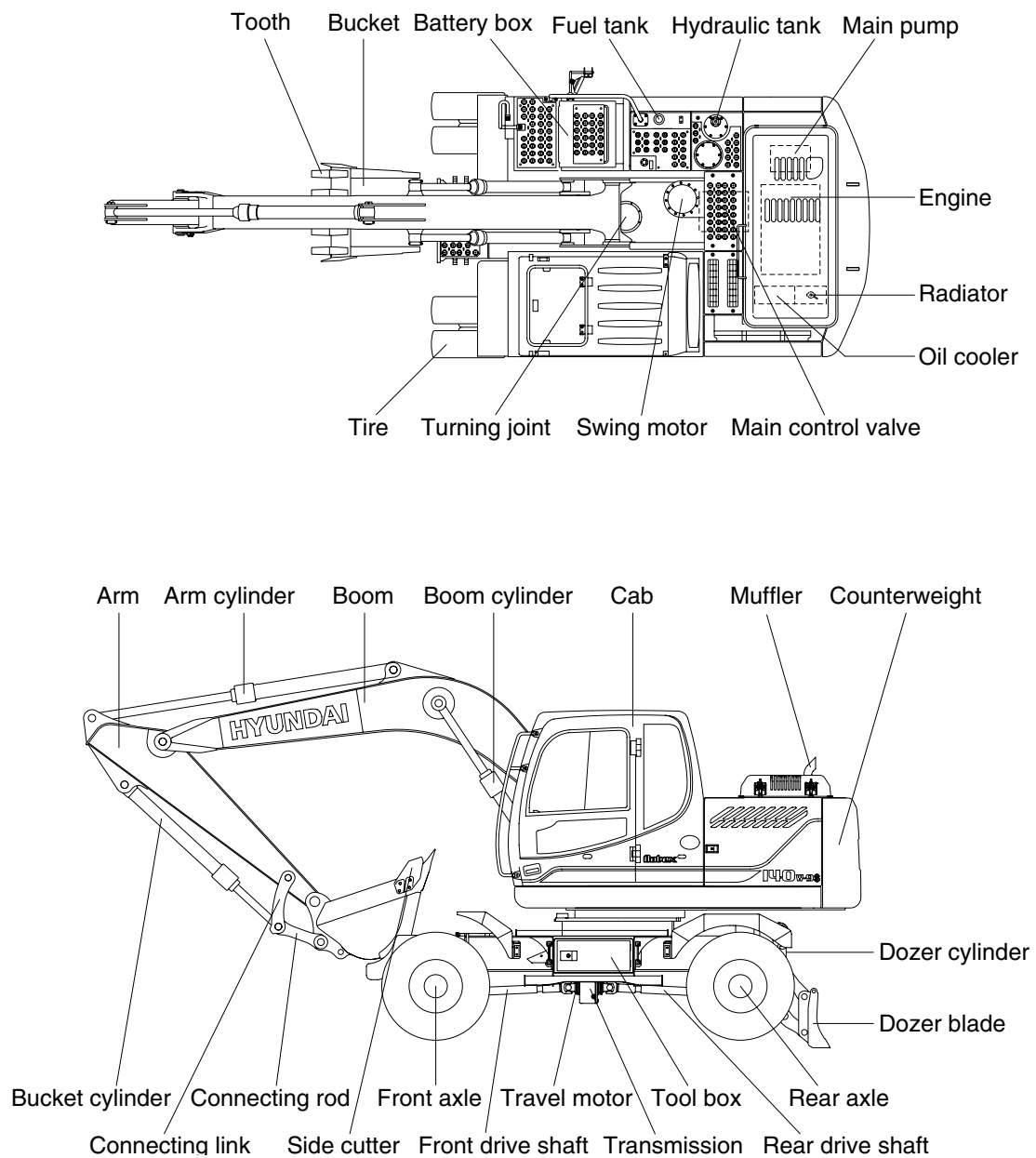


SPECIFICATIONS

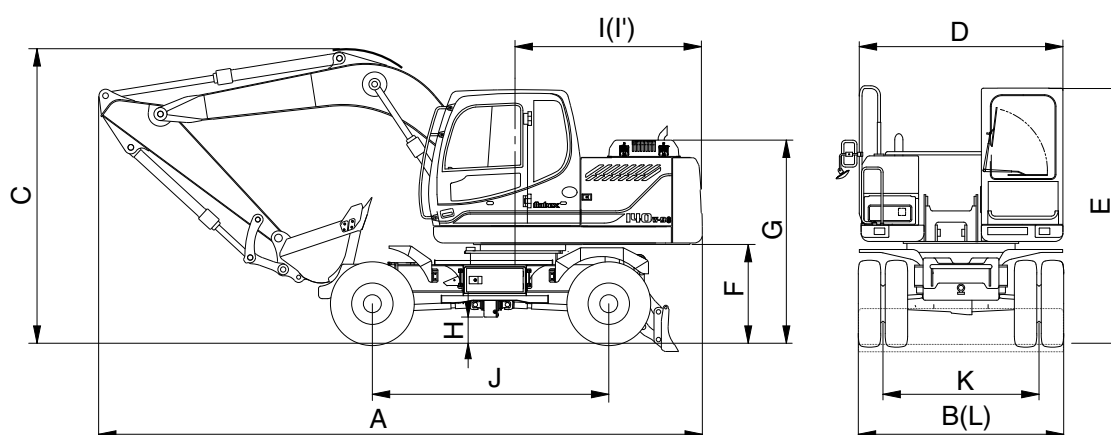
1. MAJOR COMPONENTS



14W9S2SP01

2. SPECIFICATIONS

1) 4.6 m (15' 1") ONE PIECE BOOM, 2.1 m (6' 11") ARM AND REAR DOZER BLADE

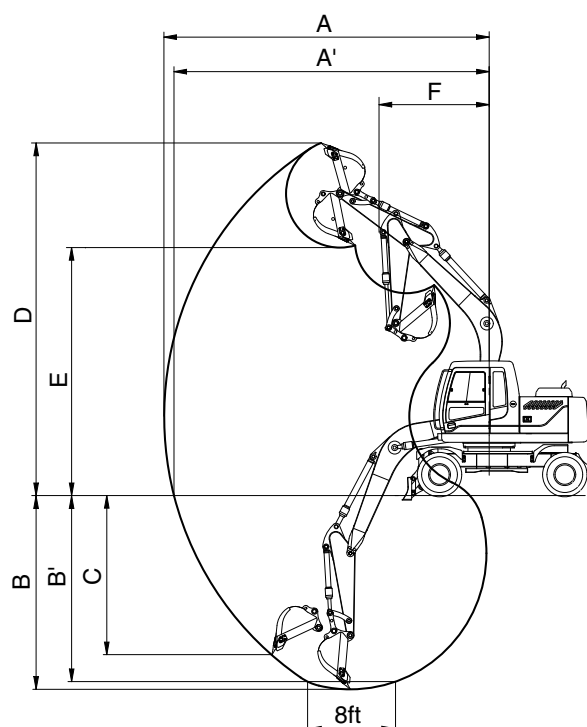


14W9S2SP02

Description		Unit	Specification
Operating weight		kg (lb)	13700 (30200)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	7760 (25' 6")
Overall width	B		2500 (8' 2")
Overall height	C		3500 (11' 6")
Upperstructure width	D		2475 (8' 1")
Cab height	E		3140 (10' 4")
Ground clearance of counterweight	F		1210 (4' 0")
Engine cover height	G		2320 (7' 7")
Minimum ground clearance	H		397 (1' 4")
Rear-end distance	I		2330 (7' 8")
Rear-end swing radius	I'		2330 (7' 8")
Wheel base	J		2600 (8' 6")
Tread	K		1944 (6' 5")
Dozer blade width	L		2490 (8' 2")
Travel speed	Low	km/hr (mph)	8 (5.0)
	High		30 (18.6)
Swing speed		rpm	12.9
Gradeability		Degree (%)	35 (70)
Max traction force		kgf (lbf)	8500 (18740)

