Mercedes-Benz

Application for Certification

Part 1

Common Sections
- Initial -

2013 Model Year

ARB Response Requested By:

Eric Schneider, 310.547.6052

EPA Response Requested By:

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Table of Contents & Revisions

Table of Contents:

Table of Contents & Revisions 2
S-01: Correspondence 3
S-02: Durability Group Description 4
S-03: Evaporative/Refueling Family Description 25
S-04: Durability Procedure Description: see S-16 37
S-05: Test Group Description: see S-02 37
S-06: Test Vehicle Description: see specific 37
S-07: Test Results: see specific 37
S-08: Statements 38
S-09: OBD-System Information: see S-16 40
S-10: Alternate Fuel: see specific 40
S-11: List of AECD 41
S-12: Identification and Description of certified vehicles 42
S-13: US vehicle sales: see S-16 54
S-14: Request for Certificate: see specific 54
S-15: HEV-specific data: see specific 54
S-16: CONFIDENTIAL DATA 55
S-16-01: Durability Procedure Description – Exhaust (S-04) 55
S-16-02: Durability Procedure Description – Evaporative / Refueling (S-04) 56
S-16-03: OBD System Description (S-09) 57
S-16-04: Projected U.S. Sales Volumes (S-13) 57
S-16-05: Federal / California Phase-In Plans (S-13) 60
S-16-06: Exhaust DDV´s and DF´s 61
S-16-07: Evaporative and Refueling DDV´s and DF´s 68

Revisions:

Issue Date / Revision Date	Affected Pages	Description of Changes
Mar-02-2012	all	Initial Version

S-01: Correspondence

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Note: Phone Prefix for Germany from the US is 011.49 (the leading 0 in the area code has to be dropped)

Corporate name and address that should appear on the certificates of conformity:

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71059 Sindelfingen

For questions call the underlined Government Liaison Contacts above.

S-02: Durability Group Description

Mercedes Gasoline and Diesel systems use the following characteristics as listed in §86.1820-01:

	Gasoline	Diesel
combustion cycle	otto: four stroke	diesel: four stroke
engine type	water-cooled piston	water-cooled piston
fuel used	gasoline	diesel
basic fuel metering system	port or direct injection	direct injection

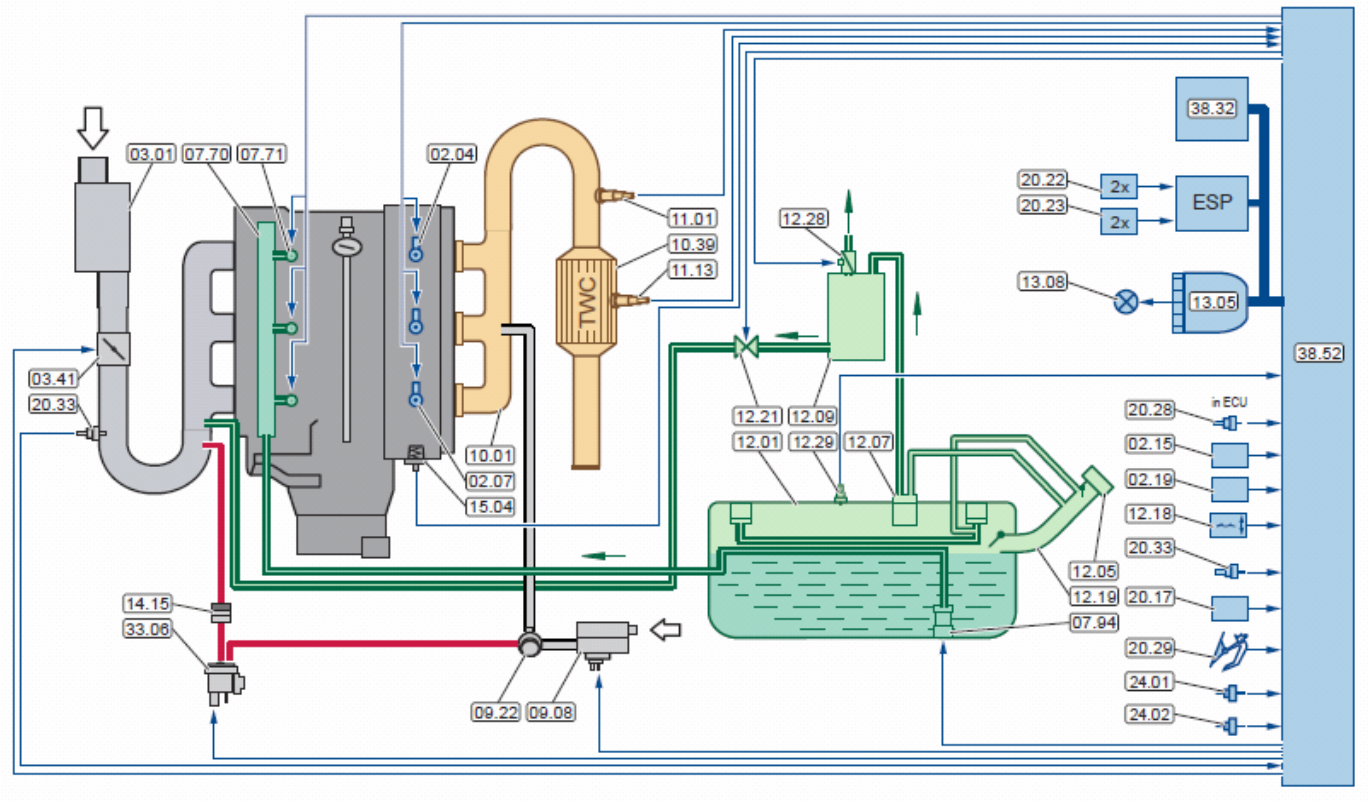
Further grouping characteristics are listed in the overview table on the next page and the subsequent functional emission diagrams.

Legend for functional emission diagrams :

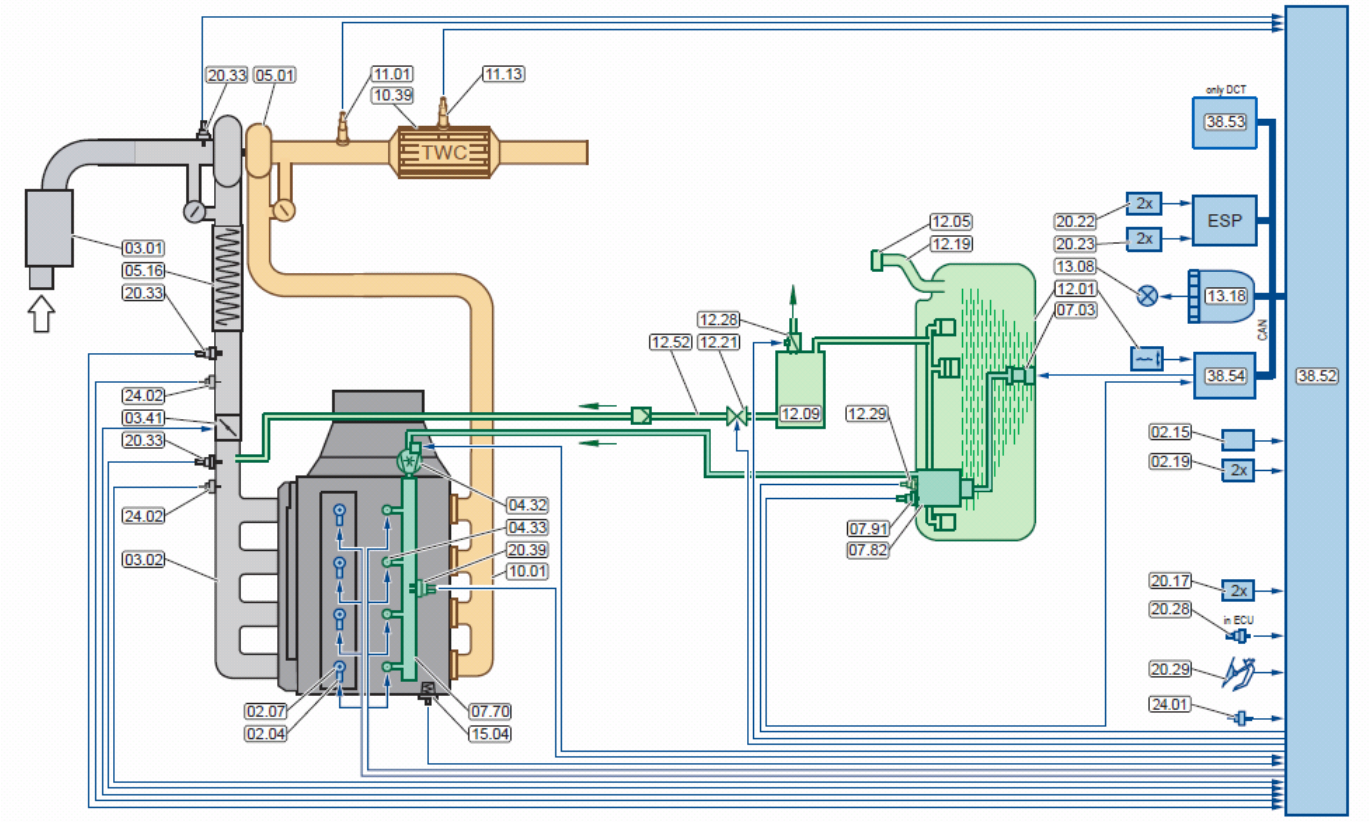
02.04	Ignition coil	12.22	Pressure sensor additive system
02.07	Spark plug	12.23	Additive tank temperature sensor
02.09	Glow plug	12.24	Additive tank
02.15	Crankshaft position sensor	12.25	Pump additive
02.19	Camshaft position sensor	12.26	Injection valve, additive
02.39	Ignition module	12.27	Fluid-level gauge, additive tank
03.01	Air cleaner	12.28	EVAP shut-off valve
03.02	Intake Manifold / Boost Air Distribution Line	12.29	Fuel tank pressure sensor (OBD)
03.41	Electr. throttle valve	12.42	Recirculation line
03.52	Intake-port shutoff	12.48	Vent Valve / Roll-over valve
03.60	Intake air throttle electric	12.52	EVAP purge line, valve to engine
03.62	Pressure regulator (crankcase ventilation)	12.58	Pressure sensor (full load tank ventilation)
03.63	HC trap	12.59	Additiv line
04.31	Glow-time control modul	12.61	Ethanol sensor
04.32	High-pressure pump	12.62	Fuel tank
04.33	fuel injector	13.05	Instrument cluster
05.01	Turbocharger	13.08	Malfunction indicator lamp
05.16	Charge air cooler	13.18	Software Instrument cluster
07.03	Fuel Pump	14.01	Vacuum pump
07.68	Fuel pressure regulator in fuel tank	14.15	Vacuum Check valve (Air)
07.69	Fuel pressure regulator	14.41	Electro-pneumatic transducer, frequency valve
07.70	Fuel rail	15.04	Engine thermostat
07.71	Injection Valve	15.19	DOR-Radiator
07.82	Fuel filter (with integrated pressure regulator)	17.26	Actuator, CMP
07.91	Fuel pressure sensor	17.55	Valve Actuator (Cylinder Deactivation)
07.94	Fuel Supply Unit	20.17	Knock sensor
07.96	Fuel filter with integrated pressure regulator and pressure relief valve	20.22	VSS, front wheels
08.01	Exhaust gas recirculation valve	20.23	VSS, rear wheels
08.13	Exhaust gas recirculation cooler	20.28	Pressure sensor (ATM)
08.14	VIS Actuator Bypass EGR Cooler	20.29	Accelerator-pedal module
08.15	Switching flap EGR	20.33	Pressure sensor (induction air)
08.17	Exhaust Gas Recirculation Line	20.37	Rail pressure sensor
08.18	Bypass Flap EGR	20.39	High-pressure-/Temperature Sensor (Fuel)
09.08	Air injection pump	24.01	Temperature sensor (coolant)
09.22	AIR injection valve	24.02	Intake air temperature sensor
10.01	Exhaust manifold	24.17	Temperature sensor (exhaust gas)
10.05	Oxidation catalyst	24.20	Temperature sensor (motor oil)
10.12	Sensor (exhaust back pressure)	24.21	Fuel temperature sensor
10.13	Diesel particulate filter	33.06	Switching valve, AIR
10.29	Sensor (exhaust differential-pressure)	33.37	Switching valve Bypass EGR Cooler
10.39	Three-Way-Catalyst, close coupled	36.01	Mass air flow sensor
10.41	Catalyst SCR	38.32	Transmission control module
11.01	Primary O2 sensor	38.37	Control module (CR)
11.07	NOX-sensor	38.52	Engine control module
11.13	Secondary O2 sensor	38.53	Control module automatic transmission
11.14	particulate matter sensor	38.54	Fuel system control module FSCM
12.01	Fuel tank	38.55	Control unit exhaust aftertreatment
12.03	Expansion tank, external	39.02	Recuperative Braking Controller (RBC)
12.05	Filler cap	39.03	(Electric) Motor Control Processor (MCP)
12.07	Tank vent valve	39.04	Battery Pack Control Module (BPCM)
12.09	EVAP canister	39.05	Electric Motor (EM)
12.18	Fill level sensor (fuel tank)	39.06	DC/DC Converter
12.19	Filler neck	39.07	High Voltage Battery (HVB)
12.21	EVAP canister purge valve	39.08	Brake-pedal modul

Durability Group	Exhaust DDV	Exhaust DDV Procedure	Test Group	MB Vehicle Code	Model Name	Cert Dev Emiss Use	Engine Codes	Engine Displ	Cylinder arr/num	Transm.	Factor	Cat. Substrate	Exh. Emission Control Sys.	Cat. Construction	Emission Standard	
															Federal	California
DMBXGPGENBI1	Z2916-V251E35DEH 4x4 **Carry over**	SBC	DMBXJ03.5U2B	W166E35DEH 4x4 FFV	ML 350 4MATIC	EDV (Carry over)	M276-35F	3498	V-6	L-7	1,4	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		SBC		W204E35DEH FFV	C 350		M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH 4x4 FFV	E 350 4MATIC		M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH FFV	E 350		M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		C207E35DEH FFV	E 350 (coupe)		M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		A207E35DEH FFV	E 350 (convertible)		M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
DMBXGPGENBI2	Z3915-X204E35DEH 4x4 **NEW**	SBC	DMBXV03.5U2B	W204E35DEH red. 4x4 FFV	C 300 4MATIC		M276-35F-red	3498	V-6	L-7	1	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		SBC		C207E35DEH 4x4 FFV	E 350 4MATIC (coupe)	EDV (New)	M276-35F	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
DMBXGPGNNBI1	Z2914-1_X166E46DETC 4x4 **Carry over**	SBC	DMBXT05.5U2A	W166E46DETC 4x4	ML 550 4MATIC		M278-46DETC	4664	V-8	L-7	1,7	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDT 4	ULEV II LDT 2
		SBC		X166E46TC red. 4x4	GL 450 4MATIC	EDV (New)	M278-46DETC-red	4664	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		G463E55DETC 4x4 AMG	G 63 AMG		M157-55DETC	5461	V-8		1,5	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		W166E55DETC 4x4 AMG	ML 63 AMG		M157-55DETC	5461	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		X166DE46TC 4x4	GL 550 4MATIC		M278-46DETC	4664	V-8		1,7	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC	DMBXV05.5U2A	V221E55DETC AMG	S 63 AMG		M157-55DETC	5461	V-8	L-7	1,5	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		SBC		C216E55DETC AMG	CL 63 AMG		M157-55DETC	5461	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		A207E46DETC	E 550 (convertible)		M278-46DETC	4664	V-8		1,7	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		S212E55DETC AMG	E 63 AMG (station wagon)		M157-55DETC	5461	V-8		1,5	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		W212E55DETC AMG	E 63 AMG		M157-55DETC	5461	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		V221E46DETC 4x4	S 550 4MATIC	EDV (Carry over)	M278-46DETC	4664	V-8			Pd+Pd/Rh	DGI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		W212E46DETC 4x4	E 550 4MATIC		M278-46DETC	4664	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		W221DE46TC 4x4	S 550 4MATIC		M278-46DETC	4664	V-8			Pd+Pd/Rh	DGI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		V221E46DETC	S 550		M278-46DETC	4664	V-8			Pd+Pd/Rh	DGI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		C218E55DETC AMG	CLS 63 AMG		M157-55DETC	5461	V-8		1,5	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		C218E46DETC 4x4	CLS 550 4MATIC		M278-46DETC	4664	V-8		1,7	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		C218E46DETC	CLS 550		M278-46DETC	4664	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		C216E46DETC 4x4	CL 550 4MATIC		M278-46DETC	4664	V-8			Pd+Pd/Rh	DGI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		R231E55DETC AMG	SL 63 AMG		M157-55DETC	5461	V-8		1,5	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		R231E46DETC	SL 550		M278-46DETC	4664	V-8		1,7	Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		C207E46DETC	E 550 (coupe)		M278-46DETC	4664	V-8			Pd+Pd/Rh	DFI/2TC/CAC/2HO2S(2)/2TWC	ceramic		
		SBC		R172E55DE AMG	SLK 55 AMG		M152-55DE	5461	V-8		1,5	Pd+Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
DMBXGPGNNBI2	Z3913-X204E35DEH 4x4 PZEV **NEW**	SBC	DMBXJ03.5S2A	W204E35DEH PZEV	C 350		M276-35P	3498	V-6	L-7	4	Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic	T2 Bin 4 LDV	SULEV II PC (PZEV)
		SBC		W204E35DEH red. 4x4 PZEV	C 300 4MATIC		M276-35P-red	3498	V-6		3,4	Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		C207E35DEH 4x4 PZEV	E 350 4MATIC (coupe)		M276-35P	3498	V-6			Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		X204E35DEH 4x4 PZEV	GLK 350 4MATIC	EDV (New)	M276-35P	3498	V-6			Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		X204E35DEH PZEV	GLK 350		M276-35P	3498	V-6			Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		W212E35DEH PZEV	E 350		M276-35P	3498	V-6		4	Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		C207E35DEH PZEV	E 350 (coupe)		M276-35P	3498	V-6			Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		SBC		W212E35DEH 4x4 PZEV	E 350 4MATIC		M276-35P	3498	V-6			Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
DMBXGPGNNBI3	Z2916-V251E35DEH 4x4 **Carry over**	SBC	DMBXT03.5U2A	W166E35DEH 4x4	ML 350 4MATIC		M276-35DEH	3498	V-6	L-7	1,4	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 Bin 5 LDT 3	ULEV II LDT 2
		SBC		W166E35DEH 4x2	ML 350		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		V251E35DEH 4x4	R 350 4MATIC	EDV (Carry over)	M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC	DMBXV03.5U2A	C204E35DEH	C 350 (coupe)		M276-35DEH	3498	V-6		1,4	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 Bin 4 LDV	T2 Bin 4 LDV
		SBC		S212E35DEH 4x4	E 350 4MATIC (station wagon)	EDV (Carry over)	M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		A207E35DEH	E 350 (convertible)		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W204E35DEH red.	C 300		M276-35DEH-red	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH red	E 300		M276-35DEH-red	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH red. 4x4	E 300 4MATIC		M276-35DEH-red	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH	E 350		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W212E35DEH 4x4	E 350 4MATIC		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		C207E35DEH	E 350 (coupe)		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W204E35DEH	C 350		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
DMBXGPGNNBI4	Z3915-X204E35DEH 4x4 **NEW**	SBC	DMBXT03.5U2B	X204E35DEH 4x4	GLK 350 4MATIC	EDV (New)	M276-35DEH	3498	V-6	L-7	1	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDT 2	ULEV II LDT 2
		SBC	DMBXV03.5BN4	R172E35DEH	SLK 350		M276-35DEH	3498	V-6	L-7	1	Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic	T2 BIN 4 LDV	T2 BIN 4 LDV
		SBC		C207E35DEH 4x4	E 350 4MATIC (coupe)		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		C204E35DEH 4x4	C 350 4MATIC (coupe)		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		X204E35DEH	GLK 350	EDV (New)	M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
		SBC		W204E35DEH 4x4	C 350 4MATIC		M276-35DEH	3498	V-6			Pd/Rh	DFI/2HO2S(2)/2TWC	ceramic		
DMBXEPENNED1	n/a	n/a	DMBXV00.0ED1	A451ed (Phase III)	smart fortwo ed (convertible)		K35ED	n/a	n/a	tbd	n/a	n/a	n/a	n/a	T2 BIN 1 LDV	ZEV Type II PC
				C451ed (Phase III)	smart fortwo ed (coupe)		K35ED	n/a	n/a							
DMBXDPDNNPP1	X164-889-X164D30TC **Carry over**	SRC	DMBXT03.0U2B	V251DE30TC 4x4	R 350 BLUETEC 4MATIC	EDV (Carry over)	OM642-30	2987	V-6	L-7	4,5	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/SCR-U/NOXS(2)/AFS	ceramic	T2 BIN 5 LDT 4	ULEV II LDT 2
		SRC	DMBXV03.0U2B	W212DE30TC	E 350 BLUETEC	EDV (Carry over)	OM642-30	2987	V-6	L-7	3,5	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/2SCR-U/NOXS(2)/AFS	ceramic	T2 BIN 5 LDV	ULEV II PC
DMBXDPDNNPP2	L906-1056-L906DE30TC (4,53to) **Carry over**	SRC	DMBXT02.2U2A	X204DE22TC 4x4	GLK 250 BLUETEC 4MATIC	EDV (New)	OM651-22	2143	I-4	L-7	5,8	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/SCR-U/NOXS(2)/AFS	ceramic	T2 Bin 5 LDT 2	ULEV II LDT 2
		SRC	DMBXT03.0HD1	L906DE30 (4,53t HD)	Sprinter 3500 CDI/Freight	EDV (Carry over)	OM642-30C	2987	V-6	L-5	4,6	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/2SCR-U/NOXS(2)/AFS	ceramic	40CFR§86.1816-08 HDV	ULEV II MDV
		SRC		L906DE30 (3,88t HD)	Sprinter 2500 CDI/Freight		OM642-30C	2987	V-6			Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/2SCR-U/NOXS(2)/AFS	ceramic		
		SRC	DMBXT03.0U2A	W166DE30TC 4x4	ML 350 BLUETEC 4MATIC		OM642-30B	2987	V-6	L-7	5,4	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/SCR-U/NOXS(2)/AFS	ceramic	T2 BIN 5 LDT 4	ULEV II LDT 2
		SRC		X166DE30TC 4x4	GL 350 BLUETEC 4MATIC	EDV (New)	OM642-30B	2987	V-6			Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/SCR-U/NOXS(2)/AFS	ceramic		
		SRC	DMBXV03.0U2A	V221DE30TC 4x4	S 350 BLUETEC 4MATIC	EDV (Carry over)	OM642-30B	2987	V-6	L-7	5,5	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/2SCR-U/NOXS(2)/AFS	ceramic	T2 BIN 5 LDV	ULEV II PC
DMBXDPDNNPP3	L906-1057-L906DE30TC (5,0to) **Carry over**	SRC	DMBXT03.0HD2	L906DE30 (5,0t HD)	Sprinter 3500 CDI/Freight	EDV (Carry over)	OM642-30C	2987	V-6	L-5	4,6	Pt/Pd	DFI/TC/CAC/EGR/OC/PTOX/2SCR-U/NOXS(2)/AFS	ceramic	40CFR§86.1816-08 HDV	ULEV II MDV
DMBXGPGNNTR1	Z8910_C451E10 **Carry over**	SBC	DMBXV01.0U2A	A451E10	smart fortwo (convertible)	EDV (Carry over)	M132-10	999	I-3	AM-5	2,4	Pt/Pd/Rh	SFI/AIR/HO2S(2)/TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		SBC		C451E10	smart fortwo (coupe)		M132-10	999	I-3			Pt/Pd/Rh	SFI/AIR/HO2S(2)/TWC	ceramic		
DMBXGPGNNTR2	Z0927-X204E35 4x4 PZEV **Carry over**	SBC	DMBXV03.5HY1	V221E35 Hybrid PZEV	S 400 Hybrid	EDV (Carry over)	M272-35MH	3498	V-6	L-7	4,1	Pt/Pd/Rh	SFI/AIR/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic	T2 Bin 4 LDV	SULEV II PC (PZEV)
DMBXGPGNNTR3	Z3002-W212E35DEH MH PZEV **NEW**	SBC	DMBXV03.5HY2	W212E35DEH Hybrid PZEV	E 400 Hybrid	EDV (New)	M276-35MH	3498	V-6	L-7	4	Pd/Rh	DFI/DOR/2HO2S(2)/2WU-TWC/2TWC	ceramic	T2 Bin 4 LDV	SULEV II PC (PZEV)
DMBXGPGNNTR6	Z7003_X164E46 4x4 **Carry over**	SBC	DMBXT05.5U2B	G463E55	G 550	EDV (New)	M273-55	5461	V-8	L-7	1	Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDT 4	ULEV II LDT 2
DMBXGPGNNTR7	Z7002_W164E63 4x4 **Carry over**	Chrysler Bench Cycle	DMBXV06.0U2A	C216E55TC	CL 600		M275-55TC-1	5513	V-12	L-5	2,3	Pt/Pd/Rh	SFI/2TC/2CAC/AIR/2HO2S(2)/2TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		Chrysler Bench Cycle		V221E60TC AMG	S 65 AMG		M275-60TC-1	5980	V-12		2,1	Pt/Pd/Rh	SFI/2TC/2CAC/AIR/2HO2S(2)/2TWC	ceramic		
		Chrysler Bench Cycle		V221E55TC	S 600	EDV (Carry over)	M275-55TC-1	5513	V-12		2,3	Pt/Pd/Rh	SFI/2TC/2CAC/AIR/2HO2S(2)/2TWC	ceramic		
		Chrysler Bench Cycle		R231E60TC AMG	SL 65 AMG		M279-60TC	5980	V-12	L-7		Pt/Pd/Rh	SFI/2TC/2CAC/AIR/2HO2S(2)/2TWC	ceramic		
		Chrysler Bench Cycle		C216E60TC AMG	CL 65 AMG		M275-60TC-1	5980	V-12	L-5	2,1	Pt/Pd/Rh	SFI/2TC/2CAC/AIR/2HO2S(2)/2TWC	ceramic		
		Chrysler Bench Cycle	DMBXV06.2U2A	C197E63 AMG	SLS AMG		M159-63	6208	V-8	AM-7	2,4	Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2WU-TWC/2TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		Chrysler Bench Cycle		C204E63 AMG BS	C 63 AMG Black Series (coupe)		M156-63-1	6208	V-8	L-7		Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		Chrysler Bench Cycle		C204E63 AMG	C 63 AMG (coupe)		M156-63	6208	V-8			Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		Chrysler Bench Cycle		R197E63 AMG	SLS AMG		M159-63	6208	V-8	AM-7		Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
		Chrysler Bench Cycle		W204E63 AMG	C 63 AMG	EDV (Carry over)	M156-63	6208	V-8	L-7		Pt/Pd/Rh	SFI/AIR/2HO2S(2)/2WU-TWC/2TWC	ceramic		
DMBXGPGNNTR8	Z2001-W204E18DETC **Carry over**	SBC	DMBXV01.8U2A	R172E18DETC	SLK 250		M271-18DETC	1796	I-4	L-7	2,1	Pt/Pd/Rh	DFI/TC/CAC/HO2S(2)/TWC	ceramic	T2 BIN 5 LDV	ULEV II PC
		SBC		W204E18DETC	SLK 250		M271-18DETC	1796	I-4	M-6		Pt/Pd/Rh	DFI/TC/CAC/HO2S(2)/TWC	ceramic		
		SBC			C 250	EDV (Carry over)	M271-18DETC	1796	I-4	L-7		Pt/Pd/Rh	DFI/TC/CAC/HO2S(2)/TWC	ceramic		
		SBC		C204E18DETC	C 250 (coupe)		M271-18DETC	1796	I-4			Pt/Pd/Rh	DFI/TC/CAC/HO2S(2)/TWC	ceramic		
DMBXGPGNNTR9	Z3921-W246E20DETC **NEW**	SBC	DMBXV02.0BN5	W246E20DETC	B 250	EDV (New)	M270-20DETC	1991	I-4	AM-7	1,2	Pd/Rh	DFI/TC/CAC/HO2S(2)/TWC	ceramic	T2 BIN 5 LDV	n/a

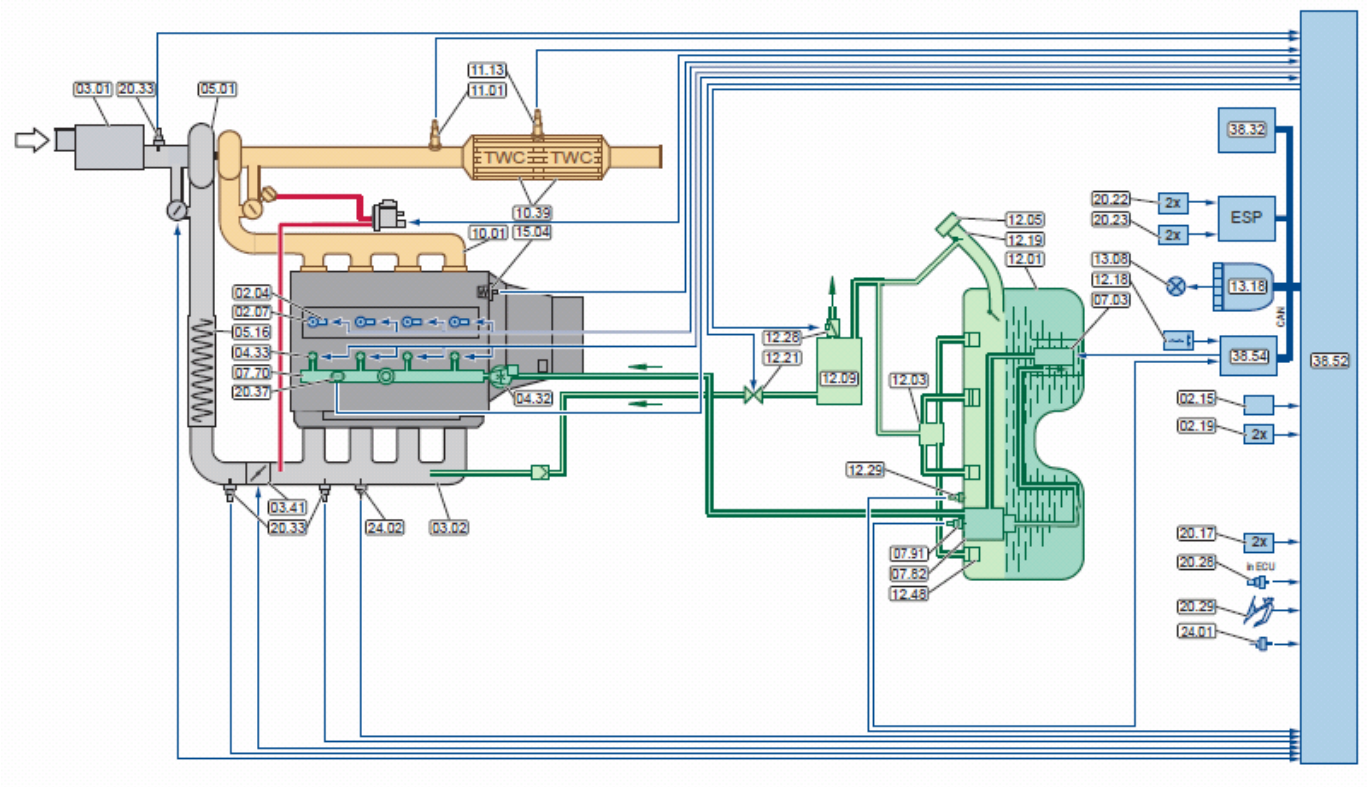
Emission Diagram: Vehicle Model: smart for two (I-3 engine)



