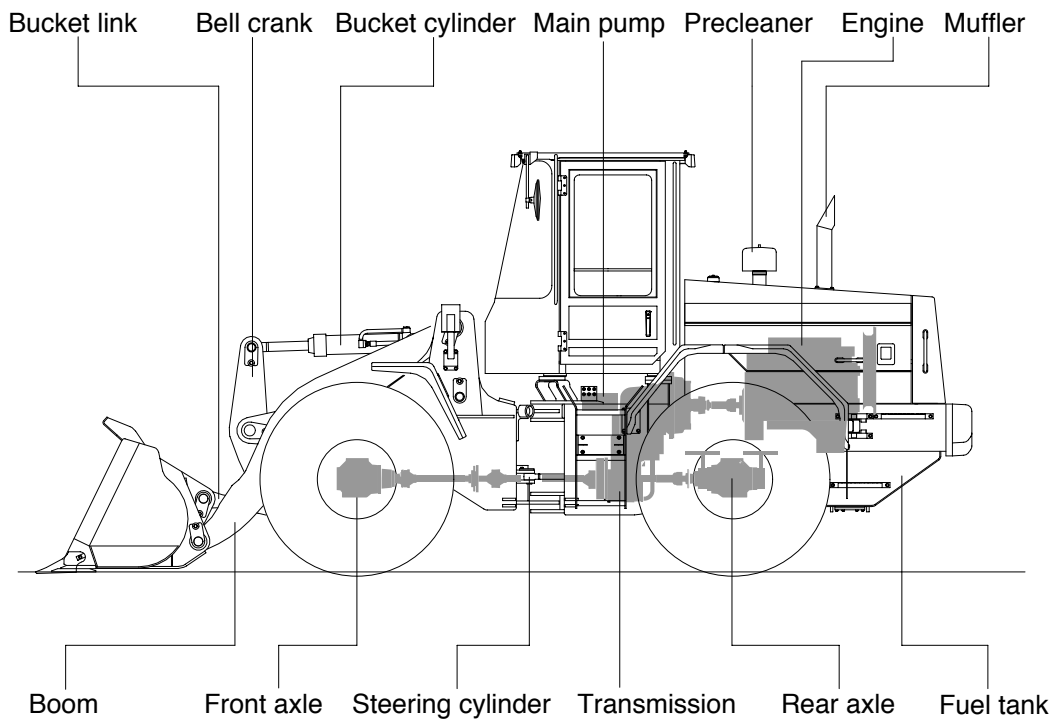
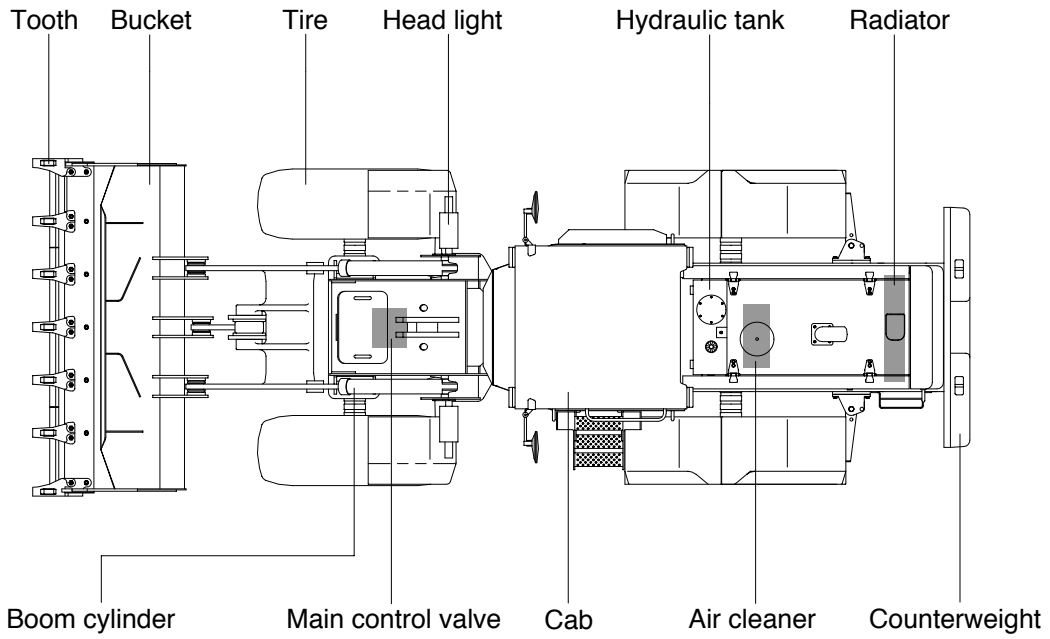
