SCANIA

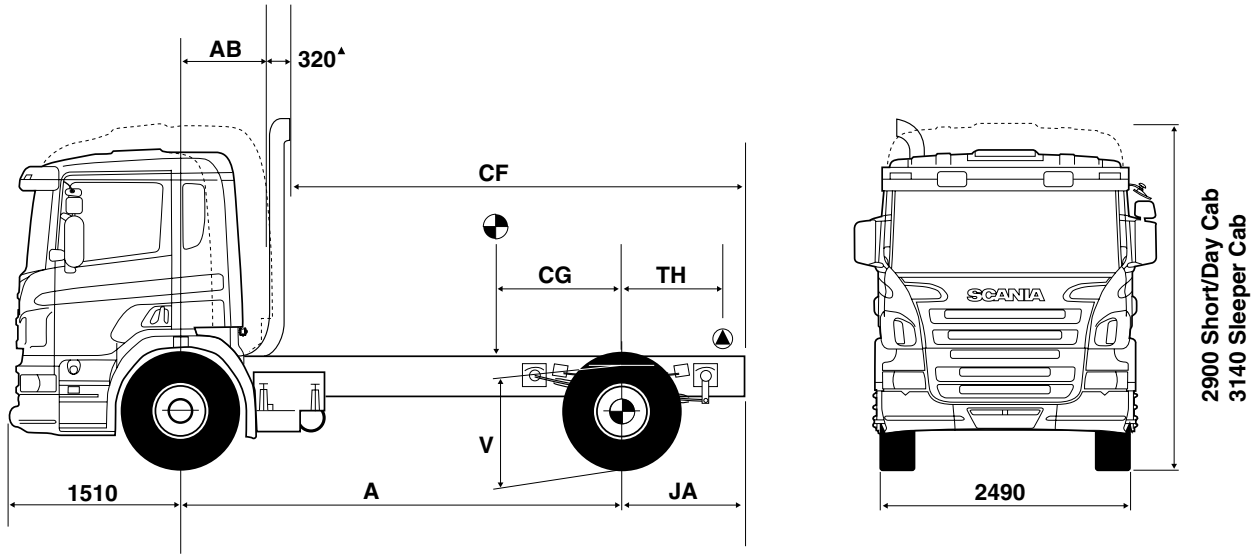
SPECIFICATION

P-, G- and R-series

P 230 DB4x2HNZ

19000Kg GVW

TWO AXLE TIPPER



AB (centreline of front axle to back of cab) Short — 300 Day — 590 Sleeper — 860

▲Reduces to 250mm with sleeper cab

DIMENSIONS (mm)

A		**3900**	**4300**	**4500**	**4700**
BLT	**Day Cab**	**4585**	**5181**	**5486***	**5791***
	(feet)	**(15.0)**	**(17.0)**	**(18.0)**	**(19.0)**
CF		**4190**	**4590**	**4790**	**4990**
JA		**1200**	**1200**	**1200**	**1200**
JA Max		**3600**	**4000**	**4000**	**4000**
CG Max		**815**	**899**	**934**	**974**
CG Min		**616**	**679**	**703**	**732**
TH		**1030**	**1030**	**1030**	**1030**

V unladen = 1086mm V laden = 960mm.

BLT = Tipper bodylength to suit weight distribution.*=Subframe requirements subject to application. CG dimension for body and payload calculated for standard model at standard GB plated weights.TH = Tipper hinge. V dimension measured to top of frame at rear axle centreline. Rear overhang (JA) can be specified in 10mm steps up to maximum – check legality.

PLATED WEIGHTS – AWR

		Front Axle	Rear Axle	GVW	GTW$
Design Gross	Kg	7500	11500	19000	22500
Legal Max in GB	Kg	7100*	11500	18000	21500

$ GTW 28000kg design and GB when fitted with trailer brakes.
Increases to 40000kg with '270' or '310' engine.
GR905 gearbox recommended as minimum.
*Legal front axle capacity limited by tyres.
Plated weights dependent on statutory tyre limitations.

