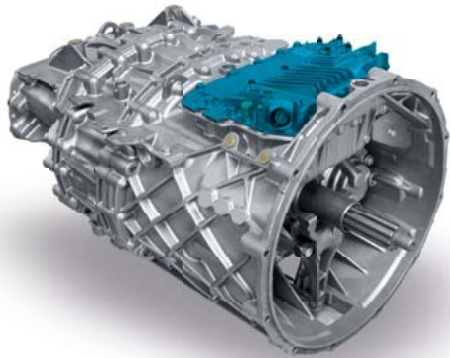


# WABCO Automated Manual Transmission

## Aftermarket solutions for gearbox control units for ZF transmissions



### Gearbox actuator for ZF transmissions

The WABCO gearbox control unit used in commercial vehicles equipped with ZF transmissions makes driving easier, safer and more comfortable by automating the shifting process.

The gearbox actuator (GS 3.X) is used in commercial vehicles with a maximum of 16 gears. It is designed to perform swift gear changes, intelligently adapting to the specific driving situation. The GS range is an electronically-driven pneumatic actuator with four cylinders (Gear, Gate, Range, Split) and an integrated Electronic Control Unit (ECU) for shifting the gears of an AMT.

### Easy Diagnostics

Our AMT technology used in ZF transmissions for heavy-duty trucks can be easily diagnosed using multi-brand diagnostic solution supplied by WABCO WÜRTH (W.EASY®) – available for independent aftermarket workshops. It is expertly tailored for WABCO products, resulting in excellent reliability and precision for our gearbox control units repair solutions.

The WABCO WÜRTH diagnostic software is clearly structured, with an easy-to-operate interface. All critical diagnostic functions are displayed, enabling swift and straightforward system analysis.

W.EASY can be ordered via the WABCO Würth distribution network.

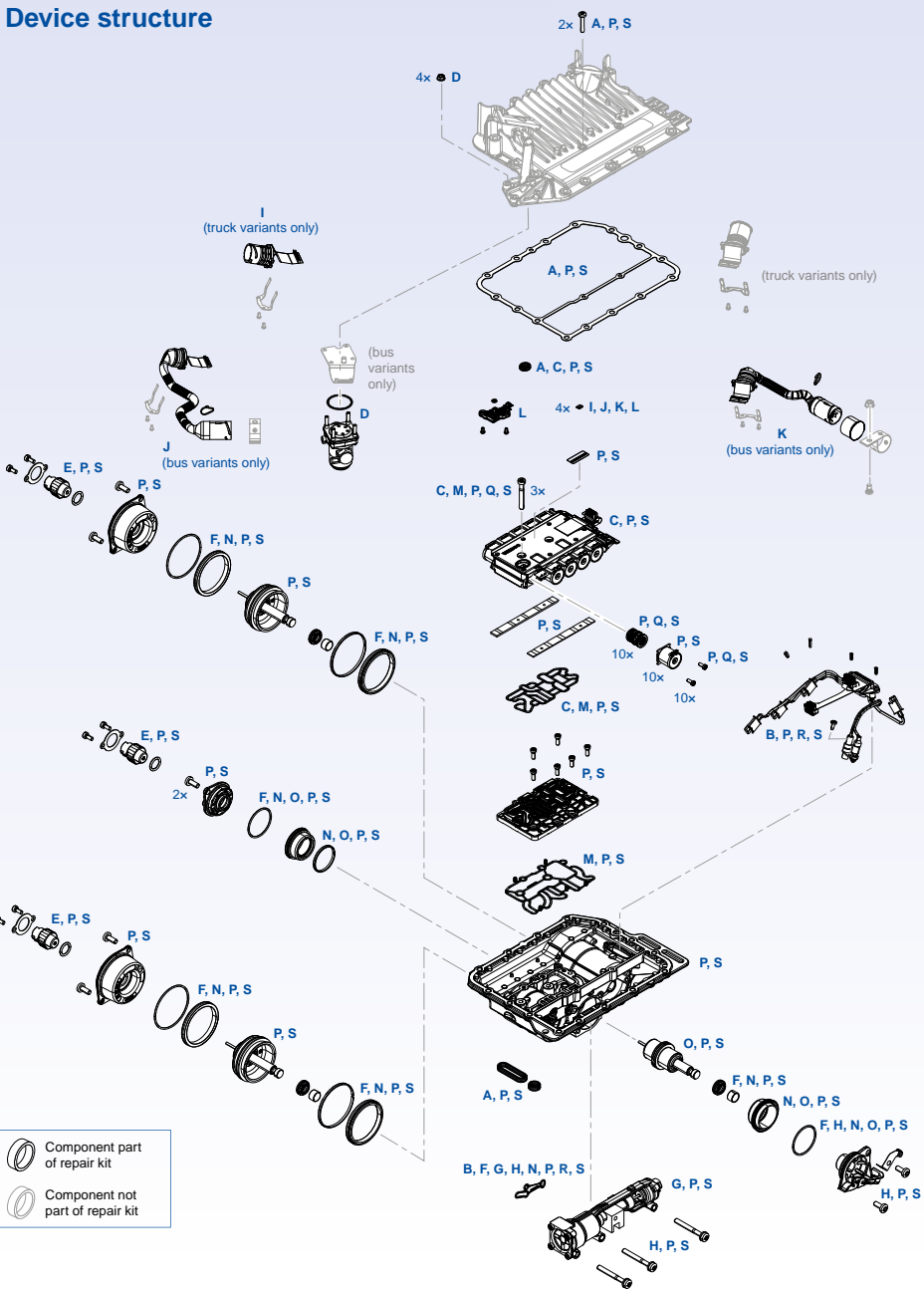
For more details, see [www.wabcowuerth.com](http://www.wabcowuerth.com)

