

TOWNSHIP OF ST. CLAIR

SPECIFICATION AND CONFIRMATION

2006 BACKHOE LOADER

SPECIFICATION SUMMARY:

- S.A.E. Backhoe digging depth 18' 0" (5.49m) min.
- Loader bucket capacity – 1.3 cu.yd. (1.0 cu.m.)
- S.A.E. operating weight 15,900 lbs. (7212.2 kg.)
- Engine, diesel turbocharged 86 net HP min
- Transmission 4 F 3R – torque converter min.

CONFIRMATION:

- | | |
|--------|---------------|
| Yes: | No: ✓ 17' 11" |
| Yes: ✓ | No: |
| Yes: ✓ | No: |
| Yes: ✓ | No: |
| Yes: ✓ | No: |

GENERAL SPECIFICATION

This unit shall be supplied with all standard equipment,
Plus all other equipment required by this specification.

Yes: ✓ No:

Specification definitions shall be to S.A.E. standards
Unless stated otherwise.

Yes: ✓ No:

DETAILED SPECIFICATION

1. Make and model

Specify:
Make: Caterpillar
Model: 420E

2. TYPE:

The unit shall be designed as an integral
backhoe loader with a backhoe, but not
a tractor fitted with a loader and a backhoe.

Yes: ✓ No:

The unit shall be supplied with a hydraulically
operated extendable dipperstick attachment.

Yes: ✓ No:

3. ENGINE:

Diesel powered, 86 net flywheel H.P. minimum, within governed R.P.M. range

Specify:
Make: *Caterpillar*
Model: *3054C DIT*
H.P. *89 hp*
Specify: *285 ft lbs*

Net torque 273 ft-lbs. minimum

Specify: *268 cu in, 4 Stroke Turbo Diesel*

Displacement - 276 cu. in., minimum
4 stroke turbocharged Wet sleeve engine

4. POWER PLANT PARTS:

Air cleaner - dry type with restriction indicator and pre-cleaner shall be supplied.

Specify *Yes*

Oil filter - removable element type.

Specify: *Yes*

Battery - two 12 volt batteries with minimum reserve capacity of 150 minutes, and 950 CCA each.

Rating: *880 CCA x2*

Alternator 95 amp. minimum.

Yes: No:
Specify: *90 Amp*

Fuel Filter - shall be supplied

Yes: No:

Engine hourmeter, water temperature gauge, fuel gauge and tachometer shall be supplied. Monitor system and/or gauges with audible and visual warnings for all other functions.

Yes: No:

Foot accelerator shall be supplied.

Yes: No:

Electric starter shall be supplied.

Yes: No:

Ether cold weather starting aid.

Yes: No:

Pressurized liquid cooling system with thermostat and coolant recovery bottle. Anti-freeze -35 degrees F shall be supplied.

Yes: No:

Engine Coolant heater to be supplied.

Yes: No:

5. WEIGHT:

SAE Operating weight - 15,900 lbs. (7212 kg.) minimum with ROPS cab and equipment specified. (without ballast in tires or loader bucket)

Specify: 16,200 lbs

Centre of gravity shall be well within the rear of the Area enclosed by the chassis.

Yes: No:

6. **TRANSMISSION:**

The transmission shall be powershift with torque converter 4 forward and 3 reverse gears

Yes: No:

Specify: 4F3R

Maximum transport speed shall be no less than 20 MPH (33 km/h)

Yes: No:

Specify: 40.1 km/h

Maximum speed in first gear at engine rate rpm shall not exceed 4.0 mph (6.4 km/h).

Yes: No:

Specify: 6 km

Clutches reversing shall be supplied by means of full powershift and torque converter.

Specify: Yes

7. **AXLES:**

SAE J43 front axle load rating (static) shall be 18,860 lbs. (8555 kg) minimum.

Specify: 20,233 lbs.

Rear axle shall be equipped with a foot-operated, automatic release differential lock engageable on the go, and under full engine rpm.

Yes: No:
Specify:

Mechanical front wheel drive engageable on the go shall be supplied.

Yes: No:
Specify:

Mechanical front wheel drive shall be equipped with a Limited Slip Differential

Yes: No:
Specify:

Front axle completely sealed, no vents to allow contamination

Yes: No:
Specify:

8. **STEERING:**

Full power steering, shock resistance and easily Operated by the operator whether sitting or standing. Emergency dead engine steering capability.