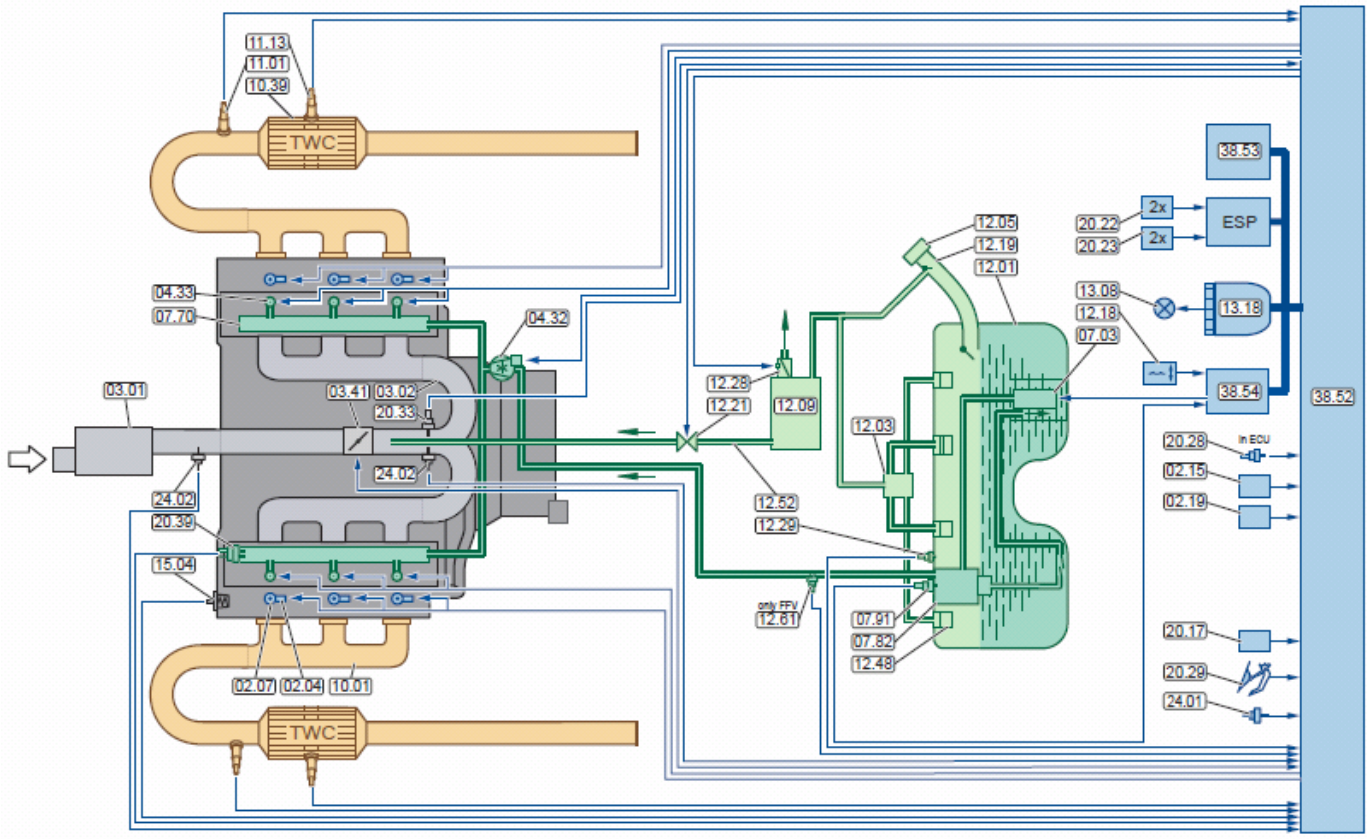
Emission Diagram: Vehicle Model: B-Class (I-4 engine, direct injection, turbocharged)



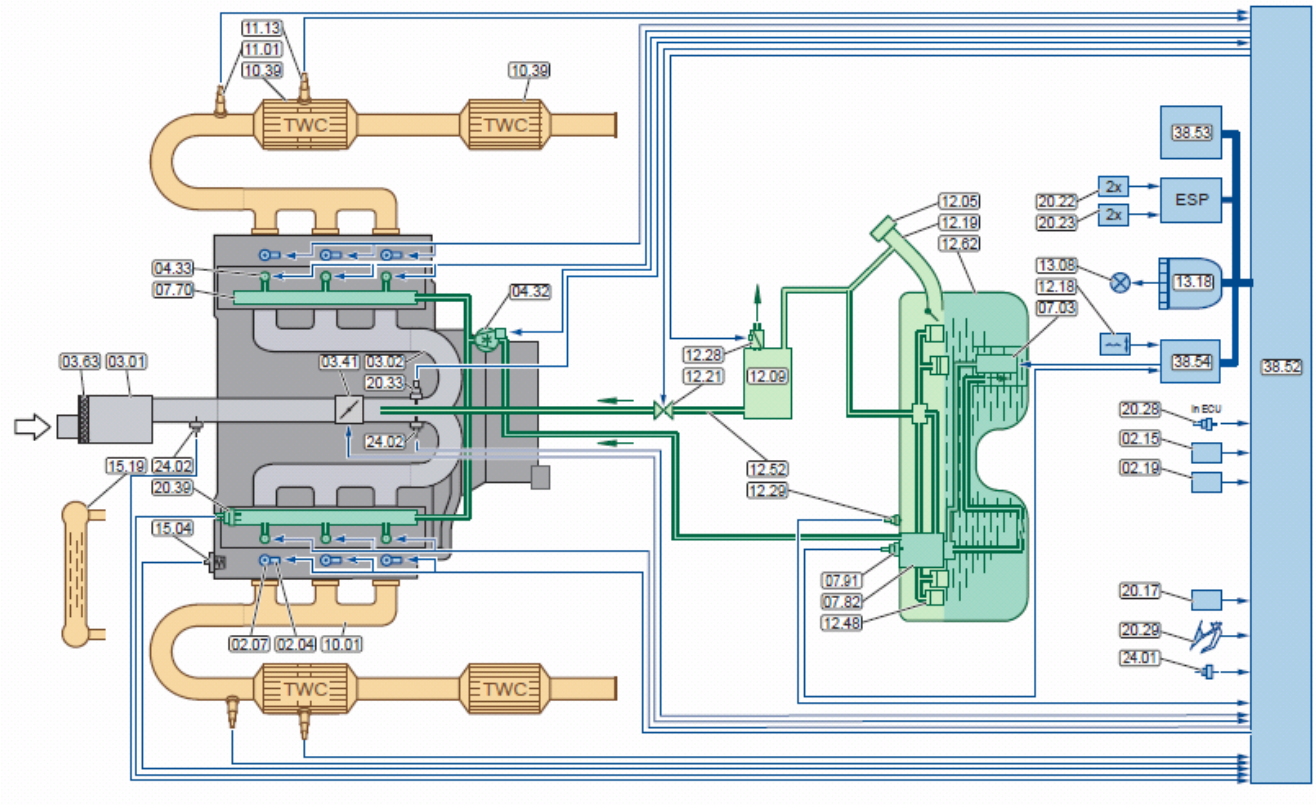
Emission Diagram: Vehicle Model: C-Class (I-4 engine, direct injection, turbocharged)



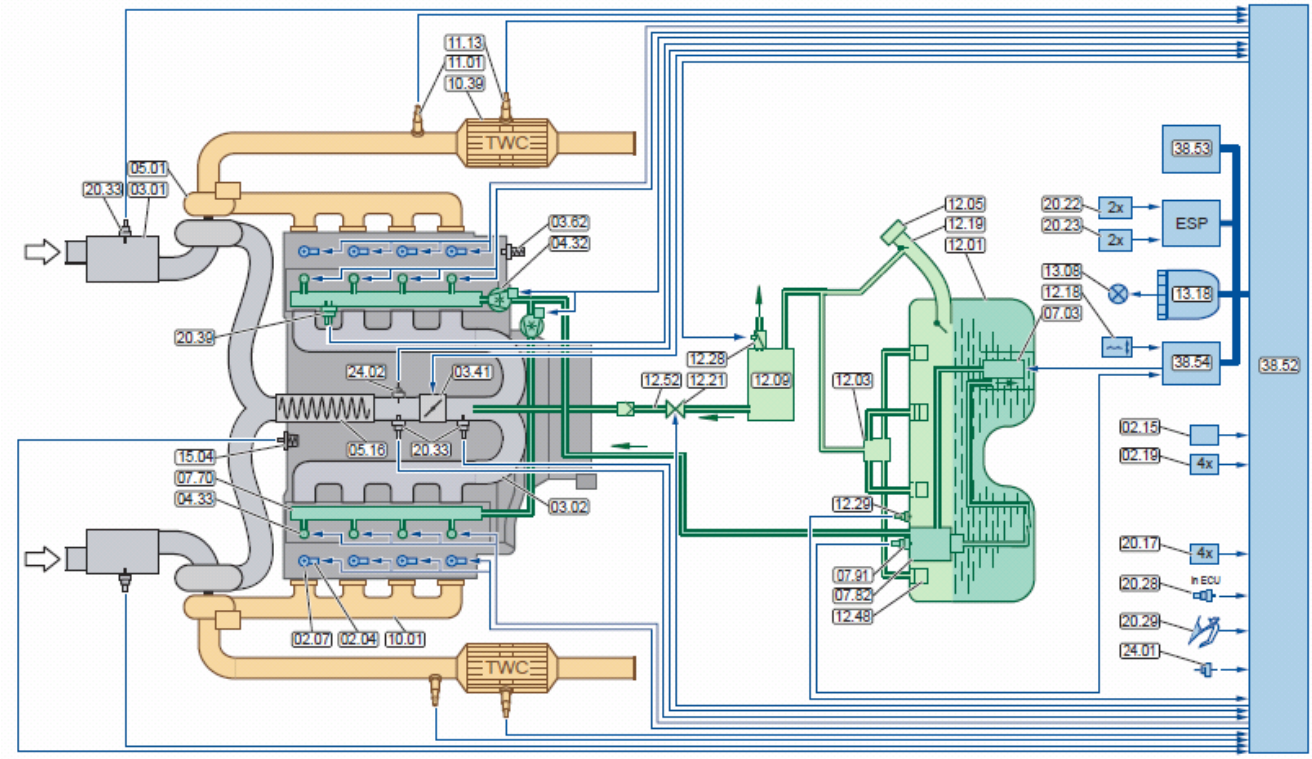
Emission Diagram: Vehicle Model: C- / GLK- / E-Class Coupe & Convertible (V-6 engine, direct injection, w & w/o FFV, 4x4 / 4x2)



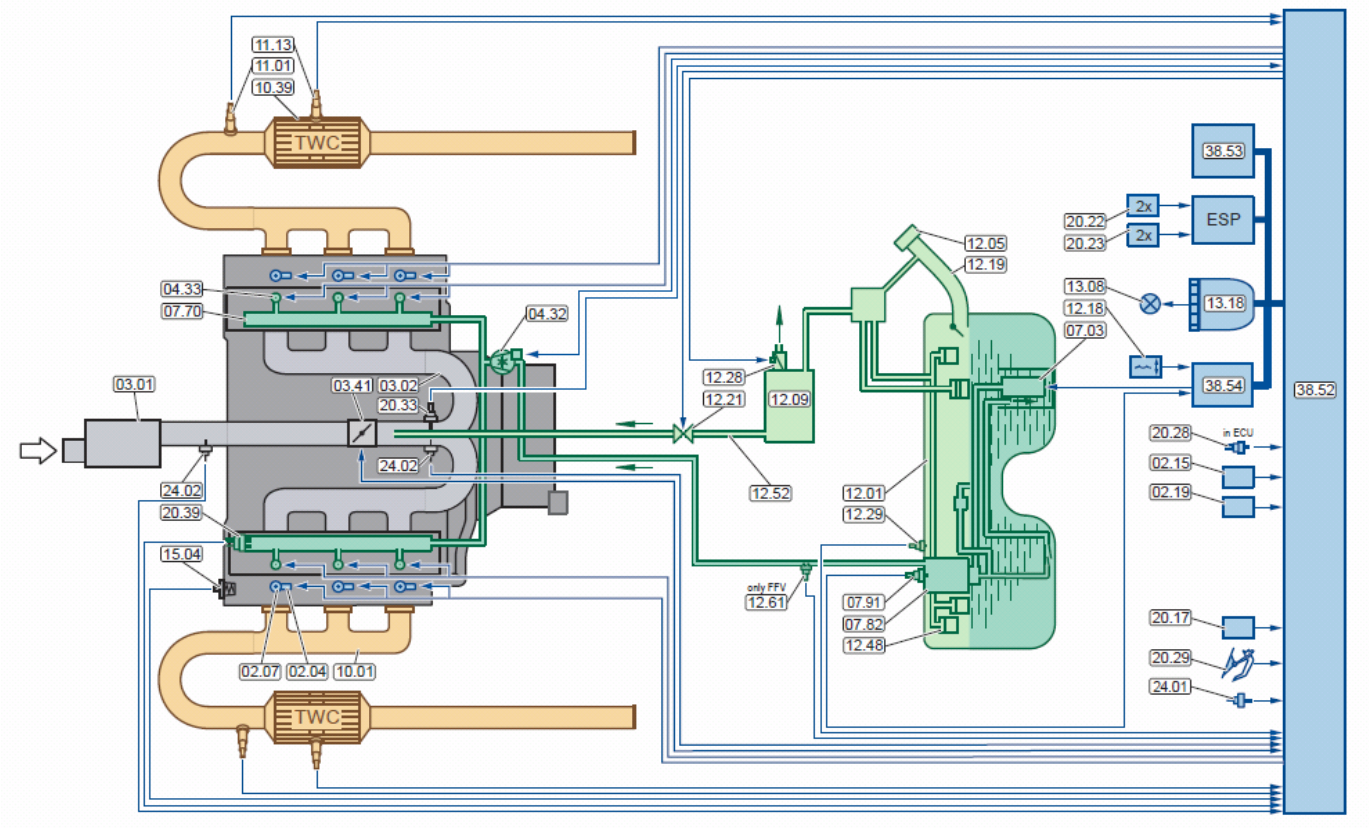
Emission Diagram: Vehicle Model: C- / GLK- / E-Class Coupe (V-6 engine, direct injection, SULEV, 4x4 / 4x2)



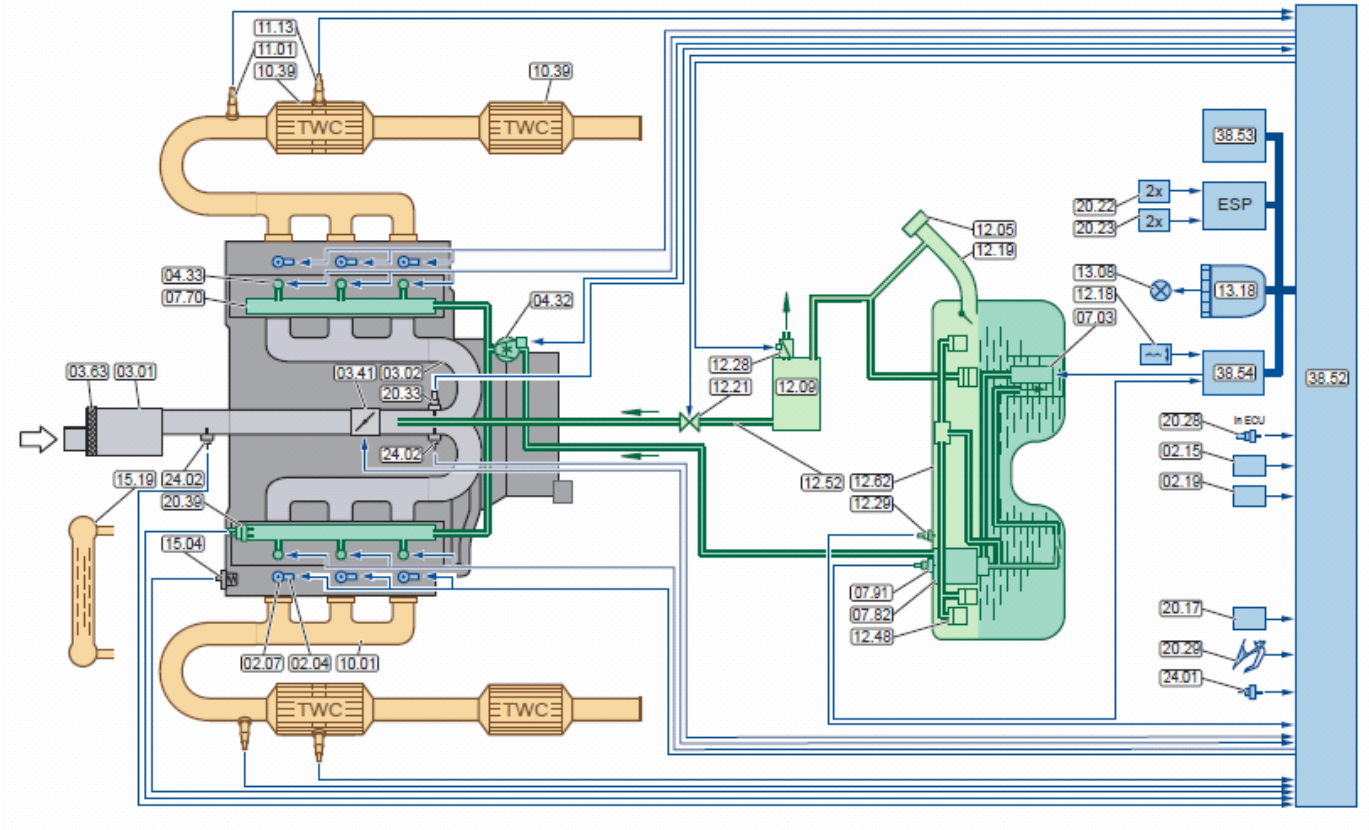
Emission Diagram: Vehicle Model: E-Class Coupe / Convertible (V-8 engine, direct injection, turbocharged, 4x4 / 4x2)



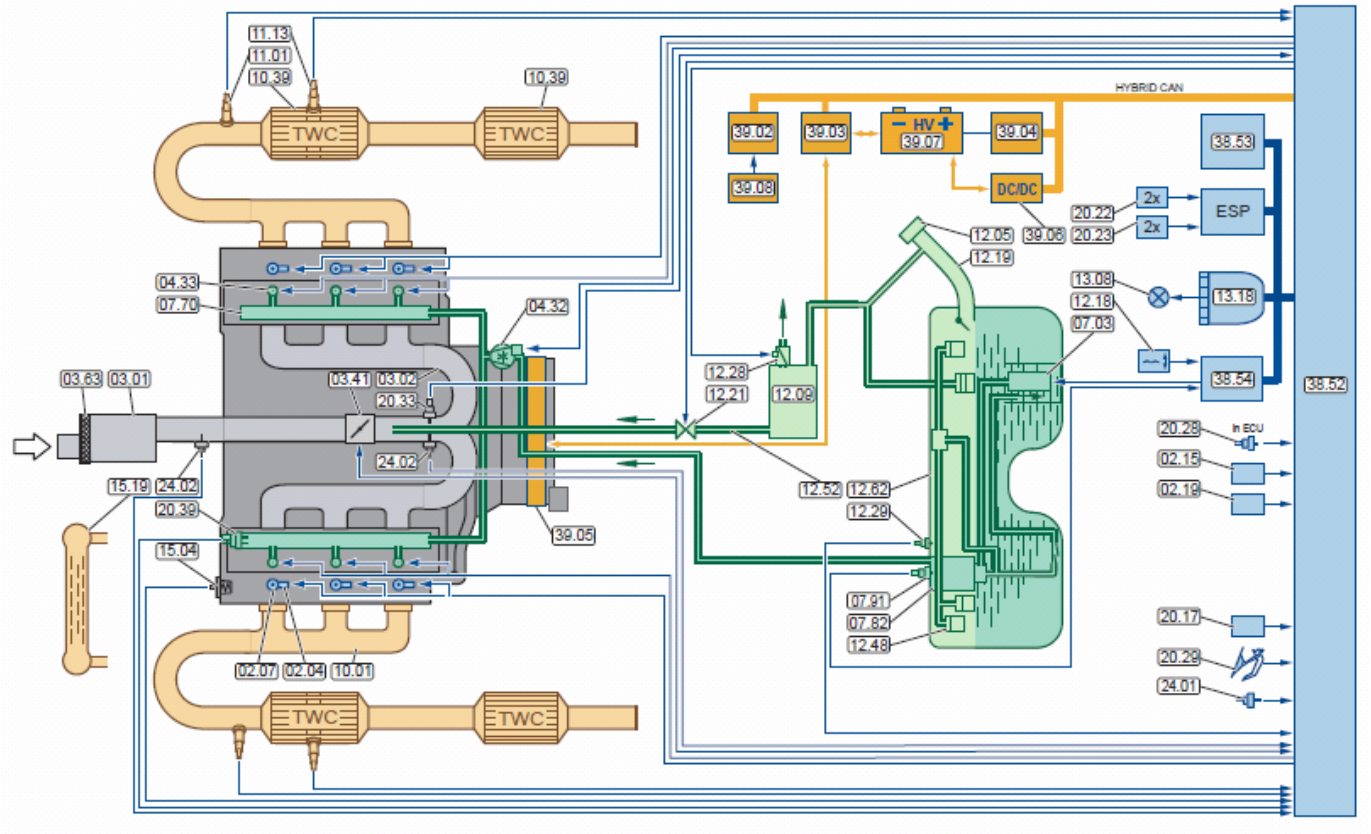
Emission Diagram: Vehicle Model: E-Class (V-6 engine, direct injection, 4x4 / 4x2, w & w/o FFV)



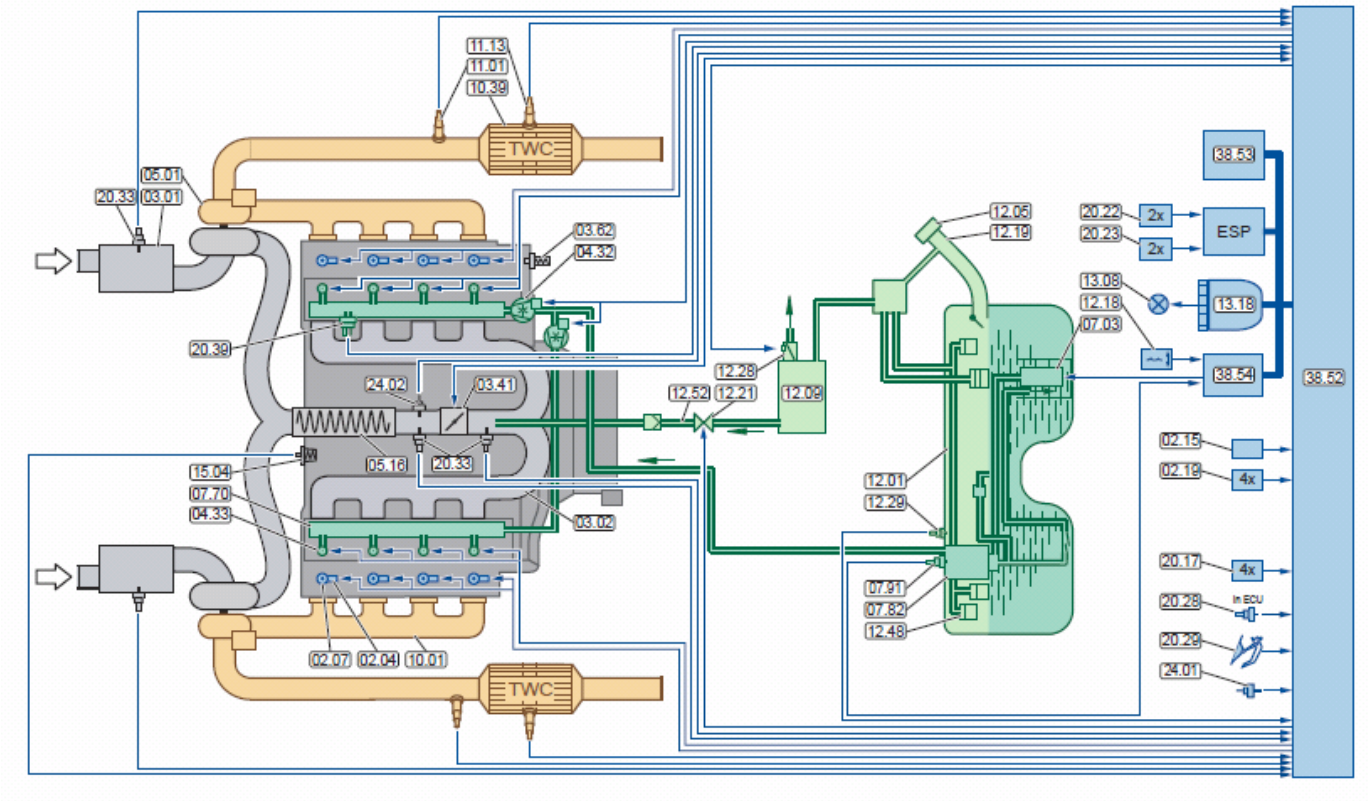
Emission Diagram: Vehicle Model: E-Class (V-6 engine, direct injection, SULEV, 4x4 / 4x2)



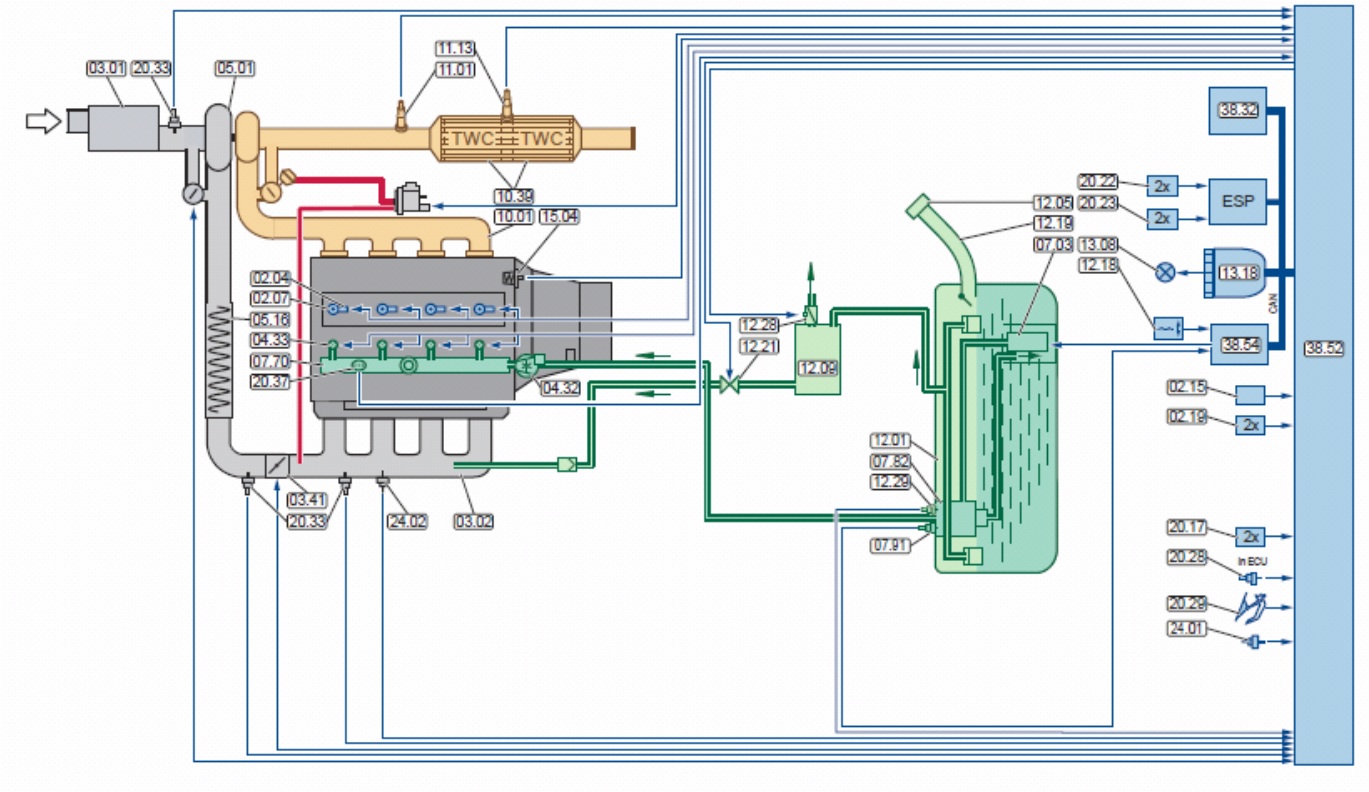
Emission Diagram: Vehicle Model: E-Class (V-6 engine, direct injection, SULEV, Hybrid)



