

67
AVELING-BARFORD DUMPERS

SY4 & SY6

WITH TWO-WAY STEERING AND CONTROLS



AUTOLIT



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3 cu. yd. (2.29 m³)
4 ton payload
with two-way control

SY4

specification



ENGINE

Ford 2701E four-cylinder diesel developing 57 b.h.p. at 2,200 r.p.m. Bore 4.125 in. (104 mm). Stroke 4.824 in. (115 mm) giving displacement of 242 cu. in. (3966 c.c.). Max. torque 170 lb. ft. (23.4 kg-m) at 1,700 r.p.m. 12-volt starting system. "Cyclapac" air cleaner.

CLUTCH

Dry, single plate, 13 in. (330 mm) diameter.

TRANSMISSION

Five speed gearbox with synchronesh on the four higher speeds. An integral forward and reverse gearbox makes the full range available in both directions. From the gearbox, drive is taken to the drive axle by a propeller shaft.

GEAR RATIOS (Overall)

	1st	2nd	3rd	4th	5th
Forward	74.8	43.01	25.5	15.89	10.9
Reverse	90.79	52.2	31.14	19.26	13.12

SPEEDS

Forward	4.3, 7.5, 12.5, 20.2 and 29.8 m.p.h. 6.9, 12.0, 20.0, 32.3 and 47.3 k.p.h.
Reverse	3.5, 6.2, 10.3, 16.7 and 24.5 m.p.h. 5.6, 9.9, 16.4, 26.7 and 39.2 k.p.h.

DRIVE AXLE

Incorporates a differential and a 7.2/1 hypoid reduction. Fully floating half shafts. Rigidly mounted to the chassis.

STEERING AXLE

Centre pivoted in cradle underslung from frame members giving three point mounting and permitting adequate free vertical movement of steering wheels.

BRAKES

Foot controlled, hydraulically operated 15½ in. x 6 in. (394 x 152 mm) internal expanding two leading shoe brakes fitted to drive wheels with power boost by "Hydrovac" system—a mechanically operated hand brake is also interconnected.

WHEELS & TYRES

All wheels easily detachable. Driving wheels fitted with 13.00 x 24—8 ply Earthmover tyres. Steering wheels with 7.50 x 20—10 ply All-Traction tyres. Optional—14.00 x 24—8 ply driving tyres.

CONTROLS

Steering has two-way operation with single steering wheel. Turning radius 16 ft. 3 in. (4953 mm). The clutch, brake and accelerator pedals are duplicated for two-way driving, the brake and clutch pedals are hydraulically operated. Gears are changed with a change speed lever and a forward/reverse lever within easy reach of the operator.

FRAME

The chassis is a robust construction of 8 in. x 3 in. (152 x 76 mm) channel side members and cross braced and welded to form a rigid structure of great strength.

BODY

The standard body has a heaped capacity of 3 cu. yd. (2.29 m³) at 25° repose angle, or a maximum payload of 8,500 lb. (3855 kg). Struck capacity 2.2 cu. yds. (1.68 m³). Construction is of wear-resistant alloy steel plate, bottom of ¼ in. (2.5 mm) front and sides of ⅜ in. (7.9 mm) suitably reinforced. With cab protection plate (optional extra) heaped capacity is 3.2 cu. yd. (2.44 m³).

TIPPING

Hydraulic by two 2½ in. (64 mm) bore double acting rams. Power provided by a gear type pump driven directly off the engine timing gears. A single spool valve gives positive control at all times. Reservoir tank capacity, 10 Imp. galls, 12 U.S. galls. (45 litres). Fully loaded body tipped through 70° angle in 4 seconds.

FUEL TANK

Capacity 10 Imp. galls, 12 U.S. galls. (46 litres). Bolted to underside of footplate.
Fuel tank capacity now 15 Imp. galls—18 U.S. galls—68 litres.

EXTRA FITTINGS

BODIES

An alternative body with additional reinforcement is available for rock carrying. A concrete-carrying body is also available.

ELECTRIC LIGHTING

Comprising two head and two side lamps in front and one head and two combined stop/tail lamps which include reflectors at rear.

CAB TOP

Steel with safety glass windows. Provides protection for operator without impairing visibility. Windscreen wiper is fitted.

CAB PROTECTION PLATE

Steel plate bolted to body to protect cab during loading.

