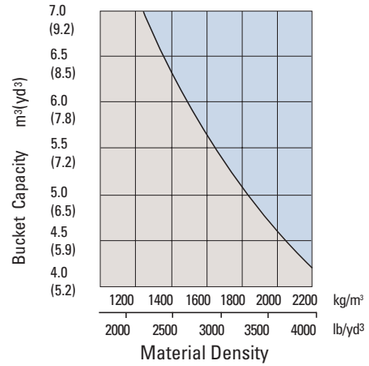
Bucket Selection Guide



Supplemental Specifications

	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 tires	-112 (-247)	-84 (-184)	-74 (-163)
29.5-25 28PR L3 tires	+352 (+776)	+263 (+579)	+232 (+511)
29.5-25 28PR L5 tires	+1240 (+2734)	+925 (+2039)	+817 (+1801)
29.5 R25 XHA★ tires	+500 (+1102)	+373 (+822)	+329 (+726)

Standard Equipment

Adjustable steering column shaft
Air cleaner, double-element type (dry type with dust valve)
Alarm, back-up
Alternator, 70A
Anti- freeze
Automatic boom kickout
Automatic bucket positioner
Batteries. 2 x 12V x 200 AH
Boom lock safety valve
Brake system, includes
- Service, enclosed wet-disc
- Parking, disc type on front axle

Cab(ROPS/FOPS) includes
- Dome light
- Rear view mirrors, two inside
- Rear view mirrors, two outside

Counterweight
Cup holder
Lighter & ashtray
Drawbar, fixed
Electrical system
Alarms, audible and visual
- Air filter clogging
- Engine water temperature
- Hydraulic oil temperature
- Low alternator voltage
- Low brake oil pressure
- Low transmission oil pressure
- Parking brake

Gauges
- Engine water temperature
- Fuel level
- Speedometer
- Voltmeter
- T/M oil temp gauge

Indicator lights
- High beam
- Turn signals
- Lights
- Two cabin lights
- Two head lights
- Two rear lights
- Two stop, and tail lights
- Four turn signal

Switches
- Buzzer stop
- Clutch cut-off
- Emergency travel
- Hazard
- Head light
- Illumination
- Parking
- Rear washer
- Rear wiper
- Work light

Fan, blower
Fan guard
Fenders, front and rear
Frame lock
Horn, electric
Intermittent wiper and washers
Intake air heater
Hour meter
Sun visor
Ladders, left and right
License plate light
Master switch
Muffler
Radiator
Hydraulic oil cooler
Transmission oil cooler
External axle oil cooler
Seat
- Adjustable deluxe suspension
- Cloth seat with armrests
- Seat belt

Wrist rest
Steering knob
Differential
- Front axle (limited slip)
- Rear axle (limited slip)

Tires(29.5-25, 22PR L3)
2 spool, single lever, pilot control for boom and bucket actuation
Under guard

Optional Equipment

Air conditioner with heater & defroster
Canopy (ROPS/FOPS)
Emergency steering system
Radio cassette player
Rotation beacon
Fire extinguisher
Seat, adjustable vinyl
Ride control system
Sliding door window
Cutting edge, bolt-on type
Tooth, bolt-on type
Tires
- 29.5-25 28PR L3
- 29.5-25 28PR L5
- 26.5-25 32PR L3
- 29.5 R25 XHA*

Tool kit
Valve, 3-spool
Two lever
Fuel warmer

Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine shown may vary according to International standards. All US measurment rounded off to nearest pounds or inches.

