

JCB BACKHOE LOADER | HMEE



HELPING YOU
GET THE JOB DONE!

FAST FACTS

JCB Military HMEE

- Intervehicle start socket
- 24V electrics
- Low profile cab suitable for drive-on CI30 transportation without modification
- Blackout facility for night operation
- Integral lifting, recovery and tie down points
- Wide array of attachments
- Side shift fork carriage
- Full suspension for high speed and cross-country travel
- ABS braking system
- Large cab with seating for operator and passenger, both with 3 point seat belts
- Wheels and tires with runflat capability

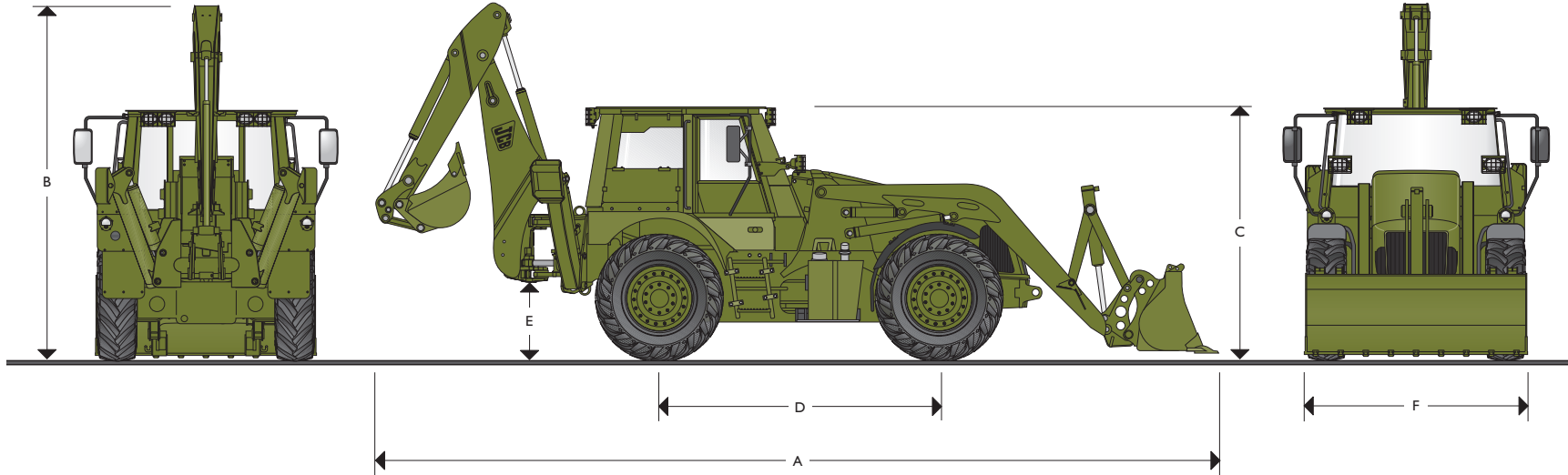




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MAX. ENGINE POWER: 200hp (149kW)
 MAX. BACKHOE DIG DEPTH: 12ft 1 in (3.94meters)
 MAX. LOADER CAPACITY: 1.3 cu yd (1.0m³)



PERFORMANCE DIMENSIONS

Machine model	HMEE
	ft-in (m)
A Overall length (with full ancillaries)	30-5 (9.27)
B Overall height	12-8 (3.86)
C Height to top of cab	8-9 (2.67)

Machine model	HMEE
	ft-in (m)
D Wheelbase	10-0 (3.06)
E Ground clearance - kingpost	2-8 (0.82)
F Width - shovel	8-0 (2.44)

Helping You Get
The Job Done!

