

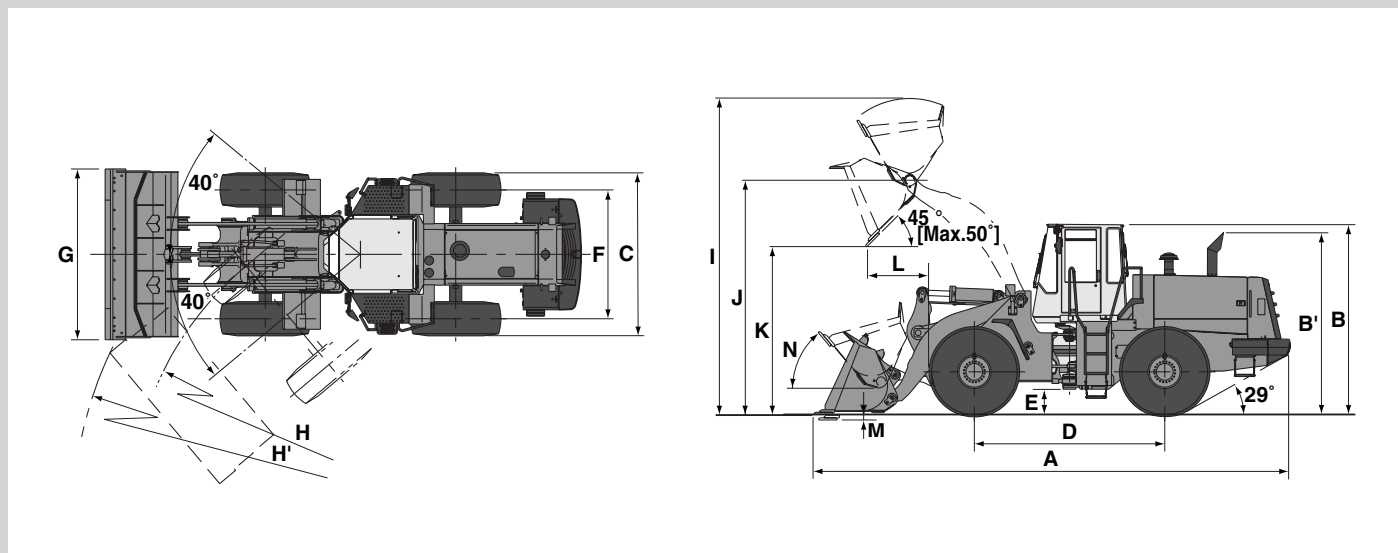
LX190

HITACHI

LX190

W H E E L L O A D E R

- Engine Rated Power : 165 kW (225 PS)
- Operating Weight : 19 770 kg
- Bucket Capacity : ISO Heaped
2.8 m³ – 3.5 m³



Unit : mm

| | LX190-7 |
|--|-----------------------|
| A Overall length | 8 510 |
| B Height to top of cab | 3 410 |
| B' Height to top of exhaust | 3 250 |
| C Width over tires | 2 930 |
| D Wheel base | 3 400 |
| E Ground clearance | 460 |
| F Tread | 2 300 |
| G Bucket width | 3 050 |
| H Turning radius (Centerline of outside tire) | 5 820 |
| H' Loader clearance circle, bucket in carry position | 6 800 |
| I Overall operating height | 5 640 |
| J Height to bucket hinge pin, fully raised | 4 180 |
| K Dumping clearance 45 degree, full height | 2 985 |
| L Reach, 45 degree dump, full height | 1 135 |
| Reach, 45 degree dump, 7 ft (2.13 m) clearance | 1 765 |
| M Digging depth (Horizontal digging angle) | 100 |
| N Max. roll back at carry position | 50 deg. |
| Tire size | 23.5 - 25 - 16PR (L3) |

Note: General purpose bucket with bolt on cutting edges.



