

# SCANIA

SPECIFICATION

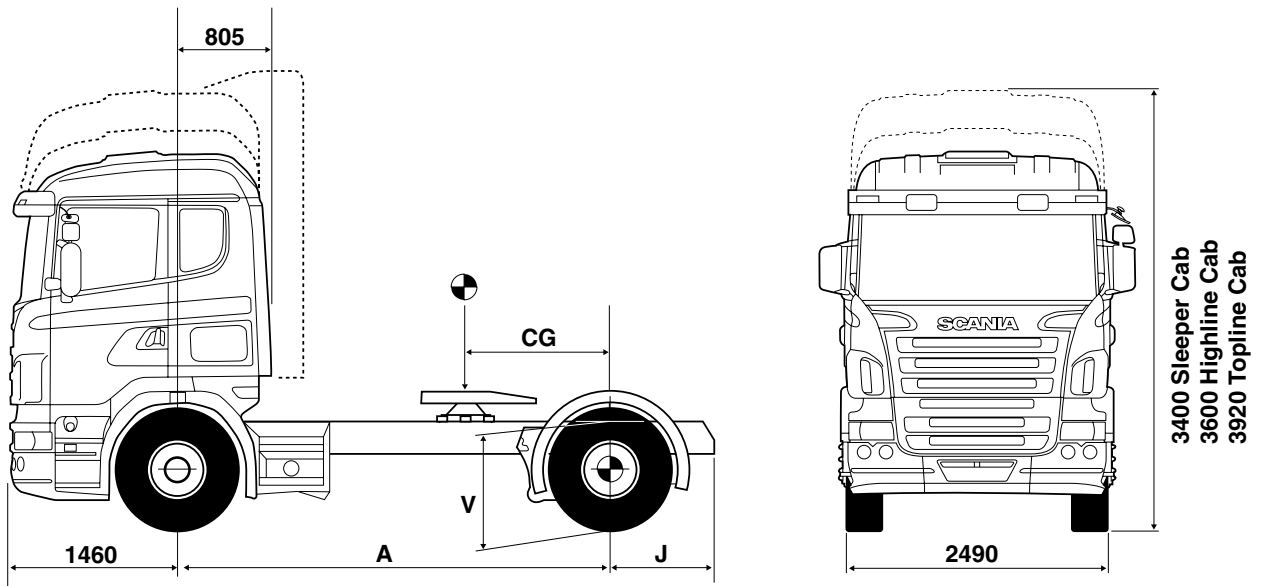
R-series

R 420 LA4x2MNA

60000Kg GTW

TWO AXLE TRACTOR

R



## DIMENSIONS (mm)

<b>A</b>		3300	3550	3700
<b>J</b>		780	780	780
<b>Sleeper Cab</b>				
	<b>CG Max</b>	572	599	618
	<b>CG Min</b>	384	395	406
<b>Fifth Wheel position to suit 16.5m overall length</b>				
		N/A	510	660 forward of drive axle centre line

V unladen	V laden	Chassis Height
1000 mm	970 mm	Normal (N)
878 mm	854 mm	Low (L) <sup>†</sup>
813 mm	787 mm	Extra Low (E) <sup>†</sup> – N/A with 3.3m A/D. Air suspension front and rear mandatory

CG dimension for imposed load calculated for standard model at standard GB plated weights. This dimension can be varied to suit specific trailer swing clearances but may result in a reduction in imposed load.  
V dimension measured to top of frame at rear axle centreline

<sup>†</sup>Both 'L' and 'E' dimensions assume '60 series' tyre fitment

## PLATED WEIGHTS – AWR

		Front Axle	Rear Axle	GVW	GTW
Design					
Gross	Kg	7500 <sup>†</sup>	11500	19000	60000
Legal					
Max in GB	Kg	7100 <sup>¶</sup>	11500	18000	40000

<sup>†</sup> Front axle capacity up to a maximum of 9000 kg available as option.

