



Daimler AG · Technical Information and Workshop Equipment (GSP/OR) · D-70546 Stuttgart

Introduction of the New Truck Generation The New Econic (Model 956)

Introduction into Service Manual



Mercedes-Benz
Trucks you can trust

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Dear Reader,

This Introduction into Service Manual presents the new Econic (model 956).

This brochure is intended for the use of technical personnel familiar with the service and maintenance of Mercedes-Benz trucks. It is assumed here that the reader is already familiar with the Mercedes-Benz model series currently on the market.

In terms of the contents, the emphasis in this Introduction into Service Manual is on presenting new and modified components and systems.

All of the data in this brochure correspond to the technical status as of the copy deadline in June 2013 and may therefore differ from the current production configuration.

We will publish modifications and new features in the relevant WIS documents only. Individual details in this brochure may therefore differ from more up-to-date versions published in WIS.

Daimler AG

Wörth plant (GSP/TTH)

June 2013

Note

All of the displays and messages of the multifunction display are shown in German because the corresponding versions in other languages were not available at the copy deadline.

Note

Information about the vehicles and about operating the vehicle functions can also be found in the interactive owner's manual.

This Introduction into Service manual is also available in digital form as a PDF in SDmedia.

New features/modifications

General

Following on from the Actros, Antos, Arocs and Atego, the new Econic (model 956) is the last member of the new Mercedes truck generation to be introduced.

The launch is taking place in four steps:

- In November 2013, the vehicles with 4x2 and 6x2/4 ENA axle configurations and a 3900 mm wheelbase will be introduced
- All other 4x2 vehicles will follow in June 2014 with various wheelbases and the 6x4 vehicles
- As of December 2014, additional 6x2/4 ENA variants with various wheelbases will be introduced
- In November 2015, the 6x2/4 VLA vehicles with 3900 mm wheelbase will follow

The new Econic is based on the proven technologies and components used in the Actros (963), Antos (963) and Atego (967) model series e.g.:

- Frame/axles
- Controls/instruments
- Electrical system/electronics
- Engines/steering
- ABS/brakes

The model designation logic of the new Econic is different from that of model series 963/964/967. The wheelbase and drive type form part of the model designation.



The new Econic (model 956)

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Drivetrain

- More powerful OM 936 engines with 220 kW and 260 kW, Euro 6 as standard
- Allison 6-speed automatic transmission with new Eco software for improved fuel efficiency and more comfortable gear shifting

Chassis

- Wider, torsionally stiffer frame as on the Actros with continuous 50 mm hole pattern
- New axle suspension and axle guide
- New full air suspension concept on all axles
- Electropneumatic brake system (EPB) with ABS and ASR, ESP® and assistance systems
- New electronics architecture as on the Actros/Antos/Atego

Interior

- New dashboard carriers
- Instrument cluster with 10.4 cm color display (12.5 cm color display and video function as SA)
- Multifunction steering wheel
- New seating concept
- New positioning of parking brake and transmission controls
- New engine tunnel and cab floor

Exterior

- New headlamps with LED daytime running lamps
- New bumpers
- New radiator grille



Engine OM 936 with exhaust aftertreatment unit

W01.10-1180-00



Instrument cluster and multifunction steering wheel

W68.10-1115-00



Exterior

W00.00-1092-00

Model designation and code logic

New model designation logic

A new model designation logic is being introduced with the new Econic model 956.

It differs from the predecessor model 957 and also from the model designation logic of models 963/964.

Note

The code logic has already been introduced with the new truck generation as of model 963.

Example of backup warning system:

Old: Code JWO

New: Code E6Z

Model designation logic

1st digit	2nd digit	3rd digit	4th digit	5th digit	6th digit
Econic model 957					
Category	Model series	Vehicle type	Wheel configuration Tonnage Rear axle	Suspension	Wheelbase
New Econic model 956					
Category	Model series	Generation Emissions standard	Drive type Diesel/gas	Wheel configuration	Wheelbase

Example of 956.001 new generation Econic, diesel, 4x2, wheelbase 3450 mm

Model designation	9	5	6	.	0	0	1
							Wheelbase
							1 = 3450 mm 3 = 3900 mm
							4 = 4200 mm 5 = 4500 mm
							6 = 4800 mm 8 = 5700 mm
							Wheel configuration
							0 = 4x2 3 = 6x2/4 ENA
							5 = 6x2/4 VLA 6 = 6x4
							Drive type
							0 = Diesel 4 = Gaseous fuel
							Model series generation
							Model series
							Category

Overview of model designations

Model designation	Wheel configuration	Wheelbase [mm]	Market launch
956.001	4x2	3450	06/2014
956.003	4x2	3900	11/2013
956.004	4x2	4200	06/2014
956.005	4x2	4500	06/2014
956.008	4x2	5700	06/2014
956.031	6x2/4 ENA	3450	12/2014
956.033	6x2/4 ENA	3900	11/2013
956.034	6x2/4 ENA	4200	12/2014
956.035	6x2/4 ENA	4500	12/2014
956.036	6x2/4 ENA	4800	12/2014
956.053	6x2/4 VLA	3900	11/2015
956.063	6x4	3900	06/2014
956.064	6x4	4200	06/2014



W00.00-1093-00

The new Eonic

Body variants

The new Econic is available for the following main areas of usage:

- Waste collection vehicles
- Platform bodies
- Dumper/swap body systems
- Tanker bodies
- Preinstallations for vehicles for the transport of hazardous goods (ADR/GGVS)
- Loading crane body

Various preinstallations are available as special equipment.



Econic waste collection vehicle

W00.00-1094-00

Waste collection vehicles

Code	Special equipment options available for waste collection vehicles
B1X	Frequent-stop brake, comfort version
C9Y	Omission of rear underride guard
D0Q	Grab handles in cab, on both B-pillars
D0R	Grab handle, for front passenger on dashboard
D3Z	Seat cover, imitation leather
D6M	Auxiliary water heater, cab
E3F	Additional socket 12 V/15 A, dash support
E3Z	PSM, body CAN, ISO 11898 instead of 11992
E3X	External initial parameterization with PSM
E4D	Electrical interface behind cab (body socket)
E6Z	Backup warning system
E7C	Electrical system for automatic waste disposal system
E9C	Cable set preinstallation, electronics compartment/dashboard
J1C	Instrument cluster, 12.7 cm, with video function
L0Y	Taillamp cable set, extended
L1S	Taillamps, for rear loader
S5I	V_{\max} 30 km/h, engageable, reverse gear lock, waste disposal vehicles
V5S	Municipal usage
X3X	Warranty for authorities and municipal enterprises

Vehicles for the transport of hazardous goods (ADR/GGVS)

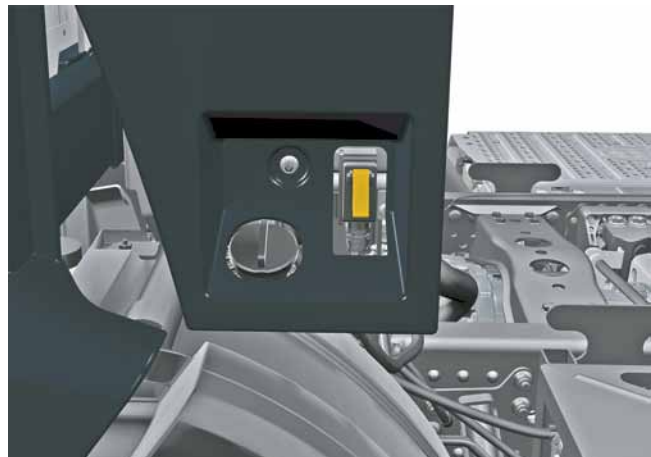
Code	Preinstallations available for vehicles for the transport of hazardous goods (ADR/GGVS)
C5A	Chassis shielding
E5V	Model class FL incl. EX/II, EX/III and AT
E5X	Model class AT
E9E	ADR preinstallation without chassis shielding
J1R	Tachograph, ADR-compatible

Corrugated hose sheathing (previously code E06) is integrated in E5V and E9E as of Euro 6.

On ADR/GGVS vehicles, the ground connections of the electrical consumers (delivery pumps etc.) must be connected to the power distributor.

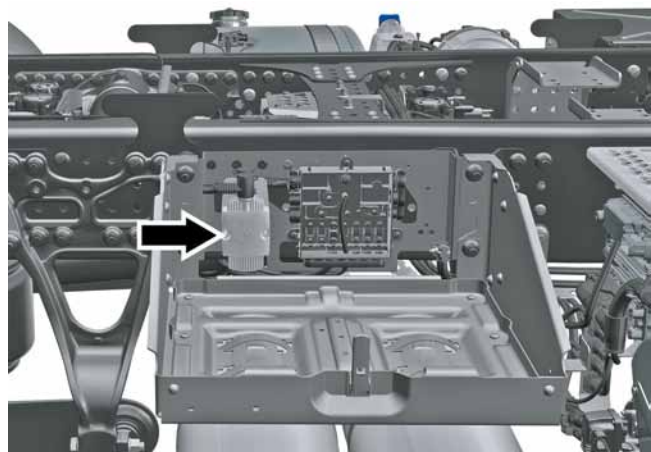
The EMERGENCY OFF switch is located on the left behind the cab when viewed in the direction of travel.

The battery disconnect switch and the fuse for the tachograph are located in the battery box on the left next to the power distributor.



EMERGENCY OFF switch

W54.25-1222-00



Battery disconnect switch in battery box

W54.10-1188-00

Engine OM 936

General

As the successor to engines OM 906 and OM 926, the familiar OM 936 engine from the Antos/Atego is also used on the new Eonic.

Features

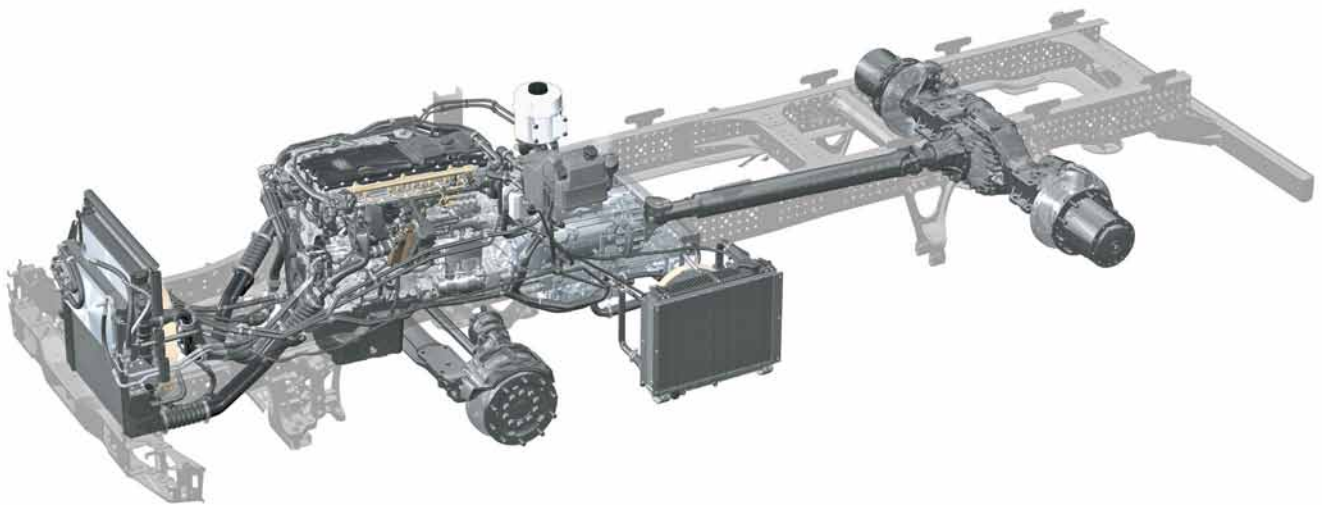
- 6-cylinder inline engine
- 7.7 l displacement
- Turbocharger (single or two-stage charging)
- Cooled exhaust gas recirculation

The OM 936 is only available in Euro 6 and the following power categories:

- 220 kW, 1200 Nm (M2D) with single-stage charging
- 260 kW, 1400 Nm (M2F) mit with two-stage charging

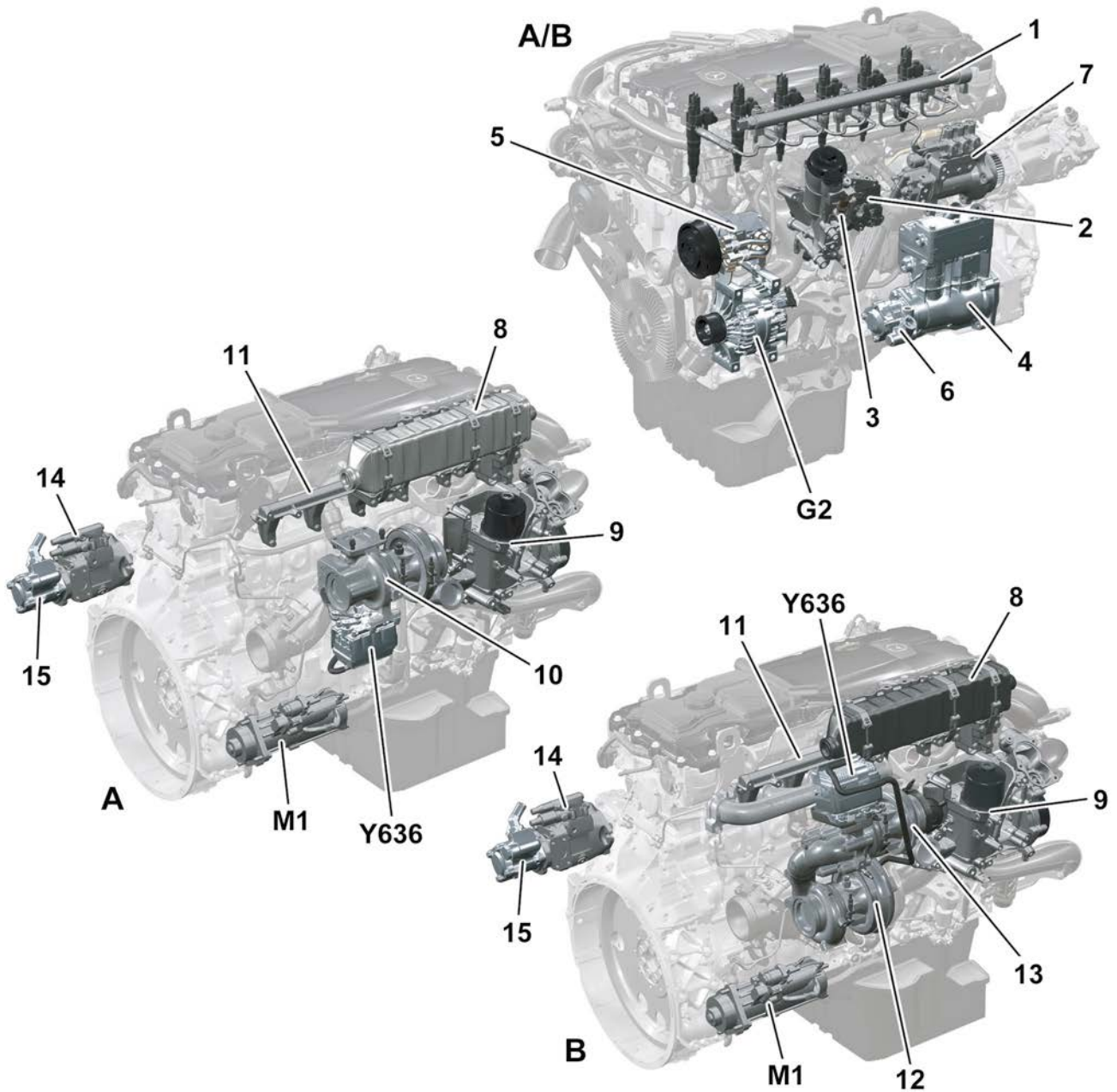
Engine brake

The Engine brake, high-performance system (M5V) is used as standard on the new Eonic.