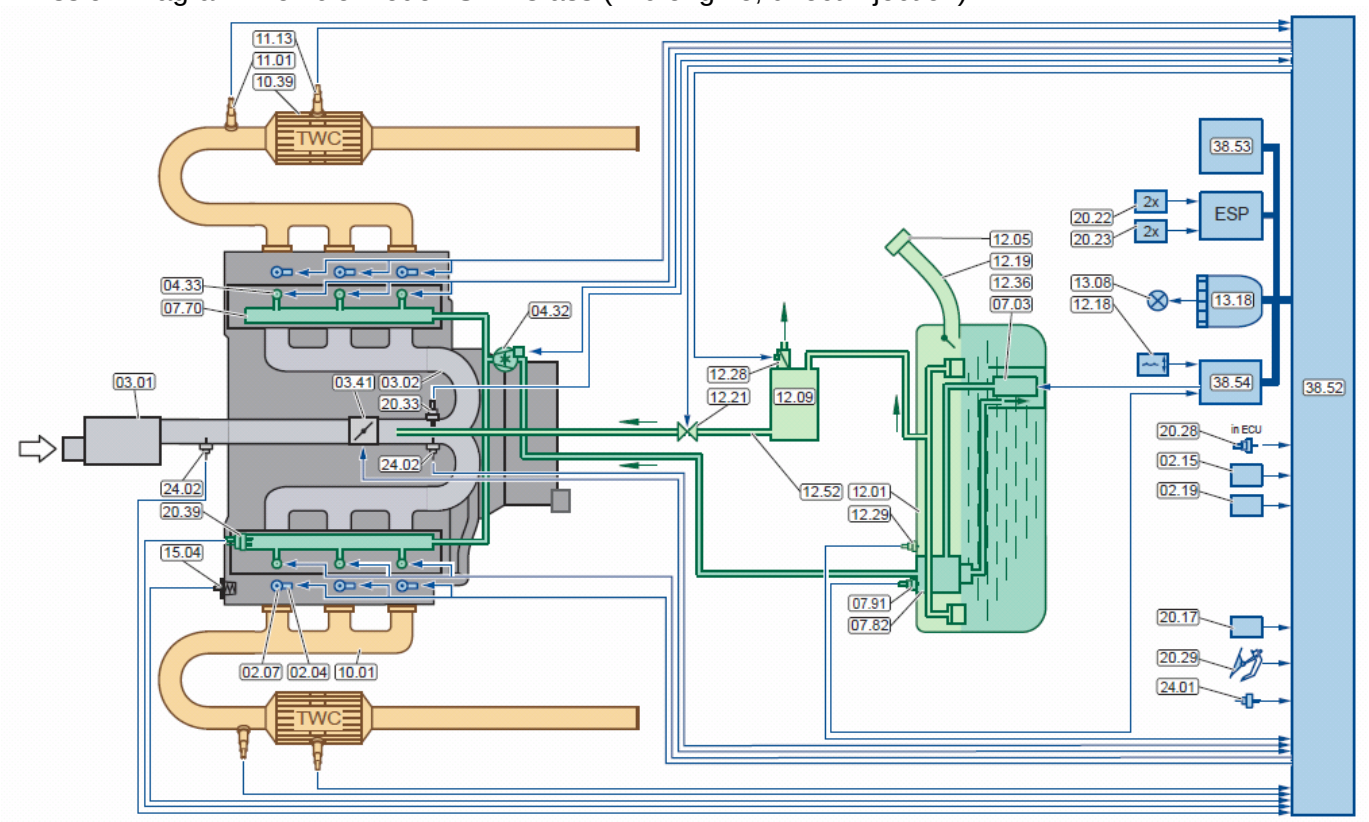
Emission Diagram: Vehicle Model: E- & CLS-Class (V-8 engine, direct injection, turbocharged, 4x4 / 4x2)



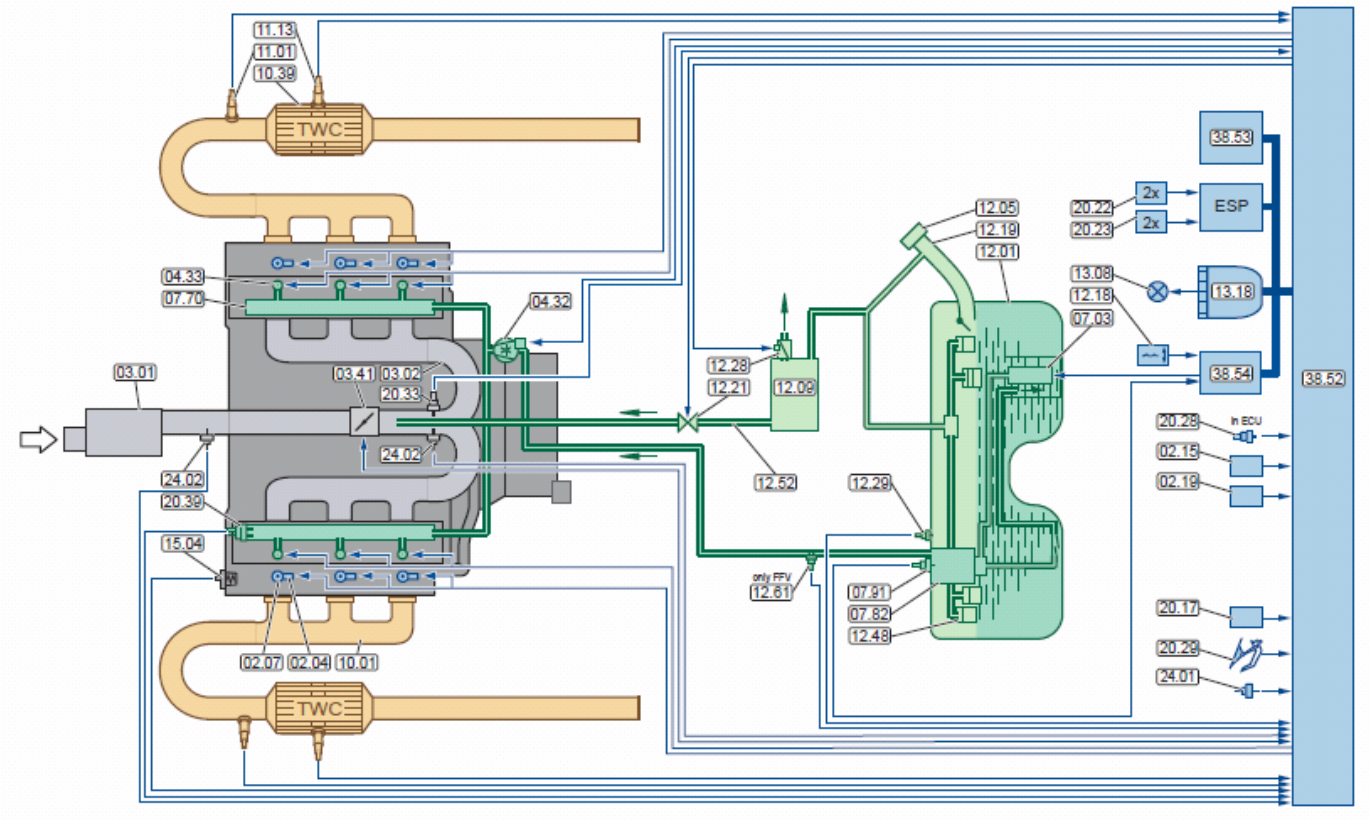
Emission Diagram: Vehicle Model: SLK-Class (I-4 engine, direct injection, turbocharged)



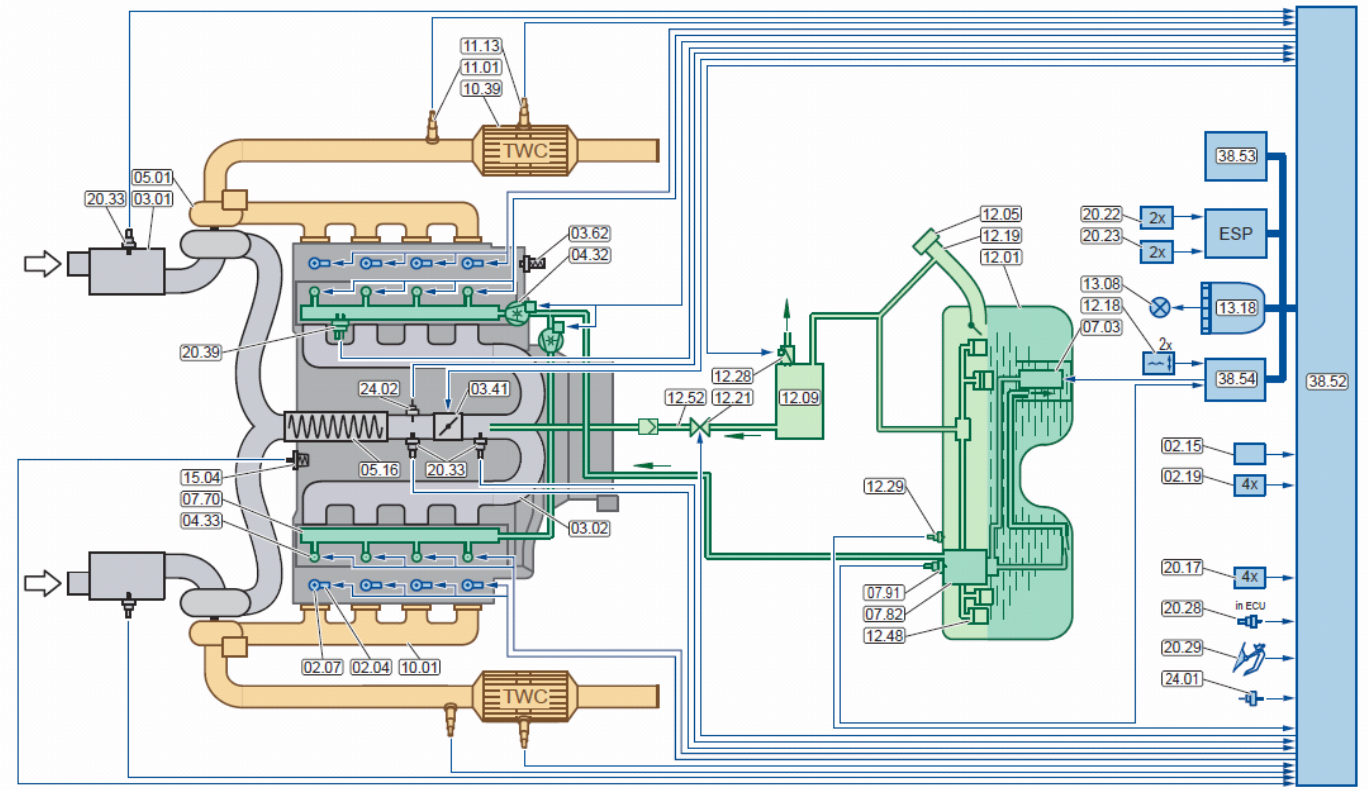
Emission Diagram: Vehicle Model: SLK-Class (V-6 engine, direct injection)



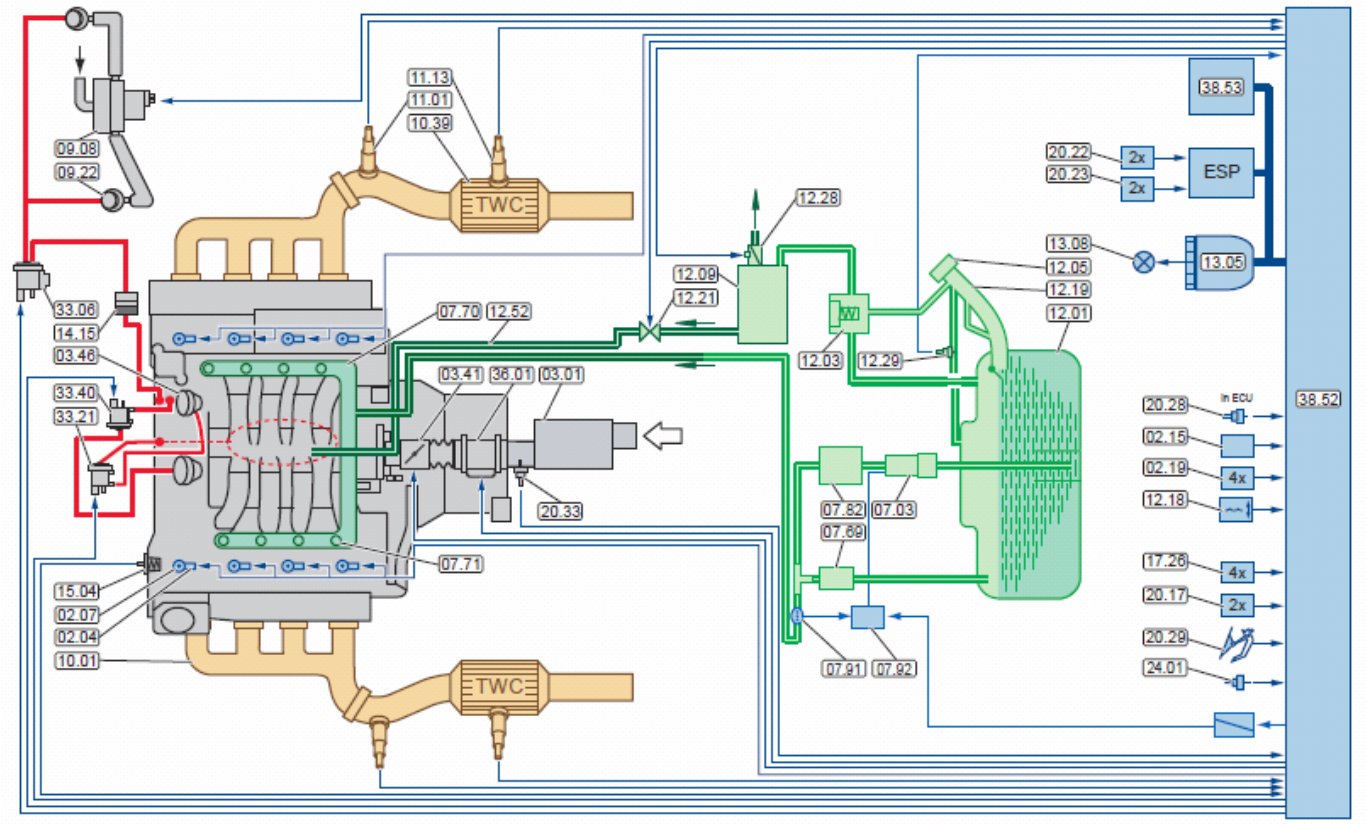
Emission Diagram: Vehicle Model: ML- & R-Class (V-6 engine, direct injection, w & w/o FFV)



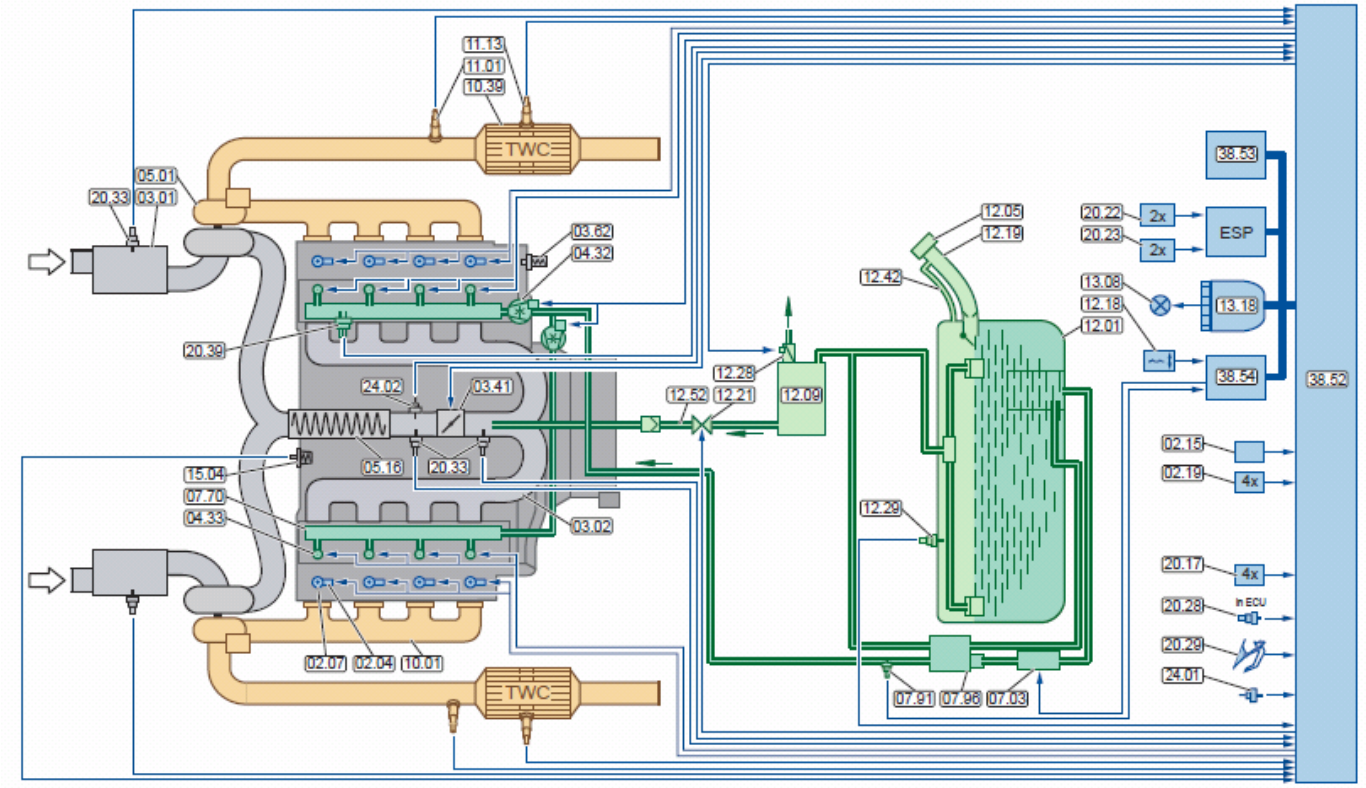
Emission Diagram: Vehicle Model: ML & GL-Class (V-8 engine, direct injection, turbocharged)



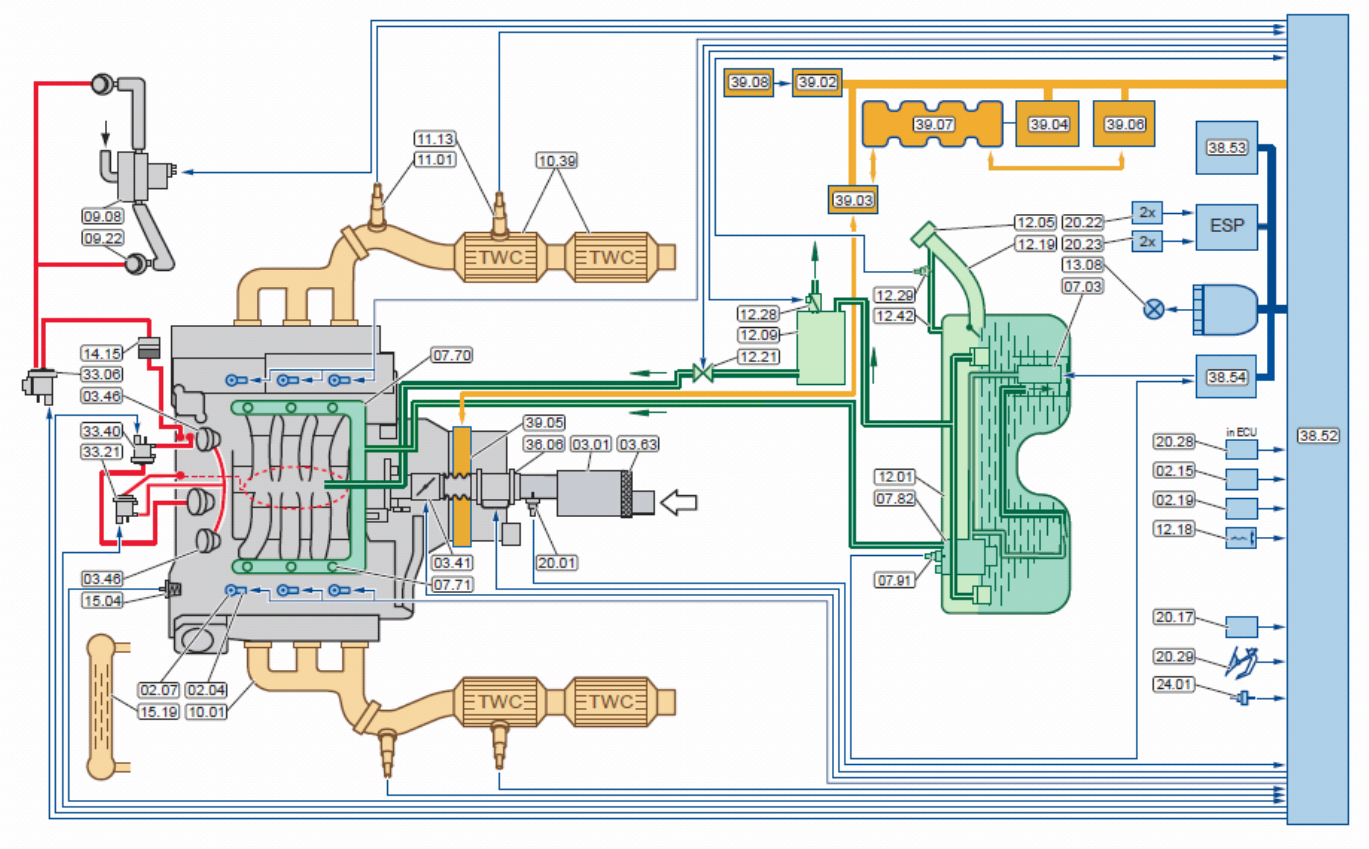
Emission Diagram: Vehicle Model: G-Class (V-8 engine)



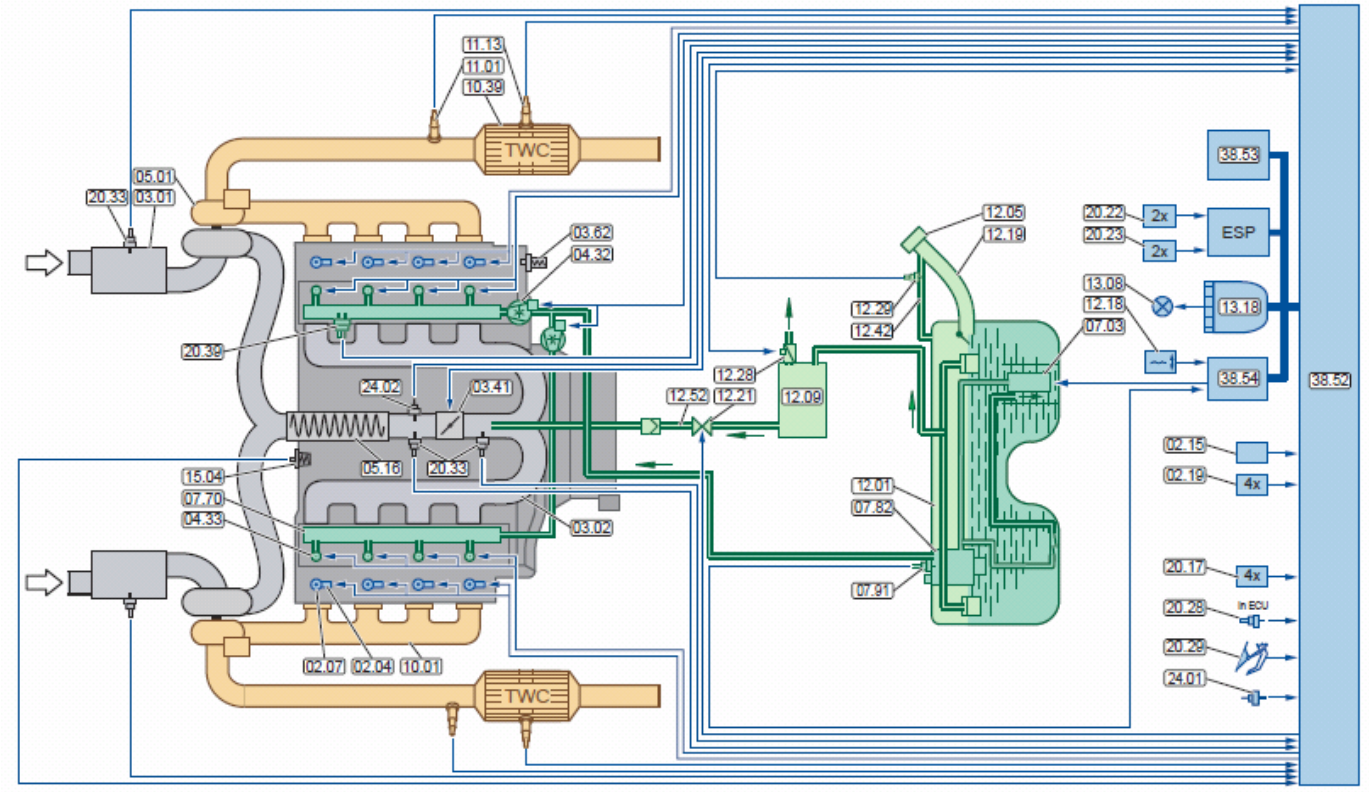
Emission Diagram: Vehicle Model: SL-Class (V-8 engine, direct injection, turbocharged)



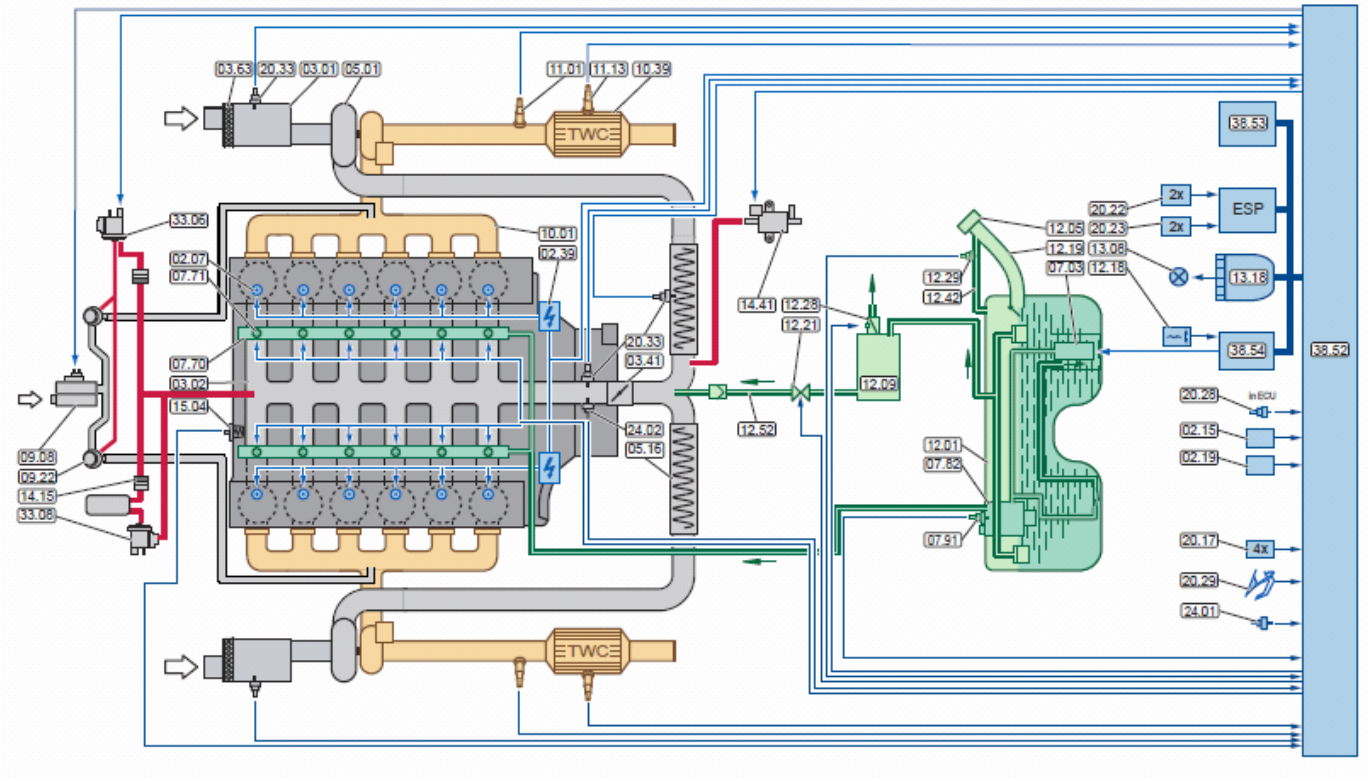
Emission Diagram: Vehicle Model: S-Class (V6 – Hybrid - SULEV)



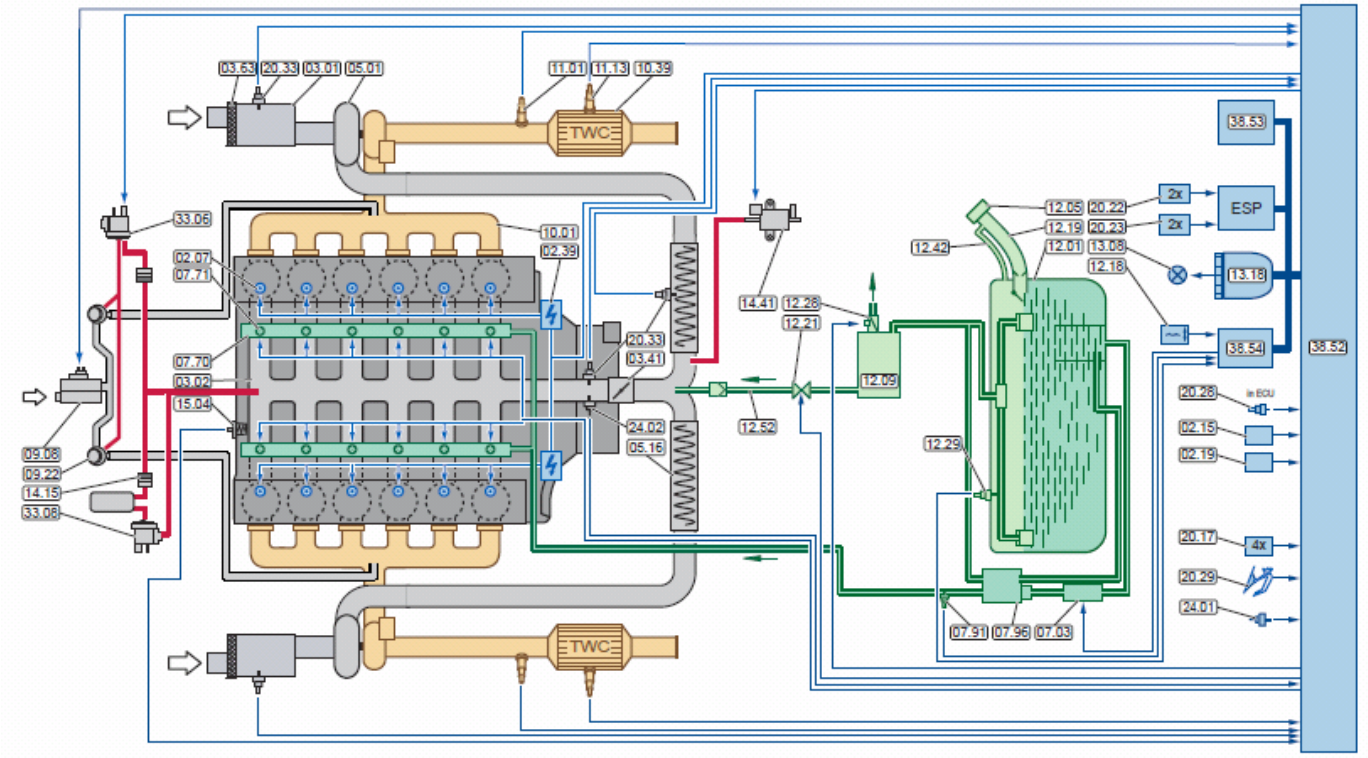
Emission Diagram: Vehicle Model: S- & CL-Class (V-8 engine, direct injection, turbocharged, 4x4 / 4x2)



