

CUSTOMER QUALITY

CLAIMS ASSESSMENT AND WARRANTY HANDLING



WABCO

Original document:

The English version is the original document.

Translation of the original document:

All non-English language editions of this document are translations of the original document.

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You will find the current edition at:
<http://www.wabco.info/i/1601>

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Symbols used

1 Symbols used

i Important information, notes and/or tips

Descriptive text

– Action step

1. Action step 1 (in ascending order)

2. Action step 2 (in ascending order)

• Listing

2 Introduction

i The scope of this document is limited to Europe, Middle East and Africa.

The aim of this publication is to support WABCO direct customers and WABCO Service Partners in the claims handling process. By WABCO direct customers we mean companies that purchase products from WABCO. This publication is valid for WABCO Service Partners and WABCO Distributors in particular, however, it may also apply to our OEM (Original Equipment Manufacturers) and OES (Original Equipment Services) customers with whom WABCO did not enter into individual agreements regarding warranty.

i This publication is not addressed to any third party that has no business relationship with WABCO, including customers of WABCO Distributors, customers of WABCO Service Partners or the end-users of our products.

Quality of products and services is of utmost importance to WABCO. Therefore we have applied high quality standards in our supply base and production management processes. In the event of a claim we provide our customers a hassle-free claims handling process, supported by Warrant-e, our intuitive online tool.

The claims process shall follow the sales flow in reverse and begin with a WABCO direct customer issuing a notification to us. In addition, we have built a worldwide network of WABCO Service Partners who are trained to perform repairs. They are authorized to handle claims on our behalf. This provides a possibility for fleets to have their claims resolved instantly at the location where the issue has occurred.

Types of claims

3 Types of claims

There are three different types of claims, please find a description for each claim type in the following table.

It is vitally important to understand the differences and select the right claim type while registering a notification to WABCO. It will enable us to address the issue appropriately and resolve it in a timely manner.

Types of claim	Explanation	Examples
Logistic	Issues not related to the technical function of products, but to the way they have been packed or delivered.	Discrepancies in quantities (3 ordered, 2 received), wrong reference (part A ordered, part B received), parts damaged during transport.
0-km	Issues related to the technical function of products detected during or immediately after installation.	Malfunction detected in a workshop right after installation or during a test drive; malfunction detected during end of line test at the vehicle manufacturer.
Field	Issues related to the technical function of products detected after they have been used in vehicles on the road.	Malfunction detected after the product has been installed on a vehicle and used in the field.

Claim assessment (technical claims - 0-km and field)

4 Claim assessment (technical claims - 0-km and field)

4.1 Warranty conditions

General conditions

WABCO grants warranty on all products included in our sales offer. A detailed list of our products is available online at WABCO Customer Centre <https://www.wabco-customercentre.com>

The warranty period is 24 months for the WABCO brand and 12 months for the ProVia™ brand unless specified differently in the contractual terms agreed between WABCO and its respective direct customer, including (without limitation) the region specific General Terms and Conditions of Sale and Delivery.

For Aftermarket products the warranty period starts from the moment of risk transfer, which is usually the day of delivery to WABCO customers. If the purchase date cannot be proven by presenting a corresponding document (WABCO Invoice or Delivery Note), the warranty period starts from the production date visible on the product name plate or on the product itself (E.g. cables or cartridges).

In case of products supplied by WABCO to OEM customers the warranty period starts from the vehicle first registration date. If this date can not be proven, the manufacturing date of the WABCO product is considered as the beginning of the warranty period.

Further obligations for WABCO direct customers and WABCO Service Partners:

- WABCO Service Partners will participate on demand to any claim or recall campaign that WABCO is organizing.
- WABCO Service Partners replace WABCO products under warranty, free of charge for the customer, provided that the warranty for these products has been given according to the warranty terms described within this document.
- The final claim decision is at WABCO discretion. WABCO decides to settle the accepted claims by either a free of charge replacement part or material cost compensation. WABCO Service Partners and OE workshops are also entitled to the reimbursement of labour costs calculated according to the assembly times published in Chapter "6 Assembly times for labour compensation", page 18 and customary local labour rates as agreed with WABCO.
- WABCO shall bear no additional costs resulting from a claim without our prior written approval. These costs (e.g. vehicle towing, rental costs, lost earnings, etc.) shall be borne by the customer.
- WABCO direct customers and WABCO Service Partners shall not give or promise any warranty to their customers on behalf of WABCO that would go beyond the warranty terms as mentioned above. In such a case, they shall be directly responsible and liable for warranty related decisions and for giving such warranty.
- In case of claims accepted remotely (without a physical inspection performed by a WABCO representative at WABCO or at customer premises) WABCO direct customers and WABCO Service Partners have the obligation to store claimed products for the period of minimum three months for a possible inspection or further investigation by WABCO. WABCO Service Partners shall store the claimed device in the box of the replacement part installed during the repair/ maintenance.

