

BM-VOLVO

DUMPER DR 860

- WITH 150-HP DIESEL ENGINE FOR TOUGH HAULAGE OPERATIONS



The BM-VOLVO DR 860 dumper has proved its superior properties in tough practical operation over difficult ground on sites throughout the world. That more than 1 000 DR 860 dumpers have been sold is convincing evidence of the confidence in this off-road equipment. Experience leads to improvement, and the DR 860 has thus gradually been further developed to meet ever rising demands.

The latest development phase has provided the DR 860 with a considerably more powerful engine — a 150-hp Volvo TD 50 B — and a torque converter of still more rugged design. This has resulted in improved acceleration, increased tractive power, higher average haulage speeds and thereby increased capacity and profitability.



BM-VOLVO DR 860

The bogie design, 4-wheel drive and articulated steering ensure unexcelled off-road performance and smooth negotiation of broken ground.



the off-road champion

Effective tandem axle suspension design

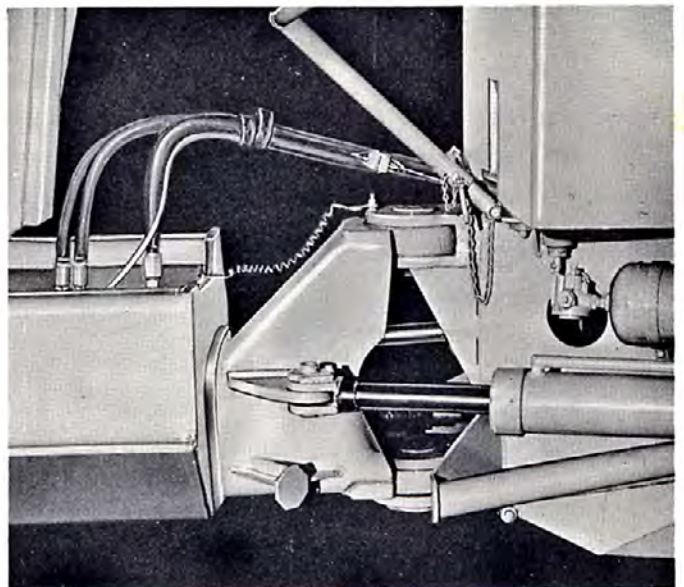
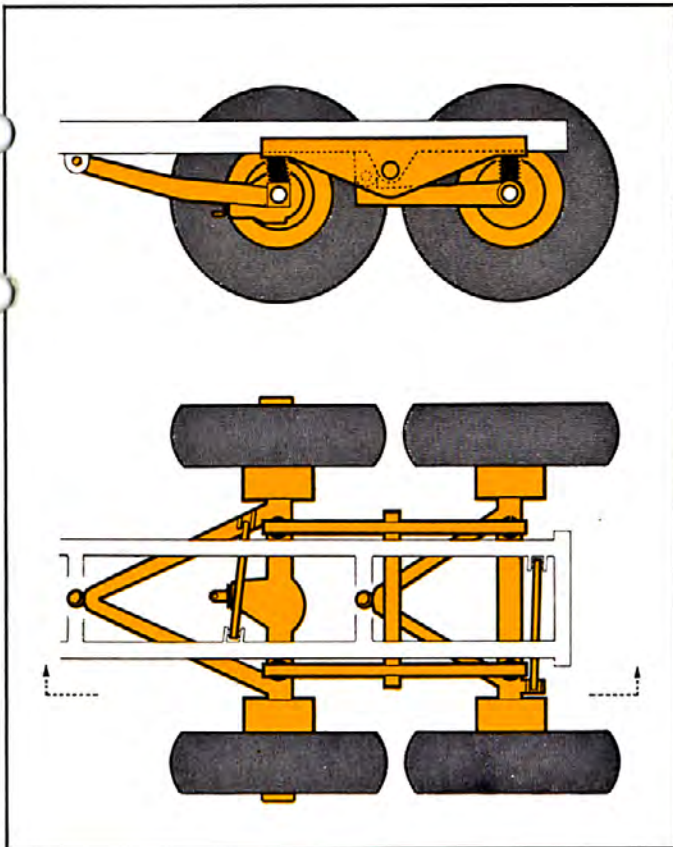
The design of the tandem axle suspension plays a key role in off-road performance. The problems have been solved on the DR 860 in a simple yet ingenious way. There is no direct spring suspension between the frame and the axles. Instead, two pivoting bars are used to equalize the weight distribution on the two axles. Both axles have basically similar suspension with triangular bars, hinged to the frame centre by ball joints. Cross rods then keep the axles in correct positions under the frame.

