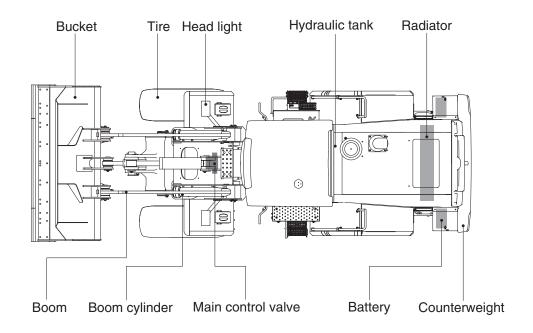
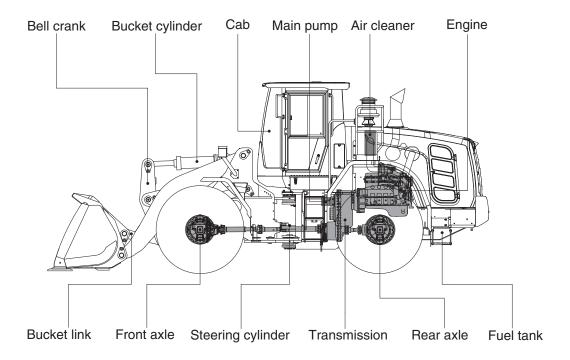
# 2. SPECIFICATIONS

## 1. MAJOR COMPONENTS

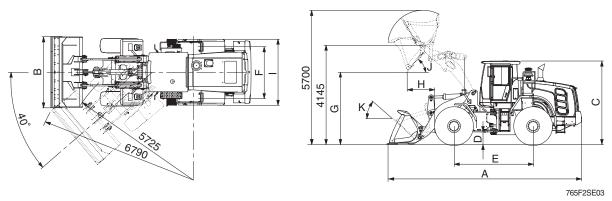




760F2SE01

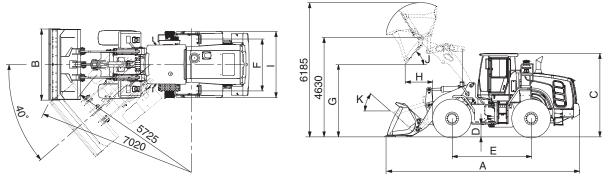
## 2. SPECIFICATIONS

## 1) WITH BOLT-ON CUTTING EDGE TYPE BUCKET (HL965)



Description		Unit	Specification	
Operating weight		kg (lb)	20100 (44315)	
D. d. d. c. c. c.		Struck	0 ( 10)	3.1 (4.05)
Bucket capacity	/	Heaped	m³ (yd³)	3.6 (4.71)
Overall length		А		8280 (27' 2")
Overall width		В		3000 (9' 10")
Overall height		С		3450 (11' 4")
Ground clearar	nce	D		410 (1' 4")
Wheelbase		Е	mm (ft-in)	3300 (10' 10")
Tread		F		2160 (7' 1")
Dump clearance	e at 45°	G		2955 (9' 8")
Dump reach (fu	ıll lift)	Н		1400 (4' 7")
Width over tires	3	I		2770 (9' 1")
Dump angle		J	dograe (°)	50
Roll back angle (carry position)		K	degree (°)	47
		Lift (with load)	sec	5.8
Cycle time	Cycle time			1.4
		Lower (empty)		3.1
Maximum travel speed			km/hr (mph)	37.4 (23.2)
Braking distance	e		m (ft in)	11.6 (38' 1")
Minimum turnir	ng radius (center d	of outside tire)	m (ft-in)	5.725 (17' 9")
Gradeability			degree (°)	30
Breakout force	Breakout force		kg (lb)	17400 (38360)
		First gear		6.0 (3.7)
Travel speed	Готионе	Second gear		11.4 (7.1)
	Forward	Third gear		22.9 (14.2)
		Fourth gear	km/hr (mph)	37.4 (23.2)
		First gear		6.3 (3.9)
	Reverse	Second gear		12.0 (7.4)
		Third gear		24.2 (15.0)

