P-0008-01SX</p> <p>AH60.00-P-0024-01N</p> <p>AH60.00-P-0039-01LWE</p> <p>AH54.00-P-6550-01SXH</p> <p>AH68.00-P-9409-03A</p>	
<p>Remove</p> <p>Remove detachable parts in area to be repaired</p> <p>Cover all detachable parts remaining in vehicle with spark protection blanket</p>		<p>Remove</p>	
<p>3</p> <p>Set up straightening bench with straightening bench crossmembers and straightening tool set 000 588 01 23 00 Body straightening system</p> <p>4</p> <p>Place vehicle on straightening bench and fasten</p> <p>5</p> <p>Remove B-pillar paneling (1) and B-pillar reinforcement (2)</p> <p>000 588 00 84 00 Heat gun</p> <p>6</p> <p>Prepare B-pillar paneling (1), B-pillar reinforcement (2) and longitudinal member paneling (3)</p> <p>Install</p> <p>The high voltage used for electric welding presents a lethal hazard. Risk of explosion from welding in areas close to highly inflammable materials. Risk of injury from weld spatter and UV-light when welding. Risk of poisoning from inhaling welding gases</p> <p>Measures for preventing damage to components when performing electric welding and soldering work</p> <p>General information on riveting</p> <p>Install B-pillar paneling (1), B-pillar reinforcement (2) and longitudinal member paneling (3)</p> <p>000 588 01 84 00 Welder</p> <p>000 588 02 84 00 Welder</p> <p>000 588 01 23 00 Body straightening system</p> <p>7</p> <p>Release vehicle from straightening bench, lift vehicle and remove straightening bench</p>		<p>Commercially available devices/tools</p> <p>Round wire brush</p> <p>Body power jigsaw</p> <p>Spot weld milling machine</p> <p>Drill bits and milling cutters for high-strength steels</p> <p>Welding vacuum cleaner</p> <p>Zinc dust paint suitable for spot welding, replaced by A 000 986 28 00 1K zinc dust paint</p> <p>Commercially available devices/tools</p> <p>Round wire brush</p> <p>Body power jigsaw</p> <p>Spot weld milling machine</p> <p>Drill bits and milling cutters for high-strength steels</p> <p>Zinc dust paint suitable for spot welding, replaced by A 000 986 28 00 1K zinc dust paint</p> <p>Use insulating mats. Wear protective clothing, safety glasses and a protective mask. Remove highly inflammable materials from the hazard area. Use air extraction system.</p> <p>Use insulating mats. Wear protective clothing, safety glasses and a protective mask. Remove highly inflammable materials from the hazard area. Use air extraction system.</p> <p>Commercially available devices/tools</p> <p>Round wire brush</p> <p>Manual temporary fastener 6.35 mm</p> <p>Drill bits and milling cutters for high-strength steels</p> <p>Blind rivet gun (minimum pull-off force 19 kN)</p> <p>Welding vacuum cleaner</p> <p>Zinc dust paint suitable for spot welding, replaced by A 000 986 28 00 1K zinc dust paint</p> <p>White sealing compound, 310 ml, DBL 8069.20</p> <p>Parts kit for 2-component adhesive for body</p> <p>Blind rivet 6.4 x 12 (clamping range 1 mm to 5 mm, draw-off strength min. 15.5 kN)</p> <p>Blind rivet 6.5 x 12.5 (clamping range 2 mm to 5 mm, draw-off strength min. 19 kN)</p> <p>Side portal frame</p> <p>As an alternative to restoring surfaces with body solder.</p> <p>Apply basic body filler.</p> <p>Basic body filler</p> <p>Parts kit for 2-component adhesive for body</p>	
<p>AS00.00-Z-0007-01A</p> <p>AH60.00-P-0001-02A</p> <p>AH60.00-P-0003-01N</p> <p>AR63.20-P-1350-06LWE</p> <p>WS60.00-P-0021K</p> <p>WS60.00-P-0022K</p> <p>WS60.00-P-0023K</p> <p>BR00.45-Z-1001-07A</p> <p>BR00.45-Z-1003-01A</p> <p>BR00.45-Z-1035-13A</p> <p>BR00.45-Z-1012-13A</p> <p>210589172300</p> <p>AR60.00-P-0031-01LWG</p> <p>BR00.45-Z-1057-07A</p> <p>BR00.45-Z-1162-02A</p>			

This WIS document explains the process to replace the complete B-Pillar. Note the three basic sub-documents (remove, prepare, install) as is common for collision repair procedures, along with dozens of other relevant documents.

