

# HITACHI

■ **Rated Engine HP (gross)**

746 kW (1 000 HP)

■ **Operating Weight**

Loading Shovel : 180 000 kg (397 000 lb)

Backhoe : 180 000 kg (397 000 lb)

■ **Loading Shovel Bucket**

PCSA Heaped : 10.5–14.5 m<sup>3</sup> (13.7–19.0 yd<sup>3</sup>)

■ **Backhoe Bucket**

PCSA Heaped : 4.4–14.0 m<sup>3</sup> (5.8–18.3 yd<sup>3</sup>)

CECE Heaped : 3.8–12.5 m<sup>3</sup>

## *SuperEX* **EX1800**



# Tackle the Big Project with the Big, Productive EX1800

The EX1800. The giant hydraulic excavator that delivers the demanded features for tough jobs. Operator comfort, job efficiency, reliability, safety, and low running costs. These impressive performance comes from Hitachi technology and a wealth of experience. The EX1800 can be counted on when the going is tough.

## Bucket Passes to Dump Trucks

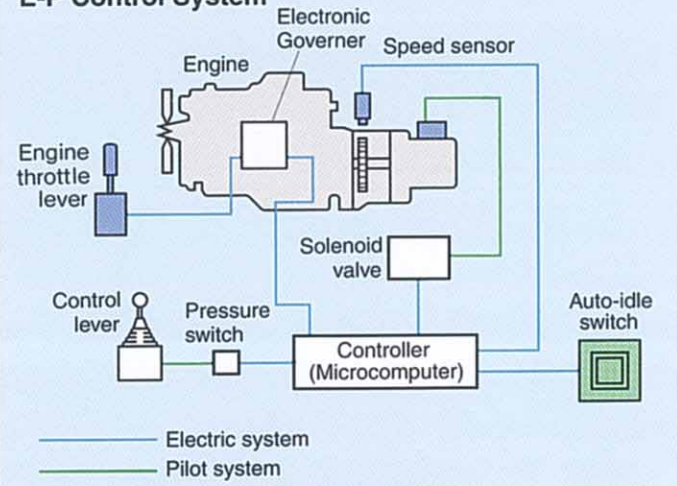
Dump Trucks	51 US tons	85 US tons	132 US tons
Backhoe 9.6 m <sup>3</sup> (12.6 yd <sup>3</sup> )	4-5	6-7	8-9
Loading Shovel 10.5 m <sup>3</sup> (13.7 yd <sup>3</sup> )	3-4	5-6	7-8



# Technological Edge Packed in a Rugged Body

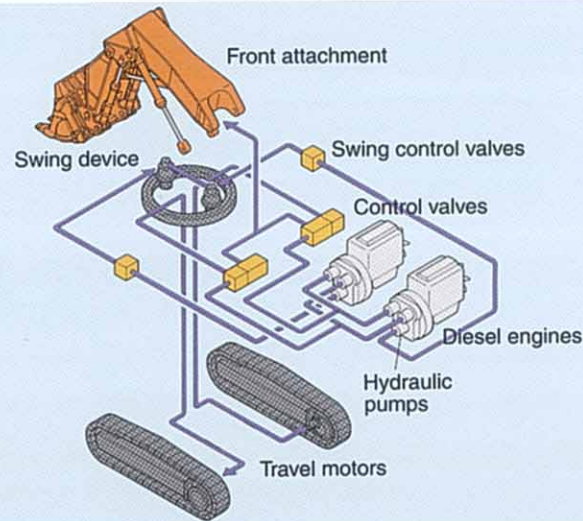
The robust body gives the power and speed demanded on tough job sites. Long-lasting performance – durability and reliability – is built into the machine. The EX1800 is right there to tackle tough jobs.

## E-P Control System



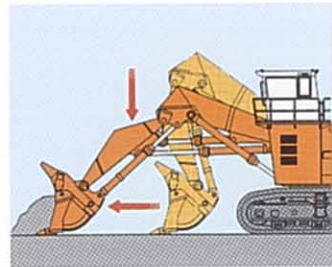
■ E-P (computer-aided Engine Pump) control system gives the required production through the high-powered engine. Speed-sensing summation system lets the pumps make effective use of the engine power. Result: the EX1800 gives impressive productivity and operating economy.

## OHS

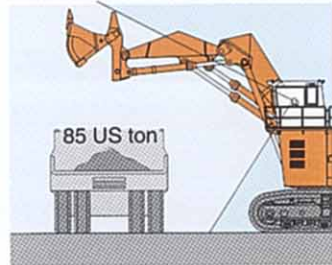


■ OHS (Optimum Hydraulic System), with four main pumps and two swing-priority pumps, makes possible smooth combined operations — swing/front, swing/travel, and travel/front. This also boosts productivity.

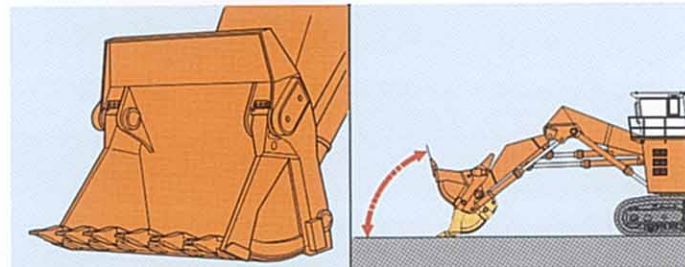
■ Two-speed travel increases mobility. Fast speed for rapid job-to-job travel, and slow speed for travel with powerful steering in confined job sites.