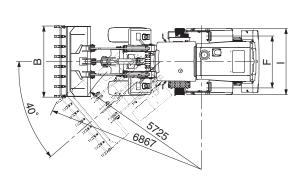
## WITH BOLT-ON CUTTING EDGE TYPE BUCKET (HL965 XT)

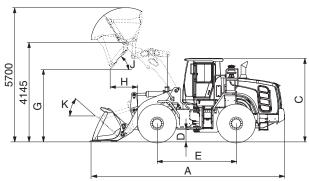


9652SE03-1

Description		Unit	Specification	
Operating weight			kg (lb)	20960 (46210)
Developt agency's		Struck	0 (10)	3.1 (4.05)
Bucket capacity	у	Heaped	m³ (yd³)	3.6 (4.71)
Overall length		A		8850 (29' 0")
Overall width		В		3000 (9' 10")
Overall height		С		3450 (11' 4")
Ground clearar	nce	D		410 (1' 4")
Wheelbase		E	mm (ft-in)	3300 (10' 10")
Tread		F		2160 (7' 1")
Dump clearance	e at 45°	G		3440 (11' 3")
Dump reach (fu	ull lift)	Н		1455 (4' 9")
Width over tires	S	I		2770 (9' 1")
Dump angle		J	de avec a (°)	50
Roll back angle (carry position)		K	degree (°)	49
		Lift (with load)		5.8
Cycle time		Dump (with load)	sec	1.4
		Lower (empty)		3.1
Maximum trave	Maximum travel speed		km/hr (mph)	37.4 (23.2)
Braking distant	ce		m (ft in)	11.6 (38' 1")
Minimum turnir	ng radius (cente	r of outside tire)	m (ft-in)	5.725 (17' 9")
Gradeability			degree (°)	30
Breakout force	Breakout force		kg (lb)	17265 (38060)
		First gear		6.0 (3.7)
Travel speed	Forward	Second gear		11.4 (7.1)
	Forward	Third gear		22.9 (14.2)
		Fourth gear	km/hr (mph)	37.4 (23.2)
		First gear		6.3 (3.9)
	Reverse	Second gear		12.0 (7.4)
		Third gear		24.2 (15.0)

## 2) WITH TOOTH TYPE BUCKET (HL965)

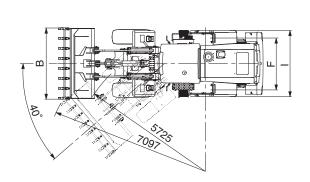


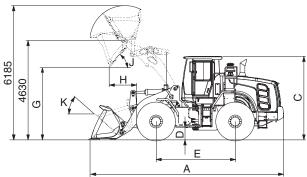


9652SE02

Description		Unit	Specification	
Operating weight			kg (lb)	20015 (44125)
		Struck		2.9 (3.8)
Bucket capacit	У	Heaped	m³ (yd³)	3.4 (4.45)
Overall length		А		8430 (27' 7")
Overall width		В		3050 (10' 0")
Overall height		С		3450 (11' 4")
Ground clearar	nce	D		410 (1' 4")
Wheelbase		Е	mm (ft-in)	3300 (10' 10")
Tread		F		2160 (7' 1")
Dump clearance	e at 45°	G		2830 (9' 3")
Dump reach (fo	ull lift)	Н		1485 (4' 10")
Width over tire	S	I		2770 (9' 1")
Dump angle		J	1(2)	50
Roll back angle (carry position)		K	degree (°)	47
				5.8
Cycle time		Dump (with load)	sec	1.4
		Lower (empty)		3.1
Maximum travel speed			km/hr (mph)	37.4 (23.2)
Braking distand	ce		m (ft-in)	11.6 (38' 1")
Minimum turnir	ng radius (cente	r of outside tire)		5.725 (17' 9")
Gradeability			degree (°)	30
Breakout force			kg (lb)	18465 (40710)
		First gear		6.0 (3.7)
Travel speed	Command	Second gear		11.4 (7.1)
	Forward	Third gear	km/hr (mph)	22.9 (14.2)
		Fourth gear		37.4 (23.2)
		First gear		6.3 (3.9)
	Reverse	Second gear		12.0 (7.4)
		Third gear		24.2 (15.0)