Yes: ✓ No:

Bucket clearance circle of 35' 3" (10.74m.) maximum without brakes applied and front wheel drive engaged

Yes: No: ✓
Specify: 35' 7"

Turning radius to outside tire edge shall not exceed 13' 8" (4.17m.) maximum without brakes applied.

Yes: No: ✓
Specify: 26' 9" ?

9. **BRAKES:**

Wet disc all hydraulic service brakes, self adjusting and self equalizing shall be supplied.

Yes: ✓ No:

Parking brake supplied, shall be independent of service brakes and should engage automatically and neutralize transmission when engine shuts down.

Yes: No: ✓ independant, but manual Engagement

Parking/secondary brake shall be of sufficient design to hold weight of machine on slope.

Yes: ✓ No:

Parking brake shall have indicator light. All brakes must conform to SAE J1473 specification.

Yes: ✓ No:
Yes: ✓ No:

Audible alarm sounds in the cab if the operator turns seat to the backhoe position while FNR lever in gear.

Yes: No: ✓

10. **TIRES:**

Front tires shall be 12.5/ 80-18 10 ply minimum.

Specify: 12.5/80-18 10 ply

Rear tires shall be 19.5 X 24 8 ply minimum, R4 tread pattern.

Specify: 19.5 x 24 8 ply R4

11. **FRAME:**

Vehicle frame shall feature a single-piece weldment, Full-length unitized main frame.

Yes: ✓ No:

Unit shall have two front and one rear built-in Transport tie-downs.

Yes: ✓ No:

12. **CAB:**

An enclosed weather-proof **deluxe** steel cab shall be provided with dual side door openings for easy access to the driver's seat, with tinted safety glass, latched windows, lockable cab doors, and including sound suppression with maximum dBa rating of 76 dBa.

Yes: No:

A roll over and falling objects protective structure shall be incorporated into the cab. (SAE J 1040, J 1043 or J231)

Yes: No:

Seat - adjustable, air-suspension, turnable deluxe fully padded with a shock resistance device, lumbar support and adjusting armrests.

Yes: No:

Seat belts as per SAE J396 shall be supplied.

Yes: No:

Heater - a cab heater, pressurizer ensuring operator's comfort at various outside temperatures. Heater to be 40,000 BTU/Hr minimum:

Yes: No:

Factory installed Air Conditioning shall be supplied

Yes: No:

Windshield wipers front and rear shall be supplied

Yes: No:

Lockable vandal protection shall be supplied for all liquid fill openings.

Yes: No:

Interior rear-view mirror mounted internally shall be supplied.

Yes: No:

All controls shall be easily reached and operated from a sitting position.

Yes: No:

Grab bars – one on each side shall be mounted outside cab.

Yes: No:

With bucket fully raised there shall be an exit from either side of the cab.

Yes: No:

Slow Moving Vehicle rear warning emblem securely mounted on the tractor shall be required.

Yes: No:

13. **LOADER BUCKET:**

To manufacturers' standard specification and a heavy duty welded steel construction.

Yes: No:

Type - front dumping with bolt on reversible cutting edge.

Yes: No:

2 piece

Capacity - 1.3 cu. yd. (1.0 cu. m.) SAE rating
Specify:

Yes: No:

Width will be adequate to clear the rear tread width.

Specify: *7'5"*

14. LOADER OPERATING CAPACITY:

Loader lift capacity shall be 5,800 lbs. (2631kg.) minimum to the full height with a 1.3 cu. yd. Bucket.

Yes: No:
Specify: *7046 lbs*

Loader breakout force shall be 10,210 lbs. (45.4 kN) minimum with specified bucket.

Yes: No:
Specify: *12,250 lbs*

The cutting edge clearance when the bucket is dumped at 45° shall be 8'2" (2.59m) minimum with specified bucket.

Yes: No:
Specify: *8'5"*

Dump reach at full height shall be 36" (911mm) minimum.

Yes: No:
Specify: *34"*

15. LOADER FRAME AND LIFT ARMS:

The frame shall be of heavy duty welded construction.

Yes: No:

The lift arms shall be of heavy duty welded construction.

Yes: No:

All swivel points shall be equipped with replaceable hardened steel bushing.

Yes: No:

Linkage shall be self-levelling with bucket position indicator.

Yes: No:

16. LOADER CONTROLS:

The control valves shall be located so that these are easily accessible to the operator when loading or using the backhoe and provide good visibility of the bucket from all positions.

Yes: No:

Transmission disconnect button on loader control to be supplied.

