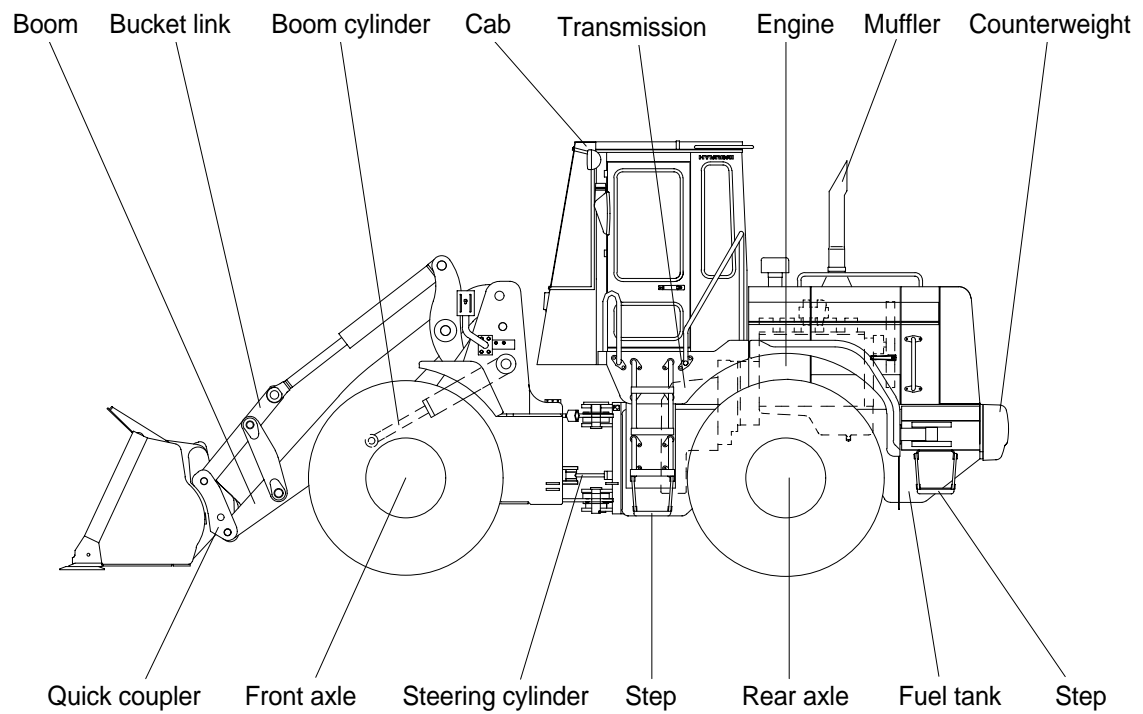
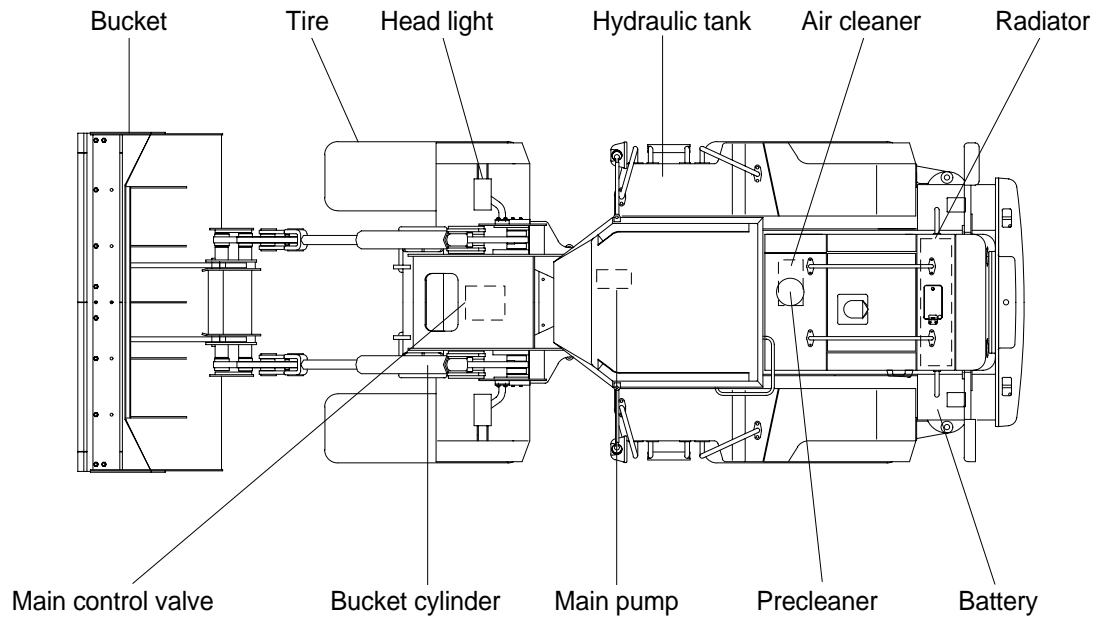


