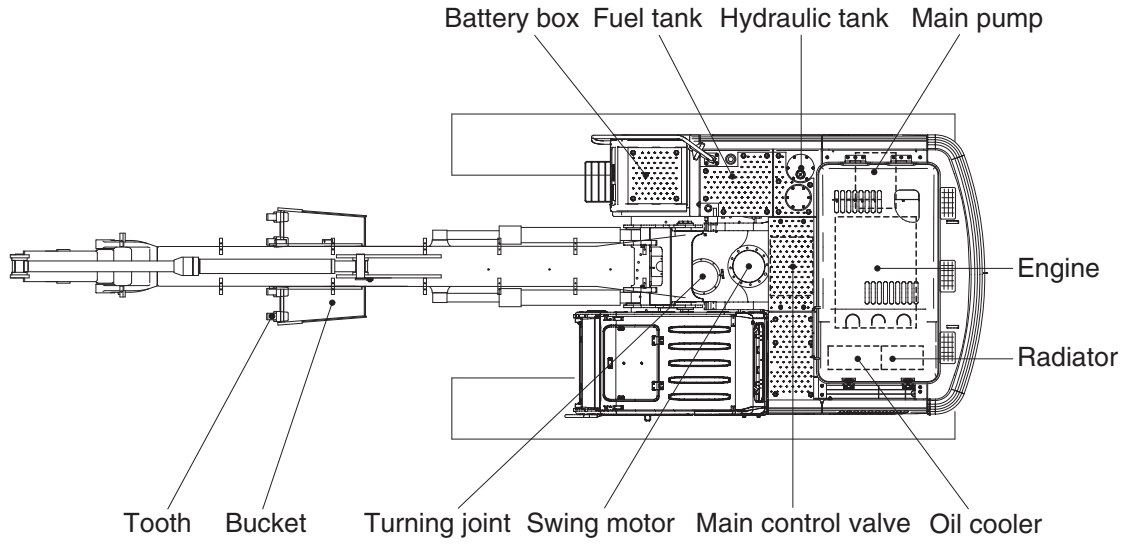
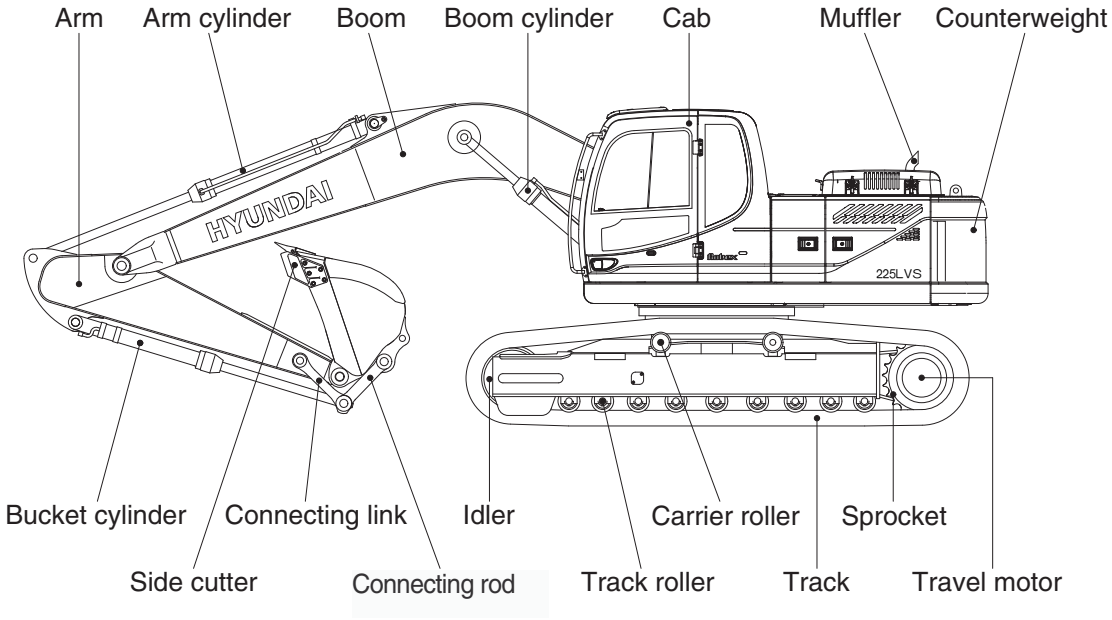
1. MAJOR COMPONENT