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4½ cu. yd. (3.5 m³)
6 ton payload
with two-way control

SY6

specification



ENGINE

Ford 27015 four-cylinder diesel developing 87 b.h.p. at 2,250 r.p.m. Bore 4.1258 in. (104 mm). Stroke 4.524 in. (115 mm.) giving displacement of 242 cu. in. (3966 c.c.). Max. torque 170 lb. ft. (23.4 kg.m.) at 1,700 r.p.m. 12 volt starting system. 'Cycloped' air cleaner.

CLUTCH

Dry, single plate, 13 in. (330 mm.) diameter.

TRANSMISSION

Five speed gearbox with synchronisers on the four higher speeds. An integral forward and reverse gearbox makes the full range available in both directions. From the gearbox, drive is taken to the drive axle by a propeller shaft.

GEAR RATIOS (Overall)

	1st	2nd	3rd	4th	5th
Forward	74.6	43.0	26.7	15.88	10.8
Reverse	80.7	52.3	31.2	18.25	12.1

SPEEDS

Forward	4.3, 7.5, 12.5, 20.2 and 28.6 m.p.h.
	6.9, 12.0, 20.0, 32.3 and 47.3 k.p.h.
Reverse	3.5, 6.2, 10.3, 16.7 and 24.5 m.p.h.
	5.6, 9.8, 16.4, 26.7 and 39.2 k.p.h.

DRIVE AXLE

Incorporates a differential and a 7.2/1 hypoid reduction. Fully floating half shafts. Rigidly mounted to the chassis.

STEERING AXLE

Centre pivoted in cradle underslung from frame members giving three point mounting and permitting adequate free vertical movement of steering wheels.

BRAKES

Foot-controlled hydraulically operated 15½ in. x 9 in. (324 x 152 mm.) internal expanding two leading shoe brakes fitted to drive wheels with power boost by 'Hydrovac' system—a mechanically operated hand brake is also interconnected.

WHEELS & TYRES

All wheels easily detachable. Driving wheels fitted with 14.00 x 24—12 ply Earthmover tyres. Steering wheels with 7.50 x 20—10 ply All Traction tyres.

CONTROLS

Steering has two-way operation with single steering wheel. Turning radius 16 ft. 3 in. (4982 mm.). The clutch, brake and accelerator pedals are duplicated for two-way driving the brake and clutch pedals are hydraulically operated. Gears are changed with a change speed lever and a forward/reverse lever which easily reach of the operator.

FRAME

The chassis is a robust construction of 6 in. x 3 in. (152 x 75 mm.) channel side members and cross braced and welded to form a rigid structure of great strength.

BODY

The standard body has a heaped capacity of 4.57 cu. yd. (3.5 m³) at 28½° repose angle, or a maximum payload of 12,000 lb. (5443 kg.). Construction is of wear-resistant alloy steel plate, bottom of ½ in. (9.5 mm.) front and sides of ¼ in. (7.9 mm.) suitably reinforced.

Cab protection plate is fitted as standard.

TIPPING

Hydraulic by two 2½ in. (64 mm.) bore double-acting rams. Power provided by a gear type pump driven directly off the engine timing gears. A single spool valve gives positive control at all times. Reservoir tank capacity, 10 Imp. galls; 12 U.S. galls. (45 litres). Fully loaded body tipped through 70° angle in 4 seconds.

FUEL TANK

Capacity 10 Imp. galls; 12 U.S. galls. (45 litres). Bolted to underside of footplate.

Fuel tank capacity now 15 Imp. galls—18 U.S. galls—68 litres

EXTRA FITTINGS

BODIES

An alternative body with additional reinforcement is available for rock carrying.

A concrete-carrying body is also available.

ELECTRIC LIGHTING

Comprising two head and two side lamps in front and one head and two combined stop/tail lamps which include reflectors at rear.

