



Militant





MILITANT – GVW up to 50 tons

TYPE NUMBERS

8870 Right-hand control

8880 Left-hand control

THE AEC MILITANT Mk III is a heavy-duty six-wheel drive military or special purpose civilian truck or tractor chassis for road and cross-country operation. Capable of carrying loads up to 28 tons (62,700 lb, 28450 kg) gross vehicle weight, the chassis is designed to tow military equipment or an independent trailer, for which a maximum gross train weight of 40 tons (90,000 lb, 40800 kg) to 55 tons (125,000 lb, 56700 kg) is recommended.

The Militant Mk III is powered by the more powerful AEC AV760 direct injection dry liner diesel engine which develops up to 226 h.p. at 2200 r.p.m.

Features of the transmission line include a large diameter single dry plate clutch, a 8-speed main gearbox and unit-mounted 2-speed auxiliary gearbox, which distributes the drive to the front and rear axles through double reduction spiral bevel/double helical gearing, and a lockable inter-axle differential fitted to the rear axles.

Powerful fade-free air pressure brakes working in heavily ribbed drums, power-assisted steering and equal size large section single tyres all round ensure complete safety, good control and utmost ground adhesion when operating on dirt tracks or cross-country.



to 28 tons, GTW up to 56 tons

AIR PRESSURE SYSTEM

A twin cylinder air compressor of 13.5 cu. ft. (382 liter)/min. displacement is driven in tandem with the fuel injection pump. Separate reservoirs for (a) front axle and 2nd rear axle, (b) leading rear axle and (c) power assisted handbrake, brake service and emergency lines. Single diaphragm brake chambers are mounted on all axles.

FUEL SYSTEM

A 48-gallon (318 liter) tank is fitted with a magnetic contents gauge and a quick release captive filler cap. Fuel is filtered by a built paper element main filter and a pre-filter fitted in the fuel supply line.

WHEELS AND TYRES

Single front and rear 14-30-20, 18 ply "cross country" tires are fitted. A spare wheel and tire is carried in a winch type carrier mounted vertically behind the driver's cab. Revolving the wheel raises or lowers it.

FLEXIBLE SUSPENSION

Long flexible leaf springs 24 in. (60 mm) wide and 95 in. (1397 mm) between centers with double acting telescopic hydraulic dampers on the front axle ensure maximum stability over uneven surfaces. The fully articulated bogie has inverted springs placed on a castable mounted in cast brackets, the outer ends of the springs being free to slide in plate-mounted slings. The torque reaction is transmitted in the axle by rubber jointed rods.

FULLY BOLTED FRAME

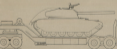
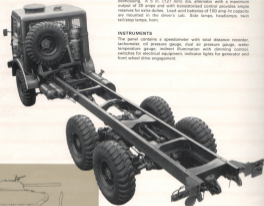
Bolled frame construction with pressed steel channel section submembers and crossmembers. The maximum frame section is 18 in. (254 mm) deep x 3 in. (76 mm) flange width x 3/8 in. (9.5 mm) thick. A channel section track 4 in. (98 mm) thick is fitted over the rear bogie on 12 ft 10 1/2 in. (3904 mm) wheelbase chassis. On the 18 ft 3 in. (5677 mm) wheelbase chassis an L section track 4 in. (98 mm) thick extends forward to the rear of the cab. Towing and lifting eyes together with towing hooks are fitted both at the front and rear.

ELECTRICAL EQUIPMENT

Continuous reliability under arduous conditions is ensured by the 28 volt insulated motor starting and lighting equipment. A 6 in. (152 mm) dia. axial engagement starter is flange-mounted to the belthousing. A 6 in. (152 mm) dia. alternator with a maximum output of 28 amps and with transistorized control provides ample reserves for extra duties. Lead acid batteries of 180 amp-hr capacity are mounted in the driver's cab. Side lamps, headlamps, twin tail/stop lamps, horn.