Claim assessment (technical claims - 0-km and field)

4.2 Failure diagnostic process

Only issues related to a construction, production or sub-component failure may give rise to a complaint. The steps below are designed to help you in ruling out any other causes beforehand. These inspections and checks will also help to avoid complaints on functioning products (avoid rejection of a warranty request because of „no failure found“).

This list is non-exhaustive.

Visual inspection and functional check	Action	Parameter
Device is installed	– Visual inspection, if possible	<ul style="list-style-type: none"> • External damage Examples see Chapter "4.3 Claim requests to be rejected", page 10 <ul style="list-style-type: none"> • Incorrect installation position
	– Diagnosis of device/system	<ul style="list-style-type: none"> • Use WABCO original diagnostics for electronic devices. Use of third party diagnostic tools may cause damage to the product (E.g. corrupt ECUs). To find WABCO diagnostic software click on the following link: http://www.wabco.info/i/852 <ul style="list-style-type: none"> • Please check the entire braking system, in particular when faults are indicated electronically. A residual pressure in the compressed air braking system can, for example, result in diagnostic memory messages (pressure sensor faults), which can be deleted once the cause has been eliminated. You can also send us the EEPROM content of the electronic control unit to be on the safe side.
	– Testing the device in the periphery – Testing the device in terms of towing vehicle and trailer interaction	<ul style="list-style-type: none"> • Power supply • CAN communication • Compressed air supply

Claim assessment (technical claims - 0-km and field)

Visual inspection and functional check	Action	Parameter
Device has been removed	– Visual inspection	<ul style="list-style-type: none"> • The pneumatic / electrical / hydraulic (if existing) ports are free of contamination? • The device is free of mechanical damages? • The device is complete (no missing components) and has not been opened? • Is it an original WABCO device (see name plate)? • Product within warranty period (according to terms described in 4.1 "Warranty Conditions")? <p>Examples see Chapter "4.3 Claim requests to be rejected", page 10</p>
	– Testing the device on the test bench or a suitable testing facility	<ul style="list-style-type: none"> • Apply WABCO testing instructions with conventional devices

Claim assessment (technical claims - 0-km and field)

4.3 Claim requests to be rejected

WABCO is committed to the quality of our products and it is at WABCO's discretion to either have the product replaced free of charge or financially settled in any case where WABCO is responsible for the improper function of a product.

Nevertheless WABCO will deny any responsibility for a defect, when the root cause of the malfunction can be traced back to an incorrect usage of the product.

In order to implement an efficient warranty process, it is important to involve WABCO direct customers and Service Partners in filtering out obvious rejection cases. WABCO provides Claim Assessment Guidelines for its entire range of products, including visual inspection criteria as well as specific examples of such cases Chapter "4.4 Claim assessment guidelines specific for main product families", page 15.