CHASSIS/CAB WEIGHTS

(Tolerance +/- 2.5%)

Axle distance	Front	Rear	Total (kg)
3900	4500	1600	6100
4300	4500	1625	6125
4500	4525	1656	6181
4700	4530	1666	6196

Chassis cab weight includes 20 litres of fuel, oil and water.
Driver not included. See overleaf for option weights.

ENGINE (EURO 4)

Scania '9 litre' vertical five cylinder in-line turbocharged intercooled direct injection diesel with unit injectors.

	'230'
Type:	**DC9-16**
Swept Volume:	8.9 litres
Bore:	127 mm
Stroke:	140 mm
Compression Ratio:	17:1
***Max. Power:**	169kW (230 h.p.) at 1800 rev/min
***Max. Torque:**	1050 Nm (774 lbf.ft) between 1100 and 1500 rev/min
Engine Management System:	EMS – incorporating Cruise Control and speed limiter
Emission Control:	Scania EGR
Cooling:	Water cooled with rubber mounted 2 row radiator and electronically regulated fan
Coolant Capacity:	42 litres
Oil Capacity:	27 litres
Air Cleaner:	Dry replaceable paper element

Options:-

***(1)** Details as above except for the following:-*

	'270'
Type:	**DC9-17**
***Max. Power:**	199kW (270 h.p.) at 1800 rev/min
***Max. Torque:**	1250 Nm (922 lbf.ft) between 1100 and 1450 rev/min

***(2)** Details as above except for the following:-*

	'310'
Type:	**DC9-18**
***Max. Power:**	228kW (310 h.p.) at 1800 rev/min
***Max. Torque:**	1550 Nm (1143 lbf.ft) between 1100 and 1350 rev/min

***(3)** Provision for ED120 engine driven P.T.O.*

*With fan at max. slip

CLUTCH

Type:	Single dry plate
Operation:	Air assisted with clutch wear protection

GEARBOX

Type:	Scania G670 six speed synchromesh – '230' and '270' engines only
Type:	Scania GR875 eight speed synchromesh (four speed main fitted with two speed planetary range unit) – standard with '310' engine.
Oil Capacity:	11.1 litres

GEAR RATIOS

Low Range		High Range	
1st	7.72:1	5th	1.30:1
2nd	4.42:1	6th	1.00:1
3rd	2.86:1		
4th	1.92:1		
Reverse	7.10:1		

Options:-

***(1) Type:** Scania GR875 - eight speed synchromesh (four speed main fitted with two speed planetary range unit).*

***(2) Type:** Scania GR905 - eight speed synchromesh (four speed main fitted with two speed planetary range unit) plus one crawler gear.*

***(3) Type:** Scania GRS895 twelve speed synchromesh (three speed main fitted with two speed planetary range unit plus splitter).*

***(4) Opticruise:** Gearchange management system – all engines with GR875 – '270' and '310' only with GRS895*

***(5) Type:** Automatic six speed electronically controlled – R660 rear axle gear mandatory.*

REAR AXLE

Type:	Scania AD1300
Capacity:	13000 Kg

Pressed steel housing with magnetic oil drain plug.

REAR AXLE GEAR

Type:	Scania R660

Single reduction hypoid.Crown wheel and pinion matched during manufacture.Pneumatically operated differential lock.

FRONT AXLE

Type:	Scania AM740 I section rigid beam
Capacity:	7500Kg

STEERING

Type:	Recirculating ball. Hydraulically assisted power steering
Steering wheel:	Diameter 450mm. Lock to lock 4.9 turns
Turning circle:	Kerb to kerb

3.9m A/D 14.2m 4.3m A/D 15.6m 4.5m A/D 16.4m
4.7m A/D 17.1m

SUSPENSION

Type Front:	Semi-elliptic parabolic springs with swinging shackles and threaded shackle pins.
Type Rear:	Semi-elliptic parabolic springs with swinging shackles and threaded shackle pins. Anti-roll bar. Double acting telescopic shock absorbers are fitted to both axles.