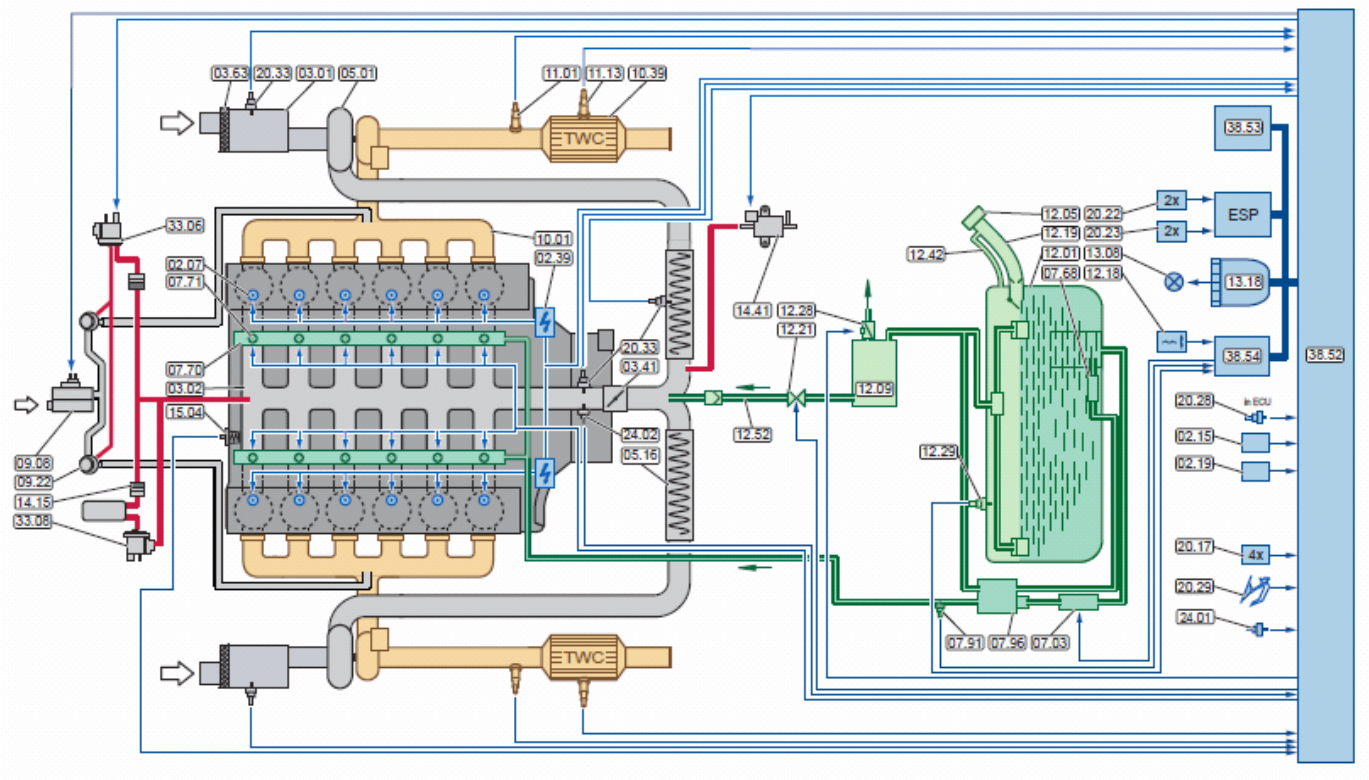
Emission Diagram: Vehicle Model: S-Class & CL-Class (V-12)



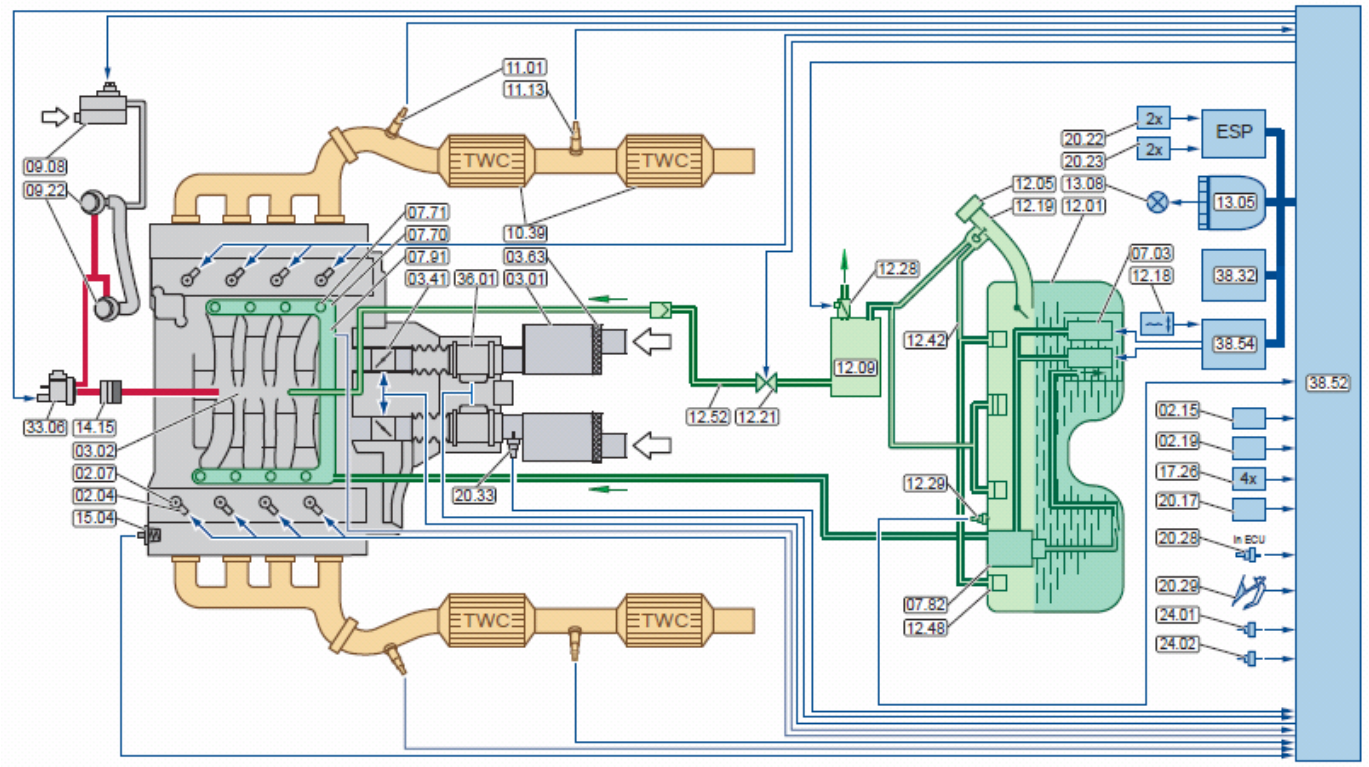
Emission Diagram: Vehicle Model: Maybach (V-12)



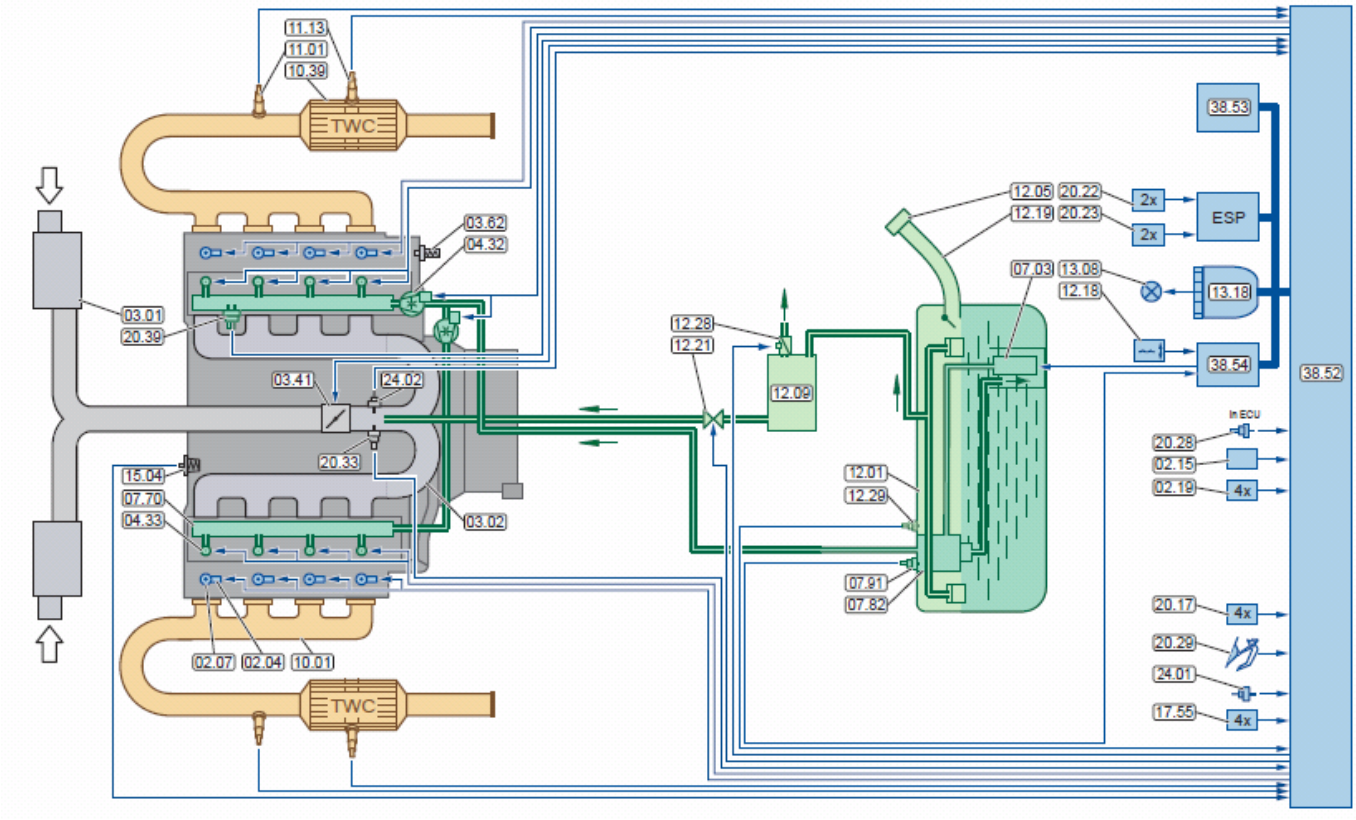
Emission Diagram: Vehicle Model: Maybach S (V-12)



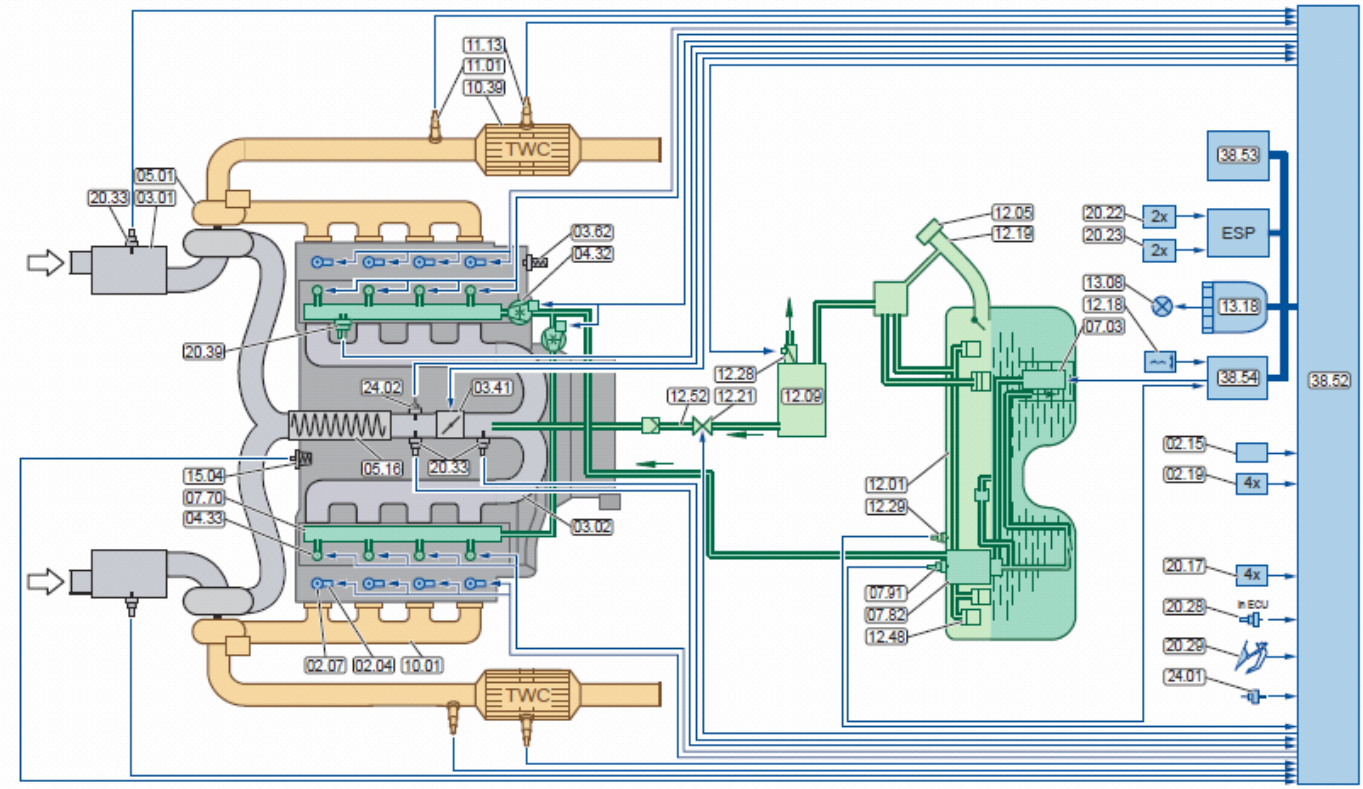
Emission Diagram: Vehicle Model: C-Class AMG (V-8 engine, 6.2l displacement)



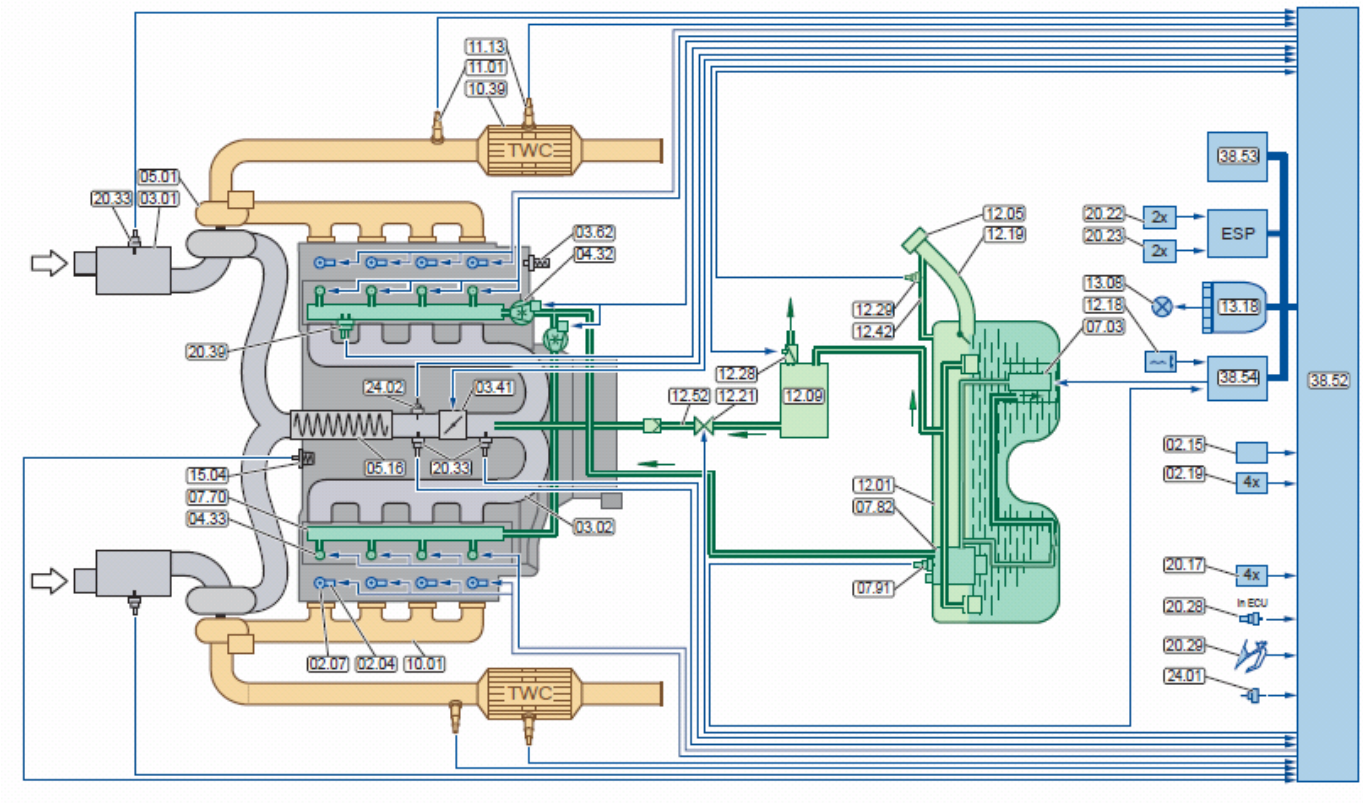
Emission Diagram: Vehicle Model: SLK-Class AMG (V-8 engine, direct injection, 5.5l displ.)



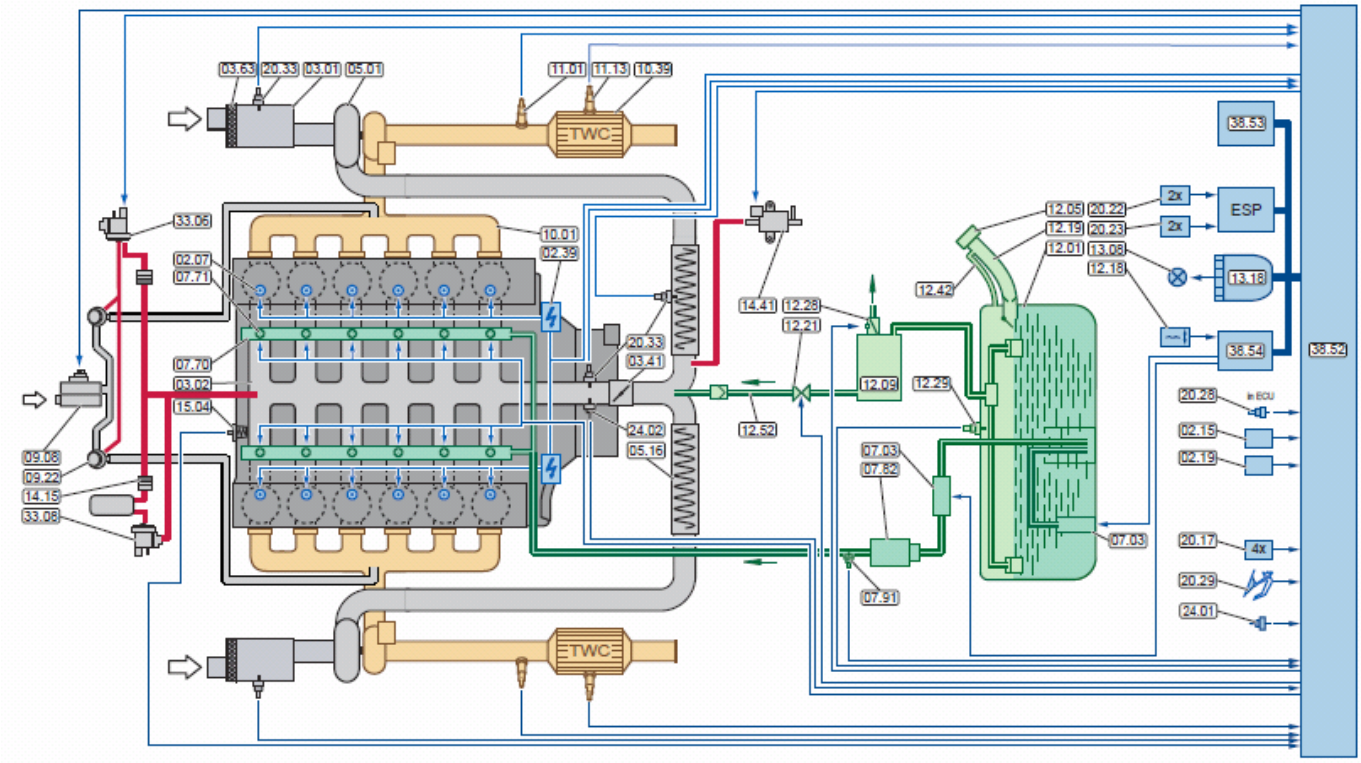
Emission Diagram: Vehicle Model: E- & CLS-Class AMG (V-8 engine, direct injection, turbo-charged, 5.5l displ.)



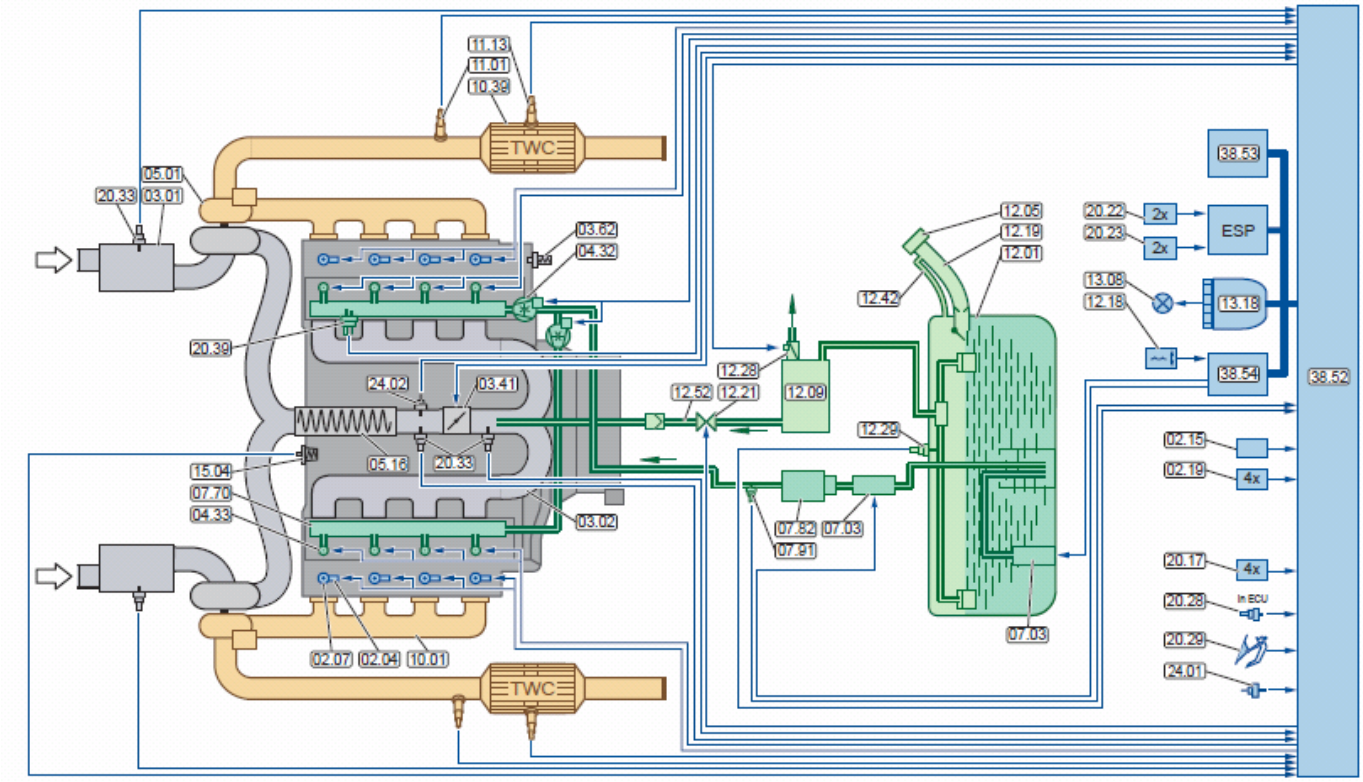
Emission Diagram: Vehicle Model: S- & CL-Class AMG (V-8 engine, direct injection, turbo-charged, 5.5l displ.)



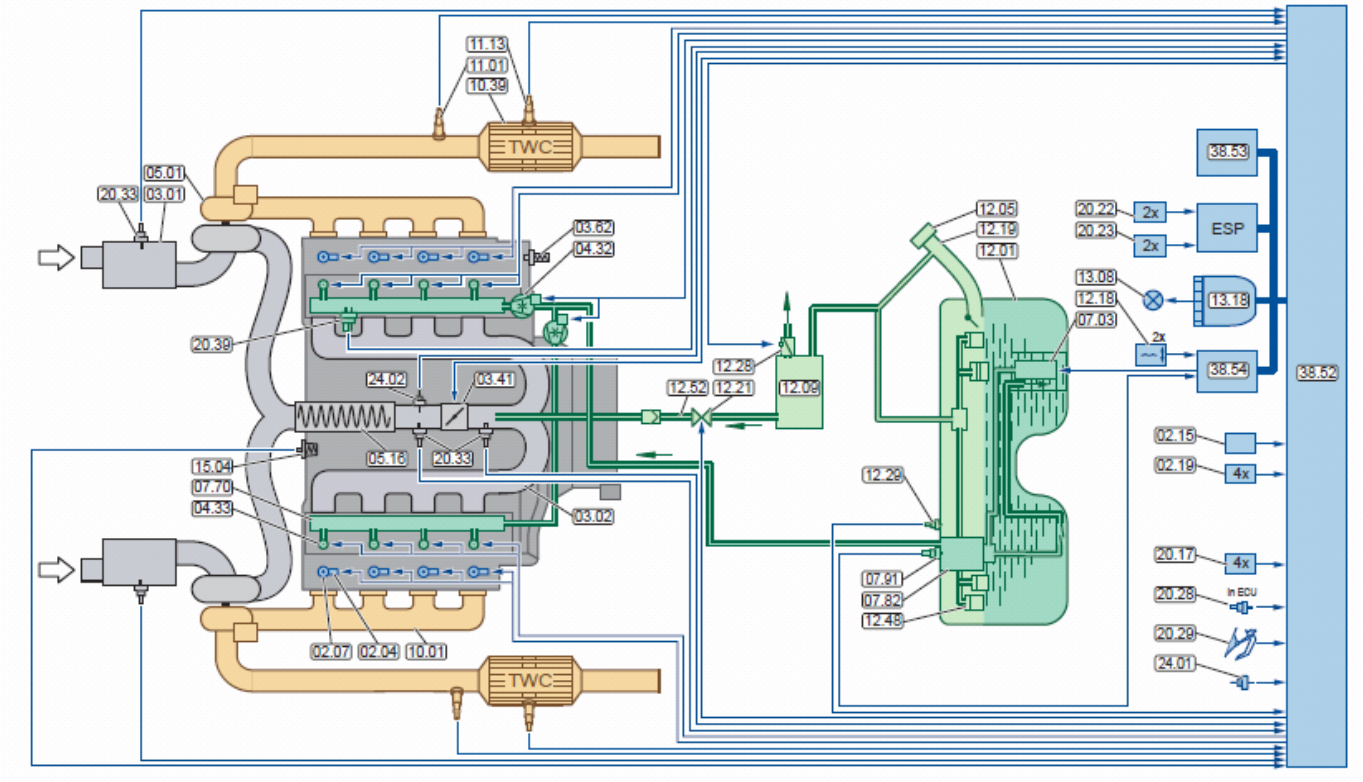
Emission Diagram: Vehicle Model: SL-Class AMG (V-12, 6.0l displacement)



