

General Bid Specifications
3CX-14 Super Backhoe Loader

Current production model 14-foot class backhoe loader. All specifications must comply with SAE or ISO standards

The backhoe loader shall be equipped with the following features and/or specifications:

MACHINE SPECIFICATIONS

Engine

- Y ___ N ___ Specify _____ Minimum 4.4L displacement engine
- Y ___ N ___ 4 cylinder, 16valve, 4-cycle, turbocharged, direct injection, ecoMAX engine
- Y ___ N ___ EPA T4F regulations without aftertreatment
- Y ___ N ___ Specify _____ Cold start aid=>coolant protection up to -22degreesF
- Y ___ N ___ Water cooled
- Y ___ N ___ Self cleaning pre-cleaner with automatic expulsion of excess dust
- Y ___ N ___ Air filtration-two stage system-primary and secondary elements
- Y ___ N ___ Fuel filtration-two stage, warning lamp for water in fuel
- Y ___ N ___ Full flow pressure lubrication with spin-on filter cartridge
- Y ___ N ___ Specify _____ Min 91 hp @ 2200RPM (109hp option available)
- Y ___ N ___ Specify _____ 320 lb ft maximum torque @ 1200rpm (381 ft lb torque optional)
- Y ___ N ___ Throttle control-hand and foot operated
- Y ___ N ___ Air to fluid coolers for maximum efficiency
- Y ___ N ___ Separately serviceable radiator, hydraulic cooler and transmission cooler
- Y ___ N ___ Internal oil cooler
- Y ___ N ___ Poly-V belt for fan and alternator
- Y ___ N ___ Specify _____ No DPF to reduce operating costs

Aftertreatment

- Yes ___ No ___ 5 gallon DEF tank heated by engine coolant
- Yes ___ No ___ Heated DEF lines
- Yes ___ No ___ Different key for DEF tank vs. diesel tank
- Yes ___ No ___ DEF quality sensor
- Yes ___ No ___ DEF tank and Diesel Tank mounted on different sides to reduce likelihood of contamination

Transmission

- Y ___ N ___ Single lever powershift transmission (optional synchro-shuttle or autoshift)
- Y ___ N ___ Separate unit mounted to engine
- Y ___ N ___ 4-speed, full synchromesh gearbox with integral torque convertor and electrically operated reversing power shuttle
- Y ___ N ___ Column mounted electric reversing shuttle which can change machine direction while allowing operator to keep hands on the steering wheel leading to fast cycle times
- Y ___ N ___ 12 in. torque converter
- Y ___ N ___ 4-pattern gear lever with transmission disconnect switch adds to the overall ease of operation
- Y ___ N ___ Pressure lubrication with spin-on cartridge filter
- Y ___ N ___ On-the-move gear changes
- Y ___ N ___ Planetary transmission gears
- Y ___ N ___ Clutch disconnect button on loader control lever
- Y ___ N ___ Column mounted electric reversing shuttle which can change machine direction while allowing operator to keep hands on the steering wheel leading to fast cycle times
- Y ___ N ___ On-the-move gear changes
- Y ___ N ___ Electrically operated on loader control lever to allow disengagement for shifting or loader operations
- Y ___ N ___ Specify _____ Torque converter stall ratio is 2.52:1
- Y ___ N ___ Specify _____ 4 forward and 4 reverse gears
- Y ___ N ___ Specify _____ Min forward speed 22.8 mph with std tires (powershift Transmission)
- Y ___ N ___ Specify _____ Min. reverse speed 22.8 mph with std tires (powershift Transmission)
- Y ___ N ___ Air to fluid transmission cooler

Powertrain

- Y ___ N ___ A single fill and check point for rear axle shall be standard equipment
- Y ___ N ___ Specify _____ Four wheel drive with ability to turn on/off 4WD braking
- Y ___ N ___ Rear drive axle rigidly mounted, incorporates torque proportioning

Y__N__
Y__N__
Y__N__

differential, driven by short propshaft from gearbox.
Front steer axle, centrally pivoted with oscillation angle of 16 degrees
Four wheel drive with ability to turn on/off 4WD braking
Front axle includes torque proportioning differential transferring torque to wheel with traction
Steering cylinder located behind front axle

Front Axle
Y__N__

4WD

Rigidly mounted, incorporates torque proportioning differential, driven by short propshaft from gearbox.
36376 lb static load rating (16499 kg)
18300 lb dynamic load rating (8303 kg)
16 degree oscillation angle

Y__N__ Specify _____
Y__N__ Specify _____
Yes__No__ Specify _____

Rear Axle

Y__N__
Y__N__ Specify _____
Y__N__ Specify _____

Limited slip rear differential with outboard planetary drive
55125 lb static load rating (25011 kg)
27562 dynamic load rating (12505kg)