3. WORKING RANGE

1) 4.6 m (15' 1") MONO BOOM



14W92SP03

Description		1.9 m (6' 3") Arm	*2.1 m (6' 11") Arm	2.5 m (8' 2") Arm	3.0 m (9' 10") Arm
Max digging reach	A	7750 mm (25' 5")	7920 mm (26' 0")	8320 mm (27' 4")	8780 mm (28'10")
Max digging reach on ground	A'	7530 mm (24' 8")	7700 mm (25' 3")	8120 mm (26' 8")	8590 mm (28' 2")
Max digging depth	B	4650 mm (15' 3")	4850 mm (15'11")	5250 mm (17' 3")	5750 mm (18'10")
Max digging depth (8 ft level)	B'	4390 mm (14' 5")	4600 mm (15' 1")	5040 mm (16' 6")	5570 mm (18' 3")
Max vertical wall digging depth	C	4350 mm (14' 3")	4350 mm (14' 3")	5030 mm (16' 6")	5550 mm (18' 3")
Max digging height	D	8400 mm (27' 7")	8470 mm (27' 9")	8790 mm (28'10")	9070 mm (29' 9")
Max dumping height	E	5960 mm (19' 7")	6040 mm (19'10")	6350 mm (20'10")	6620 mm (21' 9")
Min swing radius	F	2620 mm (8' 7")	2620 mm (8' 7")	2650 mm (8' 8")	2670 mm (8' 9")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN
		8800 [9660] kgf	8800 [9660] kgf	8800 [9660] kgf	8800 [9660] kgf
		19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf
		22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf
Arm digging force	SAE	76.5 [83.1] kN	73.6 [79.9] kN	62.8 [68.2] kN	55.9 [60.7] kN
		7800 [8470] kgf	7500 [8140] kgf	6400 [6950] kgf	5700 [6190] kgf
		17200 [18670] lbf	16530 [17950] lbf	14110 [15320] lbf	12570 [13640] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN	65.7 [71.4] kN	57.9 [62.8] kN
		8200 [8900] kgf	7900 [8580] kgf	6700 [7270] kgf	5900 [6410] kgf
		18080 [19630] lbf	17420 [18910] lbf	14770 [16040] lbf	13010 [14120] lbf

* : Standard [] : Power boost

4. WEIGHT

Item	R140W-9S	
	kg	lb
Upperstructure assembly	4680	10320
Main frame weld assembly	1150	2540
Engine assembly	330	730
Main pump assembly	100	220
Main control valve assembly	145	320
Swing motor assembly	130	290
Hydraulic oil tank assembly	180	400
Fuel tank assembly	140	310
Counterweight	1900	4190
Cab assembly	500	1100
Lower frame weld assembly	1340	2950
Swing bearing	210	465
Travel motor assembly	65	145
Turning joint	100	220
Transmission assembly	140	310
Front axle assembly	520	1150
Rear axle assembly	480	1060
Dozer blade assembly (front)	590	1300
Dozer blade assembly (rear)	560	1240
Front attachment assembly (4.6 m boom, 2.1 m arm, 0.58 m ³ SAE heaped bucket)	2380	5250
4.6 m boom assembly	830	1830
2.1 m arm assembly	385	850
0.58 m ³ SAE heaped bucket assembly	480	1060
Boom cylinder assembly	130	290
Arm cylinder assembly	160	350
Bucket cylinder assembly	100	220
Bucket control link assembly	80	180
2.5 m arm assembly	435	960
Oscillating cylinder assembly	30	70
Front outrigger assembly	800	1765
Rear outrigger assembly	790	1740
Outrigger cylinder assembly	110	240
Blade cylinder assembly (front)	45	100
Blade cylinder assembly (rear)	50	110

5. LIFTING CAPACITIES

1) ROBEX 140W-9S

(1) 4.60 m (15' 1") boom, 2.1 m (6'11") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down.