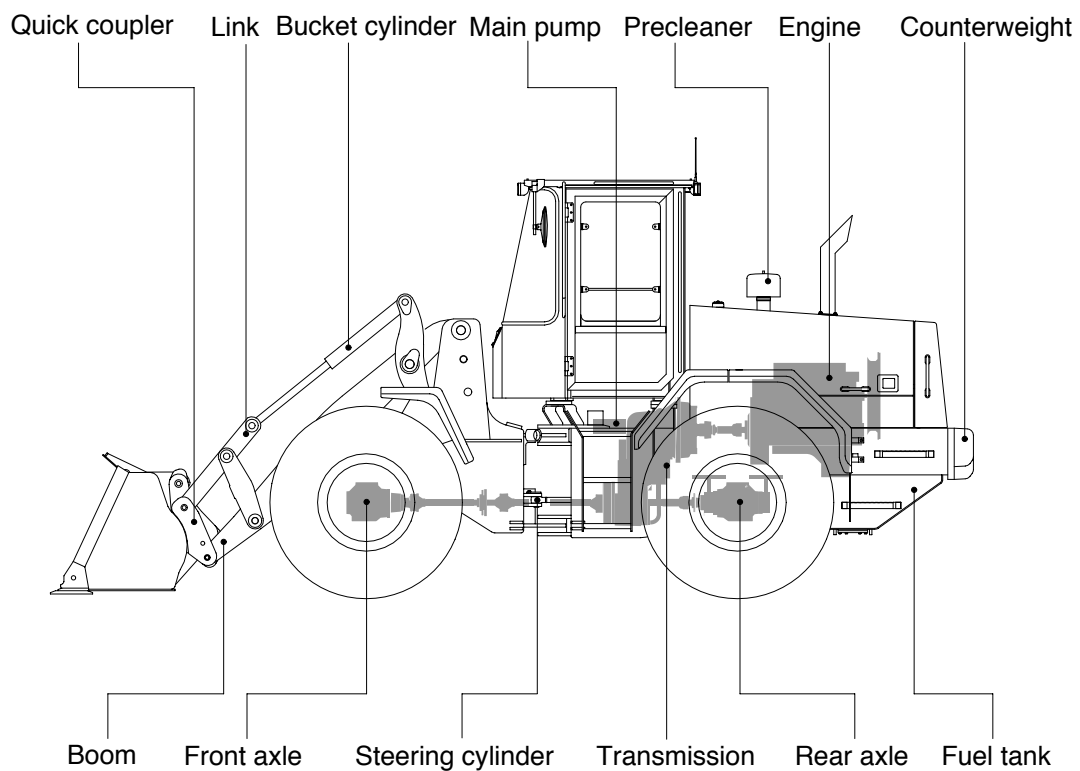
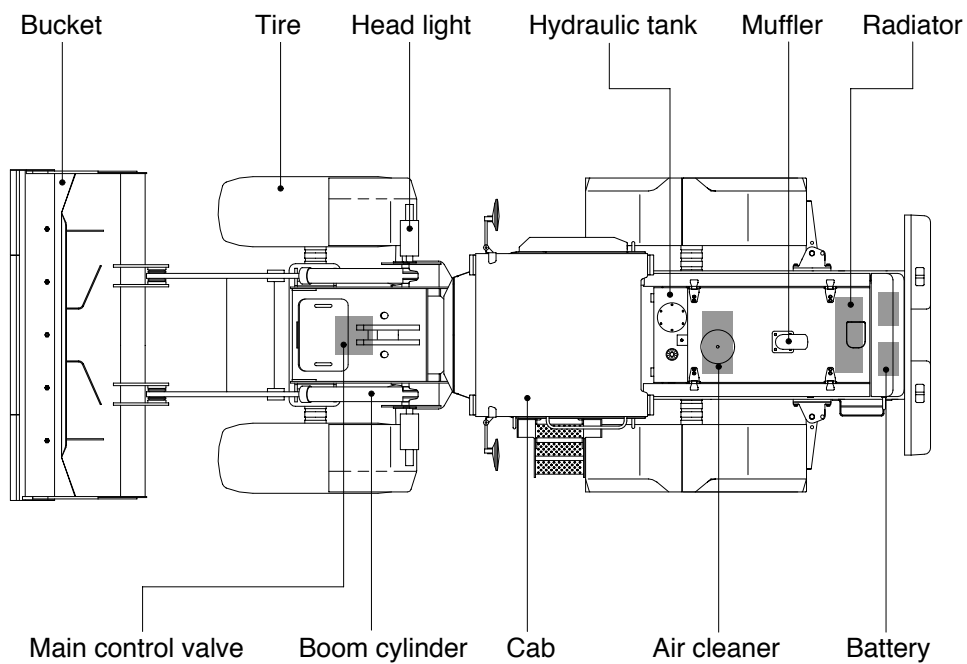


