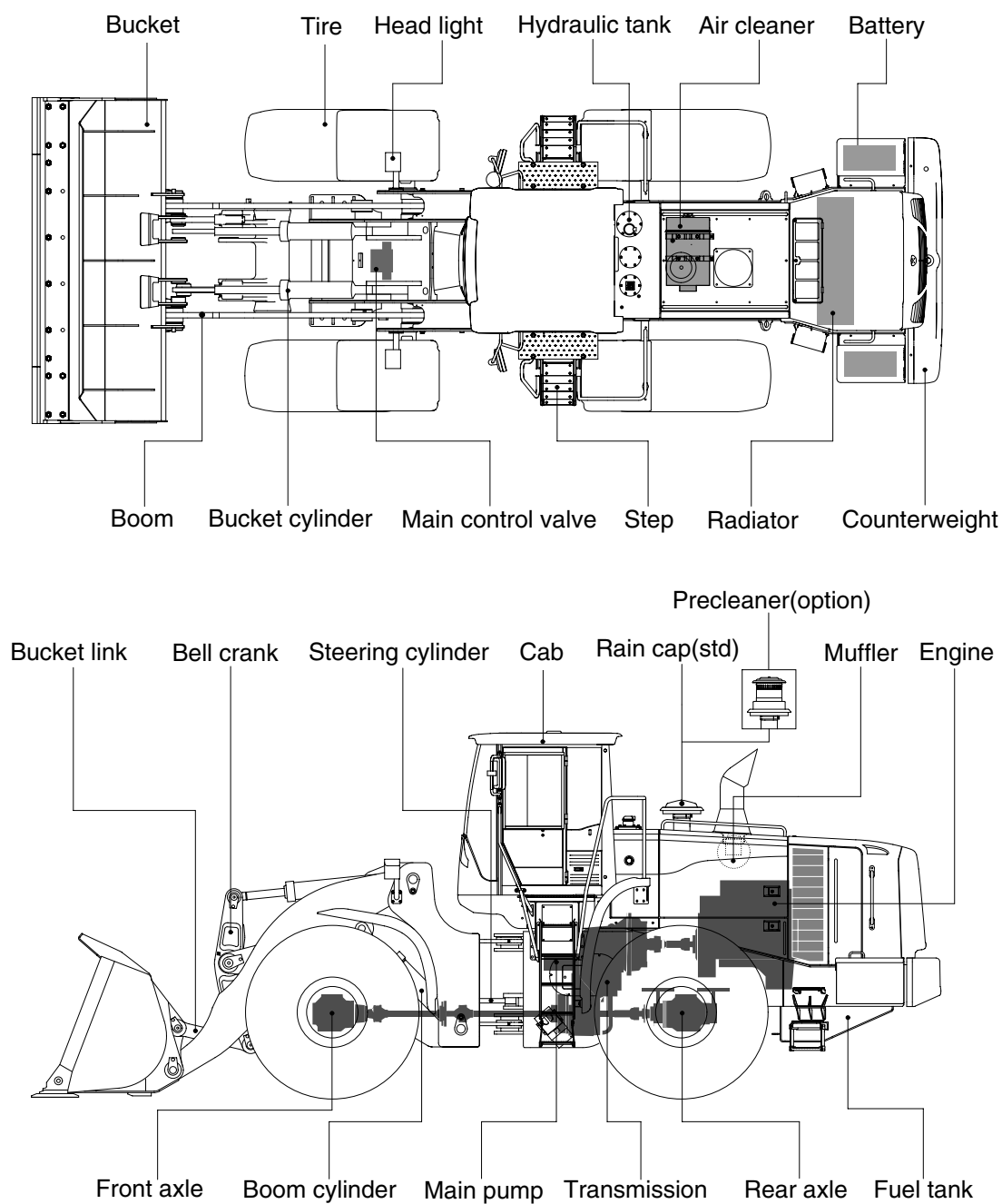


2. SPECIFICATIONS

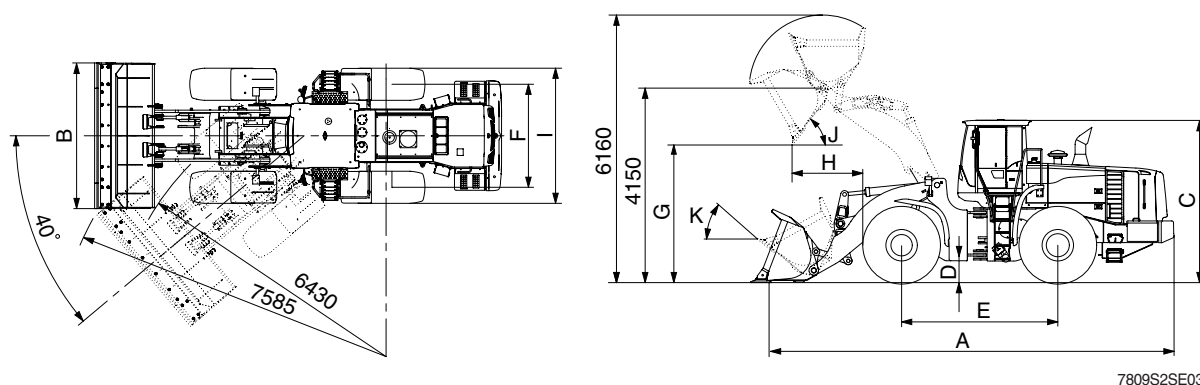
1. MAJOR COMPONENTS



7809S2SE01

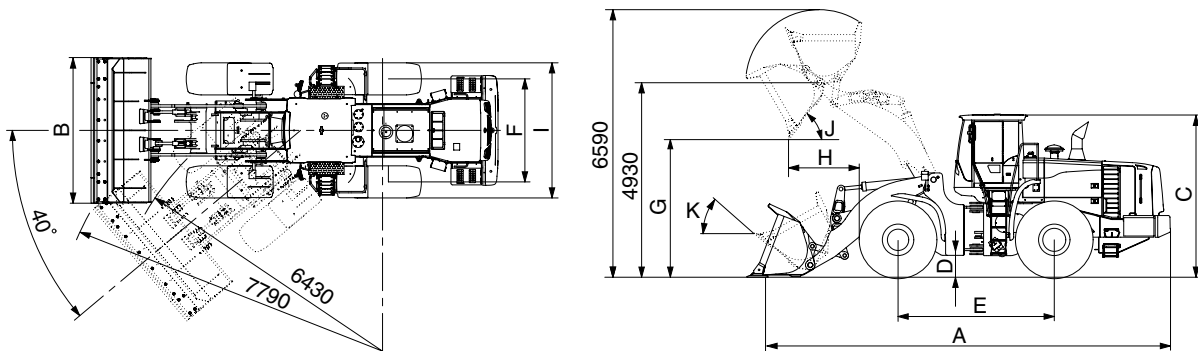
2. SPECIFICATIONS

1) WITH BOLT-ON CUTTING EDGE TYPE BUCKET (HL780-9S)



Description			Unit	Specification
Operating weight			kg (lb)	29500 (65040)
Bucket capacity	Struck		m³ (yd³)	4.3 (5.6)
	Heaped			5.1 (6.7)
Overall length	A		mm (ft-in)	9475 (31' 1")
Overall width	B			3450 (11' 4")
Overall height	C			3880 (12' 9")
Ground clearance	D			495 (1' 7")
Wheelbase	E			3700 (12' 2")
Tread	F			2440 (8' 0")
Dump clearance at 45°	G			3300 (10' 10")
Dump reach (full lift)	H			1365 (4' 6")
Width over tires	I			3220 (10' 7")
Dump angle	J			degree (°)
Roll back angle (carry position)	K		48	
Cycle time	Lift (with load)		sec	6.7
	Dump (with load)			1.4
	Lower (empty)			3.0
Maximum travel speed			km/hr (mph)	36.5 (22.7)
Braking distance			m (ft-in)	12 (39' 4")
Minimum turning radius (center of outside tire)				6.43 (21' 1")
Gradeability			degree (°)	30
Brakeout force			kg (lb)	24820 (54720)
Travel speed	Forward	First gear	km/hr (mph)	6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		18.0 (11.2)
		Fourth gear		36.5 (22.7)
	Reverse	First gear		6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		25.0 (15.5)