4-wheel drive Maximum utilization of the engine power

With the 4-wheel drive engaged, the DR 860 will keep on the move on both broken and very soft ground conditions. An exclusive feature is that the 4-wheel drive can be engaged while running in the two bottom gears. Both drive axles incorporate a differential lock which is engaged by means of a pneumatic servo mechanism. The locks can be engaged while running, either individually or both at the same time.

Steering and articulated coupling

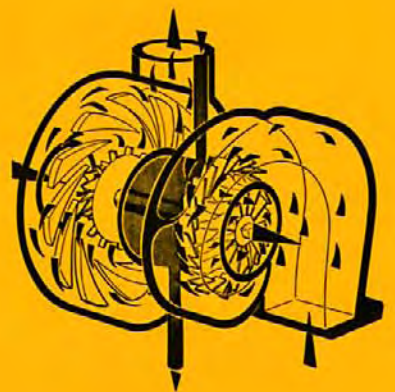
Articulated frame steering implies of course the angling of the engine unit relative to the trailer, the steering wheel controlling a valve that distributes oil to two double-acting hydraulic rams. A flow regulator keeps speed of action of the rams relatively constant despite engine speed changes. The relative oscillation of front and rear units is theoretically infinite. In practice this means that the front wheels always retain ground contact. The system is very supple and provides full traction even in sharp turns on uneven ground.





brute power...

The BM-VOLVO DR 860 is powered by a Volvo TD 50 B diesel engine — developed and designed from the start for turbo charging, it satisfies exacting demands for reliability and power. The turbo charger supplies the engine with a large volume of surplus air to ensure effective combustion of the fuel. The result is higher engine output, lower fuel consumption and cleaner exhaust fumes.



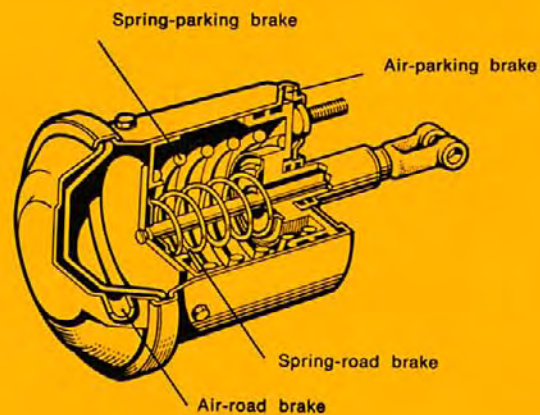
BM-VOLVO DR 860

A big dumper – powerful, profitable
whatever you haul – earth, rock, gravel



top-class brake equipment...

The brake equipment leaves nothing to be desired: disc brakes at the front, drum brakes at the rear, all operated by a pneumatic/mechanic system. The trailer drive wheels feature spring-operated fail-safe action in the event of damage to any air line. The spring-operated brakes also serve as effective parking brakes.



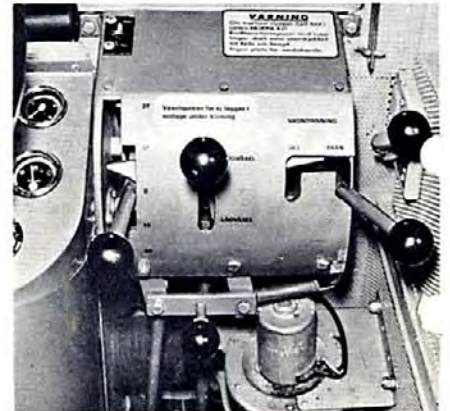
safety cab...