Drivetrain with engine OM 936, 220 kW, 1200 Nm (M2F), automatic transmission Allison 3000 P (G3I)

W01.10-1177-00



Overview of engine OM 936

- | | | | |
|---|---|------|---|
| 1 | Rail | 10 | Turbocharger |
| 2 | Diesel fuel metering unit (for regeneration of diesel particulate filter) | 11 | Coolant manifold |
| 3 | Fuel filter module | 12 | Low-pressure stage turbocharger |
| 4 | Compressor | 13 | High-pressure stage turbocharger |
| 5 | Refrigerant compressor | 14 | Hydrostatic fan drive hydraulic pump |
| 6 | Power steering pump | 15 | Power steering pump (with additional steering axle) |
| 7 | High-pressure fuel pump | G2 | Alternator |
| 8 | Exhaust gas recirculation cooler | M1 | Starter |
| 9 | Oil/coolant module | Y636 | Boost pressure regulator |
| | | A | OM 936 with one-stage charging |
| | | B | OM 936 with two-stage charging |

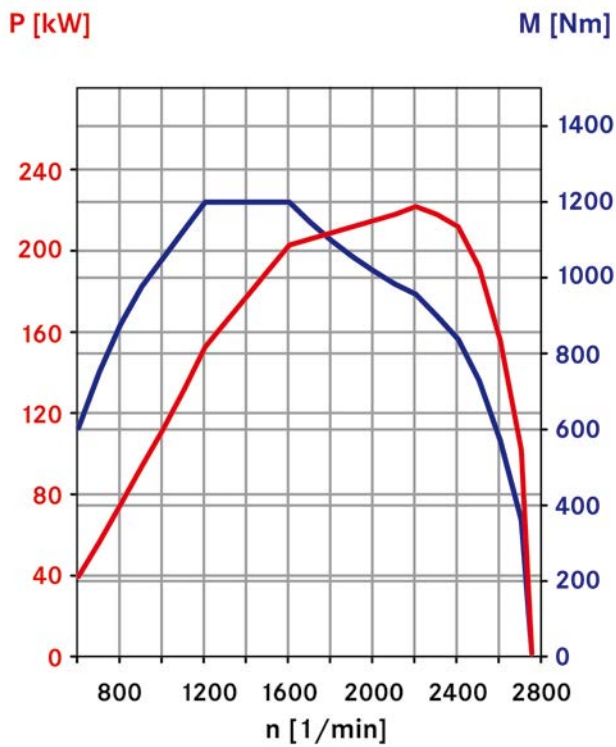
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Engine OM 936

Technical data

	Unit	OM 936.973	OM 936.972
Code		M2D	M2F
Displacement	cm ³	7698	7698
Cylinder number/arrangement		6/inline	6/inline
Valve timing		DOHC	DOHC
Number of valves per cylinder Intake/exhaust		2/2	2/2
Idle speed	rpm	600	600
Power	kW	220	260
Torque	Nm	1200	1400
Compression ratio ϵ		17,0	17,0
Stroke	mm	135	135
Cylinder bore	mm	110	110
Total piston height	mm	110	110
Connecting rod length	mm	215	215
Cylinder spacing	mm	128	128
Rail pressure (max.)	bar	2400	2400
Braking power Engine brake, high-performance system (M5V)	kW	302	302
Weight (DIN-GZ)	kg	652	666

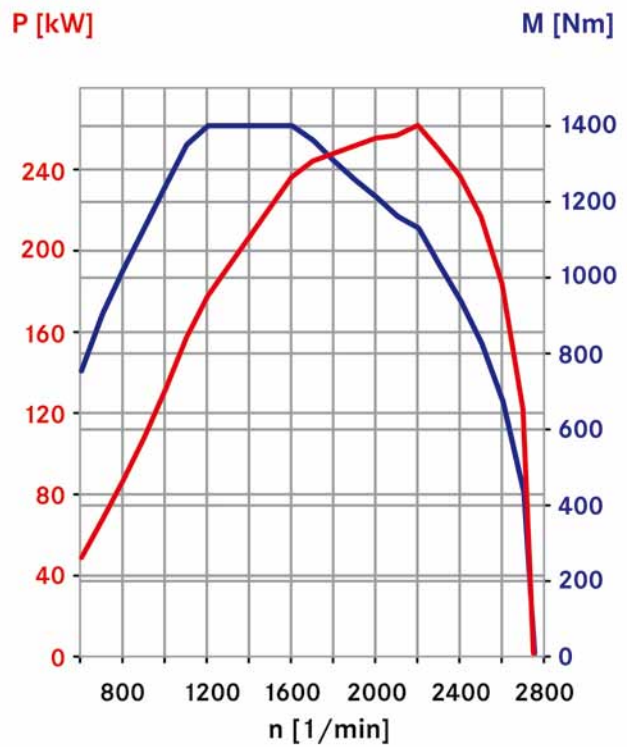
Performance graphs



W01.10-1173-00

OM 936, 220 kW/1200 Nm (M2D)

M Torque [Nm]
 P Output [kW]
 n Engine speed [rpm]



W01.10-1174-00

OM 936, 260 kW/1400 Nm (M2F)

M Torque [Nm]
 P Output [kW]
 n Engine speed [rpm]

Engine cooling

Hydrostatic fan drive

The use of a hydrostatic fan drive allows the radiator to be positioned away from the area in front of the engine.

The fan is no longer driven directly by the crankshaft of the engine. Instead, the fans for the main and additional cooling module are driven hydrostatically by a power take-off (hydraulic pump) on the engine. Fan control is carried out by means of a valve unit.

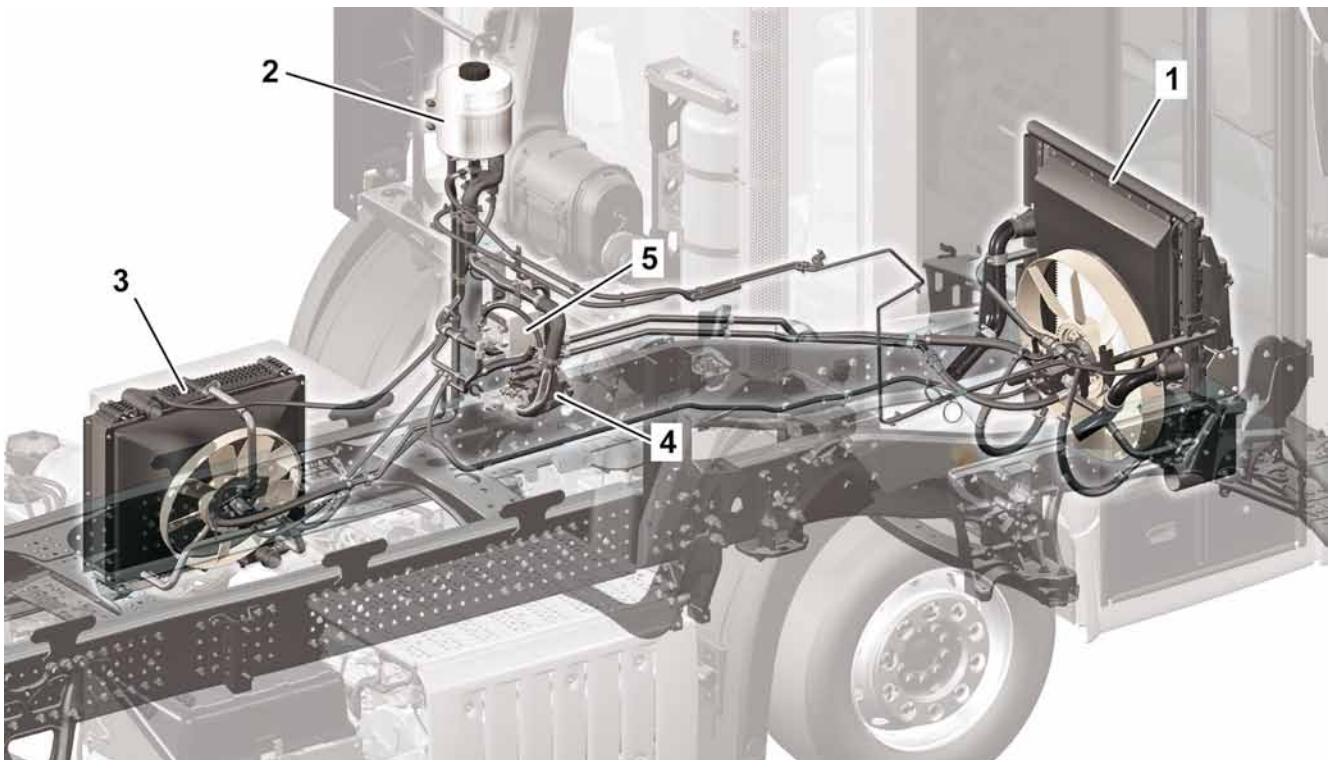
Advantages:

- High cooling output at low engine output/engine speed
- Optimal adaptation to the main usage profiles of the Econic
- No engine overheating even when driving slowly and at high outside temperatures
- Separation of the radiator and the engine makes the low entrance and unobstructed passage possible in the Econic

Additional radiator

The measures required to comply with the Euro 6 emissions standard necessitate a high engine cooling output.

An additional radiator is therefore required, which is located on the left of the chassis in front of the compressed air drier/compressed air reservoir.



W20.20-1161-00

Hydrostatic fan drive

- 1 Cooler module
- 2 Hydraulic fluid reservoir
- 3 Additional radiator

- 4 Hydraulic pump
- 5 Valve unit

Hydraulic pump

The hydraulic pump is located to the rear of the engine as a power take-off. It is installed in the standard variant on vehicles without additional steering axle. On vehicles with additional steering axle, the version with through-drive and flange for the additional power steering pump is used.

Valve unit

The fans for the main and additional cooling module are controlled via the valve unit.

Fan motor

The fan on the front cooling module and the fan on the additional radiator are each driven by a hydraulic motor.



Additional radiator

W20.20-1162-00



1 Hydraulic pump (variant with through-drive for power steering pump, additional steering axle)

W20.40-1168-00



2 Additional radiator hydraulic motor

W20.40-1169-00

Engine power take-off

Rear engine power take-off

The main features of the rear engine power take-offs are:

- The rear engine power take-off is not engageable
- The direction of rotation is clockwise in the direction of travel (opposite to the direction of engine rotation)
- BOperation during driving operation and with the vehicle stationary is possible
- Continuous operation is permissible
- Drive with a flange for a propeller shaft or for direct installation of a hydraulic pump is possible

Overview of rear engine power take-offs

Code	Name	P_{1000}	n_{max}
N7N	Rear engine power take-off, c, hydraulic pump SAE B, 200 Nm	34	2500
N7P	Rear engine power take-off, b, flange, 600 Nm	67	2500

P_{1000} Maximum continuous output in kW per 1000 rpm engine speed
 n_{max} Maximum usable engine speed in rpm



Rotation direction of engine power take-off

W23.20-1093-00

Exhaust system

The use of a new exhaust aftertreatment unit is required to fulfill the Euro 6 emissions standard.

This is located on the right-hand side of the vehicle (in the direction of travel) on the new Eonic.

The exhaust aftertreatment unit consists of a diesel oxidation catalytic converter, diesel particulate filter (DPF), ammonia slip catalytic converter and SCR catalytic converter (Selective Catalytic Reduction).

The Exhaust system, upwards tailpipe (K7A) is installed as standard on the new Eonic. Variants with a tailpipe extended by 600 mm or inward tailpipe are available as special equipment.

Diesel particulate filter regeneration

Active regeneration runs automatically. The regeneration cycles depend on the type of usage.

The exact point of time is determined by the exhaust aftertreatment control unit (ACM). If necessary, manual activation of regeneration by the driver is possible as soon as the message that regeneration is required is shown on the multifunction display.

Overview of exhaust systems

Code	Name
K7A	Exhaust system, end pipe upwards
K7I	Exhaust system, on the frame at right, end pipe inward
K7O	Exhaust system, upwards tailpipe, extended 600 mm



Exhaust system, upwards tailpipe (K7A)

W49.10-1115-00



Exhaust system on right of frame, inward tailpipe (K7I)

W49.10-1116-00

Fuel system

Fuel tank

The new Eonic is fitted as standard with a Main tank 200 l, rectangular, aluminum (K0Z) with two baffle plates.