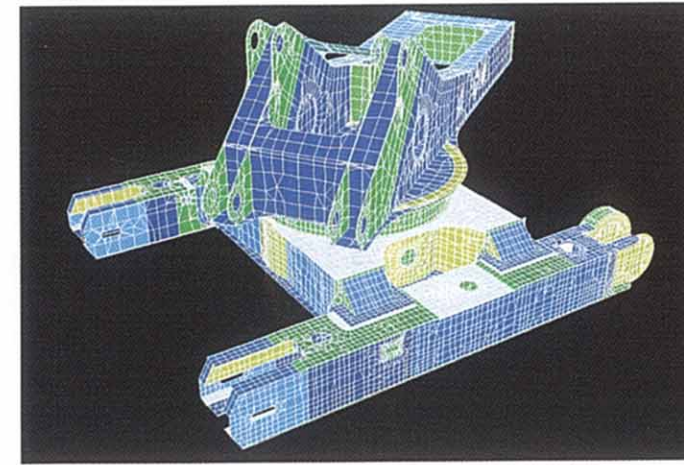
■ The renowned auto-leveling crowd mechanism, a Hitachi original, brings operating ease and increases job efficiency, by one-lever (left) control. This allows quick leveling and easy foundation digging, while reducing track wear.



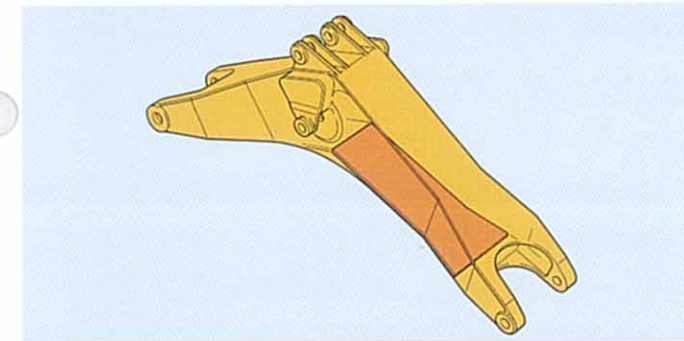
■ A high 6.1 m (20'0") operator eye level plus the forward sloping cab give good downward visibility. The vessel of the dump truck being loaded is clearly visible to the operator.



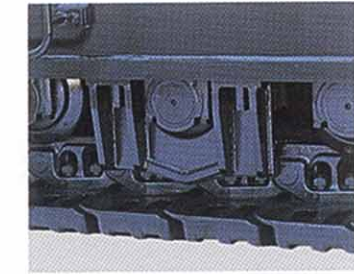
■ Functionally shaped bucket and ample tilt angle boost job efficiency. The bucket is shaped to ease scooping and loading. An ample tilt angle boosts bucket efficiency.



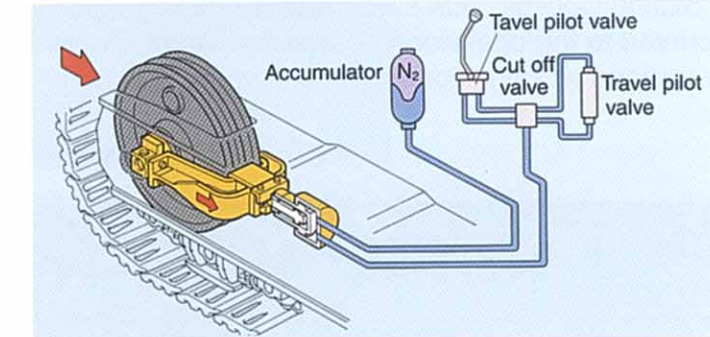
■ The box-section main frame, designed by FEM (Finite Element Method), handles heavy loads, whether bending or torsional forces, as it tackles tough jobs.



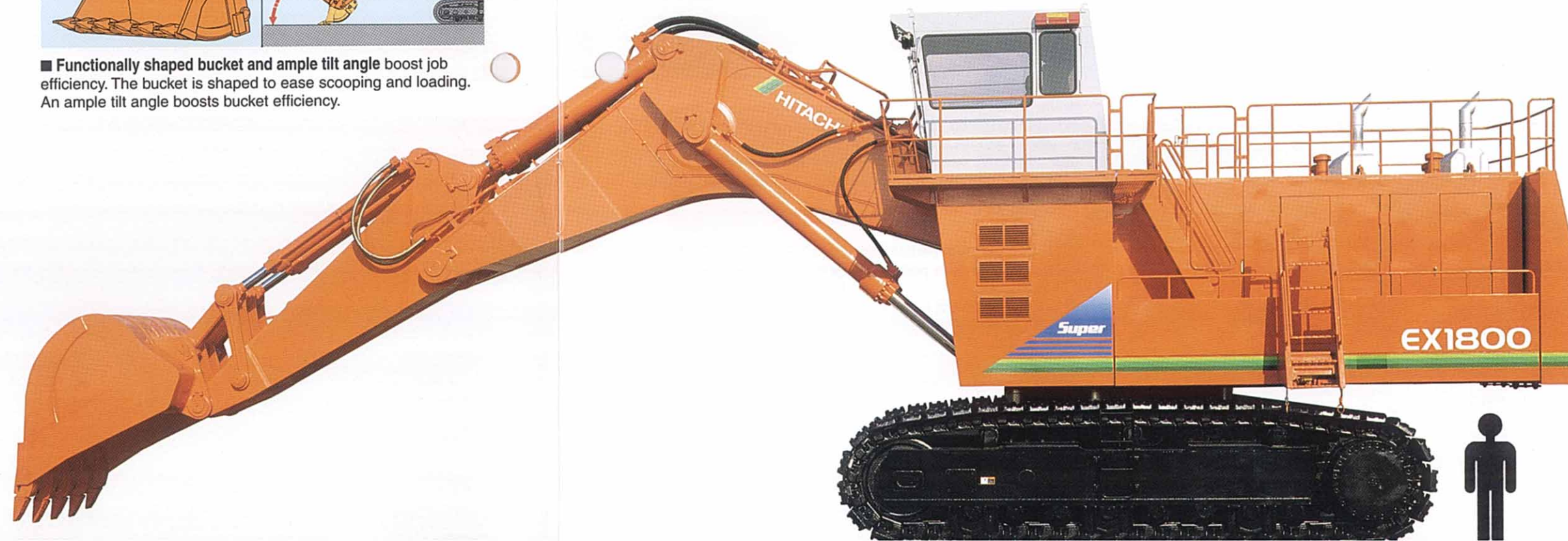
■ The rugged box-section boom and arm are designed using accumulated know-how and high-tensile steel at important points for durability and strength.