### Simple teach-in procedure

Following repair, a teach-in procedure must be performed on the gearbox control unit. It could not be easier with the multi-brand diagnostic solution W.EASY offered by WABCO WÜRTH. Simply:

- Connect the system via the on-board diagnostics (OBD) interface.
- Start the teach-in procedure via the WABCO WÜRTH diagnostic.
- Follow the instructions given by the software.

### Device structure



#### Truck variants

- GS 3.0** truck variant is the first version of GS 3.X. It features a 20-pole external connector.
- GS 3.3** truck variant has a higher performance and an updated ECU compared to GS 3.0.
- GS 3.6** variant was specifically designed to fit DAF applications. It features an additional active speed sensor and an adapted ECU, compared to the regular GS 3.3 unit.

#### Bus variants

- GS 3.0** (421 355 022 0) and **GS 3.3** (421 355 023 0) are similar to the truck version but with external cable routing, 18-pole connectors and different ECU software.

### Overview of repair kits

Position	Main component	Vehicle application	WABCO number	Cross references ZF
A	Gasket set between ECU and lower actuator	truck, bus	421 355 928 2	501323922
B	Connector bridge and sealing for gate-cylinder	truck, bus	421 355 929 2	501321146
C	Solenoid block + screws, gaskets	truck, bus	421 355 930 2	501321147
D	Pressure limiting valve	truck, bus	421 355 931 2	501320849
E	1 distance sensor + o-ring and screws	truck, bus	421 355 932 2	501321148
F	Repair kit for range-, gear- and split-cylinder	truck, bus	421 355 933 2	501321149
G	Complete sleeve cylinder + gasket	truck, bus	421 355 934 2	501321182
H	End cover for gear-cylinder + screws	truck, bus	421 355 936 2	501322661
I	Repair kit electrical connector	truck	421 355 943 2	501323630
J	Cable	bus	421 355 944 2	501323629
K	External cable (vehicle)	bus	421 355 945 2	501323628
L	Pressure sensor	truck, bus	421 355 946 2	501323627
M	Sealings for seat	truck, bus	421 355 947 2	501330103
N	Sealing kit for range-, gear- and split-cylinder	truck, bus	421 355 948 2	501324253
O	Pistons and sealings for gear-cylinder	truck, bus	421 355 949 2	501324254
P	Gearbox unit lower part (GS 3.0/GS 3.3)	truck, bus	421 355 950 2	6009274088
Q	Single valve	truck, bus	421 355 951 2	501323914
R	Connector bridge and sealing for gate-cylinder	truck	421 355 954 2	501330983
S	Gearbox unit lower part (GS 3.6)	truck	421 355 956 2	–