The following are available as special equipment:

- Tank 330 l, left, 735 x 565 x 950 mm, aluminum (K1Y)
- Sieve, for tank filler neck (K5Q)
- Maneuvering tank 20 l, tank system from body manufacturer (K5V)

AdBlue® tank

The plastic AdBlue® tank holds 25 l, is coolant-heated and has a tank fitting with reduced diameter and integrated magnetic adapter as protection against incorrect filling.

i Note

Both tanks are lockable:

- Tank cap for fuel tank with ignition key (1-key system)
- AdBlue® tank with separate key



Main tank 200 l, aluminum (K0Z)

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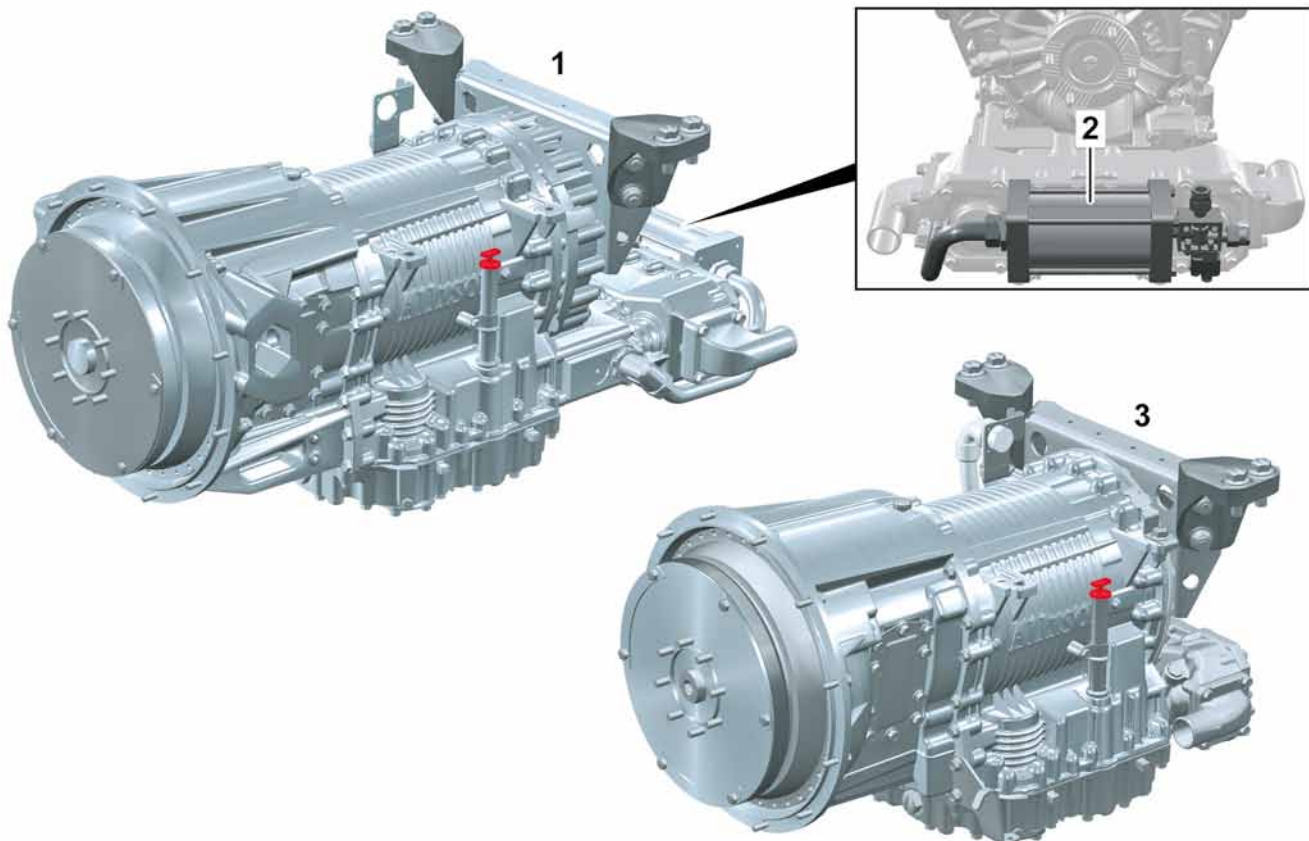
6-speed automatic transmission

As in the past, the new Econic is exclusively available with automatic transmissions with an output shaft retarder available as an option. The output shaft retarder is a wear-free oil brake which is integrated into the rear of the transmission. It is operated via the multifunction control lever. The new retarder pressure reservoir is integrated in the frame.

The proven 6-speed automatic transmission from Allison is equipped with new Eco software for lower fuel consumption and more comfortable gear shifting.

The automatic transmission is operated using a touch-key gearshift on the instrument panel and features „economy“ and „performance“ transmission modes.

When the engine is started, the standard transmission mode „economy“ is activated. On fire-fighting vehicles, the transmission mode „performance“ is activated when the engine is started.



- 1 Allison 3000 PR
- 2 Pressure reservoir
- 3 Allison 3000 P



W27.10-1033-00

Automatic transmission

Overview of transmissions

Transmission	Allison 3000 P	Allison 3000 PR	Allison 3200 P	Allison 3200 PR
Code	G3I	G3F	G3H	G3G
Model designation	723.693	723.694	723.690	723.691
1st gear	3,49	3,49	3,49	3,49
2nd gear	1,86	1,86	1,86	1,86
3rd gear	1,41	1,41	1,41	1,41
4th gear	1,00	1,00	1,00	1,00
5th gear	0,75	0,75	0,75	0,75
6th gear	0,65	0,65	0,65	0,65
Reverse gear	5,03	5,03	5,03	5,03
Retarder	no	yes	no	yes
Engine code	M2D	M2D	M2F	M2F

Overview of transmission modes

Designation	economy	performance
Display of touch-key gearshift		
Features	Comfort-oriented, fuel efficient driving style, facilitates driving on smooth road surfaces	Driving with high power requirements or dynamic driving. The standard economy transmission mode is always active after an engine start
	Active after engine start	Active after engine start on fire-fighting vehicles

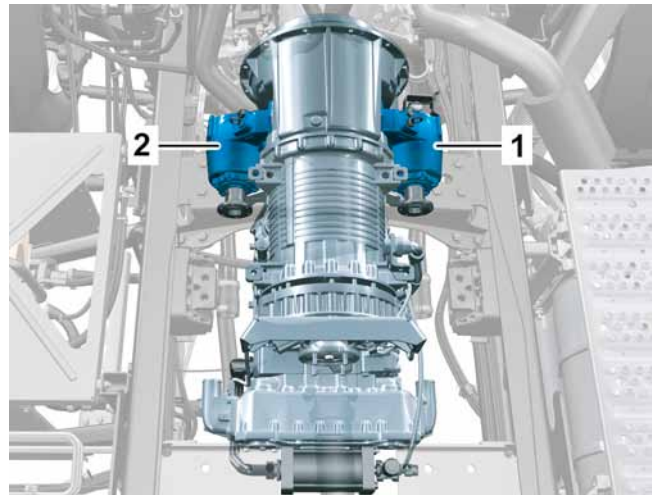
General

Both engageable and non-engageable power take-offs are available for the new Eonic.

A maximum of two transmission power take-offs can be installed and the maximum torque must be observed when doing so.

The power take-offs are available with a flange for a propeller shaft or for direct installation of a hydraulic pump.

When a hydraulic pump is installed directly, the maximum permissible weight moments may not be exceeded. It is possible to activate the power take-off via PSM.



W27.45-1018-00

- 1 Power take-off at 3 o'clock position
- 2 Power take-off at 8 o'clock position

Overview of power take-offs

Code	Position	Gear ratio	Torque [Nm]	Connection	Engageable
N5A	3 o'clock	0,98	427	Propeller shaft	yes
N5B	3 o'clock	1,16	398	Propeller shaft	yes
N5C	3 o'clock	1,29	365	Propeller shaft	yes
N5d	8 o'clock	0,98	427	Propeller shaft	yes
N5E	8 o'clock	1,16	398	Propeller shaft	yes
N5F	8 o'clock	1,29	365	Propeller shaft	yes
N5H	3 o'clock	1,0	343	Pump	no
N5I	3 o'clock	0,98	427	Pump	yes
N5J	3 o'clock	1,16	398	Pump	yes
N5K	3 o'clock	1,29	365	Pump	yes
N5L	8 o'clock	0,98	427	Pump	yes
N5M	8 o'clock	1,16	398	Pump	yes
N5N	8 o'clock	1,29	365	Pump	yes

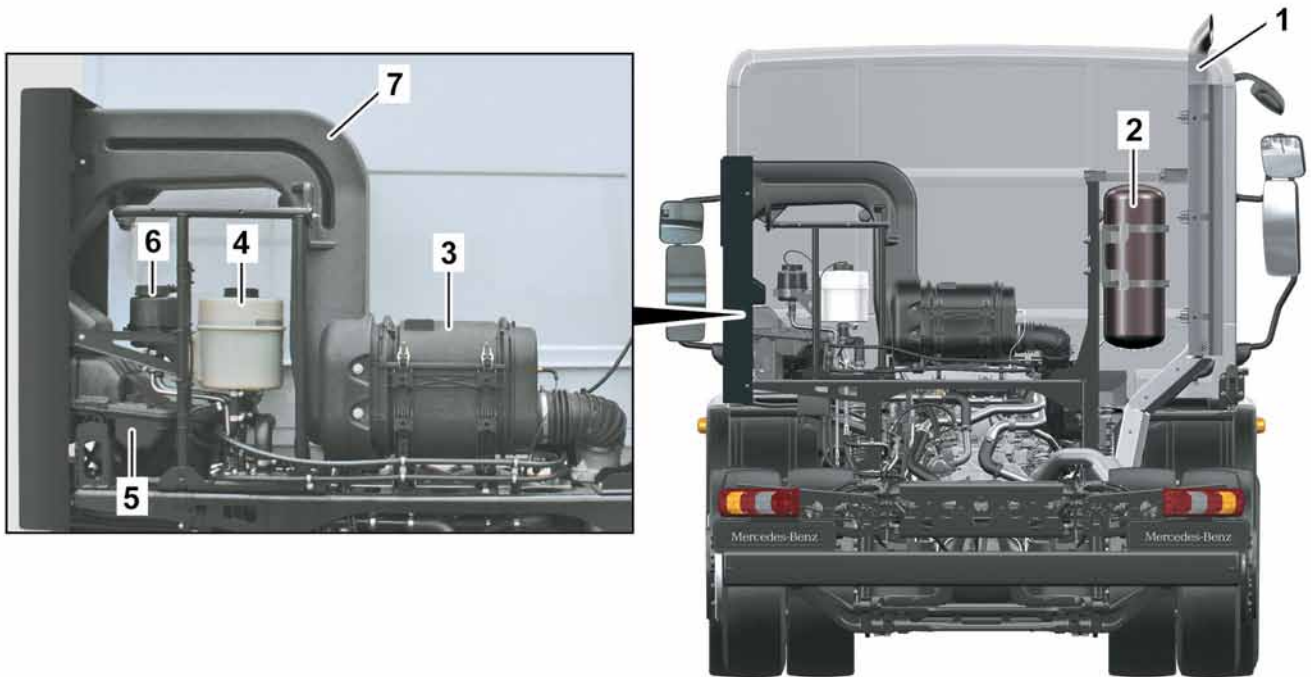
Packaging

Description

Fulfillment of the Euro 6 emission standard necessitates new packaging.

The packaging on vehicles equipped as standard is the same for all Econic Euro 6 vehicles with diesel engine in terms of the front axle.

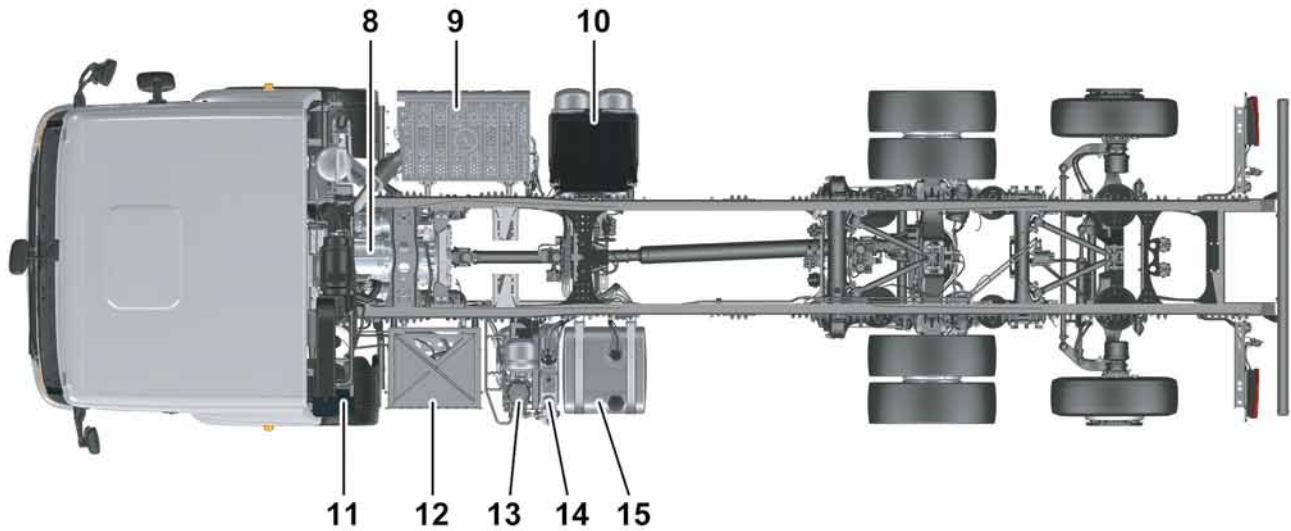
One exception is model 956.008, which was specially designed for UK side loader applications, and has corresponding clearances for body equipment on the left-hand side of the vehicle.



W00.10-1224-00

View from rear

- | | | | |
|---|--|---|---|
| 1 | Exhaust system, upwards tailpipe (K7A) | 5 | Coolant reservoir |
| 2 | Compressed air reservoir | 6 | Power steering fluid reservoir for additional steering axle |
| 3 | Air filter | 7 | Air intake |
| 4 | Hydraulic fluid reservoir | | |



W00.10-1225-00

View from above

- | | |
|--|--|
| <ul style="list-style-type: none"> 8 Automatic transmission 9 Exhaust aftertreatment unit 10 Battery/equipment carrier and compressed air reservoir 11 Integral carrier 12 Additional engine radiator | <ul style="list-style-type: none"> 13 Compressed air reservoir and Electronic Air-Processing Unit (EAPU) 14 AdBlue® tank 25 l (K3T) 15 Main tank 200 l, rectangular, aluminum (K0Z) |
|--|--|

Frame

Frame

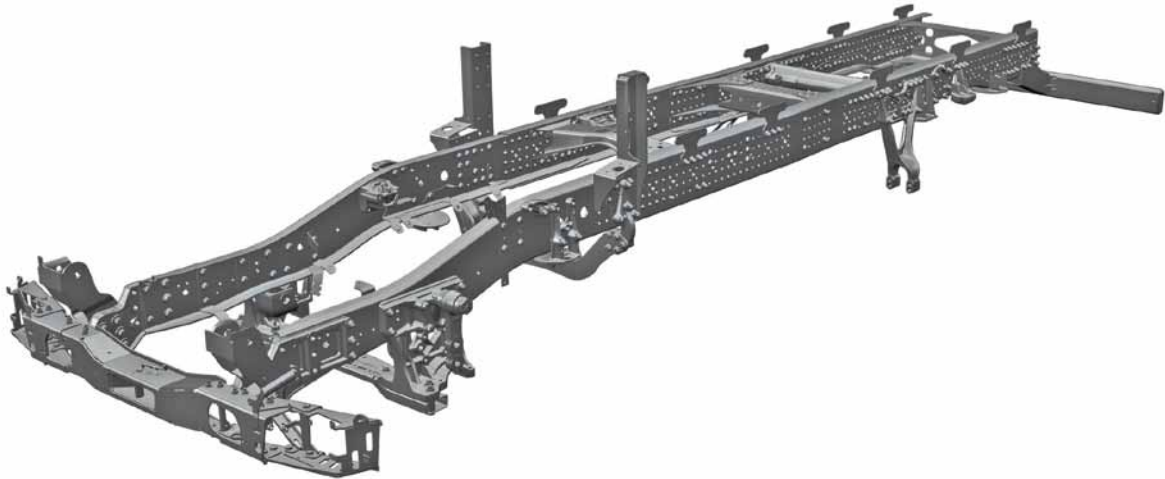
The Eonic features a new low frame with a deeply offset front end. As with the new Actros, the frame width has been widened to 834 mm to improve driving stability.

A continuous 50 mm hole pattern improves body compatibility.