■ Three track center guards are provided on each side to prevent disengagement and protect lower rollers. Also, bolted design eases replacement. Full track guard is optionally available.

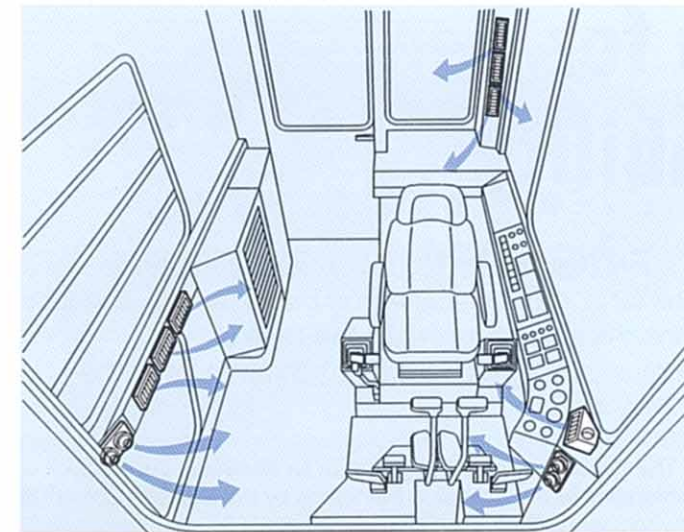
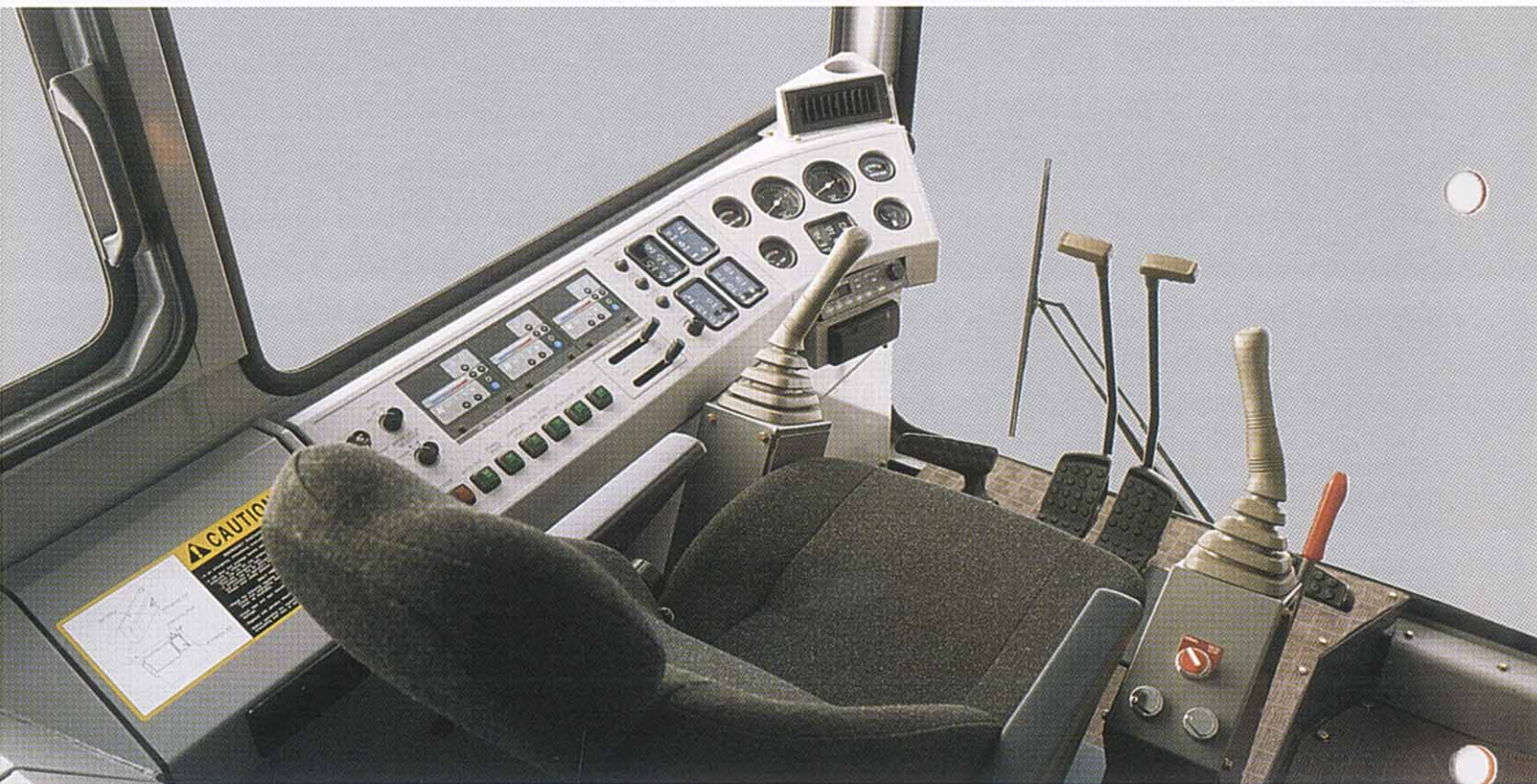


