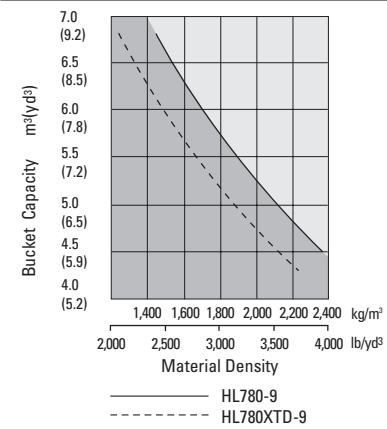


BUCKET SELECTION GUIDE



STANDARD EQUIPMENT

Electrical system
Alternator, 70A
24-volt to 12-volt DC converter
Alarms, audible and visual
- air filter clogging
- transmission error
- alternator voltage
- brake oil pressure
- engine oil pressure
- parking brake
- fuel level
- hydraulic oil temperature
- coolant temperature
- service brake oil pressure
Batteries, 1,315 CCA, 12V, (2)
Gauges
- engine coolant temperature
- fuel level
- hydraulic oil temperature
- speedometer
- transmission oil temperature
- voltmeter
Horn, electric
Indicator lights
- clutch cut-off
- high beam
- turn signal
- work light
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
- 2 LED dome lights
- 2 stop and tail lights
- 4 turn signals
- brake lights(counterweight)
- 2 head lights on front tower
- 2 working lights on front roof
- 2 working lights on grill
Switches
- clutch cut-off
- hazard
- Ignition key, start/stop switch
- main light(illumination and head light)
- parking
- rear wiper & washer
- work light
- master switch
- pilot cut-off
Starter, electric
Starting and charging system(24-volt)

Cab
Cab, ROPS/FOPS
(sound suppressed and pressurized) with :
- cigar lighter & ashtray
- coat hook
Automatic climate control

- air conditioner & heater
- defroster
- intermittent wiper and washer, front and rear
- personal storage space:
Console box
Holder, can and cup
Rear view mirrors (2 inside)
Heated rear view mirrors (2 outside)
Air suspension seat (heated) with 3" seat belt
Steering column, tilt and telescopic
Steering wheel with knob
Survivor(front window)
Tinted safety glass
Two door cab
Magazine pocket
Pedals
- one accelerator pedal
- one brake pedal
Radio/USB player
Rubber floor mat
Wrist rest
Joystick with travel switch(FNR)

Engine
Antifreeze
Engine, Cummins QSM11
- Low Emission Diesel, Tier3
Engine enclosure, lockable
Engine fuel priming pump(Electric)

3 operating mode
(power / standard / econo)
Fan guard
Fuel/water separator
Fuel warmer
Muffler, under hood with large exhaust stack
Rain cap, engine air intake
Radiator
Starting aid (air intake heater)

Power Train
Brakes : Service, enclosed wet-disc
Differentials, Hydraulic lock - front, limited slip - rear
Parking brake
Torque converter
Transmission, computer-controlled, electronic soft shift, auto-shift and kick-shift features included
Transmission oil cooler

Hydraulics
Boom kickout, automatic
Bucket positioner, automatic
Diagnostic pressure taps
Hydraulic oil cooler
Hydraulic system,
- 2 spool, single lever, pilot control for boom and bucket actuation
- 3rd spool for auxiliary function
Steering, load-sensing
Remote cooling fan,

hydraulically-driven,
temperature sensing type

Others
Articulation locking bar
Coolant level sight gauge
Counterweight
Door and cab locks, one key
Doors, service access(locking)
Drawbar with pin
Engine oil level dipstick gauge
Ergonomically located and slip resistant, left & right
- handrails
- ladders
- platforms
- steps
Fenders(front)
Guard, bucket cylinder rod
Hydraulic oil level sight gauge
License plate bracket
Lift and tie-down hooks
Loader linkage, sealed
Z-Bar design
Steering stops, cushioned
Tires(29.5-25, 22PR,L3)
Transmission oil site level
Vandalism protection caplocks
3 piece cutting edge, bolt-on type
HI-Mate(Remote Management System)
Rearview camera

OPTIONAL EQUIPMENT

3 Spool
Climate control
- air conditioner only
- heater only
Beacon light, rotating
Lighting, auxiliary, 4 on front roof (2 Xenon work lights)
Lighting, auxiliary, 4 on rear roof

Dual brake pedal
Secondary steering system
Fire extinguisher
High lift arrangement with additional counterweight, 552kg(1,210lb)
Hydraulic control, 2 lever
Hydraulic control, 3 lever

