

# SPECIFICATIONS

## HL970

Tier 4 Final Engine



\*Photo may include optional equipment.

**Net Power**

308 HP (230kW) / 2,100 rpm

**Operating Weight**

23,500 kg / 51,809 lbs

**Standard Bucket**

4.2m<sup>3</sup> / 5.5yd<sup>3</sup>

# SPECIFICATIONS HL970

## ENGINE

Maker/Model	SCANIA / DC09 085A
Type	Watercooled, 4-cycle, turbocharged charge aircooled, direct injection, electronically controlled diesel engine
Gross power	311HP (232kw) / 2100 rpm
Net power	308HP (230kw) / 2100 rpm
Maximum torque	174 kg·m (1259 lb-ft) / 1200 rpm
No. of cylinders	5
Bore x Stroke	130 mm (5.12") x 140mm (5.51")
Displacement	9.3ℓ (568 in <sup>3</sup> )
Compression ratio	17.0 : 1
Air cleaner	Dry, Two stage dual elements
Alternator	24V - 100Amp
Battery	2 x 12V, 900 CCA
Starting motor	24V - 6.0kw

## TRANSMISSION

Torque converter type	3-Elements, Single-stage, Single phase
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\* Fully automatic power shift, countershaft type with soft-shift in range and direction.

Travel speed, km/h (mph)		4 speed T/M	5 speed T/M with lock up clutch
Forward	1st	7.3 (4.5)	7.2 (4.5)
	2nd	12.2 (7.6)	12.4 (7.7)
	3rd	27.2 (16.9)	19.7 (12.2)
	4th	40.0 (24.9)	28.1 (17.5)
	5th		40.0 (24.9)
Reverse	1st	7.3 (4.5)	7.2 (4.5)
	2nd	12.2 (7.6)	12.4 (7.7)
	3rd	27.2 (16.9)	28.1 (17.5)

## AXLES

Drive system	Four-wheel drive system
Mount	Rigid front axle and oscillating rear axle
Rear axle oscillation	Oscillation ±11° of center pin-loaded
Hub reduction	Planetary reduction at wheel end
Differential	Conventional
Reduction ratio	24.666

## OVERVIEW

Description	UNIT	HL970	HL970XTD	
Operating weight	kg (lb)	23,500 (51,809)	24,300 (53,572)	
Bucket capacity	Heaped	m <sup>3</sup> (yd <sup>3</sup> )	4.2 (5.5)	4.2 (5.5)
	Struck	m <sup>3</sup> (yd <sup>3</sup> )	3.6 (4.7)	3.6 (4.7)
Breakout force-bucket	kg (lb)	21,775 (48,006)	21,715 (47,873)	
Tipping load	Straight	kg (lb)	18,000 (39,683)	16,100 (35,494)
		Full turn	kg (lb)	15,580 (34,348)

## TIRES

Type	Tubeless, loader design tires
Standard	26.5 R25, ★, L3
Options include	26.5-25, 20PR, L3
	26.5-25, 20PR, L5
	26.5, R25 XHA2
	23.5-25, 20PR, L3
	26.5-25, 28PR, L3
	26.5-25, 32PR, L3

## HYDRAULIC SYSTEM

Type	Load sensing hydraulic system
Pump	Variable displacement piston pump, 323 lpm (85 gpm)
Control valve	2 spool (Bucket, Boom) 3 spool (Bucket, Boom, Aux)
System pressure	280 kgf/cm <sup>2</sup> (3983 psi)
Lift Circuit	Valve has four functions; raise, hold, lower and float can adjust automatic kickout from horizontal to full lift
Tilt Circuit	Valve has three functions ; tilt back, hold and dump Can adjust automatic bucket positioner to desired load angle
Cylinder	Type : Double acting
	No. of cylinders-bore x stroke; Lift : 2-160mm (6.3") x 780mm (30.7")
	Tilt : 1-180mm (7.1") x 565mm (22.2") HL970 HL970XT Tilt : 1-180mm 7.1") x 570mm (22.4")
Cycle Time	Raise: 5.7 sec
	Dump: 1.4 sec
	Lower: 3.1 sec
	Total: 10.2 sec

## BRAKES

Service Brakes	Hydraulically actuated, wet disc brakes actuate all 4 wheels independent axle-by-axle system Self adjusting & wheel speed brake
Parking Brake	Spring-applied, hydraulically released brake
Emergency Brake	When brake oil pressure drops, indicator light alerts operator and parking brake automatically applies