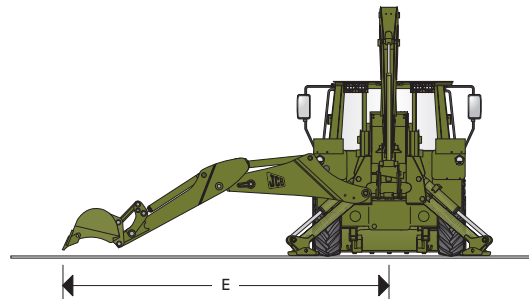
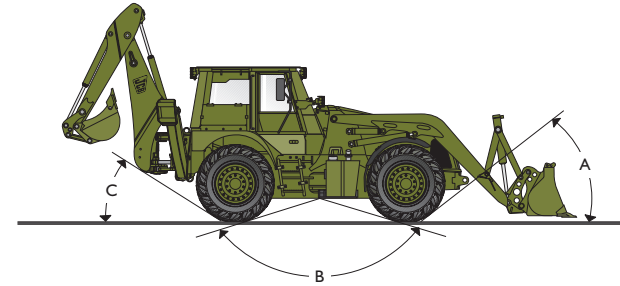
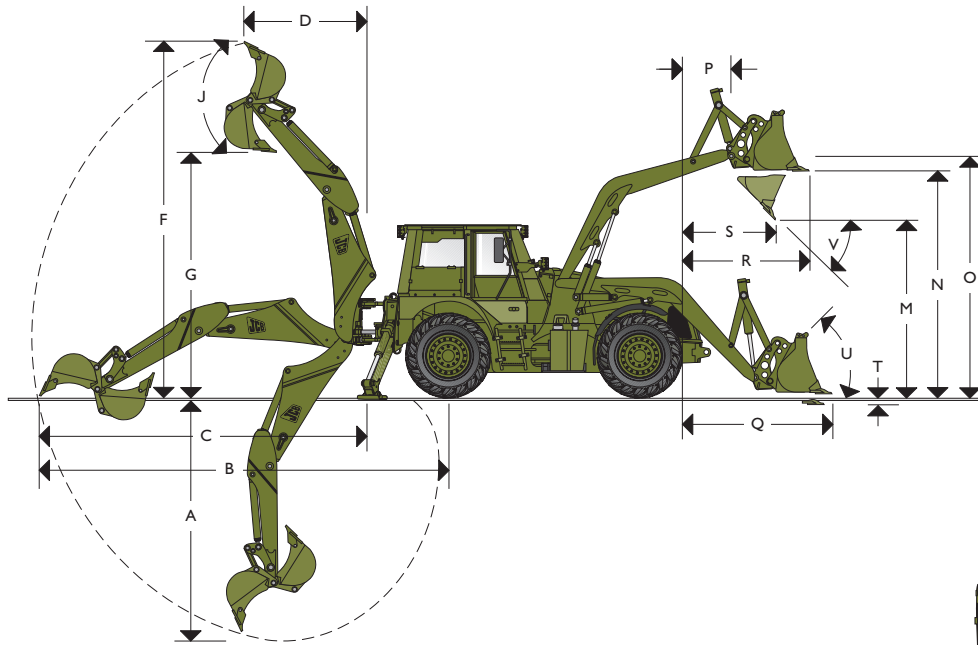


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GROUND LINE ANGLES

- A Approach angle 36.5°
- B Interface angle, travel mode 148°
- C Departure angle 31.5°





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BACKHOE DIMENSIONS

	Std Dipper
	ft-in (m)
A SAE max dig depth	12-11 (3.94)
SAE 2ft flat bottom	12-9 (3.89)
Maximum dig depth	12-11 (3.94)
B Reach – ground level to rear wheel center	21-5 (6.54)
C Reach – ground level to slew center	17-3 (5.25)
D Reach – at full height to slew center	9-4 (2.85)
E Side reach – to center line of machine	17-3 (5.25)
F SAE maximum operating height	18-6 (5.63)
G Maximum loadover height	12-8 (3.86)
J Bucket rotation	degrees 204°

BACKHOE PERFORMANCE

	Std Dipper
Bucket tearout SAE J1179	speed 9,650lbs (4378kg)
	power 11,311lbf (5131kgf)
Dipper tearout SAE J1179	6,975lbf (3164kgf)
Lift capacity over end SAE J31	2,860lbf (1300kgf)

LOADER PERFORMANCE

Shovel Type – 1.3 cu. yd. General Purpose on quick hitch	
Shovel breakout	lbf (kgf) 9,000 (4082)
Loader arm breakout	lbf (kgf) 5,070 (2300)
Lift capacity to full height	lb (kg) 5,070 (2300)

BACKHOE ATTACHMENTS

STANDARD PROFILE BUCKETS		CAPACITY SAE		WEIGHT	
WIDTH* in (mm)	RATED ft ³ (m ³)	STRUCK ft ³ (m ³)	+ TEETH lb (kg)	TEETH	
12 (305)	2.125 (0.06)	1.75 (0.05)	225 (102)	3	
16 (400)	3 (0.09)	2.5 (0.07)	240 (109)	3	
18 (457)	4.25 (0.12)	3 (0.09)	256 (116)	3	
24 (610)	6 (0.17)	4.5 (0.13)	310 (140)	4	
32 (800)	8.5 (0.24)	6 (0.17)	355 (162)	5	
37 (950)	10.5 (0.30)	7.25 (0.21)	435 (198)	5	