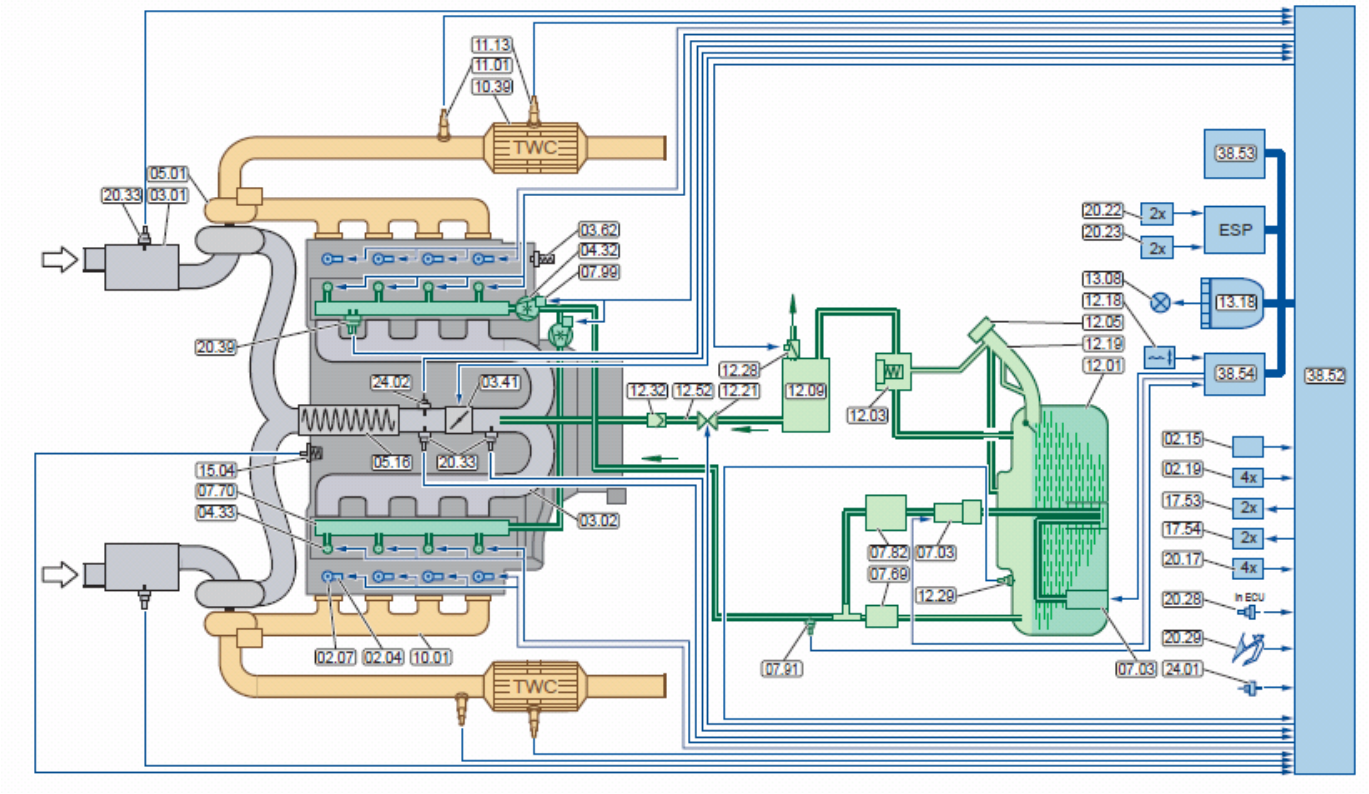
Emission Diagram: Vehicle Model: SL-Class AMG (V-8 engine, direct injection, turbo-charged, 5.5l displ)



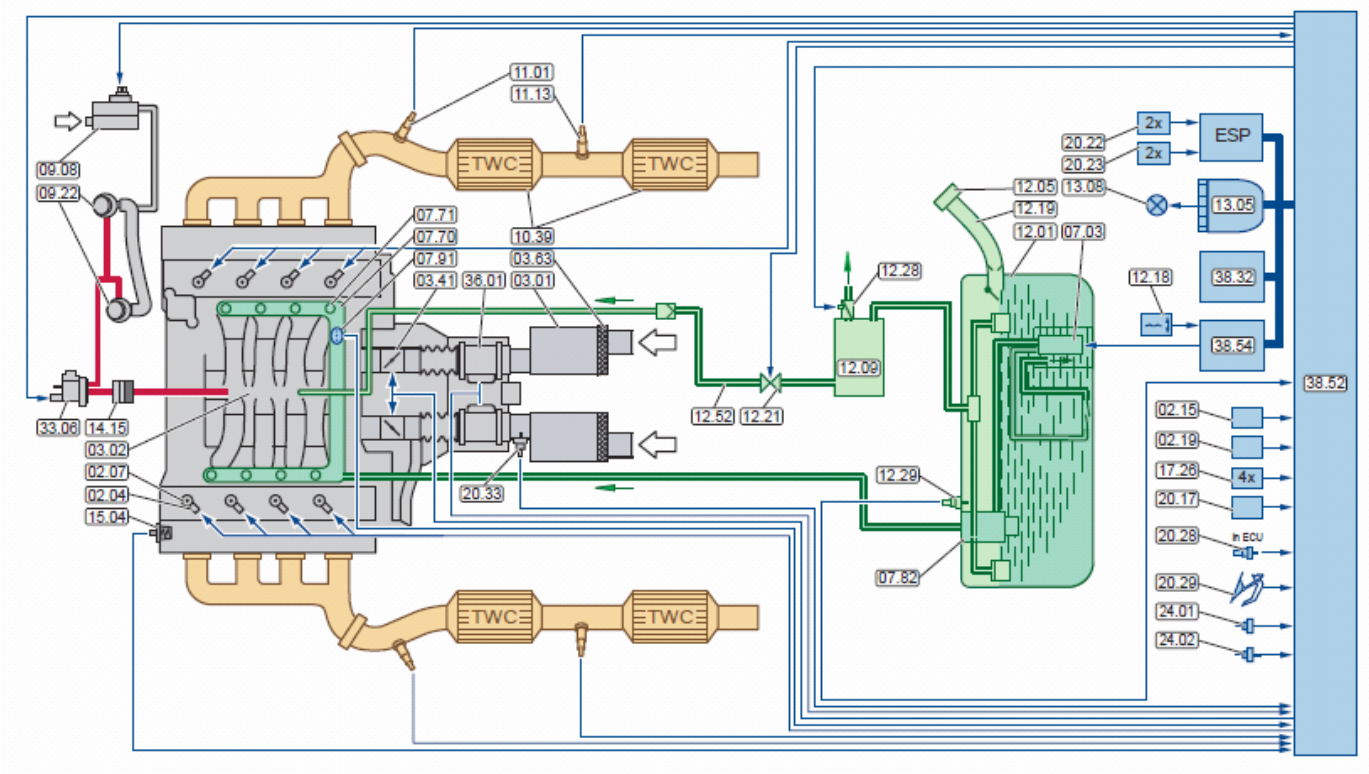
Emission Diagram: Vehicle Model: ML-Class AMG (V-8 engine, direct injection, turbo-charged, 5.5l displ.)



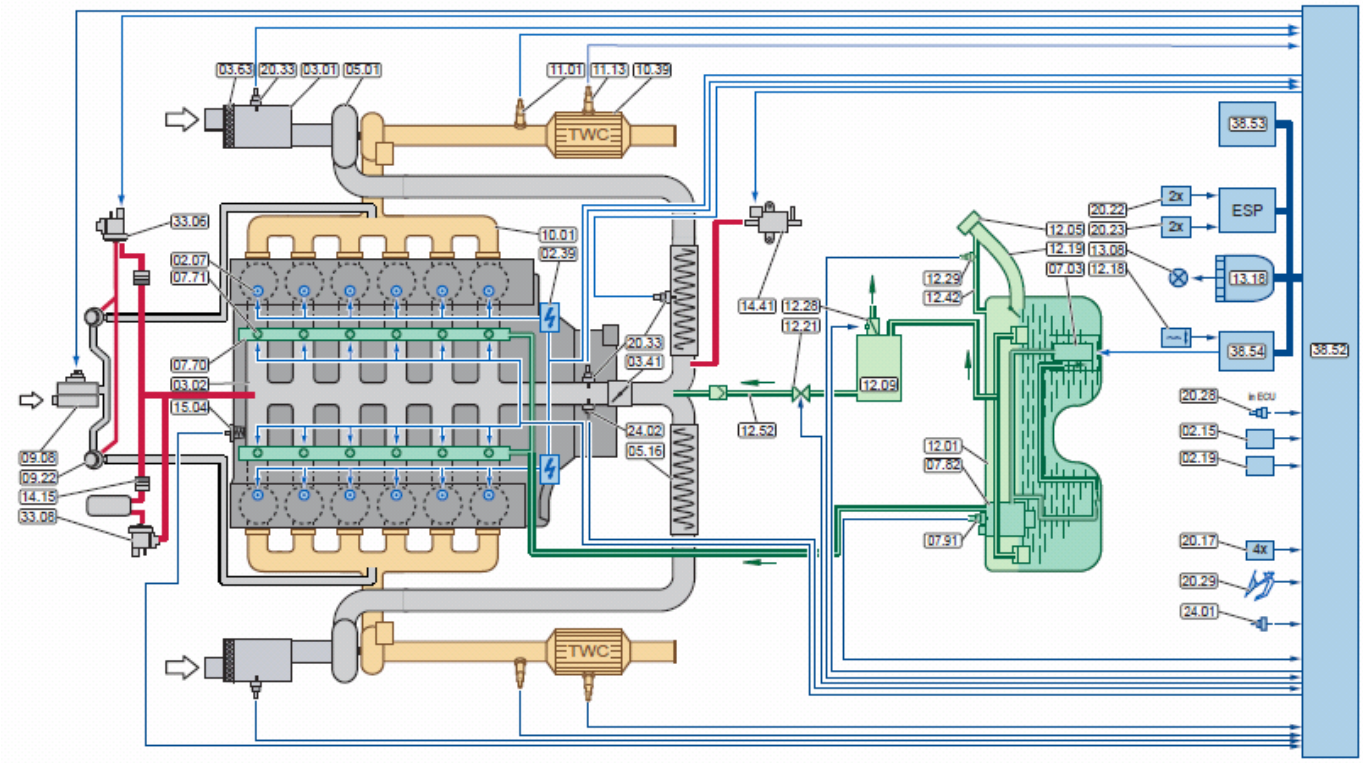
Emission Diagram: Vehicle Model: G-Class AMG (V-8 engine, direct injection, turbo-charged, 5.5l displ.)



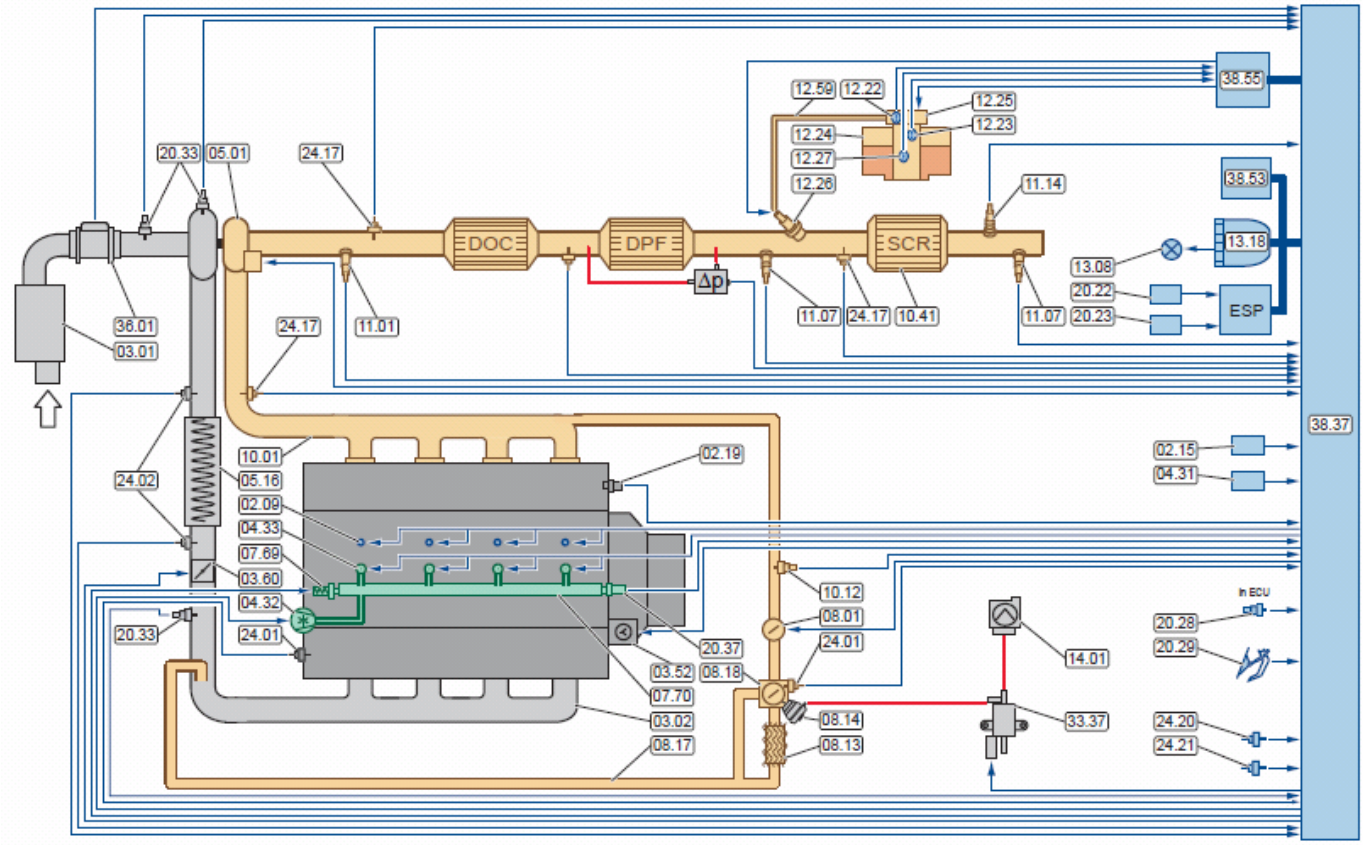
Emission Diagram: Vehicle Model: SLS AMG (V-8, 6.2l displacement)



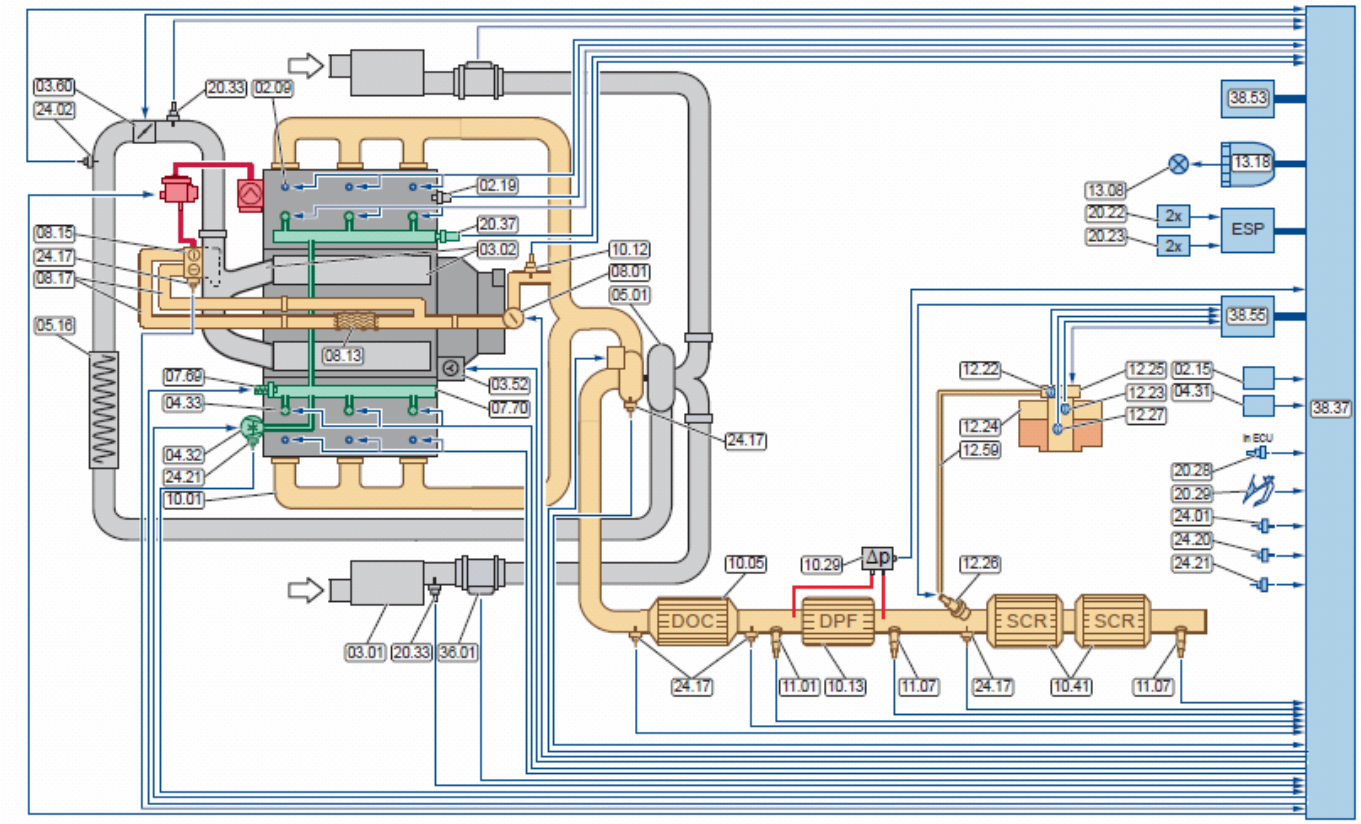
Emission Diagram: Vehicle Model: S-Class & CL-Class AMG (V-12)



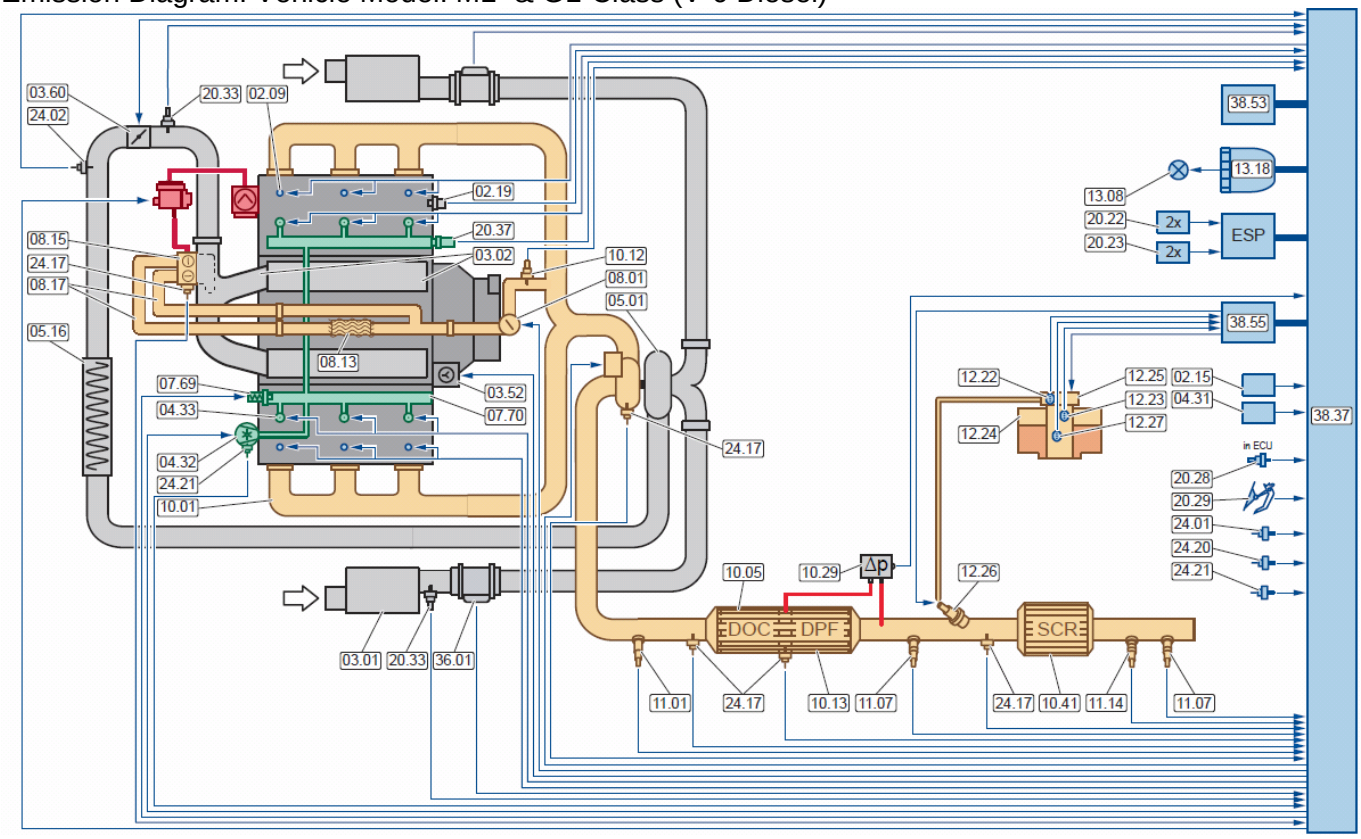
Emission Diagram: Vehicle Model: GLK-Class (I-4 Diesel; 4x4)



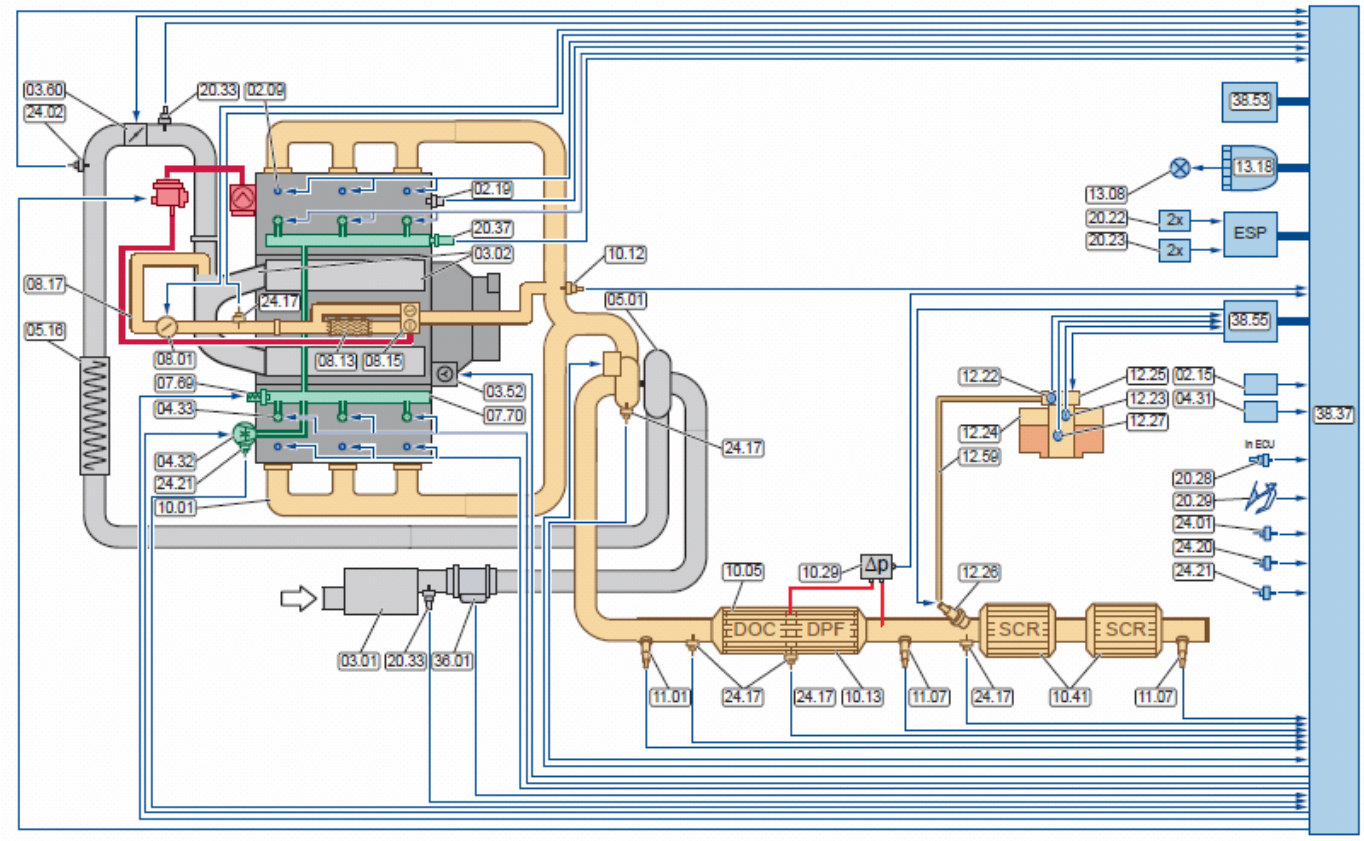
Emission Diagram: Vehicle Model: E-Class (V-6 Diesel)



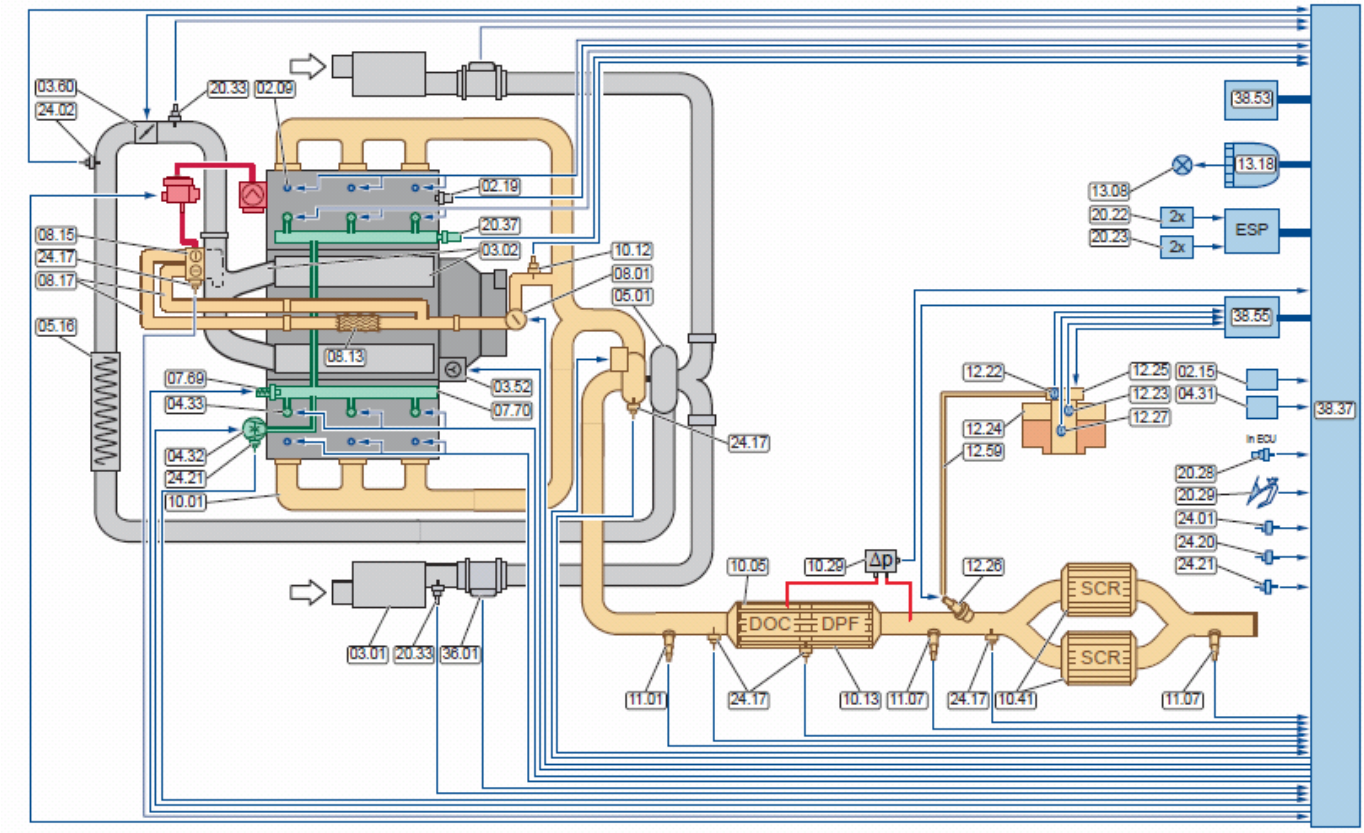
Emission Diagram: Vehicle Model: ML- & GL-Class (V-6 Diesel)



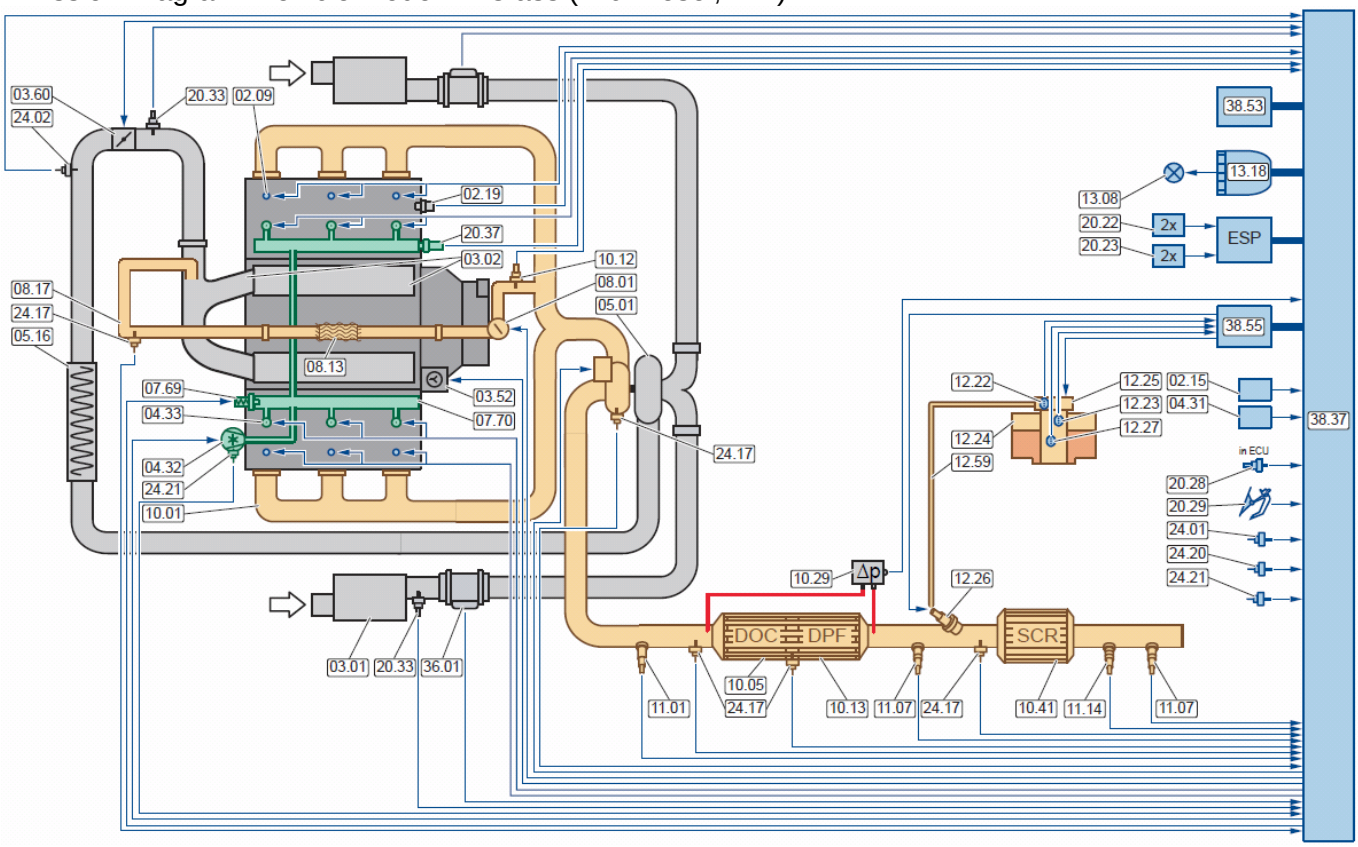
Emission Diagram: Vehicle Model: Sprinter 2500 / 3500 CDI (V-6 Diesel)



Emission Diagram: Vehicle Model: S-Class (V-6 Diesel, 4x4)



Emission Diagram: Vehicle Model: R-Class (V-6 Diesel, 4x4)



S-03: Evaporative/Refueling Family Description

The following parameters apply to all Mercedes-Benz Evaporative Families (non Diesel):

- Type of vapor storage device:	canister
- Type of refueling emission control system:	integrated
- Fillpipe seal mechanism:	liquid
- System configuration:	single canister
- Canister housing material:	plastic
- Canister design (active material):	charcoal
- Fuel System:	sequential multi point injection (gasoline) direct injection (gasoline / diesel)
- Vapor control strategy:	computer controlled

Model-specific parameters are listed in the following EVAP Family Identification Table and can be seen in the emission functional diagrams in section S-02.