## STEERING SYSTEM

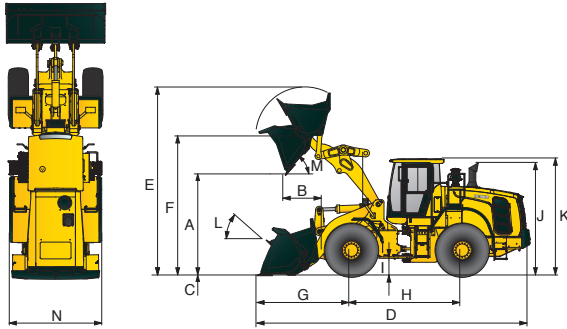
Type	Load sensing hydrostatic articulated steering
Pump	Variable displacement piston pump, 208 lpm (55 gpm)
Relief Valve Setting	210 kgf/cm <sup>2</sup> (2987 psi)
Cylinder	Double acting 2-95 mm (3.7") x 480 mm (18.9")
Steering Angle	40° both right and left angle, respectively
Additional Features	Center-point frame articulation Tilt and telescopic steering column

## SERVICE REFILL CAPACITIES

Fuel tank	300 liters (79.3 Gal)
DEF tank	60 liters (15.9 Gal)
Cooling system	42 liters (11.1 Gal)
Crankcase	36 liters (9.5 Gal)
Transmission	43 liters (11.4 Gal)
Front axle	51 liters (13.5 Gal)
Rear axle	40 liters (10.6 Gal)
Hydraulic tank	152 liters (40.2 Gal)
Hydraulic system (including tank)	276 liters (72.9 Gal)

## DIMENSIONS

All dimensions are approximate.



Description	UNIT	HL970	HL970XT
E. Overall height (fully raised)	mm (ft-in)	5,970 (19' 7.0")	6,460 (21' 2.3")
F. Bucket pivot height (max)	mm (ft-in)	4,330 (14' 2.5")	4,815 (15' 9.6")
G. Front overhang	mm (ft-in)	3,025 (9' 11.1")	3,455 (11' 4.0")
H. Wheelbase	mm (ft-in)	3,500 (11' 5.8")	3,500 (11' 5.8")
I. Ground clearance	mm (ft-in)	480 (1' 6.9")	480 (1' 6.9")
J. Height over exhaust	mm (ft-in)	3,515 (11' 6.4")	3,515 (11' 6.4")
K. Height over cab	mm (ft-in)	3,590 (11' 9.3")	3,590 (11' 9.3")
L. Roll-back angle on ground	deg	43	43
M. Dump angle at carry	deg	47	49
N. Overall width with bucket	mm (ft-in)	3,100 (10' 2.1")	3,100 (10' 2.1")
	mm (ft-in)	2,975 (9' 9.1")	2,975 (9' 9.1")
	mm (ft-in)	3,100 (10' 2.1")	3,100 (10' 2.1")
	mm (ft-in)	2,975 (9' 9.1")	2,975 (9' 9.1")

Description	UNIT	HL970	HL970XT
Bucket Type	General purpose bolt-on cutting edge		
A. Dumping clearance at max. height and 45° dump angle	mm (ft-in)	3,570 (11' 8.6")	3,080 (10' 1.3")
B. Reach	Full lift	mm (ft-in)	1,270 (4' 2.0")
	7ft height	mm (ft-in)	1,905 (6' 3.0")
		mm (ft-in)	2,330 (7' 7.7")
C. Digging depth	mm (ft-in)	100 (3.9")	115 (4.5")
D. Overall length	on ground	mm (ft-in)	8,740 (28' 8.1")
	at carry	mm (ft-in)	9,280 (30' 5.4")
		mm (ft-in)	8,640 (28' 4.2")
		mm (ft-in)	9,145 (30')

## HL970 / DENSITY OF OPERATING MATERIALS

Loose Material	Material Density
Earth / Clay	1.5~1.7 tons / m <sup>3</sup> (2528~2865 lbs / yd <sup>3</sup> )
Sand and Gravel	1.5~1.7 tons / m <sup>3</sup> (2528~2865 lbs / yd <sup>3</sup> )
Aggregate	1.6~1.7 tons / m <sup>3</sup> (2697~2865 lbs / yd <sup>3</sup> )
	1.8 tons / m <sup>3</sup> (3034 lbs / yd <sup>3</sup> )