Brakes

Y__N__

Service brakes: Hydraulically actuated dual line, self adjusting, oil immersed, multi-disc type on the rear axle, well protected from dirt, water etc. requiring no maintenance.
Hand operated parking brake, disc brake on rear axle input disc.
Brake pedal: Two independently operable foot pedals enable machine to maneuver in tight spaces. Pedals are linked together for normal use
2WD/4WD: Electrical selection between 2WD/4WD allows on-the-move changes.
High back-off, servo-assisted power brakes

Y__N__
Y__N__

Y__N__ Specify _____
Y__N__ Specify _____

Electrical System

Y__N__ Specify _____

12 volt negative ground, utilizing wiring and connectors meeting IP69 water ingress test standard
Central fuse panel
110A/hr battery
150 amp alternator standard
2 fixed and 2 adjustable rear working lights
12 volt outlet for accessories, mobile phone holders
Auto daily checks - all under hood checks electronically performed on startup
Engine oil level sensor
Light and alarm for battery charge condition, coolant temperature, engine oil pressure, transmission oil pressure, transmission oil temperature, air cleaner restriction, parking brake engagement and water in the fuel
Engine oil level sensor
Light indicators for front work lights on, rear work lights on, turn signal and 4 way flashers

Y__N__
Y__N__ Specify _____
Y__N__ Specify _____
Y__N__ Specify _____
Y__N__ Specify _____
Y__N__
Y__N__
Y__N__

Y__N__
Y__N__

Seat/operator platform

Y__N__
Y__N__
Y__N__
Y__N__
Y__N__

AutoSMOOTHIDE system with 3 position switch for on, off and auto functions
AutoSTABILIZERS up fitted as standard
AutoBOOMLCOK fitted as standard
AutoDLE with selectable idle delay between 2-14 seconds
AutoTHROTTLE set hand throttle and machine remembers selected engine RPM while transitioning from loader to backhoe
Standard Air Suspension seat
Entry from left and right side
Full sure grip composite floor for easy cleaning
Front windshield with 2 speed plus intermittent wiper and washer and interior rear view mirror
Openable side windows
One piece rear window to open overhead
Cup holders

Y__N__
Y__N__
Y__N__
Y__N__

Y__N__
Y__N__
Y__N__

Y ___ N ___	Storage compartment
Y ___ N ___	Upper and lower vent system
Y ___ N ___	Rear wiper with washer
Y ___ N ___	Radio pre-wire including speakers
Y ___ N ___ Specify _____	Operator ear noise level at 72dB or below at rated speed with no load
Y ___ N ___	Ability to switch from hi/low flow from the cab for differing attachments
Y ___ N ___ Specify _____	Min. 4 isolation mounts
Y ___ N ___	Insulation for max temp and sound control
Y ___ N ___	Suspended accelerator
Y ___ N ___	All glass surface free of rubber mouldings
Y ___ N ___	3 position interior light
Y ___ N ___	Simple handle loader control with top-mounted clutch cut-out button
Y ___ N ___	Auxiliary loader hydraulic control built into the single handle loader control
Y ___ N ___	Forward/reverse power shuttle lever mounted on the steering column
Y ___ N ___	Cab/Canopy pre-wired for strobe or beacon light

Loader

Y ___ N ___	Loader control with integral transmission disconnect switch
Y ___ N ___	True parallel lift to maintain level load on raise and lower cycles
Y ___ N ___ Specify _____	Min. 1.4cubic yard capacity heavy duty loader bucket
Y ___ N ___ Specify _____	Min. 13603 lbf loader bucket breakout force
Y ___ N ___ Specify _____	Min. 9,231 lbs lift capacity
Y ___ N ___ Specify _____	Min. 9' dump height
Y ___ N ___	Bucket return-to-dig
Y ___ N ___	Heavy duty in-line loader arms
Y ___ N ___	Arch design for short turning circle
Y ___ N ___	Dual parallel bucket cylinders
Y ___ N ___	Full bucket rollover for dozing
Y ___ N ___	Full bucket rollover for stability in backhoe operation
Y ___ N ___	Pre-drilled edge
Y ___ N ___	Heavy duty lifting eyes
Y ___ N ___	Flat top shovel
Y ___ N ___ Specify _____	Dump reach 2ft 8in at full height
Y ___ N ___ Specify _____	Loader pin height of 11ft 4in
Y ___ N ___ Specify _____	Cat tail/ Rat Tail / Flair welds
Y ___ N ___	Large Torque box that goes through the loader arms
Y ___ N ___ Specify _____	D-Shaped loader arms with 2 welds for strenght