<sup>¶</sup> 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)
3300	4914	1820	6734
3550	4949	1860	6809
3700	4954	1865	6819

Chassis cab weight includes 20 litres of fuel, oil and water.

Driver not included. See overleaf for option weights.

R 420 LA4x2MNA

SL5450843  
August 06

## ENGINE (EURO 4)

Scania '12 litre' vertical six cylinder in-line turbocharged intercooled direct injection diesel with Turbo-compound and hydraulic unit injectors (H.P.I.).

'420'

<b>Type:</b>	<b>DT 12-12</b>
<b>Swept Volume:</b>	11.7 litres
<b>Bore:</b>	127 mm
<b>Stroke:</b>	154 mm
<b>Compression Ratio:</b>	17:1
<b>*Max. Power:</b>	309kW (420 h.p.) at 1900 rev/min
<b>*Max. Torque:</b>	2100 Nm (1549 lbf.ft) between 1100 & 1350 rev/min
<b>Engine Management System:</b>	EMS incorporating Cruise Control and speed limiter
<b>Emission Control:</b>	Scania EGR
<b>Cooling:</b>	Water cooled with rubber mounted 2 row radiator and electronically regulated fan
<b>Coolant Capacity:</b>	55 litres
<b>Oil Capacity:</b>	33 litres
<b>Air Cleaner:</b>	Dry replaceable paper element
<b>Engine Driven P.T.O. provision:</b>	ED120

### Options:-

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

'480'

<b>Type:</b>	<b>DT12-17</b>
<b>*Max. Power:</b>	353kW (480 h.p.) at 1900 rev/min
<b>*Max. Torque:</b>	2250 Nm (1660 lbf.ft) between 1100 & 1450 rev/min

\*With fan at max. slip

## CLUTCH

<b>Type:</b>	Single dry plate
<b>Operation:</b>	Air assisted with clutch wear protection

## GEARBOX

<b>Type:</b>	Scania GRS0905 fourteen speed overdrive with synchromesh on all except two crawler gears. Incorporating range change and splitter
<b>Oil Capacity:</b>	15.6 litres
<b>Options:-</b>	
<b>(1)</b>	Oil cooler – standard with DT12-17 engine

## GEAR RATIOS

	Low Range Split		High Range Split	
	L	H	L	H
<b>Crawler</b>	13.28:1	10.63:1		
	9.16:1	7.33:1	2.44:1	1.96:1
	5.82:1	4.66:1	1.55:1	1.24:1
	3.75:1	3.00:1	1.00:1	0.80:1
<b>Reverse</b>	11.95:1			

### Options:-

(1) **Type:** Scania GRS905 fourteen speed range change/splitter including two crawler gears

(2) **Opticruise:** Gearchange management system.

## REAR AXLE

<b>Type:</b>	Scania ADA1100
<b>Capacity:</b>	11500 Kg
	Pressed steel housing with magnetic oil drain plug.

### Options:-

(1) **Type:** Scania ADA1300  
**Capacity:** 13000 kg – F950 frame mandatory, 'H' duty class only

## REAR AXLE GEAR

<b>Type:</b>	Scania R780
	Single reduction hypoid. Crown wheel and pinion matched during manufacture. Pneumatically operated differential lock.

## FRONT AXLE

<b>Type:</b>	Scania AM740 I section rigid beam – AMA740 if air suspension AMA860 with air suspension on 'Extra Low' chassis
<b>Capacity:</b>	7500Kg
<b>Options:-</b>	
<b>(1)</b>	Scania AM950 – capacity 9000 kg.
<b>(2)</b>	Scania AMA860 – air only – capacity 8000 kg.