S-03-01: Table of model specific EVAP system parameters :

35	Evap DDV	Evap DDV Procedure	Models	Cert.Dev Evap Use	Evap Control System	Transm.	Evap Standard		Fuel Tank Material	Canister Design	Vapor Hose Material
							Fed	Cal			
DMBXR0085LNC	Z8001-C451E10 **Carry over**	MB-Bench (ABTP)	A451E10	EDV (Carry over)	ORVR(L)/CAN/PV/SFI	AM-5	Tier 2	LEV II	P=plastic	2-chamber with HC	PA
			C451E10			AM-5			P=plastic	2-chamber with HC	PA
DMBXR0120LNC	Z3004-W246E20DETC **NEW**	MB-Bench (ABTP)	W246E20DETC	EDV (Carry over)	ORVR(L)/CAN/PV/SFI	AM-7	Tier 2	n/a	P=plastic	3-chamber	PA
DMBXR0155LNS	Z6933-T245E20TC **Carry over**	MB-Bench (ABTP)	R172E18DETC	EDV (NEW)	ORVR(L)/CAN/PV/SFI	L-7	Tier 2	LEV II	M=steel	4-chamber	FPM / Aluminium
						M-6			M=steel	4-chamber	FPM / Aluminium
			R172E35DEH			L-7			M=steel	4-chamber	FPM / Aluminium
			R172E55DE AMG			L-7			M=steel	4-chamber	FPM / Aluminium
DMBXR0158LNC	Z6026-W211E35 **Carry over**	MB-Bench (ABTP)	R231E46DETC	EDV (Carry over)	ORVR(L)/(ACL)/CAN/PV/SFI	L-7	Tier 2	LEV II	M=steel	3-chamber	FPM / Aluminium
			R231E60TC AMG			L-7			M=steel	3-chamber	FPM / Aluminium
			R231E55DETC AMG			L-7			M=steel	3-chamber	FPM / Aluminium
			R230E55TC			L-5			M=steel	3-chamber	FPM / Aluminium
DMBXR0160LNC	Z2025-W212E35DEH 4x4 **NEW**	MB-Bench (ABTP)	W204E18DETC	EDV (Carry over)	ORVR(L)/(ACL)/CAN/PV/SFI	L-7	Tier 2	LEV II	P=plastic	3-chamber	PA
			W204E63 AMG			L-7			P=plastic	3-chamber	PA
			W204E35DEH			L-7			P=plastic	3-chamber	PA
			A207E46DETC			L-7			P=plastic	3-chamber	PA
			S212E55DETC AMG			L-7			P=plastic	3-chamber	PA
			W212E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			W212E35DEH			L-7			P=plastic	3-chamber	PA
			C207E35DEH			L-7			P=plastic	3-chamber	PA
			A207E35DEH			L-7			P=plastic	3-chamber	PA
			S212E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			W212E55DETC AMG			L-7			P=plastic	3-chamber	PA
			C207E46DETC			L-7			P=plastic	3-chamber	PA
			C204E63 AMG			L-7			P=plastic	3-chamber	PA
			C204E18DETC			L-7			P=plastic	3-chamber	PA
			C207E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			C204E63 AMG BS			L-7			P=plastic	3-chamber	PA
			W212E35DEH red			L-7			P=plastic	3-chamber	PA
			C204E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			W212E35DEH red. 4x4			L-7			P=plastic	3-chamber	PA
			X204E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			X204E35DEH			L-7			P=plastic	3-chamber	PA
			W204E35DEH 4x4			L-7			P=plastic	3-chamber	PA
			W204E35DEH red.			L-7			P=plastic	3-chamber	PA
			W212E46DETC 4x4			L-7			P=plastic	3-chamber	PA
			C218E55DETC AMG			L-7			P=plastic	3-chamber	PA
			C218E46DETC 4x4			L-7			P=plastic	3-chamber	PA
			C218E46DETC			L-7			P=plastic	3-chamber	PA
			C204E35DEH			L-7			P=plastic	3-chamber	PA
DMBXR0160LNF	Z2025-W212E35DEH 4x4 **NEW**	MB-Bench (ABTP)	W204E35DEH FFV	EDV (NEW)	ORVR(L)/CAN/PV/SFI	L-7	Tier 2	LEV II	P=plastic	3-chamber	PA
			W204E35DEH red. 4x4 FFV			L-7			P=plastic	3-chamber	PA
			A207E35DEH FFV			L-7			P=plastic	3-chamber	PA
			C207E35DEH FFV			L-7			P=plastic	3-chamber	PA
			C207E35DEH 4x4 FFV			L-7			P=plastic	3-chamber	PA
			W212E35DEH 4x4 FFV			L-7			P=plastic	3-chamber	PA
			W212E35DEH FFV			L-7			P=plastic	3-chamber	PA
DMBXR0168LNP	W212E35DEH Hybrid PZEV_Rigs **NEW**	MB-Bench (ABTP)	W204E35DEH PZEV	EDV (NEW)	ORVR(L)/(ACL)/CAN/PV/SFI	L-7	Tier 2	LEV II PZEV	M=steel	3-chamber with HC	steel
			W212E35DEH 4x4 PZEV			L-7			M=steel	3-chamber with HC	steel
			W212E35DEH PZEV			L-7			M=steel	3-chamber with HC	steel
			V221E35 Hybrid PZEV			L-7			M=steel	3-chamber with HC	steel
			C207E35DEH 4x4 PZEV			L-7			M=steel	3-chamber with HC	steel
			W212E35DEH Hybrid PZEV			L-7			M=steel	3-chamber with HC	steel
			X204E35DEH 4x4 PZEV			L-7			M=steel	3-chamber with HC	steel
			X204E35DEH PZEV			L-7			M=steel	3-chamber with HC	steel
			W204E35DEH red. 4x4 PZEV			L-7			M=steel	3-chamber with HC	steel
			C207E35DEH PZEV			L-7			M=steel	3-chamber with HC	steel
DMBXR0170LNC	Z6935-W164E50 **Carry over**	MB-Bench (ABTP)	W166E35DEH 4x4	EDV (Carry over)	ORVR(L)/CAN/PV/SFI	L-7	Tier 2	LEV II LDT 2	P=plastic	2-chamber	PA
			W166E46DETC 4x4			L-7			P=plastic	2-chamber	PA
			G463E55			L-7			P=plastic	2-chamber	PA
			G463E55DETC 4x4 AMG			L-7			P=plastic	2-chamber	PA
			X166DE46TC 4x4			L-7			P=plastic	2-chamber	PA
			X166DE46TC red. 4x4			L-7			P=plastic	2-chamber	PA
			W166E35DEH 4x2			L-7			P=plastic	2-chamber	PA
			V251E35DEH 4x4			L-7			P=plastic	2-chamber	PA
			W166E55DETC 4x4 AMG			L-7			P=plastic	2-chamber	PA
DMBXR0170LNF	Z2913-W166E35DEH 4x4 FFV **Carry over**	MB-Bench (ABTP)	W166E35DEH 4x4 FFV	EDV (Carry over)	ORVR(L)/CAN/PV/SFI	L-7	Tier 2	LEV II LDT 2	P=plastic	2-chamber	PA
DMBXR0170LNS	Z8003-S203E35 **Carry over**	MB-Bench (ABTP)	V221E55DETC AMG	EDV (Carry over)	ORVR(L)/(ACL)/CAN/PV/SFI	L-7	Tier 2	LEV II	M=steel	3-chamber	steel
			C197E63 AMG			AM-7			M=steel	3-chamber with HC	FPM / Aluminium
			C216E46DETC 4x4			L-7			M=steel	3-chamber	steel
			W221DE46TC 4x4			L-7			M=steel	3-chamber	steel
			C216E55TC			L-5			M=steel	3-chamber	steel
			V221E55TC			L-5			M=steel	3-chamber	steel
			V221E46DETC 4x4			L-7			M=steel	3-chamber	steel
			V221E60TC AMG			L-5			M=steel	3-chamber	steel
			C216E60TC AMG			L-5			M=steel	3-chamber	steel
			V221E46DETC			L-7			M=steel	3-chamber	steel
			R197E63 AMG			AM-7			M=steel	3-chamber	FPM / Aluminium
			C216E55DETC AMG			L-7			M=steel	3-chamber	steel
n/a	n/a	n/a	W166DE30TC 4x4	n/a	n/a	L-7	n/a	n/a	P=plastic	n/a	PA
			L906DE30 (4,53t HD)			L-5			P=plastic	n/a	PA
			L906DE30 (5,0t HD)			L-5			P=plastic	n/a	PA
			L906DE30 (3,88t HD)			L-5			P=plastic	n/a	PA
			C451ed (Phase III)			tbd			n/a	n/a	n/a
			V221DE30TC 4x4			L-7			P=plastic	n/a	PA
			X204DE22TC 4x4			L-7			P=plastic	n/a	PA
			X166DE30TC 4x4			L-7			P=plastic	n/a	PA
			A451ed (Phase III)			tbd			n/a	n/a	n/a
			V251DE30TC 4x4			L-7			P=plastic	n/a	PA
			W212DE30TC			L-7			P=plastic	n/a	PA

S-03-02: Running Loss Temperature Profiles

Evap-Family: xxxxR0085LNC

		Running Loss Temperature Profile EPA MY 2008				Type Approval & Certification GR/VZE Schuster 2006-11-24
	451E10-19391		Environmental Chamber Sindelfingen			451 mittel
Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	Lower bound t vap (Deg F)	t vap_corr (Deg F)	Upper bound t vap (Deg F)
0	92,00	95,00	98,00			
60	92,54	95,54	98,54			
120	92,99	95,99	98,99			
180	93,35	96,35	99,35			
240	93,80	96,80	99,80			
300	94,16	97,16	100,16			
360	94,70	97,70	100,70			
420	95,15	98,15	101,15			
480	95,87	98,87	101,87			
540	96,32	99,32	102,32			
600	96,95	99,95	102,95			
660	97,49	100,49	103,49			
720	98,12	101,12	104,12			
780	98,48	101,48	104,48			
840	99,20	102,20	105,20			
900	99,83	102,83	105,83			
960	100,46	103,46	106,46			
1020	101,09	104,09	107,09			
1080	101,81	104,81	107,81			
1140	102,44	105,44	108,44			
1200	103,88	106,88	109,88			
1260	104,69	107,69	110,69			
1320	105,14	108,14	111,14			
1380	105,77	108,77	111,77			
1440	106,40	109,40	112,40			
1500	107,66	110,66	113,66			
1560	108,38	111,38	114,38			
1620	108,83	111,83	114,83			
1680	109,46	112,46	115,46			
1740	110,09	113,09	116,09			
1800	110,63	113,63	116,63			
1860	111,26	114,26	117,26			
1920	111,80	114,80	117,80			
1980	112,43	115,43	118,43			
2040	112,88	115,88	118,88			
2100	113,60	116,60	119,60			
2160	114,05	117,05	120,05			
2220	114,59	117,59	120,59			
2280	115,04	118,04	121,04			
2340	115,58	118,58	121,58			
2400	116,21	119,21	122,21			
2460	116,66	119,66	122,66			
2520	117,20	120,20	123,20			
2580	117,65	120,65	123,65			
2640	118,01	121,01	124,01			
2700	118,64	121,64	124,64			
2760	119,18	122,18	125,18			
2820	119,63	122,63	125,63			
2880	120,08	123,08	126,08			
2940	120,53	123,53	126,53			
3000	120,80	123,80	126,80			
3060	121,16	124,16	127,16			
3120	121,61	124,61	127,61			
3180	121,79	124,79	127,79			
3240	122,24	125,24	128,24			
3300	122,51	125,51	128,51			
3360	122,87	125,87	128,87			
3420	123,05	126,05	129,05			
3480	123,32	126,32	129,32			
3540	123,50	126,50	129,50			
3600	123,86	126,86	129,86			
3660	124,04	127,04	130,04			
3720	124,49	127,49	130,49			
3780	124,85	127,85	130,85			
3840	124,85	127,85	130,85			
3900	125,03	128,03	131,03			
3960	125,39	128,39	131,39			
4020	125,66	128,66	131,66			
4080	125,93	128,93	131,93			
4140	126,02	129,02	132,02			
4200	126,20	129,20	132,20			
4260	126,47	129,47	132,47			
4304	126,59	129,59	132,59			

Evap-Family: xxxxR0120LNC

Type Approval
& Certification
GR/PZE Schuster 2011-10-27

Running Loss Temperature Profile EPA MY 2013

C117-11

Environmental Chamber Sindelfingen

Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	Lower bound t vap (Deg F)	t vap_corr (Deg F)	Upper bound t vap (Deg F)
0	92,00	95,00	98,00			
60	92,01	95,01	98,01			
120	92,02	95,02	98,02			
180	92,04	95,04	98,04			
240	92,06	95,06	98,06			
300	92,11	95,11	98,11			
360	92,17	95,17	98,17			
420	92,21	95,21	98,21			
480	92,27	95,27	98,27			
540	92,31	95,31	98,31			
600	92,36	95,36	98,36			
660	92,81	95,81	98,81			
720	93,39	96,39	99,39			
780	93,59	96,59	99,59			
840	93,67	96,67	99,67			
900	94,28	97,28	100,28			
960	94,70	97,70	100,70			
1020	95,21	98,21	101,21			
1080	95,53	98,53	101,53			
1140	95,63	98,63	101,63			
1200	96,14	99,14	102,14			
1260	96,86	99,86	102,86			
1320	97,23	100,23	103,23			
1380	97,52	100,52	103,52			
1440	97,88	100,88	103,88			
1500	97,70	100,70	103,70			
1560	98,19	101,19	104,19			
1620	98,77	101,77	104,77			
1680	99,42	102,42	105,42			
1740	99,37	102,37	105,37			
1800	100,35	103,35	106,35			
1860	100,53	103,53	106,53			
1920	100,55	103,55	106,55			
1980	101,02	104,02	107,02			
2040	100,97	103,97	106,97			
2100	101,35	104,35	107,35			
2160	101,47	104,47	107,47			
2220	102,22	105,22	108,22			
2280	103,05	106,05	109,05			
2340	103,98	106,98	109,98			
2400	104,67	107,67	110,67			
2460	104,99	107,99	110,99			
2520	105,24	108,24	111,24			
2580	105,58	108,58	111,58			
2640	105,98	108,98	111,98			
2700	106,43	109,43	112,43			
2760	106,50	109,50	112,50			
2820	106,62	109,62	112,62			
2880	106,69	109,69	112,69			
2940	107,47	110,47	113,47			
3000	107,88	110,88	113,88			
3060	108,35	111,35	114,35			
3120	108,43	111,43	114,43			
3180	108,53	111,53	114,53			
3240	108,33	111,33	114,33			
3300	108,76	111,76	114,76			
3360	109,07	112,07	115,07			
3420	109,15	112,15	115,15			
3480	108,82	111,82	114,82			
3540	109,14	112,14	115,14			
3600	109,48	112,48	115,48			
3660	109,96	112,96	115,96			
3720	110,33	113,33	116,33			
3780	110,33	113,33	116,33			
3840	110,58	113,58	116,58			
3900	110,66	113,66	116,66			
3960	111,14	114,14	117,14			
4020	111,04	114,04	117,04			
4080	111,56	114,56	117,56			
4140	112,38	115,38	118,38			
4200	112,43	115,43	118,43			
4260	112,88	115,88	118,88			
4304	113,06	116,06	119,06			

Evap-Family: xxxxR0155LNS

Type Approval
& Certification
GR/PZE Schuster 2011-10-06

Running Loss Temperature Profile EPA MY 2012

R172 E18 - 255

Environmental Chamber Sindelfingen

Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	Lower bound t vap (Deg F)	t vap_corr (Deg F)	Upper bound t vap (Deg F)
0	92,00	95,00	98,00	90,00	95,00	100,00
60	92,00	95,00	98,00	90,05	95,05	100,05
120	92,04	95,04	98,04	90,14	95,14	100,14
180	92,18	95,18	98,18	90,11	95,11	100,11
240	92,49	95,49	98,49	90,23	95,23	100,23
300	92,73	95,73	98,73	90,37	95,37	100,37
360	92,83	95,83	98,83	90,54	95,54	100,54
420	92,96	95,96	98,96	90,65	95,65	100,65
480	92,97	95,97	98,97	90,77	95,77	100,77
540	93,07	96,07	99,07	90,85	95,85	100,85
600	93,20	96,20	99,20	90,86	95,86	100,86
660	93,23	96,23	99,23	90,99	95,99	100,99
720	93,35	96,35	99,35	91,12	96,12	101,12
780	93,43	96,43	99,43	91,12	96,12	101,12
840	93,51	96,51	99,51	91,19	96,19	101,19
900	93,61	96,61	99,61	91,29	96,29	101,29
960	93,74	96,74	99,74	91,48	96,48	101,48
1020	93,84	96,84	99,84	91,53	96,53	101,53
1080	93,89	96,89	99,89	91,65	96,65	101,65
1140	93,95	96,95	99,95	91,76	96,76	101,76
1200	94,15	97,15	100,15	91,81	96,81	101,81
1260	94,25	97,25	100,25	91,90	96,90	101,90
1320	94,35	97,35	100,35	92,01	97,01	102,01
1380	94,49	97,49	100,49	92,12	97,12	102,12
1440	94,58	97,58	100,58	92,22	97,22	102,22
1500	94,67	97,67	100,67	92,32	97,32	102,32
1560	94,83	97,83	100,83	92,47	97,47	102,47
1620	94,95	97,95	100,95	92,54	97,54	102,54
1680	95,04	98,04	101,04	92,58	97,58	102,58
1740	95,16	98,16	101,16	92,72	97,72	102,72
1800	95,34	98,34	101,34	92,79	97,79	102,79
1860	95,41	98,41	101,41	92,89	97,89	102,89
1920	95,50	98,50	101,50	93,05	98,05	103,05
1980	95,72	98,72	101,72	93,18	98,18	103,18
2040	95,83	98,83	101,83	93,24	98,24	103,24
2100	95,95	98,95	101,95	93,37	98,37	103,37
2160	96,00	99,00	102,00	93,48	98,48	103,48
2220	96,12	99,12	102,12	93,53	98,53	103,53
2280	96,26	99,26	102,26	93,62	98,62	103,62
2340	96,40	99,40	102,40	93,81	98,81	103,81
2400	96,54	99,54	102,54	93,94	98,94	103,94
2460	96,74	99,74	102,74	94,05	99,05	104,05
2520	96,90	99,90	102,90	94,22	99,22	104,22
2580	97,04	100,04	103,04	94,33	99,33	104,33
2640	97,23	100,23	103,23	94,44	99,44	104,44
2700	97,38	100,38	103,38	94,60	99,60	104,60
2760	97,48	100,48	103,48	94,76	99,76	104,76
2820	97,62	100,62	103,62	94,83	99,83	104,83
2880	97,72	100,72	103,72	94,91	99,91	104,91
2940	97,82	100,82	103,82	95,16	100,16	105,16
3000	97,97	100,97	103,97	95,31	100,31	105,31
3060	98,07	101,07	104,07	95,31	100,31	105,31
3120	98,21	101,21	104,21	95,39	100,39	105,39
3180	98,33	101,33	104,33	95,42	100,42	105,42
3240	98,49	101,49	104,49	95,57	100,57	105,57
3300	98,62	101,62	104,62	95,79	100,79	105,79
3360	98,75	101,75	104,75	95,87	100,87	105,87
3420	98,89	101,89	104,89	96,00	101,00	106,00
3480	98,99	101,99	104,99	96,15	101,15	106,15
3540	99,14	102,14	105,14	96,25	101,25	106,25
3600	99,27	102,27	105,27	96,33	101,33	106,33
3660	99,40	102,40	105,40	96,49	101,49	106,49
3720	99,53	102,53	105,53	96,66	101,66	106,66
3780	99,64	102,64	105,64	96,72	101,72	106,72
3840	99,75	102,75	105,75	96,90	101,90	106,90
3900	99,87	102,87	105,87	97,06	102,06	107,06
3960	99,99	102,99	105,99	97,09	102,09	107,09
4020	100,14	103,14	106,14	97,21	102,21	107,21
4080	100,25	103,25	106,25	97,34	102,34	107,34
4140	100,40	103,40	106,40	97,48	102,48	107,48
4200	100,55	103,55	106,55	99,59	102,59	105,59
4260	100,64	103,64	106,64	99,73	102,73	105,73
4304	100,66	103,66	106,66	99,86	102,86	105,86

Evap-Family: xxxxR0158LNC

		Running Loss Temperature Profile EPA MY 2007				Type Approval & Certification EP/QZM Schuster 2005-09-15
	R230 E55		Environmental Chamber Sindelfingen			R230E55 mittel
Time	Lower bound t liq	Aver_t liq_corr	Upper bound t liq	Lower bound t vap	t vap_corr	Upper bound t vap
(sec)	(Deg F)	(Deg F)	(Deg F)	(Deg F)	(Deg F)	(Deg F)
0	92,00	95,00	98,00	90,00	95,00	100,00
60	92,09	95,09	98,09	89,92	94,92	99,92
120	92,31	95,31	98,31	90,01	95,01	100,01
180	92,47	95,47	98,47	90,05	95,05	100,05
240	92,76	95,76	98,76	90,16	95,16	100,16
300	93,09	96,09	99,09	90,25	95,25	100,25
360	93,38	96,38	99,38	90,26	95,26	100,26
420	93,64	96,64	99,64	90,23	95,23	100,23
480	93,99	96,99	99,99	90,09	95,09	100,09
540	94,02	97,02	100,02	89,97	94,97	99,97
600	94,30	97,30	100,30	89,97	94,97	99,97
660	94,47	97,47	100,47	90,00	95,00	100,00
720	94,76	97,76	100,76	90,06	95,06	100,06
780	95,03	98,03	101,03	90,28	95,28	100,28
840	95,35	98,35	101,35	90,34	95,34	100,34
900	95,61	98,61	101,61	90,53	95,53	100,53
960	95,85	98,85	101,85	90,59	95,59	100,59
1020	96,21	99,21	102,21	90,77	95,77	100,77
1080	96,37	99,37	102,37	90,83	95,83	100,83
1140	96,63	99,63	102,63	90,96	95,96	100,96
1200	96,89	99,89	102,89	91,12	96,12	101,12
1260	97,18	100,18	103,18	91,31	96,31	101,31
1320	97,48	100,48	103,48	91,43	96,43	101,43
1380	97,75	100,75	103,75	91,61	96,61	101,61
1440	98,00	101,00	104,00	91,67	96,67	101,67
1500	98,25	101,25	104,25	91,82	96,82	101,82
1560	98,50	101,50	104,50	91,93	96,93	101,93
1620	98,62	101,62	104,62	92,12	97,12	102,12
1680	99,01	102,01	105,01	92,29	97,29	102,29
1740	99,15	102,15	105,15	92,47	97,47	102,47
1800	99,43	102,43	105,43	92,66	97,66	102,66
1860	99,80	102,80	105,80	92,89	97,89	102,89
1920	100,08	103,08	106,08	93,08	98,08	103,08
1980	100,46	103,46	106,46	93,30	98,30	103,30
2040	100,60	103,60	106,60	93,46	98,46	103,46
2100	100,99	103,99	106,99	93,70	98,70	103,70
2160	101,31	104,31	107,31	93,93	98,93	103,93
2220	101,51	104,51	107,51	94,15	99,15	104,15
2280	101,81	104,81	107,81	94,35	99,35	104,35
2340	102,12	105,12	108,12	94,60	99,60	104,60
2400	102,42	105,42	108,42	94,79	99,79	104,79
2460	102,68	105,68	108,68	94,99	99,99	104,99
2520	103,06	106,06	109,06	95,20	100,20	105,20
2580	103,47	106,47	109,47	95,41	100,41	105,41
2640	103,63	106,63	109,63	95,63	100,63	105,63
2700	104,03	107,03	110,03	95,90	100,90	105,90
2760	104,39	107,39	110,39	96,12	101,12	106,12
2820	104,65	107,65	110,65	96,33	101,33	106,33
2880	104,85	107,85	110,85	96,59	101,59	106,59
2940	105,31	108,31	111,31	96,83	101,83	106,83
3000	105,49	108,49	111,49	97,11	102,11	107,11
3060	105,79	108,79	111,79	97,30	102,30	107,30
3120	106,16	109,16	112,16	97,60	102,60	107,60
3180	106,37	109,37	112,37	97,77	102,77	107,77
3240	106,77	109,77	112,77	98,05	103,05	108,05
3300	107,06	110,06	113,06	98,25	103,25	108,25
3360	107,18	110,18	113,18	98,49	103,49	108,49
3420	107,45	110,45	113,45	98,74	103,74	108,74
3480	107,79	110,79	113,79	98,97	103,97	108,97
3540	108,06	111,06	114,06	99,23	104,23	109,23
3600	108,33	111,33	114,33	99,40	104,40	109,40
3660	108,62	111,62	114,62	99,62	104,62	109,62
3720	109,06	112,06	115,06	99,86	104,86	109,86
3780	109,37	112,37	115,37	100,17	105,17	110,17
3840	109,59	112,59	115,59	100,39	105,39	110,39
3900	109,90	112,90	115,90	100,61	105,61	110,61
3960	110,25	113,25	116,25	100,84	105,84	110,84
4020	110,51	113,51	116,51	101,07	106,07	111,07
4080	110,82	113,82	116,82	101,32	106,32	111,32
4140	111,11	114,11	117,11	101,53	106,53	111,53
4200	111,37	114,37	117,37	103,79	106,79	109,79
4260	111,63	114,63	117,63	103,98	106,98	109,98
4304	111,68	114,68	117,68	104,12	107,12	110,12

Evap-Family: xxxxR0160LNC

Running Loss Temperature Profile EPA MY 2010

W204 E25

Environmental Chamber Sindelfingen

Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	
0	92,00	95,00	98,00	
60	92,27	95,27	98,27	
120	92,27	95,27	98,27	
180	92,63	95,63	98,63	
240	92,81	95,81	98,81	
300	92,90	95,90	98,90	
360	93,26	96,26	99,26	
420	93,71	96,71	99,71	
480	94,16	97,16	100,16	
540	94,43	97,43	100,43	
600	94,88	97,88	100,88	
660	95,15	98,15	101,15	
720	95,33	98,33	101,33	
780	95,60	98,60	101,60	
840	95,87	98,87	101,87	
900	96,14	99,14	102,14	
960	96,77	99,77	102,77	
1020	97,22	100,22	103,22	
1080	97,49	100,49	103,49	
1140	97,85	100,85	103,85	
1200	98,12	101,12	104,12	
1260	98,48	101,48	104,48	
1320	98,75	101,75	104,75	
1380	98,93	101,93	104,93	
1440	99,29	102,29	105,29	
1500	99,56	102,56	105,56	
1560	99,74	102,74	105,74	
1620	100,01	103,01	106,01	
1680	100,28	103,28	106,28	
1740	100,46	103,46	106,46	
1800	100,82	103,82	106,82	
1860	101,18	104,18	107,18	
1920	101,36	104,36	107,36	
1980	101,63	104,63	107,63	
2040	101,72	104,72	107,72	
2100	101,99	104,99	107,99	
2160	102,26	105,26	108,26	
2220	102,44	105,44	108,44	
2280	102,71	105,71	108,71	
2340	102,98	105,98	108,98	
2400	103,25	106,25	109,25	
2460	103,52	106,52	109,52	
2520	103,79	106,79	109,79	
2580	103,97	106,97	109,97	
2640	104,15	107,15	110,15	
2700	104,33	107,33	110,33	
2760	104,60	107,60	110,60	
2820	104,96	107,96	110,96	
2880	105,14	108,14	111,14	
2940	105,23	108,23	111,23	
3000	105,68	108,68	111,68	
3060	105,95	108,95	111,95	
3120	106,04	109,04	112,04	
3180	106,40	109,40	112,40	
3240	106,67	109,67	112,67	
3300	106,85	109,85	112,85	
3360	107,12	110,12	113,12	
3420	107,39	110,39	113,39	
3480	107,66	110,66	113,66	
3540	107,84	110,84	113,84	
3600	108,11	111,11	114,11	
3660	108,38	111,38	114,38	
3720	108,56	111,56	114,56	
3780	108,83	111,83	114,83	
3840	109,10	112,10	115,10	
3900	109,46	112,46	115,46	
3960	109,73	112,73	115,73	
4020	110,00	113,00	116,00	
4080	110,36	113,36	116,36	
4140	110,54	113,54	116,54	
4200	110,81	113,81	116,81	
4260	111,08	114,08	117,08	
4304	111,26	114,26	117,26	