GROUP 2 SPECIFICATION

1) MAJOR COMPONENT(HL740-3)



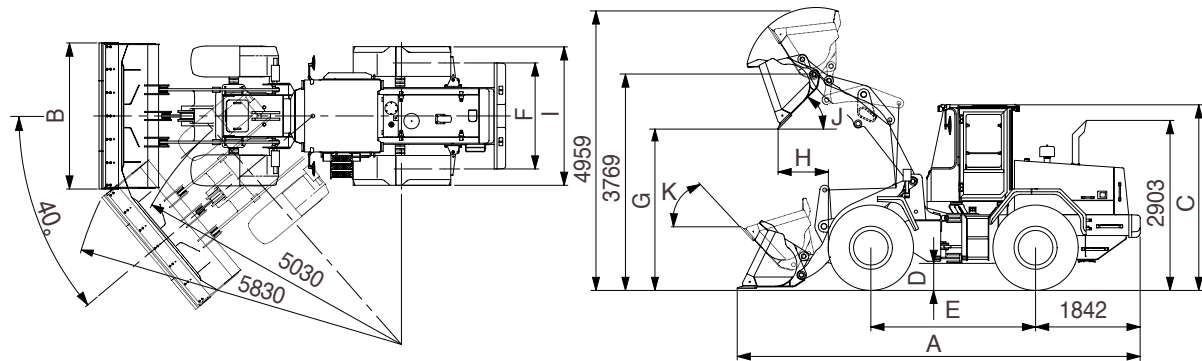
MAJOR COMPONENT(HL740TM-3)



740TM3ASP01

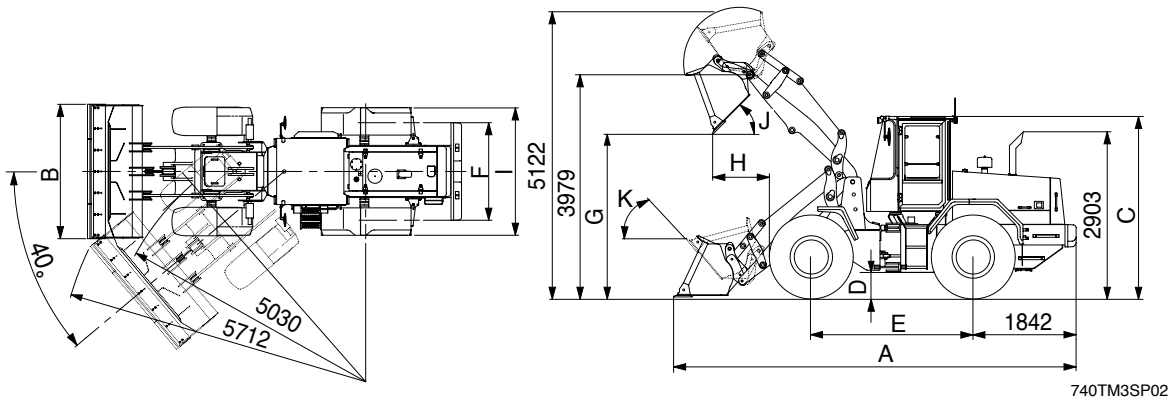
2) SPECIFICATIONS

(1) WITHOUT TOOTH AND CUTTING EDGE TYPE BUCKET(HL740-3)



