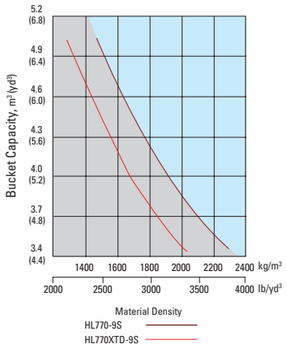
## BUCKET SELECTION GUIDE




## 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) |
|---|---|---|---|
| 23.5-25 20PR L3 | -472 (-1041) | -350 (-770) | -310 (-680) |
| 26.5-25 28PR L3 | -4 (-9) | -3 (-7) | -2 (-4) |
| 26.5-25 32PR L3 | +164 (+362) | +120 (+265) | +110 (+240) |
| 26.5 R25 XHA* | +108 (+238) | +80 (+175) | +70 (+155) |

## 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, 1000 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, t/m oil)
Lighting system
- 1 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
- 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
Starter, electric
Starting and charging system(24-volt)

**Cab**
Cab (sound suppressed and pressurized) with :
- cigar lighter
- 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'' static seat belt & mechanical suspension seat with armrests
Steering column, tilt
Steering wheel with knob
Roller type sunshade (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

**Engine**
Antifreeze
Engine, HYUNDAI HE8.9
- Low Emission Diesel, Tier3
Engine enclosure, lockable
Engine fuel priming pump(Electric)
3 operating mode
(power / standard / econo)
Fan guard
Fuel/water separator
3rd fuel pre filter
Muffler, under hood with large exhaust stack
Rain cap, engine air intake
Radiator
Starting aid (air intake heater)
Water sensor on fuel filter

**Power Train**
Brakes : Service, enclosed wet-disc
Parking brake
Torque converter
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, single lever, pilot control for boom and bucket actuation
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 / rear)
Hydraulic oil level sight gauge
Lift and tie-down hooks
Loader linkage, sealed
Z-Bar design
Tires (26.5-25, L3, 20PR)
Transmission oil site level
Vandalism protection caplocks
Roller type sunshade (rear window)

## OPTIONAL EQUIPMENT

24-volt to 12-volt DC converter
3 Spool
Climate control
- air conditioner only
- heater only
Beacon light, rotating
Auxiliary, 2 working lights on front roof
Auxiliary, 2 working lights on rear roof
Cutting edge, bolt-on type
Secondary steering system
Fire extinguisher
Guard
- Transmission
High lift arrangement with Optional counterweight, 1800kg (3,970lb)
Hydraulic control, 2 lever
Hydraulic control, 3 lever
3rd spool for auxiliary function
Extrapiping for auxiliary function
Mud guard
Operator suit
Pallet forks
Heated rear view mirrors (2 outside)
Reversible cooling fan
Ride control system
Seat
- 2" static seat belt & adjustable mechanical suspension (vinyl)
- 3" retract seat belt & adjustable mechanical suspension
- 3'' retractable seat belt & adjustable air suspension (heated)
Steering column, tilt and telescopic
Roller type sunshade(rear window)
Cab, ROPS/FOPS
Tires :
- 23.5 - 25, 20PR, L3
- 26.5 - 25, 28PR, L3
- 26.5 - 25, 32PR, L3
- 26.5 - 25, 20PR, L3
- 26.5 - 25, 20PR, L5
- 26.5 R25, L3*
- 26.5 R25 XHA*
Tool kit
Tooth, 1 piece, bolt-on type
Tooth, 2 pieces, bolt-on type
Wheel chock
Pre-cleaner, engine air intake
License plate & lamp
Hi-Mate(Remote Management System)
Rearview camera
Limited slip differential
Quick coupler piping
Central lubrication system
Autogrease system
Fuel Warmer

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**

www.hyundai-ce.com 2016. 01 Rev. 3

HYUNDAI HEAVY INDUSTRIES | CONSTRUCTION EQUIPMENT

**Head Office** (Sales Office)
18TH Fl., DIGITAL CUBE BLDG. 34, SANGAMSAN-RO, MAPO-GU, SEOUL 121-904, KOREA
**TEL:** 82–2–6424–1118 **FAX:** 82-2-6424-1129