Mud guard
Operator suit
Pallet forks
Reversible cooling fan
Ride control system
Seat
- 2" static seat belt & adjustable mechanical suspension (vinyl)

- 3" static seat belt & adjustable mechanical suspension
Tires :
- 29.5 - 25, 28PR L3
- 29.5 - 25, 28PR L5
- 26.5 - 25, 32PR L3
- 29.5 R25 XHA*
Tool kit

Tooth, 1 piece, bolt-on type
Tooth, 2 pieces, bolt-on type
Wheel chock
Pre-cleaner, engine air intake
Joystick-steering
Roll screen (rear window)
License plate & lamp

Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to International standards. All imperial measurements rounded off to the nearest pound or inch.

PLEASE CONTACT



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CONSTRUCTION EQUIPMENT

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*Photo may include optional equipment.

Pride at Work

Hyundai Heavy Industries strives to build state-of-the art earthmoving equipment to give every operator maximum performance, more precision, versatile machine preferences, and proven quality. Take pride in your work with Hyundai!



*Photo may include optional equipment.

HL780-9

Machine Walk-Around

Reliable Main Components

Engine Technology

Proven, reliable, fuel efficient, low noise Cummins Tier-III QSM11 engine.
Electronically controlled for optimum fuel to air ratio and clean, efficient combustion.
Self-diagnostic system.
3 engine modes, P (Power), S (Standard), E (Econo) for full power or reduced fuel consumption according to operator preference.

Full Automatic Transmission

4 step(Manual / Light / Normal / Heavy) shift mode by working condition
Protective transmission at low temperature(Automatic warm-up system)
Self-diagnostic & Memory of malfunction history
Minimum travel shift shock by applying proportional controlling modulation valve / Self adjusting Clutch gap
Kick-down button & FNR switch for operating comfort

Axle

Hydraulically lockable front differential and limited slip rear differential for easy driving on variable ground condition
Self-adjusting & wheel speed brake

Improved Durability

Load sensing hydraulic system with variable displacement piston pump and closed-center MCV (main control valve).
Long-life cooling system, designed for additional durability, resistant to thermal shock, impulse and vibration.
Redesigned steering cylinder lug and bucket link, now cast steel for additional strength and reliability.

Enhanced Operator Comfort

Improved Visibility

Larger operator's cab for additional comfort.
Redesigned cab with rounded front glass and larger door glass for a larger field of view.

Improved Convenience

Increased cooling & heating capacity with fully automatic climate control system.
Tilting & telescopic steering column.
Adjustable wrist rest for reduced operating stress.
Multiple storage compartments.
AM/FM Radio with MP3 interface and USB input.
Improved ladder with 20 Degree incline and large, deep tread, aluminum cast steps for safer access and exit from the cab.

Advanced 5.7" Color Monitor

Easy-to-read new color LCD display.
Auto boom kick out and bucket positioner - fully adjustable from within the cab.
Integrated load weight system, viewable through the monitor, for improved work efficiency and overload prevention.
Self diagnostic & monitoring system with active display of engine, hydraulic system, transmission and electrical component information.
Color, rear-view, back-up camera for improved safety and convenience.
RMS(Remote Management System) works through GPS/satellite technology to provide better customer service and support.

Serviceability

Reversible, swing-out, cooling fan for easy service and improved cooler maintenance.
Ground level access to critical service points, filters and sight gauges for easy maintenance.
Long life hydraulic filter and oil for reduced operating costs.



Operator Preference

Operating a 9 series wheel loader is unique to every operator. Operators can fully customize their work environment and operating preferences to fit their individual needs.

*Photo may include optional equipment.

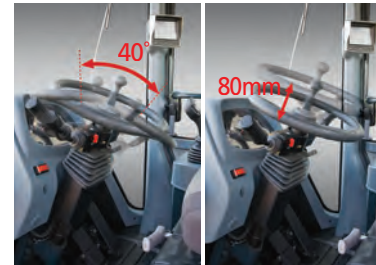


Spacious and Convenient Cab

The newly designed cabin was conceived for more space, a wider field of view and operator comfort. The front windshield is rounded and 17% wider than the previous 7A series. Special attention was given to a clean, open and convenient interior with plenty of visibility on the machine surroundings and the job at hand. This well balanced combination of cab ergonomics puts the operator in the perfect position to work safely and securely. The 9 series cab's fully automatic climate control system features 11 air vents and increased cooling and heating capacity for optimum temperature control. The defroster vents located on the front and rear windows and a PTC (electric pre-heater) make working in cold weather more hospitable.