## STEERING

<b>Type:</b>	Recirculating ball. Hydraulically assisted power steering				
<b>Steering wheel:</b>	Diameter 450mm. Lock to lock 4.9 turns				
<b>Turning circle:</b>	Kerb to kerb				
3.30m A/D	12.4m	3.55m A/D	13.0m	3.70m A/D	13.5m

## SUSPENSION

<b>Type Front:</b>	Semi-elliptic parabolic springs with swinging shackles and threaded shackle pins. Anti-roll bar.
<b>Type Rear:</b>	Quarter elliptic with air bellows (A). Chassis height may be raised or lowered to assist loading. Double acting telescopic shock absorbers are fitted to both axes.

## SPRING SIZE

	<b>Front</b>
<b>Length:</b>	1820mm
<b>No. of leaves</b>	2 x 32mm
<b>Design Capacity</b>	7500Kg

### Options:-

- (1) Air suspension on front axle – design capacity 7500 or 8000 kg. Mandatory with 'E' Extra Low frame height.  
(2) 3 x 29mm leaves – design capacity 8500 kg.  
(3) 4 x 28mm leaves – design capacity 9000 kg.

## 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

<b>Type:</b>	F800-50 for 'M' class F950-50 for 'H' class and Extra Low chassis
	Flat top constant depth 'U' channel with riveted crossmembers

### Sidemember Dimensions:

F800 - 270 x 90 x 8mm
F950 - 270 x 90 x 9.5mm
Width over parallel section of frame = 770mm

**Bumper:** Aerodynamic incorporating FUP

### Options:-

- (1) Side skirts (N/A with Extra Low chassis)  
(2) Steel bumper – increases front overhang to 1510mm  
(3) Centre tow pin – steel bumper only

## BRAKE SYSTEM

<b>Type:</b>	Ventilated disc brakes on all axes. Dual circuit, full air, EC brake system incorporating Category 1 ABS and Traction Control. Electronic signalling with pneumatic back-up. Pad wear indicator. Brake pipes manufactured from either rust protected steel or high impact synthetics
<b>Service Circuit:</b>	Actuates all tractor and trailer brakes
<b>Secondary Circuit:</b>	First position of park brake lever actuates tractor spring brakes plus trailer brakes
<b>Parking Brake:</b>	Actuates spring chambers on both axes
<b>Exhaust Brake:</b>	Air actuated operated by brake pedal
<b>Brake Antifreeze Protection:</b>	Air dryer
<b>Brake Wear Adjusters:</b>	Automatic
<b>Options:-</b>	(1) Scania Hydraulic Retarder (2) ESP - Electronic stability programme

## BRAKE DIMENSIONS

**Pad lining area:** 2 x 190cm<sup>2</sup> on all axles  
**Swept area of each disc:** 2 x 940cm<sup>2</sup>

## ELECTRICAL SYSTEM

**Type:** 24V neg (-ve) earth      **Alternator:** 80A

**Batteries:** Twin 180 Ah

Rear H.I. lamps, Reversing lights

### Options:-

**(1)** 100A Alternator, **(2)** 140Ah batteries, **(3)** 225Ah batteries, **(4)** Battery connection – 200A, **(5)** Bodywork electrical preparation – see separate document

## FUEL TANK

1 x 300 litre RHS aluminium

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

	RH Side	LH Side	Aluminium - W	RH Side	LH Side
<b>Steel - G</b>	150	150	200	200	
	200	200	300	300	
	300	300 (3550)	350	350	
	450 (3550)	450 (3550)	400	500 (3550)	
			500	600 (3550)	
			600 (3550)	700 (3700)	
			700 (3700)		

Tank sizes can be supplied in LH + RH combinations of the above but steel and aluminium cannot be mixed. Aluminium tanks are not available with 'E' frame height. Sides viewed from rear.