DEEP PROFILE BUCKETS		CAPACITY SAE		WEIGHT	
WIDTH* in (mm)	RATED ft ³ (m ³)	STRUCK ft ³ (m ³)	+ TEETH lb (kg)	TEETH	
12 (305)	3 (0.09)	2.5 (0.07)	225 (102)	3	
18 (457)	5.5 (0.16)	4.5 (0.13)	269 (122)	3	
24 (610)	8 (0.23)	6.25 (0.18)	314 (142)	4	
32 (800)	10.5 (0.30)	8.5 (0.24)	359 (163)	5	
37 (950)	0.5 (0.38)†	10.5 (0.30)	403 (183)	5	
43 (1100)	0.375 (0.48)†	12 (0.34)	448 (203)	6	

*Including sidecutters. Width less sidecutters deduct 25mm (1in). †Capacity in cu yd

LOADER DIMENSIONS

Shovel type – 1.3 cu.yd. General Purpose on quick hitch	
	ft-in (m)
M Dump height	9-7 (2.92)
N Loadover height	12-1 (3.70)
O Pin height	12-11 (3.96)
P Pin forward reach	2-5 (0.75)
Q Reach at ground (Toe plate horizontal)	7-10 (2.39)
R Max. reach at full height	6-5 (1.96)
S Reach at full height fully dumped	4-8 (1.43)
T Dig depth	0-5 (0.14)
U Rollback at ground	degrees 48°
V Dump angle	degrees 45°

LOADER ATTACHMENTS

G.P. SHOVEL – CAPACITY SAE		
WIDTH ft-in (m)	RATED yd ³ (m ³)	STRUCK yd ³ (m ³)
8-0 (2.44)	1.32 (1.00)	1.06 (0.81)



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ENGINE

Conforming to EPA 02 on highway emissions limits, the full authority electronic engine delivers good fuel consumption, the ability to use pump diesel or aviation turbine fuels such as JP8 or F34 and optimized torque and power curves.

Two stage dry type air filter has primary and safety elements.

Make	Cummins
Model	ISB 02
Displacement/Lt	5.9
No. cylinders	6
Bore size/mm	102
Stroke/mm	120
Aspiration	Turbocharged with charge air cooling
Air filter	Dual element, dry filter
Cold start	Inlet grid heater
Power rating to:	ISO/TR 14396 & SAE J1995
Gross power @ 2300 rpm	200hp (149kW)
Gross torque @ 1600 rpm	520 lbf.ft (705Nm)

TRAVEL SPEEDS

On standard tires	
Gear	mph (km/h)
1st forward	7.6 (12.2)
2nd forward	11.7 (18.8)
3rd forward	18.0 (29.0)
4th forward	27.9 (44.9)
5th forward	41.8 (62.3)
6th forward	55.0 (88.5)
1st reverse	8.0 (12.8)
2nd reverse	19.0 (30.6)

ELECTRICS 24 VOLT

Starting circuit	24 Volt
Standard alternator	200 Amp 28V brushless
No. front work lights	2 adjustable
No. rear work lights	4 adjustable

MULTI MODE SUSPENSION SYSTEM

Full suspension with optimized spring rates and damping gives increased mobility and operator comfort and predictable handling on highway.

The suspension system allows the operator to select one of four suspension modes –

- Travel mode – full suspension for travel on and off highway
- Transport / Maintenance mode – lowers suspension for tie-down, storage or workshop
- Loader mode – front axle locked for maximum stability, rear axle oscillates
- Backhoe mode – rear axle locked, front axle oscillates

TRANSMISSION

The ZF Ergopower transmission allows full power gear shifts without loss of speed or momentum. Gear shifts can be under operator control or fully automatic. Electrically operated reversing shuttle enables fast loading cycle times. Torque converter and low first and second gear ratios give excellent tractive effort for loading and sitestripping. Transmission controlled torque converter lock-up gives improved fuel economy and on-highway performance.

- Easy to use column mounted electric switch controls both machine direction and gear selection
- Direction changes are modulated from forward to reverse with detented lever gates for safety. The light electric twist grip provides low effort shifting between gears
- Torque converter (13.4°) stall ratio: 1.79:1
- Electrical selection of 4WD

AXLES

Dedicated JCB heavy duty steer-drive axles front and rear. Both axles incorporate JCB soft-engage differentials enabling on-the-move engagement of differential locks.

WHEELS AND TIRES

Bridgestone 445/80 R25 tires on steel 2 piece rims. Hutchinson VFI runflat inserts can be fitted to preserve mobility in the event of tire burst or deflation.

BRAKES

Outboard dry discs with twin callipers front and single callipers rear provide outstanding retardation and endurance.