HYUNDAI
HEAVY INDUSTRIES CO.,LTD.
CONSTRUCTION EQUIPMENT DIVISION

HEAD OFFICE 1 CHEONHA - DONG, DONG-KU, ULSAN, KOREA
(Sales Office) TEL : (82)(52)230 - 2114 FAX (82)(52)230-7979
U.S. Operation 955 ESTES AVENUE ELK GROVE VILLAGE IL., 60007
TEL : (1)847 - 437 - 3333 FAX : (1)847 - 437 - 3574
European Operation VOSSENDAAL 11, 2440 GEEL, BELGIUM
TEL : (32)14 - 562200 FAX : (32)14 - 593405 ~ 06

PLEASE CONTACT
ООО "Техномир"
664024 Россия, Иркутская область,
г. Иркутск, ул. Трактовая, д.18а оф.12.
www.hyundai-mir.ru
(3952) 722-735, (3952) 722-745, (3952) 722-785

www.hyundai-ce.com 2003. 12 Rev 4

Building a better future
Global Leader

www.hyundai-ce.com

HL780-3A

HYUNDAI WHEEL LOADER

- **CUMMINS QSM11-C ENGINE**
- Gross Power : 250 kW/335 HP
- Flywheel (Net) : 239 kW/320 HP
- Bucket capacities : 4.3 to 5.1 m³ (5.6 to 6.7 yd³)
- Operating Weight : 29,300 kg (64,590 lb)

■ Photo may include optional equipment.

HYUNDAI
HEAVY INDUSTRIES CO.,LTD.

Hardworking Hyundai Loaders

Wheel Loader HL780-3A

You can meet the new generation wheel loader in Hyundai.

The HL780-3A will give you the satisfaction in higher power, lower fuel consumption, more comfort and, lower emission compared with before.

Come experience what Hyundai has created for you by bringing together great power and up-to-the-minute technology.

■ Photo may include optional equipment.

The all-new, deluxe operating space was engineered with 3-D modeling to be your ultimate control center. The wide, tinted and laminated front windshield has no framing cutting through to ensure excellent visibility. The extra window under the door of the ROPS cab enhances all-around visibility.

Control Center

■ Photo may include optional equipment.

A Electronic engine dignostic function
The check lamps for engine indicate the dignostic error codes as well as the maintenance warning signal for oil filter.

B Full automatic shift lever
A single lever on the left side of the steering column gives the operator fast, easy control of speed and direction. Push the lever forward to go forward, pull it back for reverse. Travelling is automatically changed from 1st stage to given stage according to travel speed and tractive effort. If operator wants, this automatic control can be changed to manual control. This exclusive feature contributes to a step-up in productivity and reduction of operator fatigue.

C Joystick control lever
Two kickdown switches located on top of the loader control lever and the gear shifting lever allow the operator to change instantly to 1st stage lower gear, in order to drive at full power into the material.

D The centralized electronic monitoring system & attached instrument panel
E
The centralized electronic monitoring system shows the status and conditions of your machine at a glance.
Easy-to-read gauges and adjustable tilt-steering with an attached instrument panel provide constant, and accurate information.

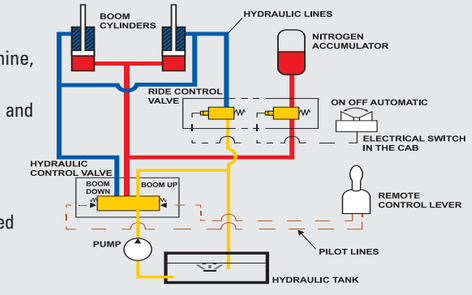
F T/M Display
The transmission display indicates speed and driving direction as well as the diagnostic error codes.

G The air conditioning and heating system
H
The operator can easily control the temperature and air flow with a dial switch similar to what found in normal passenger cars. The defroster on the front windshield and rear window makes it convenient for winter working usage.

Ride control system (optional)

The ride control system is available for smooth travelling as option.
It significantly reduces machine bouncing and absorbs the shocks in the machine, enhancing the productivity of the machine.
This system reduces the fatigue of the driver as well as the stress on the structures and components.

1. Off position : Function is cancelled
2. Auto position : Function is available when the machine travels above 9.5 km/hr. If the machine travels under 8km/hr(5.0mph), the function is cancelled automatically.
3. On position : Function is available regardless of the speed.