-  : Rating over-front
-  : Rating over-side or 360 degree

Load point height		Load radius								At max. reach	
		1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity	Reach
											 m (ft)
6.0 m (20.0 ft)	kg					*3130	*3130			*3050	6.43
	lb					*6900	*6900			*6720	(21.1)
4.5 m (15.0 ft)	kg					*3540	*3540	*3210	2120	*3160	7.23
	lb					*7800	*7800	*7080	4670	*6970	(23.7)
3.0 m (10.0 ft)	kg			*6620	6450	*4510	3310	*3770	2040	3230	7.59
	lb			*14590	14220	*9940	7300	*8310	4500	7120	(24.9)
1.5 m (5.0 ft)	kg			*8650	5730	*5580	3060	*4230	1930	3180	7.59
	lb			*19070	12630	*12300	3750	*9330	4250	7010	(24.9)
Ground Line	kg			*9090	5510	*6240	2900	*4540	1860	3420	7.24
	lb			*20040	12150	*13760	6390	*10010	4100	7540	(23.8)
-1.5 m (-5.0 ft)	kg	*7380	*7380	*9530	5530	*6240	2860			*3760	6.45
	lb	*16270	*16270	*21010	12190	*13760	6310			*8290	(21.2)
-3.0 m (-10.0 ft)	kg	*11710	*11710	*7990	5690	*5240	2950				
	lb	*25820	*25820	*17610	12540	*11550	6500				

Note 1. Lifting capacity are based on SAE J1097 and ISO 10567.

2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.

3. The load point is a hook located on the back of the bucket.

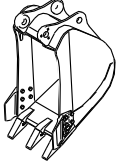
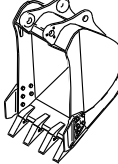
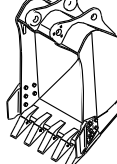
4. *Indicates load limited by hydraulic capacity.

(2) 4.60 m (15' 1") boom, 2.5 m (8' 2") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down.

Load point height		Load radius								At max. reach	
		1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity	Reach
											 m (ft)
6.0 m (20.0 ft)	kg									*2820	6.92
	lb									*6220	(22.7)
4.5 m (15.0 ft)	kg					*3110	*3110	*2980	2150	*2880	7.66
	lb					*6860	*6860	*6570	4740	*6350	(25.1)
3.0 m (10.0 ft)	kg			*5700	*5700	*4110	3360	*3500	2050	*2930	8.00
	lb			*12570	*12570	*9060	7410	*7720	4520	*6460	(26.2)
1.5 m (5.0 ft)	kg			*8610	5850	*5270	3080	*4030	1930	2900	8.00
	lb			*18980	12900	*11620	6790	*8880	4250	6390	(26.2)
Ground Line	kg	*3820	*3820	*9000	5500	*6070	2890	*4430	1830	3090	7.67
	lb	*8420	*8420	*19840	12130	*13380	6370	*9770	4030	6810	(25.2)
-1.5 m (-5.0 ft)	kg	*6470	*6470	*9740	5460	*6260	2820	*4470	1800	*3510	6.94
	lb	*14260	*14260	*21470	12040	*13800	6220	*9850	3970	*7740	(22.8)
-3.0 m (-10.0 ft)	kg	*9750	*9750	*8560	5580	*5620	2870			*3480	5.64
	lb	*21500	*21500	*18870	12300	*12390	6330			*7670	(18.5)