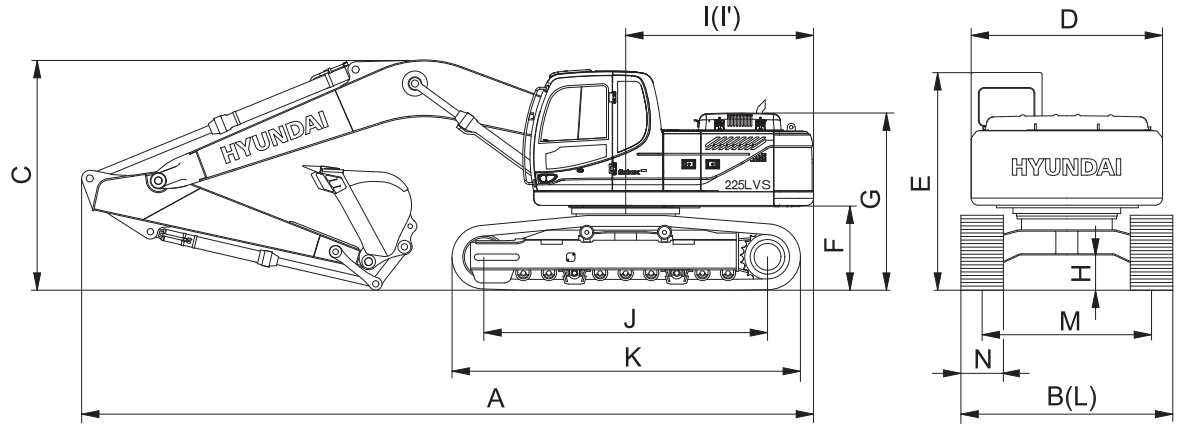


25092SP01

2. SPECIFICATIONS

1) R225LVS

· 5.68 m (18' 8") BOOM and 2.92 m (9 ' 7") ARM

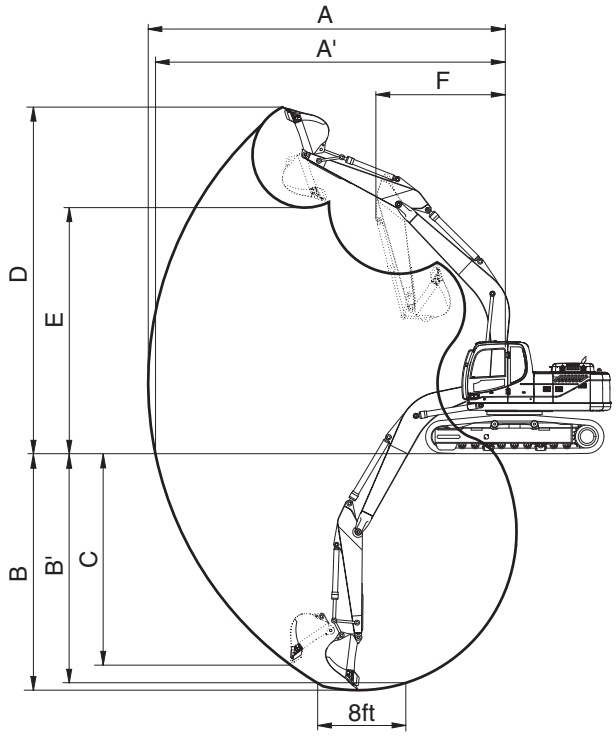


25092SP02

Description		Unit	Specification
Operating weight		kg (lb)	22570 (49760)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.05 (1.37)
Overall length	A	mm (ft-in)	9550 (31' 4")
Overall width, with 600mm shoe	B		2990 (9' 10")
Overall height	C		3080 (10' 1")
Superstructure width	D		2740 (9' 0")
Overall height of cab	E		2920 (9' 7")
Ground clearance of counterweight	F		1060 (3' 6")
Engine cover height	G		2320 (7' 7")
Minimum ground clearance	H		480 (1' 7")
Rear-end distance	I		2770 (9' 1")
Rear-end swing radius	I'		2840 (9' 4")
Distance between tumblers	J		3650 (12' 1")
Undercarriage length	K		4440 (14' 7")
Undercarriage width	L		2990 (9' 10")
Track gauge	M		2390 (7' 10")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.4/5.5 (2.1/3.4)
Swing speed		rpm	11
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.48 (6.83)
Max traction force		kg (lb)	20200 (44533)