Operator Comfort

In the 9 series cabin you can easily adjust the steering column and wrist rest to best suit your preferred comfort level. Pilot-operated joystick controls are easy and comfortable to operate. An FNR (Forward/Neutral/Reverse) switch on the control lever facilitates easy selection of travel direction. Roller style sun screens on the front window and rear window allow the operator to reduce glare and improve visibility. Heated side mirrors feature built-in hot wires for quick defrosting during cold weather conditions.



Tilting / telescopic steering column

Wrist rest

FNR switch

Sun screen

Heated side mirrors

AM/FM Radio with MP3 / AC control

Reduced Stress

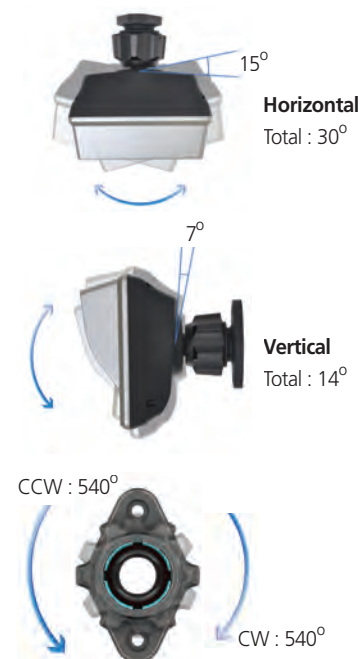
Work is stressful enough. Your work environment should be stress free. Hyundai's 9 series cabin offers lots of amenities, additional space and a comfortable seat to minimize stress to the operator. A powerful climate control system provides the operator with optimum air temperature. An advanced audio system with AM/FM stereo with MP3 interface and USB input, plus remotely located controls is perfect for listening to music favorites.

Advanced Color Monitor



The advanced new monitor with 5.7 inch wide color LCD screen allows the operator to easily and efficiently control the machine. The operator can adjust boom kick-out and bucket position via switches overhead while monitoring the adjustment settings through the monitor. An integrated load weight system that contributes to improved work efficiency, can also be viewed through the monitor. Self diagnostics, color rear-view camera maintenance check lists and start-up machine security, were integrated into the monitor to make the machine more versatile and the operator more productive. The new monitor display unit is mounted on an adjustable swivel mount to reduce glare and position according to operator preference.

Monitor Tilt Range



Precision & Performance

Innovative hydraulic system technologies make the 9 series wheel loader fast, smooth and easy to control. 9 series wheel loaders are designed for maximum performance to keep the operator working productively.



Improved Durability & Reliability



The new load sensing hydraulic system with a variable volume piston pump and closed center main control valve, provide efficient hydraulic power and additional energy savings. Service and clean-out are easier on the 9 series, now equipped with a completely redesigned, parallel-mounted, cooler configuration and non louvered fins to prevent clogging. All coolers are designed with aluminum bar plate configuration and undergo strict factory tests for thermal shock, impulse and vibration to assure long term durability. Top mounted non-louvered aluminum air condenser and variable displacement A/C compressor are designed for maximum cooling capacity, energy savings and easy clean-out. Additionally, the redesigned steering cylinder lug and bucket link, are now cast steel for additional strength and reliability.

Variable Operating Modes



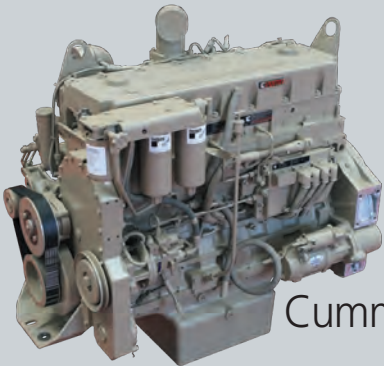
9 series wheel loaders are designed to allow the operator to customize the machine's engine power, automatic transmission shift timing and clutch cut-off activation based on the job condition and personal operator preference. Convenient rotary type switches allow for easy adjustment of engine power mode, transmission power shift mode, and clutch cut-off mode. Additionally, if equipped with the optional ride control system, the operator has the option to turn the system on or off with an overhead switch. The ride control system has a shock absorbing accumulator that cushions the boom, improves operator comfort and reduces material loss. The versatility of the 9 series operating modes contributes to improved productivity, enhanced operator comfort and reduced fuel consumption.