The cab is designed in detail to allow the driver to concentrate entirely on the job in hand. All controls and instruments are arranged compactly within convenient reach and sight. The driver's seat offers a wide range of individual adjustment and features parallel-linkage suspension and hydraulic shock absorbers. The flat floor allows full freedom of movement. The high standard of comfort is completed by insulating the cab from the vehicle frame and engine compartment by means of rubber cushions.

Operator comfort is further underlined by a noise level which is uncommonly low for an earthmoving machine and keeps well below the N 85 curve even under tough operating conditions. This is the result of the cab being rubber mounted, completely insulated from frame and engine compartment and incorporating very carefully fitted interior insulation.

Safety is assured by the crash-tested cab and the strong rear window with a sturdy mesh guard. Man-sized handgrips and steps simplify access.

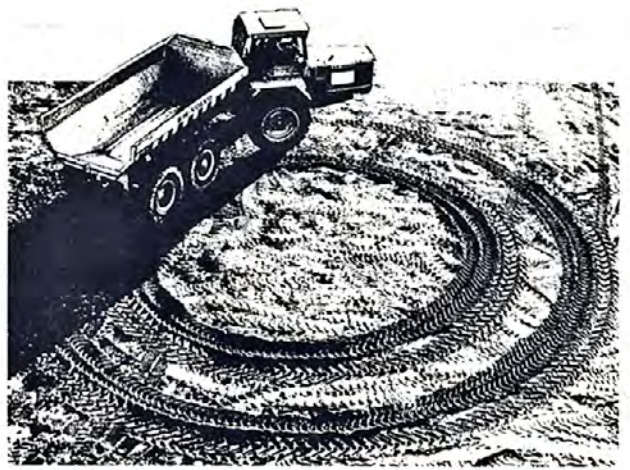
The speed selectors and 4-wheel drive lever are arranged in a special panel to the right of the steering wheel. A these levers are easy-moving, with a short positive action.



Visibility and ventilation in the comfortable cab are excellent. The doors can be locked in the open position and have sliding ventilating windows. The wind-screen can be locked in the desired open position.



tight turning radius...



Light steering and a tight turning radius in combination with the hydraulic transmission make the DR 860 fast and nimble in traffic. Reliability is guaranteed by a steering system which functions perfectly even if the engine should stop due to lack of fuel, for instance. The operator has a clear view of his vehicle and the surrounding traffic, an important safety factor.



SPECIFICATION BM-VOLVO DR 860

General data

Service weight	12.3 tons	
Load capacity, heaped, SAE	11 m ³	14.4 y ³
Length	9.06 m	29 ft 8 in
Width	2.5 m	8 ft 2 1/2 in
Height to top of body	2.3 m	7 ft 6 in
Overall height	2.8 m	9 ft 2 in
Max. steering angle	45°	
Turning circle radius	7.5 m	24 ft 6 in

Engine

Type	Diesel, Volvo TD 50 B
Rating SAE at 2500 rev/min	150 hp
Max. torque SAE at 1900 rev/min	45.7 kgm 330 ft-lb
b. of cylinders	6

Hydraulics

Pump	Vickers 26 V 21 A
Working pressure	120 kg/cm ² 1706 lbf/in ²
Capacity at 2400 engine rev/min	140 l/min 31 imp. gal/min

Transmission

Torque converter with freewheeling stator
 Make Twin Disc
 Power Shift gearbox with 4 gears both forward and reverse
 1st gear 0—6 km/h 0—3.7 mph
 2nd gear 0—10 km/h 0—6.2 mph
 3rd gear 0—18 km/h 0—11.2 mph
 4th gear 0—30 km/h 0—18.6 mph
 4-wheel drive engaged and disengaged by pneumatic/mechanical control.