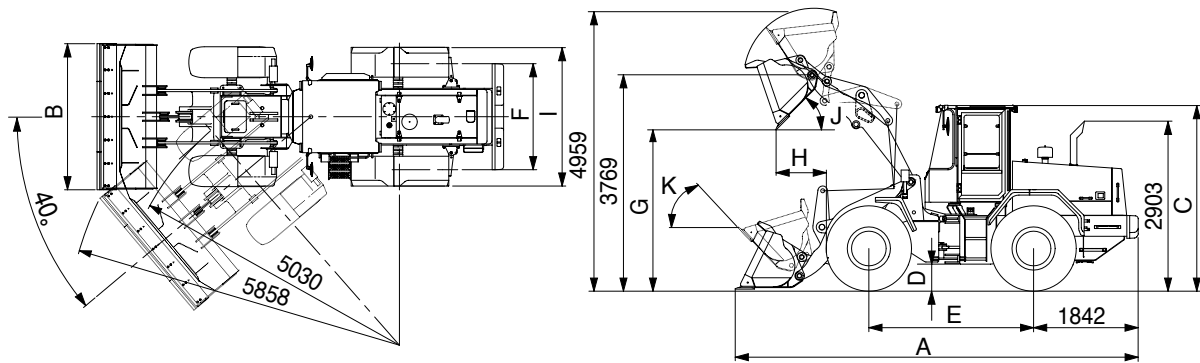
Description		Unit	Specification	
Operating weight		kg(lb)	10940(24119)	
Bucket capacity	Struck	m ³ (yd ³)	1.6(2.1)	
	Heaped		1.9(2.5)	
Overall length	A	mm(ft-in)	7025(23' 1")	
Overall width	B		2550(8' 4")	
Overall height	C		3237(10' 7")	
Ground clearance	D		417(1' 4")	
Wheelbase	E		2900(9' 6")	
Tread	F		1900(6' 3")	
Dump clearance at 45°	G		2871(9' 5")	
Dump reach	H		850(2' 9")	
Width over tires	I		2430(8' 0")	
Dump angle	J		Degree (°)	48
Roll back angle(Carry position)	K			47
Cycle time	Lift(With load)	sec	5.4	
	Dump(With load)		1.0	
	Lower(Empty)		2.8	
Maximum travel speed		km/hr(mph)	38.1(23.7)	
Braking distance		m(ft-in)	14.5(47' 7")	
Minimum turning radius(Center of outside tire)			5.03(16' 6")	
Gradability		Degree (°)	30	
Travel speed	Forward	First gear	6.9(4.3)	
		Second gear	12.6(7.9)	
		Third gear	24.1(15.0)	
		Fourth gear	38.1(23.7)	
	Reverse	First gear	7.3(4.5)	
		Second gear	13.3(8.3)	
Third gear		25.2(15.7)		

WITHOUT CUTTING EDGE TYPE BUCKET(HL740TM-3)



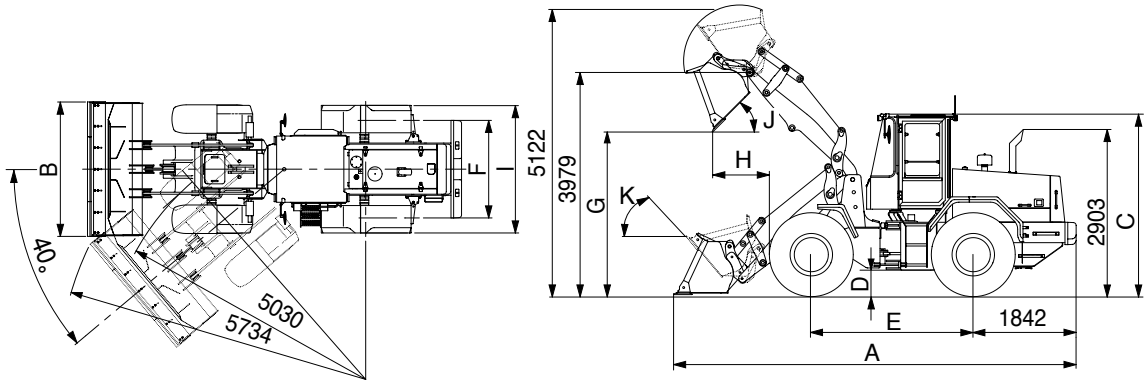
Description		Unit	Specification	
Operating weight		kg(lb)	11530(25410)	
Bucket capacity	Struck	m ³ (yd ³)	1.6(2.1)	
	Heaped		1.9(2.5)	
Overall length	A	mm(ft-in)	7125(23' 5")	
Overall width	B		2550(8' 4")	
Overall height	C		3237(10' 7")	
Ground clearance	D		417(1' 4")	
Wheelbase	E		2900(9' 6")	
Tread	F		1900(6' 3")	
Dump clearance at 45°	G		2972(9' 9")	
Dump reach	H		991(3' 3")	
Width over tires	I		2430(8' 0")	
Dump angle	J		Degree (°)	45
Roll back angle(Carry position)	K			56
Cycle time	Lift(With load)	sec	5.4	
	Dump(With load)		1.4	
	Lower(Empty)		2.7	
Maximum travel speed		km/hr(mph)	38.1(23.7)	
Braking distance		m(ft-in)	13(42' 8")	
Minimum turning radius(Center of outside tire)			5.03(16' 6")	
Gradability		Degree (°)	30	
Travel speed	Forward	First gear	6.9(4.3)	
		Second gear	12.6(7.9)	
		Third gear	24.1(15.0)	
	Reverse	Fourth gear	38.1(23.7)	
		First gear	7.3(4.5)	
		Second gear	13.3(8.3)	
	Third gear	25.2(15.7)		