- ABS for controlled stopping in difficult conditions
- Air over oil operation for low pedal efforts
- Service brake disc diameter 18.1in (460mm)
- Parking brake provided by two spring applied hydraulically released callipers operating on discs mounted on the transmission output shafts. Capable of holding vehicle on 1:2.5 (21.8 degrees) slope. Park brake disc diameter 14.9 in (380mm).



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STEERING

Three operator selectable steering modes available.

- 2WS for on-highway travel. Power assisted mechanical front steering and locked rear steering
- 4WS for loading duties and confined sites. Power assisted mechanical front steering and synchronised hydrostatic rear steering
- Crab steer for parallel drive when digging close to walls and other obstacles. Power assisted mechanical front steering and synchronized hydrostatic rear steering



	4WS	2WS
A Min. curb-curb	34'6" (10.38m)	60'4" (18.40m)
B Min. Wall-wall	42'11" (13.10m)	65'11" (20.10m)

(Depending on tyre size, ground condition and front ancillaries etc.)

CAB

The cab is designed to allow machine drive-on access to C130 transport without modification. ROPS and FOPS certified with seating for 2 people approved to ISO 3471 and 3449 (SAE J1040 and J231) for maximum operator protection.

- Fully adjustable operator's seat with ergonomically positioned controls to minimize operator fatigue. Fixed passenger seat. 3 point inertia reel seat belts for both seats meeting SAE J386 and FMVSS 210 and 207
- Cab provides two door access. Standard features include 3 speed heating and air conditioning blowers, front and rear screen wash/wipers, front and rear horn, exterior mirrors, and sliding rear glass
- The main instrument panel is positioned to the right-hand side for ease of viewing from either the loading or excavating position. The main panel carries full instrumentation for vehicle systems and audio/visual warning of system failure. Warning lights for key systems are repeated on a panel in front of the steering wheel
- SAE J1939 CANBUS enables diagnostic access to main vehicle systems

HYDRAULICS

The hydraulic system is comprised of 2 fixed displacement gear pump sets and one electrically operated emergency pump feeding the open center loader and backhoe control valves. Hydraulic integrated circuit manifolds control suspension, steering, parking brake, transmission services, and cooling fan drive.

The system incorporates:-

- Gear pumps for high reliability, low noise operation of main hydraulics
- Electrically driven emergency pump allowing limited operation of main hydraulic functions in the event of engine failure
- Integrated hydraulic handtool circuit to HTMA type 2 with 50 foot hose reel
- Full flow 10 micron filter to ensure that oil stays free of contaminants
- Auxiliary hydraulic connections on loader and backhoe for optional attachments

PUMP FLOWS

Open Center System

Main pump 1:	26.4 gal/min (100ltr/min) at 2300 rpm rated engine speed.
Auxiliary pump 2:	18.5 gal/min (70ltr/min) at 2300 rpm rated engine speed.
Emergency pump 3:	3 gal/min (12ltr/min).



CAPACITIES

Hydraulic system (inc. tank)	41.5 gal (157 ltrs)
Fuel tank	60.7 gal (230 ltrs)
Engine coolant	9.8 gal (37.1 ltrs)
Engine oil (inc. filter)	3.9 gal (15.0 ltrs)
Axle differential casing (each axle)	4.8 gal (18 ltrs)
Axle hubs (each axle)	0.8 gal (3.0 ltrs)
Transmission (inc. filter)	7.9 gal (30.0 ltrs)

WEIGHT

Operational weight with one operator, 1.3 cu. yd. GP shovel, 24" standard profile backhoe bucket, full fuel load, no stowage = 26,283lb (11,922kg).

STANDARD EQUIPMENT

Tinted glass, Front sunvisors, Front and rear wipers and washers, Cab heater with front and rear demist, Air conditioning, Operator and passenger seat, 3 point inertia reel seat belts, Reverse alarm, External mirrors, Fire extinguisher, Road lights, Front and rear work lights with light guards, Battery isolator, Inter-vehicle starting socket, Support and maintenance struts for loader and backhoe, Hydraulic self levelling for loader end, Loader quick hitch with 1.3 cu. yd. GP shovel with teeth, 24" standard profile excavator bucket with teeth, Tire inflation supply, Spare wheel, Hydraulic handtool supply and 50ft hose reel, Lighting blackout system.

OPTIONAL EQUIPMENT

Range of shovels, Bolt on cutting edges for shovels, Lifting shackle or hook for backhoe, Excavator quick hitch, Wide range of excavator buckets including ditching and grading buckets, Excavator mounted hydraulic hammer, Biodegradable hydraulic fluid, External equipment stowage box, Quick hitch fork frame with sideshift and rotate, Auger, Breaker, Compactor/tamper, Post driver, Rock/ripper bucket, Sand bagger, Snow plow, Sweeper.