

HL780-9A

With Tier 4 Interim Engine installed

HYUNDAI HEAVY INDUSTRIES

MOVING YOU FURTHER



 **HYUNDAI**
CONSTRUCTION EQUIPMENT AMERICAS, INC.

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.

Machine Walk-Around

Reliable Main Components

Engine Technology

Proven, reliable, fuel efficient, low emission, low noise Cummins Tier 4 Interim & EU Stage IIIB QSX11.9 engine
Electronically controlled for optimum fuel to air ratio and clean, efficient combustion
HPCR (High Pressure Common Rail) fuel system / Self-diagnostic system
DPF - Clean emission aftertreatment module
3 engine modes, P (Power), S (Standard), E (Econo) for full power or reduced fuel consumption according to operator preference

Fully Automatic Transmission

4 step shift modes (manual / light / normal / heavy) for different working conditions
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

Sintered & wheel speed wet disc brake

Improved Durability

Load sensing hydraulic system with variable displacement piston pump and closed-center MCV (Main Control Valve)
Long-life cooling system with relocated cooling fan & radiator, designed for additional durability; resistant to thermal shock, impulse and vibration
Cast steel steering cylinder lug and bucket link, 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 and hands-free bluetooth
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 with Touch Screen

Easy-to-read new color LCD display equipped with natural screen movement
Newly designed multimedia function for an enjoyable work experience
Auto boom kick out and bucket positioner - fully adjustable from within the cab
Integrated load weighing 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 cooling 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

PRECISION & PERFORMANCE

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



*Photo may include optional equipment.

Improved Durability & Reliability



An enhanced axle improves driving over variable ground conditions. Self-adjusting brakes automatically regulate disc clearance, reduce service time and improve brake reliability and performance. The new load sensing hydraulic system with a variable displacement piston pump and closed center main control valve provide efficient hydraulic power and additional energy savings.

Variable Operating Modes



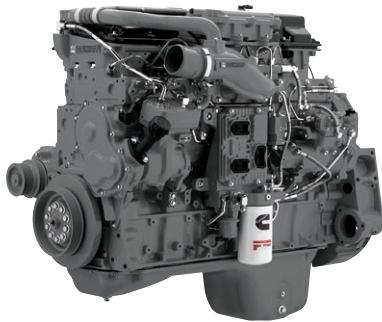
9A series wheel loaders are designed to allow the operator to customize the machine's engine power, automatic transmission shift timing and clutch cut-off activation based on the job condition and personal operator preference. Convenient rotary type switches allow for easy adjustment of the engine power mode, transmission power shift mode, and clutch cut-off mode. Additionally, the optional ride control system has shock absorbing accumulators that cushion the boom, improve operator comfort and reduce material loss. The versatility of the 9A 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

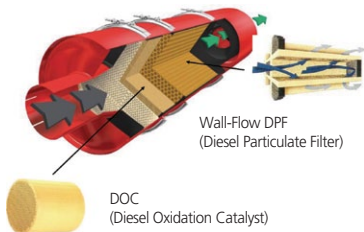
4 Mode Transmission Power Shift System
 M (Manual) Mode
 Auto L (Light) Mode : Light duty & long distance carry
 Auto N (Normal) Mode : General excavating & loading
 Auto H (Heavy) Mode : Heavy duty excavating & loading

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 QSX11.9 Engine

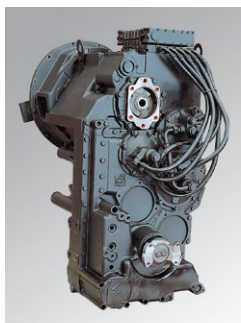
Built on a heritage of reliability and durability, Cummins QSX11.9 for Tier 4 Interim / EU Stage3-B regulations takes a major step forward with the introduction of a High Pressure Common Rail (HPCR) fuel system. This heavy-duty system delivers a constant stream of pressurized fuel across all engine rpm speeds, providing cleaner combustion and improved engine response with multiple injections every combustion cycle. The fuel system is complemented by Cummins VGT Turbocharger, which continuously varies the airflow to precisely match engine rpm and load demands for optimal performance.