3 Mode Engine Power Selection
P(Power) Mode : Heavy duty work
S(Standard) Mode : General work
E(Economy) Mode : Light duty work

4 Mode Transmission Power Shift System
M(Manual) Mode
Auto L(Light) Mode : Light duty & long distance carry
Auto N(Normal) Mode : General excavating & loading
Auto H(Heavy) Mode : Heavy duty excavating & loading

3 Mode Clutch Cut-Off System
L(Low) Mode : Short distance & faster loading
M(Medium) Mode : General loading
H(High) Mode : Slope ground



Eco-friendly
Cummins QSM11 Engine

The CUMMINS QSM11 electronic control engine combines full-authority electronic controls with the reliable performance. The combination of improved airflow and evenly dispersed fuel results in increased power, improved transient response and reduced fuel consumption. And the QSM11 uses advanced electronic controls to meet the emission standards. (EPA Tier-3, EU StageIII-A)



Full Automatic
Transmission

Fully automatic transmission designed for maximum durability, Minimum power loss, improved travel speed and low noise. Improved clutch control and minimized shifting shock when traveling, contribute to a smoother ride. Error messages and transmission fault history are recorded and accessible through the monitor.

*Photo may include optional equipment.

Profitable

The 9 series is designed to maximize profitability through improved efficiencies, enhanced service features and longer life components.



Hi-mate (Remote Management System)

Hi-mate, Hyundai's proprietary remote management system, provides operators and dealer service personnel access to vital service and diagnostic information on the machine from any computer with internet access. Users can pinpoint machine location using digital mapping and set machine work boundaries, reducing the need for multiple service calls. Hi-mate saves time and money for the owner and dealer by promoting preventative maintenance and reducing machine downtime.



Remote-mounted Cooling Fan

The remote mounted, hydraulically powered cooling fan regulates fan speed according to working temperatures for coolant, intake air, transmission oil and hydraulic oil. This new fan design contributes to reduced fuel consumption and machine noise. The fan is designed to auto reverse periodically or manually reverse to keep debris from accumulating on the coolers.



Easy Access

The engine fan is integrated into the rear door which swings open to over 45 degrees for easy access and regular maintenance. Conveniently located coolant and transmission oil site gauges make checking fluid levels fast and efficient. Ground-line access to fuel and oil filters grease fittings, fuses, machine computer components and wide open compartments makes service more convenient on the 9 series.



Full Fenders and Mud Guards (Option)

9 series wheel loaders can be equipped with optional full rear fenders and front and rear mud flaps to reduce material splatter to the cab and machine frame.



Hydraulic filter
(1,000 hr)



Hydraulic Oil
(5,000 hr)

Extended Life Components

The 9 series is designed for reduced lubrication intervals and extended component life. Long life hydraulic filters now have 1,000 hours service intervals and Hyundai certified hydraulic oil can last up to 5,000 hours before changing. Also, a new center pivot roller bearing design, now double tapered, requires less maintenance as well. Long life and extended wear components save the operator time and money.

*Photo may include optional equipment.

Specifications & Dimensions

ENGINE

Maker/Model	CUMMINS QSM11
Type	4-cycle, turbocharged, charge aircooled direct injection, electronic controlled diesel engine
Gross power	348HP(260 kW) / 2,000rpm
Net power	344HP(257 kW) / 2,000rpm
Maximum torque	171kg.m(1,235 lb.ft) / 1,400rpm
No. of cylinders	6

※No derating for continuous operating required up to 3,048m (10,000ft). This engine meets the EPA(Tier III) / EU(Stage III-A) Emission regulation.

TRANSMISSION

Torque converter type	3-elements, single-stage Double-phase
Tire	29.5-25, L3

※Full automatic power shift, countershaft type with soft-shift in range and direction. Properly matched torque converter to engine and transmission for excellent working ability

Bore x Stroke	125 mm (4.9") x 147 mm (5.8")
Displacement	10.8 ℓ (660 cu in)
Compression ratio	16.3 : 1
Air cleaner	Dry, dual elements
Alternator	24V, 70 Amp
Battery	2 x 12V, 220 Ah.
Starting motor	24V, 7.5 kW

Travel speed		km/h (mph)
Forward	1st	6.1(3.8)
	2nd	11.5(7.1)
	3rd	18.0(11.2)
	4th	36.5(22.7)
Reverse	1st	6.1(3.8)
	2nd	11.5(7.1)
	3rd	25.0(15.5)

AXLES

Drive system	Four-wheel drive system
Mount	Rigid front axle and oscillating rear axle
Rear axle oscillation	± 13° (total 26°)