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

		
0.23 m³ SAE heaped bucket	0.40, 0.46 m³ SAE heaped bucket	0.52, ※ 0.58, 0.65, 0.71 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation			
					4.6 m (15' 1") Mono boom			
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 marm (6' 3")	2.1 marm (6' 11")	2.5 marm (8' 2")	3.0 marm (9' 10")
0.23 m³ (0.30 yd³)	0.20 m³ (0.26 yd³)	520 mm (20.5")	620 mm (24.4")	335 kg (740 lb)				
0.40 m³ (0.52 yd³)	0.35 m³ (0.46 yd³)	760 mm (29.9")	860 mm (33.9")	410 kg (900 lb)				
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	850 mm (33.5")	950 mm (37.4")	435 kg (960 lb)				
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	935 mm (36.8")	1035 mm (40.7")	460 kg (1010 lb)				
※ 0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1030 mm (40.6")	1130 mm (44.5")	480 kg (1060 lb)				
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1110 mm (43.7")	1210 mm (47.6")	500 kg (1100 lb)				
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1205 mm (47.4")	1305 mm (51.4")	540 kg (1190 lb)				

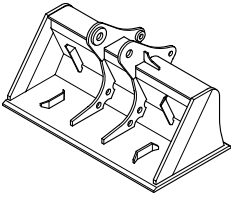
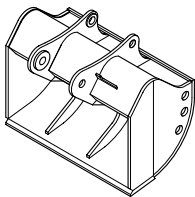
※ : Standard bucket

 Applicable for materials with density of 2000 kg/m³ (3370 lb/yd³) or less

 Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less

 Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

2) Special bucket

Slope finishing bucket 	Ditch cleaning bucket 
◎ 0.55 m³ SAE heaped bucket	★ 0.45 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation		
					4.6 m (15' 1") Mono boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 marm (6' 3")	2.1 marm (6' 11")	2.5 marm (8' 2")
◎ 0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	1800 mm (70.9")	-	585 kg (1290 lb)			
★ 0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	1520 mm (59.8")	-	410 kg (900 lb)			

◎ : Slope finishing bucket

★ : Ditch cleaning bucket

 Applicable for materials with density of 2000 kg/m³ (3370 lb/yd³) or less

 Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less

 Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

7. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins B 3.9
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	102 × 120 mm (4.02" × 4.72")
Piston displacement	3900 cc (238 cu in)
Compression ratio	18 : 1
Rated gross horse power (SAE J1995)	113 Hp (84 kW) at 2100 rpm
Maximum torque	45.6 kgf · m (330 lbf · ft) at 1500 rpm
Engine oil quantity	15.3 l (4.0 U.S. gal)
Dry weight	320 kg (705 lb)
High idling speed	2350 ± 50 rpm
Low idling speed	850 ± 100 rpm
Rated fuel consumption	164 g/Hp · hr at 2100 rpm
Starting motor	Nippon densor (24 V - 4.5 kW)
Alternator	Delco remy (24 V - 70 A)
Battery	2 × 12 V × 100 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 62 cc/rev
Maximum pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Rated oil flow	2 × 130 l/min (34.3 U.S. gpm / 28.6 U.K. gpm)
Rated speed	2100 rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	31.5 l /min (8.3 U.S. gpm/6.9 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	11 spools two-block
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Overload relief valve pressure	400 kgf/cm ² (5690 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	72 cc/rev
Relief pressure	260 kgf/cm ² (3698 psi) -#0031, 280 kgf/cm ² (4050 psi) #0032-
Braking system	Automatic, spring applied hydraulic released
Braking torque	30 kgf · m (217 lbf · ft)
Brake release pressure	15~50 kgf/cm ² (213~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement bent-axis axial piston motor
Relief pressure	380 kgf/cm ² (5400 psi)
Counter balance valve	Applied
Capacity (MAX/MIN)	107 / 43 cc/rev

7) POWER TRAIN

Item	Description		Specification
Transmission	Type		2 speed power shift transmission
	Gear ratio	1st	4.87
		2nd	1.20
Parking brake	Type		Multi disc brake integrated in transmission
	Maximum braking torque		2124 kgf · m (15360 lbf · ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		15.43
	Brake		Multi disc brake