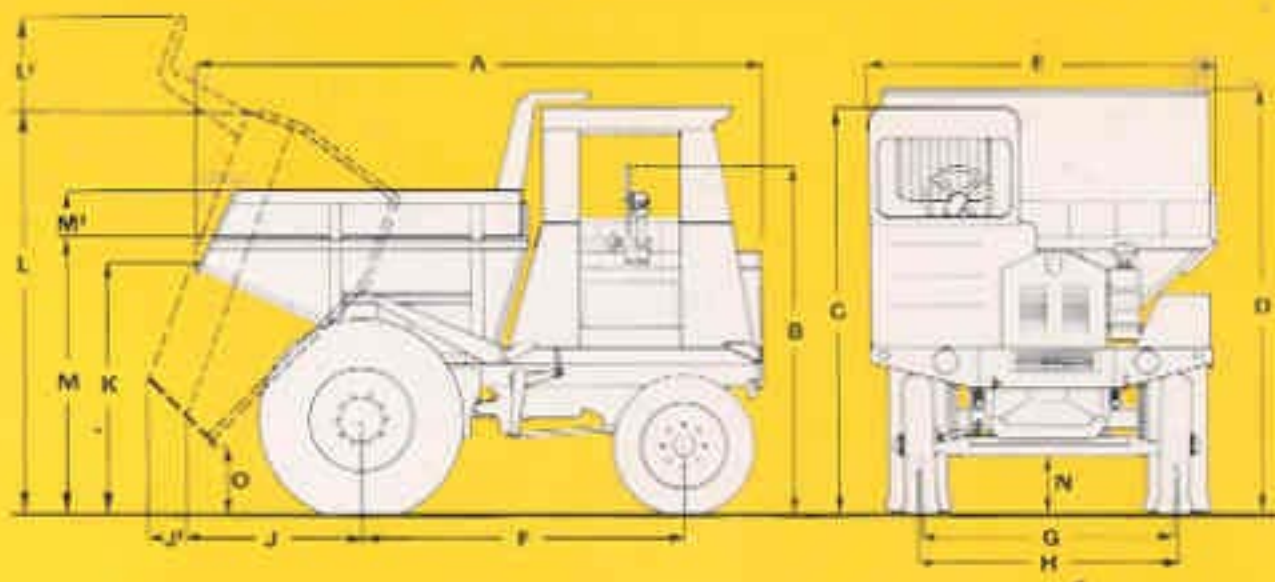
CAB TOP

Steel with safety glass windows. Provides protection for operator without impairing visibility. Windscreen wiper is fitted.

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DIMENSIONS	SY4			SY6			WEIGHTS	SY4		SY6	
	ft.	in.	mm.	ft.	in.	mm.		lb.	kg.	lb.	kg.
A Overall length	12	2	3708	12	2	3708	Standard machine empty	7,940	3,598	8,080	3,665
B Overall height without cab	7	8 1/2	2252	7	8 1/2	2258		Weight on front axle empty	3,584	1,626	3,584
C Height to top of cab	8	10 1/2	2608				Weight on rear axle empty		4,288	1,930	4,498
D Overall height with cab protection plate	9	2	2704	9	2 1/2	2806		Maximum laden weight	16,340	7,411	20,080
E Overall width	7	6	2286	7	6	2286					
F Wheelbase	6	11	2108	6	11	2108					
G Track centres—steering wheels	5	8	1676	5	8	1676					
H Track centres—driving wheels	5	8	1727	5	8	1727					
J Centre of wheel to body—end tipped	3	8	1117								
K Lip height	5	4 1/2	1644	4	6	1371					
L Tipped height	8	10	2692	8	10 1/2	2705					
L1 Tipped height with cab protection plate	10	10	3302	11	0	3352					
M Height to body side	8	11 1/2	1872								
M1				7	0 1/2	2140					
N Ground clearance (when loaded)	1	2	355	1	2	355					
O Body ground clearance (when tipped)	1	4	406	1	4	406					
Turning radius	16	3	4953	16	3	4953					
BODY											
External length	7	12	2178	7	1 1/2	2178					
External width	7	4 1/2	2247	7	6 1/2	2298					
Internal length (backplate to lip)	6	10 1/2	2092	6	10 1/2	2092					
Internal width	7	12	2174	7	1 1/2	2174					

SHIPPING SPECIFICATION (Approx.)

	SY4				SY6			
	Length	Width	Height	Weight	Length	Width	Height	Weight
Standard Dumper	12' 8"	7' 8 1/2"	7' 6"	3.5 tons	12' 8"	7' 8 1/2"	7' 6 1/2"	3.80 tons
	3860 mm	2343 mm	2286 mm	3556 kg	3860 mm	2343 mm	2298 mm	3697 kg
Dumper with Cab top								
—short sea voyage	12' 8"	7' 8 1/2"	8' 10 1/2"	3.85 tons	12' 8"	7' 8 1/2"	8' 10 1/2"	3.85 tons
	3860 mm	2343 mm	2698 mm	3506 kg	3860 mm	2343 mm	2704 mm	3709 kg
—long sea voyage	12' 8"	7' 8 1/2"	7' 6"	3.65 tons	12' 8"	7' 8 1/2"	7' 6 1/2"	3.75 tons
	3860 mm	2343 mm	2286 mm	3708 kg	3860 mm	2343 mm	2298 mm	3870 kg

Dimensions, weights and other particulars shown in this leaflet are not binding in detail and the right to modify is reserved.

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