If you've never used WIS, or have been mightily confused by trying to find some information, then the rest of this article has been designed to ease your concerns.

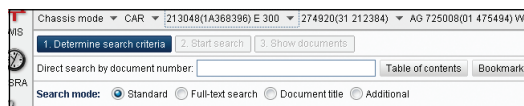
Skipping ahead for just a moment, collision repair documents in WIS follow a predictable pattern of three major documents. As an example, from the 'main' document for replacing the rear outer wheel well, we see links to three major documents: First, removing the damaged section and preparing the vehicle for the replacement parts. Second is a document explaining how to prepare the spare parts for installation. Finally, the third document explains the installation and finishing process for the repair.

So, for example (using a 2018 E300), under "Replace complete B-pillar" (AR63.20-P-1350LWE), we find (in addition to dozens of reference documents, safety warnings and minor sub-procedures) documents AR63.20-P-1350-05LWE (Remove B-pillar paneling and reinforcement), AR63.20-P-1350-07LWE (Prepare B-pillar paneling, reinforcement and longitudinal member paneling) and AR63.20-P-1350-06LWE (Install B-pillar paneling, reinforcement and longitudinal paneling). Three somewhat complex steps, but shown in great detail along with materials and equipment needed. Just a few minutes' reading, but it can save you considerable time during the job.

Other kinds of repairs, as found in a typical workshop, often only have a single document, for example "Remove and install rear shock absorber" (AR32.25-P-0110LW). However, in virtually every case, the main document refers to several sub-documents, which often refer to additional sub-documents. It can get confusing, but most of the sub-documents are for simpler tasks, such as "remove rear wheel," which might not need to be printed out.

Document Numbers

In the above paragraphs, you'll note that we also mentioned the document number for each of the operations. These document numbers follow a predictable pattern, and are unique to each document. The first two letters are the Information type (described



You can jump to a specific document if you know the document number by typing it into the box (no punctuation needed) and clicking the Search button.

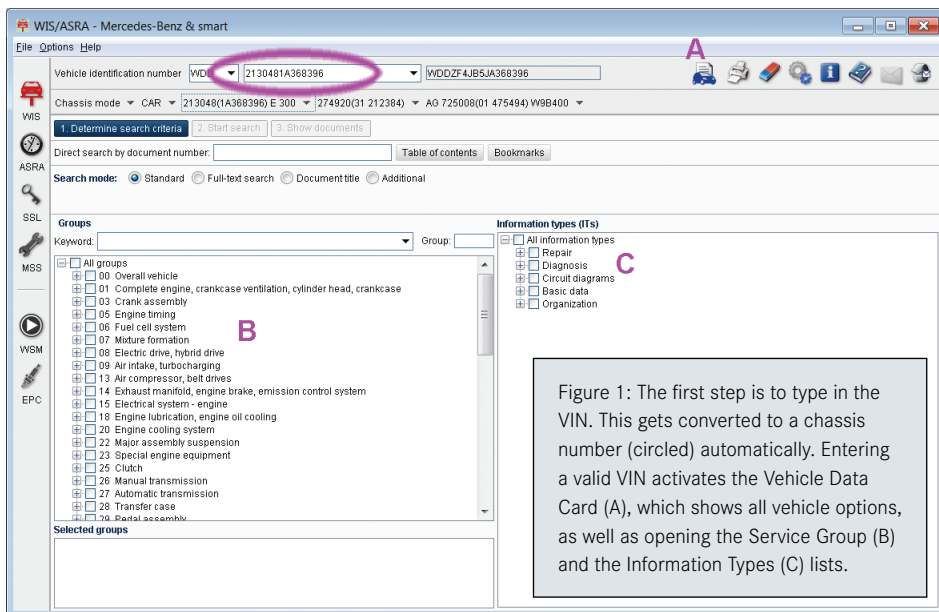
further below). "AR" is for repair instructions, for example. The next 4 digits are the service group and subgroup; 62.20 is "Wheelhouse" under "Front end and fire wall." The next character shows the type of vehicle; P is for passenger cars. The last digits are the same for every document of the same title, with the different models accounted for by the last letters such as LWE. Any information after those last numbers (such as "-05" just before LWE) indicates a sub-document to a main document.