DPF - Clean Emission Aftertreatment Module
 DPF - Robust Clean Emission Aftertreatment Module - contains a DOC (Diesel Oxidation Catalyst) and DPF (Diesel Particulate Filter). High efficient DPF reduces more than 90% of particulate matter. Regeneration, the process by which soot is removed from DPF, is automatically done in both passive and active way depending on the soot level and does not interrupt the daily machine operation. The operator can also initiate regeneration manually or disable regeneration on the job.



VGT (Variable Geometry Turbocharger)
 Newly designed VGT with electric actuator delivers optimum air flow resulting in cleaner exhaust gas, quick transient acceleration and improved fuel economy by combining the benefits of low & high engine speed.



Fully 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 faults are recorded and accessible through the monitor.



Complete with a New 5 Speed & Lock up Clutch (Option)
 By using the 5 speed & Lock up Clutch, the operator can enjoy both the reduction of consumption and the use of various gears depending on the working condition.

OPERATOR COMFORT

Operating a 9A 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.



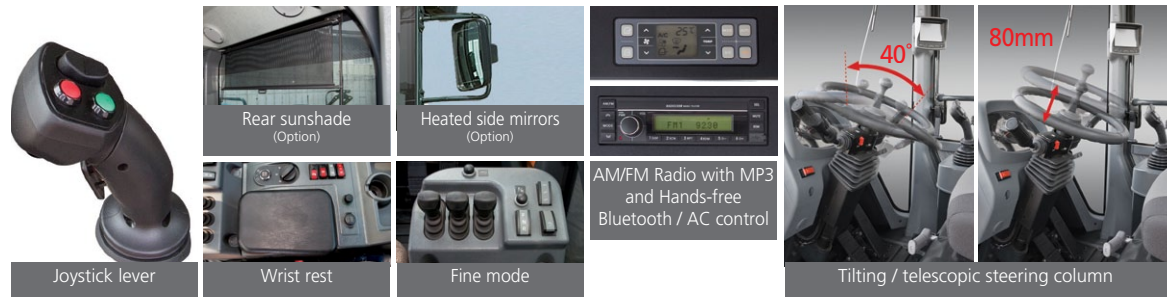
Wide and Convenient Cab

The newly designed cabin has more space, a wider field of view and operator comfort. The front windshield is rounded and 17% wider than our previous series. Special attention was given to a clean, open and convenient interior with wide visibility of the machine surroundings and the job at hand. This well-balanced combination of cab ergonomics puts the operator in a perfect position to work safely and conveniently. The 9A 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 at the front and rear windows and the PTC (electric pre-heater) makes working in cold weather more comfortable.

Operator Comfort

on the front and rear window allow the operator to reduce glare and improve visibility. Heated side mirrors feature built-in hot wires for quick defrosting in cold weather conditions.

In the 9A series cabin you can easily adjust the steering column and wrist rest to best suit your preferred comfort level. Electro-Hydraulic lever controls for light and tilt function are easy and comfortable to operate. A FNR (Forward/Neutral/Reverse) switch on the control lever facilitates easy selection of travel direction. Roller sunshades



Reduced Stress

Hyundai's 9A series cabin offers many amenities, additional space and a comfortable seat to minimize stress of the operator. A powerful climate control system provides the operator with optimum air temperature. An advanced audio system with AM/FM stereo, MP3 interface and USB input, plus remotely located controls, is perfect for listening to your favorite music.