Yes: No:

An automatic bucket leveler, return to dig and float

Yes: No:

position shall be supplied.

17. BACKHOE OPERATING DIMENSIONS

Digging depth, 2-foot (610mm) flat bottom trench shall be 18'3" (5.56m) minimum.

Yes: No:
Specify: 17'9"

Reach from centre of swing mast pivot pin to the supporting surface of the bucket teeth at ground shall be 21'11" (6.68m) minimum.

Yes: No:
Specify: 21'10"

Loading height shall be 14'1" (4.29M) minimum with bucket pivot pin centre line to the ground line.

Yes: No:
Specify: 13'7"

18. BACKHOE OPERATING CAPACITY:

The dipper lift capacity at the rated dump height, fully extended, measured at the bucket hinge pin, anywhere in the swing arc, shall be 3,000 lbs. minimum using the dipper cylinders.

Specify: *Stick lift*
Capacity: 3564 lbs at 2440 mm
Max. Dump Height:

Digging force with bucket cylinder shall be 15,236 lbs. (67.7kN) minimum.

Specify: 13,863 lbs

Swing arc shall be 180 degrees minimum.

Specify: 180°

Minimum SAE J31 backhoe lifting capacity of 4,400 lbs. to 12' (3.66m) lift height through the full 180 degree swing arc.

Yes: No:
Specify: 5623 @ 12 Ft

Two lever pilot control with foot control for extendable dipperstick.

Yes: No:

Control pattern switch shall be located in the cab

Yes: No:

190 degrees Backhoe Bucket Rotation

Yes: No: 205°

19. BACKHOE STABILIZERS:

Two hydraulically operated outriggers with reversible pads and lockouts in stabilizers (both up and down) shall be supplied.

Yes: No:

Rubber pavement pads on one side shall be supplied.

Yes: No:

Stabilizer spread center to center 10'2" (3.10m) max.

Yes: No:
Specify: 10' 10"

20. BACKHOE EQUIPMENT:

Automatic hydraulic swing brakes or cushioning shall be supplied.

Yes: No:

The backhoe shall be entirely hydraulically controlled with separate cylinders to control the bucket, boom and dipperstick.

Yes: No:

Quick coupler feature to pick up John Deere, Case Cat buckets and attachments shall be supplied.

Yes: No:

Specify: Manual Q/C

Backhoe boom lock shall be controlled from the cab.

Yes: No:

21. BACKHOE BUCKETS:

24" x 7.5 cu.ft. (610mm x 0.21 cu. m.) heavy duty trenching bucket shall be supplied.

Specify: 24" H.D. 8.5 Cud

Bucket shall be supplied with minimum four replaceable flat/flare teeth.

Yes: No:

22. HYDRAULIC SYSTEM:

Open center hydraulic system for efficient operation of the loader and backhoe.

Yes: No: Closed Center load sensing

Gear type pumps shall be heavy duty continuous operating type, with 36 U.S. G.P.M. (136 L/min.) capacity minimum with hydraulic cooler to facilitate operation of backhoe, loader and any attachments.

Yes: No:
Specify: Variable flow, axial piston pumps 43 gal capacity

All hoses and fittings shall be Oring-flat face seal type located so that they are protected.

Yes: No:

Backhoe stabilizer no-drift cylinders shall be provided In both the working and transport positions.

Yes: No:

23. COUNTER WEIGHTS:

The counterweights recommended by the manufacturer for efficient operation of the extendable dipperstick and coupler shall be supplied.

Yes: No:

Specify: 1075 lbs

24. **PAINT:**

Manufacturer's standard colour.

Yes: No:

25. **RADIO:**

AM-FM radio shall be supplied.

Yes: No:

26. **BACK UP ALARM:**

To operate automatically when machine is placed in reverse.

Yes: No:

27. **OPERATING INSTRUCTION:**

An operator's manual shall be supplied with each unit.

Yes: No:

28. **LIGHTS:**

Four halogen work lights, two front and two rear, two rear stop and tail lights, two front and two rear turn signal lights, two rear reflectors, instrument panel light and cab dome light with separate switch, rotating beacon to be mounted for visibility from front and rear while roading.

Yes: No:

29. **WARRANTY:**

Manufacturer's Full machine warranty of 12 months with unlimited hours covering parts and labour shall be supplied.

Signed detailed outline of warranty duration and coverage must be supplied.

Specify: 12 Month full machine warranty plus 5 Year or 7500 hours extended parts warranty.

Yes: No:

30. **PRODUCT SUPPORT:**