3. WORKING RANGE

1) R225LVS [5.68 m (18' 8") BOOM]



21092SP03

Description		2.00m (6' 7") Arm	2.40m (7' 10") Arm	※2.92m (9' 7") Arm	3.90m (12' 10") Arm
Max digging reach	A	9140 mm (30' 0")	9500 mm (31' 2")	9980 mm (32' 9")	10910 mm (35' 10")
Max digging reach on ground	A'	8960 mm (29' 5")	9330 mm (30' 7")	9820 mm (32' 3")	10770 mm (35' 4")
Max digging depth	B	5820 mm (19' 1")	6220 mm (20' 5")	6730 mm (22' 1")	7720 mm (25' 4")
Max digging depth (8 ft level)	B'	5580 mm (18' 4")	6010 mm (19' 9")	6560 mm (21' 6")	7580 mm (24' 10")
Max vertical wall digging depth	C	5280 mm (17' 4")	5720 mm (18' 9")	6280 mm (20' 7")	7240 mm (23' 9")
Max digging height	D	9140 mm (30' 0")	9340 mm (30' 8")	9600 mm (31' 6")	10110 mm (33' 2")
Max dumping height	E	6330 mm (20' 9")	6520 mm (20' 5")	6780 mm (22' 3")	7290 mm (23' 11")
Min swing radius	F	3750 mm (12' 4")	3740 mm (12' 3")	3740 mm (12' 3")	3650 mm (11'12")
Bucket digging force	SAE	133.4 [145.5] kN	133.4 [145.5] kN	133.4 [145.5] kN	133.4 [145.5] kN
		13600 [14840] kgf	13600 [14840] kgf	13600 [14840] kgf	13600 [14840] kgf
		29980 [32710] lbf	29980 [32710] lbf	29980 [32710] lbf	29980 [32710] lbf
	ISO	152.0 [165.8] kN	152.0 [165.8] kN	152.0 [165.8] kN	152.0 [165.8] kN
		15500 [16910] kgf	15500 [16910] kgf	15500 [16910] kgf	15500 [16910] kgf
		34170 [37280] lbf	34170 [37280] lbf	34170 [37280] lbf	34170 [37280] lbf
Arm digging force	SAE	144.2 [156.5] kN	119.6 [129.9] kN	102.0 [110.7] kN	84 .3 [91 .6] kN
		14700 [15960] kgf	12200 [13250] kgf	10400 [11290] kgf	8600 [9340] kgf
		32410 [35190] lbf	26900 [29210] lbf	22930 [24900] lbf	18960 [20590] lbf
	ISO	151.0 [164.0] kN	125.5 [136.3] kN	106.9 [116.1] kN	87 .3 [94 .8] kN
		15400 [16720] kgf	12800 [13900] kgf	10900 [11830] kgf	8900 [9660] kgf
		33950 [36860] lbf	28220 [30640] lbf	24030 [26090] lbf	19620 [21300] lbf

[ ] : Power boost ※ : STD

4. WEIGHT

1) R225LVS

Item	R225LVS	
	kg	lb
Upperstructure assembly	9396	20715
Main frame weld assembly	1920	4230
Engine assembly	556	1226
Main pump assembly	140	310
Main control valve assembly	220	485
Swing motor assembly	240	530
Hydraulic oil tank assembly	240	530
Fuel tank assembly	195	430
Counterweight	4200	9260
Cab assembly	310	680
Lower chassis assembly	8700	19180
Track frame weld assembly	2720	6000
Swing bearing	290	640
Travel motor assembly	300	660
Turning joint	55	120
Track recoil spring	140	310
Idler	170	370
Carrier roller	20	45
Track roller	40	88
Track-chain assembly (600 mm standard triple grouser shoe)	1350	2980
Front attachment assembly (5.68 m boom, 2.92 m arm, 1.05 m^3 SAE heaped bucket)	4030	8880
5.68 m boom assembly	1520	3350
2.92 m arm assembly	750	1650
1.05 m^3 SAE heaped bucket	740	1630
Boom cylinder assembly	180	400
Arm cylinder assembly	290	640
Bucket cylinder assembly	175	390
Bucket control rod assembly	170	370

5. LIFTING CAPACITIES

1) R225LVS

(1) 5.68 m (18' 8") boom, 2.92 m (9' 7 ") arm equipped with 1.05 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4200 kg (9260 lb) counterweight.