## GENERAL EQUIPMENT

Fixed 5th wheel - 245mm above frame

Lead-on ramps

Double Manwalk with step and coupling lamp

Rear Wings

Front tow pin

### Options:-

**(1)** 5th wheel position in front of drive axle centre line - 210 to 760mm in 50mm increments

**(2)** Sliding 5th wheel - 263mm above frame

**(3)** Vertical exhaust outlet

**(4)** ADR to EXIII/EXIII, FL, OX or AT

## 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

**CR19** Sleeper Cab

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

### Options:-

**(1)** CR19 Highline

**(2)** CR19 Topline

## P.T.O. OPTIONS Check gearbox availability

	G670	GR875/GRS895	GR905/GRS905	GRS0905
<b>EG550CC/560:</b>	6 0.69			
<b>EG551CC/561:</b>	6 0.54			
<b>EG650CC/660:</b>	5		1.00/1.24H	
<b>EG651CC/661:</b>	5		1.28/1.58H	
<b>EG652CC/662:</b>	5			0.82/1.03H
<b>EG653CC/663:</b>	5			1.03/1.29H
<b>EG654CC/664:</b>	5	1.00/1.24H		
<b>EG655CC/665:</b>	5	1.28/1.58H		
<b>EK730CC/740:</b>	12	1.00	1.00	1.00

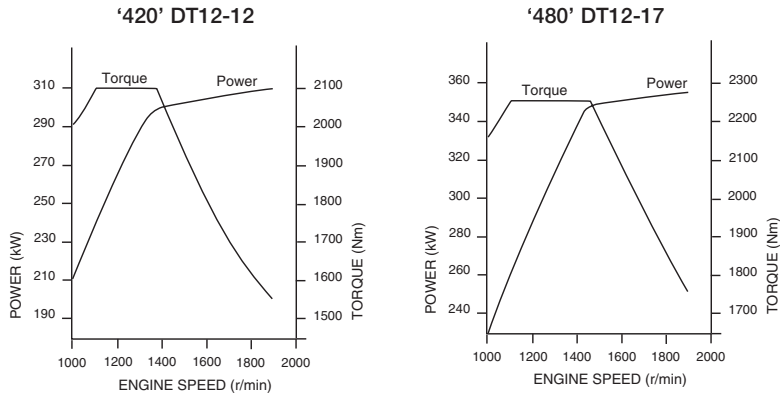
CC = close coupled    H = High on 'S' splitter gearboxes only

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

Axle Distance	33	35	37
ADA1300 rear axle	0 +21 +21	0 +21 +21	0 +21 +21
AMA 950 front axle	+13 0 +13	+13 0 +13	+13 0 +13
Air suspension front	+40 +15 +55	+40 +15 +55	+40 +15 +55
3 x 29mm front springs	+44 0 +44	+44 0 +44	+44 0 +44
4 x 28mm front springs	+70 0 +70	+70 0 +70	+70 0 +70
9.00x22.5 Wheels + 315/80 Tyres	+18 +36 +54	+18 +36 +54	+18 +36 +54
11.75x22.5 Wheels + 385/65 Tyres	+54 N/A +54	+54 N/A +54	+54 N/A +54
11.75x22.5 Wheels + 385/55 Tyres	+46 N/A +46	+46 N/A +46	+46 N/A +46
Aluminium Wheels			
8.25x22.5	-24 -48 -72	-24 -48 -72	-24 -48 -72
9.00x22.5	-30 -60 -90	-30 -60 -90	-30 -60 -90
11.75x22.5	-44 N/A -44	-44 N/A -44	-44 N/A -44
F950 frame	+25 +25 +50	+25 +25 +50	+25 +25 +50
FUP steel bumper	+67 -13 +54	+67 -13 +54	+67 -13 +54
Centre tow pin	+29 -5 +24	+29 -5 +24	+29 -5 +24
Side skirts	+18 +17 +35	+18 +18 +36	+19 +18 +37
Retarder	+68 +21 +89	+69 +20 +89	+70 +19 +89
140Ah Batteries	-14 -3 -17	-14 -3 -17	-14 -3 -17
225Ah Batteries	+31 +8 +39	+31 +8 +39	+31 +8 +39
Std. Tank Full	+109 +115 +224	+117 +107 +224	+121 +103 +224
*1 x 500l W	+62 +122 +184	+71 +113 +184	+75 +109 +184
*1 x 350 + 1 x 500l W	+204 +304 +508	+230 +278 +508	+257 +251 +508
Sliding 5th wheel	+7 +53 +60	+9 +51 +60	+11 +49 +60
Vertical exhaust outlet	+37 +8 +45	+37 +8 +45	+37 +8 +45
CR16 (no deflectors)	-159 0 -159	-159 0 -159	-159 0 -159
CR19 Highline	+58 -10 +48	+58 -10 +48	+58 -10 +48
Topline cab incl. deflectors	+130 -30 +100	+130 -30 +100	+130 -30 +100
EG Series PTOs	+15 +3 +18	+15 +3 +18	+15 +3 +18
EK Series PTOs	+42 +5 +47	+42 +5 +47	+42 +5 +47

