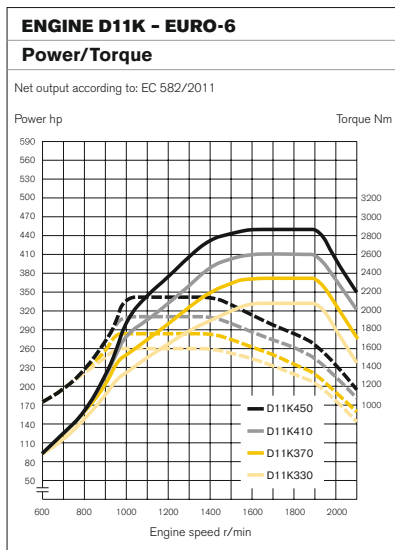


2 DRIVELINE



<input type="checkbox"/> D11K330 (243 kW)	
Max power at 1600–1900 r/min	330 hp
Max torque at 950–1400 r/min	1600 Nm
<input type="checkbox"/> D11K370 (272 kW)	
Max power at 1600–1900 r/min	370 hp
Max torque at 950–1400 r/min	1750 Nm
<input type="checkbox"/> D11K410 (302 kW)	
Max power at 1600–1900 r/min	410 hp
Max torque at 1000–1400 r/min	1950 Nm
<input type="checkbox"/> D11K450 (332 kW)	
Max power at 1600–1900 r/min	450 hp
Max torque at 1000–1400 r/min	2150 Nm

D11K

No. of cylinders	6
Displacement	10.8 dm ³
Stroke	152 mm
Bore	123 mm
Compression ratio	17.0:1
Economy revs	950–1400 r/min
Exhaust braking effect (2400 r/min)	160 kW
VEB effect (2400 r/min)	290 kW
VEB	option
Oil filters	2 full-flow, 1 bypass
Oil change volume, incl. filter	36 l
Cooling system, total volume	36 l
Oil change interval: Up to 100,000 km, or once a year with VDS4.	

FUEL PREREQUISITES

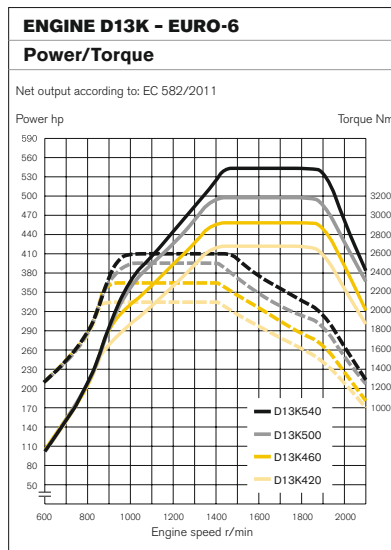
Sulphur free fuel only
(EN590, max 10 ppm sulphur).

ENGINE-MOUNTED POWER TAKE-OFFS

Two torque output versions available.
For complete specifications, see page 45.

EPTT650, ratio 1.08:1	650 Nm*
EPTT1000, ratio 1.08:1	1000 Nm*

* Torque output both when driving and standing still.



<input type="checkbox"/> D13K420 (309 kW)	
Max power at 1400–1800 r/min	420 hp
Max torque at 860–1400 r/min	2100 Nm
<input type="checkbox"/> D13K460 (338 kW)	
Max power at 1400–1800 r/min	460 hp
Max torque at 900–1400 r/min	2300 Nm
<input type="checkbox"/> D13K500 (368 kW)	
Max power at 1400–1800 r/min	500 hp
Max torque at 1000–1400 r/min	2500 Nm
<input type="checkbox"/> D13K540 (397 kW)	
Max power at 1450–1800 r/min	540 hp
Max torque at 1000–1450 r/min	2600 Nm

D13K

No. of cylinders	6
Displacement	12.8 dm ³
Stroke	158 mm
Bore	131 mm
Compression ratio	17.0:1
Economy revs	900–1400 r/min
Exhaust braking effect (2300 r/min)	200 kW
VEB ⁺ effect (2300 r/min)	375 kW
VEB ⁺	option
Oil filters	2 full-flow, 1 bypass
Oil change volume, incl. filter	33 l
Cooling system, total volume	38 l
Oil change interval: Up to 100,000 km, or once a year with VDS4.	

FUEL PREREQUISITES

Sulphur free fuel only
(EN590, max 10 ppm sulphur).