Options:-

***(1)** Front anti-roll bar*

***(2)** Multi-leaf springs at rear – 7 x 15mm + 6 x 14mm*

SPRING SIZE

	Front	Rear	Auxiliary
Length:	1820mm	1780mm	1460mm
No. of leaves:	3 x 29mm	3 x 26mm	2 x 26mm
Design Capacity:	8500Kg	13000Kg	

WHEELS & TYRES

8.25 x 22.5 ten stud spigot mounted disc wheels fitted with 295/80R22.5 radial tubeless tyres.

Options:-

***(1)** 9.00 x 22.5 wheels with 315/80R22.5 tyres*

***(2)** 11.75 x 22.5 wheels with 385/65R22.5 or 385/55R22.5 tyres - front axle only*

***(3)** Aluminium wheels - machined or polished surface finish*

***(4)** Front wheel embellishers*

FRAME

Type: F800-50

Flat top constant depth 'U' channel with riveted crossmembers

Sidemember Dimensions:

F800 - 270 x 90 x 8mm
Pre-drilled for bodywork mounting brackets

Width over parallel section of frame = 770mm

Bumper: Pressed steel with FUP

Options:-

***(1)** Aerodynamic incorporating FUP – reduces front overhang to 1460mm.*

***(2)** Centre tow-pin – steel bumper only*

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BRAKE SYSTEM

Type:	Dual circuit, full air, EC brake system incorporating load sensing and category 1 ABS. Brake pipes manufactured from either rust protected steel or high impact synthetics
Service Circuit:	Actuates all truck brakes
Secondary Circuit:	First position of park brake lever actuates spring chambers on both axles
Parking Brake:	Actuates spring chambers on both axles
Exhaust Brake:	Air actuated operated by brake pedal
Brake Antifreeze Protection:	Air dryer
Brake Wear Adjusters:	Automatic

Options:- ***(1)*** *Traction Control anti-slip device – Std. with Opticruise*
(2) *Scania Hydraulic Retarder – N/A with G670 gearbox.*
(3) *2 line EC trailer brake pipes to rear of chassis – N/A with G670 gearbox.*

BRAKE DIMENSIONS

Front Axle:	Size	413 x 203mm	**Rear Axle:**	Size	413 x 203mm
	Area	1880cm²		Area	1880cm²
Total Area:	Service	3760cm²			
	Parking	3760cm²			

ELECTRICAL SYSTEM

Type: 24V neg (-ve) earth **Alternator:** 100A
Batteries: Twin 140Ah
Rear H.I. lamps, Reversing lights

Options:-
(1) *180Ah batteries,* ***(2)*** *225Ah batteries,*
(3) *Bodywork electrical preparation – see separate document.*

FUEL TANK

1 x 200 litre steel RHS

Options:- (*Minimum axle distance and suspension type in brackets*)

	RH Side	***LH Side***		***RH Side***	***LH Side***
Steel - G	*150*	*150*	***Aluminium - W***	*200*	*200*
	200	*200*		*300*	*300*
	300	*300*		*350*	*350*
	450	*450 (4500Z)*		*500*	*500 (4300Z)*
				600	*600 (4500Z)*

Tank sizes can be supplied in LH + RH combinations of the above but steel and aluminium cannot be mixed. Sides viewed from rear.

GENERAL EQUIPMENT

Rear light brackets
Vertical exhaust outlet *– N/A with ADR to EXII/EXIII or FL.*

Options:-
(1) *ADR to EXII/EXIII, FL, OX or AT – N/A with automatic gearboxes*

INSTRUMENTS & CONTROLS

Two man, 1 day, EC digital tachograph, rev-counter, gauges for air pressure(2), coolant temperature and fuel. Six speed wipers with four jet integral screen wash. Halogen headlamps adjustable from cab for correction of beam height. Warning lights for all major systems grouped within easy vision.

Instrument panel of modular design with switches and controls grouped according to usage. All instruments are back-lit and non-reflective. Impact absorbing, adjustable steering wheel with column lock.

CAB

CP16 Day Cab
Please see separate specification – 'Scania Cabs' for equipment levels.