ENGINE

Model Mitsubishi 6D24TL
 Type 4-cycle water cooled, direct injection
 Aspiration Turbocharger and intercooler
 No. of cylinders 6
 Rated power
 DIN 6 272,net 165 kW (225 PS) at 2 100 min⁻¹ (2 100 rpm)
 SAE J1349,net 165 kW (221 HP) at 2 100 min⁻¹ (2 100 rpm)
 Bore and stroke 130 mm x 150 mm
 Piston displacement 11.945 L
 Electrical system 24 V with 0.96 kW, 50 A alternator
 Starting system 24 V x 7.0 kW electric motor
 Batteries 2 x 12 V / 916 CCA, 270-min. rated reserve
 Air cleaner Two element dry type with restriction indicator



POWER TRAIN

Transmission Torque converter, countershaft type powershift with computer-controlled automatic shift and manual shift features included.
 Torque converter Three element, single stage, single phase
 Main clutch Wet hydraulic, multi-disc type
 Cooling method Forced circulation type
 Travel speed* : km/h

| | Forward / Reverse |
|-----|-------------------|
| 1st | 7.5 / 8.5 |
| 2nd | 13.0 / 14.5 |
| 3rd | 21.0 / 23.0 |
| 4th | 34.5 / 37.0 |

**With 23.5-25-16PR (L3) tires*



AXLE AND FINAL DRIVE

Drive system Four-wheel drive system
 Front & rear axle Semi-floating
 Front : Fixed to the front frame
 Rear : Trunnion support
 Reduction and differential gear Two stage reduction with torque proportional differential
 Oscillation angle ± 12° ; total 24°
 Final drives Heavy-duty planetary, mounted inboard



TIRES (tubeless, nylon body)

Standard 23.5-25-16PR (L3)
 Optional Refer to standard & optional equipment list



BRAKES

Service brakes Inboard mounted fully hydraulic 4 wheel wet disc brake.
 Front & rear independent brake circuit
 Parking brake Wet multiple disc mechanical type built in transmission



STEERING SYSTEM

Type Articulated frame steering
 Steering mechanism Full hydraulic power steering
 Steering angle Each direction 40°; total 80°
 Relief pressure 18.6 MPa (190 kgf/cm²)
 Cylinders Two double-acting piston type
 No. x Bore x Stroke 2 x 80 mm x 542 mm
 Minimum turning radius at the centerline of outside tire 5.82 m



HYDRAULIC SYSTEM

Arm and bucket are controlled by independent control lever
 Arm controls Four position valve ; Raise, hold, lower, float
 Bucket controls with automatic bucket return-to-dig control Three position valve ; Roll back, hold, dump
 Main pump Gear type 129 L/min @2 100 min⁻¹ (rpm) at 17 160 KPa (175 kgf/cm²)
 Steering pump Gear type 205 L/min @2 100 min⁻¹ (rpm) at 20 590 KPa (210 kgf/cm²)
 Brake and assist pump Gear type 27 L/min @2 100 min⁻¹ (rpm) at 6 370 KPa (65 kgf/cm²)
 Charging pump Double gear type with two discharge ports
 Front pump Front 82 L/min @2 100 min⁻¹ (rpm) at 2 450 KPa (25 kgf/cm²)
 Rear pump Rear 92 L/min @2 100 min⁻¹ (rpm) at 490 KPa (5 kgf/cm²)
 Relief pressure setting 20 590 KPa (210 kgf/cm²)
 Hydraulic cylinders
 Type Two arm and one bucket, double acting type
 No. x Bore x Stroke Arm : 2 x 150 mm x 980 mm
 Bucket : 1 x 190 mm x 545 mm
 Filters Full-flow 15 micron return filter in reservoir
 Hydraulic cycle times
 Lift arm raise 6.2 s
 lower 3.3 s
 Bucket dump 1.5 s
 Total 11.0 s



SERVICE REFILL CAPACITIES

Fuel tank 320 L
 Engine coolant 80 L
 Engine oil 38 L
 Torque convertor & transmission 40 L
 Front axle differential & wheel hubs 48 L
 Rear axle differential & wheel hubs 48 L
 Hydraulic reservoir 124 L