999009-502280

We build a better future

# HL770-9S

With Tier 3 Engine installed

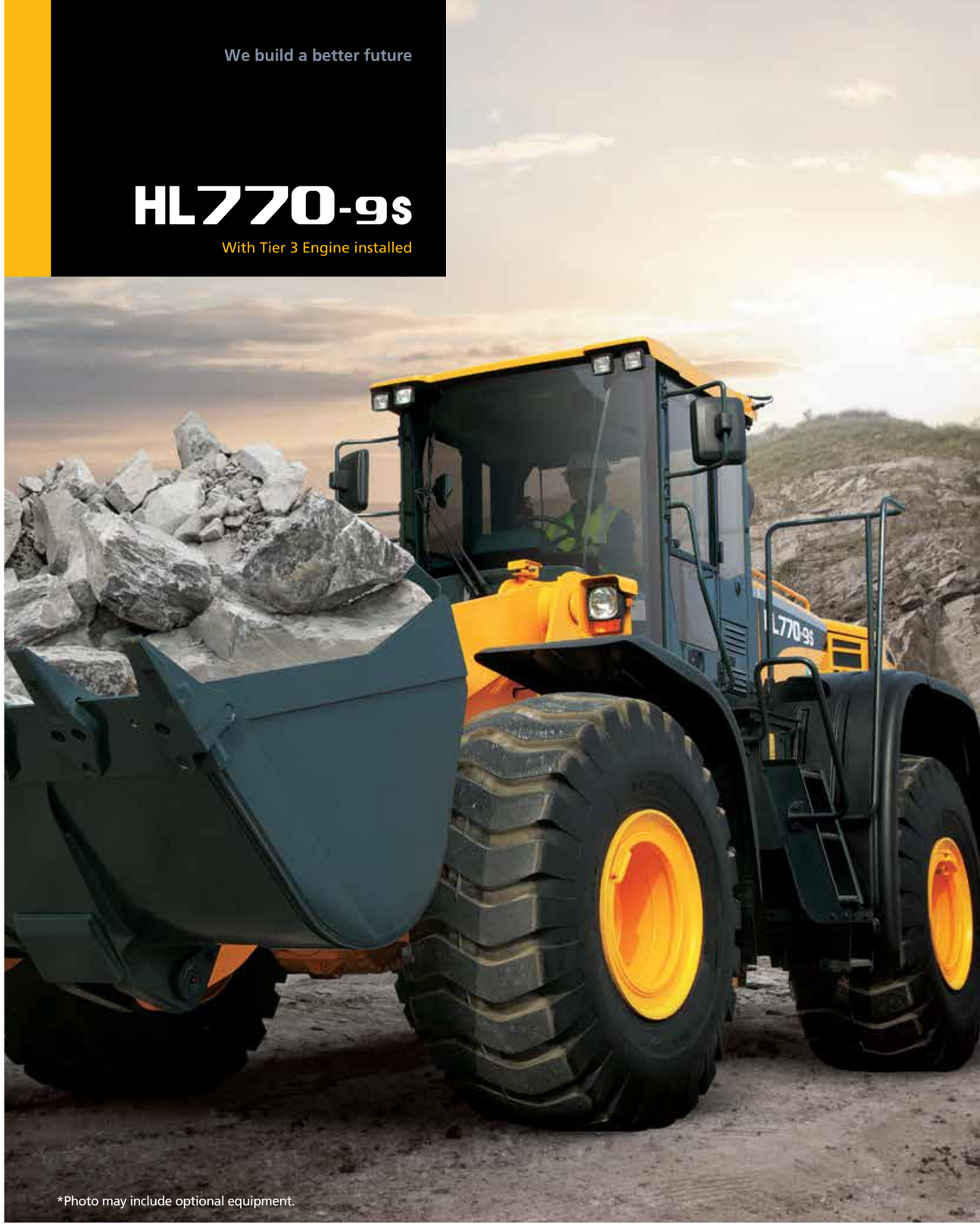



*Photo may include optional equipment.