Frame overhang

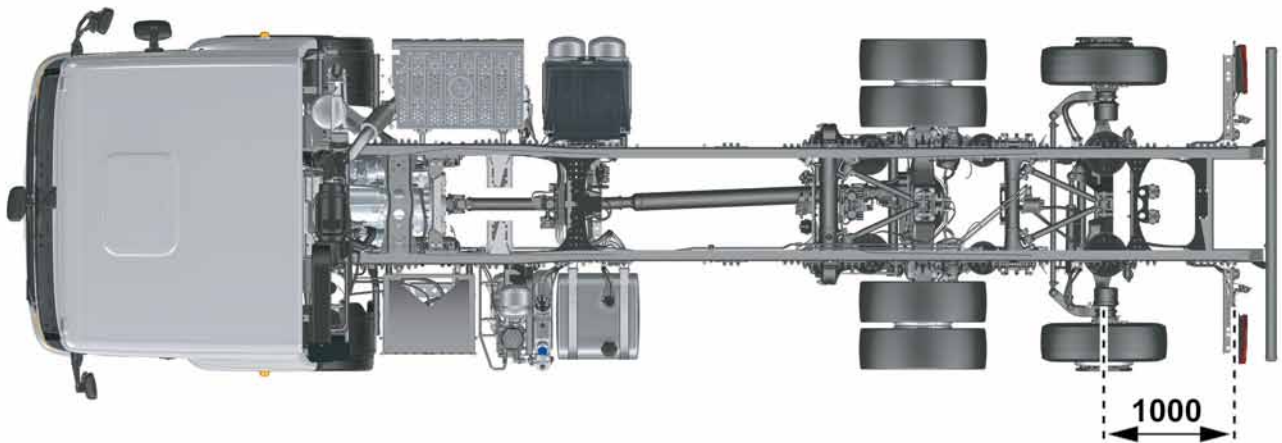
On the new Eonic, the frame overhang relative to the last rear axle is 1000 mm ex factory. The end crossmember, which is bolted on at the side, can be moved from 650 to 1000 mm in the 50 mm hole pattern without modifying the frame.

The frame overhang can thus be shortened depending on the position of the end crossmember.



Frame

W31.00-1097-00



Frame overhang (dimension in mm)

W31.00-1102-00

End crossmember, bolted (Q80)

The end crossmember is bolted to the longitudinal frame member ex factory and provides the highest possible flexibility for bodies and attachments because it can be easily repositioned.

The end crossmember can be moved from 650 mm up to 1000 mm within the 50 mm pattern.

Trailer hitch

Two trailer hitches are available for the new Eonic:

- Standard trailer hitch, D40, Ringfeder (Q7J)
- Standard trailer hitch, D40, Rockinger (Q7K)



W31.00-1099-00

End crossmember, bolted (Q80) with standard trailer hitch, D40, Rockinger (Q7K)

Assembly frame mounting

The assembly frame can be attached using shackles preassembled at the factory (Attaching parts, rigid (C5H)).

Attachment using mounting consoles is not available as an ex factory preinstallation for the new Eonic.



W31.00-1099-00

Attaching parts, rigid (C5H)

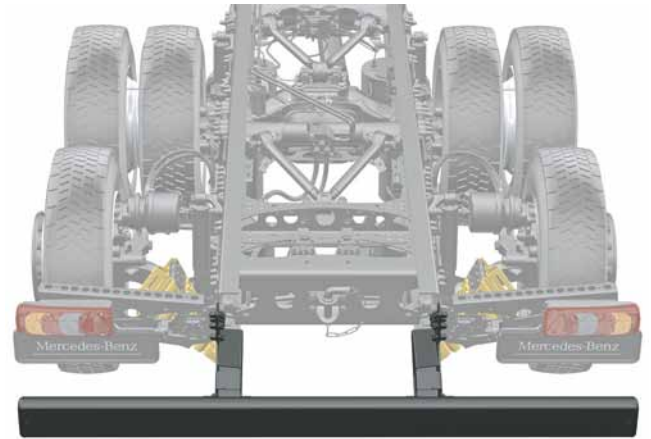
Frame

Rear underride guard (C7A)

The legally stipulated, standard rear underride guard on the ECE version is mounted under the end crossmember on chassis intended for body mounting. It fulfills all ECE requirements with respect to dimensions and stability. Semitrailer tractors are excluded from this legal requirement.

i Note

The obligation to fit a rear underride guard applies to all commercial vehicles with a permissible gross weight of > 3.5t if the distance from the rear end of the vehicle to the last rear axle is more than 1000 mm and the chassis has a clear height of more than 700 mm above the road surface in its rear area in an unloaded state (§ 32b StVZO and directive ECE-R 58).



Rear underride guard (C7A)

W31.00-1100-00

Front underride guard (ECE), steel (C7E)

The front underride guard on the ECE version is bolted on underneath the bumper on all model designations. On vehicles with front spoiler, the front underride guard is partially concealed by it. It is made of high strength steel to ensure good deformation characteristics and effective energy dissipation.

i Note

The front underride guard fulfills Directive 2000/40/E and ECE directive no. 93. Dumper vehicles, concrete mixers and all-wheel drive vehicles are excepted from the legal requirements.



Front underride guard (ECE), steel (C7E)

W31.00-1101-00

General

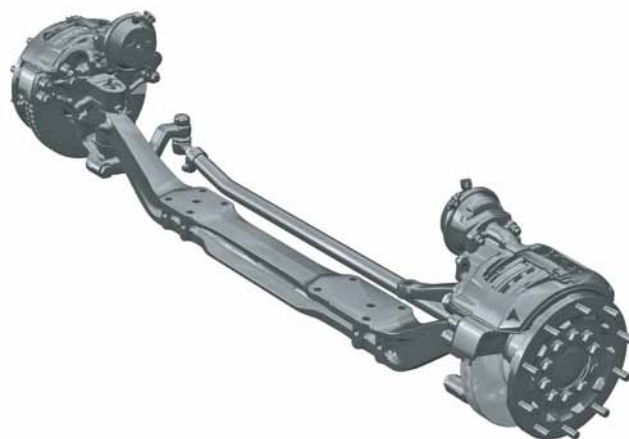
The Econic is equipped with air suspension and disk brakes on all axles. The rear axles with 4-bellows air suspension are equipped with a new axle suspension/guide as on the new Actros.

Height adjustment is carried out via the raising/lowering system.

The new Econic is equipped with an axle load measuring device as standard, which can perform weight measurement per axle or on an overall basis. Its information is displayed on the multifunction display of the instrument cluster.

Front axle

The new front axle, 8.0 t (A1D) with offset axle housing is weight-optimized. Its increased load capacity allows a better load distribution and increased payload share.



Front axle F-8 A / C 22.5

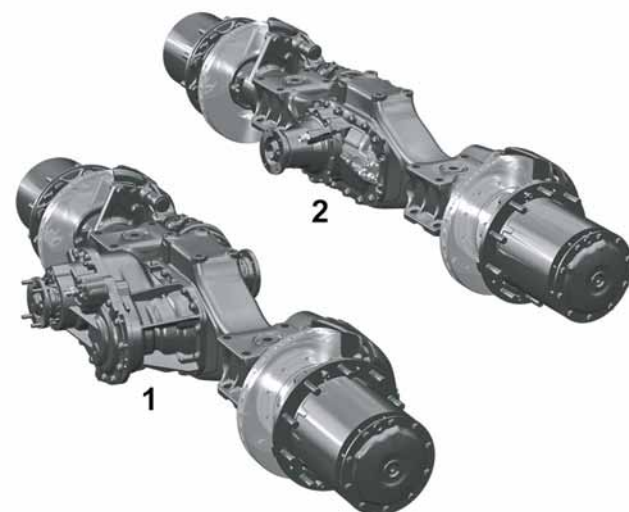
W33.10-1029-00

Driven rear axle

All driven rear axles are sturdy 13.0 t planetary axles.

On vehicles with one driven rear axle, the ring gear diameter is 300 mm, with two driven rear axles it is 233 mm.

All rear axles are equipped with a differential lock.



Planetary axles

1 RT 233 P - 13 / C 22.5

2 R 233 P - 13 / C 22.5

W35.10-1064-00

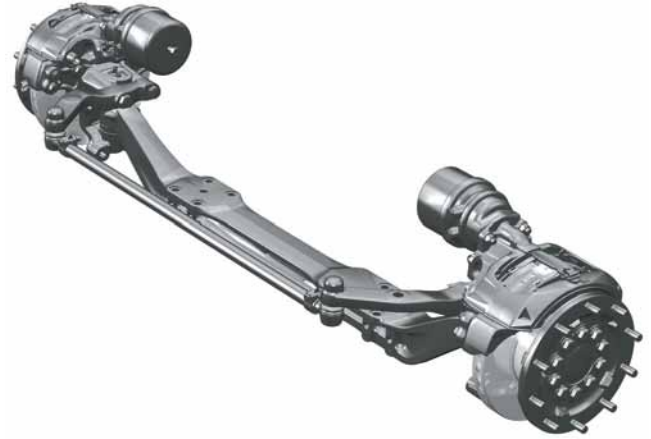
Axles

Trailing axle, 7.5 t, steered, liftable (A4X)

The liftable trailing axle with 7.5 t load capacity is steered electrohydraulically. The control system records the steering angle of the front wheels and transfers the steering maneuver to the trailing axle in the opposite sense via the hydraulic cylinder and steering linkage.

Depending on the vehicle speed, the axle can therefore adopt the following steering states:

- Between 15 and 38 km/h: Steering angles reduce
- As of 38 km/h: Axle is automatically straightened and centered



W35.50-1105-00

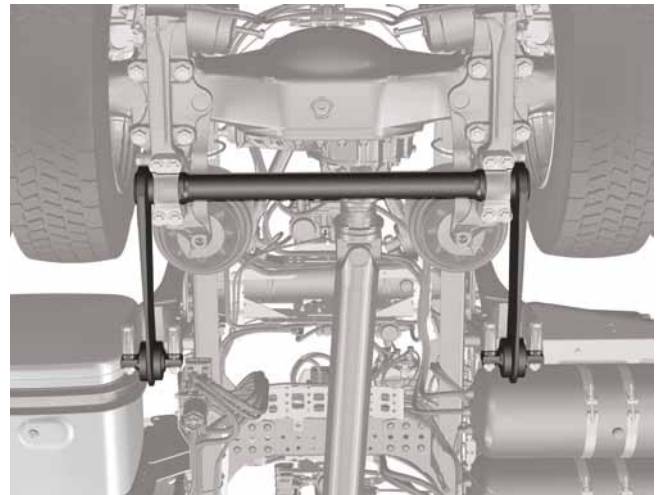
Trailing axle, 7.5 t, steered, liftable (A4X)

Leading axle, 7.5 t, steered, liftable (A4B)

The axle is based on the axle housing of the air-sprung front axle with an offset of 150 mm + 5 mm.

Additional stabilizer bar, rear/trailing axle (C6U)

Depending on the model and the center of gravity of the fully loaded vehicle with body mounted, an additional stabilizer bar may be necessary on the trailing axle. The additional stabilizer bar reduces the roll tendency at the rear end.



W32.35-1052-00

Additional stabilizer bar, rear/trailing axle (C6U)

Overview of axles

Code	Name	Model designation	Designation
Front axle			
A1D	Front axle, 8.0 t	739.505	F - 8 A / C 22.5 (1800 /150+5)
Leading axle			
A4B	Leading axle, 7.5 t, steered, liftable	749.113	M - 7,5 SA / C 22.5
Rear axles			
A2G	Rear axle, ring gear 300, planet gears, 13.0 t	748.282	R 300 P - 13 / C 22.5
A2F	Rear axle, ring gear 233, planet gears, 13.0 t	748.280	R 233 P - 13 / C 22.5
A2F	Rear axle, ring gear 233, planet gears, 13.0 t	748.281	RT 233 P - 13 / C 22.5
Trailing axle			
A4X	Trailing axle, 7.5 t, steered, liftable	749.112	T - 7.5 SLA / C 22.5 (1800/150+5)

Brakes

General

The new Eonic is equipped ex factory with the familiar electropneumatic brake system (EPB) with ABS and ASR (B1B) and Stability control assistant (S1D) as used on the new Actros (model 963). The EPB is equipped with an integrated continuous braking function (engine brake and retarder) and controls the braking and traction functions of the entire tractor/trailer combination.

The integrated Hill Holder function is also installed as standard. It is activated using a switch on the switch panel. When the vehicle is braked to a standstill, the brake pressure is maintained as long as the brake or accelerator pedal is at least slightly depressed.

Disk brakes, on FA and RA (B2A)

On the Eonic, all axles are equipped with disk brakes as standard.

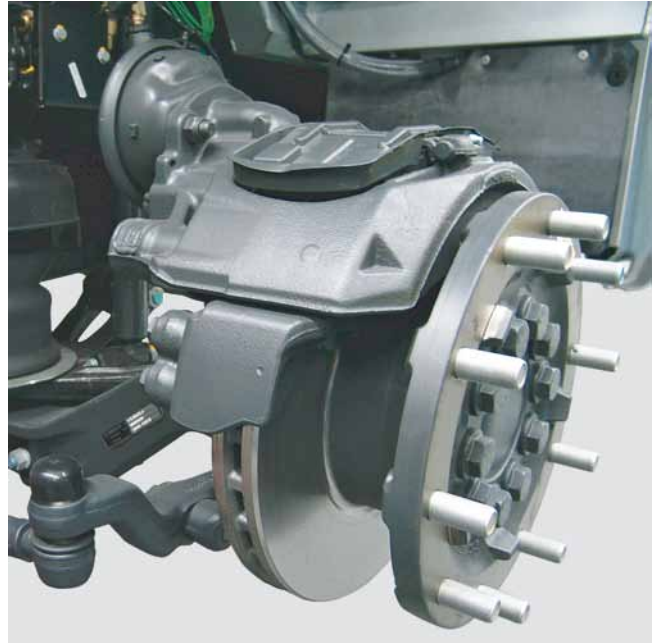
Frequent-stop brake, comfort version (B1X)

For usage profiles with a high proportion of start-off and stopping maneuvers, e.g. waste collection applications, the Frequent-stop brake, comfort version (B1X) is available as special equipment.

The frequent-stop brake is activated by a button. With the vehicle stationary, a constant brake pressure of approx. 3.5 bar is maintained at all axles even if the brake pedal is no longer operated. When the vehicle starts off, the brake releases automatically.

Parking brake, additional on front axle (B2Z)

For optimized vehicle braking, combination brake cylinders with integrated spring-loaded brake cylinders are available as special equipment on the front axle.



Front axle disk brake

W42.10-1418-00



1 Frequent-stop brake button

W54.25-1217-00



Parking brake, additional on front axle (B2Z)

W42.20-1025-00

General

The standard tires for all Eonic vehicles except for the 6x4 vehicles are 305/70 R 22.5 tires. Vehicles with a 6x4 wheel configuration are equipped with the 315/80 R 22.5 tire size as standard.

The Eonic is equipped ex factory with steep-shoulder rims 9.00 x 22.5 (steel rims) for tubeless tires.