If you know the document number, you can go directly to it by typing the number (no punctuation is needed, meaning "ar6220p1350lwe" will work) into the "Direct search by document number" box near the top of the screen.

How to Find WIS Documents

In general, there are four steps to finding any document in WIS:

1. Identify the vehicle: Normally, just type in the 17-character VIN (see Figure 1). There are other options, but they are rarely needed.
2. Identify the Service Group(s): There is a list of service groups that appear, and each has several sub-groups. For collision repairs, most information is found in groups 60 through 65. There's also a search feature if you



don't know the group number. We will discuss groups in greater detail in just a moment.

3. Identify the Document Type(s): In general, selecting "All information types" is the best option. You might want to narrow the search, and we'll show you how in just a moment.
4. Select the specific document: After clicking Search, a document list appears (Figure 2). Select the document you want to see and open it by double-clicking.

Navigating the document and user interface in WIS can seem challenging, but it is not nearly as complicated as it first seems. Take a look at Figure 3 as we explain the features.

In the Document window (A) we see all the documents found by our search, here using the example of Group 60 and "All" Information Types for a 2018 E300 (W213 chassis). We've double-clicked a document (Perform initial accident diagnosis, document number AR60.00-P-1105LWE) and it has opened in the Viewing Pane (B) below.

While it is possible to click and drag the separation bar (C) upwards to see more of the document, it is a best practice to simply click (D), the "Show/hide Hitlist" button (alternatively, you can press the F9 key), which results in a display as seen in Figure 4; the document list is minimized.

At this point, you can scroll up and down (E), 'tear off' (F) the document (which opens it in a new, separate window), enlarge or reduce (G) the document display size and adjust how it is displayed (there are several buttons and boxes for this, try them to see their effect), perform a full-text search (H) within the open document, turn off the VIN filtering (K) or create, show and delete Bookmarks (L). Mastering these controls are

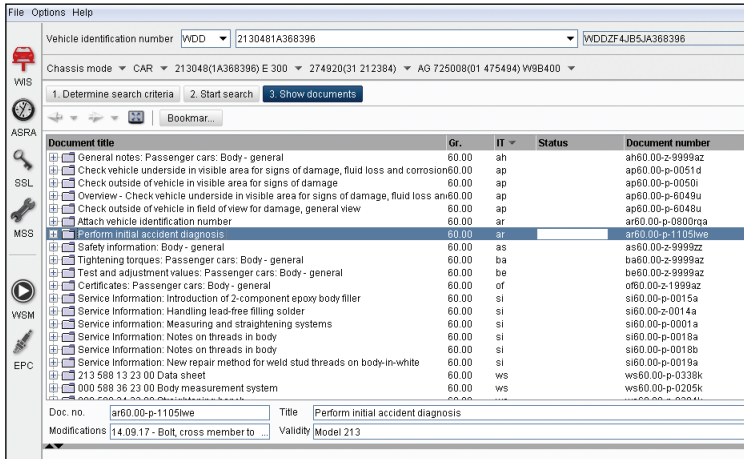


Figure 2: After selecting the Group(s) and Information Type(s), clicking the Start Search button opens the document list. Double-click a document to open it.