#### WITH TOOTH TYPE BUCKET (HL965 XT)





9652SE02-1

Description		Unit	Specification	
Operating weight		kg (lb)	20875 (46020)	
<b>5</b> 1		Struck	. ( )-)	2.9 (3.8)
Bucket capacity	/	Heaped	m³ (yd³)	3.4 (4.45)
Overall length		A		9000 (29' 6")
Overall width		В		3050 (10' 0")
Overall height		С		3450 (11' 4")
Ground clearan	ice	D		410 (1' 4")
Wheelbase		Е	mm (ft-in)	3300 (10' 10")
Tread		F		2160 (7' 1")
Dump clearanc	e at 45°	G		3315 (10' 10")
Dump reach (fu	ıll lift)	Н		1540 (5' 1")
Width over tires	;	I		2770 (9' 1")
Dump angle		J	d (°)	50
Roll back angle (carry position)		К	degree (°)	49
Cycle time		Lift (with load)	sec	5.8
		Dump (with load)		1.4
		Lower (empty)		3.1
Maximum travel speed		km/hr (mph)	37.4 (23.2)	
Braking distance	е		m (ft-in)	11.6 (38' 1")
Minimum turnin	g radius (cente	r of outside tire)		5.725 (17' 9")
Gradeability			degree (°)	30
Breakout force			kg (lb)	18330 (40410)
		First gear		6.0 (3.7)
Travel speed	Forward	Second gear		11.4 (7.1)
	Forward	Third gear		22.9 (14.2)
		Fourth gear	km/hr (mph)	37.4 (23.2)
		First gear	Ī	6.3 (3.9)
	Reverse	Second gear		12.0 (7.4)
		Third gear		24.2 (15.0)

## 3. WEIGHT

Item		kg	lb
Front frame assembly		1650	3640
Rear frame assembly		2010	4430
Front fender (LH & RH)		64	143
0	HL965	1075	2370
Counterweight	HL965 XT	1705	3759
Cab assembly		1070	2360
Engine assembly		708	1561
Transmission assembly (4-speed/5-s	peed)	535/560	1180/1230
Drive shaft (front)		28	61
Drive shaft (center)		23	51
Drive shaft (rear)		17	37
Front axle (include differential)		1200	2650
Rear axle (include differential)		1090	2400
Tire (23.5 R25, * L3)		330	728
Hydraulic tank assembly		166	366
Fuel tank assembly		365	805
Main pump assembly		68	150
Brake pump assembly		12	26
Main control valve (2/3 spool)		68/81	150/179
Steering valve (EHPS)	Steering valve (EHPS)		22
Doom opposible	HL965	1275	2810
Boom assembly	HL965 XT	1495	3295
Bell crank assembly		365	805
Bucket link		63	140
3.6 m³ bucket, with bolt on cutting edge		1895	4180
3.4 m³ bucket, with tooth		1810	3990
Boom cylinder assembly		171	377
Bucket cylinder assembly (HL965)		163	359
Bucket cylinder assembly (HL965 XT)		181	399
Steering cylinder assembly		29	64
Seat		80	176
Battery		44	97