■ Nitrogen gas-filled accumulators absorb excessive track tension. If track tension exceeds a certain limit, travel is automatically stopped. This enhances durability of the tracks.



# Cab Comfort along with Operating Ease and Convenience

Design efforts are focused on cab comfort. Roomy cab with integrated headguard. Hitachi's traditional "Sliding Cockpit" with slidable seat and levers for pleasant operation. Monitor/switch panel ergonomically curved to the operator for quick reading of meters and easy handling of switches. What's more, the well-arranged air conditioner maintains operator comfort in all seasons. Good visibility is another advantage.



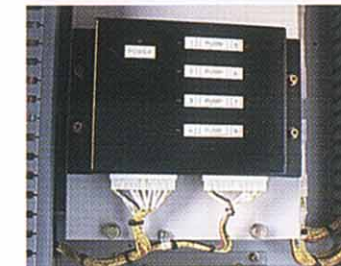
■ Well-placed air conditioner (New Refrigerant) maintains operator comfort. Three independent air outlets — front, right and behind the operator seat — effectively circulate warm or cool air inside the cab.



■ Three storage spaces for operator convenience. Large space for manuals, lunch box and tool box are provided behind the operator seat.

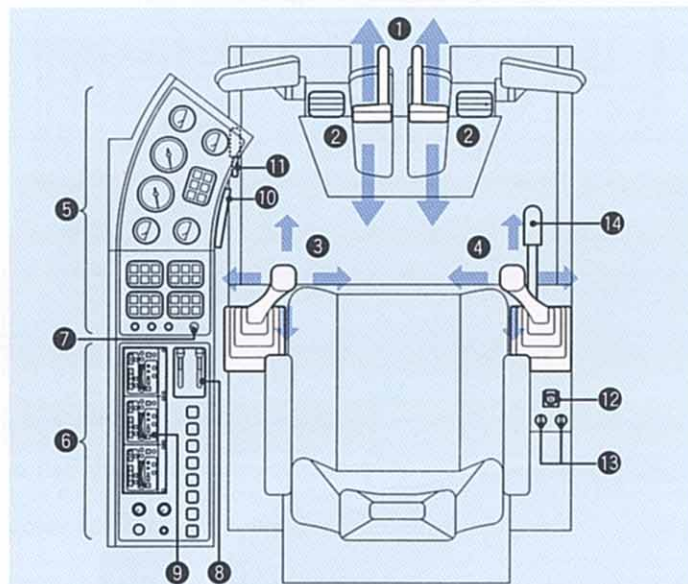


■ Emergency engine stop switch is provided near the right control lever for emergency stopping.



■ The pump contamination sensors monitor the pump to warn of contamination, such as abrasive particles, for preventive maintenance.

■ A 12 V power terminal board is installed behind the operator seat to power additional electrical instruments such as radio transmitters.



■ The monitor/switch panel is ergonomically designed for pleasant operation. The monitor panel is curved for quick reading of gauges and warning indicators. The switch panel, right beside the operator seat, provides easy access to and handling of switches. With the dimmer switch, light intensity can be adjusted properly.

### ■ Cab layout

- |   |                                 |
|---|---------------------------------|
| 1 Travel levers with pedals                 | 8 Engine speed control lever    |
| 2 Bucket open/close pedals (loading shovel) | 9 Air conditioner panel         |
| 3 Swing/arm control lever                   | 10 AM-FM radio                  |
| 4 Boom/bucket control lever                 | 11 Emergency evacuation hammer  |
| 5 Monitor panel and switch panel            | 12 Emergency engine stop switch |
| 6 Switch panel                              | 13 Engine starter switch        |
| 7 Dimmer switch                             | 14 Pilot-control shut-off lever |

# Sophisticated Design for Safety and Maintainability

Conforming to the world's most stringent safety standards – EN (European Norm), a variety of safety-conscious devices are provided – non-pressure hydraulic oil tank, mechanical swing brake, ample-capacity brakes for travel motors, and handrails at important locations. Also, conforming to the USA's Environmental Protection Agency, the emissions control engine is adopted on the machine to keep the atmosphere clean.



■ The roomy cab with integrated headguard, conforming to the FOPS\* Standards, gives high ruggedness.

\* FOPS is the standards of ISO (International Organization for Standardization) and SAE (Society of Automotive Engineers, USA)

■ The emergency evacuation rope is provided on the left side of the cab.