8) CYLINDER

Item			Specification
Boom cylinder	Bore dia × Stroke		ø 105 × 1075mm
	Cushion		Extend only
Arm cylinder	Bore dia × Stroke		ø 115 × 1138mm
	Cushion		Extend and retract
Bucket cylinder	Bore dia × Stroke		ø 100 × 840mm
	Cushion		Extend only
Dozer cylinder	Rear	Bore dia × Stroke	ø 100 × 236mm
	Front	Bore dia × Stroke	ø 100 × 240mm
	Cushion		Extend only
Outrigger cylinder	Bore dia × Stroke		ø 110 × 446mm

9) BUCKET

Item	Capacity		Tooth quantity	Width	
	SAE heaped	CECE heaped		Without side cutter	With side cutter
Standard	0.58 m ³ (0.76 yd ³)	0.50 m ³ (0.65 yd ³)	5	1030 mm (40.6")	1130 mm (44.5")
Option	0.23 m ³ (0.30 yd ³)	0.20 m ³ (0.26 yd ³)	3	520 mm (20.5")	620 mm (24.4")
	0.40 m ³ (0.52 yd ³)	0.35 m ³ (0.46 yd ³)	4	760 mm (29.9")	860 mm (33.9")
	0.46 m ³ (0.60 yd ³)	0.40 m ³ (0.52 yd ³)	4	850 mm (33.5")	950 mm (37.4")
	0.52 m ³ (0.68 yd ³)	0.45 m ³ (0.59 yd ³)	5	935 mm (36.8")	1035 mm (40.7")
	0.65 m ³ (0.85 yd ³)	0.55 m ³ (0.72 yd ³)	5	1110 mm (43.7")	1210 mm (47.6")
	0.71 m ³ (0.93 yd ³)	0.60 m ³ (0.78 yd ³)	5	1205 mm (47.4")	1305 mm (51.4")
	◎ 0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	-	1800 mm (70.9")	-
	★ 0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	-	1520 mm (59.8")	-

◎ : Slope finishing bucket

★ : Ditch cleaning bucket

8. RECOMMENDED OILS

Use only oils listed below or equivalent.
Do not mix different brand oil.

Service point	Kind of fluid	Capacity ℓ (U.S. gal)	Ambient temperature °C (°F)								
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Engine oil pan	Engine oil	14.5 (3.8)	★SAE 5W-40								
								SAE 30			
Transmission case		2.5 (0.7)	SAE 10W								
			SAE 10W-30								
			SAE 15W-40								
Swing drive	Gear oil	2.5 (0.7)	★SAE 75W-90								
				SAE 85W-140							
	Grease	0.35 (0.1)	★NLGI NO.1								
				NLGI NO.2							
Front axle	Gear oil	Center : 9.0 (2.38) Hub : 2.4 × 2 (0.63 × 2)	SAE 85W-90 LSD or UTTO								
Rear axle		Center : 11.2 (2.96) Hub : 2.4 × 2 (0.63 × 2)									
Hydraulic tank	Hydraulic oil	Tank: 124 (32.8) System: 210 (55.5)	★ISO VG 15								
				ISO VG 32							
				ISO VG 46							
				ISO VG 68							
Fuel tank	Diesel fuel	270 (71.3)	★ASTM D975 NO.1								
				ASTM D975 NO.2							
Fitting (Grease nipple)	Grease	As required	★NLGI NO.1								
				NLGI NO.2							
Radiator (Reservoir tank)	Mixture of antifreeze and soft water★ ¹	17.5 (4.6)	Ethylene glycol base permanent type (50 : 50)								
			★Ethylene glycol base permanent type (60 : 40)								

SAE : Society of Automotive Engineers
API : American Petroleum Institute
ISO : International Organization for Standardization
NLGI : National Lubricating Grease Institute
ASTM : American Society of Testing and Materia
UTTO : Universal Tractor Transmission Oil

★ : Cold region
 Russia, CIS, Mongolia
 ★¹ : Soft water
 City water or distilled water