INSTRUMENTS

The panel contains a speedometer with total distance recorder, tachometer, oil pressure gauge, dual air pressure gauge, water temperature gauge, instant illumination with dimming control, switches for electrical equipment, indicator lights for generator and front wheel drive engagement.



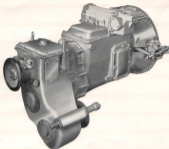
SIX-SPEED CONSTANT MESH GEARBOX (MAIN)

The well proved unit-mounted constant mesh gearbox incorporates six forward speeds (including overdrive) with a wide spread of ratios. The precision finished gears are manufactured from alloy steel and are carried on large diameter shafts mounted in ball and roller bearings. The main casing is a cast iron casting to which is bolted a light alloy bellhousing. The selector mechanism is in a further light alloy casing bolted to the top face of the gearbox. Ratios: 1st, 2.17 : 1; 2nd, 4.48 : 1; 3rd, 2.94 : 1; 4th, 1.85 : 1; 5th, 1 : 1; 6th (overdrive), 0.78 : 1; reverse, 2.49 : 1.

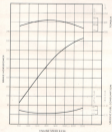
Provision is made for fitting a full torque power take-off and/or alternative normal duty units.

TWO-SPEED CONSTANT MESH GEARBOX (AUXILIARY)

The two-speed auxiliary gearbox is unit-mounted with the main gearbox and provides the transfer drive to the front axle as well as a low reduction ratio. Front wheel-drive can be used with either high or low gear and is engaged by a sliding gear. Ratios: 1 : 1 and 1.534 : 1. Provision is made for fitting a full torque power take-off on top of the gearbox.



with Power Packed AV760 diesel



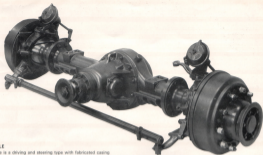
The graph shows performance under intermittent and average conditions at 80% (15-20) and 75% (20-30) of CRF rated hp, with 95% efficiency—allowances being made for all standard accessories with the exception of the fan.

A new high efficiency diesel engine—the result of many years intensive research—is the standard power unit for the Militant MX 31 chassis. With a bore of 5.37 in. (138 mm), a stroke of 5.59 in. (142 mm), and a capacity of 701 cu. in. (12473 cu. cm), the AV760 develops up to 228 b.h.p. at 2000 r.p.m. and a maximum torque of 875 lb.-ft. (58.4 kg.-m) at 1500 r.p.m. The normal setting is 208 b.h.p. at 2000 r.p.m.; torque, 588 lb.-ft. (81.3 kg.-m). The fuel injection pump is the in-line type.

Sustained power, proved economy and reliability are characteristics which this engine inherits from AEC's long experience in the

field of automotive diesel power. The combustion system utilizes open straight-sided toroidal combustion chambers in the pistons together with multi-hole injectors, which combine to produce top performance with low fuel consumption. Long life and reliability stem from the use of a robust counterbalanced stroke hardened over-bearing crankshaft, chromium plated valve stems, stainless steel valve seatings and inserted hard iron valve seats. Maintenance is simplified by easily accessible ancillaries, removable dry cylinder liners and thin shell, spherical aluminium/lin lined main and big-end bearings.





FRONT AXLE

The front axle is a driving and steering type with fabricated casing and double reduction spiral/bevel/double helical gear drive unit. Constant velocity universal joints transmit the drive to the hubs which are mounted on taper roller bearings. Ratios: 6-27:1, 6-52:1 or 7-85:1.

HEAVY DUTY FINAL DRIVE

The rear axles have heavy duty double reduction spiral/bevel/double helical gear drive units with a built-in inter-leaf differential. The sub-casing is fabricated from pressed steel flanges welded together. The fully floating wheel shafts have forged outer ends bolted to the hubs, which are carried on large diameter taper roller bearings. Ratios: 6-25:1, 7-85:1 or 7-85:1.

POWER-ASSISTED STEERING

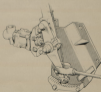
Worm and nut steering with hydraulic power assistance ensures easy handling and good response. Ratio 40:1 or 50 turns from lock to lock. The steering wheel is 21 in. (533 mm) in diameter.