Steep-shoulder rims 9.00 x 22.5

W40.10-1030-00

Overview of tires

Tire size	305/70 R 22,5	295/80 R 22,5	315/70 R 22,5	315/80 R 22,5	315/60 R 22,5
Code VA, VLA, ENA	I2A	I1V	I2E	I2G	I2C
Code HA	I2B	I1W	I2F	I2H	I2D
4x2, 6x2/4 VLA/ENA	S	SA	SA	SA	SA
6x4	n. a.	SA	SA	S	n. a.

S = Standard

SA = Special equipment

n. a = Not available

Cab

General

The lightweight cab of the new Econic is made of a network of extruded aluminium profiles with plastic elements glued on. The following variants are available:

- High cab (FOR)
- Low cab (FOQ)

The entrance height depends on the wheel configuration and tires. It is

- 450 mm on 4x2, 6x2/4 with 305/70 R 22,5
- 495 mm on 6x4 with 315/80 R 22,5

The 190 mm high engine tunnel is a new feature. As they are raised by the engine tunnel, the central seats offer greater shoulder room and improved ergonomics.



Cab structure

W60.80-1185-00

Folding door, passenger-side (FON)

The inward opening, fully glazed, pneumatically operated folding door on the passenger side is only available as standard equipment in combination with the High cab (FOQ).

The folding door features improved operating logic and the folding doors are opened and closed using a switch on the modular switch panel. The operating switch also remains active for a short period of time after the ignition is switched off. The exterior operating switch can be shut off to protect against misuse.

In order to improve safety when entering the vehicle and to protect work clothes, the locking pin of the folding door is concealed on the new Econic.

Hinged door, passenger side, power windows (FOP)

The hinged door on the passenger side is standard equipment in combination with the Low cab (FOR). The hinged door is available as special equipment for the High cab (FOQ).



Folding door, passenger-side (FON)

W72.10-1134-00



W60.80-1186-00

High cab (FOR)



W60.80-1187-00

Low cab (FOQ)

Cab

Overview of cabs

	High cab	Low cab
Code	F0R	F0Q
Exterior height	H1 2830	2380
Exterior width	2280	2280
Exterior length	L1 2050	2050
Interior height (side floor-to-ceiling height)	H2 1920	1470
Interior height of passage	H3 1745	1295
Interior width	2100	2100
Interior length	L2 1770	1770
Height of engine tunnel	H4 190	190

All dimensions in mm



Cab dimensions

W00.10-1227-00

Seating concept

The new Econic is equipped with a seating concept with varying seat heights.

The proven variable seat arrangement with up to 1 + 3 seats (driver + front passenger) with the High cab (F0R) has been retained. The raised center seats allow a more ergonomic seating position and greater shoulder room. The fabrics and seat covers in their new design and the uniform interior colors have been adapted to the new truck generation.

The Low cab (F0Q) is only available with driver seat + 1 front passenger seat.



W91.00-1004-00

High cab (F0R) with seating concept 1+3



W68.00-1032-00

Interior compartment with seating concept 1+3

Seats

Driver seat

The new Econic with High cab (F0R) is delivered as standard with Driver suspension seat, standard (D1B) and 3 front passenger seats (D1L).

The following special equipment is available:

- Omission of front passenger seat (D9Z)
- 1 front passenger seat, static, head restraint, stowage compartment (D1J)
- 2 front passenger seats, static, head restraints, stowage compartment (D1K)
- Driver suspension seat, comfort (D1C)
- Red seat belts (D20)
- Seat cover, imitation leather (D3Z)



W91.10-1415-00

Driver suspension seat, standard (D1B)

Multifunction steering wheel

As with all vehicles of the new truck generation, the new Econic is also equipped with a padded 4-spoke multifunction steering wheel.

A new feature compared to the predecessor model are the significantly extended operating possibilities of the on-board computer using the left and right button groups e.g.:

- Tour data
 - Truck info
 - Tachograph
 - Range
- Driving operation
- Audio and communications
- Operation and maintenance
 - Level control
 - Trailer
 - Maintenance
- Monitoring info
 - Reservoir pressure
 - Coolant
 - Engine
 - Events
 - Diagnosis
- Settings
 - Menu
 - Lighting
 - Language
 - Operating fluids
 - Systems



Multifunction steering wheel

W46.10-1045-00



Instrument panel

W68.10-1113-00



Instrument panel

W68.10-1114-00

Instrument cluster (ICUC)

Instrument cluster (ICUC) control unit

The new Eonic is equipped with an instrument cluster with 10.4 cm display as standard equipment.

An Instrument cluster, 12.7 cm, with video function (J1C) is available as special equipment. It can be operated using the button group on the left or right of the multifunction steering wheel, as the case may be.

Five slots are available to body manufacturers for installing indicator lamps. These can be installed with the associated sockets at positions A1 to A5.

Customized symbols can be applied to an insertable symbol plate e.g. using printed transparent adhesive foil or a suitable printing process.

The special equipment option Cable set preinstallation, electrical compartment/dashboard (E9C) includes all 5 indicator lamps including wiring to the electrical compartment and the symbol plate A 960 446 47 21.



Instrument cluster, 10.4 cm (standard)

W54.32-1038-00



Slots A1 to A5

W54.32-1039-00

Modular switch panel (MSF)

On the new Eonic, the modular switch panel (MSF) is located centrally on the instrument panel. The MSF consists of an MSF master and multiple switch combinations combined into groups of four, which are designated MSF slaves. MSF switches have their own bus system which they use to receive and transmit signals.

There are three types of MSF switches:

- Signal switches
- Load switches
- Special switches

Signal switches:

- The MSF master determines the switching condition of all individual switches on a cyclical basis and transmits their status on the CAN bus
- The MSF master receives all of the required signals relating to function indication and switch and controls illumination on the CAN bus and transmits these requests to the individual switches

Load switches:

- Load switches can only be inserted in MSF slave modules but not in the MSF master
- Load switches are also connected to the MSF master via the bus system because this is how the dimming value for the switch and controls illumination is specified
- Due to the wiring, there are some restrictions on the arrangement of the load switches and it may be necessary to extend the load connection
- The following load switches are installed in the vehicle: Climate control load switch (standard) Roller sun blind load switch (standard)

Special switches:

- Special switches have a protective (e.g. EMERGENCY OFF switch)



W54.25-1218-00

Modular switch panel (MSF)



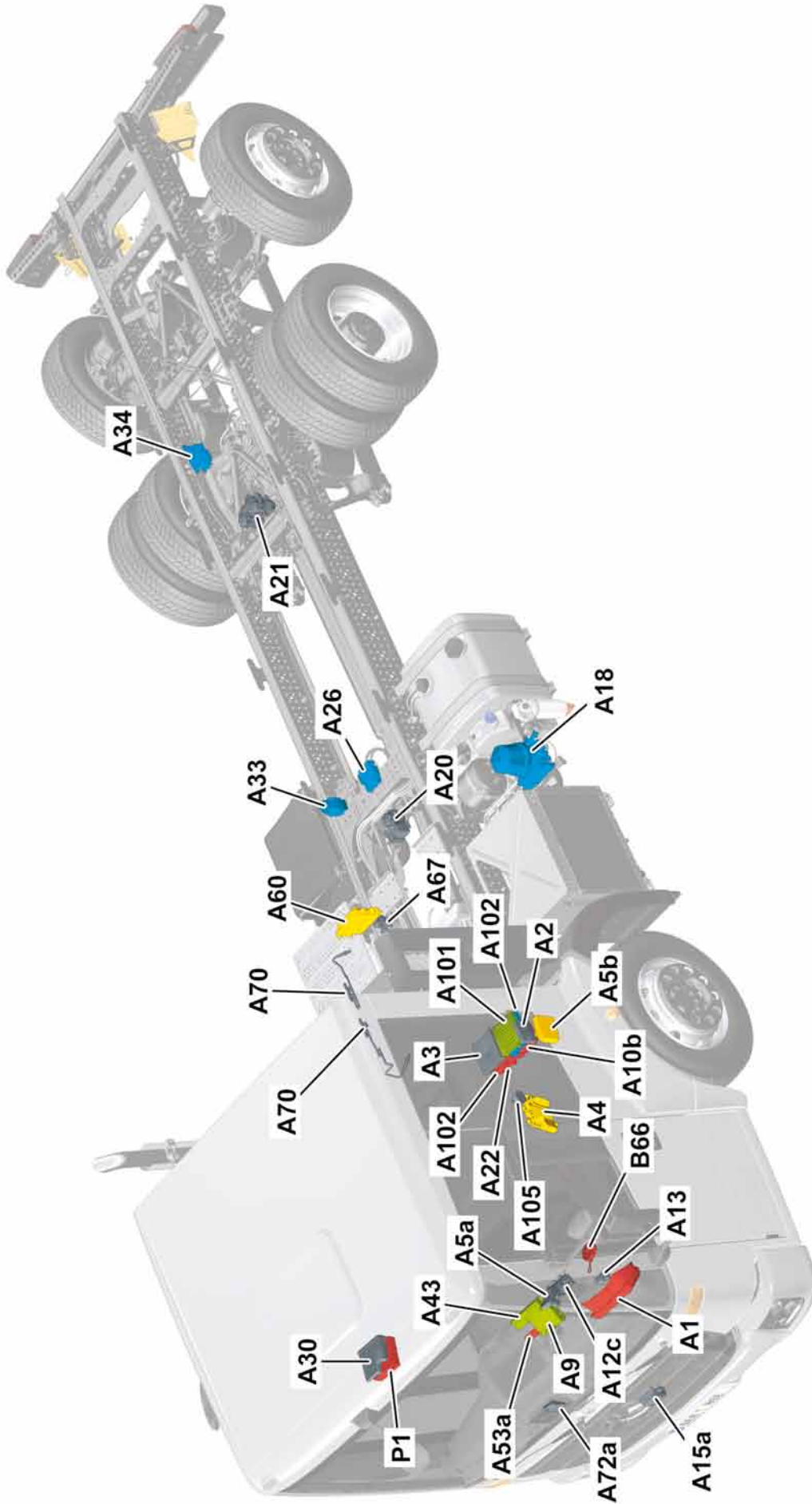
W54.25-1219-00

MSF master



W54.25-1220-00

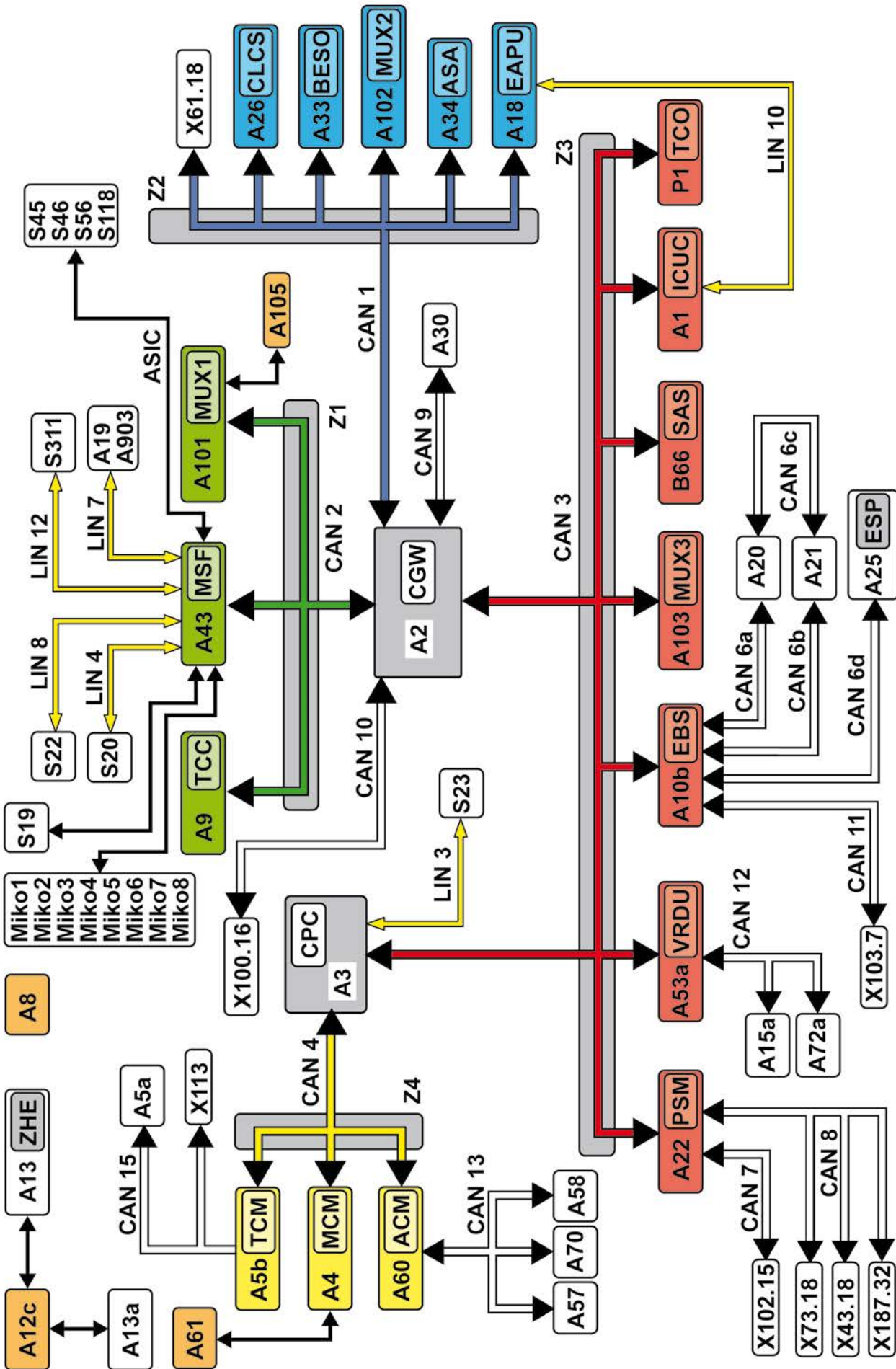
MSF slave (example)



Location of Electronic control units (model 956)