(2) BOLT-ON CUTTING EDGE TYPE BUCKET(HL740-3)



Description		Unit	Specification	
Operating weight		kg(lb)	11100(24471)	
Bucket capacity	Struck	m ³ (yd ³)	1.7(2.2)	
	Heaped		2.0(2.6)	
Overall length	A	mm(ft-in)	7095(23' 3")	
Overall width	B		2550(8' 4")	
Overall height	C		3237(10' 7")	
Ground clearance	D		417(1' 4")	
Wheelbase	E		2900(9' 6")	
Tread	F		1900(6' 3")	
Dump clearance at 45°	G		2804(9' 2")	
Dump reach	H		882(2' 11")	
Width over tires	I		2430(8' 0")	
Dump angle	J		Degree (°)	48
Roll back angle(Carry position)	K			47
Cycle time	Lift(With load)	sec	5.4	
	Dump(With load)		1.0	
	Lower(Empty)		2.8	
Maximum travel speed		km/hr(mph)	38.1(23.7)	
Braking distance		m(ft-in)	14.5(47' 7")	
Minimum turning radius(Center of outside tire)			5.03(16' 6")	
Gradability		Degree (°)	30	
Travel speed	Forward	First gear	6.9(4.3)	
		Second gear	12.6(7.9)	
		Third gear	24.1(15.0)	
		Fourth gear	38.1(23.7)	
	Reverse	First gear	7.3(4.5)	
		Second gear	13.3(8.3)	
Third gear		25.2(15.7)		

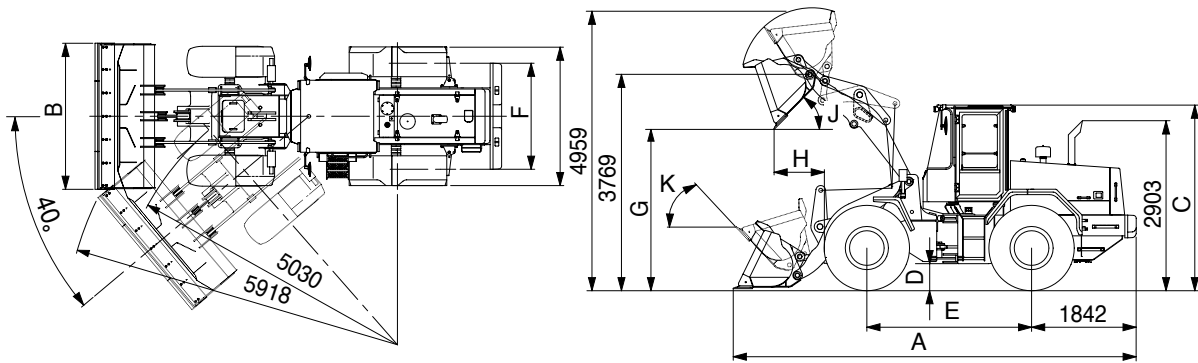
BOLT-ON CUTTING EDGE TYPE BUCKET(HL740TM-3)



740TM3SP02

Description		Unit	Specification
Operating weight		kg(lb)	11650(25680)
Bucket capacity	Struck	m ³ (yd ³)	1.7(2.2)
	Heaped		2.0(2.6)
Overall length	A	mm(ft-in)	7208(23' 8")
Overall width	B		2550(8' 4")
Overall height	C		3237(10' 7")
Ground clearance	D		417(1' 4")
Wheelbase	E		2900(9' 6")
Tread	F		1900(6' 3")
Dump clearance at 45°	G		2911(9' 7")
Dump reach	H		1015(3' 4")
Width over tires	I		2430(8' 0")
Dump angle	J		Degree (°)
Roll back angle(Carry position)	K	56	
Cycle time	Lift(With load)	sec	5.4
	Dump(With load)		1.4
	Lower(Empty)		2.7
Maximum travel speed		km/hr(mph)	38.1(23.7)
Braking distance		m(ft-in)	13(42' 8")
Minimum turning radius(Center of outside tire)			5.03(16' 6")
Gradability		Degree (°)	30
Travel speed	Forward	First gear	6.9(4.3)
		Second gear	12.6(7.9)
		Third gear	24.1(15.0)
		Fourth gear	38.1(23.7)
	Reverse	First gear	7.3(4.5)
		Second gear	13.3(8.3)
Third gear		25.2(15.7)	

