



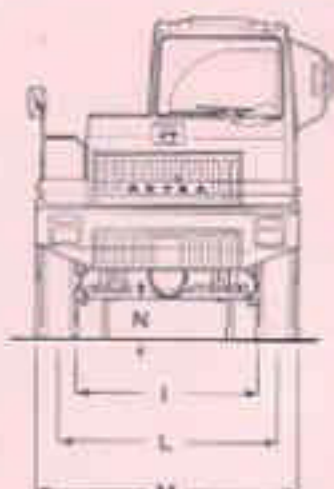
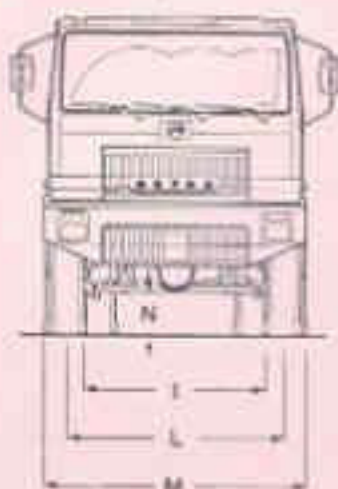
ASTRALMAK s.p.a. Industrial

BM
(6x6)

309
chassis

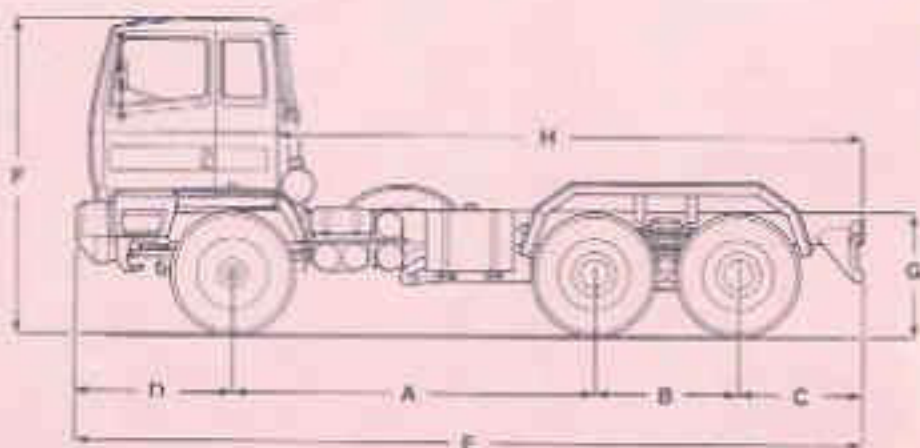
DIMENSIONS (with tires 12.00-20")

A) Wheelbase 1st to 2nd axle:	3500 mm
B) Wheelbase 2nd to 3rd axle:	1400 mm
C) Rear overhang:	1200 mm
D) Front overhang:	1515 mm
E) Max. length:	7615 mm
F) Max. height:	3110 mm
G) Frame height:	1125 mm
H) Length, incl over load + frame over load:	5880 mm
I) Rear track:	1625 mm
L) Front track:	2045 mm
M) Max. width:	2500 mm
N) Ground clearance:	305 mm
- - Turning diameter:	19.5 meters



DIMENSIONS (with tires 12.00-14")

A) Wheelbase 1st to 2nd axle:	3500 mm
B) Wheelbase 2nd to 3rd axle:	1400 mm
C) Rear overhang:	1200 mm
D) Front overhang:	1515 mm
E) Max. length:	7615 mm
F) Max. height:	3085 mm
G) Frame height:	1150 mm
H) Length, incl over load + frame over load:	5880 mm
I) Rear track:	1625 mm
L) Front track:	2045 mm
M) Max. width:	2500 mm
N) Ground clearance:	305 mm
- - Turning diameter:	20.5 meters



WEIGHTS
(with double-seater cab and
tires 12.00-20")