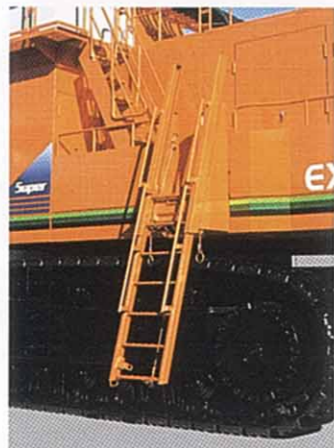


■ The emergency evacuation hammer is provided in the cab for getting out of the cab in the case of an emergency.

■ The emissions control engine with an electronic governor, conforming to the Emission Standards by the USA's Environmental Protection Agency, is adopted for environmental protection.

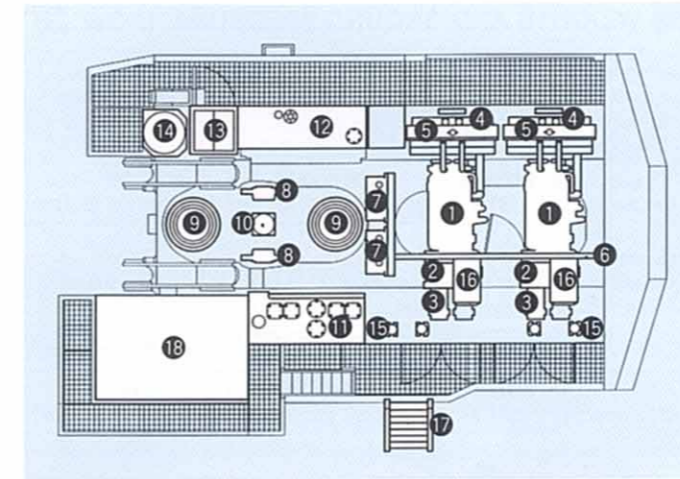


■ Engine-pump bulkhead is provided to between the engine and pump.



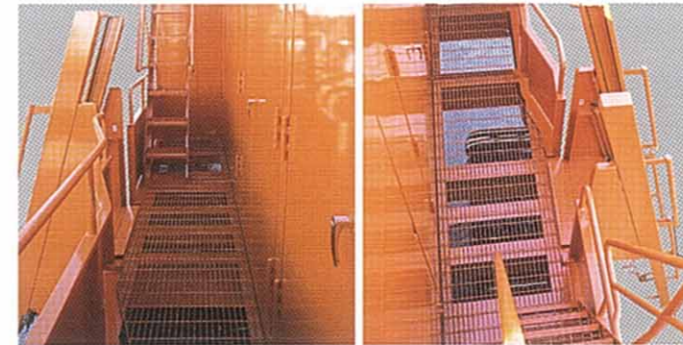
■ The retractable ladder, provided on one side of the basic machine for protection against damage, gives easy access to the cab.

- Seat belt is standard equipment.
- Engine-fun cover is standard equipment.
- Two overhead fluorescent lamps are provided for increased room light intensity. Working lights and access light remain on for about 30 seconds after stopping the engine for easy getting out at night.



## ■ Functional Layout

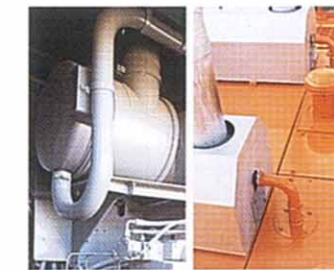
- |                            |                                 |
|----------------------------|---------------------------------|
| 1 Diesel engine × 2        | 10 Center joint                 |
| 2 Pump drive unit × 2      | 11 Hydraulic oil tank           |
| 3 Hydraulic pump × 6       | 12 Fuel tank                    |
| 4 Hydraulic oil cooler × 2 | 13 Batteries × 4                |
| 5 Engine radiator × 2      | 14 Lubricator                   |
| 6 Engine-pump bulkhead     | 15 High-pressure filter × 4     |
| 7 Control valve × 2        | 16 Air filter × 2 (inner/outer) |
| 8 Swing control valve × 2  | 17 Retractable-type ladder      |
| 9 Swing device × 2         | 18 Cab                          |



■ Left and right sidewalks and additional handrails are provided to facilitate daily servicing and maintenance.



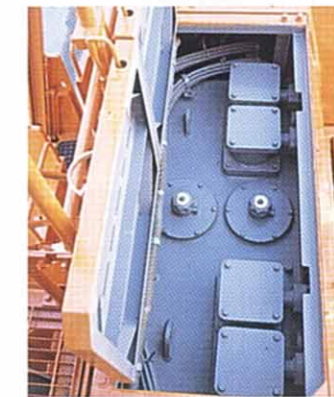
■ The hydraulic-driven durable grease lubricator is fitted with a hose reel. An ample 200 liter (52.8 US gal) grease can is provided standard.



■ The automatic dust ejector is provided in the air cleaner to help ease maintenance.  
Element cleaning intervals: 500 h  
Element replacement intervals: 3 000 h



■ The large inspection space, located before the engine and between front engine and rear engine compartment, provides direct access to the engine for easy maintenance.



■ Centralized hydraulic oil filters make servicing easy. Oil spills during servicing are reduced significantly because filter elements can be removed upward. High-pressure line filters are also provided.

■ The remote lubrication system is adopted for simple greasing for the swing circle and front attachment.