(3) WITH TOOTH TYPE BUCKET(HL740-3 ONLY)



Description		Unit	Specification	
Operating weight		kg(lb)	11010(24273)	
Bucket capacity	Struck	m ³ (yd ³)	1.6(2.1)	
	Heaped		1.9(2.5)	
Overall length	A	mm(ft-in)	7218(23' 8")	
Overall width	B		2600(8' 6")	
Overall height	C		3237(10' 7")	
Ground clearance	D		417(1' 4")	
Wheelbase	E		2900(9' 6")	
Tread	F		1900(6' 3")	
Dump clearance at 45°	G		2714(8' 11")	
Dump reach	H		954(3' 2")	
Width over tires	I		2430(8' 0")	
Dump angle	J		Degree (°)	48
Roll back angle(Carry position)	K			47
Cycle time	Lift(With load)	sec	5.4	
	Dump(With load)		1.0	
	Lower(Empty)		2.8	
Maximum travel speed		km/hr(mph)	38.1(23.7)	
Braking distance		m(ft-in)	14.5(47' 7")	
Minimum turning radius(Center of outside tire)			5.03(16' 6")	
Gradability		Degree (°)	30	
Travel speed	Forward	First gear	6.9(4.3)	
		Second gear	12.6(7.9)	
		Third gear	24.1(15.0)	
		Fourth gear	38.1(23.7)	
	Reverse	First gear	7.3(4.5)	
		Second gear	13.3(8.3)	
Third gear		25.2(15.7)		

3. WEIGHT

Item	HL740-3	HL740TM-3	HL740-3	HL740TM-3
	kg		lb	
Front frame assembly	851	957	1876	2110
Rear frame assembly	1247	1263	2749	2784
Front fender	23		51	
Rear fender	34		75	
Counterweight	555	720	1224	1587
Cab assembly	1000		2205	
Engine assembly	435		959	
Transmission	397		875	
Drive shaft(Upper, engine to transmission)	5.9		13	
Drive shaft(Front)	14		31	
Drive shaft(Center)	11		24	
Drive shaft(Rear)	10		22	
Front axle(Include differential)	575		1268	
Rear axle(Include differential)	560		1235	
Tire(4EA)	1320		2910	
Hydraulic tank	100		220	
Fuel tank	220		485	
Main pump assembly	20		44	
Main control valve	22		49	
Boom assy	705	643	1554	1418
Bell crank assy	220		485	
Bucket link	30	42	66	93
2.0m ³ bucket, with bolt on cutting edge	1020	910	2249	2006
1.9m ³ bucket, with tooth	950	-	2094	-
Without tooth and cutting edge	860	790	1896	1742
Boom cylinder assembly(2EA)	170	132	375	291
Bucket cylinder assembly	85	94	187	207
Steering cylinder assembly(2EA)	-	5.5	-	12
Quick coupler cylinder assembly(1EA)	36		79	
Seat	40		88	
Battery	28		62	

4. SPECIFICATION FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins B5.9-C
Type	4-cycle turbocharged 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	102 × 120mm(4.02" × 4.72")
Piston displacement	5880cc(352.8cu in)
Compression ratio	17.5 : 1
Rated gross horse power	143Hp at 2200rpm
Maximum gross torque at 1500rpm	61.5kgf · m(444.8lb · ft)
Engine oil quantity	16.4 (4.3 U.S. gal)
Dry weight	400kg(881.8lb)
High idling speed	2420 ± 50rpm
Low idling speed	950 ± 50rpm
Rated fuel consumption	227g/kw.hr
Starting motor	Delco Remy 37MT(24V)
Alternator	DAC HC60(24V-50AMP)
Battery	2 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Fixed displacement tandem gear pump
Capacity	44+37cc/rev
Maximum operating pressure	220kgf/cm ² (3129psi)
Rated oil quantity	173 /min(45.7U.S.gpm)
Rated speed	2200rpm