HYUNDAI HEAVY INDUSTRIES

# 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.

# HL770-9S

## Machine Walk-Around

### Reliable Main Components

**Engine Technology**
Well proven, reliable, fuel efficient, low noise HYUNDAI Tier-III HE8.9 engine.
3 operating mode (Power / Standard / Econo).

**Fully 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

**Axle**
Self-adjusting & wheel speed wet disc brake

### Improved Durability

Long-life cooling system, designed for additional durability, resistant to thermal shock, impulse and vibration.

### 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, non-slip for safer access and exit from the cab.

**Advanced 5.7'' Color Monitor**
Easy-to-read new color LCD display.
Self diagnostic & monitoring system with active display of hydraulic system, transmission and electrical component information.
Color, rear-view, back-up camera for improved safety and convenience.

### 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.

# Operator Comfort

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

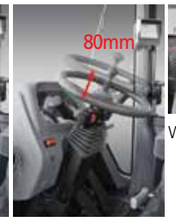
*Photo may include optional equipment.

### Wide and Convenient Cab

The newly designed cabin was conceived for more space, a wider field of view and operator comfort. The front glass 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 9S 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, Option) make working in cold weather more hospitable.

## Operator Comfort

In the 9S 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. Roller type sunshades on the front 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(OPT)

Wrist rest

Joystick lever

Front sunshade

Side mirrors

AM/FM Radio with MP3/ AC control

## Reduced Stress

Work is stressful enough. Your work environment should be stress free. Hyundai's 9S 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.

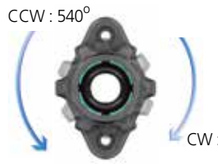
## Advanced Color Monitor

The advanced new monitor with 5.7 inch wide color LCD screen allows the operator to easily and efficiently control the machine. 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

**Horizontal**
Total : 30°

**Vertical**
Total : 14°



# Precision & Performance

Innovative hydraulic system technologies make the 9S series wheel loader fast, smooth and easy to control. 9S series wheel loaders are 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 that automatically regulate disc clearance, reduce service time and improve brake reliability and performance. Service and clean-out are easier on the 9S 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.

## Variable Operating Modes

9S series wheel loaders are designed to allow the operator to customize 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 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 9S series operating modes contributes to improved productivity, enhanced operator comfort and reduced fuel consumption.

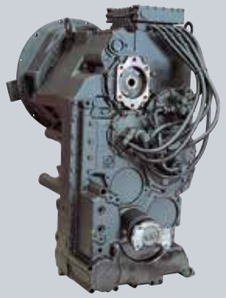
**3 Mode Engine Power Selection**
P(Power) Mode : Heavy duty work
S(Standard) Mode : General work
E(Economy) Mode : Light duty work

**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 HYUNDAI HE8.9

Hyundai HE8.9 engine meets all current Tier3 / Stage3 standards. Hyundai HE8.9 engines have been proven durable and reliable in some of the most remote locations and harshest working environments in the world.
A robust in-line fuel pump delivers more power at high injection pressure for cleaner combustion and lower emission. Holset HX40W Turbo wastegated design optimizes response across the torque curve.



## 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 fault history are recorded and accessible through the monitor.

# Profitability

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

*Photo may include optional equipment.

## 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.

## Easy Access

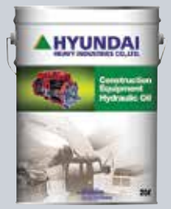
The engine fan is integrated into the rear door which swings open to over 45 degrees for easy access and regular maintenance. Conveniently located coolant and transmission oil site gauges make checking fluid levels fast and efficient. Ground-line access to fuel and oil filters grease fittings, fuses,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

## 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. (Option: The fan is designed to auto reverse periodically or manually reverse to keep debris from accumulating on the coolers)

## Full Fenders and Mud Guards (Option)

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




Hydraulic Oil
(5,000 hr)