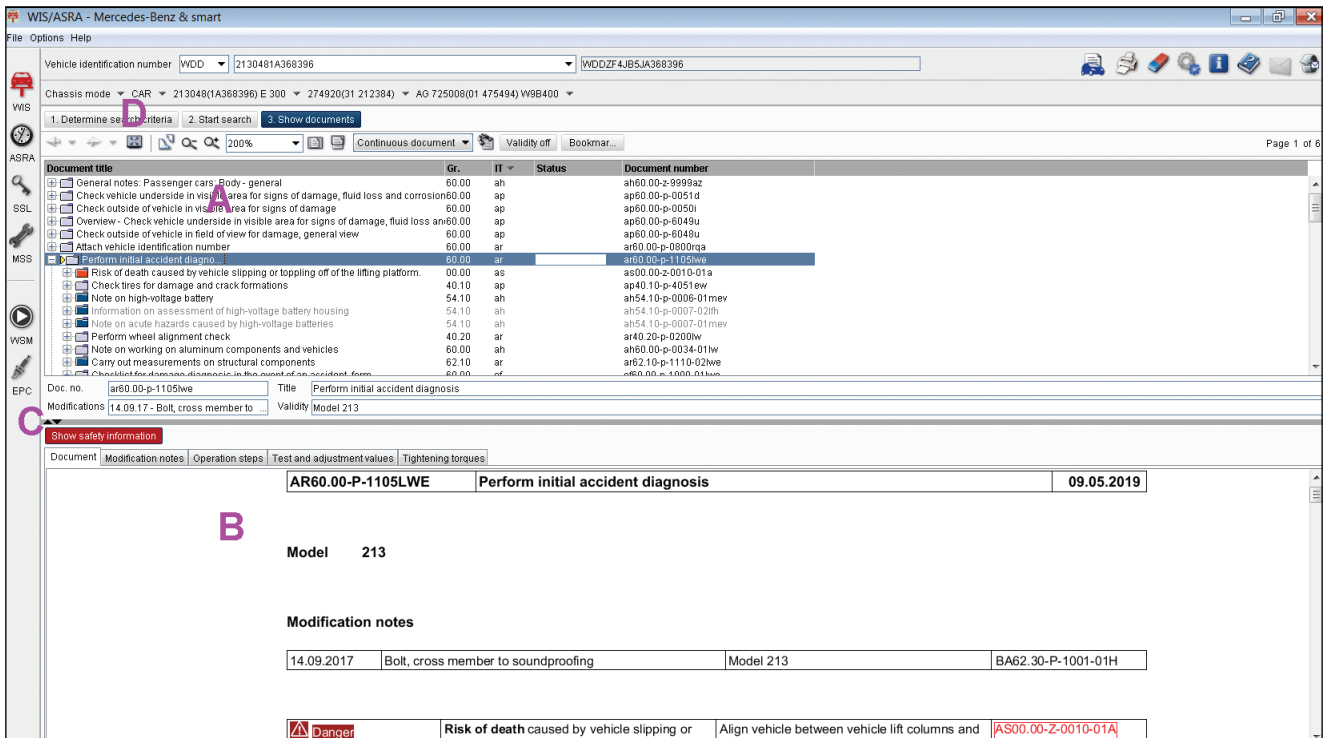


Figure 3: Here we see the document list (A), the opened document (B), the separator bar (C, with up/down arrows) and the Show/hide hitlist button (D), the square with arrows within.

essential to efficient use of WIS but in reality it takes only a minute or two to understand once you've used them.

Navigating within a WIS document is also easy. Often you will find that a document you are viewing has links to other WIS documents. These are hyperlinks, which can be clicked to go directly to the new information. The link color has meaning: A red hyperlink leads to a different document that is relevant to the VIN you've entered, a blue hyperlink leads to another section of the same document you are viewing, and a gray hyperlink leads to a different document that does not apply to the VIN. See Figure 5.

If we click a hyperlink, the Document History buttons become active. These work like the back and forward buttons in a web browser: The back button goes back one

step, for example. Using these buttons, you can always return to the original document from where you started. It may take some getting used to, burrowing into documents and then backing your way out, but eventually it becomes second-nature. If you get lost, just click the Show/Hide Hitlist (D, Figure 3) to get back to the initial search results.

In the upper right corner are several useful buttons, refer to Figure 6 to see what each of them does. And, in the upper left, you'll see the Help menu: Any time you're not sure about what you are seeing, open the help system to get a quick answer.