## HL970 / DENSITY OF OPERATING MATERIALS

Lift arm	Bucket	Type	Struck (100%)	Heaped (115%)
Standard lift arm	General Purpose	Cutting edge	5.2 m <sup>3</sup> (6.8 yd <sup>3</sup> )	6.0 m <sup>3</sup> (7.8 yd <sup>3</sup> )
		1-Bolt on tooth	5.0 m <sup>3</sup> (6.5 yd <sup>3</sup> )	5.8 m <sup>3</sup> (7.6 yd <sup>3</sup> )
		Cutting edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		1-Bolt on tooth & segment edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		2-Bolt on tooth & segment edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		1-Bolt on tooth	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )	4.6 m <sup>3</sup> (6.0 yd <sup>3</sup> )
		2-Bolt on tooth	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )	4.6 m <sup>3</sup> (6.0 yd <sup>3</sup> )
		Cutting edge	3.5 m <sup>3</sup> (4.6 yd <sup>3</sup> )	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )
High lift arm (XTD)	General Purpose	Cutting edge	5.2 m <sup>3</sup> (6.8 yd <sup>3</sup> )	6.0 m <sup>3</sup> (7.8 yd <sup>3</sup> )
		1-Bolt on tooth	5.0 m <sup>3</sup> (6.5 yd <sup>3</sup> )	5.8 m <sup>3</sup> (7.6 yd <sup>3</sup> )
		Cutting edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		1-Bolt on tooth & segment edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		2-Bolt on tooth & segment edge	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )
		1-Bolt on tooth	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )	4.6 m <sup>3</sup> (6.0 yd <sup>3</sup> )
		2-Bolt on tooth	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )	4.6 m <sup>3</sup> (6.0 yd <sup>3</sup> )
		Cutting edge	3.5 m <sup>3</sup> (4.6 yd <sup>3</sup> )	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )

CAB & INTERIOR	STD	OPT
Alternator, 100 Amp	●	
Alarms, audible and visual		
Air filter clogging	●	
Transmission error	●	
Battery voltage	●	
Brake oil pressure	●	
Engine oil pressure	●	
Parking brake	●	
Fuel level	●	
Hydraulic oil temperature	●	
Coolant temperature	●	
Transmission oil temperature	●	
Service brake oil pressure	●	
Coolant level water in fuel	●	
Alarm, back-up	●	
Batteries, PT		
900 CCA, 12V, (2)	●	
Gauges		
Engine coolant temperature	●	
Fuel level	●	
Speedometer	●	
Transmission oil temperature	●	
Horn, electric	●	
Indicator lights		
T/C lock up	●	
High beam	●	
Turn signal	●	
FNR joystick steering		●
Pilot cut off	●	
LCD Display		
Clock and fault code	●	
Operating hour counter	●	
Engine rpm	●	
Transmission gear range	●	
Indicator	●	
Job time and distance	●	
Temperature (coolant, hydraulic oil, t/m oil)	●	
Lighting system		
LED dome light	●	
2 stop and tail lights	●	
4 turn signals	●	
Brake lights (counterweight)	●	
2 head lights on front tower	●	
2 working lights on front roof	●	
4 working lights on front roof, 2 working lights on rear roof		●
4 working lights (2xenon) on front roof, 2 working lights on rear roof		●
4 working lights (LED) on front roof, 2 working lights (LED) on rear roof		●
2 working lights on grill	●	
Switches		
Hazard	●	
Ignition	●	
Parking	●	
Battery master switch	●	
FNR	●	
Diff, lock		●
SCR cleaning / inhibit	●	
Secondary steering test		●
Pilot cut off	●	
Membrane switches in monitor		
Main light	●	
Work light	●	
Auto grease		●
Quick coupler		●
Ride control	●	
Work load	●	
Beacon lamp		●
Rear wiper	●	
Mirror heat	●	
Auto position	●	
Fine modulation		●