Brakes

Pneumatic/mechanical brakes acting on all wheels.
 Parking brake: mechanical, acting via brakes on front unit and forward trailer axle.
 Total braking area .. 6.485 cm²

Tyres

Front:	18.00—25/16
Rear:	16.00—24/16

Electric system

Make	Bosch, 12 V
Battery capacity	152 Ah
Generator	Motorola, 475 W a. c.
Starter	4 hp

Compressed air system

Compressor, make	Bosch
Compressor displacement	220 cm ³
Working pressure	6.2—7 kgf/cm ² 880—995 lbf/in ²

Capacities

Hydraulic system	230 l	50 imp. gal
Hydraulic tank	200 l	44 imp. gal
Fuel tank	225 l	49 imp. gal
Anti-freezer pump	0.41	0.7 pint
Compressed air receiver, engine unit	20+6 l	0.7+0.2 ft ³
Ditto, trailer	20 l	0.7 ft ³
Oil in reduction gear box for 4-wheel drive	1.6 l	2.8 pints
Lub. oil in engine and transmission	17 l	3.7 imp. gal

Dimensions

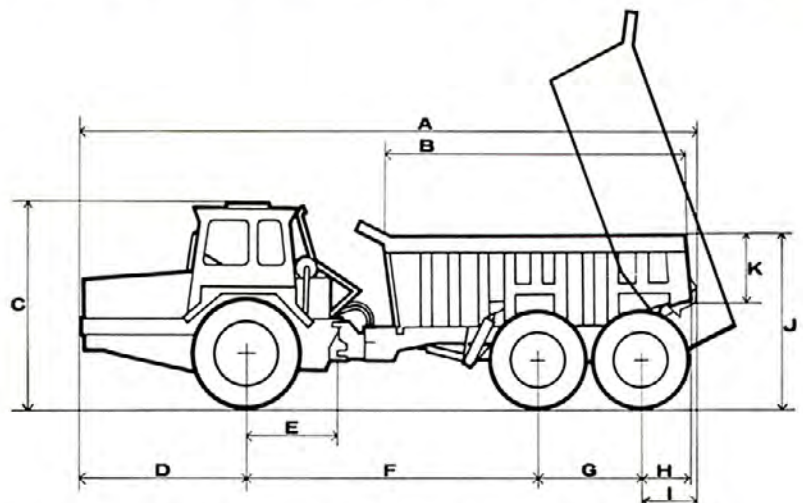
A	9.06 m	29 ft 8 in
B	4.24 m	13 ft 11 in
C	2.80 m	9 ft 2 in
D	2.65 m	8 ft 8 in
E	1.28 m	4 ft 2 in
F	4.05 m	13 ft 2 in
G	1.55 m	5 ft 2 in
H	0.85 m	2 ft 8 in
I	0.98 m	3 ft 3 in
J	2.30 m	7 ft 7 in
K	0.70 m	2 ft 4 in
Track, front	1.97 m	6 ft 6 in
rear	2.05 m	6 ft 10 in

Optional extras

Exhaust brake	
Tailgate	
Wear strips for rock haulage	
Rear tyres:	20.5—24/12 XR
Front tyres:	18.00—25/12 XR

Weight distribution

	Axle load		Tandem axle load		Gross weight	
Machine, unloaded	7,000 kg	15,400 lb	5,300 kg	11,700 lb	12,300 kg	27,000 lb
With 13,700 kg (30,100 lb) payload	10,000 kg	22,000 lb	16,000 kg	35,300 lb	26,000 kg	57,300 lb
With 16,200 kg (35,700 lb) payload	10,000 kg	22,000 lb	18,500 kg	40,700 lb	28,500 kg	62,700 lb



The manufacturer reserves the right to change specifications without notice.



BM-VOLVO DR 860

- Powerful, durable turbo-charged engine — high average speed.
- Torque converter — increased tractive power as resistance rises.
- Hydraulically operated gearbox — fast gear changes
- No clutch pedal, carefully designed operator's cab — high-class interior comfort, low noise level.
- Impact-tested cab and compressed-air brakes — extra margin of safety.



Continuous research, careful measurements and testing of materials have systematically reduced all factors that might give rise to or transmit noise.



BOLINDER-MUNKTELL

— a member of the Volvo Corporation,
Eskilstuna, Sweden

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