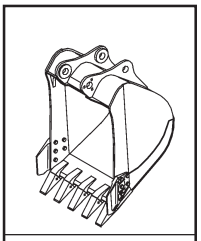
· : Rating over-front · : Rating over-side or 360 degree

Load point height		Load radius										At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		Capacity		Reach
														m(ft)
7.5m 25.0ft	kg											*3240	*3240	7.73
	lb											*7140	*7140	(25.4)
6.0m 20.0ft	kg											*3340	2570	8.69
	lb											*7360	5670	(28.5)
4.5m 15.0ft	kg							*3930	*3930	*3740	3280	*3470	2190	9.27
	lb							*8660	*8660	*8250	7230	*7650	4830	(30.4)
3.0m 10.0ft	kg			*9670	*9670	*6050	*6050	*4740	4610	*4130	3130	3570	2000	9.55
	lb			*21320	*21320	*13340	*13340	*10450	10160	*9110	6900	7870	4410	(31.3)
1.5m 5.0ft	kg			*9060	*9060	*7820	6700	*5640	4290	*4600	2970	3510	1950	9.54
	lb			*19970	*19970	*17240	14770	*12430	9460	*10140	6550	7740	4300	(31.3)
Ground Line	kg			*9850	*9850	*9000	6290	*6360	4040	*5000	2840	3650	2020	9.26
	lb			*21720	*21720	*19840	13870	*14020	8910	*11020	6260	8050	4450	(30.4)
−1.5m −5.0ft	kg	*9120	*9120	*12980	12280	*9430	6130	*6730	3920	4990	2770	4060	2270	8.68
	lb	*20110	*20110	*28620	27070	*20790	13510	*14840	8640	11000	6110	8950	5000	(28.5)
−3.0m −10.0ft	kg	*12540	*12540	*13740	12460	*9140	6150	*6590	3920			*4430	2830	7.70
	lb	*27650	*27650	*30290	27470	*20150	13560	*14530	8640			*9770	6240	(25.3)
−4.5m −15.0ft	kg			*11620	*11620	*7940	6350					*4340	4290	6.09
	lb			*25620	*25620	*17500	14000					*9570	9640	(20.0)

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 (standard equipment) located on the back of the bucket.
4. *indicates load limited by hydraulic capacity.

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET



※1.05m³SAE heaped bucket

Capacity		Width		Weight	Recommendation	
					5.68m(18'8") boom	
SAE heaped	CECE heaped	Without side cutter	Without side cutter		2.92m (9'7") arm	
1.05m³ (1.37yd³)	0.93m³ (1.22yd³)	1160mm (45.7")	1280mm (50.4")	875kg (1930lb)		
0.52m³ (0.68yd³)	0.45m³ (0.59yd³)	935mm (36.8")	1035mm (40.7")	465kg (1030lb)		

※ : Standard bucket

Applicable for materials with density of 2000 kgf/m³ (3370 lbf/yd³) or less

Applicable for materials with density of 1600 kgf/m³ (2700 lbf/yd³) or less

Applicable for materials with density of 1100 kgf/m³ (1850 lbf/yd³) or less

7. UNDERCARRIAGE

1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs and assembled track-type tractor shoes with triple grousers.

2) TYPES OF SHOES

Model	Shapes		Tirper grouser			
						
R225LVS	Show width	mm(in)	600(24)	700(28)	800(32)	900(36)
	Oper weight	kg(lb)	22570(49760)	22920(50530)	23185(51110)	23450(51700)
	Ground pre	kgf/cm^2(psi)	0.48(6.83)	0.42(5.97)	0.37(5.26)	0.33(4.69)
	Overall width	mm(ft-in)	2990(9' 10")	3090(10' 2")	3190(10' 6")	3290(10' 10")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity	
	R225LVS	
Carrier rollers	2 EA	
Track rollers	9 EA	
Track shoes	49 EA	

4) SELECTION OF TRACK SHOE

Suitable track shoes should be selected according to operating conditions.

Method of selecting shoes

Confirm the category from the list of applications in table 2, then use table 1 to select the shoe. Wide shoes(Categories B and C) have limitations on applications. Before using wide shoes, check the precautions, then investigate and study the operating conditions to confirm if these shoes are suitable.

