

# SCANIA

SPECIFICATION

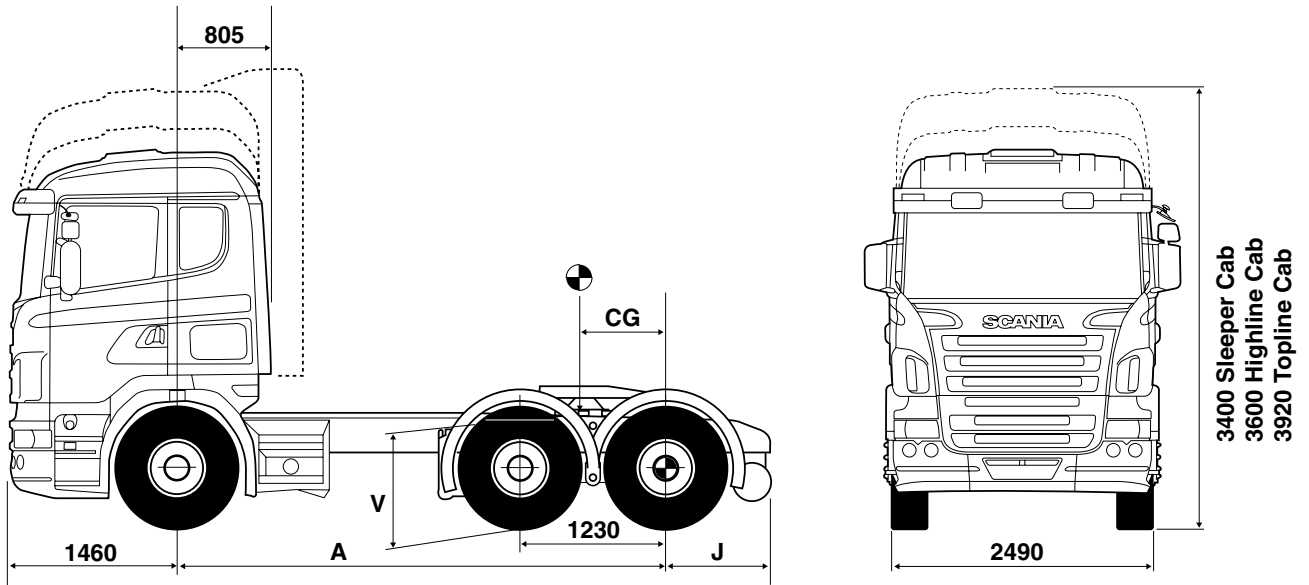
R-series

R 420 LA6x2/4MNA

46000Kg GTW

TWIN STEER TRACTOR

R



## DIMENSIONS (mm)

A	3975
TWB	3515
J	780
Sleeper Cab CG	913
<b>Fifth Wheel position to suit 16.5m overall length</b>	
	935 forward of drive axle centre line
	Max. imposed load = 13956 kg – Sleeper Cab

V unladen = 1000mm V laden = 970mm TWB = theoretical wheelbase

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 bogie centreline

## PLATED WEIGHTS – AWR

	Front Axle	Second Steer	Rear Axle	GVW	GTW
Design Gross	Kg 7500†	6100	10200	23800	46000
Legal Max in GB	Kg 7100¶	6000	10000	23100	44000

† Front axle capacity up to a maximum of 8000 kg available as option.

¶ Legal front axle capacity limited by tyres.

Plated weights dependent on statutory tyre limitations.

## CHASSIS/CAB WEIGHTS

(Tolerance +/- 2.5%)

Axle distance	Front	Bogie	Total (kg)
3975	4900	3034	7934

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

Driver not included. See overleaf for option weights.

R 420 LA6x2/4MNA

SL5450845  
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## 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 AXLES

<b>Type:</b>	Second steer axle - Scania ARA820 Drive axle - Scania ADA 1100
<b>Capacity:</b>	Combined 19000 Kg
	Drive axle has pressed steel housing with magnetic oil drain plug.

## 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
<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 3.975m A/D 14.48m

## SUSPENSION

<b>Type Front:</b>	Semi-elliptic parabolic springs with swinging shackles and threaded shackle pins. Anti-roll bar.
<b>Type Rear:</b>	Second steer axle - quarter elliptic with air bellows (A) which may be evacuated from the cab to increase drive axle traction. Pneumatic mid-axle hoist. Drive axle - quarter elliptic with air bellows. Chassis height may be raised or lowered to assist loading. Double acting telescopic shock absorbers are fitted to all axles.

## 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.  
(2) 3 x 29mm leaves – design capacity 8500 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) Wheel embellishers - steering axles

## FRAME

**Type:** F950-50  
Flat top constant depth 'U' channel with riveted crossmembers

### Sidemember Dimensions:

F950 - 270 x 90 x 9.5mm

Width over parallel section of frame = 770mm

**Bumper:** Aerodynamic incorporating FUP

**Options:-** (1) Side skirts, (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 axles. 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>	Actuates split service system plus trailer brakes
<b>Parking Brake:</b>	Actuates spring chambers on front and drive axles
<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>	
<b>(1)</b>	Scania Hydraulic Retarder
<b>(2)</b>	ESP - Electronic stability programme

## BRAKE DIMENSIONS

<b>Pad lining area:</b>	2 x 190cm <sup>2</sup> on all axles
<b>Swept area of each disc:</b>	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, Side marker lamps.