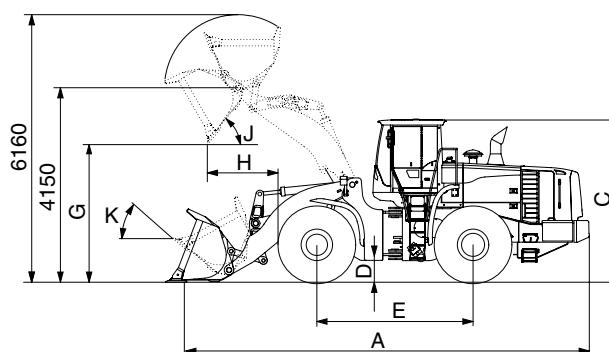
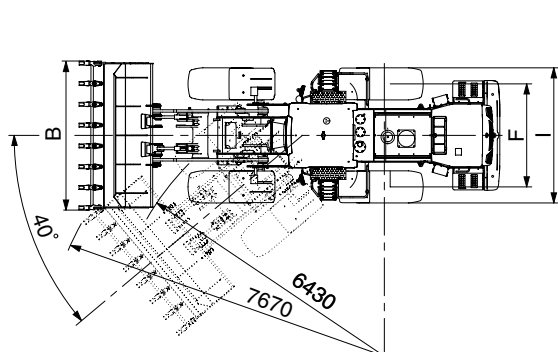
WITH BOLT-ON CUTTING EDGE TYPE BUCKET (HL780XTD-9S)



7809S2SE03-1

Description			Unit	Specification
Operating weight			kg (lb)	30200 (66580)
Bucket capacity	Struck		m³ (yd³)	4.3 (5.6)
	Heaped			5.1 (6.7)
Overall length	A		mm (ft-in)	9970 (32' 9")
Overall width	B			3450 (11' 4")
Overall height	C			3880 (12' 9")
Ground clearance	D			495 (1' 7")
Wheelbase	E			3700 (12' 2")
Tread	F			2440 (8' 0")
Dump clearance at 45°	G			3720 (12' 2")
Dump reach (full lift)	H			1430 (4' 8")
Width over tires	I			3220 (10' 7")
Dump angle	J			degree (°)
Roll back angle (carry position)	K		49	
Cycle time	Lift (with load)		sec	6.7
	Dump (with load)			1.4
	Lower (empty)			3.0
Maximum travel speed			km/hr (mph)	36.5 (22.7)
Braking distance			m (ft-in)	12 (39' 4")
Minimum turning radius (center of outside tire)				6.43 (21' 1")
Gradeability			degree (°)	30
Brakeout force			kg (lb)	23880 (52650)
Travel speed	Forward	First gear	km/hr (mph)	6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		18.0 (11.2)
		Fourth gear		36.5 (22.7)
	Reverse	First gear		6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		25.0 (15.5)

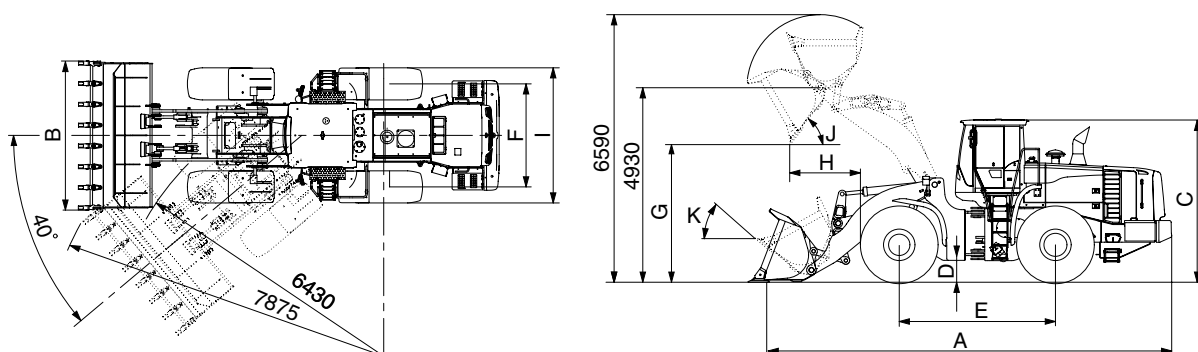
2) WITH TOOTH TYPE BUCKET (HL780-9S)