CAB & INTERIOR	STD	OPT
Cab (sound suppressed and pressurized) with		
Cigar lighter & ashtray	●	
Coat hook	●	
Automatic climate control		
Air conditioner & heater	●	
Defroster	●	
Intermittent wiper and washer, front and rear	●	
Seat		
2" retractable seat belt & adjustable		●
2" static seat belt & adjustable mechanical suspension (heated)		●
3" static seat belt & adjustable adjustable mechanical suspension		●
2" retractable seat belt & adjustable air suspension (heated)	●	
Personal storage space		
Console box	●	
Holder, can and cup	●	
Rear view mirrors (1 inside)	●	
Rear view mirrors (2 outside)	●	
Rear View Mirrors (2 outside, Heated)	●	
Steering column, tilt and telescopic	●	
Steering wheel with knob	●	
Roller type sunshade (front window)	●	
Roller type sunshade (rear window)		●
Tinted safety glass	●	
One door cab	●	
Magazine pocket	●	
Pedals		
One accelerator pedal	●	
One brake pedal	●	
Dual-Brake pedal		●
Radio / USB player	●	
Bluetooth	●	
Miracast	●	
Rubber floor mat	●	
Wrist rest	●	
24-volt to 12-volt DC converter (20A)	●	
ENGINE	STD	OPT
Antifreeze	●	
Engine, SCANIA, DC09 085A		
Tier 4 Final / Stage 4	●	
Engine enclosure, lockable	●	
Engine fuel priming pump	●	
Fan guard	●	
Reversible Cooling Fan	●	
Fuel/water separator	●	
Clean emission module		
DOC and SCR	●	
Rain cap, engine air intake	●	
Radiator	●	
Starting aid (air intake heater)	●	
Fuel heater	●	
Coolant level sight gauge	●	
Engine oil level dipstick gauge	●	
3 Stage Air Precleaner		●
Fuel heater (Dual)		●
Air cleaner with auto dust eject	●	
POWER TRAIN	STD	OPT
Brakes : Service, enclosed wet-disc	●	
Parking brake	●	
Torque converter	●	
Transmission F4 / R3, computer controlled, electronic soft shift, auto-shift and kick-down features included	●	
Transmission F5 / R3 with lock-up clutch		●
Transmission oil sight level	●	
Limited slip differential (front, rear)	●	
Transmission oil cooler	●	
Transmission oil cooler with thermostat		●
Hyd. lock differential (front)		●
Front axle cooling system		●

POWER TRAIN	STD	OPT
Tires		
26.5 R25, L3	●	
26.5 - 25, 20PR, L3		●
26.5 - 25, 20PR, L5		●
26.5 R25, XHA2		●
23.5-25, 20PR, L3		●
26.5-25, 28PR, L3		●
26.5-25, 32PR, L3		●
Travel speed limiter (20-40 km/h)	●	
HYDRAULIC SYSTEM	STD	OPT
Boom kickout, automatic	●	
Bucket positioner, automatic	●	
Diagnostic pressure taps	●	
Hydraulic oil cooler	●	
Hydraulic control, 2 spool	●	
Hydraulic control, 3 spool	●	
Joystick Control (EH control)	●	●
Lever control-single axis (EH control)		●
Joystick Steering		●
Ride control system	●	
Secondary steering system		●
Extra piping-for auxiliary function		●
Quick coupler piping		●
Auto grease system		●
OTHER	STD	OPT
Articulation locking bar	●	
Counterweight	●	
Additional Counterweight		●
Door and cab locks, one key	●	
Doors, service access (locking)	●	
Drawbar with pin	●	
Ergonomically located and slip resistant, left & right	●	
Handrails	●	
Ladders	●	
Platforms	●	
Steps	●	
Fenders (front / rear)	●	
Hydraulic oil level sight gauge	●	
Lift and tie-down hooks	●	
Loader linkage, sealed	●	
Z-bar design	●	
Vandalism protection caplocks	●	
Tool kit		●
Tooth, 1 piece, bolt-on type		●
Tooth, 2 pieces, bolt-on type		●
Cutting edge, bolt-on type		●
Pallet forks		●
Guards		
Crankcase		●
Transmission		●
Mud guards		●
Wheel chock		●
License plate & lamp		●
Hi-Mate (Remote Management System)		
Mobile	●	
Satellite		●
Rearview camera	●	
SAFETY	STD	OPT
Beacon light, rotating		●
Fire extinguisher		●
Operator suit		●

\* Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to International standards.  
 \* The photos may include attachments and optional equipment that are not available in your area.  
 \* Materials and specifications are subject to change without advance notice.  
 \* All imperial measurements rounded off to the nearest pound or inch.



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