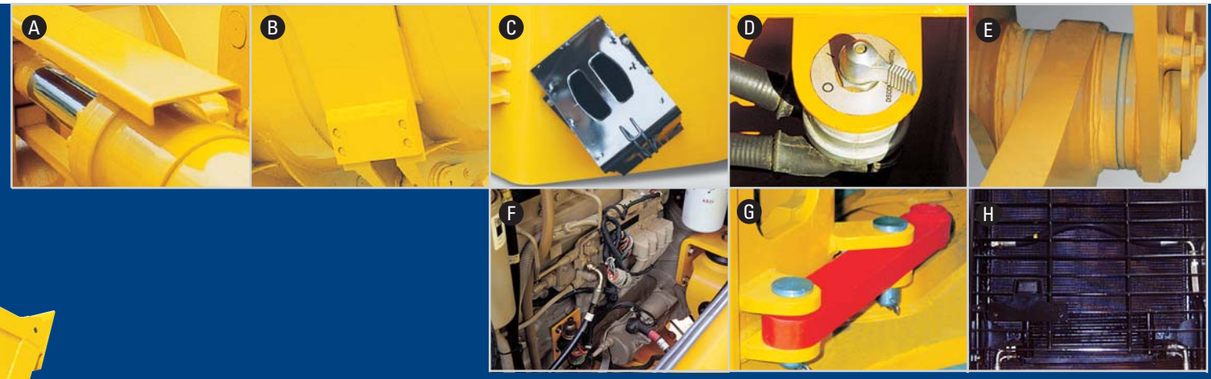
Engine

The CUMMINS QSM11-C 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-C used advanced electronics controls to meet the thoughts emission standards (EPA TierⅡ, EU StageⅡ)

■ Photo may include optional equipment.

Transmission

The newly developed transmission control represents the beating heart of the Ergopower transmission. The hydraulic system for gearshifts is working with proportional valves, which allow a very precise control of the clutches. For each gear change, the control unit performs a monitoring function to ensure the specified shift curve is adhered to, and readjusts the shift pressure applied to the clutches accordingly. This results in smooth gearshifts-even under load-with no traction interrupt.This helps to avoid standstill of the vehicle, sudden load changes and torque peaks under all conditions, for example application on steep terrain with full load. In addition, there is the option for the driver to make gearshifts manually.



A Well Rounded System

A Bucket cylinder guard
This guard helps to prevent possible damage from load material.

B Wear plate
This close up shows the protective plating found underneath the rear of the bucket and is used to prevent excess wear when digging into material.

C Wheel choke
A wheel stop wedge is added as standard equipment to prevent machine movement and ensure safety when the loader is not to use.

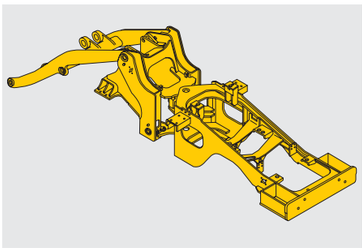
D Battery master switch
A master switch disconnects the battery power to protect the electrical system from excess electrical drainage.

E Sealed loader linkage
Fully protected fitting is and the sealed loader linkage with dust seals and o-ring will extend lubrication intervals remarkably.

F Waterproofed elcetric connector
The HL780-3A electric harness with waterproofed connectors has been enhanced to meet the rugged demands of earthmoving equipment. The material of the wire harness is adapted and proven AVSS (the very thin, low voltage cables used in automobiles).

G Frame lock
Machine can be locked by this locking bar to prevent movement during transportation.

H External axle oil cooler
The external axle oil cooler has been installed on rear side of cooling system for durability of axles.



High-rigidity frames
Front and rear frames are designed for work in the toughest applications to provide high rigidity for the power train and loader equipment. The high-rigidity frames, together with the reinforced loader linkage, resist loading stress and shock.