7809S2SE04

Description			Unit	Specification
Operating weight			kg (lb)	29500 (65040)
Bucket capacity	Struck		m³ (yd³)	4.1 (5.4)
	Heaped			4.8 (6.3)
Overall length	A		mm (ft-in)	9655 (31' 8")
Overall width	B			3500 (11' 6")
Overall height	C			3880 (12' 9")
Ground clearance	D			495 (1' 7")
Wheelbase	E			3700 (12' 2")
Tread	F			2440 (8' 0")
Dump clearance at 45°	G			3140 (10' 4")
Dump reach (full lift)	H			1485 (4' 10")
Width over tires	I			3220 (10' 7")
Dump angle	J			degree (°)
Roll back angle (carry position)	K		48	
Cycle time	Lift (with load)		sec	6.7
	Dump (with load)			1.4
	Lower (empty)			3.0
Maximum travel speed			km/hr (mph)	36.5 (22.7)
Braking distance			m (ft-in)	12 (39' 4")
Minimum turning radius (center of outside tire)				6.43 (21' 1")
Gradeability			degree (°)	30
Brakeout force			kg (lb)	26340 (58070)
Travel speed	Forward	First gear	km/hr (mph)	6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		18.0 (11.2)
		Fourth gear		36.5 (22.7)
	Reverse	First gear		6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		25.0 (15.5)

WITH TOOTH TYPE BUCKET (HL780XTD-9S)



7809S2SE04-1

Description			Unit	Specification
Operating weight			kg (lb)	30200 (66580)
Bucket capacity	Struck		m³ (yd³)	4.1 (5.4)
	Heaped			4.8 (6.3)
Overall length	A		mm (ft-in)	10150 (33' 4")
Overall width	B			3500 (11' 6")
Overall height	C			3880 (12' 9")
Ground clearance	D			495 (1' 7")
Wheelbase	E			3700 (12' 2")
Tread	F			2440 (8' 0")
Dump clearance at 45°	G			3565 (11' 8")
Dump reach (full lift)	H			1545 (5' 1")
Width over tires	I			3220 (10' 7")
Dump angle	J			degree (°)
Roll back angle (carry position)	K		49	
Cycle time	Lift (with load)		sec	6.7
	Dump (with load)			1.4
	Lower (empty)			3.0
Maximum travel speed			km/hr (mph)	36.5 (22.7)
Braking distance			m (ft-in)	12 (39' 4")
Minimum turning radius (center of outside tire)				6.43 (21' 1")
Gradeability			degree (°)	30
Brakeout force			kg (lb)	25520 (56260)
Travel speed	Forward	First gear	km/hr (mph)	6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		18.0 (11.2)
		Fourth gear		36.5 (22.7)
	Reverse	First gear		6.1 (3.8)
		Second gear		11.5 (7.1)
		Third gear		25.0 (15.5)

3. WEIGHT

Item		kg	lb
Front frame assembly		2697	5950
Rear frame assembly		3595	7930
Front fender (LH & RH)		48	106
Counterweight		1300	2870
Additional counterweight (HL780XTD-9S)		552	1220
Cab assembly		780	1720
Engine assembly		984	2170
Transmission assembly		780	1720
Drive shaft (front)		25	55
Drive shaft (center)		48	106
Drive shaft (rear)		30	66
Drive shaft (upper)		14	31
Front axle (include differential)		1814	4000
Rear axle (include differential)		1805	3980
Tire (29.5-25, 22PR, L3)		430	948
Hydraulic tank assembly		300	661
Fuel tank assembly		374	825
Main pump		38.6	85
Steering pump		38.6	85
Main control valve (2 / 3 spool)		95 / 115	209 / 254
Flow amplifier		29	64
Boom assembly	HL780-9S	2060	4540
	HL780XTD-9S	2260	4980
Bell crank assembly		282	620
Bucket link		55	120
5.1 m ³ bucket, with bolt on cutting edge		2590	5710
4.8 m ³ bucket, with tooth		2460	5420
Boom cylinder assembly (2EA)		290	639
Bucket cylinder assembly (2EA)		130	287
Steering cylinder assembly (2EA)		60	132
Seat		40	88
Battery		55	121