### Repair kits for basic devices

Position	Repair kit	Vehicle application	Basic device truck				Basic device bus	
			Variant: GS 3.0 truck	GS 3.3 truck	GS 3.6 DAF truck	GS 3.0 bus	GS 3.3 bus	
			WABCO: 421 355 011 0 ZF: 600 927 406 9	421 355 012 0 600 929 700 7	421 355 014 0 600 939 776 9	421 355 015 0 600 929 701 7	421 355 022 0 600 927 407 0	421 355 023 0 600 929 700 8
A	421 355 928 2	truck, bus	✓	✓	✓	✓	✓	✓
B	421 355 929 2	truck, bus	✓	✓	✓	–	✓	✓
C	421 355 930 2	truck, bus	✓	✓	✓	✓	✓	✓
D	421 355 931 2	truck, bus	✓	✓	✓	✓	✓	✓
E	421 355 932 2	truck, bus	✓	✓	✓	✓	✓	✓
F	421 355 933 2	truck, bus	✓	✓	–	✓	✓	✓
G	421 355 934 2	truck, bus	✓	✓	–	✓	✓	✓
H	421 355 936 2	truck, bus	✓	✓	–	✓	✓	✓
I	421 355 943 2	truck	✓	✓	–	✓	–	–
J	421 355 944 2	bus	–	–	–	–	✓	✓
K	421 355 945 2	bus	–	–	–	–	✓	✓
L	421 355 946 2	truck, bus	✓	✓	–	–	✓	✓
M	421 355 947 2	truck, bus	✓	✓	✓	✓	✓	✓
N	421 355 948 2	truck, bus	✓	✓	–	✓	✓	✓
O	421 355 949 2	truck, bus	✓	✓	–	✓	✓	✓
P	421 355 950 2	truck, bus	✓	✓	–	–	✓	✓
Q	421 355 951 2	truck, bus	✓	✓	–	✓	✓	✓
R	421 355 954 2	truck	–	–	–	✓	–	–
S	421 355 956 2	truck	–	–	–	✓	–	–

### WABCO Reman Solutions

Supporting our repair kit range, WABCO Reman Solutions offers both – a mechanical repair kit as well as complete devices (without software on ECU).

WABCO Reman Solutions does not simply re-build for function, we remanufacture for perfection using the latest technologies and industry knowhow gained from Original Equipment manufacturing. Every WABCO Reman Solutions product performs to the same standards as the original product and is given the same warranty as a new product, guaranteeing a quality that you can truly rely on!



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### REMAN mechanical repair kit

WABCO Reman number	Description	Cross references	
		WABCO	ZF
421 355 950 R	GS 3.0/3.3 repair unit (lower part) without ECU Gasket set 421 355 928 2 is selling separately.	421 355 950 2	6009274088

### REMAN complete devices for AMT specialists

The GS devices mentioned below are sold without software (empty ECU).

To purchase these products directly, a special contract is required. The alternative option is to purchase them via one of our dedicated distributors. For more information, please contact your local WABCO sales representative.

WABCO Reman number	Description	Cross references	
		WABCO	ZF
421 355 011 R	Gearbox actuator GS 3.0 Standard, without software	421 355 011 0	6009274069 6009074900
421 355 012 R	Gearbox actuator GS 3.3 Standard, without software	421 355 012 0	6009297007 6009097900
421 355 015 R	Gearbox actuator GS 3.6 Standard, without software	421 355 015 0	6009297017
421 355 022 R	Gearbox actuator GS 3.0 Bus, without software	421 355 022 0	6009274070 6009074901
421 355 023 R	Gearbox actuator GS 3.3 Bus, without software	421 355 023 0	6009297008 6009097901