So far, identifying the vehicle is an easy step: Just enter the VIN. Now we need to find the service group with the information we need. While some of the group names are

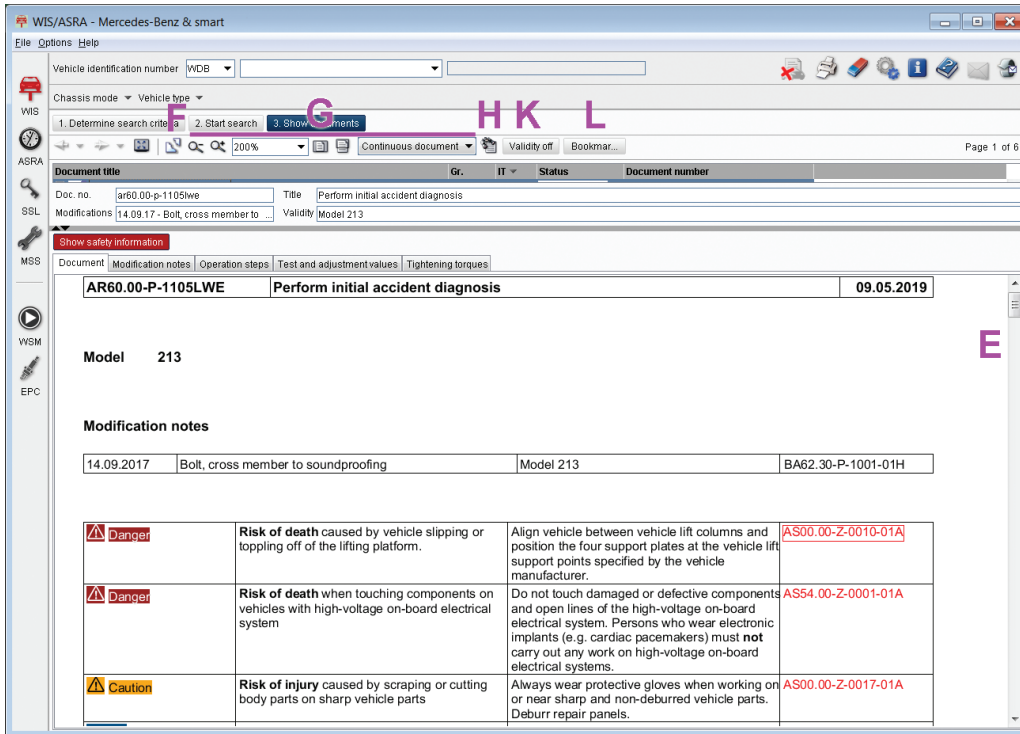
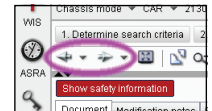


Figure 4: The documents controls are easy to master. Scroll through the document (E), 'Tear-off' to a new, separate window (F), control the document display including zoom (G), perform a text search (H), turn off VIN filtering (K) and manage bookmarks (L).



The Document History buttons let you move forward and backward through document links, much like in a web browser.



Figure 6: The menu at top right shows icons (from left to right) that open the Vehicle Data Card; print the current document; erase the current VIN and clear the screen; display the model designation; display the current search context; open the online help system; display system messages; and start the WIS Feedback system, allowing you to report errors you find.

	particulate filter Nm Engine 274 Temperature sensor to gasoline particulate filter	*BA07.04-P-1007-01N
Install in the reverse order. Read out and delete fault memory.	Engine 264, 274 in model 213 Engine 264 in model 238 Engine 264 in model 257	AD00.00-P-2000-04B AD00.00-P-2000-06LWO AD00.00-P-2000-06FR
Risk of accident from vehicle starting off by	Secure vehicle to prevent it from starting off by	AS00.00-Z-0005-01A

Figure 5: WIS documents typically contain hyperlinks to other documents. The blue links are to sections of the same document, red links lead to other relevant documents, and gray links lead to other documents that are not relevant to the specified VIN.