Smart Key System (Option)



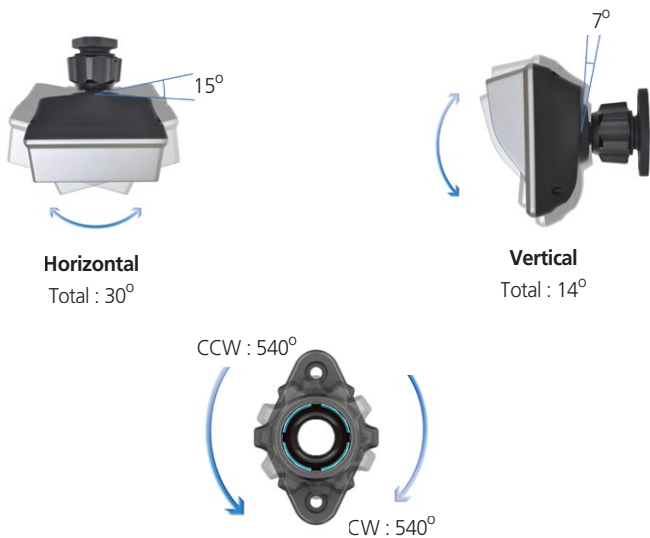
9A series excavators provide smart key system as an option. This allows the operator to start the engine by the push of a starter button without inserting a key in the ignition.

Advanced Color Monitor



The advanced new monitor with 5.7-inch wide color LCD with touch screen allows the operator to easily and efficiently control the machine. The operator can adjust boom kick-out and bucket position via overhead switches while monitoring the adjustment settings through the monitor. An integrated load weighing 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 to reduce glare and position according to operator preference. Also, the newly designed multimedia menu provides a music & video player function for an enjoyable work experience.

Monitor Tilt Range



PROFITABILITY

9A 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. The fan drive with variable piston pump contributes to reduce fuel consumption and improve cooling capacity. The fan is designed to auto reverse periodically or manually reverse to keep debris from accumulating in the coolers.



Easy Access

The tilting transmission and hydraulic oil coolers swing open for easy access and regular maintenance, and the rear door can be open over 90 degrees. Conveniently located 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 in the 9A series.

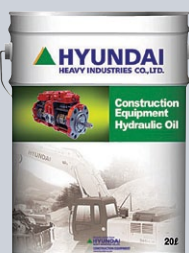


Full Fenders and Mud Guards (Option)

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



Hydraulic filter
(1,000 hr)



Hydraulic Oil
(5,000 hr)

Extended Life Components

The 9A series is designed for longer 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.

Specifications & Dimensions

ENGINE

Maker/Model	CUMMINS QSX11.9	Bore x Stroke	130 mm x 150 mm
Type	Watercooled, 4-cycle, turbocharged, charge aircooled direct injection, electronic controlled diesel engine	Displacement	11.9ℓ (726 cu in)
Gross power	355HP (265 kW) / 2,000rpm	Compression ratio	16.6 : 1
Net power	351HP (262 kW) / 2,000rpm	Air cleaner	Dry, Two stages dual elements
Maximum torque	173kg.m (1,250 lb.ft) / 1,400rpm	Alternator	24V, 80 Amp
No. of cylinders	6	Battery	2 x 12V, 220 Ah.
		Starting motor	24V, 7.5 kW

※This engine meets the EPA (Tier 4 Interim) / EU (Stage III-B) Emission regulation.

TRANSMISSION

Torque converter type	3-elements, single-stage Double-phase	Travel speed	km/h (mph)
Tire	29.5-25, L3	Forward	
		1st	6.1 (3.8)
		2nd	11.4 (7.1)
		3rd	17.9 (11.1)
		4th	36.0 (22.4)
		Reverse	
		1st	6.1 (3.8)
		2nd	11.4 (7.1)
		3rd	24.8 (15.4)

※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

AXLES

Drive system	Four-wheel drive system	Hub reduction	Planetary reduction at wheel end
Mount	Rigid front axle and oscillating rear axle	Differential	Front hyd. lock, rear conventional
Rear axle oscillation	±13° (total 26°)	Reduction ratio	27.0