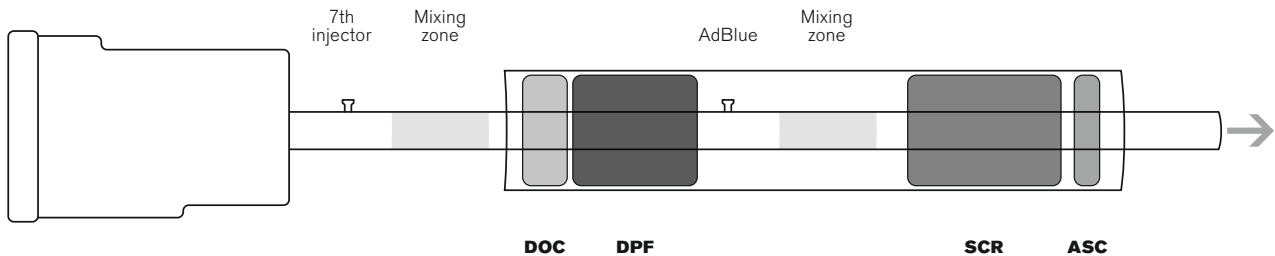
ENGINE-MOUNTED POWER TAKE-OFFS

Two torque output versions available.
For complete specifications, see page 45.

EPTT650, ratio 1.26:1	650 Nm*
EPTT1000, ratio 1.26:1	1000 Nm*

* Torque output both when driving and standing still.

OUR SOLUTION FOR EURO-6



ENGINE

A closed loop butterfly exhaust brake, a waste-gate turbo, a so-called uncooled EGR and more. The new engine components serve two main purposes: to improve gas-flow and make sure the exhausts reaches the after-treatment system at optimum temperature.

7TH INJECTOR

A special diesel injector is used for heat management of the DOC and ensures the efficiency of the DPF and good SCR functionality.

DIESEL OXIDATION CATALYST (DOC)

The DOC produces the NO_2 necessary for the DPF to efficiently combust the particulates. In cold conditions, it also provides the heat needed for regeneration.

DIESEL PARTICULATE FILTER (DPF)

The filter collects particulate matter (PM) and stores it until it's burned off during regeneration. The regeneration is done automatically and the driver doesn't need to take any action.

SELECTIVE CATALYTIC REDUCTION (SCR)

In the mixing zone, the exhausts are sprayed with AdBlue. When they reach the catalyst, the oxides of nitrogen (NO_x) are efficiently transformed into harmless nitrogen gas and water.

AMMONIA SLIP CATALYST (ASC)

The last step before the tailpipe where the remaining ammonia (NH_3), if any, is removed.

EUROPEAN EMISSION STANDARDS 1993-2013

PM (g/kWh)

0.36

0.30

0.20

0.10



NO_x = Oxides of Nitrogen

PM = Particulate Matter

2 DRIVELINE

I-SHIFT

12-speed splitter and range gearbox with automated gearchanging system. I-Shift can be fitted with a compact retarder, power take-off, emergency power steering pump and oil cooler.

I-SHIFT


Type	Top gear	Engine torque (Nm)	GCW approval (tonnes)
<input type="checkbox"/> AT2412E	Direct	2400	44
<input type="checkbox"/> AT2612E	Direct	2600	60
<input type="checkbox"/> ATO2612E	Overdrive	2600	60

I-SHIFT SOFTWARE PACKAGES


BASIC

Supplied as standard with I-Shift and gives the gearbox its basic functions.


DISTRIBUTION & CONSTRUCTION

Tailors the gearbox's work for distribution and construction operations. Features include functions that aid the driver when starting and in close-quarter manoeuvring. 


LONG HAUL & FUEL ECONOMY

Contains intelligent functions that minimise fuel consumption. This makes the program package particularly suitable for long-haul operations. 

LONG HAUL & FUEL ECONOMY WITH I-SEE

Adds I-See, including I-Cruise, to the Long Haul & Fuel Economy package, for even larger fuel savings. 

HEAVY DUTY TRANSPORT

Optimises I-Shift for heavy gross combination weights (>85 tonnes). 

I-SHIFT SOFTWARE PACKAGES

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Functions	Basic	Distribution & Construction	Long Haul & Fuel Economy	Long Haul & Fuel Economy with I-See	Heavy Duty Transport*
Basic Shift Strategy	•	•	•	•	•
Performance Shift	•	•	•	•	•
Basic Gear Selection Adjustment	•	•	•	•	•
Gearbox Oil Temperature Monitor	•	•	•	•	•
Enhanced Shift Strategy		•	•	•	•
Launch Control		•	•	•	•
I-Roll			•	•	•
Smart Cruise Control			•	•	•
I-See, including I-Cruise				•	•
Heavy Duty GCW Control					•
Additional options					
Enhanced PTO Functions	•	•	•	•	•
Enhanced Gear Selection Adjustment, including kick-down		•	•	•	•
Enhanced performance – Bad roads		•	•	•	•

* Only available for AT2612E.