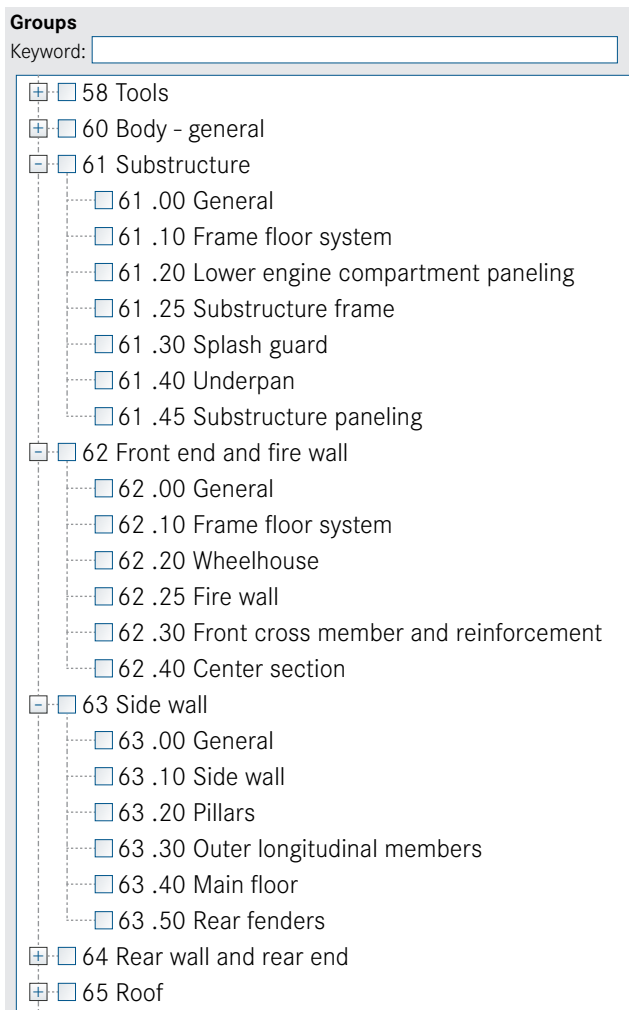


Figure 7: Here we see the group list with the subgroups visible. Click on the “+” sign next to a group to see its subgroups.

obvious – 42 (Brakes) is one such example – the content of other groups can be a little less so.

Look closely at the group list (B, Figure 1) and you’ll see every main 2-digit group number has a little ‘plus’ sign next to it. If you click that, the group opens to show the subgroups. See Figure 7. If we focus on collision repairs, most of the mechanical repair documents are found in groups 60 through 65, and interior non-structural parts in Group 68. Let’s take a closer look at what is in each of these groups:

Group 60: Body, General

This group covers widely-applicable documents such as accident diagnosis and vehicle damage checks, safety information, and test, adjustment and fastener torque values, as well as special tools and workshop equipment.

Group 61: Substructure

Substructure includes underbody paneling and cross struts.

Group 62: Front End and Fire Wall

This group includes the front end, fire wall, front wheel wells, frame rails, crossmembers and strut towers.

Group 63: Side Wall

In addition to the A-, B- and C-pillars and longitudinal members (rocker panels or side sills), this group also includes the rear wheel well and fender.

Group 64: Rear Wall and Rear End

Includes the trunk floor, rear bumper crossmember, shock absorber mounts, rear axle crossmember, rear end of the trunk opening and rear wall.

Group 65: Roof

Sheet metal and frame parts above the top of the door line. Does not include sunroof (group 77) or soft top (group 78) or hard top (group 79) information.

Group 68: Interior Equipment

This group includes information on removal and installation of interior trim panels and equipment, including paneling inside the trunk. This is a fairly large group that includes instructions for everything from the ashtray to the rear shelf covering. This group can really help avoid damage to plastic and wood trim parts.

Group 88: Detachable Exterior Parts

All the exterior ‘bolt-on’ parts are in this group, including hood, trunk, trim, mirrors, fenders and bumpers. Most important here is the information about body gap alignment and specifications.