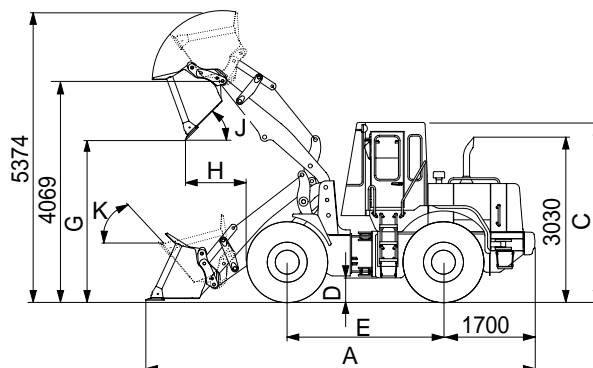
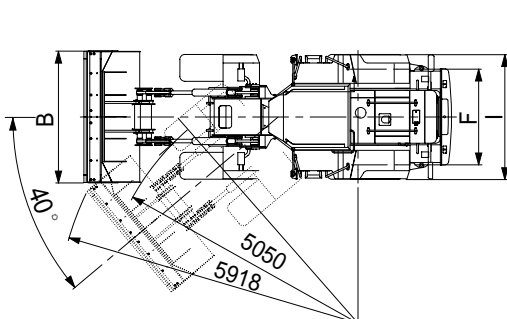
GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT



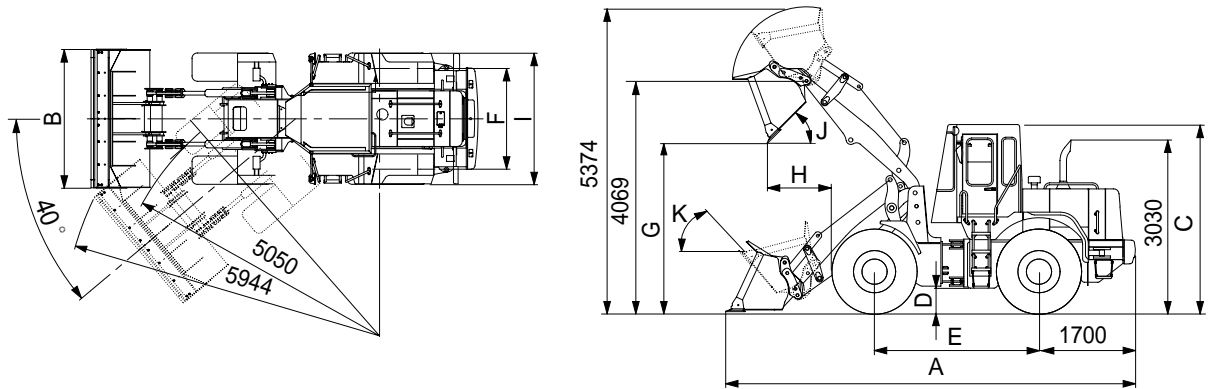
2. SPECIFICATIONS

1) WITHOUT CUTTING EDGE TYPE BUCKET



Description			Unit	Specification
Operating weight			kg(lb)	13180(29060)
Bucket capacity	Struck	m³(yd³)	1.9(2.5)	
	Heaped		2.2(2.9)	
Overall length	A	mm(ft-in)	7132(23' 5")	
Overall width	B		2600(8' 6")	
Overall height	C		3300(10' 10")	
Ground clearance	D		412(1' 4")	
Wheelbase	E		2900(9' 6")	
Tread	F		1930(6' 4")	
Dump clearance at 45°	G		3037(10' 0")	
Dump reach	H		1106(3' 8")	
Width over tires	I		2460(8' 1")	
Dump angle	J		Degree (°)	50
Roll back angle(Carry position)	K	52		
Cycle time	Lift(With load)	sec	6.6	
	Dump(With load)		1.5	
	Lower(Empty)		2.8	
Maximum travel speed			km/hr(mph)	38(23.7)
Braking distance			m(ft-in)	13(42' 8")
Minimum turning radius				5.05(16' 7")
Gradability			Degree (°)	30
Travel speed	Forward	First gear	km/hr(mph)	6(3.7)
		Second gear		12.5(7.8)
		Third gear		25.1(15.6)
		Fourth gear		38(23.7)
	Reverse	First gear		6(3.7)
		Second gear		12.5(7.8)
		Third gear		25.1(15.6)

2) BOLT-ON CUTTING EDGE TYPE BUCKET



Description			Unit	Specification
Operating weight			kg(lb)	13300(29320)
Bucket capacity	Struck		m³(yd³)	2.0(2.6)
	Heaped			2.3(3.0)
Overall length	A		mm(ft-in)	7225(23' 8")
Overall width	B			2600(8' 6")
Overall height	C			3300(10' 10")
Ground clearance	D			412(1' 4")
Wheelbase	E			2900(9' 6")
Tread	F			1930(6' 4")
Dump clearance at 45°	G			2970(9' 9")
Dump reach	H			1138(3' 9")
Width over tires	I			2460(8' 1")
Dump angle	J			Degree (°)
Roll back angle(Carry position)	K		52	
Cycle time	Lift(With load)		sec	6.6
	Dump(With load)			1.5
	Lower(Empty)			2.8
Maximum travel speed			km/hr(mph)	38(23.7)
Braking distance			m(ft-in)	13(42' 8")
Minimum turning radius				5.05(16' 7")
Gradability			Degree (°)	30
Travel speed	Forward	First gear	km/hr(mph)	6(3.7)
		Second gear		12.5(7.8)
		Third gear		25.1(15.6)
		Fourth gear		38(23.7)
	Reverse	First gear		6(3.7)
		Second gear		12.5(7.8)
		Third gear		25.1(15.6)

3. WEIGHT

Item	kg	lb
Front frame assembly	1117	2463
Rear frame assembly	1360	2998
Front fender	44	97
Rear fender	30	66
Counterweight	650	1433
Cab assembly	580	1279
Engine assembly	424	935
Transmission	316	697
Drive shaft(Front)	19	42
Drive shaft(Center)	15	33
Drive shaft(Rear)	11	24
Front axle(Include differential)	702	1548
Rear axle(Include differential)	715	1576
Tire(4EA)	1277	2815
Hydraulic tank	153	337
Fuel tank	212	467
Main pump assembly	22	49
Main control valve	31	68
Boom	760	1676
Link(Boom to bucket link, 4EA)	84	185
Bucket link(2EA)	100	220
Link(Boom to bucket cylinder, 4EA)	192	423
Link(Front frame to link)	40	88
Quick coupler assembly	210	463
2.3m ³ bucket, with bolt on cutting edge	975	2150
2.2m ³ bucket, without tooth and cutting edge	853	1881
Boom cylinder assembly(LH, RH)	224	494
Bucket cylinder assembly(LH, RH)	196	432
Steering cylinder assembly(LH, RH)	41	90
Quick coupler cylinder assembly(1EA)	5.5	12
Service tank	85	187
Seat	40	88
Battery	44	97

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	150ps at 2200rpm
Maximum gross torque at 1600rpm	61kgf · m(441lbf · ft)
Engine oil quantity	16.4 ℓ (4.3 U.S. gal)
Dry weight	400kg(881.8lb)
High idling speed	2370 ± 50rpm
Low idling speed	950 ± 50rpm
Rated fuel consumption	172g/ps · hr
Starting motor	Delco Remy 37MT(24V)
Alternator	DAC HC60(24V-60AMP)
Battery	2 × 12V × 160Ah

2) MAIN PUMP

Item	Specification
Type	Fixed displacement tandem gear pump
Capacity	44 + 41cc/rev
Maximum operating pressure	210kgf/cm ² (3000psi)
Rated oil quantity	182 ℓ/min (48 U.S. gpm/40 U.K. gpm)
Rated speed	2300rpm