I-SHIFT FUNCTIONS EXPLAINED

BASIC SHIFT STRATEGY

Automatic selection of the right starting ratio (1st – 6th gear). The choice of starting gear is influenced by gross weight and road gradient.

PERFORMANCE SHIFT

Gives faster and gentler changes through intelligent utilisation of the engine brake, the vehicle's clutch and a special transmission brake.

BASIC GEAR SELECTION ADJUSTMENT

Makes it possible to adjust gear selection via the gear lever's buttons during engine braking in automatic mode.

GEARBOX OIL TEMPERATURE MONITOR

Shows the gearbox oil's temperature in the information display.

ENHANCED SHIFT STRATEGY

By interacting with EBS and ECS, starting and close-quarter manoeuvring are made easier. Maximises the VEB/VEB+ braking effect by automatically selecting the right gear so that the engine operates at high revs. When changing gear during engine braking, the wheel brakes are activated to compensate for loss of braking torque.

LAUNCH CONTROL

Optimises gear selection and EBS functions for manoeuvring at low speeds. Among other things, ensures that the Hill Start Aid function is only activated on uphill gradients.

I-ROLL

Automatic engagement and disengagement of a freewheel function for the purpose of reducing fuel consumption. I-Roll is used when neither engine power nor engine braking is needed, for instance on flat roads.

SMART CRUISE CONTROL

Interacts with the vehicle's Brake Cruise and ensures that the auxiliary brakes are not activated unnecessarily. The free-wheel function can thus be utilised to an even greater extent.

I-SEE

A smart I-Shift software that can store topography data and use this information to save fuel and improve driving comfort. The data is saved in a database available for other I-See users. When ordering I-See, the cruise control I-Cruise is also included. I-Cruise can also be ordered separately.

HEAVY DUTY GCW CONTROL

Optimises gear selection for high gross combination weights, 85–180 tonnes.

ADDITIONAL OPTIONS

ENHANCED PTO FUNCTIONS

Several functions that make power take-off use easier.

ENHANCED GEAR SELECTION ADJUSTMENT INCLUDING KICK-DOWN

Makes it possible to adjust gear selection via the gear lever's buttons during start and when driving in automatic mode. The kick-down function selects the right gear for maximum acceleration.

ENHANCED PERFORMANCE - BAD ROADS

Several functions that adjust gearchanging and assist starting and driving in poor road conditions and hilly terrain.

POWERTRONIC

Fully automatic power-shift transmission with torque converter and oil cooler. Changes gears without power loss. Powertronic can be factory-fitted with a power take-off, integrated retarder and emergency power steering pump.

POWERTRONIC

Type	Top gear	Engine torque (Nm)	GCW approval (tonnes)
<input type="checkbox"/> PT2106	Direct	2100	44
<input type="checkbox"/> PT2606	Direct	2600	60

POWERTRONIC, INTEGRATED DRIVING PROGRAMS

ECONOMY

Intended for optimal fuel economy. Gearchanges take place at the most economical revs.

PERFORMANCE

Is used when there is a need for added engine power output. Changes up and down at higher engine revs. 🚦

2 DRIVELINE

MANUAL GEARBOXES

14-speed splitter and range manual gearbox. Cable operation – with separate cables for longitudinal and lateral movements – results in short and distinct gear settings. Patented synchromesh with servo function means low gearchanging forces. The gearboxes can be fitted with a compact retarder, power take-off, emergency power steering pump and oil cooler.

MANUAL GEARBOXES

Type	Top gear	Engine torque (Nm)	GCW approval (tonnes)
<input type="checkbox"/> VT2009B	Direct	2000	60
<input type="checkbox"/> VT2214B	Direct	2200	100
<input type="checkbox"/> VTO2214B	Overdrive	2200	100
<input type="checkbox"/> VT2514B	Direct	2500	100
<input type="checkbox"/> VTO2514B	Overdrive	2500	100
<input type="checkbox"/> VT2814B	Direct	2800	100
<input type="checkbox"/> VTO2814B	Overdrive	2800	100