DIMENSIONS & SPECIFICATIONS

| Arm type | | | Standard arm | | | | |
|-----------------------|---|----------------|----------------------------|--------------------|-------------------------------|--------------------|-------------------------------|
| | | | General purpose | | | Rock bucket | |
| Bucket type | | | With bolt-on cutting edges | With bolt-on teeth | With bolt-on teeth & segments | With bolt-on teeth | With bolt-on teeth & segments |
| Bucket capacity | ISO heaped | m ³ | 3.5 | 3.3 | 3.5 | 2.9 | 3.0 |
| | ISO struck | m ³ | 3.0 | 2.8 | 3.0 | 2.5 | 2.5 |
| Bucket width | | mm | 3 050 | 3 050 | 3 050 | 3 050 | 3 050 |
| Working range | | | | | | | |
| | Dumping clearance 45 degree, full height | mm | 2 985 | 2 855 | 2 855 | 2 920 | 2 920 |
| | Reach, 45 degree dump, full height | mm | 1 135 | 1 230 | 1 230 | 1 165 | 1 165 |
| | Reach, 45 degree dump, 7 ft (2.13 m) clearance | mm | 1 765 | 1 795 | 1 795 | 1 765 | 1 765 |
| | Reach with arm horizontal and bucket level | mm | 2 655 | 2 830 | 2 830 | 2 735 | 2 735 |
| | Digging depth (Horizontal digging angle) | mm | 100 | 110 | 110 | 110 | 110 |
| | Overall operating height | mm | 5 640 | 5 640 | 5 640 | 5 600 | 5 600 |
| | Overall length (Bucket on ground) | mm | 8 510 | 8 695 | 8 695 | 8 600 | 8 600 |
| | Loader clearance circle, bucket in carry position | mm | 6 800 | 6 850 | 6 850 | 6 820 | 6 820 |
| Static tipping load * | Straight | kgf | 15 300 | 15 450 | 15 250 | 15 000 | 14 800 |
| | Full 40 degree turn | kgf | 13 400 | 13 350 | 13 150 | 12 900 | 12 700 |
| Breakout force | | kN | 166 | 179 | 171 | 195 | 184 |
| | | (kgf) | (16 900) | (18 300) | (17 400) | (19 900) | (18 800) |
| Operating weight * | | kgf | 19 700 | 19 640 | 19 820 | 20 190 | 20 370 |

| Arm type | | | High-lift arm | |
|-----------------------|---|----------------|----------------------------|--------------------|
| | | | General purpose | |
| Bucket type | | | With bolt-on cutting edges | With bolt-on teeth |
| Bucket capacity | ISO heaped | m ³ | 3.0 | 2.8 |
| | ISO struck | m ³ | 2.6 | 2.4 |
| Bucket width | | mm | 3 050 | 3 050 |
| Working range | | | | |
| | Dumping clearance 45 degree, full height | mm | 3 565 | 3 435 |
| | Reach, 45 degree dump, full height | mm | 1 050 | 1 150 |
| | Reach, 45 degree dump, 7 ft (2.13 m) clearance | mm | 2 110 | 2 155 |
| | Reach with arm horizontal and bucket level | mm | 2 880 | 3 055 |
| | Digging depth (Horizontal digging angle) | mm | 100 | 110 |
| | Overall operating height | mm | 6 030 | 6 030 |
| | Overall length (Bucket on ground) | mm | 8 820 | 9 000 |
| | Loader clearance circle, bucket in carry position | mm | 6 940 | 7 000 |
| Static tipping load * | Straight | kgf | 13 800 | 13 900 |
| | Full 40 degree turn | kgf | 11 900 | 12 000 |
| Breakout force | | kN | 172 | 187 |
| | | (kgf) | (17 500) | (19 100) |
| Operating weight * | | kgf | 20 310 | 20 230 |

Notes: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7131:1997 and ISO 7546:1983