Hub reduction	Planetary reduction at wheel end
Differential	Front hyd. lock, rear conventional
Reduction ratio	27.0

HYDRAULIC SYSTEM

Type	Load sensing hydraulic system
Pump	Variable axial piston pump, 420 liters/min (111.0 gal/min)@governed rpm
Control valve	2 Spool (Bucket, Boom)
	3 Spool (Bucket, Boom, Aux)
	Pilot pressure controled type
System pressure	280 kgf/cm² (3,982 psi)

Bucket Controls	Type	Pilot operated lift and tilt circuit, single-lever(joystick) control standard.
	Lift Circuit	The valve has four functions ; raise, hold, lower and float. Can adjust automatic kickout from horizontal to full lift.
	Tilt Circuit	The valve has three functions ; tilt back, hold and dump. Can adjust automatic bucket positioner to desired load angle.
Cylinder		Type : Double acting Lift, bore x stroke 2-180 mm(7.0") x 863 mm(34.0") Tilt, bore x stroke HL780-9 2-140 mm(5.5") x 575 mm(22.6") HL780XTD-9 2-140 mm(5.5") x 570 mm(25.4")
Cycle Time		Raise : 6.1 sec (with load) Dump : 1.4 sec Lower : 4.1 sec (empty) Total : 11.6 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 disc brake on front axle input shaft
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	Piston, 220 liters/min (58.1 gal/min)
Relief Valve Setting	210 kg/cm²(2,990 psi)
Cylinder	Type Double acting Bore x Stroke 105mm(4.1") x 480mm(18.9")
Steering Angle	40°(each direction)

Features
- Center-point frame articulation. - Load-sensing, pressure-compensated system.
- Steering-wheel operated metering pump controls flow to steering cylinders.
- Tilt and telescopic steering column.

SERVICE REFILL CAPACITIES

Fuel tank	450 liters (118.8 USgal)
Cooling system	65 liters (17.2 USgal)
Crankcase	38 liters (10.0 USgal)
Transmission	43 liters (11.4 USgal)

OVERVIEW

Description		UNIT	HL780-9	HL780XTD-9
Operating weight		kg (lb)	30,000 (66,100)	30,800 (67,900)
Bucket capacity	Heaped	m³(yd³)	5.4 (7.1)	5.4 (7.1)
	Struck	m³(yd³)	4.6 (6.0)	4.6 (6.0)
Breakout force-bucket		kg (lb)	23,750 (52,360)	23,130 (50,990)
Tipping load	Straight	kg (lb)	24,200 (53,350)	21,500 (47,400)
	Full turn	kg (lb)	21,000 (46,300)	18,500 (40,790)

DIMENSIONS

Description		UNIT	HL780-9	HL780XTD-9
Bucket Type		General purpose bolt-on cutting edge		
A. Dumping clearance at max. height and 45° dump angle.		mm (ft-in)	3,300 (10' 10")	3,670 (12')
B. Reach	Full lift	mm (ft-in)	1,430 (4' 8")	1,480 (4' 10")
	7ft height	mm (ft-in)	2,150 (7' 1")	2,470 (7' 11")
C. Digging depth		mm (in)	105 (4.1")	115 (4.5")
D. Overall length	on ground	mm (ft-in)	9,630 (31' 7")	10,060 (33')
	at carry	mm (ft-in)	9,545 (31' 4")	9,990 (32' 9")
E. Overall height (fully raised)		mm (ft-in)	6,295 (20' 8")	6,670 (21' 11")
F. Bucket pivot max. height		mm (ft-in)	4,560 (15')	4,935 (16' 2")

Description		UNIT	HL780-9	HL780XTD-9
G. Front overhang		mm (ft-in)	3,200 (10' 6")	3,575 (11' 9")
H. Wheelbase		mm (ft-in)	3,700 (12' 2")	3,700 (12' 2")
I. Ground clearance		mm (ft-in)	495 (1' 7")	495 (1' 7")
J. Height over exhaust		mm (ft-in)	3,310 (10' 10")	3,310 (10' 10")
K. Height over cab		mm (ft-in)	3,865 (12' 8")	3,865 (12' 8")
L. Roll-back angle (on ground/at carry)		deg	42 / 48	42 / 49
M. Dump angle		deg	47	47
Clearance circle		mm (ft-in)	14,970 (49' 1")	15,310 (50' 3")
N. Overall width	with bucket	mm (ft-in)	3,450 (11' 4")	3,450 (11' 4")
	without bucket	mm (ft-in)	3,220 (10' 7")	3,220 (10' 7")