4. SPECIFICATION FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins QSM 11
Type	4-cycle turbocharged, charge air cooled diesel engine
Control type	Electronic control
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	125 × 147 mm (4.92" × 5.79")
Piston displacement	10800 cc (659 cu in)
Compression ratio	16.3 : 1
Rated gross horse power	353 ps at 2000 rpm
Maximum gross torque at 1400 rpm	171 kgf · m (1237 lbf · ft)
Engine oil quantity	38 l (10 U.S. gal)
Wet weight	984 kg (2170 lb)
High idling speed	2130 ± 50 rpm
Low idling speed	800 ± 50 rpm
Rated fuel consumption	218 g/kw·hr
Starting motor	Delco Remy 39MT (24 V)
Alternator	Delco Remy 24SI (24 V - 70 Amp)
Battery	2 × 12V × 220Ah

2) MAIN PUMP + BRAKE PUMP (MACHINE SERIAL NO. : -#0182)

Item	Specification	
	Main pump	Brake pump
Type	Fixed displacement double vane pump	
Capacity	113.5 cc/rev	15.9 cc/rev
Maximum operating pressure	210 kgf/cm ² (2990 psi)	150 kgf/cm ² (2130 psi)
Rated oil quantity	212 l /min (56 U.S.gpm)	30 l /min (7.9 U.S.gpm)
Rated speed	2000 rpm	

3) STEERING PUMP + FAN PUMP (MACHINE SERIAL NO. : -#0182)

Item	Specification	
	Steering	Fan pump
Type	Fixed displacement double vane pump	
Capacity	137.5 cc/rev	24.9 cc/rev
Maximum operating pressure	210 kgf/cm ² (2990 psi)	140 kgf/cm ² (1990 psi)
Rated oil quantity	270 l /min (71.3 U.S.gpm)	49 l /min (12.9 U.S.gpm)
Rated speed	2000 rpm	

4) MAIN PUMP (MACHINE SERIAL NO. : #0183-)

Item	Specification
Type	Single spur gear pump
Capacity	112 cc/rev
Maximum operating pressure	220 kgf/cm ² (3130 psi)
Rated speed	2000 rpm

5) STEERING PUMP (MACHINE SERIAL NO. : #0183-)

Item	Specification
Type	Single spur gear pump
Capacity	139 cc/rev
Maximum operating pressure	220 kgf/cm ² (3130 psi)
Rated speed	2000 rpm

6) FAN + BRAKE PUMP (MACHINE SERIAL NO. : #0183-)

Item	Specification	
	Fan	Brake
Type	Tandem spur gear pump	
Capacity	26 cc/rev	26 cc/rev
Maximum operating pressure	280 kgf/cm ² (3980 psi)	170 kgf/cm ² (2420 psi)
Rated speed	2000 rpm	

7) MAIN CONTROL VALVE

Item	Specification
Type	2 spool
Operating method	Hydraulic pilot assist
Main relief valve pressure	210 kgf/cm ² (2990 psi)
Overload relief valve pressure	240 kgf/cm ² (3140 psi)

8) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating	Minimum	5 kgf/cm ² (71 psi)
	Maximum	30 kgf/cm ² (427 psi)
Single operation angle	Degree	17

9) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 200 × ø 110 × 863 mm
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 160 × ø 80 × 580 mm
Steering cylinder	Bore dia × Rod dia × Stroke	ø 110 × ø 55 × 480 mm

10) DYNAMIC POWER TRANSMISSION DEVICES

Item			Specification
Transmission	Model		ZF 4WG310
	Type	Converter	Single-stage, double-phase
		Transmission	Full-automatic power shift
	Converter stall ratio		2.51 : 1
	Gear shift		Forward fourth gear, reverse third gear
	Control		Electrical single lever type, kick-down system, Automatic kick down from 2nd to 1st gear FNR Switch on joystick lever (option)
	Pump rated flow		105 ℓ /min (27.7 U.S.gpm) at 2000 rpm
Axle	Drive devices		4-wheel drive
	Front		Front fixed location
	Rear		Oscillation ± 13° of center pin-loaded
Wheels	Tires		29.5-25, 22PR (L3)
Brakes	Travel		Four-wheel, wet-disc type, full hydraulic
	Parking		Spring applied, hydraulic released brake
Steering	Type		Full hydraulic, articulated
	Steering angle		40° to both right and left angle, respectively