W00.19-1110-00

W00119-1111-00



Overall network

Overall network

A1	Instrument cluster (ICUC) control unit	A20	Front axle axle modulator	A70	NOx sensor control unit, exhaust aftertreatment inlet	P1	Tachograph (TCO)
A2	Central gateway (CGW) control unit	A21	Rear axle axle modulator	A72a	Lane Assistant camera	S1a	Ignition lock
A3	Drive control (CPC) control unit	A22	Parameterizable special module (PSM) control unit	A101	Control unit 1, control unit network (MUX1)	S19	Exterior lights switch
A4	Engine management control unit (MCM)	A25	Electronic Stability Program (ESP®) control unit	A102	Control unit 2, control unit network (MUX2)	S20	Left multifunction control lever
A5a	Gear control control unit	A26	Level control (CLCS) control unit	A103	Control unit 3, control unit network (MUX3)	S22	Level control operating unit
A5b	Automatic transmission control unit (TCM)	A30	FleetBoard® control unit	A105	Wiper system control unit	S23	Right multifunction control lever
A8	Driver seat control unit	A33	Battery disconnect switch control unit (BESO)	A903	Multifunction steering wheel clock spring contact	S30	EMERGENCY OFF switch
A9	Truck Control Center (TCC)	A34	Additional steering axle (ASA) control unit	B66	Steering wheel angle sensor (SAS)	S31	Frame EMERGENCY OFF switch
A10b	Electronic brake control (EBS) control unit	A43	Modular switch panel (MSF) control unit	Miko1	Center console switch module 1	S45	Acceleration skid control button
A12c	Heater/air conditioning operating unit	A53a	Driver assistance system (VRDU) control unit	Miko2	Center console switch module 2	S46	Anti-lock braking system button (ABS)
A13	Auxiliary heater (ZHE) control unit	A57	NOx sensor control unit, exhaust aftertreatment unit outlet	Miko3	Center console switch module 3	S56	Work lamps button
A13a	Air conditioning control unit	A58	SCR control unit	Miko4	Center console switch module 4	S311	Lighting indicator switch
A15a	Distance sensor control unit	A60	Exhaust aftertreatment (ACM) control unit	Miko5	Center console switch module 5		
A18	Electronic Air-Processing Unit (EAPU)	A61	Immobilizer control unit	Miko6	Center console switch module 6		
A19	Multifunction steering wheel control unit	A67	AdBlue® metering device	Miko7	Center console switch module 7		
				Miko8	Center console switch module 8		

X11.18	Front frame FF electrical connector				
X14.18	Frame FF electrical connector				
X21.18	Front end cab-chassis electrical connector				
X22.18	Engine cab-chassis electrical connector				
X41.18	Longitudinal member cab-chassis electrical connector				
X43.18	Longitudinal member cab-chassis electrical connector				
X44.18	Frame FF electrical connector				
X61.18	Longitudinal member cab-chassis electrical connector				
X73.18	Body cab-chassis electrical connector				
X90	Power distributor				
X100.16	Diagnostic socket				
X102.15	Trailer socket (15-pin)				
X103.7	ABS trailer socket (7-pin)				
X113	AGN diagnostic socket				
X187.32	Equipment socket electrical connector				
X316	Cab ground electrical connector				
Z1	Cab-instrument panel CAN bus star point				
Z2	Additional cab-instrument panel CAN bus star point				
Z3	Frame CAN bus star point				
Z4	Powerplant CAN bus star point				
ASIC	ASIC data bus (Application System Integrated Circuit)				
CAN 1	Exterior CAN				
CAN 2	Interior CAN				
CAN 3	Frame CAN				
CAN 4	Drive train CAN				
CAN 6a	Front axle brakes CAN				
CAN 6b	Rear axle brakes CAN				
CAN 6c	Redundancy brakes CAN				
CAN 6d	ESP® brakes CAN				
CAN 7	Trailer CAN (PSM)				
CAN 8	Body manufacturer CAN (PSM)				
CAN 9	Telematics CAN				
CAN 10	Diagnostic CAN				
CAN 11	Trailer CAN (EBS)				
CAN 12	Radar CAN				
CAN 13	NOx CAN				
CAN 15	Automatic transmission CAN				
LIN 3	Right multifunction control lever LIN				
LIN 4	Left multifunction control lever LIN				
LIN 7	Button group LIN				
LIN 8	Level control LIN				
LIN 10	EAPU-LIN				
LIN 12	Lighting indicator switch LIN				

Electronics compartment

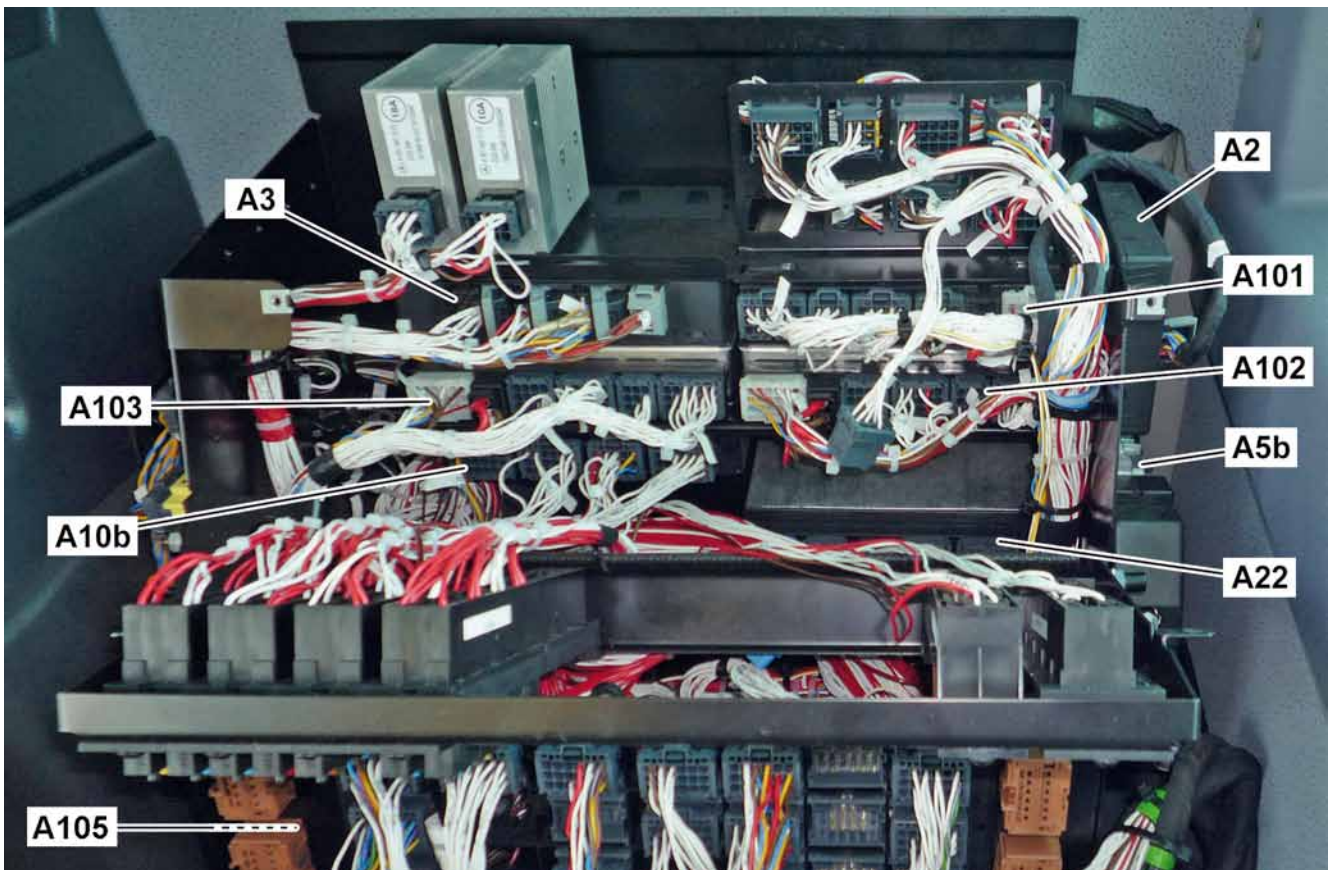
Electronics compartment behind driver seat

The electronics compartment is located behind the driver seat on the Econic. It consists mainly of a carrier for the ex factory control units, fuses, relays, diodes and voltage converter. Depending on the equipment installed, additional relays, fuses and diodes may be installed on the outside of the carrier.

The following control units are located in the electronics compartment:

- Control unit 1, control unit network (MUX1) (A101)
- Control unit 2, control unit network (MUX2) (A102)
- Control unit 3, control unit network (MUX3) (A103)
- Central gateway control unit (CGW) (A2)
- Parameterizable special module (PSM) control unit (A22)
- Automatic transmission control unit (TCM) (A5b)
- Drive control (CPC) control unit (A3)
- Wiper system control unit (A105)
- Electronic brake control (EBS) control unit (A10b)

Circuit breakers are used instead of fuses.



Control units in electronics compartment

W54.31-1041-00

Parameterizable special module (PSM) control unit

The parameterizable special module (PSM) is a clearly defined, diagnosis-capable and EMC-tested interface between the vehicle and body.

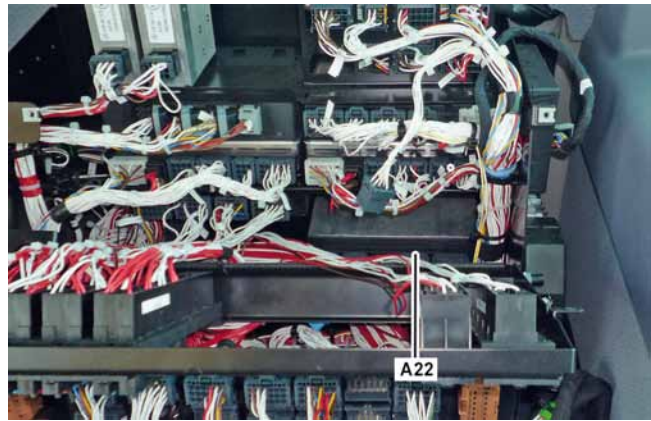
The PSM, body and trailer CAN, ISO 11992 (E3Y) is installed as standard on every Eonic.

In addition, the PSM, body CAN, ISO 11898 instead of 11992 (E3Z) can be ordered as special equipment.

The PSM enables the direct exchange of information between the vehicle electronics and the bodies, attachments, equipment and trailer/semitrailer. These control systems are adjusted (parameterized) to the operating data of the standard system. The following operating information can be displayed e.g. on the multifunction display of the instrument cluster:

- Driver assistance systems such as trailer or semitrailer identification
- Cargo monitoring on tank vehicles, refrigerated or gas transports
- Display of the current cargo temperature, quantity and the cargo pressure
- Monitoring of temperature, quantity and pressure for parameterizable threshold values (minimum/maximum)

In addition, certain functions can be controlled depending on the requirements of the auxiliary equipment such as engine start/stop, starter lockout, accelerator pedal lock, gear lock, engine speed limitation etc.



A22 Parameterizable special module (PSM)

W54.21-1635-00

Body interface behind cab

Body interface behind cab (E4D)

For the first time on the new Econic, a 32-pin body interface on the left of the integral carrier behind the cab is available as special equipment. It serves as a defined interface between the PSM and body/attachments.

The body interface is connected directly to the cab-chassis separation point (FF) in the electronics compartment of the cab.

This reduces the assembly complexity for body manufacturers because no wiring harnesses have to be installed and it is not necessary to intervene in the vehicle electrical/electronic system.



Body interface behind cab (E4D)

W54.18-1145-00

Body interface (32-pin)

Pin	Signal	Signal type
1	Terminal 30	Power supply
2	Terminal 30	Power supply
3	Terminal 30	Power supply
4	Terminal 31	Vehicle ground
5	Terminal 31	Vehicle ground
6	Terminal 31	Vehicle ground
7	Terminal 15	Power supply
8	Standing lights	Status
9	Drive control, tml. W	Status
10	Rotating beacon	Status

Body interface (32-pin)

Pin	Signal	Signal type
11	Backup signal	Status
12	Tachograph speed signal (C3)	Status
13	Tachograph travel distance signal (C4)	Status
14	Step plate	Status
15	Power take-off 1 request	Request
16	Power take-off 1 feedback	Status
17	Not assigned	ND
18	Fixed speed 1	Request
19	Rpm +	Request
20	Rpm -	Request
21	Idle speed	Request
22	STA2 (engine start)	Request
23	STO2 (engine stop)	Request
24	Running board power supply	Power supply
25	Brake light	Status
26	Right turn signal	Status
27	Left turn signal	Status
28	Not assigned	ND
29	Not assigned	ND
30	AUFCANL	CAN
31	AUFCANG	CAN
32	AUFCANH	CAN

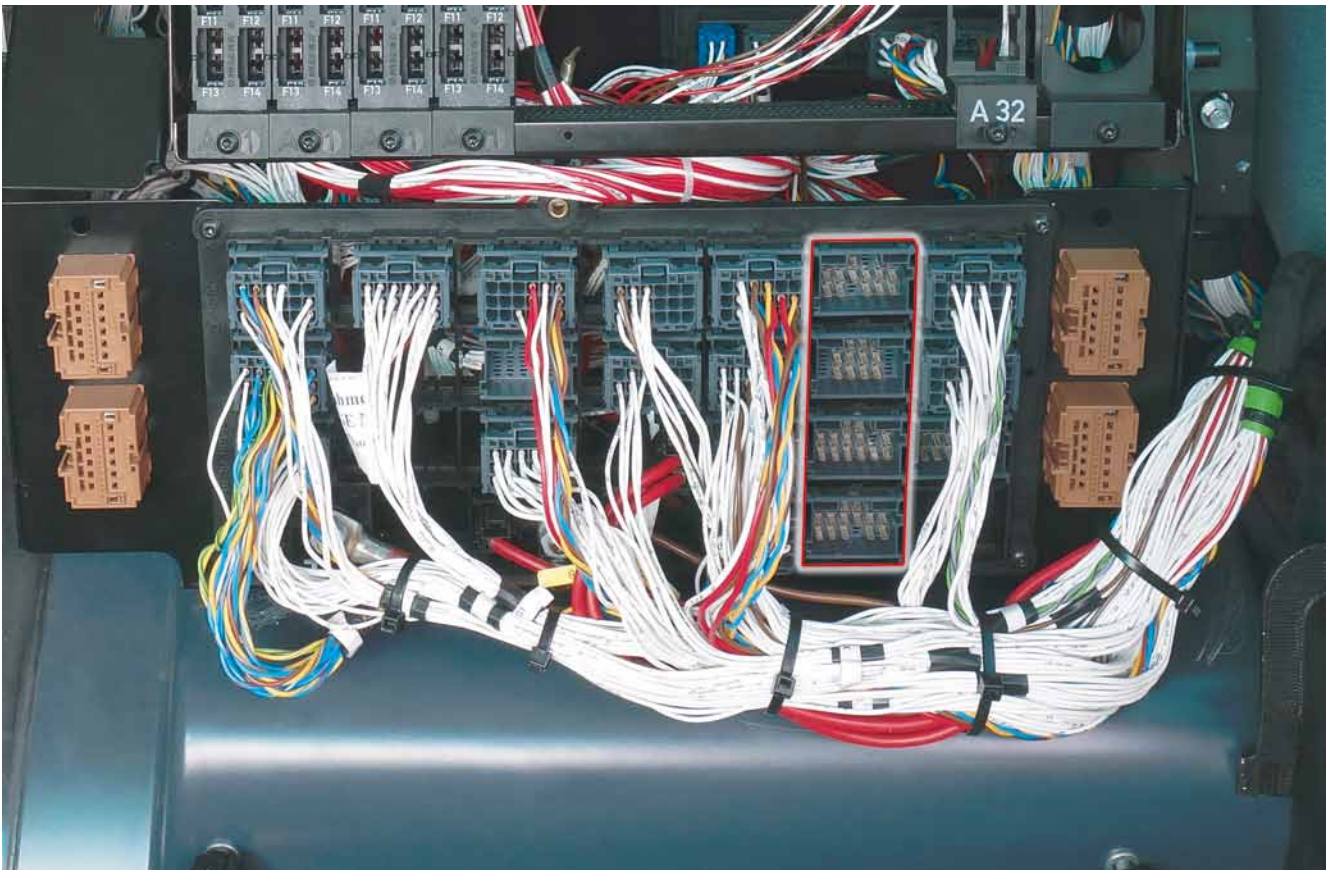
Not assigned: Pins can be freely wired by body manufacturer