Backhoe and controls

Y ___ N ___	Heavy duty mainframe with sealed swing post pins and swing cylinder pins
Y ___ N ___	Fabricated boom and dipper
Y ___ N ___	Floor mounted two lever mechanical controls for operation of the backhoe
Y ___ N ___	Controls must allow to utilize the backhoe both while facing rear and forward
Y ___ N ___ Specify _____	Max. dig depth to equal or exceed 14' retracted
Y ___ N ___ Specify _____	Bucket breakout force to equal or exceed 13940lbf
Y ___ N ___ Specify _____	Bucket rotation capable of 201 degrees minimum
Y ___ N ___	Grease pins in the swing tower to boom base
Y ___ N ___	Replaceable bushings in the swing tower to boom base mounting pins
Y ___ N ___	Inner extending dipper for better stability and strength
Y ___ N ___	Equal length boom and dipper for better stability, visibility and productivity
Y ___ N ___ Specify _____	2" backhoe swing frame for increased strength
Y ___ N ___	Minimum 18,000 lbs of swing torque
Y ___ N ___ Specify _____	Minimum 60 mm swing cylinder rod size
Y ___ N ___ Specify _____	Minimum dipper lift capacity 6 feet above ground of 3939 lbs with a standard dipperstick

Hydraulics

Y ___ N ___	Open center valve block (optional closed center valve block)
Y ___ N ___	Full flow valve block (optional flow sharing valve block)
Y ___ N ___ Specify _____	Main relief valve : 3655psi
Y ___ N ___ Specify _____	Unloader valve 3002psi
Y ___ N ___	Axial piston pump for improved productivity and fuel consumption
Y ___ N ___ Specify _____	44 gpm pump capacity

Y__N__
Y__N__
Y__N__
Y__N__
Y__N__
Y__N__
Y__N__

Filtration through suction strainer and return line filter
During excavation the circuit automatically varies hydraulic power to match digging conditions for extra performance, control and power
Careful routing of hydraulic hoses and pipework guards against site damage and allows easy servicing
Separate oil reservoir not shared with other systems
Separate loader/backhoe hydraulic system oil cooler
Hoses to have burst pressure at 4 times working pressure
Structural steel pipe to withstand minor impacts

Tires

Y__N__

Galaxy Industrial, 12.5-18-10 ply front & 21L-24-10 rear tires

Serviceability and maintenance

Y__N__
Y__N__
Y__N__
Y__N__
Y__N__ Specify _____
Y__N__ Specify _____
Y__N__
Y__N__

Rear tilt engine hood for easy access to service points and provides vandal protection
Front grill screen that is key lockable
Maintenance free battery
External toolbox with integral locking handle
39.6 gallon fuel tank
31 gallon hydraulic system
500 hour service interval for engine oil
Standard 2-year LiveLink subscription - machine monitoring + security updates

Warranty

Y__N__ Specify _____

Standard Warranty-12 months, no hour limitation, with an additional 12 months or 2,000 hour.

OPTIONAL EQUIPMENT

Engine

Y__N__ Specify _____
Y__N__

109hp @ 2200RPM, 381 lb ft torque
Autopreheat system to automatically heat the engine block, cab and front windshield

Transmission

Y__N__ Specify _____
Y__N__

Autoshift transmission with TorqueLOCK with capability for top speed of 26 mph
Synchro-shuttle transmission

Loader

Y__N__ Specify _____
Y__N__ Specify _____
Y__N__ Specify _____

Loader arm pipework/3rd function hydraulics
6-1 shovel, 92" wide
6-1 shovel, 96" wide

Backhoe

Y__N__
Y__N__ Specify _____

Hammer circuit with internally routed hoses with selectable hi/low flow from operator station
Combined Hammer/Bi-directional circuit

Extending dipper

Y__N__
Y__N__
Y__N__
Y__N__ Specify _____
Y__N__ Specify _____
Y__N__ Specify _____

Extending dipper to extend inner section to trench
Synthetic wear pads with external adjustment for extending dipper
Dry type wax oil to be used on extending dipper
18'6" max dig depth
13730 lbf bucket breakout force
20'10" max working height

Optional Tires

Yes__No__
Yes__No__

Galaxy Industrial 14x17.5x10 ply front, 19.5x24 rear tires
Michelin XMCL 340/80-18 & 440/80-28

Additional Options

Y__N__

Engine block heater

Y__N__
Y__N__
Y__N__
Y__N__
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Headlights
12V 1000 CCA battery
220 lb counterweight
397 lb counterweight
750 lb counterweight
Exterior rear view mirrors
Instrument vandal guard
ISO 46 biodegradable oil
Seat headrest
3" seat belt
Flip over stabilizer feet
Stabilizer cylinder protection
Stabilizer street feet
Front Fenders
Backhoe buckets
Backhoe mechanical quick coupler
Backhoe hydraulic quick coupler
Hand held tools hydraulic circuit
Cab air conditioning
Air suspension seat
Loader bucket other than specified
Roof mounted beacon or strobe
SMV emblem