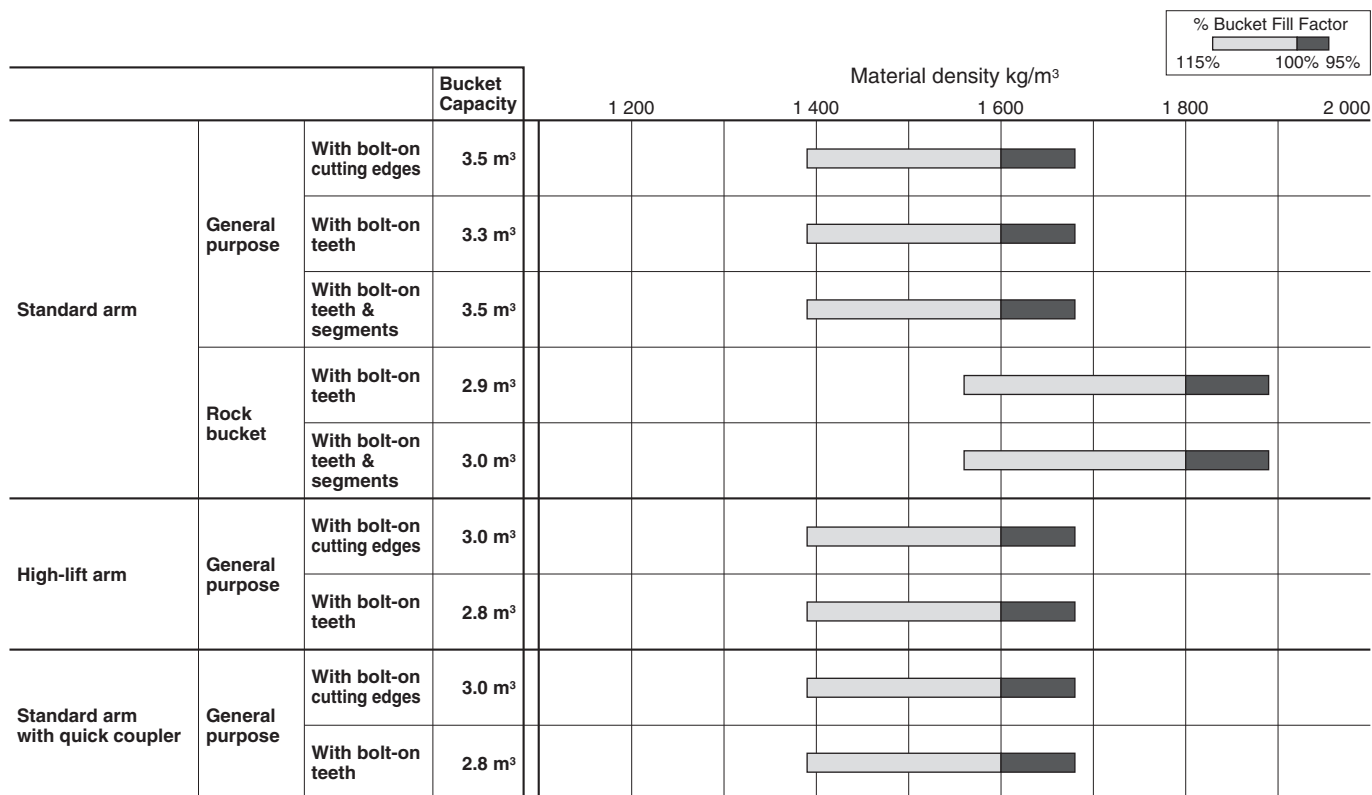
2. Static tipping load and operating weight marked with * include 23.5-25-16PR (L3) tires (No ballast) with lubricants, coolant, full fuel tank and operator.
Machine stability and operating weight depend on counterweight, tire size and other attachments.

| Tires and Options | Change in operating weight | Change in tipping load | |
|---|----------------------------|------------------------|-----------|
| | | Straight | Full turn |
| | kg | kg | kg |
| 23.5-25-16PR (L2) Bias ply | - 88 | - 60 | - 60 |
| 23.5-25-20PR (L2) Bias ply | - 88 | - 60 | - 60 |
| 23.5-25-20PR (L3) Bias ply | 16 | 20 | 10 |
| 23.5-25-16PR (L4) Bias ply | 324 | 250 | 220 |
| 23.5-25-20PR (L4) Bias ply | 356 | 280 | 250 |
| 23.5-25-16PR (L5) Bias ply | 580 | 460 | 400 |
| 23.5-25-20PR (L5) Bias ply | 672 | 530 | 470 |
| 23.5 R25 (L3 type) Radial ply | 308 | 240 | 210 |
| 23.5 R25 (L5 type) Radial ply | — | — | — |
| FRP roof canopy (In lieu of ROPS/FOPS cab) | — | — | — |
| ROPS/FOPS canopy (In lieu of ROPS/FOPS cab) | — | — | — |
| Lumber and pallet fork (Pin on type) | — | — | — |
| Log grapple (Pin on type)* | 1 880 | 2 320 | 2 050 |
| Lumber grapple (Pin on type) | — | — | — |
| Counterweight, CW*A | 960 | 2 390 | 2 110 |
| Counterweight, CW*B | 220 | 420 | 380 |
| Counterweight, CW*045 | 450 | 1 550 | 1 370 |