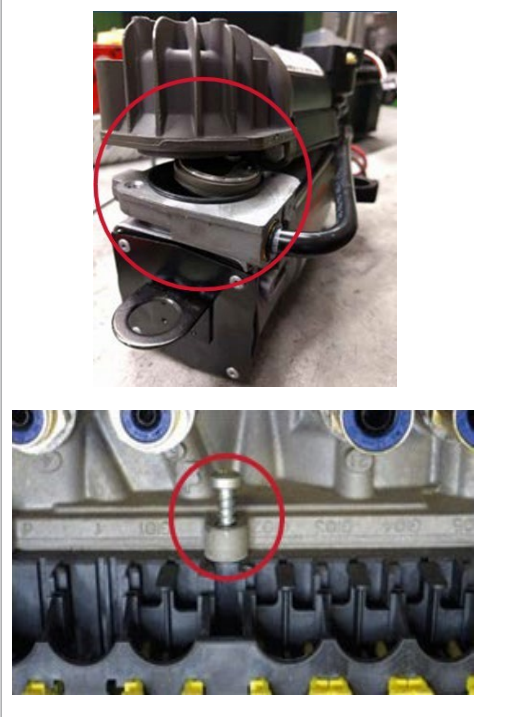
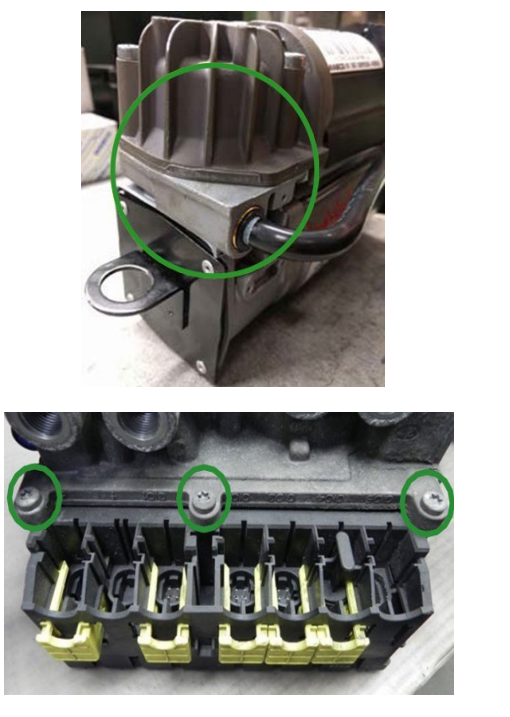
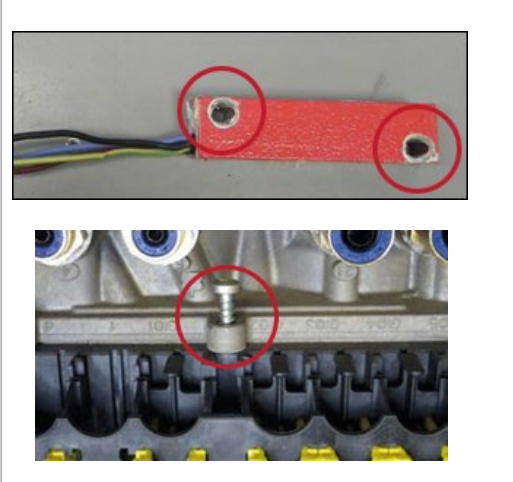
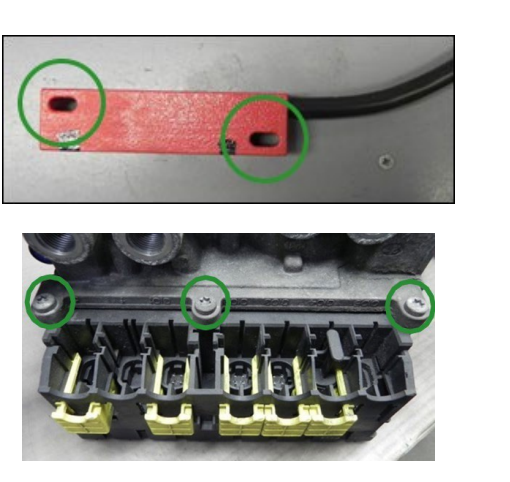
This approach helps to simplify the process by eliminating unnecessary handling, including packing, transportation, physical inspection at WABCO, and return shipment. It also leads to a significant reduction of the claim response time for the end user.

Frequent reasons to reject warranty requests include the following:




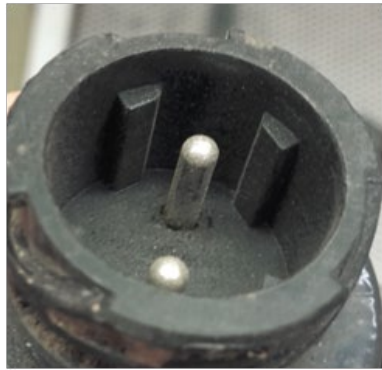
- Damage to the product or its component parts caused by incorrect use or installation.
- Damage to the product or its component parts caused by incorrect operation.
- Damage to the product or its component parts caused by non-approved conditions.
- Damage to the product or its component parts caused by lack of maintenance.
- Any unauthorized disassembling of the product or its component parts.
- Malfunction of the product due to internal contamination out of the vehicle system.
- Missing WABCO nameplate.

For further examples please check the following table:

Claim assessment (technical claims - 0-km and field)

Reason to reject the claim	Part unacceptable	Part acceptable
<p>Changes have been made to the original WABCO specification</p>	<p>Device has been opened / dismantled</p>	
		
	<p>Device has been repaired</p>	
		

Claim assessment (technical claims - 0-km and field)

Reason to reject the claim	Part unacceptable	Part acceptable
Contamination	Pneumatic: corrosion, water, oil, dirt, swarf in ports	
		
	Electrical: oxidation on plugs (green rust, rotten pins, rust); Tracks of water at cable ends	
		

Claim assessment (technical claims - 0-km and field)

Reason to reject the claim	Part unacceptable	Part acceptable
<p>Contamination</p>		
<p>Mechanical (wheel brake): rust, water, dirt in brake calliper</p>		
		

Claim assessment (technical claims - 0-km and field)

Reason to reject the claim	Part unacceptable	Part acceptable
Damages	Device has been opened (e.g. traces on bolt heads)	
		
	Housing is dented, broken, deformed	
		
	Threads are overtorqued, destroyed, deformed	
	 	 

Claim assessment (technical claims - 0-km and field)

4.4 Claim assessment guidelines specific for main product families

Under the following links you will find the claim assessment guidelines for specific product families:

Claim Assessment Guidelines available for

[ABS solenoid modulator valves](#)

[Air disc brakes](#)

[Air dryer cartridges](#)

[Air dryers](#)

[Automated manual transmission control](#)

[Brake actuators](#)

[Cabin leveling valves](#)

[Car products](#)

[Clutch servos](#)

[Distance sensors](#)

[EBS proportional relay valves](#)

[EBS truck central braking unit](#)

[EBS truck modulators](#)

[ECAS™ - electronically controlled air suspension](#)

[Hand brake valves](#)

[Multi circuit protection valves](#)

[Pressure sensors](#)

[Relay valves](#)

[Solenoids](#)

[Trailer Electronic braking system \(EBS\)](#)

[Trailer system components](#)

[Wheel speed sensors](#)

Claim handling process

5 Claim handling process

5.1 Claim handling tool



We offer a possibility for WABCO Distributors and Service Partners to handle claims online via Warrant-e, our intuitive and user friendly tool. It enables customers to quickly register new claims, monitor progress of investigations, review/print claim reports, and maintain access to historical claims.

Reporting claims via Warrant-e ensures the completeness of claim inputs, supports the investigation process and therefore shortens the resolution time. It provides transparency and improves communication.

Warrant-e is accessible from WABCO Customer Centre. Once logged in please select Warrant-e from the main menu.

Inside Warrant-e you will find a manual that explains how to use the tool in details. Thanks to the in-field help texts, field validation, and graphical support Warrant-e is easy to use even for the first time.

Warrant-e replaces e-Quality, our former tool for customer claims handling, If you do not see the Warrant-e link within WABCO Customer Centre, please contact your WABCO representative to complete the onboarding process and guide you through the tool.

Claim handling process

5.2 Return of claimed products

In case WABCO decides to receive the claimed device for an in-house inspection, please follow the following steps to prepare the shipment:

1. Print out a shipment barcode label from Warrant-e (Pick-up section in claim details view).
2. Close all ports (if present).
3. Suitably protect and pack the device in a cardboard box (preferably in a WABCO cardboard box).
4. Put the shipment barcode label inside the package.
5. Indicate the claim notification number received from WABCO in case of claims registered outside Warrant-e.
6. In case WABCO organizes the shipment, please make the package available for a quick pick-up. Otherwise the carrier may refuse to wait or make the second attempt.

i Please note, that products in condition that provides any risk of injury must not be shipped to WABCO, including, but is not limited to:

- tristop and DDSB actuators with modified, disassembled or mechanically damaged cylinder
- heavily corroded pressure accumulators in hydraulic devices

In such cases WABCO will perform investigations based on photographic evidence included in the claim notification by the customer!

Assembly times for labour compensation

6 Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
361 050	0.75	415 402	0.75	422 010	0.75
361 060	0.75	415 403	0.75	422 030	0.75
372 042	0.75	415 404	0.75	422 802	1.00
372 054	0.75	418 501	0.75	422 803	1.00
372 060	0.75	421 005	0.50	422 808	1.00
372 340	0.50	421 021	0.50	422 809	1.00
400 500	1.25	421 300	0.75	422 810	1.00
411 003	1.00	421 303	0.75	422 812	1.00
411 011	1.00	421 305	0.75	423 003	0.75
411 015	1.00	421 309	0.75	423 007	0.75
411 033	1.00	421 322	0.50	423 008	0.75
411 034	1.00	421 350	0.75	423 020	0.75
411 052	1.00	421 351	0.75	423 044	0.75
411 057	1.00	421 352	0.75	423 045	0.75
411 076	1.00	421 355	2.00	423 046	0.75
411 140	1.00	421 364	0.75	423 054	0.75
411 141	1.00	421 365	2.00	423 055	0.75
411 142	1.00	421 410	0.50	423 056	0.75
411 143	1.00	421 411	0.50	423 057	0.75
411 144	1.00	421 412	0.50	423 058	0.75
411 145	1.00	421 413	0.50	423 060	0.75
411 146	1.00	421 415	0.50	423 068	0.75
411 147	1.00	421 425	0.50	423 069	0.75
411 154	1.75	421 427	0.50	423 070	0.75
411 503	1.00	421 429	0.50	423 072	0.75
411 553	1.00	421 441	0.50	423 073	0.75
412 090	1.75	421 442	0.50	423 074	0.75
412 352	1.00	421 444	0.50	423 076	0.75
412 442	1.00	421 445	0.50	423 082	0.75
412 636	1.00	421 512	0.50	423 083	0.75
412 704	1.00	421 517	0.50	423 102	0.50
415 401	0.75	422 009	0.75	423 103	0.50