	BM309F Kg	BM309M Kg
Net weight:	10180	9990
Gross vehicle weight (GVW):	33000	33000
Distribution net weight:		
- front axle	5470	5270
- rear tandem	4710	4710
Distribution max allowed weight:		
- front axle	7800	7800
- rear tandem	30000	28000

WEIGHTS
(with double-seater cab and
tires 12.00-14")

	BM309F Kg	BM309M Kg
Net weight:	10770	10670
Gross vehicle weight (GVW):	33000	33000
Distribution net weight:		
- front axle	5580	5380
- rear tandem	5100	5100
Distribution max allowed weight:		
- front axle	8000	8000
- rear tandem	30000	30000

WEIGHTS
(with single-seater cab and
tires 12.00-20")

	BM309F Kg	BM309M Kg
Net weight:	10090	9900
Gross vehicle weight (GVW):	33000	33000
Distribution net weight:		
- front axle	5370	5170
- rear tandem	4710	4710
Distribution max allowed weight:		
- front axle	7600	7600
- rear tandem	28000	26000

WEIGHTS
(with single-seater cab and
tires 12.00-14")

	BM309F Kg	BM309M Kg
Net weight:	10670	10470
Gross vehicle weight (GVW):	33000	33000
Distribution net weight:		
- front axle	5490	5290
- rear tandem	5100	5100
Distribution max allowed weight:		
- front axle	8000	8000
- rear tandem	30000	30000



TECHNICAL DATA

ENGINE (Fiat)

Type:	8380 cc
Operation:	Diesel 4-cylinder
No. of cylinders:	4 V
Bore & stroke:	145x130 mm
Total displacement:	17175 cm ³
Compression ratio:	18.2:1
Max. power:	252 HP
(at 2400 rpm) DIN 70020:	259 kW
Max. torque:	121 mkg
(at 1800 rpm) DIN 70020:	1187 N·m

or

ENGINE (Mercedes-Benz)

Type:	OM 421
Operation:	Diesel 4-cylinder
No. of cylinders:	4 V
Bore & stroke:	128x142 mm
Total displacement:	15000 cm ³
Compression ratio:	17.5:1
Max. power:	305 HP
(at 2300 rpm) DIN 70020:	281 kW
Max. torque:	134 mkg
(at 1300 rpm) DIN 70020:	1314 N·m

CAB

Available in double-seater and single-seater.

Fixed to the front of the chassis, the cab can be tilted forward up to an angle of 30° by means of a manual operated hydraulic pump.

Vertically and horizontally adjustable seats and hydraulically shock-absorbed.

Equipped with all standard accessories.

Double-seater: fiber-glass upper molded of acid construction, fully soundproof, with particular visibility, comfort and safety for the driver.

Single-seater: all steel cab, fully soundproof, with thermal glass, with particular visibility, comfort and safety for the driver.

INSTRUMENTS & GAUGES

Engine rev. indicator, hourmeter, speedometer, tachograph, tachometer, engine oil pressure gauge, engine water temperature gauge, front axle brake air pressure gauge, rear axle brake air pressure gauge, fuel level gauge.

Indicators: front axle low brake air pressure, rear axle low brake air pressure, parking brake engaged, alternator charge, direction indicators, headlights-husk beam, parking lights, fog lamps, emergency lights, axles differential lock, wheel differential lock, transfer gear differential lock, power take off (P.T.O.) engaged, catalyzed, fuel reserve.

STEERING

Hydraulic type servo steering.
Independent blower pump.

FRAME

Made of high elastic steel, the frame consists of two C-shaped side members, connected through rigid cross members.

FUEL TANK

With level indicator and reserve warning lamp.
Capacity: 300 Liters

TIRES

Type: 12.00-20" (18 ply)
Front: single
Rear: dual
Mounted on disc type wheels
8.0 x 22"

or

Type: 12.00-24" (18 ply)
Front: single
Rear: dual
Mounted on disc type wheels
8.5 x 24"

CLUTCH

Dry single disc, hydraulically controlled, assisted by pneumatic booster and self-adjusting.

