

BID SUBMITTAL FORM
Alabama County Joint Bid Program
BID ITEM – HIGHWAY SPEED TRUCK MOUNTED EXCAVATOR - 2WD

Company Name: Tractor & Equipment Co.
Address: P.O. Box 12326
Birmingham, AL 35212
Bid Submitted by: Antony McMillan Jr.
(Name of company representative)
Title: V.P. E-mail address: amcmillan@TEC1843.com
Phone: 205-591-2131 Fax: 205-591-8321

By submitting this bid, we agree:

Initials

The equipment model number identified below meets the bid specs for this bid item

Am

That the bid price will be honored for all counties for the period from Jan. 1, 2022 to Dec. 31, 2022.

Am

The equipment will be delivered at the bid price to all counties participating in the joint bid program

Am

The company representative listed above will be the contact person for purchasing this bid item under the joint bid program

Am

The bid is accompanied by a current catalog or model specification document for the model number identified below

Am

The bid is accompanied by a copy of the manufacturer's standard warranty as required in the bid specifications

Am

The bid includes the e-verify documentation required by Alabama law

Am

If awarded the bid, a performance bond will be provided upon request

Am

The bid documents include the **Manufacturer's Suggested Retail Price Sheet (MSRP) for the Standard Machine**

Am

Total Bid Price for Standard Machine: \$ 290,400
(Total Bid Price for Standard Machine Includes Freight Preparation, Delivery and Standard Warranty Costs)*

Freight Preparation and Delivery: \$ 4,500.00
(Included in Standard Machine Bid Price)

Manufacturer's Suggested Retail Price for Standard Machine: \$ 312,610

Equipment Model #: Gradall D172

Description: Hwy speed excavator 2WD

Signature of company representative submitting bid: 

Title: V.P.

* **NOTE:** Award will be made based on the total cost of the **Standard Machine**. The total cost of the standard machine is to include the freight preparation, delivery and standard warranty cost. Freight preparation, delivery will be excluded from the total bid price of the standard machine in determining the percentage discount for any available options.

BID SUBMITTAL FORM: OPTION COST SHEET

By submitting this bid, we agree:

To offer any available options at the percent difference between the Manufacturer's Suggested Retail Price Sheet and the actual bid price on the Standard Machine*

AN

The bid documents include the Manufacturer's Suggested Retail Price Sheet (MSRP) with **any available Options** for the Standard Machine

AN

Equipment Model #: Gradall D172

Description: Hyd speed excavator 2WD

Signature of company representative submitting bid: _____

Anthony M. N. J.

Title: _____

V.P.

***Note:** The percent difference between the **Manufacturer's Suggested Retail Price Sheet (MSRP)** for the standard machine as specified by these **Bid Specifications** and the actual price bid by the vendor will be calculated to determine the percentage discount to be applied to any available options. The bid price of the freight preparation, delivery cost shall be excluded in determining the percentage discount to be applied to available options. Any individual county may choose to add any available option to the standard machine at the percentage discount at the time of purchase.

HIGHWAY SPEED TRUCK MOUNTED EXCAVATOR - 2WD

GENERAL:

It is the intent of this specification to describe a carrier mounted, single engine, full hydraulic telescoping boom excavator capable of excavating, grading, sloping, backfilling, etc., equivalent to a **Gradall model** **D152**. The unit shall be current production and the manufacturer's printed literature shall be submitted with the bid.

The excavator shall consist of a revolving upper-structure mounted on a rubber-tired highway speed carrier complete with remote control as follows:

Rotating Structure

The Upper-structure shall be supported on the carrier by an internal swing bearing and shall be capable of continuous swing at not less than **8 RPM**. The counterweight shall weigh not more than **4,500 pounds** and the tail swing shall not exceed **6' 7"**. The swing system shall incorporate a spring set, hydraulic release swing parking brake. Anti-slip paint is required on all walking surfaces.