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
423 104	0.50	425 352	1.00	432 412	1.00
423 105	0.50	425 354	1.00	432 413	1.00
423 106	0.50	425 355	1.00	432 415	1.00
423 107	0.50	425 356	1.00	432 420	1.00
423 109	0.50	425 357	1.00	432 421	1.00
423 110	0.75	425 360	1.00	432 425	1.00
423 112	0.75	425 362	1.00	432 431	1.00
423 114	0.75	425 426	1.00	432 432	1.00
423 142	0.75	425 427	1.00	432 433	1.00
423 143	0.75	425 428	1.00	432 500	0.25
423 205	0.75	425 429	1.00	432 503	0.25
423 206	0.75	425 430	1.00	432 506	0.25
423 503	0.75	425 450	1.00	432 511	0.25
423 504	0.75	425 451	1.00	432 600	0.25
423 505	0.75	425 452	1.00	432 602	0.25
423 506	0.75	425 453	1.00	432 700	0.25
423 510	0.75	425 454	1.00	432 702	0.25
423 511	0.75	425 455	1.00	432 703	0.25
423 513	0.75	425 456	1.00	432 800	0.25
423 514	0.75	425 457	1.00	433 130	0.75
425 304	1.00	425 466	1.00	433 140	0.75
425 307	1.00	426 012	0.50	433 150	0.75
425 311	1.00	427 001	0.50	433 302	0.25
425 324	1.00	428 750	1.00	433 306	0.25
425 325	1.00	432 001	0.50	433 401	0.25
425 326	1.00	432 002	0.50	433 501	0.50
425 327	1.00	432 199	0.50	433 502	0.50
425 330	1.00	432 396	0.50	433 503	0.50
425 331	1.00	432 405	1.00	433 506	0.50
425 332	1.00	432 406	1.00	433 536	0.50
425 333	1.00	432 407	0.25	433 543	0.75
425 336	1.00	432 408	1.00	433 566	1.00
425 348	1.00	432 410	1.00	433 571	0.75
425 350	1.00	432 411	1.00	433 572	0.75

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
433 573	0.75	441 020	0.50	446 018	0.25
433 574	0.75	441 024	0.50	446 020	0.50
433 576	0.75	441 032	0.50	446 021	0.50
433 578	0.75	441 033	0.25	446 022	0.50
433 801	1.00	441 035	0.25	446 023	0.50
434 012	0.25	441 036	0.25	446 024	0.50
434 014	0.25	441 037	0.25	446 025	0.50
434 015	0.25	441 040	0.25	446 026	0.50
434 019	0.25	441 042	0.25	446 027	0.50
434 021	0.25	441 043	0.25	446 031	0.50
434 023	0.25	441 044	0.25	446 036	0.50
434 025	0.25	441 049	0.25	446 044	0.50
434 026	0.25	441 050	0.25	446 046	0.50
434 040	0.25	441 100	0.25	446 047	0.50
434 100	0.25	441 101	0.25	446 050	0.50
434 108	0.25	441 120	0.50	446 055	0.75
434 200	0.25	441 300	0.25	446 056	0.25
434 202	0.25	441 902	0.20	446 057	0.25
434 205	0.25	442 016	0.25	446 059	0.25
434 208	0.25	442 019	0.25	446 060	0.25
434 250	0.25	442 022	0.50	446 062	0.25
434 300	0.25	442 023	0.50	446 063	0.25
434 303	0.25	442 025	0.50	446 065	0.25
434 500	0.25	442 027	0.25	446 067	0.75
434 601	0.25	442 028	0.50	446 069	1.00
434 602	0.25	442 040	0.50	446 070	0.25
434 608	0.25	442 043	0.50	446 081	0.25
434 612	0.25	442 200	0.50	446 090	0.50
434 700	0.50	442 300	0.50	446 091	0.50
438 600	0.75	442 801	0.25	446 092	0.50
438 601	0.75	446 003	0.50	446 095	0.50
438 604	0.75	446 004	0.50	446 096	0.50
441 009	0.25	446 008	0.25	446 097	0.50
441 014	0.25	446 016	0.25	446 105	1.00