3) BRAKE PUMP

Item	Specification
Type	Fixed displacement gear pump
Operating method	8cc/rev
Main relief valve pressure	150kgf/cm ² (2130psi)
Overload relief valve pressure	17 /min(4.5U.S.gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	2 spool
Operating method	Hydraulic pilot assist
Main relief valve pressure	220kgf/cm ² (3129psi)
Overload relief valve pressure	240kgf/cm ² (3414psi)

5) REMOTE CONTROL VALVE

Item	Specification	
Type	Pressure reducing type	
Operating	Minimum	3.7kgf/cm ² (52.6psi)
	Maximum	30kgf/cm ² (427psi)
Single operation stroke	Lever	77mm(3.0in)

6) CYLINDER

Item		Specification	
		HL740-3	HL740TM-3
Boom cylinder	Bore dia x Rod dia x Stroke	Ø120 x Ø70 x 708mm	Ø120 x Ø70 x 684mm
Bucket cylinder	Bore dia x Rod dia x Stroke	Ø130 x Ø70 x 485mm	Ø100 x Ø50 x 750mm
Steering cylinder	Bore dia x Rod dia x Stroke	Ø 65 x Ø40 x 429mm	Ø 65 x Ø40 x 429mm
Quick coupler cylinder	Bore dia x Rod dia x Stroke	-	Ø 50 x Ø25 x 79mm

7) DYNAMIC POWER TRANSMISSION DEVICES

Item		Specification
Torque converter	Model	ZF 4WG-160
	Type	Single-stage, single-phase
Transmission	Type	Full-automatic power shift
	Gear shift	Forward fourth gear, reverse third gear
	Adjustment	Electrical single lever type, kick-down system
Axle	Drive devices	4-wheel drive
	Front	Front fixed location
	Rear	Oscillation 13, of center pin-loaded
Wheels	Tires	20.5-25, 16PR(L3)
Brakes	Travel	Four-wheel, wet-disc type, full hydraulic
	Parking	Spring applied, hydraulic released brake on front axle
Steering	Type	Full hydraulic, articulated
	Steering angle	40, to both right and left angle, respectively

5. TIGHTENING TORQUE OF MAJOR COMPONENT

No.		Items	Size	kgf · m	lbf · ft
1	Engine	Engine mounting bolt, nut(4EA)	M20 × 2.5	57.9 ± 8.7	419 ± 63
2		Radiator mounting bolt, nut	M12 × 1.75	12.3 ± 2.5	89.0 ± 18
3	Hydraulic system	Main pump housing mounting bolt	M12 × 1.75	12.3 ± 2.5	89.0 ± 18
4		Main control valve mounting bolt, nut	M12 × 1.75	12.3 ± 2.5	89.0 ± 18
5		Steering unit mounting bolt	M10 × 1.5	6.9 ± 1.4	50.0 ± 10
6		Priority valve mounting bolt	M 8 × 1.25	2.5 ± 0.5	18.1 ± 3.6
7		Brake valve mounting bolt	M 8 × 1.25	2.5 ± 0.5	18.1 ± 3.6
8		Fuel tank mounting bolt	M16 × 2.0	27.9 ± 4.5	202 ± 33
9		Hydraulic oil tank mounting bolt	M12 × 1.75	12.3 ± 2.5	89.0 ± 18
10	Power train system	Transmission mounting bolt, nut	M20 × 2.5	57.9 ± 8.7	419 ± 63
11		Front axle mounting bolt, nut	M20 × 2.0	100 ± 15	723 ± 108
12		Rear axle support mounting bolt, nut	M24 × 2.0	100 ± 15	723 ± 108
13		Tire mounting nut(20.5-25 16PR, L3)	M22 × 1.5	70 ± 2.0	506 ± 15
14		Drive shaft joint mounting bolt, nut	3/8-24UNF	6 ± 0.8	43.4 ± 5.8
15	Others	Counterweight mounting bolt	M30 × 2.0	199 ± 29.9	1439 ± 216
16		Operator's seat mounting bolt	M 8 × 1.25	3.4 ± 0.8	24.6 ± 5.8
17		ROPS Cab mounting bolt(4EA)	M24 × 3.0	28 ± 2.6	203 ± 19

6. TORQUE CHART

Use following table for unspecified torque.