Evap-Family: xxxxR0160LNF

Type Approval
& Certification
EP/QZM Schuster 2004-06-07

Running Loss Temperature Profile EPA MY 2006

W211 PZEV - 1212 Environmental Chamber Sindelfingen W211 PZEV mittel

Time (sec)	Lower bound t liq (Deg C)	Aver_t liq_corr (Deg C)	Upper bound t liq (Deg C)	Lower bound t vap (Deg C)	t vap_corr (Deg C)	Upper bound t vap (Deg C)
0	33,33	35,00	36,67	32,22	35,00	37,78
60	33,32	34,98	36,65	32,37	35,15	37,92
120	33,59	35,25	36,92	32,68	35,46	38,23
180	33,81	35,48	37,15	32,96	35,74	38,52
240	34,03	35,70	37,37	33,44	36,22	39,00
300	34,19	35,85	37,52	33,57	36,35	39,13
360	34,38	36,05	37,72	33,42	36,20	38,97
420	34,64	36,31	37,98	33,56	36,34	39,12
480	34,83	36,50	38,16	33,79	36,57	39,35
540	35,12	36,79	38,46	34,13	36,90	39,68
600	35,31	36,98	38,64	34,32	37,10	39,88
660	35,47	37,13	38,80	34,61	37,38	40,16
720	35,75	37,42	39,08	34,82	37,60	40,37
780	35,93	37,60	39,26	35,01	37,79	40,57
840	36,21	37,88	39,55	35,31	38,08	40,86
900	36,40	38,07	39,73	35,58	38,35	41,13
960	36,67	38,34	40,00	35,88	38,65	41,43
1020	37,04	38,70	40,37	36,22	39,00	41,77
1080	37,17	38,84	40,51	36,29	39,07	41,85
1140	37,41	39,08	40,74	36,58	39,36	42,14
1200	37,63	39,30	40,96	36,79	39,57	42,34
1260	37,82	39,48	41,15	37,02	39,79	42,57
1320	38,10	39,77	41,44	37,19	39,96	42,74
1380	38,30	39,96	41,63	37,37	40,15	42,93
1440	38,49	40,16	41,83	37,72	40,49	43,27
1500	38,72	40,39	42,05	38,07	40,85	43,63
1560	38,92	40,58	42,25	38,21	40,99	43,77
1620	39,14	40,80	42,47	38,30	41,08	43,86
1680	39,39	41,05	42,72	38,50	41,27	44,05
1740	39,63	41,30	42,97	38,72	41,49	44,27
1800	39,88	41,55	43,22	38,72	41,49	44,27
1860	40,14	41,81	43,48	38,83	41,61	44,39
1920	40,28	41,95	43,62	39,18	41,96	44,74
1980	40,50	42,17	43,84	39,20	41,98	44,76
2040	40,76	42,43	44,10	39,26	42,04	44,82
2100	40,99	42,66	44,32	39,43	42,21	44,99
2160	41,18	42,85	44,51	39,60	42,37	45,15
2220	41,32	42,98	44,65	39,81	42,59	45,37
2280	41,67	43,33	45,00	40,16	42,93	45,71
2340	41,91	43,58	45,24	40,27	43,05	45,83
2400	42,16	43,83	45,50	40,39	43,17	45,95
2460	42,32	43,98	45,65	40,56	43,34	46,12
2520	42,59	44,25	45,92	40,67	43,45	46,23
2580	42,69	44,36	46,03	40,69	43,46	46,24
2640	42,99	44,66	46,33	41,06	43,84	46,62
2700	43,22	44,89	46,55	41,16	43,94	46,71
2760	43,37	45,03	46,70	41,23	44,01	46,79
2820	43,68	45,34	47,01	41,65	44,43	47,21
2880	43,87	45,54	47,21	42,01	44,79	47,57
2940	44,11	45,77	47,44	42,16	44,94	47,71
3000	44,21	45,88	47,55	42,48	45,26	48,04
3060	44,51	46,18	47,85	42,61	45,39	48,17
3120	44,86	46,53	48,20	43,04	45,82	48,59
3180	45,02	46,69	48,35	43,13	45,90	48,68
3240	45,21	46,88	48,55	43,17	45,95	48,72
3300	45,44	47,11	48,78	43,32	46,10	48,88
3360	45,61	47,28	48,95	43,54	46,32	49,10
3420	45,80	47,47	49,13	43,59	46,37	49,15
3480	45,96	47,63	49,30	43,65	46,43	49,20
3540	46,02	47,69	49,35	43,74	46,52	49,29
3600	46,22	47,88	49,55	44,03	46,81	49,59
3660	46,40	48,07	49,74	44,10	46,88	49,66
3720	46,57	48,23	49,90	44,28	47,06	49,84
3780	46,77	48,44	50,10	44,36	47,14	49,92
3840	46,95	48,61	50,28	44,42	47,20	49,98
3900	47,05	48,72	50,39	44,54	47,32	50,10
3960	47,14	48,81	50,48	44,54	47,32	50,10
4020	47,31	48,98	50,65	44,62	47,40	50,18
4080	47,49	49,16	50,83	44,81	47,59	50,37
4140	47,48	49,14	50,81	44,86	47,64	50,42
4200	47,70	49,36	51,03	46,16	47,83	49,49
4260	47,87	49,53	51,20	46,18	47,84	49,51
4304	47,94	49,60	51,27	46,18	47,84	49,51

Evap-Family: xxxxR0168LNP

Type Approval
& Certification
EP/QZM Schuster 2004-06-07

Running Loss Temperature Profile EPA MY 2006

W211 PZEV - 1212 Environmental Chamber Sindelfingen W211 PZEV mittel

Time (sec)	Lower bound t liq (Deg C)	Aver_t liq_corr (Deg C)	Upper bound t liq (Deg C)	Lower bound t vap (Deg C)	t vap_corr (Deg C)	Upper bound t vap (Deg C)
0	33,33	35,00	36,67	32,22	35,00	37,78
60	33,32	34,98	36,65	32,37	35,15	37,92
120	33,59	35,25	36,92	32,68	35,46	38,23
180	33,81	35,48	37,15	32,96	35,74	38,52
240	34,03	35,70	37,37	33,44	36,22	39,00
300	34,19	35,85	37,52	33,57	36,35	39,13
360	34,38	36,05	37,72	33,42	36,20	38,97
420	34,64	36,31	37,98	33,56	36,34	39,12
480	34,83	36,50	38,16	33,79	36,57	39,35
540	35,12	36,79	38,46	34,13	36,90	39,68
600	35,31	36,98	38,64	34,32	37,10	39,88
660	35,47	37,13	38,80	34,61	37,38	40,16
720	35,75	37,42	39,08	34,82	37,60	40,37
780	35,93	37,60	39,26	35,01	37,79	40,57
840	36,21	37,88	39,55	35,31	38,08	40,86
900	36,40	38,07	39,73	35,58	38,35	41,13
960	36,67	38,34	40,00	35,88	38,65	41,43
1020	37,04	38,70	40,37	36,22	39,00	41,77
1080	37,17	38,84	40,51	36,29	39,07	41,85
1140	37,41	39,08	40,74	36,58	39,36	42,14
1200	37,63	39,30	40,96	36,79	39,57	42,34
1260	37,82	39,48	41,15	37,02	39,79	42,57
1320	38,10	39,77	41,44	37,19	39,96	42,74
1380	38,30	39,96	41,63	37,37	40,15	42,93
1440	38,49	40,16	41,83	37,72	40,49	43,27
1500	38,72	40,39	42,05	38,07	40,85	43,63
1560	38,92	40,58	42,25	38,21	40,99	43,77
1620	39,14	40,80	42,47	38,30	41,08	43,86
1680	39,39	41,05	42,72	38,50	41,27	44,05
1740	39,63	41,30	42,97	38,72	41,49	44,27
1800	39,88	41,55	43,22	38,72	41,49	44,27
1860	40,14	41,81	43,48	38,83	41,61	44,39
1920	40,28	41,95	43,62	39,18	41,96	44,74
1980	40,50	42,17	43,84	39,20	41,98	44,76
2040	40,76	42,43	44,10	39,26	42,04	44,82
2100	40,99	42,66	44,32	39,43	42,21	44,99
2160	41,18	42,85	44,51	39,60	42,37	45,15
2220	41,32	42,98	44,65	39,81	42,59	45,37
2280	41,67	43,33	45,00	40,16	42,93	45,71
2340	41,91	43,58	45,24	40,27	43,05	45,83
2400	42,16	43,83	45,50	40,39	43,17	45,95
2460	42,32	43,98	45,65	40,56	43,34	46,12
2520	42,59	44,25	45,92	40,67	43,45	46,23
2580	42,69	44,36	46,03	40,69	43,46	46,24
2640	42,99	44,66	46,33	41,06	43,84	46,62
2700	43,22	44,89	46,55	41,16	43,94	46,71
2760	43,37	45,03	46,70	41,23	44,01	46,79
2820	43,68	45,34	47,01	41,65	44,43	47,21
2880	43,87	45,54	47,21	42,01	44,79	47,57
2940	44,11	45,77	47,44	42,16	44,94	47,71
3000	44,21	45,88	47,55	42,48	45,26	48,04
3060	44,51	46,18	47,85	42,61	45,39	48,17
3120	44,86	46,53	48,20	43,04	45,82	48,59
3180	45,02	46,69	48,35	43,13	45,90	48,68
3240	45,21	46,88	48,55	43,17	45,95	48,72
3300	45,44	47,11	48,78	43,32	46,10	48,88
3360	45,61	47,28	48,95	43,54	46,32	49,10
3420	45,80	47,47	49,13	43,59	46,37	49,15
3480	45,96	47,63	49,30	43,65	46,43	49,20
3540	46,02	47,69	49,35	43,74	46,52	49,29
3600	46,22	47,88	49,55	44,03	46,81	49,59
3660	46,40	48,07	49,74	44,10	46,88	49,66
3720	46,57	48,23	49,90	44,28	47,06	49,84
3780	46,77	48,44	50,10	44,36	47,14	49,92
3840	46,95	48,61	50,28	44,42	47,20	49,98
3900	47,05	48,72	50,39	44,54	47,32	50,10
3960	47,14	48,81	50,48	44,54	47,32	50,10
4020	47,31	48,98	50,65	44,62	47,40	50,18
4080	47,49	49,16	50,83	44,81	47,59	50,37
4140	47,48	49,14	50,81	44,86	47,64	50,42
4200	47,70	49,36	51,03	46,16	47,83	49,49
4260	47,87	49,53	51,20	46,18	47,84	49,51
4304	47,94	49,60	51,27	46,18	47,84	49,51

Evap-Family: xxxxR0170LNS

Running Loss Temperature Profile EPA MY 2005

Type Approval & Certification EP/QZM Schuster 2004-04-15

W221 KE55 - 153

Environmental Chamber Sindelfingen

W221mittel

Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	Lower bound t vap (Deg F)	t vap_corr (Deg F)	Upper bound t vap (Deg F)
0	92,00	95,00	98,00	90,00	95,00	100,00
60	92,10	95,10	98,10	90,10	95,10	100,10
120	92,54	95,54	98,54	90,23	95,23	100,23
180	92,78	95,78	98,78	90,39	95,39	100,39
240	92,94	95,94	98,94	91,13	96,13	101,13
300	93,08	96,08	99,08	92,14	97,14	102,14
360	93,45	96,45	99,45	92,99	97,99	102,99
420	93,66	96,66	99,66	93,68	98,68	103,68
480	93,70	96,70	99,70	94,49	99,49	104,49
540	94,10	97,10	100,10	95,28	100,28	105,28
600	94,23	97,23	100,23	95,70	100,70	105,70
660	94,46	97,46	100,46	96,59	101,59	106,59
720	94,77	97,77	100,77	97,03	102,03	107,03
780	95,07	98,07	101,07	97,03	102,03	107,03
840	95,59	98,59	101,59	97,81	102,81	107,81
900	96,03	99,03	102,03	98,51	103,51	108,51
960	96,44	99,44	102,44	99,11	104,11	109,11
1020	96,79	99,79	102,79	99,35	104,35	109,35
1080	97,07	100,07	103,07	99,50	104,50	109,50
1140	97,60	100,60	103,60	100,05	105,05	110,05
1200	97,97	100,97	103,97	100,99	105,99	110,99
1260	98,45	101,45	104,45	101,36	106,36	111,36
1320	98,83	101,83	104,83	102,02	107,02	112,02
1380	99,22	102,22	105,22	102,48	107,48	112,48
1440	99,58	102,58	105,58	103,87	108,87	113,87
1500	100,05	103,05	106,05	104,88	109,88	114,88
1560	100,39	103,39	106,39	105,51	110,51	115,51
1620	100,86	103,86	106,86	105,91	110,91	115,91
1680	101,24	104,24	107,24	105,90	110,90	115,90
1740	101,79	104,79	107,79	105,62	110,62	115,62
1800	102,28	105,28	108,28	105,80	110,80	115,80
1860	102,70	105,70	108,70	106,47	111,47	116,47
1920	103,20	106,20	109,20	107,78	112,78	117,78
1980	103,55	106,55	109,55	108,61	113,61	118,61
2040	103,99	106,99	109,99	109,49	114,49	119,49
2100	104,42	107,42	110,42	109,55	114,55	119,55
2160	104,86	107,86	110,86	110,52	115,52	120,52
2220	105,24	108,24	111,24	111,27	116,27	121,27
2280	105,72	108,72	111,72	111,24	116,24	121,24
2340	106,29	109,29	112,29	111,10	116,10	121,10
2400	106,69	109,69	112,69	111,11	116,11	121,11
2460	107,17	110,17	113,17	111,86	116,86	121,86
2520	107,55	110,55	113,55	113,30	118,30	123,30
2580	107,94	110,94	113,94	114,46	119,46	124,46
2640	108,46	111,46	114,46	115,34	120,34	125,34
2700	108,91	111,91	114,91	115,63	120,63	125,63
2760	109,21	112,21	115,21	117,10	122,10	127,10
2820	109,69	112,69	115,69	118,49	123,49	128,49
2880	110,13	113,13	116,13	119,01	124,01	129,01
2940	110,72	113,72	116,72	118,85	123,85	128,85
3000	111,09	114,09	117,09	118,25	123,25	128,25
3060	111,66	114,66	117,66	118,75	123,75	128,75
3120	112,17	115,17	118,17	118,98	123,98	128,98
3180	112,47	115,47	118,47	118,88	123,88	128,88
3240	112,77	115,77	118,77	118,74	123,74	128,74
3300	113,15	116,15	119,15	118,47	123,47	128,47
3360	113,66	116,66	119,66	118,91	123,91	128,91
3420	114,12	117,12	120,12	119,56	124,56	129,56
3480	114,39	117,39	120,39	119,61	124,61	129,61
3540	114,85	117,85	120,85	120,30	125,30	130,30
3600	115,38	118,38	121,38	120,14	125,14	130,14
3660	115,77	118,77	121,77	120,43	125,43	130,43
3720	116,29	119,29	122,29	121,25	126,25	131,25
3780	116,54	119,54	122,54	121,63	126,63	131,63
3840	116,79	119,79	122,79	121,09	126,09	131,09
3900	117,16	120,16	123,16	121,59	126,59	131,59
3960	117,46	120,46	123,46	121,86	126,86	131,86
4020	117,74	120,74	123,74	121,83	126,83	131,83
4080	118,10	121,10	124,10	121,83	126,83	131,83
4140	118,29	121,29	124,29	121,80	126,80	131,80
4200	118,60	121,60	124,60	123,89	126,89	129,89
4260	118,92	121,92	124,92	125,01	128,01	131,01
4304	119,10	122,10	125,10	125,68	128,68	131,68

Evap-Family: xxxxR0170LNC

Type Approval
& Certification
EP/QZM Schuster 2003-12-09

Running Loss Temperature Profile EPA MY 2004

V463E55ML Environmental Chamber Sindelfingen V463amg mittel

Time (sec)	Lower bound t liq (Deg F)	Aver_t liq_corr (Deg F)	Upper bound t liq (Deg F)	Lower bound t vap (Deg F)	t vap_corr (Deg F)	Upper bound t vap (Deg F)
0	92,00	95,00	98,00	90,00	95,00	100,00
60	92,10	95,10	98,10	90,10	95,10	100,10
120	92,20	95,20	98,20	90,18	95,18	100,18
180	92,35	95,35	98,35	90,31	95,31	100,31
240	92,51	95,51	98,51	90,48	95,48	100,48
300	92,72	95,72	98,72	90,86	95,86	100,86
360	92,82	95,82	98,82	91,12	96,12	101,12
420	93,03	96,03	99,03	91,54	96,54	101,54
480	93,19	96,19	99,19	91,90	96,90	101,90
540	93,42	96,42	99,42	92,31	97,31	102,31
600	93,52	96,52	99,52	92,71	97,71	102,71
660	93,69	96,69	99,69	93,27	98,27	103,27
720	93,87	96,87	99,87	93,60	98,60	103,60
780	94,07	97,07	100,07	93,91	98,91	103,91
840	94,24	97,24	100,24	94,25	99,25	104,25
900	94,43	97,43	100,43	94,71	99,71	104,71
960	94,62	97,62	100,62	95,23	100,23	105,23
1020	94,85	97,85	100,85	95,77	100,77	105,77
1080	95,04	98,04	101,04	96,09	101,09	106,09
1140	95,25	98,25	101,25	96,28	101,28	106,28
1200	95,42	98,42	101,42	96,72	101,72	106,72
1260	95,61	98,61	101,61	96,95	101,95	106,95
1320	95,78	98,78	101,78	97,28	102,28	107,28
1380	95,99	98,99	101,99	97,70	102,70	107,70
1440	96,26	99,26	102,26	97,91	102,91	107,91
1500	96,37	99,37	102,37	98,10	103,10	108,10
1560	96,62	99,62	102,62	98,43	103,43	108,43
1620	96,79	99,79	102,79	98,70	103,70	108,70
1680	97,03	100,03	103,03	99,01	104,01	109,01
1740	97,23	100,23	103,23	99,37	104,37	109,37
1800	97,46	100,46	103,46	99,69	104,69	109,69
1860	97,70	100,70	103,70	99,94	104,94	109,94
1920	97,88	100,88	103,88	100,07	105,07	110,07
1980	98,11	101,11	104,11	100,34	105,34	110,34
2040	98,22	101,22	104,22	100,63	105,63	110,63
2100	98,41	101,41	104,41	101,01	106,01	111,01
2160	98,57	101,57	104,57	101,22	106,22	111,22
2220	98,86	101,86	104,86	101,50	106,50	111,50
2280	99,05	102,05	105,05	101,64	106,64	111,64
2340	99,25	102,25	105,25	101,96	106,96	111,96
2400	99,47	102,47	105,47	102,26	107,26	112,26
2460	99,67	102,67	105,67	102,52	107,52	112,52
2520	99,89	102,89	105,89	102,76	107,76	112,76
2580	100,14	103,14	106,14	103,01	108,01	113,01
2640	100,33	103,33	106,33	103,28	108,28	113,28
2700	100,60	103,60	106,60	103,59	108,59	113,59
2760	100,77	103,77	106,77	103,86	108,86	113,86
2820	100,99	103,99	106,99	104,16	109,16	114,16
2880	101,18	104,18	107,18	104,39	109,39	114,39
2940	101,39	104,39	107,39	104,69	109,69	114,69
3000	101,63	104,63	107,63	104,96	109,96	114,96
3060	101,79	104,79	107,79	104,98	109,98	114,98
3120	102,04	105,04	108,04	105,38	110,38	115,38
3180	102,22	105,22	108,22	105,66	110,66	115,66
3240	102,43	105,43	108,43	105,76	110,76	115,76
3300	102,63	105,63	108,63	105,79	110,79	115,79
3360	102,83	105,83	108,83	105,98	110,98	115,98
3420	103,04	106,04	109,04	106,06	111,06	116,06
3480	103,24	106,24	109,24	106,24	111,24	116,24
3540	103,51	106,51	109,51	106,34	111,34	116,34
3600	103,70	106,70	109,70	106,35	111,35	116,35
3660	103,90	106,90	109,90	106,48	111,48	116,48
3720	104,06	107,06	110,06	106,66	111,66	116,66
3780	104,22	107,22	110,22	106,80	111,80	116,80
3840	104,49	107,49	110,49	106,93	111,93	116,93
3900	104,64	107,64	110,64	107,00	112,00	117,00
3960	104,83	107,83	110,83	107,06	112,06	117,06
4020	104,94	107,94	110,94	107,15	112,15	117,15
4080	105,11	108,11	111,11	107,25	112,25	117,25
4140	105,30	108,30	111,30	107,34	112,34	117,34
4200	105,50	108,50	111,50	109,46	112,46	115,46
4260	105,67	108,67	111,67	109,52	112,52	115,52
4303	105,74	108,74	111,74	109,51	112,51	115,51

Evap-Family: xxxxR0170LNF

Type Approval
& Certification
EP/QZM Schuster 2004-10-09

Running Loss Temperature Profile EPA MY 2006

V251KE35 Environmental Chamber Sindelfingen V251KE35 mittel

Time (sec)	Lower bound t liq (Deg C)	Aver_t liq_corr (Deg C)	Upper bound t liq (Deg C)	Lower bound t vap (Deg C)	t vap_corr (Deg C)	Upper bound t vap (Deg C)
0	33,33	35,00	36,67			
60	33,38	35,04	36,71			
120	33,42	35,09	36,75			
180	33,56	35,23	36,89			
240	33,70	35,36	37,03			
300	33,84	35,50	37,17			
360	33,98	35,64	37,31			
420	34,12	35,79	37,45			
480	34,32	35,99	37,65			
540	34,52	36,18	37,85			
600	34,73	36,40	38,06			
660	34,97	36,63	38,30			
720	35,14	36,81	38,47			
780	35,38	37,04	38,71			
840	35,61	37,28	38,95			
900	35,85	37,52	39,19			
960	36,10	37,77	39,43			
1020	36,25	37,92	39,58			
1080	36,51	38,17	39,84			
1140	36,75	38,42	40,09			
1200	36,98	38,65	40,32			
1260	37,21	38,88	40,55			
1320	37,42	39,08	40,75			
1380	37,63	39,30	40,97			
1440	37,85	39,52	41,18			
1500	38,07	39,74	41,40			
1560	38,31	39,98	41,65			
1620	38,55	40,22	41,89			
1680	38,80	40,47	42,13			
1740	39,04	40,71	42,38			
1800	39,27	40,94	42,60			
1860	39,50	41,16	42,83			
1920	39,62	41,28	42,95			
1980	39,86	41,53	43,19			
2040	40,10	41,76	43,43			
2100	40,28	41,94	43,61			
2160	40,45	42,11	43,78			
2220	40,62	42,28	43,95			
2280	40,80	42,46	44,13			
2340	40,98	42,64	44,31			
2400	41,16	42,82	44,49			
2460	41,35	43,02	44,68			
2520	41,54	43,21	44,88			
2580	41,74	43,41	45,07			
2640	41,93	43,60	45,27			
2700	42,12	43,79	45,45			
2760	42,29	43,96	45,62			
2820	42,46	44,13	45,79			
2880	42,67	44,33	46,00			
2940	42,87	44,54	46,21			
3000	43,06	44,72	46,39			
3060	43,22	44,89	46,55			
3120	43,38	45,05	46,72			
3180	43,56	45,23	46,89			
3240	43,73	45,40	47,07			
3300	43,90	45,57	47,23			
3360	44,05	45,72	47,38			
3420	44,20	45,86	47,53			
3480	44,37	46,03	47,70			
3540	44,54	46,20	47,87			
3600	44,70	46,37	48,04			
3660	44,85	46,51	48,18			
3720	44,99	46,66	48,32			
3780	45,15	46,82	48,49			
3840	45,32	46,99	48,65			
3900	45,48	47,15	48,82			
3960	45,62	47,29	48,96			
4020	45,76	47,43	49,10			
4080	45,92	47,58	49,25			
4140	46,07	47,74	49,41			
4200	46,23	47,89	49,56			
4260	46,40	48,07	49,73			
4304	46,58	48,25	49,92			

S-04: Durability Procedure Description: see S-16

Refer to section 16 for the description of the test procedures used to establish durability and deterioration factors.

Refer to section 02 for a table "test procedures used per durability group" and to section 03 for a table "test procedures used per evaporative family".

Refer to the summary sheets in the specific application section 07 for the deterioration factors.

S-05: Test Group Description: see S-02

The test group description is provided in section 2 as part of the durability description.

S-06: Test Vehicle Description: see specific

The test vehicle description is located in the specific application for certification of each durability group individually.

S-07: Test Results: see specific

The test results are located in the specific application for certification of each durability group individually.

S-08: Statements

S-08-01: Emission Testing Waiver Statements

A) High-altitude (40CFR §86.1829-01)
Based on our engineering evaluation of appropriate high-altitude emission testing Mercedes states that all vehicles and trucks included in the respective applications comply with the applicable emission standards at high-altitude.

B) Particulate emissions (40CFR §86.1829-01)
Based on our engineering evaluation Mercedes states that all gasoline fueled vehicles and trucks included in the respective applications comply with the applicable particulate emission standards.

C) Formaldehyde (HCHO) emissions (40CFR §86.1829-01)
Based on our engineering evaluation Mercedes states that all gasoline and diesel fueled vehicles and trucks included in the respective applications comply with the applicable HCHO emission standards. For the HCHO determination, the adjustment factor for the measured NMHC value is the average of six HCHO adjustment factors derived from testing of whole vehicle full useful life durability vehicles. The average value is 0.018.

D) CST testing (40CFR §86.1829-01)
Based on our engineering evaluation of CST testing Mercedes states that all light-duty vehicles and light-duty trucks included in the respective applications comply with the applicable CST emission standards.

E) Idle CO testing (40CFR §86.1829-01)
Based on our engineering evaluation Mercedes states that all light-duty trucks included in the respective applications comply with the applicable Idle CO emission standards.

F) Leak-free exhaust system design (40CFR §86.1844-01 (d)(16))
Mercedes ensures that the exhaust system has been designed to facilitate leak-free assembly, installation and operation for the full useful life of the vehicle and to facilitate that repairs can be performed in a manner to maintain leak-free operation.

G) NMOG/NMHC ratios (40CFR §86.1810-01 (p))
Daimler AG has chosen not to measure NMOG and HCHO during certification testing. Unless explicitly mentioned differently in specific applications , the measured NMHC value will be adjusted by the factor 1.04 to represent NMOG emissions as allowed under CFR§86.1810-01(p). For Diesel vehicles, the term NMOG means NMHC, see CFR§86.1811-04(m).

S-08-02: Compliance Statements (40CFR §86.1844-01(d)(14))

H) General compliance statement
Daimler AG states that any element of design, system or emission control device installed on or incorporated in Mercedes-Benz's new motor vehicle engines, for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of Daimler AG's information and belief, cause the emission into the ambient air of pollutants in the operation of its motor vehicles or motor vehicle engines which cause or contribute to an unreasonable risk to public health or welfare except as specifically permitted by the standards described under section 202 of Clean Air Act.
Based on Mercedes Benz 's good engineering judgement the emission control systems cause no increase in toxic or noxious emissions and create no unsafe conditions from their use or malfunction.

Daimler AG further states that any element of design, system, or emission control device or new motor vehicle engines, for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of Daimler AG‘s information and belief, cause or contribute to an unreasonable risk to the public safety.
The term pollutant means:

a) Diesel particulates
b) Nickel
c) MMT Combustion products
d) Ammonia
e) Sulfates
f) Hydrogen sulfide
g) Hydrogen cyanide
h) Ruthenium combustion products
i) Nitrosamines

or any other pollutant which Daimler AG has identified which can reasonably be expected to be emitted from these vehicles.

I) Useful Life
The motor vehicles were tested in accordance with good engineering practice to ascertain that such test vehicles will meet requirements for the useful life of the vehicle in those situations where Daimler AG had a reasonable basis for suspecting either an unsafe condition or the emission of noxious or toxic matter. Any data derived from such testing is available to the Administrator upon request pursuant to 40 CFR § 86.1810-01(c), Daimler AG further states, in accordance with 40 CFR §86.1810-01(c), that to the best of its knowledge and belief the test vehicles, with respect of which data are submitted, were tested in accordance with the applicable test procedures, meet the requirements of such tests, and, on the basis of such tests, conform to the requirements of the regulations.

J) Cold Temperature Defeat Device
Daimler AG states that its test groups have been designed to comply with the intermediate temperature (25°F – 68°F) cold testing defeat device guidelines. The cold fuel enrichment calibrations of these engine families have been designed with at least proportional CO control of the interpolated standard at intermediate ambient temperatures. This design control and development data run at intermediate temperatures serve to demonstrate compliance with the guidelines contained in 40 CFR §86.1809-01.

K) Defeat Device
Daimler AG states that any element of design, system, or emission control device installed on or incorporated in Mercedes-Benz new motor vehicles or new motor vehicles engines, for the purpose of complying with standards prescribed under Section 202 of the Clean Air Act, are not equipped with auxiliary emission control devices that can be classified as a defeat device as defined in 40 CFR §86.1803.01

L) Altitude Performance Adjustments
Daimler AG states that none of its vehicles manufactured and sold by Daimler AG/ MBUSA in the United States require altitude performance adjustments. All Mercedes-Benz vehicles monitor engine operations by the use of a powertrain control module and adjust the operation of the engine to perform satisfactorily at all altitudes.

M) Durability Provision Statement
Based on Mercedes Benz 's good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

N) OBD Compliance Statement
All Mercedes Benz OBD systems meet the full intent of both the Clean Air Act as amended in 1990, section 202(m) and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-05 as requested by the DMFr Letter CCD-02-19 as of December 12, 2002.

O) Waiver of two-diurnal evaporative certification test
Based on Daimler AG good engineering judgement, all vehicles described in this Application for Certification comply with the standards for the supplemental two-diurnal test sequence, refer to §86.1829 (b)(2)(iii).

P) Emission Standards for LDV, LDT and MDV (40CFR §86.1811-04)
Based on good engineering judgement Mercedes-Benz states, that all test vehicles for which data are submitted to demonstrate compliance with this part and with sec.86.1811-04 are in all material respects as described in our application for certification, that they have been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification, and that on the basis of such tests, the vehicles conform to the requirements of the regulations.

Q) GHG : N_2O and CH_4 Standards
As per CFR40 §86.1818-12 (f) Mercedes is choosing not to meet the mentioned emission standards for CH4 in CFR40 §86.1818-12 (f)(1) of 30mg FUL. Mercedes is choosing the option of including N2O and CH4 in the fleet averaging program (CFR40 §86.1818-12 (f)(2)). In the CREE calculation Mercedes will use the measured CH4 values for each individual vehicle, and the N20 standard of 10mg, as we do not have N20 measurement results.

S-08-03: Carry-over of Survey results

a) Select Shift
Mercedes has performed a survey on the use of its select shift functionality and got approval that FE-testing in the "Drive"-Mode only is sufficient (applies for different positions to shift such as center console, steering wheel, shift lever). Mercedes will carry-over this procedure for the current model year.

b) Shift Speed
Mercedes has performed a survey on shift schedules at its manual M6 transmissions and got approval for specific shifting points. Mercedes will carry-over this procedure for the current model year.

c) M-Mode
Mercedes has performed a survey on the use of the manual shift program "M-Mode" and got approval that FE-testing in the automatic mode only is sufficient. Mercedes will carry-over this procedure for the current model year.