HYDRAULIC SYSTEM

Type	Load sensing hydraulic system	Bucket Controls	Type	Electro-Hydraulic control system.
Pump	Variable axial piston pump, 420 liters/min (111.0 gal/min) @governed rpm		Lift Circuit	The valve has four functions; raise, hold, lower and float. Can adjust automatic kickout from horizontal to full lift.
Control valve	2 Spool (Bucket, Boom) 3 Spool (Bucket, Boom, Aux)		Tilt Circuit	The valve has three functions; tilt back, hold and dump. Can adjust automatic bucket positioner to desired load angle.
System pressure	280 kgf/cm ² (3,982 psi)	Cylinder	Type : Double acting Lift, bore x stroke 2-180 mm (7.0") x 863 mm (34.0") Tilt, bore x stroke HL780-9A 2-140 mm (5.5") x 575 mm (22.6") HL780XTD-9A 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/cm ² (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	43 liters (11.0 USgal)
Transmission	43 liters (11.4 USgal)

Front axle	58 liters (15.3 USgal)
Rear axle	58 liters (15.3 USgal)
Hydraulic tank	234 liters (62 USgal)
Hydraulic system (including tank)	344 liters (90.8 USgal)

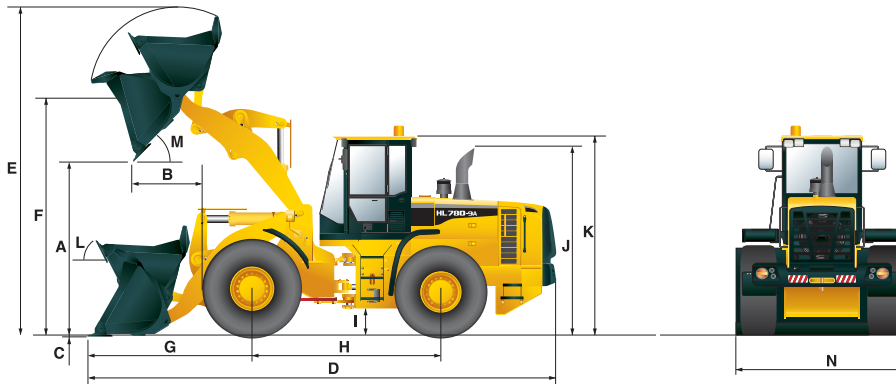
OVERVIEW

Description	UNIT	HL780-9A	HL780XTD-9A
Operating weight	kg (lb)	30,300 (66,800)	31,100 (68,560)
Bucket capacity	Heaped m ³ (yd ³)	5.4 (7.1)	5.4 (7.1)
	Struck m ³ (yd ³)	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)	23,960 (52,820)	21,740 (47,930)
	Full turn kg (lb)	20,840 (45,940)	18,800 (41,450)

TIRES

Type	Tubeless, loader design tires
Standard	29.5-25, 22 PR, L3
Options include	26.5-25, 32 PR, L3 29.5-25, 28 PR, L3 29.5-25, 28 PR, L5 29.5 R25 XHA*

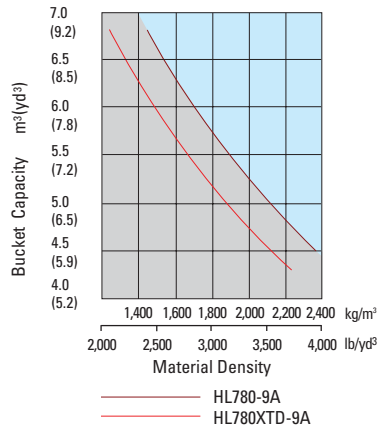
DIMENSIONS



Description	UNIT	HL780-9A	HL780XTD-9A
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	HL780-9A	HL780XTD-9A
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)	3,740 (12' 2")	3,740 (12' 2")
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")

