

Bid specifications for Deere 710G or similar Wheel Loader Backhoe

Compliance

Engine

yes	no	Six cylinder, turbocharged, isolation mounted diesel engine and shall be designed and built by the manufacturer
yes	no	Engine shall have a individually replaceable, wet-sleeve cylinder liner design to dissipate heat for reduced ring wear and oil breakdown.
yes	no	Engine displacement shall be no less than 6.8 liters (414 cu. in.)
yes	no	Engine rated net peak power (ISO9249) shall be no less than 130 hp (97 kW) @ 2000 rpm
yes	no	Engine shall develop at least a 32% torque rise and should have at least 405 lb-ft (550 Nm) net torque at 1300 rpm
yes	no	Daily check points shall be accessible from the right side of the engine and shall be done from ground level
yes	no	Engine shall have a serpentine belt with automatic belt tensioner reducing required maintenance
yes	no	Under-hood engine air cleaner shall be dry type, dual element with evacuator valve, restriction sensor and in-cab restriction warning light
yes	no	The backhoe shall have a tilt hood for easy engine access
yes	no	Engine shall have no more than 3-micron rated primary fuel filter with water separator
yes	no	Unit to be equipped with an engine block heater

Cooling

yes	no	Engine coolant shall be rated to -40 degrees F (-40 C)
yes	no	The backhoe shall be equipped with an oil-to-water engine oil cooler
yes	no	Unit shall have a coolant recovery tank provided
yes	no	Unit shall have an electronically-controlled, variable rate suction-type fan for reduced Hp draw, reduced fuel consumption and quieter operation
yes	no	The hydraulic and transmission circuits will be water cooled for fast winter warm-up for increased productivity
yes	no	Fluid levels should be easily checked by sight gauges, dipsticks or overflow tank

Power Train

yes	no	The transmission shall be powershift with torque converter; clutch-free; fully synchronized four forward
yes	no	The axle will be mechanical -front-wheel-drive with traction control limited-slip differential with electric on/off control
yes	no	The front axle will be sealed to protect against contamination
yes	no	The driveshaft will be painted for protection, and will have an optional, factory installed, full guard.
yes	no	The clutch engaged MFWD can be engaged on the fly during operation.
yes	no	The transmission shall be isolation mounted to the mainframe to minimize shock load stress
yes	no	The rear axle shall be 100% hydraulically locking
yes	no	The single electric TCL (Transmission Control Lever) will have gear selection fully integrated in the lever
yes	no	Transmission oil cooler shall be provided as standard equipment
yes	no	The operator can enable a differential lock protection in the monitor, which will not allow the differential lock to be engaged above 1000 rpm to prevent damage to components
yes	no	The backhoe shall have hydrostatic power steering with emergency manual mode
yes	no	The machine will have a dial throttle that will allow the operator to road the machine on cruise control. With a tap on the brake pedal, the engine RPMs return to idle.
yes	no	The front axle pivot pin shall have remote grease bank for front axle for easy access.
yes	no	The rear axle bearings shall be self-lubricating and shall not need to be greased
yes	no	The service brakes shall be inboard, wet-multiple disk, self-adjusting and self equalizing and hydraulically actuated for a long and trouble-free life, sealed from water, mud and dust contamination
yes	no	The parking brake shall be independent of service brakes, spring applied, hydraulically released, wet multi-disk, and sealed from water, mud and dust contamination.
yes	no	The backhoe shall come equipped with 21L-28 R-4 (14) tubeless rear tires and 15-19.5 NHS SS-1 12 PR Traction Fron Sure Grip Lug tires for MFWD unless otherwise specified.
yes	no	Park brake will automatically apply when engine is shut off

Hydraulic System

yes	no	Hydraulic cooler will have a dedicated reservoir for continuous running of attachments at extreme temperatures
yes	no	The hydraulic fittings shall have "O"-ring face seal connectors to secure a tight, leak-free seal
yes	no	The hydraulic filter shall be no more than 6 micron and will be vertically mounted, spin on design for ease of installation and leak-free replacement.
yes	no	Machine shall be equipped with Auto Idle to lower rpm when hydraulics are not active to conserve fuel and reduce noise levels