S-08-04: ORVR statements

Mercedes will carry-over previous ORVR safety applications as outlined in CCD-05-03. Only liquid seal ORVR systems are used in the current model year (as in the last model year). The used principles represent standard technologies and there have been no substantial changes to the ORVR systems used in the current model year if compared to previously certified ORVR systems (minor changes are limited to adaptations of these standard technologies to the respective vehicles). Mercedes is not aware of specific in-use problems with the respective systems.

S-09: OBD-System Information: see S-16

Daimler AG considers this information proprietary and confidential. The description contains engineering detail that would allow competitors to gain insight into Daimler AG's OBD system. The OBD system descriptions for all test groups are located in the Common Section 16 proprietary and confidential information.

S-10: Alternate Fuel: see specific

S-11: List of AECD

a) Gasoline

Device	Sensed Parameters	Controlled Parameters	Justification Criteria (*)
A/P module	driver	TP	1
TP sensor/actuator	throttle position	TP, SFI, EI	1
CKP sensor	CKP, RPM	SFI, EI	1, 2
CMP sensor	CMP	SFI, EI	1
MAF sensor	engine load (air mass)	SFI, EI	1
IAT sensor	IAT	SFI, EI	1
ECT sensor	ECT	SFI, EI, ISC, AIR, FC	1, 2, 3
HO2S	differential oxygen pressure	A/F ratio	1
Knock Sensor	combustion pressure	EI	1, 2
switching valve, AIR	current from ECM	vacuum to AIR valve	1
AIR valve	intake manifold	AIR	1
	pressure		
VSS	vehicle speed	functions requiring speed signal	1
SCB valve/actuator	keying ratio from ECM	SC on/off	1

(*) Justification criteria based on CFR §86.1810-01(a):

1 – substantially included in FTP
2 – vehicle safety / vehicle damage
3 – engine starting/warm-up period

b) Diesel

Please refer to specific section 16 for a description of AECDs

c) Hybrid

Please refer to specific section 16 for a description of AECDs

S-12: Identification and Description of certified vehicles

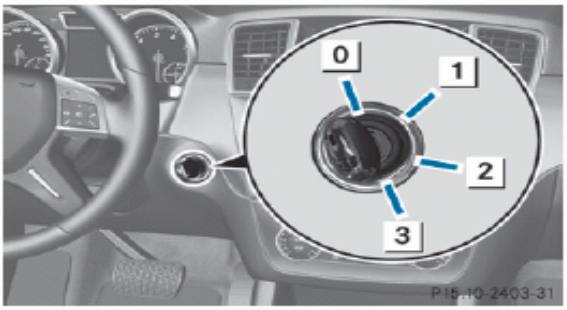
Identification and description of certified vehicles can be found as follows:
- section 02 (common): transmission configurations
- section 12 (specific): information about used shift schedules
- section 06 (specific): parameters necessary to conduct official certification tests
- section 03 (common): running loss temperature profiles

Specific starting procedures (extracts from owner manuals):

a) starting and turning off the engine: Diesel (M-class)

SmartKey positions

SmartKey



0 To remove the SmartKey

1 Power supply for some consumers, such as the windshield wipers

2 Ignition (power supply for all consumers) and drive position

3 To start the engine

As soon as the ignition is switched on, all the indicator lamps in the instrument cluster light up. If an indicator lamp does not go out after the engine is started or if it lights up while the vehicle is in motion, see (▷ page 271).

If the SmartKey is in position **0** in the ignition lock for an extended period of time, it can no longer be turned in the ignition lock. The steering is then locked. To unlock, remove the SmartKey and reinsert it into the ignition lock.

The steering is locked when you remove the SmartKey from the ignition lock.

► Remove the SmartKey when the engine is switched off.
The starter battery could otherwise be discharged.

If you cannot turn the SmartKey in the ignition lock, the starter battery may not be charged sufficiently.

► Check the starter battery and recharge it if necessary (▷ page 340).

or

► Jump-start the vehicle (▷ page 341).

ⓘ The SmartKey can be turned in the ignition lock even if it is not the correct SmartKey for the vehicle. The ignition is not switched on. The engine cannot be started.

KEYLESS-GO

General information

Vehicles with KEYLESS-GO are equipped with a SmartKey featuring an integrated KEYLESS-GO function and a detachable Start/Stop button.

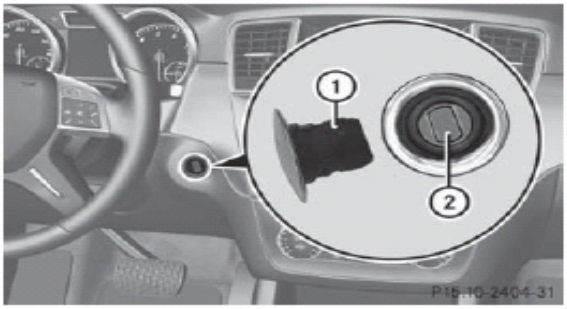
The Start/Stop button must be inserted in the ignition lock and the KEYLESS-GO key must be in the vehicle.

Pressing the Start/Stop button several times in succession corresponds to the different SmartKey positions in the ignition lock. This is only the case if you are not depressing the brake pedal.

If you depress the brake pedal and press the Start/Stop button, the engine starts immediately.

The Start/Stop button can be removed from the ignition lock. Then, you can insert the SmartKey into the ignition lock.

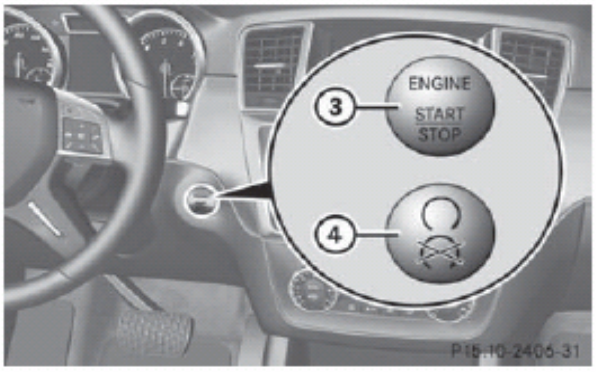
ⓘ You do not have to remove the Start/Stop button from the ignition lock when you leave the vehicle. However, you should always take the SmartKey with you when leaving the vehicle. The vehicle can be started with the Start/Stop button and the electrical equipment can be operated while the SmartKey is in the vehicle.



Driving and parking

▶ Insert Start/Stop button ① into ignition lock ②.

ℹ When you insert Start/Stop button ① into ignition lock ②, the system requires a detection time of approximately two seconds before you can use Start/Stop button ①.



Start/Stop button
③ USA only
④ Canada only

▶ Position **0**: if Start/Stop button ① has not yet been pressed, this corresponds to the SmartKey being removed from the ignition.

▶ Position **1**: press Start/Stop button ① once.
You can now activate the windshield wipers, for example.

ℹ If you press Start/Stop button ① twice when in this position, the power supply is deactivated again.

▶ Position **2** (ignition): press Start/Stop button ① twice.

ℹ If you press Start/Stop button ① once when in this position and the driver's door is open, the power supply is deactivated again.

As soon as the ignition is switched on, all the indicator lamps in the instrument cluster light up. If an indicator lamp does not go out after the engine is started or if it lights up while the vehicle is in motion, see (▷ page 271).

Starting the engine

Important safety notes

⚠ **WARNING**

Inhalation of exhaust gas is hazardous to your health. All exhaust gas contains carbon monoxide (CO), and inhaling it can cause unconsciousness and possible death.

Do not run the engine in confined areas (such as a garage) which are not properly ventilated. If you think that exhaust gas fumes are entering the vehicle while driving, have the cause determined and corrected immediately. If you must drive under these conditions, drive only with at least one window fully open at all times.

ℹ Vehicles with a gasoline engine: the catalytic converter preheats for up to 30 seconds after a cold start. During this time, the engine sound may be different.

Automatic transmission

▶ Shift the transmission to position **P**.
The transmission position display in the multifunction display shows **P** (▷ page 145).

ℹ You can also start the engine when the transmission is in position **N**.

Starting procedure with the SmartKey

▶ **To start a gasoline engine:** turn the SmartKey to position **3** in the ignition lock (▷ page 139) and release it as soon as the engine is running.

▶ **To start a diesel engine:** turn the SmartKey to position **2** in the ignition lock (▷ page 139).
The [ᔕ] preglow indicator lamp in the instrument cluster lights up.

▶ When the [ᔕ] preglow indicator lamp goes out, turn the SmartKey to position **3** (▷ page 139) and release it as soon as the engine is running.

ⓘ You can start the engine without preglow if the engine is warm.

ⓘ You can also use the touch-start function. To do this, turn the SmartKey to position **3** (▷ page 139) and release it immediately. The engine then starts automatically.

Using KEYLESS-GO to start the engine

⚠ **WARNING**

As long as the SmartKey is in your vehicle, the vehicle can be started. Therefore, never leave children unattended in the vehicle, as they could otherwise accidentally start the engine.

When leaving the vehicle, always take the SmartKey with you and lock the vehicle. Do not leave children unattended in the vehicle, or with access to an unlocked vehicle. A child's unsupervised access to a vehicle could result in an accident and/or serious personal injury.

ⓘ The Start/Stop button can be used to start the vehicle without inserting the SmartKey into the ignition lock. The Start/Stop button must be inserted into the ignition lock and the SmartKey must be in the vehicle.

▶ Depress the brake pedal and keep it depressed.

▶ **To start a gasoline engine:** press the Start/Stop button (▷ page 139) once. The engine starts.

▶ **To start a diesel engine:** press the Start/Stop button (▷ page 139) once. Preglow is activated and the engine starts.

Pulling away

Automatic transmission

⚠ **WARNING**

It is dangerous to shift the automatic transmission out of parking position **P** or neutral position **N** if the engine speed is higher than idle speed. If your foot is not firmly on the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and when your right foot is firmly on the brake pedal.

ⓘ It is only possible to shift the transmission from position **P** to the desired position if you depress the brake pedal. Only then is the parking lock released. If you do not depress the brake pedal, you can move the DIRECT SELECT lever but the parking lock remains engaged.

▶ Depress the brake pedal and keep it depressed.

▶ Shift the transmission to position **D** or **R** (▷ page 144).

▶ Release the brake pedal.

▶ Carefully depress the accelerator pedal. The electric parking brake (▷ page 156) is automatically released.

The red PARK (USA only) or (P) (Canada only) indicator lamp in the instrument cluster goes out.

ⓘ The vehicle locks centrally once you have pulled away. The locking knobs in the doors drop down.

You can open the doors from the inside at any time.

You can also deactivate the automatic locking feature (▷ page 235).

ⓘ Upshifts take place at higher engine speeds after a cold start. This helps the catalytic converter to reach its operating temperature more quickly.

Pulling away with a trailer

To ensure that you do not roll backwards when pulling away on an uphill slope, engage the electric parking brake.

b) starting and turning off the engine: Gasoline (C-class)

⚠ WARNING

On slippery road surfaces, never downshift in order to obtain braking action. This could result in drive wheel slip and reduced vehicle control. Your vehicle's ABS will not prevent this type of loss of control.

⚠ WARNING

It is dangerous to shift the automatic transmission out of parking position **P** or neutral position **N** if the engine speed is higher than idle speed. If your foot is not firmly on the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and when your right foot is firmly on the brake pedal.

! Warm up the engine quickly. Do not use the engine's full performance until it has reached operating temperature.

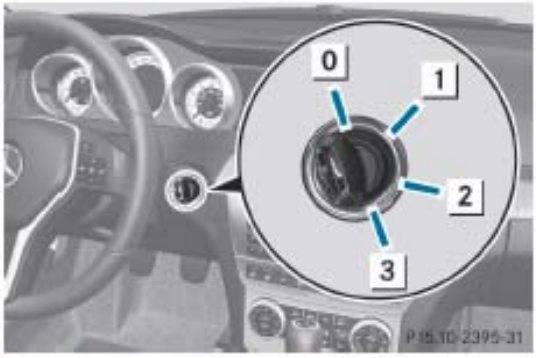
Only shift the automatic transmission to the desired drive position when the vehicle is stationary.

Where possible, avoid spinning the drive wheels when pulling away on slippery roads. You could otherwise damage the drive train.

! **AMG vehicles:** at low engine oil temperatures below 68 °F (+20 °C), the maximum engine speed is restricted in order to protect the engine. To protect the engine and maintain smooth engine operation, avoid driving at full throttle when the engine is cold.

SmartKey positions

SmartKey



0 To remove the SmartKey

Vehicles with automatic transmission: shift the transmission to position **P**

1 Power supply for some consumers, such as the windshield wipers

2 Ignition (power supply for all consumers) and drive position

3 To start the engine

If the SmartKey is in position **0** in the ignition lock for an extended period of time, it can no longer be turned in the ignition lock. The steering is then locked. To unlock, remove the SmartKey and reinsert it into the ignition lock.

The steering is locked when you remove the SmartKey from the ignition lock.

ℹ The SmartKey can be turned in the ignition lock even if it is not the correct SmartKey for the vehicle. The ignition is not switched on. The engine cannot be started.

KEYLESS-GO

General information

Vehicles with KEYLESS-GO are equipped with a SmartKey featuring an integrated KEYLESS-GO function and a detachable Start/Stop button.

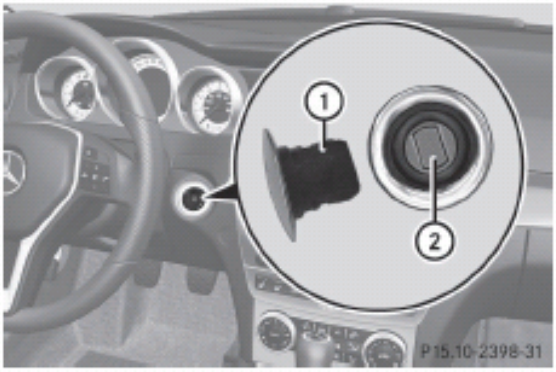
The Start/Stop button must be inserted into the ignition lock and the SmartKey must be in the vehicle.

Pressing the Start/Stop button several times in succession corresponds to the different SmartKey positions in the ignition lock. This is only the case if you are not depressing the brake pedal.

If you depress the brake pedal and press the Start/Stop button, the engine starts immediately.

The Start/Stop button can be removed from the ignition lock. Then, you can insert the SmartKey into the ignition lock.

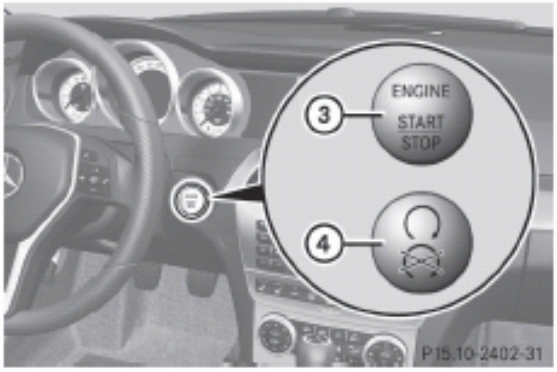
ℹ You do not have to remove the Start/Stop button from the ignition lock when you leave the vehicle. However, you should always take the SmartKey with you when leaving the vehicle. The vehicle can be started with the Start/Stop button if the SmartKey is in the vehicle.



① Start/Stop button
② Ignition lock

▶ Insert Start/Stop button ① into ignition lock ②.

ℹ When you insert Start/Stop button ① into ignition lock ②, the system requires a detection time of approximately two seconds before you can use Start/Stop button ①.



Start/Stop button
③ USA only
④ Canada only

▶ Position **0**: if Start/Stop button ① has not yet been pressed, this corresponds to the SmartKey being removed from the ignition.

▶ Position **1**: press Start/Stop button ①. You can now activate the windshield wipers, for example.

ℹ If you then open the driver's door when in this position, the power supply is deactivated.

▶ Position **2** (ignition): press Start/Stop button ① twice.

ℹ If you press Start/Stop button ① once when in this position and the driver's door is open, the power supply is deactivated again.

As soon as the ignition is switched on, all the indicator lamps in the instrument cluster light up. If an indicator lamp does not go out after the engine is started or if it lights up while the vehicle is in motion, see (▷ page 222).

Starting the engine

Important safety notes

⚠ **WARNING**

Inhalation of exhaust gas is hazardous to your health. All exhaust gas contains carbon monoxide (CO), and inhaling it can cause unconsciousness and possible death.

Do not run the engine in confined areas (such as a garage) which are not properly ventilated. If you think that exhaust gas fumes are entering the vehicle while driving, have the cause determined and corrected immediately. If you must drive under these conditions, drive only with at least one window fully open at all times.

! Do not depress the accelerator pedal when starting the engine.

General information

ⓘ The catalytic converter is preheated for up to 30seconds after a cold start. The sound of the engine may change during this time.

Automatic transmission

▶ Shift the transmission to position **P**.
The transmission position display in the multifunction display shows **P**.

ⓘ You can also start the engine when the transmission is in position **N**.

Starting procedure with the SmartKey

ⓘ To start the engine using the SmartKey instead of KEYLESS-GO, pull the Start/Stop button out of the ignition lock.

▶ Turn the SmartKey to position **3** in the ignition lock (▷ page 135) and release it as soon as the engine is running.

Using KEYLESS-GO to start the engine

⚠ **WARNING**
As long as the SmartKey is in your vehicle, the vehicle can be started. Therefore, never leave children unattended in the vehicle, as they could otherwise accidentally start the engine. When leaving the vehicle, always take the SmartKey with you and lock the vehicle. Do not leave children unattended in the vehicle, or with access to an unlocked vehicle. A child's unsupervised access to a vehicle could result in an accident and/or serious personal injury.

ⓘ The Start/Stop button can be used to start the vehicle without inserting the SmartKey into the ignition lock. The Start/Stop button must be inserted into the ignition lock and the SmartKey must be in the vehicle.

▶ Depress the brake pedal and keep it depressed.

▶ Press the Start/Stop button (▷ page 135) once.
The engine starts.

Pulling away

Automatic transmission

⚠ **WARNING**
It is dangerous to shift the automatic transmission out of parking position **P** or neutral position **N** if the engine speed is higher than idle speed. If your foot is not firmly on the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and when your right foot is firmly on the brake pedal.

ⓘ It is only possible to shift the transmission from position **P** to the desired position if you depress the brake pedal. Only then is the selector lever lock released.

▶ Depress the brake pedal and keep it depressed.

▶ Shift the transmission to position **D** or **R**.

▶ Release the parking brake (▷ page 151).

▶ Release the brake pedal.

▶ Carefully depress the accelerator pedal.

! If a warning tone sounds and the `Release Park. Brake` message appears in the multifunction display, the parking

c) starting and turning off the engine: S 400 HYBRID

Starting the engine

① Green or yellow READY indicator lamp

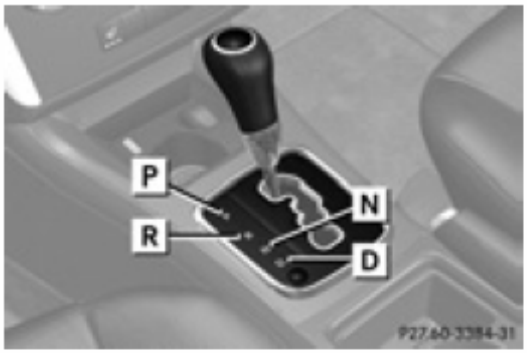
- ► Switch on the ignition.
- ► Apply the brake pedal fully and release it to activate the RBS.
  The RBS is activated. For more information on the RBS, see (▷ page 10).
- ► Observe the notes on "Starting the engine" in the Operator's Manual and start the combustion engine.
  The vehicle is operational when the green or yellow READY indicator lamp ① is illuminated.

d) starting and turning off the engine: F-cell

See next page

Starting the drive system

Automatic transmission



Gearshift pattern for automatic transmission

- P Park position with gear selector lever lock
- R Reverse gear
- N Neutral position
- D Drive position

For more information, see "Automatic transmission" (▷ page 233).

- ▶ Make sure the automatic transmission is in park position **P**.

Starting the drive system

- ▶ Turn the SmartKey in the starter switch to position **3** (▷ page 213) and release it. The F-CELL gauge rises up and the vehicle is ready to drive. The fuel cell is started automatically after only when needed, see (▷ page 236).

It may take up to 60 seconds until the vehicle is ready to drive when the outside temperature is below freezing point. The available power is indicated in the F-CELL gauge (▷ page 236).

ℹ **Antifreeze procedure:** The fuel-cell system starts automatically when you have parked the vehicle for an extended period of time and the outside temperature is low. The SmartKey does not have to be inserted into the starter switch. The fuel-cell system switches off after several seconds. This will happen twice at the most. All lines and the fuel-cell system are free from water and cannot freeze.

Starting the drive system in enclosed spaces

Keep the number of starting attempts in enclosed spaces to a minimum. When the starting procedure is interrupted, small quantities of hydrogen (H_2) could be released.

In case the drive system cannot be started during the first attempt:

- ▶ Restart the drive system (▷ page 230).
- ▶ If the starting procedure is interrupted again, make sure that there is sufficient ventilation around the vehicle before starting the vehicle again.
- ▶ If the vehicle still fails to start after several attempts, contact an authorized F-CELL Service Center.

Driving off

⚠ **Warning!**

When your vehicle is in electric drive mode the drive system produces significantly lower noise levels. Other motorists or pedestrians, especially those who are visually or hearing impaired, may be unable to hear your vehicle while it is in motion. This is particularly true when driving at lower speeds and during parking maneuvers. At all times, it is the responsibility of the driver to be aware of their surroundings, especially in these low speed situations. Otherwise other road users could be seriously or fatally injured.

⚠ **Warning!**

The braking effect of the electric drive is reduced continuously as the high-voltage battery is charged increasingly. The reduced braking effect could cause an accident and injure you and/or others.

Depress the brake pedal as necessary to compensate the reduced braking effect.

e) starting and turning off the engine: smart for two (electric drive)

Driving and parking

Starting

Warning!

A vehicle with an electric motor produces significantly lower noise levels than a vehicle with a combustion engine. Other motorists or pedestrians, especially those who are visually or hearing impaired, may be unable to hear your vehicle while it is in motion. This is particularly true when driving at lower speeds and during parking maneuvers. At all times, it is the responsibility of the driver to be aware of their surroundings, especially in these low speed situations. Otherwise other road users could be seriously or fatally injured.

Warning!

Make sure absolutely no objects are obstructing the pedals' range of motion. Keep the driver's footwell clear of all obstacles. If there are any floormats* or carpets in the footwell, make sure the pedals still have sufficient clearance.

During sudden acceleration or braking maneuvers, the objects could get caught between or beneath the pedals and restrict your ability to brake or accelerate. This could lead to accidents and/or injury.

- Fasten the seat belt.
- Depress the brake pedal.
- Insert the key into the starter switch.
- Switch on the ignition.
  The vehicle is ready for operation when the drive diagnostics warning lamp in the instrument cluster goes out.

Driving

- ▶ Depress the brake pedal.
- ▶ Move the gear selector lever to drive position **D**.
  D appears in the transmission position indicator.
- ▶ Release the brake pedal.
- ▶ Carefully depress the accelerator pedal.

Reversing the vehicle

! Shift the transmission into reverse gear **R** only when the vehicle is stopped in order to avoid damaging the transmission.

You can drive in reverse gear at a speed of up to 9 mph (15 km/h).

- ▶ Depress the brake pedal.
- ▶ Move the gear selector lever to reverse gear **R**.
  R appears in the transmission position indicator.
- ▶ Release the brake pedal.
- ▶ Carefully depress the accelerator pedal.

Parking

⚠ **Warning!**

With the drive system inactive, there is no power assistance for the brake and steering systems. In this case, it is important to keep in mind that a considerably higher degree of effort is necessary to brake and steer the vehicle. Adapt your driving accordingly.

⚠ **Warning!**

Vehicle movement can cause serious personal injury. Therefore, always do the following before exiting and leaving the vehicle:

- Keep right foot on the brake pedal.
- Engage the parking brake.
- Move the gear selector lever to park position **P**.
- Slowly release the brake pedal.
- When parked on an incline, always turn the front wheels towards the curb.
- Turn the key to starter switch position **0** and remove the key from the starter switch.
- Take the key with you and lock the vehicle when leaving.

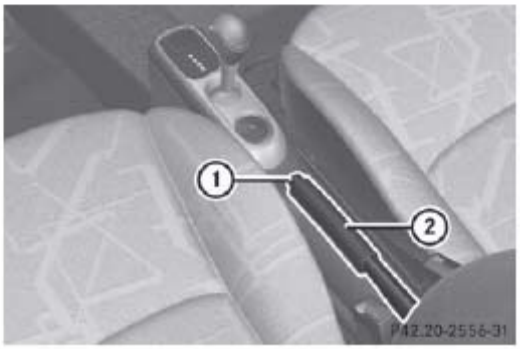
- ▶ Properly stop and park the vehicle.
- ▶ Depress the brake pedal.
- ▶ Engage the parking brake (▷ page 73).
  When the ignition is switched on, the brake warning lamp BRAKE (USA only) or (!) (Canada only) in the instrument cluster comes on.
- ▶ Release the brake pedal.

Parking brake

The parking brake serves to secure the vehicle against rolling away when it is stationary or parked.

⚠ **Warning!**

Engaging the parking brake while the vehicle is in motion can cause the rear wheels to lock up. You could lose control of the vehicle and cause an accident. In addition, the vehicle's brake lights do not light up when the parking brake is engaged.



- **Releasing:** Depress the brake pedal.
- Pull up slightly on parking brake lever (2) and press release button (1).
- Push parking brake lever (2) down as far as it will go.
  When the ignition is switched on, the brake warning lamp BRAKE (USA only) or (!) (Canada only) in the instrument cluster goes out.
- **Engaging:** Pull up parking brake lever (2) firmly.
  When the ignition is switched on, the brake warning lamp BRAKE (USA only) or (!) (Canada only) in the instrument cluster comes on.

Warning!

Getting out of your vehicle with the transmission not fully engaged in park position **P** is dangerous. When the drive system is switched off and the brakes are released, the vehicle can be moved freely with the gear selector lever in all positions except park position **P**. Also, when parked on an incline, park position **P** alone may not prevent your vehicle from moving, possibly hitting people or objects.

Always engage the parking brake in addition to shifting to park position **P**.

When parked on an incline, always turn the front wheels towards the curb.

Warning!

When leaving the vehicle, always remove the key from the starter switch, take it with you, and lock the vehicle. Do not leave children unattended in the vehicle, or with access to an unlocked vehicle. Children could release the parking brake and/or move the gear selector lever from park position **P**, either of which could result in an accident and/or serious personal injury.

Brake pedal

The brake pedal has two brake circuits independent of each other. When the ignition is switched on, a brake servo is used during braking to increase pedal force.

Warning!

Make sure absolutely no objects are obstructing the pedals' range of motion. Keep the driver's footwell clear of all obstacles. If there are any floormats* or carpets in the footwell, make sure the pedals still have sufficient clearance.

During sudden acceleration or braking maneuvers, the objects could get caught between or beneath the pedals and restrict your ability to brake or accelerate. This could lead to accidents and/or injury.

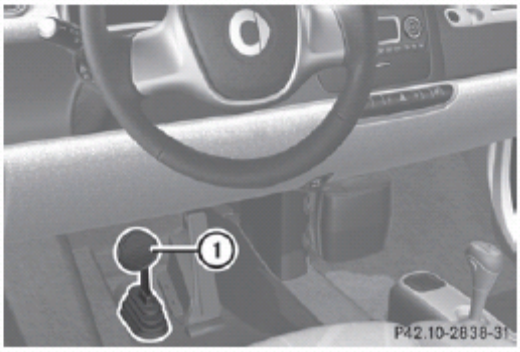
Warning!

Considerably more effort will be required to apply the brakes if

- the brake servo has failed
- a brake circuit has failed
- the ignition is switched off, e.g. for towing the vehicle

The braking distance is likewise greater.

Make sure the drive system is active whenever the vehicle is rolling. Have the brake system repaired at an authorized electric drive smart center, if there is a fault in the brake system.



If a brake circuit has failed (▷ page 137), you must depress brake pedal (1) further down to achieve the same effect and the braking distance is increased.

ⓘ The brake servo will only function with the ignition switched on.

Switching off the drive system

⚠ **Warning!**

Do not turn off the drive system before the vehicle has come to a complete stop. With the drive system not running, there is no power assistance for the brake and steering systems. In this case, it is important to keep in mind that a considerably higher degree of effort is necessary to brake and steer the vehicle.

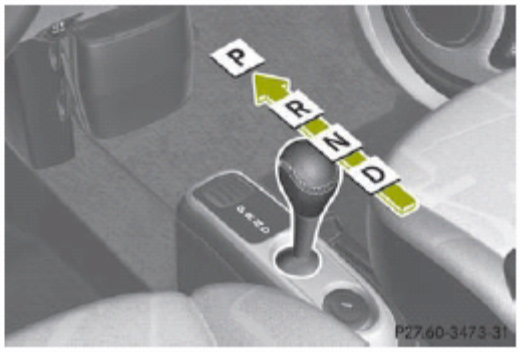
- ▶ Depress the brake pedal.
- ▶ Move the gear selector lever to park position **P**.
  The transmission position indicator should be on P

❗ Always engage the parking brake in addition to shifting to park position **P**.

- ▶ Release the brake pedal.
- ▶ Turn the key to starter switch position **0**.
- ▶ Remove the key from the starter switch.
  The electronic immobilizer is activated.

Transmission

Shifting procedure



Gearshift pattern for transmission

P	Park position
R	Reverse gear
N	Neutral position
D	Drive position

- ▶ Move the gear selector lever to park position **P**.
- ▶ Depress the accelerator pedal.
  The vehicle accelerates.
- ▶ Ease up on the accelerator pedal.
  The vehicle decelerates.

Driving tips

Driving on uphill grades

Your vehicle has a hill-start assist system.

⚠ **Warning!**

The hill-start assist system is not designed to function as a parking brake and does not prevent the vehicle from moving when parked on an incline.

Always engage the parking brake in addition to shifting to park position **P**.

On uphill grades the hill-start assist system maintains the pressure in the brake system for approximately one second after

S-13: US vehicle sales: see S-16

Projected US vehicle sales are considered confidential and can be found in CBI section 16.

S-14: Request for Certificate: see specific

For the request for a certificate of conformity please refer to the specific section 14. Compliance statements are listed in common section 8.

S-15: HEV-specific data: see specific