ND: Not defined

Cab-chassis separation point (FF)

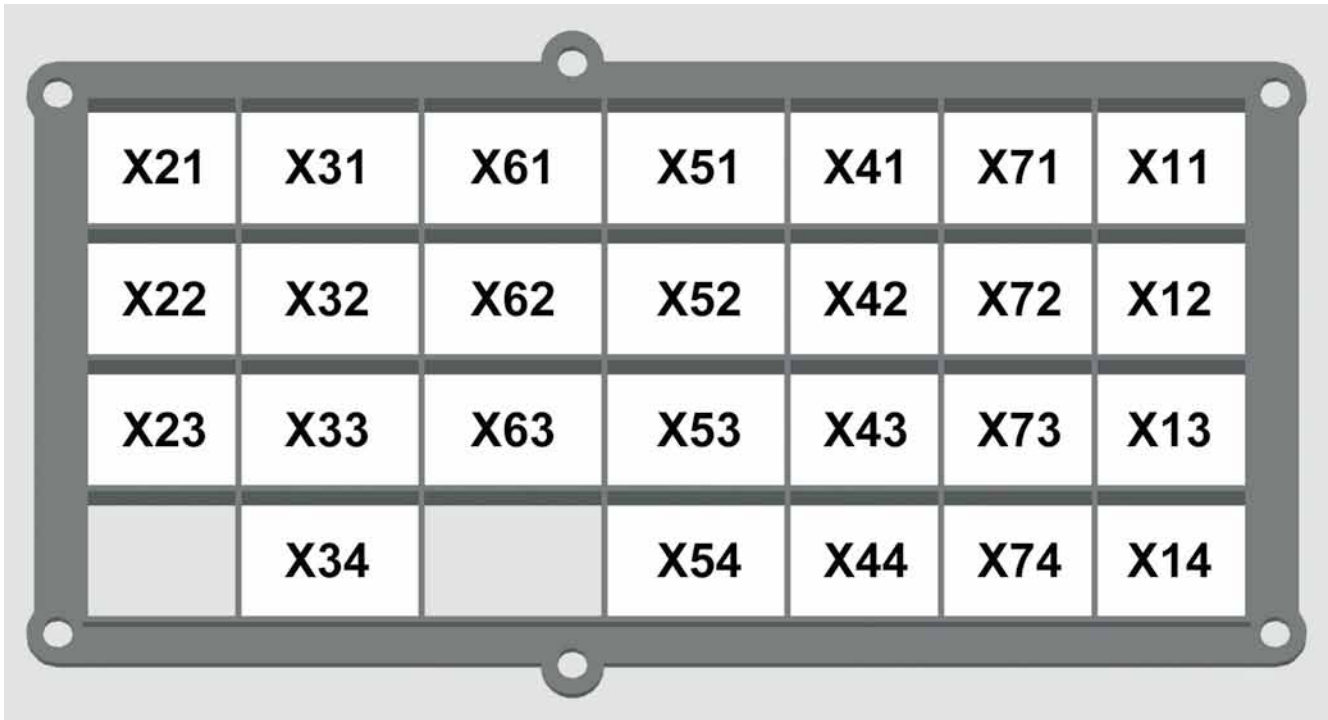
Cab-chassis separation point (FF)

The cab-chassis separation point (FF) in the electronics compartment is used to bring together the individual sub wiring harnesses of the overall vehicle in the cab.



Cab-chassis separation point (FF), connector X71-X74

W54.18-1146-00



W54.18-1147-00

Schematic of cab-chassis separation point (FF)

Connector assignment

X21	X31	X61	X51	X41	X71	X11
Engine [RL]	Engine [RL]	[RR]	[RL]	[RL]	ABH-FHS	Front end [RL]
X22	X32	X62	X52	X42	X72	X12
Engine [RR]	Engine [RL]	[RR]	[RR]	[RL]	ABH-FHS	Front end [RR]
X23	X33	X63	X53	X43	X73	X13
[RL]	[RL]	[RR]	[RR]	[RL]	ABH-FHS	ABH dash support Code E9C
X34		X54	X44	X74	X14	
+	Unused	-	[RR]	[RR]	ABH-FHS	[RL]

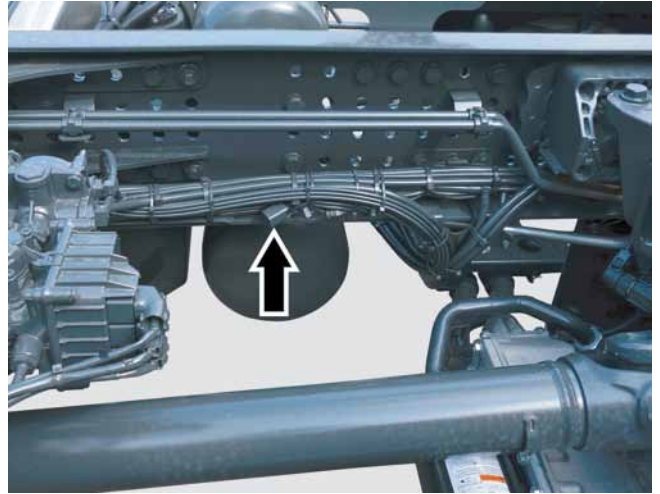
- Engine = Engine-related sub wiring harnesses
- RL = Sub wiring harness position „left frame“
- RR = Sub wiring harness position „right frame“
- ABH-FHS = Body manufacturer interface in cab X71 - X74
- ABH dash support = MSF slave module connector in dash support (only with code E9C)

Interfaces on frame

Interface on left/right frame

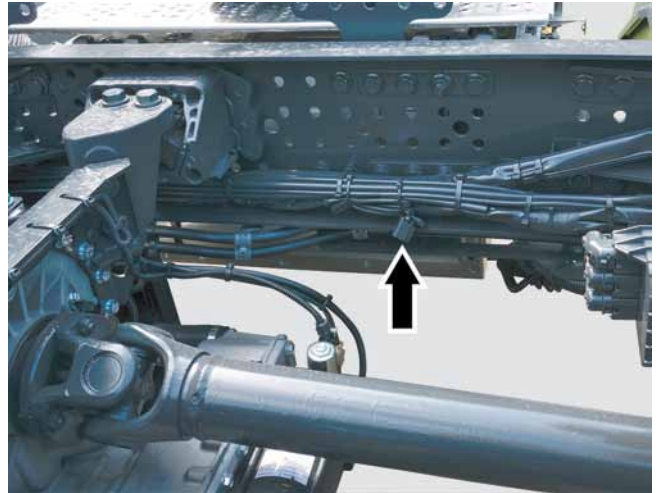
The interfaces are located on the left or right of the frame (level with the transmission) for additional lighting equipment on the body such as:

- Work lamps (max. 60 W)
- Taillamps/position lamps (max. 25 W)
- Rotating beacon (max. 60 W)
- Brake lights (max. 100 W)
- Left/right turn signal lamp (max. 21 W)
- Backup lamps max. 21 W)



W54.18-1148-00

Location of interface on left of frame



W54.18-1149-00

Location of interface on right of frame

Cable set preinstallation for body manufacturers from electronics compartment to dashboard

The special equipment item Cable set preinstallation, electrical compartment/dashboard (E9C) adds twelve lines to the cab cable set which can be used by body manufacturers. Code E9C adds a slave frame which is sealed with four dummy covers and is intended to hold body manufacturer switches. The installed lines are located in the dash support near the MSF slave frame and are used to wire load switches.

Installation of electrical lines from chassis to cab

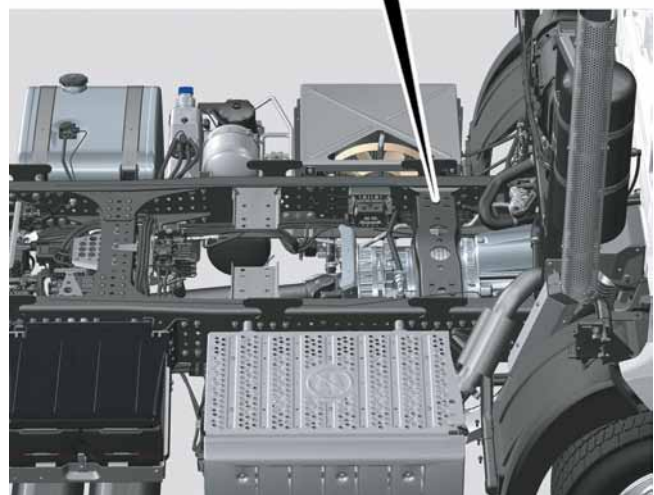
The standard equipment of the new Econic includes an empty tube from the chassis to the cab. The corrugated tube with feed wire and a nominal width of 23 mm leads from the left longitudinal frame member in the area of the transmission mount into the cab below the driver seat.

Installation of electrical lines from electronics compartment to dash support

A cable duct for routing electrical lines from the electrical compartment to the dash support is pre-installed in the cab as standard.

This cable duct contains a corrugated tube with a nominal width of 17 mm with feed wire for retrofitting electrical lines from the electronics compartment to the controls.

One end is located on the left side wall of the electronics compartment and the other end is located in the dash support near the slot for the Truck Control Center (TCC).



Empty tube from chassis to cab

W54.18-1144-00

Control unit network (MUX)

Control unit network (MUX)

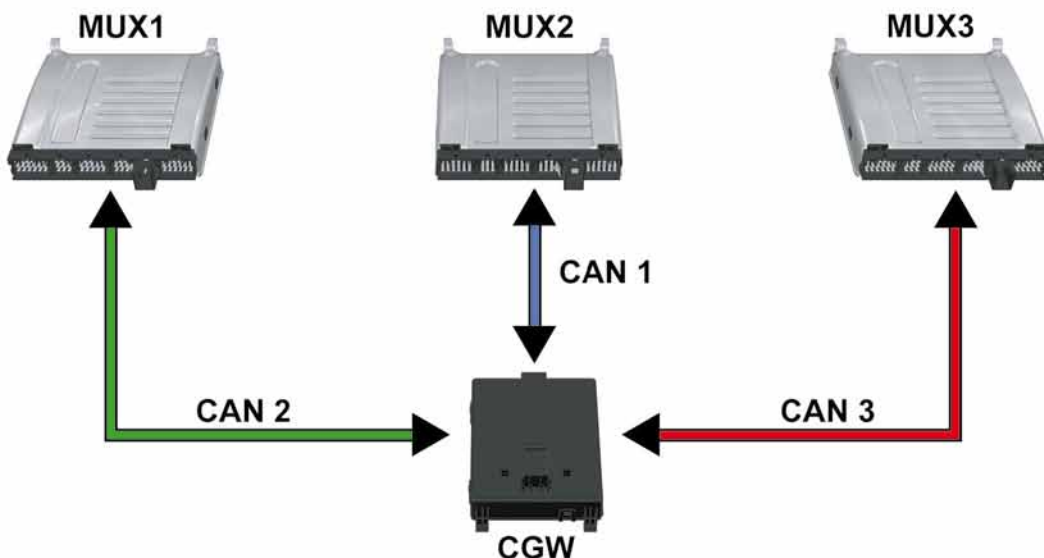
The control unit network (MUX) in the new Eonic is a network of several control units which replaces the previous base module (signal acquisition and actuation module (SAM)). It is primarily used to perform the basic electrical functions of the vehicle such as:

- Terminal control
- ACC - Accessory (tml.15R)
- CRANK (KI.50)
- GENERATOR CHARGING (tml.D+)
- Exterior lights
- Interior lights
- Differential lock control
- Horn
- 24 V trailer socket
- Windshield wipe/wash function

Depending on the configuration and output, loads of up to 10 A can be switched with it. The integrated overload protection function for each output makes the use of external fuses unnecessary. If an output is overloaded by a short circuit, the control unit recognizes overtemperature in the output transistor and shuts off. Attempts are made to re-actuate the output at defined intervals. If overtemperature occurs repeatedly, the output is shut off until the next ignition cycle after a defined number of attempts.

Note

The MUX1, MUX2 and MUX3 control units are three identical hardware components. The control units are coded for their respective task by the connected lines and via software. When removing and reinstalling these control units, make sure that they are reinstalled in their original position.



Example of control unit network MUX

W54.21-1636-00

Batteries and alternator

Two variants of batteries and alternators are available to supply power to the on-board electrical system depending on the equipment installed:

- Batteries 2 x 12 V/170 Ah, low-maintenance (E1B), standard
- Batteries 2 x 12 V/220 Ah, low-maintenance (E1C), SA
- Alternator, 28 V/100 A (E1N), standard
- Alternator 28 V/150 A (E1M), SA



W54.10-1186-00

Batteries

Power tap for auxiliary consumers

Current consumers up to 10 A

The connectors (X71-74) in the electrical compartment can be used to supply power to retrofitted consumers.

Current consumers over 10 A

The power distributor in the battery box is intended for supplying power to heavy-duty electrical consumers.

⚠ Warning

Heavy-duty electrical consumers (>10 A) must never be supplied or connected via the terminals of the cab-chassis separation point (FF) because the wiring or the main supply lines (16 mm²) can be overloaded.

Power distributor

The power distributor is located on the longitudinal frame member in the battery box.

Outputs X2 and X3 of the power distributor are reserved for body manufacturers.

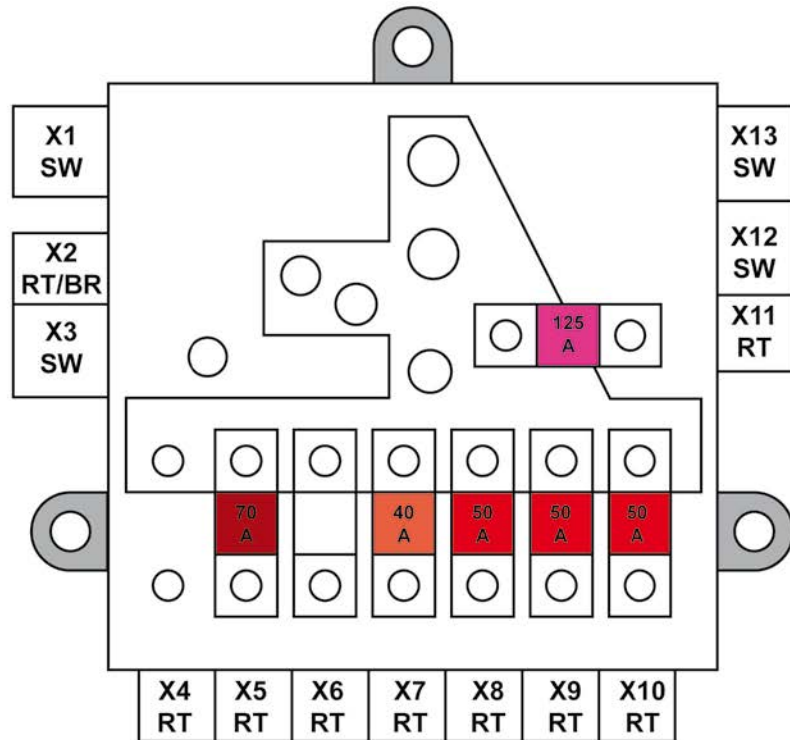
It is necessary to penetrate the outer housing wall for connection to the power distributor. The housing outer wall features a predetermined fracture point for this purpose (break through with a blunt object). Afterwards, the housing must be checked for damage.