Other Groups

For other repairs, scroll through the groups to see what they contain. Or you can search (see next page) to help figure out which group has information on a particular system or component. If you know which service group(s) you need, just check them off. If you’re not certain, you can expand a group to see what it contains by clicking on the “+” symbol to the left of each group.

Some other collision-relevant groups include group 32 (suspension), group 33 (front axle), group 40 (wheels and alignment), group 72 (doors) and groups 97 (body sealing) and 98 (paintwork).

- 05 Engine timing
- 06 Fuel cell system
- 07 Mixture formation
 - 07.00 General
 - 07.02 Injection pump, Plug-in pump, High pressure
 - 07.03 Injection jets, injection valves, Lines
 - 07.04 Sender, Feeler, Sensors
 - 07.05 Valves
 - 07.07 Air volume guage, air mass guage
 - 07.08 Governor
 - 07.09 Vacuum system
 - 07.10 Electronic engine control
 - 07.11 Diesel injection system inline injection pump
 - 07.12 Diesel injection system inline injection pump
 - 07.13 Diesel injection system distributor pump (DFI)
 - 07.14 Injection timing
 - 07.15 Diesel injection system (PLN), Engine control
 - 07.16 Diesel injection system common rail
 - 07.17 Pressure converter, Pressure governor
 - 07.20 Carburetor system
 - 07.31 Mechanical CFI gasoline injection system
 - 07.32 Electronic CFI gasoline injection system
 - 07.41 LH sequentail multiport fuel injection system
 - 07.51 HFM-SFI fuel injection/ignition system

You can narrow down your document search by selecting just one or a few subgroups instead of the whole group.

It may be helpful to identify the specific 4-digit service group and subgroup, particularly in larger groups like 07 (Mixture formation, essentially the engine management system) or 54 (Electrical), to help narrow down the number of documents displayed. For example, if you're looking for information on the engine vacuum system, selecting only group 07.09 will help keep the number of documents you need to scan to a reasonable value.

Keyword Search for Groups

You can also use a Keyword Search for most vehicle systems. The Keyword search identifies all entries that match the letters typed, so typing in "mat" will bring up entries for 4-MATIC, Automatic Transmission, Pneumatic system and Floor Mats for example. If a keyword search doesn't bring up the result you expect, try a different keyword.

There are several other search options, including a Full Text search of all WIS documents. For the most part, we rarely use these search features, as we've become familiar with the service groups and what they contain. But every once in a while, search comes in handy. To learn more about the

Groups
 Keyword: mat

- _Automatic dimming inside rearview mirror
- 4MATIC, automatically controlled all-wheel drive
- 4MATIC, - hydraulic system
- A/C, Air conditioning (Tempmatic)
- A/C, automatic air conditioning
- ABD, automatic brake differential
- AG, automatic gear selection

Using the group keyword search can help you identify which group to find a particular topic or system. WIS also has other search options; check the online help for more information.

different search features and how they work, open the Help menu and see the information there.

Information Types

Although there are several Information Types (ITs) available (see Figure 8), in nearly all cases just selecting "All information types" will deliver a reasonably-sized search result list. In the collision groups, there are often many pages of Mercedes-Benz Special tools listed; if these are overwhelming and not needed, uncheck the box next to "Tools" under the Basic data section.

As mentioned above, document type AR (Repair Instructions) will cover nearly all of the documents you'll likely ever need. But you never know what you might miss, so our recommendation is just selecting "All information types." (See Figure 8, next page.)

Icons Used in WIS

WIS documents contain many symbols (Figure 9, next page), to help improve understandability for those whom language is not a strong point. These symbols mean the same thing in every language, and being familiar with them can help you better understand what it is they are asking you to do.

In our shop, we have a computer station dedicated to WIS, and there's a high-speed printer connected. Since WIS is always on, it takes only a minute to find the documents we need and print them out, and then perhaps another 5 minutes to read and understand them. With a good idea of the general repair plan, we go at the work and keep the printouts handy for reference during the job.