1) BOLT AND NUT

(1) Coarse thread

Bolt size	8T		10T	
	kgf · m	lbf · ft	kgf · m	lbf · ft
M 6 × 1.0	0.85 ~ 1.25	6.15 ~ 9.04	1.14 ~ 1.74	8.2 ~ 12.6
M 8 × 1.25	2.0 ~ 3.0	14.5 ~ 21.7	2.73 ~ 4.12	19.7 ~ 29.8
M10 × 1.5	4.0 ~ 6.0	28.9 ~ 43.4	5.5 ~ 8.3	39.8 ~ 60
M12 × 1.75	7.4 ~ 11.2	53.5 ~ 79.5	9.8 ~ 15.8	71 ~ 114
M14 × 2.0	12.2 ~ 16.6	88.2 ~ 120	16.7 ~ 22.5	121 ~ 167
M16 × 2.0	18.6 ~ 25.2	135 ~ 182	25.2 ~ 34.2	182 ~ 247
M18 × 2.5	25.8 ~ 35.0	187 ~ 253	35.1 ~ 47.5	254 ~ 343
M20 × 2.5	36.2 ~ 49.0	262 ~ 354	49.2 ~ 66.6	356 ~ 482
M22 × 2.5	48.3 ~ 63.3	350 ~ 457	65.8 ~ 98.0	476 ~ 709
M24 × 3.0	62.5 ~ 84.5	452 ~ 611	85.0 ~ 115	615 ~ 832
M30 × 3.5	124 ~ 168	898 ~ 1214	169 ~ 229	1223 ~ 1655
M36 × 4.0	174 ~ 236	1261 ~ 1703	250 ~ 310	1808 ~ 2242

(2) Fine thread

Bolt size	8T		10T	
	kgf · m	lbf · ft	kgf · m	lbf · ft
M 8 × 1.0	2.17 ~ 3.37	15.7 ~ 24.3	3.04 ~ 4.44	22.0 ~ 32.0
M10 × 1.25	4.46 ~ 6.66	32.3 ~ 48.2	5.93 ~ 8.93	42.9 ~ 64.6
M12 × 1.25	7.78 ~ 11.58	76.3 ~ 83.7	10.6 ~ 16.0	76.6 ~ 115
M14 × 1.5	13.3 ~ 18.1	96.2 ~ 130	17.9 ~ 24.1	130 ~ 174
M16 × 1.5	19.9 ~ 26.9	144 ~ 194	26.6 ~ 36.0	193 ~ 260
M18 × 1.5	28.6 ~ 43.6	207 ~ 315	38.4 ~ 52.0	278 ~ 376
M20 × 1.5	40.0 ~ 54.0	289 ~ 390	53.4 ~ 72.2	386 ~ 522
M22 × 1.5	52.7 ~ 71.3	381 ~ 515	70.7 ~ 95.7	512 ~ 692
M24 × 2.0	67.9 ~ 91.9	491 ~ 664	90.9 ~ 123	658 ~ 890
M30 × 2.0	137 ~ 185	990 ~ 1338	182 ~ 248	1314 ~ 1795
M36 × 3.0	192 ~ 260	1389 ~ 1879	262 ~ 354	1893 ~ 2561

2) PIPE AND HOSE

Thread size	Width across flat(mm)	kgf · m	lbf · ft
1/4"	19	3	21.7
3/8"	22	4	28.9
1/2"	27	5	36.2
3/4"	36	12	86.8
1"	41	14	101

3) FITTING

Thread size	Width across flat(mm)	kgf · m	lbf · ft
1/4"	19	4	28.9
3/8"	22	5	36.2
1/2"	27	6	43.4
3/4"	36	13	94.0
1"	41	15	109

7. RECOMMENDED LUBRICANTS

Use only oils listed below or equivalent.

Do not mix different brand oil.

Service point	Kind of fluid	Capacity (U.S. gal)	Ambient temperature °C(°F)								
			-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)		
Engine oil pan	Engine oil	16.4(4.3)					SAE 30				
				SAE 10W							
			SAE 10W-30								
				SAE 15W-40							
Torque converter Transmission	Oil	24(6.3)	SAE 10W-30								
				SAE 15W-40							
Axle	Gear oil	Front : 40(10.6) Rear : 40(10.6)	SAE 80W-90LSD/API GL-5								
Hydraulic tank	Hydraulic oil	Tank: 75(19.8) System: 120(31.7)	ISO VG 32								
				ISO VG 46							
				ISO VG 68							
Fuel tank	Diesel fuel	200(52.8)	ASTM D975 NO. 1								
				ASTM D975 NO. 2							
Fitting (Grease nipple)	Grease	As required	NLGI NO. 1								
				NLGI NO. 2							
Radiator	Mixture of antifreeze and water 50 : 50	35(9.2)	Ethylene glycol base permanent type								