## SPECIFICATIONS

Model		EX1800-3	
ENGINE	Maker & Model	Cummins QSK19C	
	Type	Water-cooled, 4-cycle, 6-cylinder in line, turbo-charged and after-cooled, direct injection chamber-type diesel engine	
	Flywheel horsepower		
	DIN 6271 NET kW (PS)	2 × 336 (2 × 456)	
	SAE J1995 gross kW (HP)	2 × 373 (2 × 500)	
	Piston displacement L (in <sup>3</sup> )	2 × 18.9 (2 × 1 150)	
HYDRAULICS	Fuel tank capacity L (US gal, Imp gal)	2 725 (720, 600)	
	Main pumps	4 variable-displacement, piston pumps	
	Swing pumps	2 variable-displacement, axis piston pumps	
	Max. oil pressure MPa (kgf/cm <sup>2</sup> , psi)	29.4 (300, 4 270)	
	Max. oil flow L/min (US gpm, Imp gpm)	4 × 500 (4 × 132.1, 4 × 110.0) 2 × 344 (2 × 90.9, 2 × 75.7) Swing	
UNDERCARRIAGE	Swing speed min <sup>-1</sup> (rpm)	4.8 (4.8)	
	Travel speed high/low km/h (mph)	2.8/2.1 (1.7/1.3)	
	Max. traction force kN (kgf, lbf)	942(96 000, 212 000)	
	Gradeability deg (%)	30 (60)	
Parking brake (swing/travel)		Hydraulic with disc	

## WEIGHTS AND GROUND PRESSURE

**Loading Shovel**  
Equipped with 10.5 m<sup>3</sup> (13.7yd<sup>3</sup>; PCSA heaped) bottom dump bucket

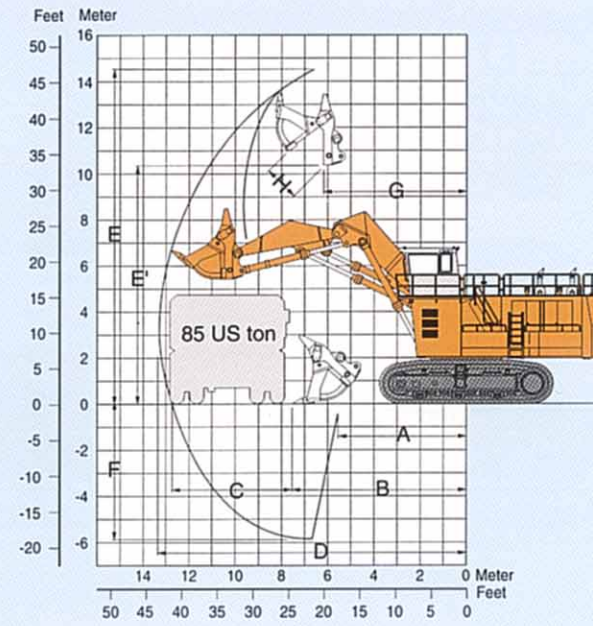
Shoe type	Shoe width	Operating weight	Ground pressure
Triple grousers	800 mm (31")	180 000 kg (397 000 lb)	172 (1.76 kgf/cm <sup>2</sup> , 25.0 psi)

**Backhoe**  
Equipped with 8.70 m (28' 7") boom, 4.00 m (13' 1") arm, and 9.6 m<sup>3</sup> (12.6 yd<sup>3</sup>; PCSA heaped) bucket

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grousers	800 mm (31")	180 000 kg (397 000 lb)	172 (1.76 kgf/cm <sup>2</sup> , 25.0 psi)

## WORKING RANGES

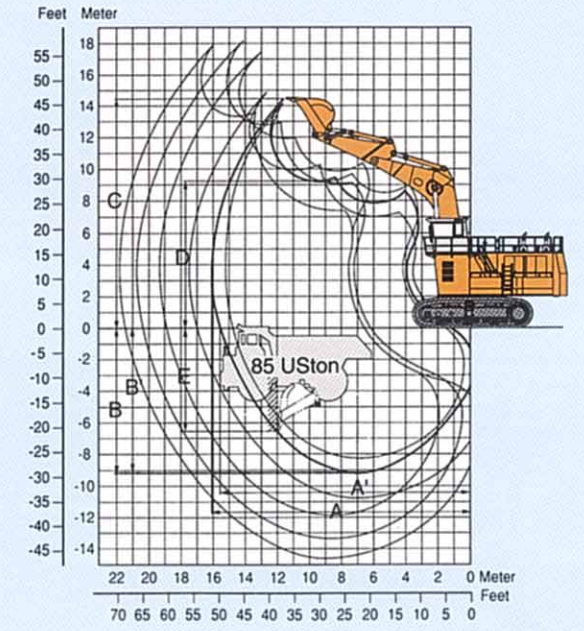
### LOADING SHOVEL



Unit: mm (ft in)

Bottom dump type		EX1800-3	
A	Min. digging distance	5 510 (18'1")	
B	Min. level crowding distance	7 610 (25'0")	
C	Level crowding distance	4 820 (15'10")	
D	Max. digging reach	13 400 (44'0")	
E	Max. cutting height	14 540 (47'8")	
E'	Max. dumping height	10 400 (34'1")	
F	Max. digging depth	5 930 (19'5")	
G	Working radius at max. dumping height	6 880 (22'7")	
H	Max. bucket opening width	2 100 (6'11")	
Crowding force SAE	10.5 m <sup>3</sup> (13.7 yd <sup>3</sup> )	716 kN (73 000 kgf, 161 000 lbf)	
	14.5 m <sup>3</sup> (19.0 yd <sup>3</sup> )	667 kN (68 000 kgf, 150 000 lbf)	
Breakout force SAE	10.5 m <sup>3</sup> (13.7 yd <sup>3</sup> )	667 kN (68 000 kgf, 150 000 lbf)	
	14.5 m <sup>3</sup> (19.0 yd <sup>3</sup> )	628 kN (64 000 kgf, 141 000 lbf)	