3) BRAKE PUMP

Item		Specification
Type		Fixed displacement tandem gear pump
Capacity		8.4cc/rev
Maximum operating pressure		150kgf/cm ² (2130psi)
Rated oil quantity		18 ℓ / min (4.75U.S. gpm/4.0U.K. gpm)

4) MAIN CONTROL VALVE

Item		Specification
Type		2 spool
Operating method		Hydraulic pilot assist
Main relief valve pressure		210kgf/cm ² (3000psi)
Overload relief valve pressure(Raise, roll back)		230kgf/cm ² (3270psi)
Overload relief valve pressure(Dump)		120kgf/cm ² (1707psi)

5) REMOTE CONTROL VALVE

Item			Specification
Type			Pressure reducing type
Operating	Minimum		5.5kgf/cm ² (78.2psi)
	Maximum		30kgf/cm ² (427psi)
Single operation stroke	Lever		63mm(2.5in)

6) CYLINDER

Item			Specification
Boom cylinder	Bore dia × Rod dia × Stroke		Ø140 × Ø75 × 710mm
Bucket cylinder	Bore dia × Rod dia × Stroke		Ø120 × Ø65 × 735mm
Steering cylinder	Bore dia × Rod dia × Stroke		Ø 70 × Ø40 × 430mm
Quick coupler cylinder	Bore dia × Rod dia × Stroke		Ø 50 × Ø25 × 79mm

7) DYNAMIC POWER TRANSMISSION DEVICES

Item		Specification
Torque converter	Model	Clark HR 24423
	Type	Single-stage, single-phase
Transmission	Type	Semi-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 26° 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 drum brake on T/M output shaft.
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	M10×1.5	6.9 ± 1.4	50 ± 10
2		Radiator mounting bolt, nut	M12×1.75	12.3 ± 2.5	89 ± 18
3	Hydraulic system	Main pump housing mounting bolt	1/2-13UNC	19.6 ± 2.9	142 ± 21
4		Main control valve mounting socket bolt	M10×1.5	7.2 ± 1.6	52 ± 12
5		Orbitrol valve mounting bolt	M10×1.5	5 ± 1	36 ± 7.2
6		Priority valve mounting bolt	M 8×1.25	2.5 ± 0.5	18 ± 3.6
7		Brake valve mounting bolt	M 8×1.25	2.5 ± 0.5	18 ± 3.6
8		Cut off valve mounting bolt	M 8×1.25	2.5 ± 0.5	18 ± 3.6
9		Cushion valve mounting bolt	M 8×1.25	2.5 ± 0.5	18 ± 3.6
10		Fuel tank mounting bolt	M20×2.5	57.9 ± 8.7	419 ± 63
11		Hydraulic oil tank mounting bolt	M16×2.0	29.7 ± 4.5	215 ± 33
12		Service tank mounting bolt	M16×2.0	29.7 ± 4.5	215 ± 33
13	Power train system	Transmission mounting bolt	3/4-10UNC	45 ± 7.3	325 ± 33
14		Front axle mounting bolt	M20×2.5	57.9 ± 8.7	419 ± 63
15		Rear axle support mounting bolt, nut	M27×2.0	135 ± 15	976 ± 108
16		Tire mounting nut	M22×1.5	79 ± 2.5	571 ± 18
17		Drive shaft joint mounting bolt, nut	3/8-24UNF	6 ± 0.8	43 ± 5.8
18	Others	Counterweight mounting bolt	M30×3.0	199 ± 30	1439 ± 216
19		Operator's seat mounting bolt	M 8×1.25	3.4 ± 0.8	25 ± 5
20		ROPS Cab mounting bolt(12EA)	1-14UNS	86	620
		ROPS Cab mounting bolt(4EA)	1 1/4-12UNF		

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
	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		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"		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 ℓ (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	25(6.6)					DEXRON II		
Axle	Gear oil	Front : 39(10.3) Rear : 39(10.3)					SAE 80W-90LSD/APIGL-5		
Hydraulic tank	Hydraulic oil	Tank: 95(25.1) System: 137(36.2)					ISO VG 32		
							ISO VG 46		
							ISO VG 68		
Fuel tank	Diesel fuel	203(53.6)	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	44(11.6)					Ethylene glycol base permanent type		