## Extended Life Components

The 9S series is designed for longer lubrication intervals and extended component life. 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** | HYUNDAI HE 8.9 |
| **Type** | Watercooled, 4-cycle, turbocharged, charge aircooled direct injection, electronic controlled diesel engine |
| **Gross power** | 280HP(209 kW) / 2,000rpm |
| **Net power** | 266HP(198 kW) / 2,000rpm |
| **Maximum torque** | 148kg.m(1,070 lb.ft) / 1,400rpm |
| **No. of cylinders** | 6 |

| | |
|---|---|
| **Bore x Stroke** | 114 mm (4.5") x 145 mm (5.7") |
| **Displacement** | 8.9 ℓ (543 cu in) |
| **Compression ratio** | 17.8 : 1 |
| **Air cleaner** | Dry, two stage dual elements |
| **Alternator** | 24V, 70 Amp |
| **Battery** | 2 x 12V, 160 Ah. |
| **Starting motor** | 24V, 7.8 kW |

※No derating for continuous operating required up to 1,829m (6,000ft). This engine meets the EPA(Tier Ⅲ) / EU(Stage Ⅲ-A) Emission regulation.

## TRANSMISSION

| | |
|---|---|
| **Torque converter type** | 3-elements, single-stage single-phase |
| **Tire** | 26.5-25, L3, 20PR |

※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

| **Travel speed** | | **km/h (mph)** |
|---|---|---|
| **Forward** | 1st | 6.9(4.3) |
| | 2nd | 12.1(7.5) |
| | 3rd | 25.8(16.0) |
| | 4th | 38.0(23.6) |
| **Reverse** | 1st | 6.9(4.3) |
| | 2nd | 12.1(7.5) |
| | 3rd | 25.8(16.0) |

## AXLES

| | |
|---|---|
| **Drive system** | Four-wheel drive system |
| **Mount** | Rigid front axle and oscillating rear axle |
| **Rear axle oscillation** | ±11° (total 22°) |

| | |
|---|---|
| **Hub reduction** | Planetary reduction at wheel end |
| **Differential** | Conventional |
| **Reduction ratio** | 23.334 |

## HYDRAULIC SYSTEM

| | |
|---|---|
| **Type** | Open-centered, tandem circuit system |
| **Pump** | Vane type, 396 liters/min (104.6 gal/min)@gal/min |
| **Control valve** | 2 Spool (Bucket, Boom)<br>3 Spool (Bucket, Boom, Aux)<br>Pilot pressure controled type |
| **System pressure** | 210 kgf/cm² (2,990 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<br>No. of cylinders-bore x stroke;<br>2-180 mm x 765 mm<br>1-200 mm x 570 mm |
| **Cycle Time** | | Raise : 5.7 sec<br>Dump : 1.4 sec<br>Lower : 2.7 sec<br>Total : 9.8 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** | Articulated steering |
| **Pump** | Vane, 251 liters/min (66.3 gal/min) |
| **Relief Valve Setting** | 210 kg/cm²(2,990 psi) |
| **Cylinder** Type | Double acting |
| Bore x Stroke | 100mm(3.7") x 480mm(18.9") |
| **Steering Angle** | 40°(each direction) |

Features
- Center-point frame articulation.
- Tilt and telescopic steering column.

## SERVICE REFILL CAPACITIES

| | |
|---|---|
| **Fuel tank** | 362 liters (95.6 USgal) |
| **Cooling system** | 56 liters (14.8 USgal) |
| **Crankcase** | 23 liters (6.1 USgal) |
| **Transmission** | 43 liters (11.4 USgal) |

| | |
|---|---|
| **Front axle** | 51 liters (13.5 USgal) |
| **Rear axle** | 40 liters (10.6 USgal) |
| **Hydraulic tank** | 185 liters (48.9 USgal) |
| **Hydraulic system** (including tank) | 295 liters (77.9 USgal) |