### BACKHOE



Unit: mm (ft in)

Boom length	8.30 (27'3")	8.70 m (28'7")	11.80 m (38'9")			
Arm length	3.60 m (11'10")	4.00 m (13'1")	5.50 m (18'1")	4.00 m (13'1")	5.50 m (18'1")	7.00 m (23'0")
A Max. digging reach	15 240 (50'0")	16 070 (52'9")	17 500 (57'5")	19 390 (63'7")	20 860 (68'5")	21 850 (71'8")
A' Max. digging reach (on ground)	14 780 (48'6")	15 640 (51'4")	17 100 (56'1")	19 030 (62'5")	20 530 (67'4")	21 530 (70'8")
B Max. digging depth	8 220 (27'0")	9 270 (30'5")	10 770 (35'4")	11 820 (38'9")	13 320 (43'8")	14 470 (47'6")
B' Max. digging depth (8' level)	8 100 (26'7")	9 160 (30'1")	10 680 (35'1")	11 710 (38'5")	13 230 (43'5")	14 390 (47'3")
C Max. cutting height	14 280 (46'10")	14 440 (47'5")	14 970 (49'1")	17 340 (56'11")	18 100 (59'5")	17 860 (58'7")
D Max. dumping height	9 020 (29'7")	9 160 (30'1")	9 770 (32'1")	11 780 (38'8")	12 620 (41'5")	13 180 (43'3")
E Max. vertical wall	5 540 (18'2")	6 670 (21'11")	7 470 (24'6")	10 090 (33'1")	11 050 (36'3")	11 300 (37'1")
Bucket digging force ISO	648 (66 100, 145 800)	649 (66 200, 146 000)	651 (66 400, 146 400)	649 (66 200, 146 000)	663 (67 600, 149 100)	489 (49 900, 110 000)
	kN (kgf/lbf) SAE: PCSA	588 (60 000, 132 300)	588 (60 000, 132 300)	588 (60 000, 132 300)	588 (60 000, 132 300)	435 (44 300, 97 700)
Arm crowd force ISO	629 (64 100, 141 300)	575 (58 600, 129 200)	545 (55 600, 122 600)	575 (58 600, 129 200)	546 (55 700, 122 800)	425 (43 300, 95 500)
	kN (kgf/lbf) SAE: PCSA	610 (62 200, 137 200)	559 (57 000, 125 700)	534 (54 400, 120 000)	559 (57 000, 125 700)	534 (54 400, 120 000)

## LOADING SHOVEL ATTACHMENTS

### Buckets (PCSA heaped)

Capacity	Width	Weight	No. of teeth	Type
10.5 m <sup>3</sup> (13.7 yd <sup>3</sup> )	3 440 mm (11'3")	15 030 kg (33 140 lb)	6	STD Bottom dump type general purpose bucket
14.5 m <sup>3</sup> (19.0 yd <sup>3</sup> )	4 340 mm (14'3")	15 500 kg (34 200 lb)	6	Bottom dump type coal handling bucket

## BACKHOE ATTACHMENT

### Buckets

Capacity		Width		No. of teeth	Weight	Recommendation					
PCSA heaped	CECE heaped	Without side cutters	With side cutters			8.30m (27'3") boom	8.70 m (28'7") boom			11.80 m (38'9") boom	
						3.60 m (11'10") arm	4.00 m (13'1") arm	5.50 m (18'1") arm	4.00 m (13'1") arm	5.50 m (18'1") arm	7.00 m (23'0") arm
4.4 m <sup>3</sup> (5.8 yd <sup>3</sup> )	3.8 m <sup>3</sup> (5.0 yd <sup>3</sup> )	2 070 mm (6'10")	—	5	4 830 kg (10 650 lb)						⊙
4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )	4.2 m <sup>3</sup> (5.5 yd <sup>3</sup> )	1 650 mm (5'5")	—	5	5 180 kg (11 420 lb)					⊙	
6.0 m <sup>3</sup> (7.9 yd <sup>3</sup> )	5.3 m <sup>3</sup> (6.9 yd <sup>3</sup> )	1 950 mm (6'5")	—	5	6 390 kg (14 090 lb)				⊙		
8.0 m <sup>3</sup> (10.5 yd <sup>3</sup> )	7.0 m <sup>3</sup> (9.2 yd <sup>3</sup> )	2 325 mm (7'8")	—	5	7 430 kg (16 380 lb)			⊙			
9.6 m <sup>3</sup> (12.6 yd <sup>3</sup> )	8.4 m <sup>3</sup> (11.0 yd <sup>3</sup> )	2 710 mm (8'11")	—	5	8 080 kg (17 820 lb)		⊙ STD				
11.3 m <sup>3</sup> (14.8 yd <sup>3</sup> )	10.0 m <sup>3</sup> (13.1 yd <sup>3</sup> )	3 060 mm (10'0")	—	5	9 130 kg (20 130 lb)	⊙					
14.0 m <sup>3</sup> (18.3 yd <sup>3</sup> )	12.5 m <sup>3</sup> (16.4 yd <sup>3</sup> )	3 170 mm (10'5")	—	5	8 710 kg (19 200 lb)	○					

⊙ General purpose for materials with density of 1 800 kg/m<sup>3</sup> (3 030 lb/yd<sup>3</sup>) or less

○ Suitable for materials with density of 1 100 kg/m<sup>3</sup> (1 850 lb/yd<sup>3</sup>) or less