Easy Access to All Engine Accessary

Here you find the engine oil check, and the main and pre-filters. The large access engine side panels permit easy and safe inspections. The fuel filter can be spun on and off for quick replacements.

Accessible and Serviceable

A Accessible grease fittings
Grease fittings are highlighted and available around the machine for fast access when doing your service checks.

B Central diagnostic test bank
This test bank is used for measuring hydraulic pressures of the main, steering, pilot and brake systems for simplified service checks from ground level.

C Simple air filter replacements
The air cleaner is easily replaceable by turning the wing nut on the outer shell counter-clockwise.

D Central electric controllers
Electric controllers for this Hyundai loader have been centralized to improve service access.

E Remote type drain port
It is now easier to change your engine oil and coolant with the remote drain port.

F Hydraulic tank
The hydraulic tank has been located behind the cab to increase the accessibility of hydraulic hoses and piping.

G Open pin access
You can more readily remove or tighten your front attachment pin with these open connectors surrounding the pin.

H Oil sight gauge
The hydraulic oil check sight gauge has been installed on the side of the hydraulic tank for convenient checks from ground level.

I Transmission oil port
The transmission oil change port is also located for open accessibility and comes with an anti-vandalism lock for your machine protection.

J Coolant sight gauge.
The coolant sight gauge has been installed on the radiator top tank for convenient checks of coolant level.

K Easy replacement of filters
The fuel filters, coolant filter and oil filter have been installed on one side of engine for convenient replacement.

One key operation.
For greater convenience, You can now start the engine, and unlock the cabin door side panel of engine compartment with just one key.

■ Photo may include optional equipment.

Specification

Engine

Maker/Model	CUMMINS / QSM11-C
Type	4-cycle, turbocharged, charge aircooled direct injection, electronic controlled diesel engine
Gross power	335HP(250 kW) / 2,100rpm
Net power	320HP(239 kW) / 2,100rpm
Maximum torque	174kg·m(1257 lb·ft) / 1,400rpm
No. of cylinders	6
Bore x Stroke	125 mm (4.9") x 147 mm (5.8")
Displacement	11 ℓ (671 cu in)
Compression ratio	16.3 : 1
Air cleaner	Dry, dual elements
Alternator	24V, 70 Amp
Battery	2 x 12V, 200 Ah.
Starting motor	24V, 7.5 kW

Net power output of standard engine as installed in this vehicle(per SAE J1349) complete with fan, air cleaner, alternator, water pump, lubricating oil pump and fuel pump. No derating for continuous operating required up to 3048m (10000ft). This engine meets the EPA(Tier Ⅱ) / EU(Stage Ⅱ) Emission regulation.

Transmission

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

Torque converter type		3-elements, single-stage single-phase
Stall torque ratio		2.987 :1
Travel speed km/h (mph)		29.5-25, L3
Forward	1st	7.1(4.4)
	2nd	12.5(7.8)
	3rd	19.7(12.2)
	4th	34.7(21.6)
Reverse	1st	7.1(4.4)
	2nd	12.5(7.8)
	3rd	23.3(14.5)

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	Limited slip differential
Reduction ratio	27.0
Axle oil cooling	External oil cooling

Brakes

Service brakes	Hydraulically actuated, wet disc brakes actuate all 4 wheels independent axle-by-axle system. Single pedal braking including clutch cut off switch.
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	Full hydraulic power steering
Pump	Vane type, 280 liters/min(74.0 gal/min) @ governed rpm
Relief valve setting	210 kg/cm²(2,990 psi)
Cylinder	
Type	Double acting
Bore x stroke	110mm(4.3") x 480mm(18.9")
Steering angle	40°(each direction)

Features
- center-point frame articulation
- flow-amplified, load-sensing system
- steering-wheel operated metering pump controls flow to steering cylinders
- adjustable steering column