## 4. SPECIFICATION FOR MAJOR COMPONENTS

#### 1) ENGINE

ltem	Specification
Model	Cummins QSL9
Туре	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	114×145 mm (4.5"×5.7")
Piston displacement	8900 cc (543 cu in)
Compression ratio	17.8:1
Rated horse power (Gross)	272 hp at 2100 rpm
Maximum torque (1400 rpm)	148 kgf · m (1070 lbf · ft)
Engine oil quantity	19 / (5.0 U.S. gal)
Wet weight	708 kg (1560 lb)
High idling speed	2130 $\pm$ 50 rpm
Low idling speed	800 ± 25 rpm
Rated fuel consumption (at rated)	226 g/kW ⋅ hr
Starting motor	Denso PA90L (24V-7.8kW)
Alternator	Denso, 24V-95Amp
Battery	2×12V×200Ah

#### 2) MAIN PUMP

ltono	Specification	
Item	Steering	Loader
Туре	Variable piston pump	
Capacity	60 cc/rev	70 cc/rev
Maximum operating pressure	280 kgf/cm² (3980 psi)	
Rated oil quantity	115 l /min (30.4 U.S.gpm)	134 l /min (35.4 U.S.gpm)
Maximum speed	2130 rpm	

#### 3) FAN AND BRAKE PUMP

Item	Specification	
Туре	Variable piston pump	
Capacity	28 cc/rev	
Maximum operating pressure	250 kgf/cm² (3560 psi)	
Rated oil quantity	54 / min (14.3 U.S.gpm)	
Maximum speed	2130 rpm	

#### 4) MAIN CONTROL VALVE

Item	Specification
Туре	2 spool
Operating method	Hydraulic pilot assist
System pressure	280 kgf/cm² (3980 psi)
Overload relief valve pressure	340 kgf/cm² (4840 psi) / *300 kgf/cm² (4270 psi)

<sup>★:</sup> Bucket dump

#### 5) ELECTRO-HYDRAULIC BLOCK

Item	Specification
Туре	Proportional pressure reducing vlave
Control current	0~950 mA
Resistance	10.5 Ω
Normal flow	12 / /min (3.17 U.S.gpm)

## 6) REMOTE CONTROL VALVE (EH TYPE)

Item	Specification
Туре	Fingertip
Axle	Single axle for boom, bucket, auxiliary
Operating voltage	4.5~5.5 V
Output signal	0.5~4.5 V (neutral 2.5 V)

## 7) REMOTE CONTROL VALVE (FNR TYPE)

Item	Specification
Туре	Joystick
Axle	Two axle for boom, bucket, roller for auxiliary
Operating type	CAN J1939
Baud rate	500 Kbps

## 8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø 140 × Ø 80 × 785 mm
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 160 × ø 85 × 560 mm
Steering cylinder	Bore dia × Rod dia × Stroke	ø 75× ø 45×424 mm

#### 9) DYNAMIC POWER TRANSMISSION DEVICES

Item			Specification
4-speed transmission (std)	Model		ZF 4WG 210
	Туре	Converter	Single-stage, single-phase
		Transmission	Full-automatic power shift
	Gear shift		Forward fourth gear, reverse third gear
	Control		Electrical single lever type, kick-down system
	Travel speed		See the page 2-2.
5-speed transmission (opt)	Model		ZF 5WG210
	Туре	Converter	Single-stage, double-phase (with lock up clutch)
		Transmission	Full-automatic power shift
	Gear shift		Forward fifth gear, reverse third gear
	Control		Electrical single lever type, kick-down system
	Travel speed	Forward 1/2/3/4/5	6.3/11.1/17.1/26.6/40.0 km/hr
		Reverse 1/2/3	6.7/11.7/28.0 km/hr
Axle	Drive devices		4-wheel drive
	Front		Front fixed location
	Rear		Oscillation $\pm 12^{\circ}$ of center pin-loaded
Wheels	Tires		23.5 R25, *(L3)
Brakes	Travel		Four-wheel, wet-disc type, full hydraulic
	Parking		Spring applied, hydraulic released brake on transmission
Steering	Туре		Full hydraulic, articulated
	Steering angle		40° to both right and left angle, respectively
	Relief pressure		235 kgf/cm² (3340 psi)