Select the narrowest shoe possible to meet the required flotation and ground pressure. Application of wider shoes than recommendations will cause unexpected problem such as bending of shoes, crack of link, breakage of pin, loosening of shoe bolts and the other various problems.

※ **Table 1**

Track shoe	Specification	Category
600mm triple grouser	Standard	A
700mm triple grouser	Option	B
700mm double grouser ★1	Option	B
800mm triple grouser	Option	C
900mm triple grouser	Option	C

★1 : R250LC-9 HIGH WALKER ONLY

※ **Table 2**

Category	Applications	Precautions
A	Rocky ground, river beds, normal soil	· Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	· These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles
C	Extremely, soft ground (Swampy ground)	· Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B · These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins QSB7 CM2880 B117
Type	4-cycle turbocharged, charger air cooled diesel engine
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	107 × 124 mm (4.2" × 4.9")
Piston displacement	6700 cc (409 cu in)
Compression ratio	17.2 : 1
Rated gross horse power (SAE J1995)	167 Hp at 1900 rpm (125 kW at 1900 rpm)
Maximum torque	67.0 kgf · m (485 lbf · ft) at 1500 rpm
Engine oil quantity	24 ℓ (6.3 U.S. gal)
Dry weight	556 kg (1225 lb)
High idling speed	1950+ 50 rpm
Low idling speed	850± 100 rpm
Rated fuel consumption	151.4 g/Hp · hr at 1900 rpm
Starting motor	Remy (24V-7.5 kW)
Alternator	Delco Remy 24V-90A
Battery	2 × 12V × 120 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 117 cc/rev
Maximum pressure	350 kgf/cm^2 (4980 psi) [380 kgf/cm^2 (5400 psi)]
Rated oil flow	2 × 222 ℓ /min (58.7 U.S. gpm/ 48.8 U.K. gpm)
Rated speed	1900 rpm

[ ] : Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15 cc/rev
Maximum pressure	40 kgf/cm^2 (570 psi)
Rated oil flow	28.5 ℓ /min (7.45 U.S. gpm / 6.27 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
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	Axial piston motor
Capacity	142.8 cc/rev
Relief pressure	265 kgf/cm^2 (3770 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	1083kgf · m (7838 lbf · ft)
Brake release pressure	21.3~35.7 kgf/cm^2 (303~508 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Axial piston motor
Relief pressure	350 kgf/cm^2 (4980 psi)
Capacity (max / min)	171.2/108.5 cc/rev
Reduction gear type	Planetary differential
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	15.2 kgf/cm^2 (216 psi)
Braking torque	2878 kgf · m (20829lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5 kgf/cm^2 (92 psi)
	Maximum	25 kgf/cm^2 (356 psi)
Single operation stroke	Lever	61 mm (2.4")
	Pedal	123 mm (4.8")

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø120 × ø85 × 1290 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø140 × ø100 × 1510 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø120 × ø80 × 1055 mm
	Cushion	Extend only

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R225LVS	Standard	600 mm (24")	0.48 kgf/cm^2 (6.83 psi)	49	2990 mm (9' 10")
	Option	700 mm (28")	0.42 kgf/cm^2 (5.97 psi)	49	3090 mm (10' 2")
		800 mm (32")	0.37 kgf/cm^2 (5.26 psi)	49	3190 mm (11' 6")
		900 mm (36")	0.33 kgf/cm^2 (4.69 psi)	49	3290 mm (11' 10")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R225LVS	Standard	1.05m^3(1.37yd^3)	0.93m^3(1.22yd^3)	5	1160mm(45.7")	1280mm(50.4")
	Option	0.52m^3(0.68yd^3)	0.45m^3(0.59yd^3)	5	935mm(36.8")	1035mm(40.7")
		⊙ 1.05m^3(1.37yd^3)	0.90m^3(1.18yd^3)	5	1300mm(51.2")	–

⊙ : Rock bucket (heavy)

9. RECOMMENDED OILS

Use only oils listed below. Do not mix different brand oil.
Please use HYUNDAI genuine oil and grease.

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	24 (6.3)	SAE 5W-40 SAE 30 SAE 10W SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	6.2 (1.6)	SAE 80W-90
Final drive		4.5×2 (1.2×2)	SAE 85W-140
Hydraulic tank	Hydraulic oil	Tank; 160 (42) System; 275 (73)	ISO VG 15 ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	400 (106)	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	35 (9.2)	Ethylene glycol base permanent type (50 : 50)

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 Material