Hydraulic system

Type	Open-centered, tandem circuit system. Pilot-operated controls. Closed with pressure and vacuum relief.
Pump	Vane type, 473 liters/min (125 gal/min)@governed rpm
Control valve	Two function valve with single or two lever controls : Optional third-function valve with auxiliary lever.
relief valve setting	210 kg/cm²(2,990 psi)
Pilot system	
type	Pilot oil pressure is generated by the pilot oil supply unit
relief valve setting	30 kg/cm²
Bucket controls	
type	Pilot operated lift and tilt circuit

lift circuit
- boom spool has 3 positions ; raise, hold and lower.
- floating spool is provided for fast lowering of boom
- can adjust automatic kickout from horizontal to full lift

tilt circuit
- bucket spool has 3 positions ; tilt back, hold and dump
- can adjust automatic bucket positioner to desired load angle

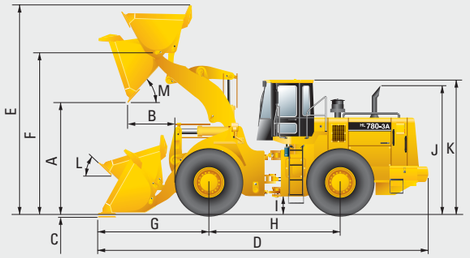
single-lever control standard

Cylinder		
type		Double acting
Lift, bore x stroke		200 mm(7.9") x 863 mm(34.0")
Tilt, bore x stroke		160 mm(6.3") x 580 mm(22.8")
Cycle time		Raise: 6.4 sec (with load) Dump : 1.3 sec Lower : 3.5 sec (empty) Total : 11.2 sec

Service refill capacities

Fuel tank	470 liters (124.2 USgal)
Cooling system	65 liters (17.2 USgal)
Crankcase	38 liters (10.0 USgal)
Transmission	43 liters (11.4 USgal)
Front axle	60 liters (15.9 USgal)
Rear axle	60 liters (15.9 USgal)
Hydraulic tank	185 liters (48.9 USgal)
Hydraulic system (including tank)	235 liters (62.1 USgal)

Dimensions



Description		UNIT	HL780-3A
Bucket Type			General purpose bolt-on cutting edge
A. Dumping clearance at max. height and 45° dump angle.		mm (ft-in)	3,347(11')
B. Reach	Full lift	mm (ft-in)	1,440(4' 9")
	7ft height	mm (ft-in)	2,206(7' 3")
C. Digging depth		mm (in)	134(5.3")
D. Overall length	on ground	mm (ft-in)	9,390(31')
	at carry	mm (ft-in)	9,330(30' 7")
E. Overall height (fully raised)		mm (ft-in)	6,220(20' 5")
F. Bucket pivot max. height		mm (ft-in)	4,560(15')
G. Front overhang		mm (ft-in)	3,220(10' 7")
H. Wheelbase		mm (ft-in)	3,700 (12' 2")
I. Ground clearance		mm (ft-in)	475 (1' 7")
J. Height over exhaust		mm (ft-in)	3,620 (11' 11")
K. Height over cab		mm (ft-in)	3,670 (12' 4")
Overall width		mm (ft-in)	3,450 (11' 4")
L. Roll-back angle	on ground	deg	42
	at carry	deg	48
M. Dump angle		deg	47
Clearance circle		mm (ft-in)	15,310 (50' 3")

Overview

Description		UNIT	HL780-3A
Operating weight		kg (lb)	29,300 (64,590)
Bucket capacity	Heaped	m³ (yd³)	5.1 (6.7)
	Struck	m³ (yd³)	4.3 (5.6)
Breakout force-bucket		kg (lb)	24,820 (54,720)
Tipping load	Straight	kg (lb)	22,200 (48,900)
	Full turn	kg (lb)	19,100 (42,100)
Tire		-	29.5-25, 22 PR, L3

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*