POWER BRAKING

An pressure brake with separate pressure circuits for air-hydraulic brake linkage operating on front and rear drums. A hand control on the steering column operates the brake service (S.S.B., Brake drum 275 dia, 175 in. (4444 mm) rope and 17 in. (430 mm) steel from linkage, 2 in. (51 mm) dia x .75 in. (19 mm) wide rope and 4 in. (102 mm) wide front. Manufacture friction area, 822 sq. in. (5347 sq. cm). Compression area 1280 sq. in. (7144 sq. cm). Tails for trailer brake connections are fitted.

AIR-ASSISTED HANDBRAKE

An air valve, operated by free movement in the hand lever pivot, admits air from a separate reservoir to brake chambers operating on the brake drum shaft. When parking, the brake is held by a manual catch; the air pressure being automatically released.



Performance Data, Dimensions and Weights

PERFORMANCE			REAR AXLE RATIO		
			6.25 : 1	7.08 : 1	7.89 : 1
MAX. SPEED M.P.H./K.P.H.		Direct Overdrive	44 2/3/ 71.1 55 6/24.7	38 5/32.5 51 5/33.5	35 0/35.3 43 6/18.5
MAXIMUM GRADEMENT	28 tons 63.5t	Acc. Lane	24.5% 1 in 4.0	28.5% 1 in 3.5	35.5% 1 in 2.8
		1st Gear	15.5% 1 in 6.5	17.8% 1 in 5.6	22.1% 1 in 4.5
		2nd Gear	8.8% 1 in 11.3	10.2% 1 in 9.7	11.2% 1 in 8.9
	40 tons 89t	Acc. Lane	19.8% 1 in 5.1	19.2% 1 in 5.2	21.8% 1 in 4.6
		1st Gear	10.2% 1 in 9.8	11.8% 1 in 8.4	13.4% 1 in 7.4
		2nd Gear	5.4% 1 in 18.5	6.4% 1 in 15.5	7.4% 1 in 13.3
	56 tons 123t	Acc. Lane	11.4% 1 in 8.7	13.2% 1 in 7.6	15.8% 1 in 6.3
		1st Gear	6.7% 1 in 14.8	7.8% 1 in 12.8	9.2% 1 in 11.1
		2nd Gear	3.4% 1 in 29.2	4.2% 1 in 23.8	4.9% 1 in 20.0

Performance figures are based on normal engine ratings.

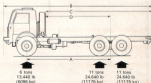
LOAD RATINGS

The maximum gross vehicle weight is 28 tons (61,700 lb, 28450 kg).

The recommended maximum gross train weight is 40 tons (88,080 lb, 43600 kg) to 56 tons (123,080 lb, 56130 kg).

Axis ratings at ground - front, 8 tons (17,440 lb, 8090 kg) ; rear bogie, 22 tons (48,520 lb, 22250 kg).

All weights are subject to the provision of suitable wheel and tyre equipment.



A	B	C	D		Estimated kerb weight
Wheelbase	Overall length	Body space	Body to centre line of bogie	Turning circle dia.	
ft. in.	ft. in.	ft. in.	ft. in.	ft.	ft. c. q.
12 10 1/2	23 1 1/2	15 3/4	9 5/8	66	7 18 2
3634 mm	7112 mm	4667 mm	2748 mm	20.1 m	17,762 lb
16 0	28 2 1/2	20 1/4	12 1 1/8	18	8 3 2
4877 mm	8612 mm	6267 mm	3700 mm	22.9 m	18,212 lb
					8300 kg

*Spacers at back of axle to bogie, 1 to 1 1/2 (in, 38.1 mm).

Normal overall width, 8 ft 6 in (2591 mm).

Kerb weight is weight of chassis with 100-psi full complement of fuel, oil, water, tools, spare wheel and tyre.

For dry weight, i.e. weight of chassis, with one of four fuel, water, tools, spare wheel and tyre, deduct 5 tons 2 c (102 lb, 460 kg) from the kerb weight.

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