TRANSFER GEAR

Mechanical, with torque splitter between front and rear axles.
Torque splitter can be locked electronically by the driver.

GEAR BOX

Mechanical with 8 speeds forward and 1 reverse normal and step-up.

Ratios		
Gears	Normal	Step-up
1st	11.64:1	13.68:1
2nd	8.00:1	9.40:1
3rd	5.73:1	6.79:1
4th	4.07:1	4.79:1
5th	3.09:1	3.39:1
6th	1.96:1	2.31:1
7th	1.49:1	1.65:1
8th	1.00:1	1.17:1
REV	9.41:1	11.06:1

AIR FILTER

Dry air filter.

BRAKES

Wedge type brakes with automatic adjustment.

Braking total surface: 11800 cm²

Service brakes: pneumatically operated with two independent circuits.

Emergency and parking brake: mechanically operated, acting on the brake drums of the four rear wheels by means of spring loaded brake cylinder.

Retarder brake: installed on the engine, pneumatically operated by foot pedal.

DRIVE AXLES

Three driving axles with double reduction, central bevel gears and planetary final reduction.

Front axle shaft equipped with knuckle joints.

The rear axles are equipped with splitter differentials between the axle and differentials between the wheels.

It is possible to lock electronically axially all differentials by the driver.

Rear tandem axle connected to the frame by means of flexibly supported with shock absorber.

Total ratio:

Lines 12.00-20"	6.250:1	
Lines 12.00-24"	4.245:1	
Lines 12.00-24"	and FIAT engine:	4.245:1
Lines 12.00-24"	and MERCEDES engine:	6.579:1

PROPELLER SHAFTS

With sliding couplings and universal joints (needle bearings).

SUSPENSION

Front: parabolic springs equipped by shock absorbers and steering box.

Rear: coil spring springs with pivot system by single-laterality.

ELECTRICAL SYSTEM

Voltage:	24 V
Alternator:	36 V 625 W
Two batteries:	12 V - 143 Ah in series.

PERFORMANCES

(with tires 12.00-20")

Max. gradeability at full load: up to 40%

Gears	Max. speed in Km/h			
	BM309F		BM309M	
	normal	step-up	normal	step-up
1st	6.75	5.74	6.42	5.50
2nd	8.02	6.36	9.44	8.01
3rd	12.71	11.57	13.24	11.10
4th	19.30	16.40	18.90	16.77
5th	27.47	23.38	26.37	23.41
6th	40.08	34.01	38.41	32.99
7th	56.12	47.67	53.78	45.63
8th	78.77	67.15	73.29	64.05
REV	8.35	7.10	8.00	6.81

PERFORMANCES

(with tires 12.00-24")

Max. gradeability at full load: up to 30%

Gears	Max. speed in Km/h			
	BM309F		BM309M	
	normal	step-up	normal	step-up
1st	6.64	5.65	6.72	5.72
2nd	9.66	8.22	9.78	8.32
3rd	13.49	11.48	13.66	11.67
4th	18.99	16.33	19.22	16.93
5th	27.02	23.00	27.35	23.76
6th	39.43	33.41	39.91	33.86
7th	55.20	46.84	55.69	47.41
8th	77.28	66.05	76.29	65.86
REV	8.21	6.95	8.01	7.07

ACCESSORIES WEIGHT

Rear mudguards:	100 Kg
Spare wheel (with):	35 Kg
Spare wheel 12.00-20":	130 Kg
Spare wheel 12.00-24":	185 Kg

Specifications subject to change without notice.



ASTRA VEICOLI INDUSTRIALI S.p.A.

29100 PIACENZA (Italy) - Via Cassanese, 79 ☎ 0523/3431 - Telex 030149

ASTRA CENTRO S.p.A.

00080 CAPENA-ROMA (Italy) - Via Ticenna, Km. 16, 270 ☎ 06/8037331 - Telex 010306

ASTRA SUD S.p.A.

89010 PORTOSALVO (CZ) (Italy) - Zona Industriale ☎ 0963/271121 Telex 880044