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
446 106	0.75	449 142	0.50	449 752	0.50
446 107	0.75	449 172	0.50	449 753	0.50
446 108	1.25	449 173	0.50	449 754	0.50
446 110	0.50	449 212	0.50	449 755	0.50
446 113	0.50	449 225	0.50	449 756	0.50
446 120	1.00	449 226	0.50	449 757	0.50
446 122	0.50	449 233	0.50	449 762	0.50
446 130	0.50	449 272	0.50	449 811	0.50
446 135	0.50	449 273	0.50	449 812	0.50
446 150	0.50	449 314	0.50	449 813	0.50
446 153	0.50	449 320	0.50	449 816	0.25
446 154	0.50	449 326	0.25	449 834	0.50
446 155	0.50	449 332	0.50	449 911	0.25
446 156	0.50	449 333	0.50	449 914	0.50
446 157	0.50	449 347	0.50	452 002	0.25
446 158	0.50	449 362	0.50	452 003	0.50
446 190	0.50	449 372	0.50	452 200	0.25
446 192	0.50	449 373	0.50	452 201	0.25
446 195	0.50	449 374	0.50	452 203	0.25
446 196	0.50	449 375	0.50	452 204	0.25
446 197	0.50	449 382	0.50	452 3XX	0.25
446 210	0.50	449 385	0.50	452 402	0.25
446 220	0.50	449 386	0.50	452 600	0.25
446 221	0.50	449 411	0.50	452 601	0.25
446 270	0.50	449 413	0.50	452 711	0.25
446 300	0.50	449 415	0.50	452 713	0.25
446 301	0.50	449 422	0.50	452 802	0.75
446 302	0.50	449 423	0.50	452 803	0.50
449 112	0.50	449 429	0.50	452 804	0.50
449 124	0.50	449 443	0.50	452 805	0.50
449 125	0.50	449 444	0.50	452 806	0.50
449 126	0.50	449 445	0.50	452 808	0.50
449 132	0.50	449 472	0.50	452 810	0.50
449 133	0.50	449 473	0.50	452 811	0.50

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
453 197	0.50	461 709	1.00	463 078	0.50
458 501	0.25	462 007	1.50	463 079	0.75
460 001	0.75	462 012	1.50	463 081	0.50
461 106	1.00	462 193	1.50	463 084	0.75
461 110	1.00	462 196	1.50	463 085	0.75
461 111	1.00	462 197	1.50	463 090	0.75
461 113	1.00	462 202	1.50	463 703	0.20
461 291	1.00	463 004	0.50	464 002	0.50
461 292	1.00	463 012	0.50	464 004	0.75
461 293	1.00	463 013	0.50	464 005	0.50
461 295	1.00	463 022	0.50	464 006	0.50
461 300	1.00	463 028	0.50	464 007	0.50
461 305	1.00	463 031	0.50	464 008	0.50
461 307	1.00	463 032	0.50	466 777	1.50
461 310	1.00	463 034	0.50	467 399	1,00
461 315	1.00	463 036	0.50	467 406	1.50
461 316	1.00	463 037	0.50	467 410	1.50
461 317	1.00	463 038	0.50	467 415	1.50
461 318	1.00	463 039	0.50	467 799	1.50
461 319	1.00	463 043	0.50	468 397	0.75
461 323	1.00	463 044	0.50	468 400	1.00
461 324	1.00	463 046	0.50	468 402	1.50
461 328	1.00	463 048	0.50	468 404	1.50
461 478	1.00	463 052	0.50	468 406	1.50
461 481	1.00	463 053	0.50	468 411	1.50
461 482	1.00	463 055	0.50	468 413	1.50
461 491	1.00	463 059	0.50	468 598	0.75
461 494	1.00	463 063	0.50	468 599	0.75
461 499	1.00	463 066	0.50	470 003	1.00
461 513	1.00	463 068	0.50	470 004	2.00
461 700	1.00	463 069	0.50	470 011	1.00
461 701	1.00	463 072	0.50	470 012	1.75
461 703	1.00	463 074	0.50	470 013	1.00
461 704	1.00	463 075	0.50	470 014	1.00

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
470 015	1.00	472 137	0.50	473 011	0.50
470 051	1.50	472 152	0.50	473 013	0.75
470 061	1.50	472 153	0.50	473 015	0.75
471 003	0.75	472 160	0.50	473 017	0.75
471 005	0.75	472 162	0.50	473 300	0.50
471 200	0.75	472 164	0.50	473 301	0.50
471 205	0.75	472 166	0.50	473 302	0.50
471 208	0.50	472 170	0.50	473 303	0.50
471 401	0.75	472 171	0.50	473 501	0.50
472 002	0.50	472 172	0.50	475 009	0.50
472 012	0.50	472 173	0.50	475 010	0.50
472 017	0.50	472 174	0.50	475 012	0.50
472 060	0.50	472 176	0.50	475 015	0.50
472 070	0.50	472 178	0.50	475 018	0.50
472 072	0.50	472 190	0.50	475 019	0.50
472 081	0.50	472 195	0.50	475 020	0.50
472 082	0.50	472 196	0.75	475 302	0.50
472 090	0.50	472 223	0.50	475 304	0.50
472 101	0.50	472 224	0.50	475 604	0.50
472 102	0.50	472 250	0.50	475 700	1.25
472 105	0.50	472 252	0.50	475 701	1.25
472 106	0.50	472 260	0.50	475 702	1.25
472 111	0.50	472 270	0.50	475 703	1.25
472 123	0.50	472 279	0.50	475 710	0.75
472 124	0.50	472 323	0.50	475 711	0.75
472 125	0.50	472 400	0.50	475 712	0.75
472 126	0.50	472 500	0.50	475 713	0.75
472 127	0.50	472 552	0.50	475 714	0.75
472 128	0.50	472 600	0.50	475 715	0.75
472 129	0.50	472 880	0.50	475 720	1.00
472 132	0.50	472 890	1.00	475 721	1.00
472 133	0.50	472 899	0.50	475 722	1.00
472 134	0.50	472 900	0.75	475 723	1.00
472 136	0.50	472 905	0.75	475 800	1.00