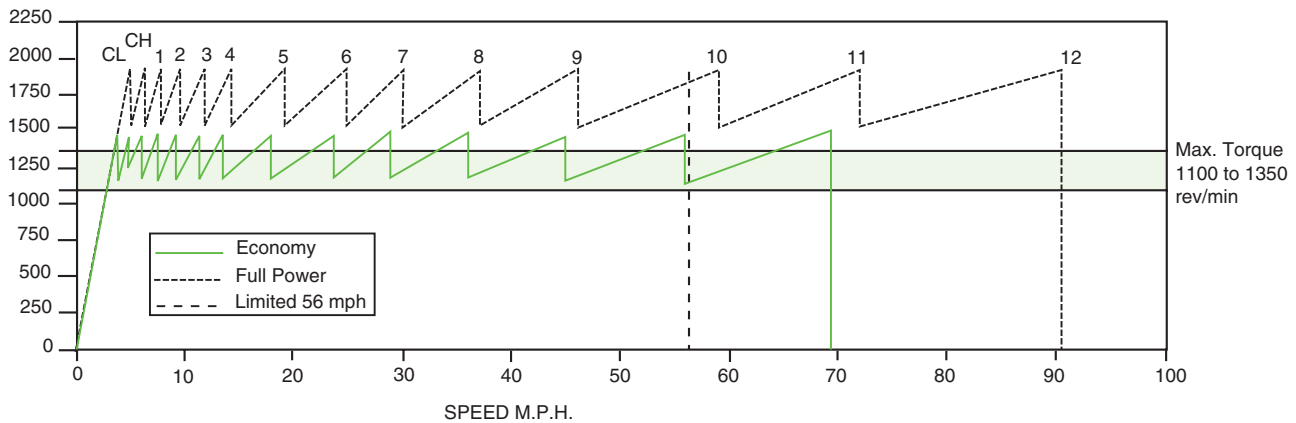
\* Additional to standard tank full of fuel.

### ENGINE PERFORMANCE



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

### GEAR STEP DIAGRAM



### SPEED/GRADEABILITY

Gradeability may be limited by tyre adhesion.

Axle gear/ Ratio	Geared Speed M.P.H.		Gradeability - steady climb - in percent			
	11th	12th	DT12-12		DT12-17	
			40T	60T	40T	60T
R 780 2.71*	72.5	90.7	>35	26.0	>35	28.0
R 780 2.92*	67.1	83.8	>35	28.2	>35	30.4
R 780 3.08 Std	72.6	90.7	>35	26.0	>35	28.0
R 780 3.27	68.4	85.5	>35	27.8	>35	30.0
R 780 3.40	65.7	82.2	>35	29.0	>35	31.3
R 780 3.80	58.8	73.5	>35	32.8	>35	>35

\*2.71 and 2.92 only available with low profile tyres. Calculations based on 295/60R22.5 rear tyres. Remaining 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.