### Options:-

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

## FUEL TANKS

1 x 300 Litre LHS

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

	RH Side	LH Side	RH Side	LH Side
<b>Steel - G 200</b>	150	200	–	200
<b>Aluminium - W</b>	–	–	300	300

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

Fixed 5th wheel - 285mm above frame  
 Lead-on ramps  
 Double Manwalk with step and coupling lamp  
 Rear Wings  
 Front tow pin

### Options:-

**(1)** Fifth wheel position in front of drive axle centre line - 635 to 1085mm in 50mm increments  
**(2)** Sliding fifth wheel - 303mm 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

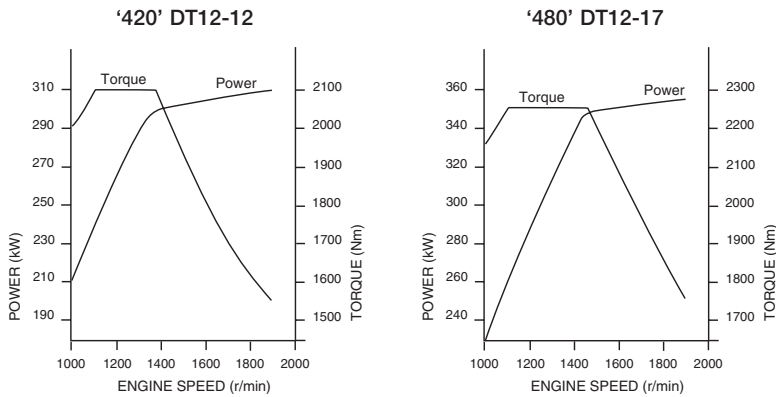
CC = close coupled    H = High on 'S' splitter gearboxes only

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

Axle Distance	3975
AM950 front axle	+13 0 +13
Air suspension front	+40 +15 +55
3 x 29mm front springs	+44 0 +44
9.00x22.5 Wheels + 315/80 Tyres	+18 +54 +72
11.75x22.5 Wheels + 385/65 Tyres	+54 N/A +54
11.75x22.5 Wheels + 385/55 Tyres	+46 N/A +46
Aluminium Wheels	
8.25x22.5	-24 -72 -96
9.00x22.5	-30 -90 -120
11.75x22.5	-44 N/A -44
Side skirts	+20 +19 +39
FUP steel bumper	+67 -13 +54
Centre tow pin	+29 -5 +24
Retarder	+71 +16 +87
140Ah Batteries	-13 -4 -17
225Ah Batteries	+31 +8 +39
Std. Tank Full	+116 +118 +234
*2 x 300l W	+143 +133 +276
Sliding 5th wheel	0 +60 +60
Vertical exhaust outlet	+37 +8 +45
CR16 (no deflectors)	-159 0 -159
CR19 Highline	+58 -10 +48
Topline Cab incl. deflectors	+130 -30 +100
EG Series PTOs	+15 +3 +18
EK Series PTOs	+42 +5 +47

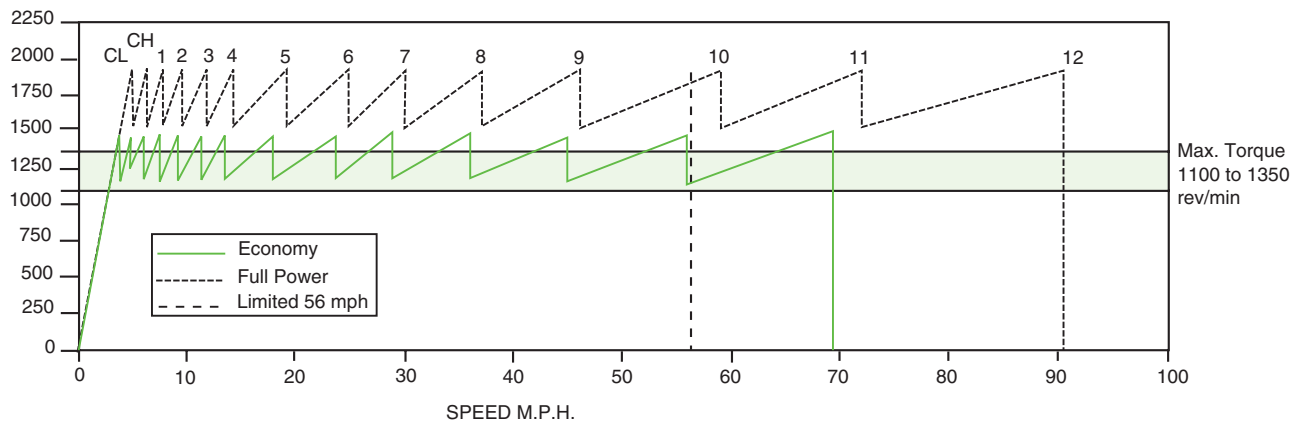
\* Additional to standard tank full of fuel.

### 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	46T	40T	46T
R 780 2.71*	72.5	90.7	>35	34.9	>35	>35
R 780 2.92*	67.1	83.8	>35	>35	>35	>35
R 780 3.08 Std	72.6	90.7	>35	35.0	>35	>35
R 780 3.27	68.4	85.5	>35	>35	>35	>35
R 780 3.40	65.7	82.2	>35	>35	>35	>35
R 780 3.80	58.8	73.5	>35	>35	>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.**