BUCKET SELECTION GUIDE



SUPPLEMENTAL SPECIFICATIONS

Description	Change in operating weight kg (lb)	Change in static tipping load-straight kg (lb)	Change in static tipping load-40° turn kg (lb)
26.5-25 32PR L3	-112 (-247)	-90 (-200)	-80 (-175)
29.5-25 28PR L3	+352 (+776)	+270 (+595)	+240 (+530)
29.5-25 28PR L5	+1,240 (+2,734)	+960 (+2,160)	+850 (+1,870)
29.5 R25 XHA*	+500 (+1,102)	+390 (+860)	+340 (+750)

STANDARD EQUIPMENT

Electrical system

- Alternator, 70A
- 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
- Alarm, back-up
- 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
- LCD Display
 - clock and fault code
 - operating hour counter
 - engine rpm
 - transmission gear range indicator
 - job time and distance

- temperature (coolant, hydraulic oil, 1/m oil)
- Lighting system
 - 1 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
 - battery 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 (1 inside)
- Rear view mirrors (2 outside)
- 2" retractable seat belt & adjustable suspension seat with armrests
- Steering column, tilt and telescopic
- Steering wheel with knob
- Roller sunshade (front window)
- Tinted safety glass
- Two door cab
- Magazine pocket
- Pedals
 - one accelerator pedal
 - one brake pedal
- Radio / USB player (Bluetooth hands-free)
- Rubber floor mat
- Wrist rest

Engine

- Antifreeze
- Engine, Cummins QSX11.9
 - Low Emission Diesel, Tier 4 Interim, Stage III-B
- Engine enclosure, lockable
- Fan guard
- 3 operating mode (power / standard / econo)

- Fuel / water separator
- Fuel warmer
- DPF. Under Hood with exhaust stock
- Direct airflow filter
- Radiator
- Starting aid (air intake heater)

Power Train

- Brakes : Service, enclosed wet-disc
- Differentials, Hydraulic lock - front, conventional - rear
- Parking brake
- Torque converter
- 4 Speed transmission, computer-controlled
- Electronic soft shift, auto-shift and kick-down features included
- Transmission oil cooler

Hydraulics

- Boom kickout, automatic
- Bucket positioner, automatic
- Diagnostic pressure taps
- Hydraulic oil cooler
- Hydraulic system,
 - 2 spool, electro-Hydraulic Controls for boom and bucket actuation
- Steering, load-sensing
- Remote cooling fan (reversible), 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 / rear)
- Guards
 - bucket cylinder rod
 - crankcase
 - transmission
- 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 sight gauge
- Vandalism protection caplocks

OPTIONAL EQUIPMENT

- 24-volt to 12-volt DC converter
- 3-spool valve with lever and piping
- Beacon light, rotating
- Auxiliary, 2 working lights on front roof (Xenon working lights)
- Auxiliary, 2 working lights on rear roof
- Cutting edge, bolt-on type
- Dual brake pedal
- Secondary steering system
- Mud guard

- Fire extinguisher
- High lift arrangement with additional counterweight, 552kg (1,210lb)
- Operator suit
- Pallet forks
- Heated rear view mirrors (2 outside)
- Ride control system
- Seat

- 2" static seat belt & adjustable mechanical suspension (vinyl)
- 3" static seat belt & adjustable mechanical suspension
- 2" retractable seat belt & adjustable air suspension (heated)
- Tires :
 - 29.5 - 25, 28PR L3
 - 29.5 - 25, 28PR L5
 - 26.5 - 25, 32PR L3

- 29.5 R25 XHA*
- Tool kit
- Tooth, 2 pieces, bolt-on type
- Wheel chock
- Joystick-steering
- Roller sunshade (rear window)
- License plate & lamp
- Hi-Mate (Remote Management System)
- Rearview camera

- Marble application kit
- Heavy duty axle (Front, Rear)
- Axle cooling system
- 5 speed & lock-up clutch transmission
- Ignition key (Button type)
- Smart key

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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