In the under 10 minutes it takes to use the WIS documents, we have sometimes found an hour or more in time savings on the job. Some of the savings come from avoiding the removal of too many parts, having the correct repair materials at hand, minimizing the effort expended to perform the repair properly,

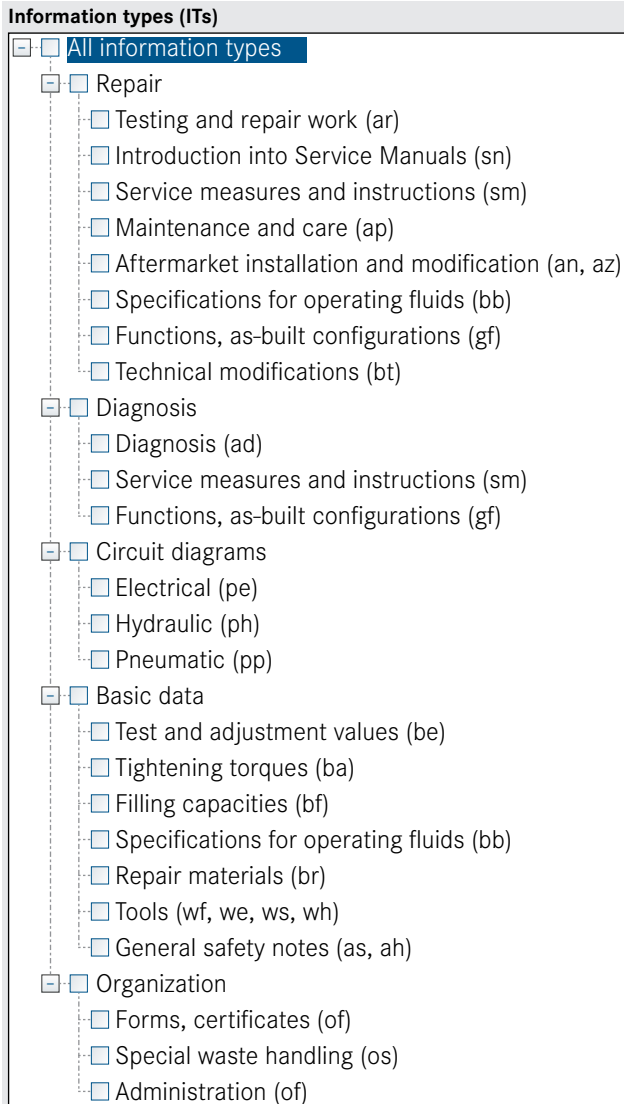


Figure 8: WIS documents are sorted by Information Types. In most cases, selecting “All information types” is the best option.

and having the confidence to proceed without wondering if we’ll end up boxing ourselves into a problem.

One Last Point

While we always hope that our customers never get hurt in any collision, we know that those same customers have spent the money for a Mercedes-Benz to ensure they have all the safety the engineers can build in. We also understand how some collisions cannot be avoided, and people can get hurt. In the unlikely case that someone gets hurt in a vehicle you’ve repaired, you can be certain that some lawyer is going to carefully investigate whether those repairs were in any way faulty or contributed to an injury or death.

In a case like that, by pointing to your consistent use of WIS and following the manufacturer’s repair instructions

Function	Element
Danger	
Physical damage	
Note/Information	
Check	
Measure with meter	
Measure	
Remove	
Install	
Disassemble	
Assemble	
Clean	
Tightening torques	
Filling capacities	
Special tools	
commercially available tools	

Figure 9: WIS contains several different icons to help explain the task to be accomplished. (Actual icons may have slight variation.)

as a normal matter of business, you have one of the strongest arguments to protect you from liability for an improper repair. While it may never happen to you, if it does, the consequences can be devastating. Just stick with the Mercedes-Benz Approved repair procedures in WIS and rest easy.

The Mercedes-Benz Workshop Information System is a valuable resource for all kinds of repairs, including collision repairs. It is easy to find the relevant document if you understand the simple steps to finding it. Just a few extra minutes spent reviewing the manufacturer’s approved procedure can save you time and effort in your work, ensuring a proper repair with maximum efficiency. If you have questions about WIS, stop by your dealer’s service department; they’ll be happy to share their expertise with you. |

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