DRIVELINE COMBINATIONS

Manual gearbox	D11K330	D11K370	D11K410	D11K450	D13K420	D13K460	D13K500	D13K540
VT2009B	•	•	•					
VT2214B	•	•	•	•	•	•		
VTO2214B	•	•	•	•	•	•		
VT2514B				•	•	•	•	
VTO2514B				•	•	•	•	
VT2814B								•
VTO2814B								•
Powertronic								
PT2106	•	•	•	•				
PT2606					•	•	•	•
I-Shift								
AT2412E	•	•	•	•	•	•		
AT2612E	•	•	•	•	•	•	•	•
ATO2612E	•	•	•	•	•	•	•	•
Single reduction axles								
RSS1344C	•	•	•	•	•	•	•	•
RSS1344D	•	•	•	•	•	•	•	•
RSS1356	•	•	•	•	•	•	•	•
RSS1360	•	•	•	•	•	•	•	•
RTS2370B	•	•	•	•	•	•	•	•
Hub reduction axles								
RSH1365F	•	•	•	•	•	•	•	•
RSH1370F	•	•	•	•	•	•	•	•
RTH2610F	•	•	•	•	•	•	•	•
RTH3210F	•	•	•	•	•	•	•	•
RTH3312	•	•	•	•	•	•	•	•
Driving front axle/Distribution gearbox								
FAA11/ FAA21/V2501TB	•	•	•	•	•	•	•	•

REAR AXLES


Type	Axle	Gear	Max torque (Nm)	Max axle/bogie load (tonnes)	GCW approval (tonnes)
Single reduction					
<input type="checkbox"/> RSS1344C/D	Solo	Hypoid	2600	13	44
<input type="checkbox"/> RSS1356	Solo	Hypoid	2400/2800	13	56/44
<input type="checkbox"/> RSS1360	Solo	Hypoid	3550	13	60
<input type="checkbox"/> RTS2370B	Tandem	Hypoid	3550	23	70
Hub reduction					
<input type="checkbox"/> RSH1365F	Solo	Spiral bevel	2400	13	65
<input type="checkbox"/> RSH1370F	Solo	Conical spiral cut	3550	13	70
<input type="checkbox"/> RTH2610F	Tandem	Conical spiral cut	3550	26	100
<input type="checkbox"/> RTH3210F	Tandem	Conical spiral cut	3550	32	100
<input type="checkbox"/> RTH3312	Tandem	Conical spiral cut	3550	33	120

REAR AXLE RATIOS

RSS1344C/D	RSS1356	RSS1360	RTS2370B	RSH1365F	RSH1370F	RTH2610F	RTH3210F	RTH3312
2.31:1*	2.50:1	2.47:1	2.43:1	3.61:1	3.46:1	3.33:1	3.33:1	3.61:1
2.47:1*	2.64:1	2.64:1	2.57:1	3.76:1	3.61:1	3.46:1	3.46:1	3.76:1
2.64:1	2.79:1	2.85:1	2.83:1	4.12:1	3.76:1	3.61:1	3.61:1	4.12:1
2.85:1	3.10:1	3.08:1	3.09:1	4.55:1	4.12:1	3.76:1	3.76:1	4.55:1
3.08:1	3.44:1	3.40:1	3.40:1		4.55:1	3.97:1	3.97:1	5.41:1
3.36:1	3.67:1	3.67:1	3.78:1		5.41:1	4.12:1	4.12:1	7.21:1
3.70:1		4.11:1	4.13:1			4.55:1	4.55:1	
4.11:1			4.50:1			5.41:1	5.41:1	
4.63:1			5.14:1				7.21:1	
5.29:1			5.67:1					
			6.17:1					

* For RSS1344D.

POWER TAKE-OFFS

There is a wide range of clutch-independent and clutch-dependent power take-offs to drive all sorts of body equipment. 

ENGINE-MOUNTED

PTER-DIN

Rear-mounted engine power take-off for direct drive of a hydraulic pump.

PTER1400

Rear-mounted engine power take-off with flange connection for hydraulic pump.

PTER100

Rear-mounted engine power take-off with flange connection for hydraulic pump.

PTERCDI

Rear-mounted, clutchable engine power take-off for direct drive of a hydraulic pump.

PTERC14

Rear-mounted, clutchable engine power take-off with flange connection for hydraulic pump.

PTERC10

Rear-mounted, clutchable engine power take-off with flange connection for hydraulic pump.

GEARBOX-MOUNTED

PTR-F

Connecting flange attachment and low-rev or high-rev.

PTR-FL/FH

Connecting flange attachment and low-rev or high-rev.

PTR-D/PTR-DM/PTR-DH

Low/medium/high-rev with DIN-connection for direct attachment of a hydraulic pump.

PTRD-F

High-rev with connecting flange attachment for direct-fitted propshaft.

PTRD-D

High-rev with dual drive. DIN connection front and rear for direct attachment of hydraulic pumps.

PTRD-D1

High-rev with dual drive. Connecting flange attachment at the rear and DIN attachment at the front.

PTRD-D2

High-rev with dual drive rear and single drive front. Two connecting flange attachments rear and one DIN attachment at the front.