AVELING-BARFORD

15 TON

SL 300

DUMP TRUCK

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ENGINE—choice of

Leyland UE600 six-cylinder diesel engine; 163 b.h.p. at 2,200 r.p.m.; bore 4.80 in. (121 mm.); stroke 5.50 in. (140 mm.) giving displacement of 597 cu. in. (9,785 c.c.). Maximum torque 450 lb.ft. at 1,200 r.p.m. 24-volt electrical system with alternator.

General Motors 4-71 four-cylinder two-stroke diesel engine; 160 b.h.p. at 2,100 r.p.m.; bore 4.25 in. (107 mm.); stroke 5 in. (127 mm.) giving displacement of 283 cu. in. (4,635 c.c.). Maximum torque 432 lb. ft. at 1,400 r.p.m. 24-volt electrical system. "Donaclone" air filter fitted as standard.

CLUTCH

Single plate dry disc type. 17 in. (431 mm.) diameter incorporating clutch brake in gearbox to facilitate gear changing.

TRANSMISSION

From the clutch, drive is transmitted to the rubber-mounted gearbox unit by a short Hardy Spicer propeller shaft. The change speed ratios are obtained through an automotive type of gearbox bolted to a forward and reverse box giving a total of four forward and four reverse speeds. All gears are helical, case hardened, in constant mesh, with splined dog clutch engagement.

GEARBOX RATIOS

Forward	5.33/1; 2.72/1; 1.67/1 and 1.07/1
Reverse	6.27/1; 3.19/1; 1.96/1 and 1.26/1

SPEEDS

Forward	4.24, 8.31, 13.54 and 25.0 m.p.h. 6.82, 13.37, 21.79 and 40.2 k.p.h.
Reverse	3.6, 7.09, 11.5 and 17.95 m.p.h. 5.79, 11.41, 18.51 and 28.95 k.p.h.

REAR AXLE

Extra heavy-duty specially developed for arduous off-road conditions. The cast-steel housing is mounted semi-rigidly to the chassis by eight shock springs on the mounting bolts. Fully floating half shafts. Triple reduction, first stage by spiral bevel pinion and crown wheel, second stage by double helical bull gear and bull pinion, and third stage by planetary gears within road wheel hubs. The centre part of the axle casting contains a bevel type differential carried on taper roller bearings.

Ratio
Spiral bevel gear 1.55 to 1
Double helical bull gear 3.727 to 1
Planetary gears 2.945 to 1
Total 17.034 to 1

Alternative ratio axle available
Spiral bevel gear 1.684 to 1
Double helical bull gear 3.727 to 1
Planetary gears 2.945 to 1
Total 18.507 to 1

FRONT AXLE

Forged steel axle of "I" section with 1¼ in. (32 mm.) drop bed giving ample ground clearance. Two robust semi-elliptic springs are longitudinally attached to the chassis by ball ends in spherical seats thus eliminating twisting of spring leaves. A hydraulic shock absorber is mounted between each main frame member and the front axle.

BRAKES

SERVICE AND PARKING:

Rear wheel brakes are air-actuated through two 30 in. (762 mm.) diaphragm type chambers which incorporate "Fail Safe" spring brake arrangement.

Contained in a separate chamber attached to each diaphragm chamber, is an extremely powerful coil spring which is held compressed by air pressure in the braking system. If the air pressure falls below 30 p.s.i. (2.1 kg/cm²) the brakes are automatically applied by the springs, thus providing full rear wheel "Fail Safe" braking. In the event of a complete failure of the air system, the brakes can be released manually by an adjusting nut at the rear of each chamber.

For parking, operation of a small valve located in the cab, exhausts air from the spring chamber, thus applying the brakes.

Front wheel brakes are heavy-duty, cam-operated internal expanding, applied by Clayton Dewandre air-pressure diaphragm brake chambers through stiff operating levers.

Total friction area—553.6 sq. in. (3,571 cm²).

EXHAUST BRAKE:—for Leyland engine only—Clayton - Oetiker exhaust brake, manually controlled from the driving position, cuts off fuel supply at the pump and simultaneously closes a butterfly valve in the exhaust pipe. Air pressure consequently built-up in engine cylinders and exhaust manifold retards the transmission speed and thus slows whole machine.

WHEELS AND TYRES

All wheels are of the flat base type and are easily detachable.

Steering 8.00 x 20 fitted with 12.00 x 20 16-ply, all-weather tread.