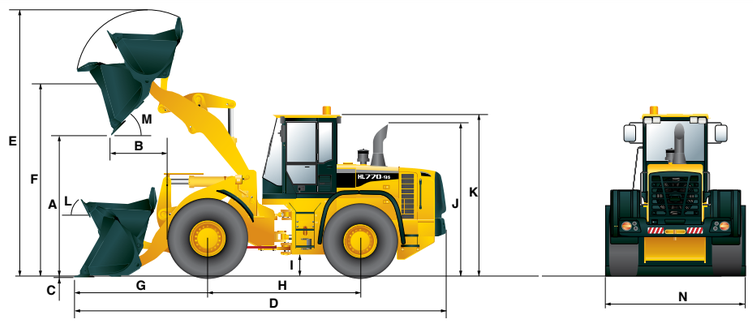
## OVERVIEW

| Description | | UNIT | HL770-9S | HL770XTD-9S |
|---|---|---|---|---|
| Operating weight | | kg (lb) | 22,500 (49,600) | 23,250 (51,260) |
| Bucket capacity | Heaped | m³(yd³) | 4.0 (5.2) | 4.0 (5.2) |
| | Struck | m³(yd³) | 3.45 (4.5) | 3.45 (4.5) |
| Breakout force-bucket | | kg (lb) | 20,760 (45,770) | 20,430 (45,040) |
| Tipping load | Straight | kg (lb) | 17,400 (38,360) | 15,660 (34,520) |
| | Full turn | kg (lb) | 14,950 (32,960) | 13,360 (29,450) |

## TIRES

| | |
|---|---|
| **Type** | Tubeless, loader design tires |
| **Standard** | 26.5-25, L3, 20PR |
| **Options include** | 26.5 R25 XHA*<br>26.5-25, 28 PR, L3<br>26.5-25, 32 PR, L3<br>23.5-25, 20 PR, L3<br>26.5-25, 20 PR, L3<br>26.5-25, 20 PR, L5<br>26.5 R25, L3* |

## DIMENSIONS




| Description | | UNIT | HL770-9S | HL770XTD-9S |
|---|---|---|---|---|
| Bucket Type | | | General purpose bolt-on cutting edge | |
| A. Dumping clearance at max. height and 45° dump angle. | | mm (ft-in) | 3,117 (10' 3") | 3,570 (11' 9") |
| B. Reach | Full lift | mm (ft-in) | 1,254 (4' 1") | 1,260 (4' 2") |
| | 7ft height | mm (ft-in) | 1,890 (6' 2") | 2,250 (7' 5") |
| C. Digging depth | | mm (in) | 98 (3.9") | 130 (5.1") |
| D. Overall length | on ground | mm (ft-in) | 8,650 (28' 5") | 9,135 (30' 0") |
| | at carry | mm (ft-in) | 8,550 (28' 1") | 9,050 (29' 8") |
| E. Overall height (fully raised) | | mm (ft-in) | 5,870 (19' 3") | 6,320 (20' 9") |
| F. Bucket pivot max. height | | mm (ft-in) | 4,310 (14' 2") | 4,760 (15' 7") |

| Description | | UNIT | HL770-9S | HL770XTD-9S |
|---|---|---|---|---|
| G. Front overhang | | mm (ft-in) | 2,940 (9' 8") | 3,350 (12' 0") |
| H. Wheelbase | | mm (ft-in) | 3,440 (11' 3") | 3,440 (11' 3") |
| I. Ground clearance | | mm (ft-in) | 480 (1' 7") | 480 (1' 7") |
| J. Height over exhaust | | mm (ft-in) | 3,150 (10' 4") | 3,150 (10' 4") |
| K. Height over cab | | mm (ft-in) | 3,590 (11' 9") | 3,590 (11' 9") |
| L. Roll-back angle (on ground/at carry) | | deg | 44 / 49 | 44 / 50 |
| M. Dump angle | | deg | 48 | 48 |
| Clearance circle | | mm (ft-in) | 13,990 (45' 11") | 14,340 (47' 1") |
| N. Overall width | with bucket | mm (ft-in) | 3,100 (10' 2") | 3,100 (10' 2") |
| | without bucket | mm (ft-in) | 3,100 (10' 2") | 3,100 (10' 2") |