Note: * With counterweight CW*A, counterweight CW*B and 23.5-25-24PR (L3) tires



BUCKET SELECTION GUIDE



STANDARD & OPTIONAL EQUIPMENT

| | | | | | |
|--|---|---|---|--|---|
| ENGINE | | Indicator lights: Turn signals / Warning flashers / High beam of driving light / Work lights / Park brake / Gear shift / Clutch cut off / Engine preheat / Engine monitor (2) | ● | General purpose bucket with bolt on teeth: 3.3 m ³ (ISO heaped) | □ |
| Coolant recovery tank | ● | Indicator lights: Emergency steering (If Emergency steering is equipped) | □ | General purpose bucket with bolt on teeth and segments : 3.5 m ³ (ISO heaped) | □ |
| Fan guard | ● | 24-volt AM/FM stereo radio with clock | ● | Rock bucket with bolt on teeth: 2.9 m ³ (ISO heaped) | □ |
| Muffler, under hood with large exhaust stack | ● | 24-volt AM/FM stereo radio with cassette player and clock | □ | Rock bucket with bolt on teeth and segments; 3.0 m ³ (ISO heaped) | □ |
| Environmentally friendly engine oil drain | ● | Radio-ready cab, fused 24-volt electrical lead, speaker (2), and antenna* | □ | Quick coupler and hydraulic control system for quick-coupler locking pins, includes all controls in the cab, lines, and valves | □ |
| Engine oil cooler | ● | | | Full line of Hitachi buckets for quick coupler with selection of bolt-on cutting edges, and teeth-segmented bolt on edges* | |
| Quick-release fuel filter and water separator | ● | | | General purpose bucket with bolt on cutting edges : 3.0 m ³ (ISO heaped) | □ |
| Engine air-heater (For cold start) | ● | | | General purpose bucket with bolt on teeth: 2.8 m ³ (ISO heaped) | □ |
| Air filter double element | □ | | | Full line of construction utility forks, pallet forks, and attachments* | |
| Air pre-cleaner | □ | | | Lumber and pallet fork : Max load 8 000 kg (Pin on type) | □ |
| Wide fin radiator | ● | | | Log grapple : Max load 8 000 kg (Pin on type) | □ |
| Fuel double filter | □ | | | Lumber grapple : Max load 8 000 kg (Pin on type) | □ |
| | | | | | |
| POWER TRAIN | | OPERATOR'S STATION | | | |
| TC/PS transmission, computer-controlled automatic shift and manual shift features included | ● | Canopy* | □ | | |
| DSS (Down Shift Switch) and USS (Up Shift Switch) | ● | FRP roof / Multiplane isolation mount for noise/vibration reduction | □ | | |
| Torque proportioning differentials, front and rear | ● | Cab | | | |
| Auto transmission 3 mode selection switch | ● | ROPS** / FOPS*** / Multi-plane isolation mounted for noise/vibration reduction / Front and rear windshield washers / Safety grass | | | |
| | | Sun visor | ● | TIRES | |
| HYDRAULIC SYSTEM | | Heater / Defroster (Cab model only) | ● | Bias ply : | |
| Automatic bucket return-to-dig control | ● | Less Heater & Defroster (Cab model only)* | □ | 23.5-25-16 PR (L2) | □ |
| Automatic arm height kickout control | □ | Air conditioning (Factory or dealer installed) | □ | 23.5-25-20 PR (L2) | □ |
| Automatic arm return-to-carry control* (GSS: Ground Stop System) | ● | Seat belt, 50 mm | ● | 23.5-25-16 PR (L3) | ● |
| Reservoir sight gauge | ● | Seat belt, 76 mm, with retractor* | □ | 23.5-25-20 PR (L3) | □ |
| Hydraulic filters, vertical mounting | □ | Seat, close covered , high back, mechanical suspension, adjustable for weight-height, fore-aft position, backrest tilt, and armrest angle* | □ | 23.5-25-20 PR (L4) | □ |