Options:-
(1) ***CP19*** *Sleeper Cab*
(2) ***CP14***

P.T.O. OPTIONS Check gearbox availability

Rear Mount		G670	GR875 / GRS895 / GR/S905	GRSO905
Pump	**Flange**			
EG551P	**EG561F**	0.54		
EG650P	**EG660F**		1.00 / 1.24H	
EG651P	**EG661F**		1.28 / 1.58H	
EG652P	**EG662F**			0.82 / 1.03H
EG653P	**EG663F**			1.03 / 1.29H
EK730	**EK740**		1.00	1.00

H= High on 'S' splitter gearboxes only.
Flange output N/A on 6x2/4 chassis.

WEIGHTS FOR OPTIONAL EQUIPMENT IN KILOGRAMS (Front – Rear – Total)

Axle Distance	**39**	**43**	**45**	**47**
GR875	+24 +8 +32	+24 +8 +32	+24 +8 +32	+25 +7 +32
GR905	+57 +17 +74	+57 +17 +74	+57 +17 +74	+58 +16 +74
GRS895	+26 +8 +34	+26 +8 +34	+26 +8 +34	+27 +7 +34
Front anti-roll bar	+34 –1 +33	+34 –1 +33	+34 –1 +33	+34 –1 +33
Rear springs 7x15+6x14	0 +54 +54	0 +54 +54	0 +54 +54	0 +54 +54
315/80 tyres/9.00 rims	+18 +36 +54	+18 +36 +54	+18 +36 +54	+18 +36 +54
385/55 tyres/11.75 rims	+46 N/A +46	+46 N/A +46	+46 N/A +46	+46 N/A +46
385/65 tyres/11.75 rims	+54 N/A +54	+54 N/A +54	+54 N/A +54	+54 N/A +54
Aluminium wheels				
8.25x22.5	–24 –48 –72	–24 –48 –72	–24 –48 –72	–24 –48 –72
9.00x22.5	–30 –60 –90	–30 –60 –90	–30 –60 –90	–30 –60 –90
11.75x22.5	–44 N/A –44	–44 N/A –44	–44 N/A –44	–44 N/A –44
Retarder	+90 +23 +113	+92 +21 +113	+93 +20 +113	+94 +19 +113
180Ah batteries	+14 +3 +17	+14 +3 +17	+14 +3 +17	+14 +3 +17
225Ah batteries	+45 +11 +56	+45 +11 +56	+45 +11 +56	+45 +11 +56
Std tank full	+81 +63 +144	+87 +57 +144	+90 +54 +144	+92 +52 +144
* 1x300l G	+46 +52 +98	+51 +47 +98	+53 +45 +98	+55 +43 +98
CP14 cab	–36 +2 –34	–36 +2 –34	–36 +2 –34	–36 +2 –34
CP19 sleeper cab	+106 +10 +116	+106 +10 +116	+106 +10 +116	+106 +10 +116
Air deflectors – CP14	+40 +2 +42	+40 +2 +42	+40 +2 +42	+40 +2 +42
– CP16	+39 +3 +42	+39 +3 +42	+39 +3 +42	+39 +3 +42
– CP19	+41 +6 +47	+41 +6 +47	+41 +6 +47	+41 +6 +47
EG Series PTOs	+15 +3 +18	+15 +3 +18	+15 +3 +18	+15 +3 +18
EK Series PTOs	+42 +5 +47	+42 +5 +47	+42 +5 +47	+42 +5 +47

* Additional to standard tank full of fuel.