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
476 004	0.50	563 020	0.50	911 504	1.25
476 397	1.00	563 062	0.50	911 505	1.25
476 399	1.00	563 069	0.50	911 506	1.25
476 406	1.00	563 112	0.75	911 508	1.25
476 411	1.00	563 131	0.75	911 514	1.25
477 001	0.75	563 441	0.50	911 515	1.25
477 010	0.75	563 446	0.50	911 516	1.25
477 397	0.75	571 002	0.75	911 553	1.25
477 403	1.00	571 003	0.75	912 112	1.00
477 411	1.00	571 004	0.75	912 116	1.00
478 100	1.50	571 040	0.75	912 117	1.00
478 406	0.75	571 050	0.50	912 160	1.50
478 407	1.00	571 110	0.75	912 210	1.50
480 001	1.00	891 581	0.20	912 510	1.25
480 002	1.00	893 104	0.20	912 512	1.25
480 003	1.00	893 121	0.20	912 514	1.25
480 020	1.00	894 450	0.25	912 518	1.25
480 102	1.75	894 600	0.25	912 542	2.00
480 103	1.00	894 601	0.20	912 550	1.25
480 104	1.00	894 606	0.25	912 551	1.25
480 105	1.00	894 607	0.50	912 560	1.25
480 202	0.75	911 003	1.00	921 002	0.50
480 204	0.75	911 004	1.00	921 003	0.50
480 205	0.50	911 005	1.00	921 004	0.50
480 207	1.00	911 006	1.00	921 005	0.50
521 711	0.50	911 141	1.00	921 006	0.50
521 712	0.50	911 142	1.00	921 350	0.75
532 400	0.25	911 145	1.50	921 360	0.75
532 401	0.25	911 146	1.00	921 399	0.75
534 017	0.50	911 153	1.00	925 300	0.75
534 100	0.50	911 154	1.00	925 303	0.75
534 101	0.50	911 155	1.00	925 305	0.75
534 106	0.50	911 501	1.25	925 307	0.75
563 018	0.50	911 503	1.25	925 320	0.75

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
925 321	0.75	925 450	0.75	933 802	0.25
925 322	0.75	925 451	0.75	934 010	0.25
925 323	0.75	925 452	0.75	934 300	0.25
925 324	0.75	925 453	0.75	934 301	0.50
925 325	0.75	925 454	0.75	934 304	0.50
925 326	0.75	925 455	0.75	934 305	0.50
925 328	0.75	925 458	0.75	934 700	0.50
925 329	0.75	925 459	0.75	934 701	1.00
925 333	0.75	925 470	0.75	934 702	1.00
925 361	0.75	925 480	0.75	934 705	1.00
925 362	0.75	925 481	0.75	934 709	1.00
925 370	0.75	925 484	0.75	934 713	1.00
925 371	0.75	925 486	0.75	934 714	1.00
925 372	0.75	925 487	0.75	941 032	0.75
925 375	0.75	925 488	0.75	946 065	0.75
925 376	0.75	925 489	0.75	952 002	0.50
925 377	0.75	925 490	0.75	952 003	0.75
925 380	0.75	925 491	0.75	952 200	0.25
925 384	0.75	925 492	0.75	952 201	0.25
925 407	0.75	925 494	0.75	960 730	0.50
925 420	0.75	925 499	0.75	960 731	0.50
925 421	0.75	925 500	0.75	961 106	1.25
925 422	0.75	925 501	0.75	961 317	1,00
925 424	0.75	925 522	0.75	961 701	0.50
925 425	0.75	925 531	0.75	961 702	0.75
925 426	0.75	925 562	0.75	961 703	0.75
925 427	0.75	925 900	0.75	961 705	0.75
925 428	0.75	928 100	0.75	961 710	0.75
925 429	0.75	932 002	0.50	961 721	0.50
925 430	0.75	932 399	0.50	961 722	0.75
925 431	0.75	932 400	0.50	961 723	0.75
925 432	0.75	932 500	1.00	961 724	0.75
925 439	0.75	932 510	1.25	961 790	0.75
925 440	0.75	933 150	1.00	961 880	0.75