yes	no	Machine shall be equipped with Economy Mode that can be activated in the monitor, to provide the maximum productivity at the maximum fuel efficiency in 1st & 2nd gears
yes	no	The machine will have a customizable AutoShut Down Mode
yes	no	The machine will have Ride Control as base equipment
yes	no	An automatic bucket return-to-dig control will be standard
yes	no	Hydraulic pump shall be 52 gpm (197L/min.) at 2,200 rpm at 3,625 psi (24 993 kPa) axial piston pump, pressure compensating, load sensing
Electrical		
yes	no	The backhoe shall have a 12 volt system with 120 amp alternator
yes	no	Two batteries shall be included with 1900 CCA and 380-min. rated reserve
yes	no	The machine shall have blade type, multi-fused circuits
yes	no	The starter shall have a bypass start safety cover
yes	no	Unit shall be equipped with 10 halogen lights, 4 front driving/working, 4 Rear working, and 2 side docking lights. The front lights shall be adjustable and the bulbs shall be no less than 32,500 candlepower each.
yes	no	Unit shall be equipped with two front and two rear turn signal/flashing and two rear stop and tail lights and two rear reflectors
yes	no	Cab will be pre-wired for rotating beacon and radio-ready
yes	no	unit to have battery disconnect switch
Operator Station		
yes	no	Access to the cab shall be from the right and left side with protected, wide, rigid, self-cleaning, slip-resistant steps and ergonomically located hand-holds
yes	no	A minimum 3" retractable seat belt shall be provided
yes	no	Coat hook, built-in beverage holder, operator manual storage compartment, interior rearview mirror and two 12 volt outlets shall be provided
yes	no	Unit shall be equipped with illuminated electronic gauges with audible warning for engine coolant temperature, oil temperature and fuel level.
yes	no	The monitor system shall have audible and visual warnings: engine air restriction, low alternator voltage, engine oil temperature and pressure, hydraulic filter restriction, parking brake on/off, seat belt and low brake pressure.
yes	no	The machine will have a keyless start
yes	no	The machine will have a sealed switch module that provides controls in a highly durable keypad that is all located in one central location on the right hand console
yes	no	The monitor will have a multi-language (English, French and Spanish) digital monitor for diagnostics (including diagnostic messages and fault code readings), calibrations and machine information.
yes	no	Machine Security code protection system provided through the monitor shall be standard.
yes	no	Unit shall have digital display for: engine rpm, engine hours and system voltage
yes	no	The foot throttle shall be suspended
yes	no	Stabilizer controls shall be easy to reach from both the backhoe and loader seat position
yes	no	The machine will have an optional cab and air conditioner available from the factory.
yes	no	Machine will have lockable storage on the right-hand side of the cab
yes	no	Machine will have the option of additional lockable storage on the left-hand side of the cab
General Specifications		
yes	no	Vandal protection shall cover the instrument panel. Engine hood, toolbox, hydraulic reservoir, and fuel filler shall be lockable.
yes	no	The tilt hood shall have two service positions for easy operation
yes	no	An easy to read periodic maintenance and grease chart shall be posted at eye level prominently displayed on the frame.
yes	no	Fuel tank capacity shall be no less than 69 gallons (261.2 L) and shall be accessible from the ground.
yes	no	Typical operating weight with cab, MFWD, extendable dipperstick and 1,400 lb (635 kg) counterweight with 1.62 cu yd (1.24 cu m) loader bucket and 24-in x 11.1 cu ft (610 mmx .31 cu m) backhoe bucket standard shall be approximately 26,747 lbs (12 130 kg). Excessive weight causes excess wear on transport and towing vehicles and can cause problems in soft ground conditions.
Overall Vehicle		
yes	no	The mainframe shall be a one-piece unitized construction for maximum strength
yes	no	Unit shall have four built-in vehicle tiedowns, two in front and two in rear for safe transport between jobs
yes	no	The side plate thickness on the loader boom, backhoe boom and mainframe shall be 4.5 mil or greater
yes	no	Machine shall be equipped with an exterior mounted, ground level accessed and lockable storage compartment
yes	no	Machine shall be equipped with a telematics system that enables machine monitoring, logistics and remote diagnostics include remote reprogramming
Backhoe		

yes	no	The backhoe with standard dipperstick digging depth shall be at least 17 ft 10 in (5.44 m)
yes	no	The lift capacity at ground level with standard dipperstick shall be no less than 3645 lb (1653 kg)
yes	no	The lift capacity at full height with standard dipperstick shall be no less than 4376 lbs (1985 kg)
yes	no	Optional extendible dipperstick shall extend no less than 4 ft 6 in (1.37 m) and shall be greaseless
yes	no	Digging depth with optional extendible dipperstick extended shall be no less than 22 ft 4 in (6.81 m)
yes	no	The swing lock pin shall be stored in the operator's station
yes	no	The stabilizer valve will be two directional, anti-drift
yes	no	The stabilizer shall have reversible pads
yes	no	The backhoe boom design shall be a power curve for loading into the center of the truckbed.
yes	no	The backhoe boom shall be an hourglass shape for maximum strength and optimized visibility to the work tool.
yes	no	Digging force with standard backhoe, bucket cylinder shall be at least 17,000 lb (75.6 kN)
yes	no	The backhoe shall be equipped with a rubber bumper/linkage style boom locks to keep the backhoe from vibrating on the swing frame
yes	no	The swing casting shall have dual yokes: on top and on the bottom
yes	no	Unit to be equipped with Ext-hoe, Wain-Roy swinger and 60" grading bct
Loader		
yes	no	Lift Capacity with 1.38 yd multi pupose bucket at full height shall be at least 8732 lbs
yes	no	Dump Clearance with bucket at 45 deg. shall be no less than 9 ft 8 in
yes	no	Digging depth below ground, 1.38 cu yd multi purpose bucket level shall be no less than 3.2 in
yes	no	Bucket breakout force shall be no less than 15,690 lbs
yes	no	The loader shall have hydraulic self-leveling and bucket-level indicator.
yes	no	The loader shall have divergent loader arms for excellent visibility to the bucket
yes	no	For truck loading, the loader arms will have a high-knee design
yes	no	The loader control will be single-lever with electric clutch cutoff switch
yes	no	The loader shall have a non-removable, hinged loader boom service lock.
yes	no	Unit to be equipped with 1.38 cu yd multi purpose loader bct
yes	no	Extended Warranty (Comprehensive) Five (4) year or 2,000 hours