SCANIA

SPECIFICATION

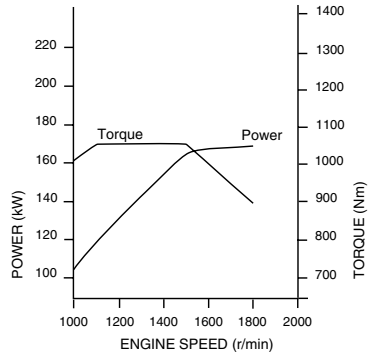
P 230 DB4x2HNZ

19000Kg GVW

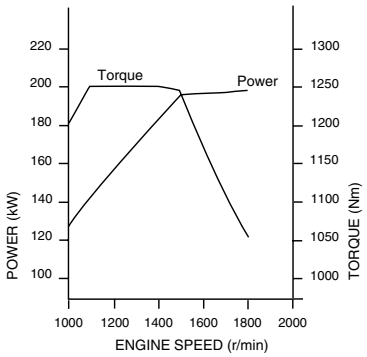
TWO AXLE TIPPER

ENGINE PERFORMANCE

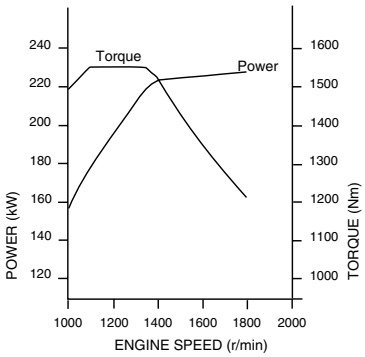
'230' DC9-16



'270' DC9-17

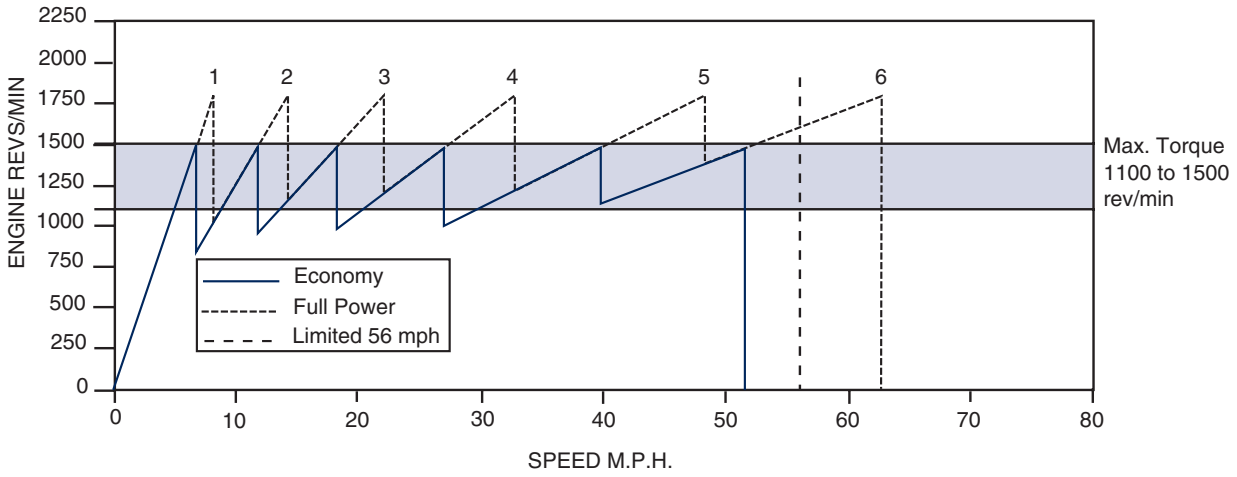


'310' DC9-18



Net engine performance to 80/1269*1999/99EC

GEAR STEP DIAGRAM



SPEED/GRADEABILITY Gradeability may be limited by tyre adhesion.

Axle gear/ Ratio		Optimum Cruising Speed M.P.H.	Gradeability - steady climb – in percent DC9-16 18T	DC9-17 18T	DC9-18 18T
R 660	3.07	54 – 56	25.1	30.6	>35
R 660	3.42 std.	48 – 51	28.2	34.5	>35
R 660	3.80	43 – 46	31.7	>35	>35
R 660	4.22	39 – 42	>35	>35	>35
R 660	4.88	34 – 36	>35	>35	>35

Calculations assume standard specifications. Performance achieved in operation will depend on conditions, bodywork, gear ratios and tyre specification.

The specifications contained in this publication are intended as a general guide, and not as representations as to the product described, nor as binding in detail.

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