| Two-function hydraulic valve with joystick control (Pilot controlled)* | □ | Seat, fabric covered, high back, air suspension, adjustable for weight-height, fore-aft position, backrest tilt, and armrest angle* | □ | 23.5-25-16 PR (L4) | □ |
| Two-function hydraulic valve with two levers | ● | Seat backrest extension | □ | 23.5-25-20 PR (L4) | □ |
| Adjustable wristrest | □ | Lunch box tray | ● | 23.5-25-20 PR (L5) | □ |
| Three-function hydraulic valve with two levers control and auxiliary lever for third function | □ | Rubber floormat | ● | 23.5-25-16 PR (L5) | □ |
| Ride control, automatic type | □ | Tilt steering | ● | 23.5-25-20 PR (L5) | □ |
| | | Steering wheel, textured with spinner knob | ● | Radial ply : | |
| ELECTRICAL | | Rear view mirrors, outside (2) and inside (2) | ● | 23.5R25 (L3 type) | □ |
| 24-volt electrical system | ● | Conforms to SAE J985 | □ | 23.5R25 (L5 type) | □ |
| Standard batteries (2), 12 volt with 916 CCA, 270-min. rated reserve | ● | Handholds and steps, ergonomically located and slip resistant | ● | Multi-piece rims | ● |
| High-capacity batteries (2), 12 volt with 1045 CCA, 304-min. rated reserve | □ | Conforms to SAE J185 | | | |
| Alternator, 50 amps and 24 volts | ● | Cool box (Air-conditioner is necessary) | | OTHERS | |
| Alternator, high capacity, 80 amps and 24 volts | □ | Rear defroster (Cab model only) | | □ Fenders, front and rear | ● |
| Lights | ● | | | ● Articulation locking bar | ● |
| Driving with guards / Turn signals and flashers / Stop, tail and back-up lights | ● | LOADER LINKAGE | | ● Anti-vandal protection, includes lockable engine enclosure, and fuel fill | ● |
| Work lights on cab, front (2) | ● | Z-bar loader linkage provides (High bucket breakout) | ● | ● Counterweight, built-in | ● |
| Work lights, rear (2) | ● | High-lift arm* | □ | □ Counterweight, extra duty* | □ |
| Horn, with push button in center of steering wheel | ● | | | ● Drawbar, with rocking pin | ● |
| Reverse warning alarm | ● | BUCKETS AND ATTACHMENTS | | □ Bottom guards, front frame and transmission | □ |
| Monitor and alarm system, multifunction electronic Audible and visual warning include | ● | Full line of Hitachi pin on buckets with selection of bolt-on cutting edges, and teeth-segmented bolt on edges* | | □ Bottom guards, engine* | □ |
| Analog instruments: Engine coolant temperature / Transmission oil temperature / Fuel level / Speedometer | ● | General purpose bucket with bolt on cutting edges : 3.5 m ³ (ISO heaped) | ● | ● Lift and tie-down hooks | ● |
| Digital instrument: Hour-meter | ● | | | □ Fire extinguisher (Dealer installed) | □ |
| Operator warning lights: Engine oil pressure / Engine air filter / Brake pressure | ● | | | ● Emergency steering* | □ |
| Alternator voltage (Charge) off | □ | | | □ Open type rear grill* | □ |
| | | | | □ Tropical pack* (For the hot weather condition) | □ |

Note: ● Standard equipment □ Optional or special equipment

* : Please consult your Hitachi dealer for further information

** : ROPS (Roll Over Protective Structure) Conforms to ISO 3471;1994

*** : FOPS (Falling Objects Protective Structure) Conforms to ISO 3449; 1992 Level II

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*These specifications are subject to change without notice.
Illustrations and photos show the standard models, and may or may not include optional
equipment, accessories, and all standard equipment with some differences in color and features.
Before use, go through Operators Manual for proper operation.*

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