W54.10-1181-00

X90 Power distributor

Power distributor



Power distributor connection scheme

W54.10-1187-00

Power distributor connections

Code	Name	Fuse	Line cross-section [mm ²]
X1 SW	Feed line (+) from battery/mechanical or electrical battery switch	–	70
X2 RT/BR	Spare ABH supply	–	max. 35
X3 SW	Spare ABH supply	–	max. 70
X4 RT	Spare	–	max. 16
X5 RT	Electrical interface behind cab with code (E4D)	–	max. 16
X6 RT	MCM tml. 30	–	10
X7 RT	ACM tml. 30	40 A	6
X8 RT	MUX 3 tml. 30	50 A	6
X9 RT	MUX 2 tml. 30	50 A	6
X10 RT	MUX 1 tml. 30	50 A	6
X11 RT	FHS tml. 30	125 A	25
X12 SW	Starter tml. 30	–	70
X13 SW	Spare	–	max. 95

Wire colors: BR = brown, RT = red, SW = black

Truck Control Center (TCC)

The radios and navigation systems available ex factory for the new Econic have previously been introduced in the new Atego. A preinstallation is installed as standard for connecting a radio. This includes the three-part connectors A9, the speakers, the speaker lines and the antenna lines.

The installation location for the radios is slightly larger than a double DIN slot.

The following radios can be ordered ex factory:

- CD radio (J2A)
- CD-Radio, Bluetooth®, comfort (J2C)
- Radio/navigation system Bluetooth®, comfort (J2D)

Since the supply lines supply 24 V, a 12 V radio preinstallation, retrofitting (J9F) can be ordered as a special equipment option for installing a radio or navigation system with a 12 V power supply.

The standard voltage converter 24 V/12 V, 10 A (E3A) is supplied with power via tml. 30 and is required for the following special equipment items:

- FleetBoard preinstallation (J9C)
- Toll Collect preinstallation (J9D)
- Preinstallation for LSVA recorder (OBU) (J9E)
- Preinstallation for 12V trunked radio system (J9H)

An additional 12 V voltage converter with a maximum permissible total current of 15 A supplies the 12 V/15 A additional socket, dash support (E3F) special equipment item.



W82.60-1115-00

Radio/navigation system Bluetooth®, comfort (J2D)

Audio

Mobile communications systems

A total of seven DIN slots are available for communications systems and body manufacturer equipment:

- 2 double DIN slots below the roof
- 1 DIN slot in the radio installation location in the dash support
- 1 double DIN slot in the dash support on the passenger side

Assignment of roof double DIN slots:

- Tachograph (standard)
- FleetBoard system (SA)
- Toll collection system (SA)
- Unused

Assignment of DIN slot in radio installation location in dash support:

- Used for radio
- Unused on vehicles with „J9F 12 V radio preinstallation, retrofitting“ or if no radio is ordered

Assignment of double DIN slot in dash support on passenger side:

- Unused
- Unused

Preinstallation for 12V trunked radio system (J9H)

Connector X140 (18-pin) in the dash support (near the DIN slots) or connector X390 (6-pin) in the roof (near the DIN slots) is provided for connecting 12 V trunked radio equipment or a telephone/fax.

With this special equipment item, the trunked radio antenna and an extension cable for the trunked radio antenna are also added automatically.



W54.21-1637-00

Roof DIN slots



W54.21-1638-00

Dash support DIN slots

General

The new Econic is equipped with halogen headlamps and LED daytime running lamps (L1C) as standard. The headlamps are separate from the bumper and protected from damage by their recessed installation.

The turn signal lamps and other lighting equipment can be checked for proper operation by the driver as part of a departure check routine by operating the standard „Lighting check“ switch. The lighting check only works with the vehicle at a standstill and the parking brake engaged.

Rotating beacon preinstallation (L9A)

The Econic is equipped with a preinstallation for rotating beacons as standard. Rotating beacons can be installed on the attachments of the body manufacturer or on the roof of the cab. The electrical preparation is preinstalled as standard up to the inside of the cab roof.

Once the interior lamps are removed, the wire ends are accessible. The headliner does not have to be removed in the process.

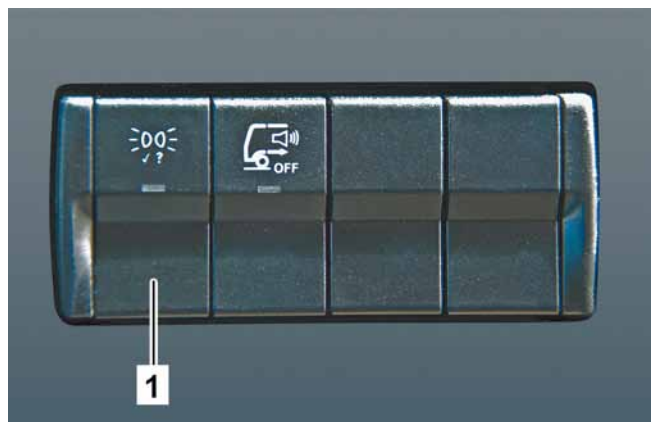
The rotating beacons can be switched on and off via an MSF switch or via a signal input switched to positive (battery voltage).

In addition, the parameterizable special module (PSM) provides the possibility of switching on the rotating beacons via CAN signal „BB2_10_RKL_Rq“.



W82.10-1168-00

Halogen headlamp with LED daytime running lamp and front fog lamp



W54.25-1221-00

1 Lighting check switch

Driving assistance systems

The following systems are available in the new Eonic:

- Electropneumatic brake system (EPB) with anti-lock braking system (ABS) and acceleration skid control (ASR)
- Stability control assistant
- Cruise control

Electropneumatic brake system (EPB)

The EPB, which is installed as standard, controls all braking and traction functions of the vehicle and the trailer/semitrailer. It provides a high level of road safety because the vehicle remains steerable and stable even during critical braking procedures.

Stability control assistant (S1D)

The stability control assistant corresponds to the Electronic Stability Program ESP® and has been installed as standard in all new vehicles in ECE countries since 11/2001 in accordance with legal requirements.

The risk of the vehicle skidding, jackknifing or rolling over is reduced by means of automatic control interventions in critical driving situations e.g. evasive maneuvers or high-speed cornering.

Cruise control (S5Z)

On the Eonic, the familiar cruise control system is operated via the corresponding button in the right button group of the multifunction steering wheel.



Cruise control button

W54.25-1223-00

The maintenance strategy has been taken over from models 963, 964 and 967.

The maintenance is subdivided into

- **W** = Maintenance (depending on indication on display)
- **M** = Engine maintenance (depending on indication on display)
- **J** = Time-based maintenance (depending on indication on display)
- and various additional maintenance services

New maintenance point

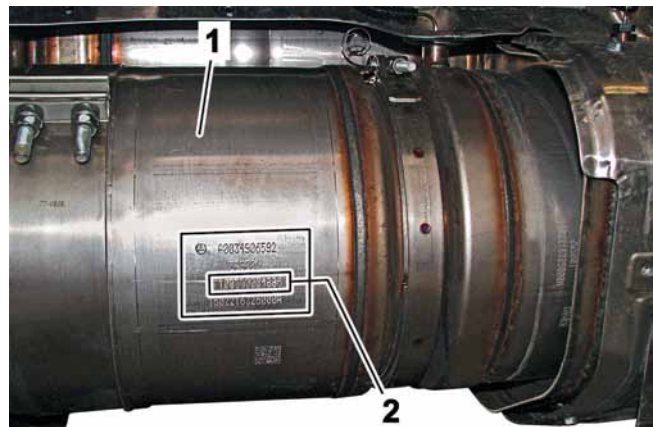
Replacement of the diesel particulate filter (DPF) is now an additional maintenance point. Every DPF has its own identification number (see picture). This identification number must be entered in the maintenance booklet and in VeDoc.

Before replacing a DPF, this identification number must be checked against the entry in the maintenance booklet/ VeDoc. If the numbers do not match, this means that the exhaust system has been tampered with and the customer must pay the original price and not the exchange price of the DPF.

The identification number of the exchanged DPF must be entered in the maintenance booklet/ VeDoc again after installation.

Note

The driver receives an indication that maintenance is due via the multifunction display on the instrument cluster.



- 1 Diesel particulate filter
- 2 Identification number

W49.10-1117-00

Maintenance strategy

Maintenance service

Refer to the respective valid maintenance sheet and the content of the individual maintenance items for the maintenance scope. Safety-relevant maintenance operations must be carried out according to national legislation, but at least once per year unless legal inspections within one year are planned.

The maintenance operations to be carried out must be marked with a cross by the service advisor in the fields provided in the top part of the maintenance sheet.

The time-based maintenance operations and the additional operations for the maintenance service are marked on the maintenance sheet in front of the relevant operation item.

The completion of the individual maintenance items must be recorded by entering a cross in the boxes in front of the operation titles. A cross should be entered in the boxes after the operation titles to identify items which were not OK when the vehicle was received.

Confirmation for this is provided by the mechanic by entering his/her signature in the header section of the maintenance sheet.

Operating fluids

Since the quality of oil used also affects the service life of a major assembly, this can be set to 3 stages. For engine oil, the viscosity of the oil used is also relevant. The fuel grade also influences the service life, which is why its sulfur content can be set in the menu.

Fuel quality

Sulfur content	Factor
0 - 0,05 %	1
0,05 - 1 %	0,5
> 1 %	0,3

Roughly 2 weeks before a service is due, the driver is informed about this via a pop-up message when the ignition is switched on. The next warning stage appears with the message „Service immediately“. All of the displayed messages are stored in the memory so that, in the event of complaints, it is possible to determine when each message was displayed.

Engine oil

Engine 936.9 may only be operated with engine oil in accordance with Sheet 228.51 (Multigrade service engine oils, low SPAsh) of the Mercedes-Benz Specifications for Operating Fluids.

Coolant

As part of ongoing technical development, the coolant has been changed with the introduction of the new Econic. The previous antifreeze with corrosion inhibitor G48 (green/blue in color) has been replaced by antifreeze with corrosion inhibitor G40 (red in color).

Antifreeze with corrosion inhibitor G40 has the following advantages compared to G48:

- Fewer deposits in the engine cooling system
- Better heat dissipation
- Greater environmental compatibility because it no longer includes any ecologically harmful borax components

Mixing the two types of antifreeze with corrosion inhibitor is not permissible. A mixture results in rust-brown discoloration. This discoloration can result in possible complaints from customers.

Warning

Operation with biodiesel (fatty acid methyl ester) is not permissible.

Exhaust aftertreatment

AdBlue® sampling bottle

Use For taking AdBlue® samples.

MB number W 000 589 55 98 00

FG 14

Set B

Category Mercedes-Benz Truck - Special Operation

Note -



W58.20-1145-00

Assembly device

Use For positioning the transmission housing vertically e.g. to adjust the bearing play of the main shaft and countershaft or the live power take-off.

MB number W 715 589 08 31 00

FG 26

Set C

Category Mercedes-Benz Truck - Special Operation

Note -



W58.20-1146-00

Adapter

Use For pulling off the drive flange and output flange on the transfer case.

MB number W 750 589 00 33 00

FG 28

Set B

Category Mercedes-Benz Truck - Basic Operation

Note -



W58.20-1147-00

Removal and insertion device

Use For removing/installing the radial sealing rings of the drive flange and output flange on the transfer case.

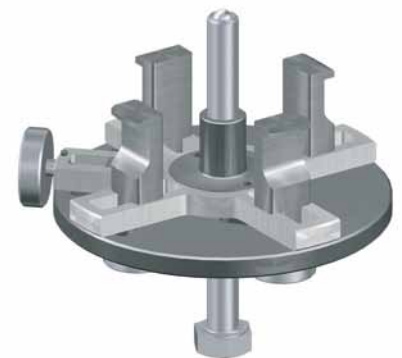
MB number W 750 589 00 43 00

FG 28

Set -

Category Mercedes-Benz Truck - Basic Operation

Note -



W58.20-1151-00

Engine/clutch

Torque wrench

Use For tightening cylinder head bolts to specified torque and tightening angle.

MB number W 000 589 02 13 00

FG 01

Set -

Category Mercedes-Benz Truck - Special Operation

Note For all engines



W58.20-1148-00

Tester cap

Use For leak testing the entire intake system.

MB number W 470 589 21 91 00

FG 09

Set -

Category Mercedes-Benz Truck - Basic Operation

Note For engine OM 470/471/472/473



W58.20-1149-00

Clutch set (assembly/disassembly tool)

Use Pliers for releasing the release bearing on the clutch pressure plate. Device for pulling the release lever of the clutch to the rear in order to lock the release bearing on the pressure plate.

MB number W 963 589 02 63 00

FG 25

Set -

Category Mercedes-Benz Truck - Basic Operation

Note



W58.20-1150-00

ABH Body manufacturer	DOHC Double Overhead Camshaft
ABS Anti-lock Braking System	DPF Diesel Particulate Filter
ACM Aftertreatment Control Module	EAPU Electronic Air Processing Unit
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)	EBS Electronic Brake Control
ASIC Application System Integrated Circuit	ECE Economic Commission for Europe
ASR Acceleration skid control	EMV Electromagnetic compatibility (EMC)
ASA Additional Steering Axle	ENA Single-tired trailing axle
BESO Battery Emergency Shutoff (battery disconnect switch)	EPB Electropneumatic brake system
CAN Controller Area Network	ESP® Electronic Stability Program
CD Compact Disc	FF Cab-chassis
CGW Central gateway control unit	FHS Cab
CLCP Chassis Level Control Panel	GGVS Regulations for the Transportation of Hazardous Goods
CLCS Chassis Level Control System	HA Rear axle (RA)
CPC Common Powertrain Controller	ICUC Instrument Cluster Unit Common

Abbreviations

LED

Light Emitting Diode

LIN

Local Interconnect Network

MCM

Motor Control Module
(engine management control unit)

MSF

Modular switch panel

PSM

Parameterizable Special Module

SA

Special equipment

SAE

Society of Automotive Engineers

SAS

Steering wheel Angle Sensor

SCR

Selective Catalytic Reduction

TCC

Truck Control Center

TCM

Transmission Control Module

TCO

Tachograph

UK

United Kingdom

VA

Front axle (FA)

VLA

Leading axle

VRDU

Video and Radar Decision Unit
(driver assistance system control unit)

ZHE

Auxiliary heater

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Product Portfolio

You can also find comprehensive information on our complete product portfolio in our Internet portal:
Link: <http://aftersales.mercedes-benz.com>

Questions and suggestions

If you have any questions or suggestions concerning this product, please write to us.
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