Assembly times for labour compensation

Part number first six digits	Assembly time (h)	Part number first six digits	Assembly time (h)
961 893	1.00	975 003	0.50
963 001	0.50	975 004	0.50
963 002	0.50	975 009	0.50
963 003	0.50	975 300	0.50
963 004	0.50	975 303	0.50
963 005	0.50		
963 006	0.50		
964 001	0.50		
964 006	0.75		
965 001	0.50		
965 050	0.50		
965 100	0.50		
970 051	1.50		
970 100	0.75		
970 150	0.75		
970 190	1.50		
971 002	0.50		
971 005	0.50		
972 195	0.75		
972 400	1,00		
973 001	0.50		
973 002	1.00		
973 003	0.50		
973 006	0.50		
973 008	0.75		
973 009	0.75		
973 010	0.50		
973 011	0.50		
973 286	0.50		
973 500	0.50		
973 503	0.75		
974 010	0.75		
975 001	0.50		
975 002	0.50		

Assembly times for labour compensation

Part number	Assembly time (h)
Repair kits	
432 406 XXX 2	0.25
432 410 XXX 2	0.25
432 411 XXX 2	0.25
43 2415 XXX 2	0.25
432 420 XXX 2	0.25
432 421 XXX 2	0.25
432 450 XXX 2	0.25
432 901 XXX 2	0.25
432 911 XXX 2	0.25

Part number	Assembly time (h)
OptiLock™ system components	
183 120 000 4	0.50
183 120 001 4	0.50
183 120 002 4	0.50
183 120 020 4	0.50
183 120 021 4	0.50
183 210 040 2	0.50
183 210 041 2	0.50
183 410 001 0	1.00
183 410 003 0	2.00
183 410 006 0	1.00
183 410 006 2	1.00
183 410 007 0	2.00
183 410 007 2	2.00
183 510 053 4	0.75
183 510 060 4	0.75
183 510 060 4	0.75
183 510 070 4	0.25
183 510 087 4	0.50
183 510 202 0	1.75
183 510 203 0	1.00
183 510 241 0	2.00
183 510 270 0	1.50
183 510 271 0	1.00
183 523 050 4	0.50
183 523 051 4	0.25
183 523 052 4	0.25
183 530 000 0	0.75
183 530 001 0	0.75
183 530 021 4	1.50
183 530 022 4	0.75
183 540 000 0	2.00

Part number	Assembly time (h)
183 540 053 4	0.75
183 540 100 4	0.25
183 523 050 4	0.50
183 523 051 4	0.25
183 523 052 4	0.25
183 530 000 0	0.75
183 530 001 0	0.75
183 530 021 4	1.50
183 530 022 4	0.75
183 540 000 0	2.00
183 540 053 4	0.75
183 540 100 4	0.25
183 540 101 4	0.25
183 542 000 4	8.00
183 542 050 4	3.00
183 542 051 4	5.00
183 542 052 4	2.00
183 542 053 4	4.00
183 542 103 4	1.00
183 550 000 4	0.50
183 550 020 4	1.00
183 550 070 4	0.25
183 550 071 4	1.00
183 550 073 4	0.25
183 550 075 0	1.00
183 550 078 4	0.25
183 550 080 2	1.50
183 555 003 4	1.00
183 555 004 0	2.00

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Disposal

- The final and professional decommissioning and disposal of the product must be carried out in accordance with the applicable legal regulations of the user country. In particular, the regulations for the disposal of batteries, equipment and the electrical system must be observed.
- Electrical appliances must be collected separately from household or commercial waste and recycled or disposed of in accordance with regulations.
- If applicable, take the old device to the company's internal disposal department, which will then forward it to specialist companies (specialist disposal companies).
- In principle, it is also possible to return the old device to the manufacturer. For this purpose, contact the manufacturer's customer service. Any special agreements must be observed.
- Electrical and electronic equipment must be collected separately from unsorted municipal waste and recycled or disposed of properly, because harmful substances can cause lasting damage to health and the environment if disposed of improperly.
- Detailed information can be obtained from specialist waste management companies or the responsible authorities.
- The packaging must be disposed of separately. Paper, cardboard and plastics must be recycled.



You can find information on WABCO products here: <https://www.wabco-customercentre.com>
Please contact your WABCO partner for further information.

ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 162,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO).

With the integration of WABCO, the leading global supplier of braking control systems and other advanced technologies that improve the safety, efficiency and connectivity of commercial vehicles ZF will create a new level of capability to pioneer the next generation of solutions and services for original equipment manufacturers and fleets globally. WABCO, with almost 12,000 people in 40 locations worldwide, will now operate under the ZF brand as its new Commercial Vehicle Control Systems division.



WABCO

WABCO