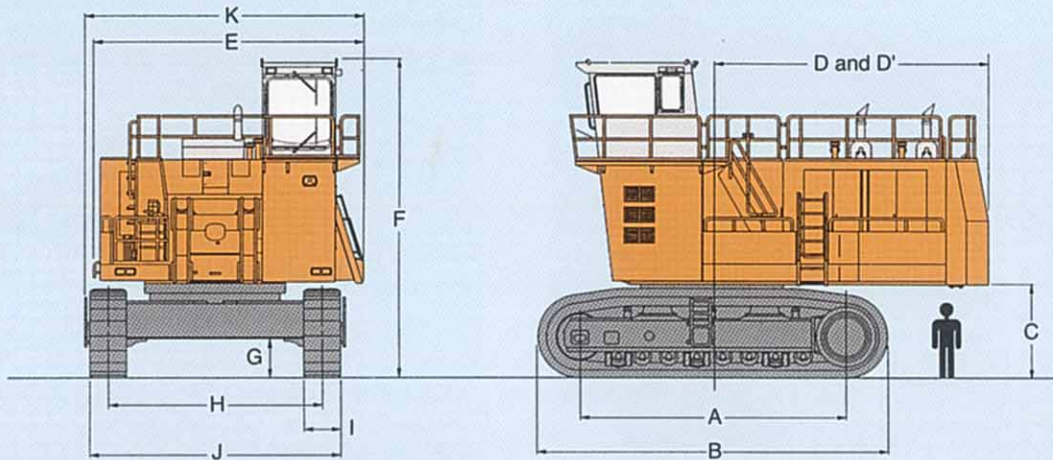
## STANDARD EQUIPMENT

- Tool kit • Suspension seat • AM-FM radio • Intermittent windshield wiper with window washer • Air conditioner • Defroster
- Two cab lights and access light • 12-V power terminal board • Hydraulic driven grease lubricator • Pilot control shut-off lever
- Handrails and side walks • Retractable-type ladder with spring-type balancer

## OPTIONAL EQUIPMENT

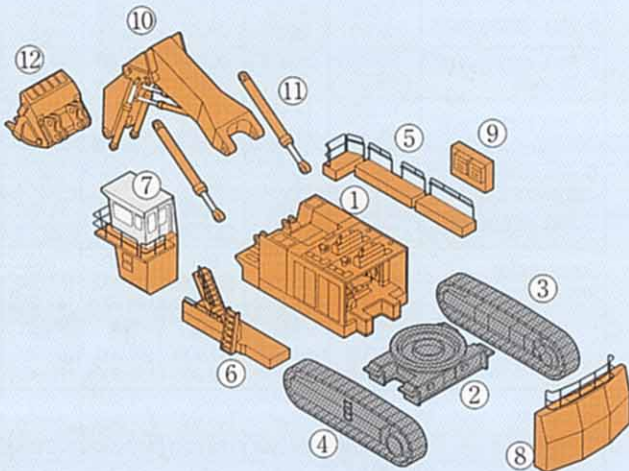
- Auto-lubrication system (Lincoln)

## DIMENSIONS



A	Distance between tumbler	5 780 mm (19'0")	G	Min. ground clearance	795 mm (27")
B	Undercarriage length	7 500 mm (24'7")	H	Track gauge	4 600 mm (15'1")
C	Counterweight clearance	2 000 mm (6'7")	I	Track shoe width	800 mm (31")
D	Rear-end swing radius	6 010 mm (19'9")	J	Undercarriage width	5 400 mm (17'9")
D'	Rear-end length	5 950 mm (19'6")	K	Overall width	
E	Overall width of upperstructure			Loading shovel	6 200 mm (20'4")
	Loading shovel	6 040 mm (19'10")		Backhoe	6 200 mm (20'4")
	Backhoe	6 040 mm (19'10")	L	Track height	1 900 mm (6'3")
F	Overall height of cab				
	Loading shovel	6 910 mm (22'8")			
	Backhoe	6 910 mm (22'8")			

## WEIGHTS OF MAJOR COMPONENTS



### Major components

①	Main frame assembly	39 800 kg (87 800 lb)
②	Track center frame assembly	17 100 kg (37 700 lb)
③	Track side frame assembly (Right)	22 400 kg (49 400 lb)
④	Track side frame assembly (Left)	22 400 kg (49 400 lb)
⑤	Side walk assembly (Right)	870 kg (1 920 lb)
⑥	Side walk assembly (Left)	680 kg (1 500 lb)
⑦	Cab assembly	3 980 kg (8 800 lb)
⑧	Counterweight	24 900 kg (54 900 lb)
⑨	Radiator duct	210 kg (460 lb)

### Loading shovel

⑩	Boom-arm assembly	25 000 kg (55 100 lb)
⑪	Boom cylinder	2 275 kg × 2 (5 020 lb × 2)
⑫	Bucket assembly	15 030 kg (33 100 lb)

### Backhoe

●	Boom assembly	19 100 kg (42 100 lb)
●	Arm assembly	10 500 kg (23 200 lb)
●	Bucket assembly	8 080 kg (17 800 lb)
●	Boom cylinder	2 275 kg × 2 (5 020 lb × 2)

*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.*

## Hitachi Construction Machinery Co., Ltd.

Head Office: Nippon Bldg., 6-2, 2-chome, Ohtemachi,  
Chiyoda-ku, Tokyo, 100, Japan

Telephone: Tokyo (03) 3245-6390

Facsimile: Tokyo (03) 3246-2609