Yes ☒ No ☐
Page # 2

Boom

The boom shall be triangular in cross section and shall consist of a main section and a telescoping section. Adjustable boom rollers shall be furnished on both boom sections. The telescope section shall be equipped with pin-on buckets and shall telescope hydraulically through a distance of not less than **10' 3"**. The boom assembly shall be supported by a cradle that provides for the tilt of the entire boom assembly and attachment through an arc of not less than **220°** about its longitudinal axis. The boom shall rise through an arc of not less than **30°** and lower not less than **60°**. The attachment shall open and close through an arc of not less than **165°**.

Yes ☒ No ☐
Page # 1-2

Hydraulic System

Power for the hydraulic system shall be supplied by the carrier engine. There shall be one-piston pump providing not less than **58 GPM @ 3800 PSI**. The pump shall be engaged with a PTO to the transmission. The system shall provide for simultaneous boom, swing and remote functions, quick disconnect type pressure check ports, minimum **51 HP** swing motor, minimum **21 HP** tilt motor and appropriate relief valves, oil cooler and filter with service indicator. The pressurized reservoir shall be of minimum **62-gallon** capacity and shall be equipped with sight level gauges. System operating pressure shall not exceed **3,800 PSI**.

Yes ☒ No ☐
Page # 1

Cab & Controls

The operator's cab shall be all weather with safety glass windows and skylight. The cab shall be complete with front window that rolls overhead for storage, wiper washer, AC, AM/FM radio, four-way adjustable seat, acoustical treatment, signal horn, filtered heater and defroster. The controls shall be self-centering dead-man type consisting of 2 electronic joysticks mounted on the armrests. Engine controls shall include key type ignition switch with neutral start and throttle. There shall be warning lights for low air, low DEF, engine maintenance, hydraulic filter condition and level. There shall be an automatic engine shutdown for low oil pressure or high coolant temperature. Remote carrier propel, steering and automatic digging brake shall be controlled by two-foot pedals and two joystick mounted switches. The hydraulic remote-control system shall be complete with an emergency brake control and travel alarm.

Yes ☒ No ☐
Page # 1

Carrier

The carrier shall be a **4x2** rubber tired type, **8' 6"** wide with a **33,000-lb.** gross vehicle axle weight rating. The frame shall be the manufacture's standard, reinforced with Steel frame insert (**1/4" full C-channel**) from beyond the front spring hanger in the front and extending throughout the total length of the frame to the rear. There shall be a separate sub-frame for Upper-structure mounting. The wheelbase of the unit shall be a minimum of **15' 10"** and the frame width a minimum of **34"**. There shall be a minimum **80-gallon** fuel tank and a minimum **13-gallon DEF tank**. The carrier shall be equipped with transmission operated remote control.

Yes ☒ No ☐
Page # 3

Engine

The carrier shall be powered by current emissions certified "Clean Idle" liquid cooled turbo charged air after cooled diesel engine with a minimum ³²⁰⁰~~220~~ ¹⁶⁰⁰~~HP @ 2300~~ RPM. The engine shall be equipped with an ~~exhaust~~ brake, an electric grid air warmer, two stage dry type air cleaner, spin on fuel filter, oil filter. The electrical system shall be 12-volt and incorporate a **160-amp** alternator.

Yes ☒ No ☐
Page # 1

Transmission

The carrier shall be equipped with a **5-speed** Automatic transmission, **Allison 3500RDS**, having **5 forward** speeds and **1 reverse** speed. Max road speed shall be **55 mph**.

Yes ☒ No ☐
Page # 2

Axles and Suspension

The front axle shall be rated at ^{14,700}~~12,000-lb.~~ minimum. The front suspension shall be leaf type and shall be complete with automatic lockout cylinders.

Yes ☒ No ☐
Page # 2

The rear axle shall be rated at **23,000 lb.** minimum with a **6.43 ratio** and single reduction. The axle shall be equipped with a cab controlled differential lock.

Yes ☒ No ☐
Page # 2

Brakes

The carrier shall be equipped with anti-lock braking system to include four-wheel cam type air brakes and automatic slack adjusters. The system shall include spring set brakes incorporating emergency and parking brakes on the rear axle. The system shall include a minimum **18.7 C.F.M.** air compressor and desiccant type air dryer with automatic purge valve and thermostatically controlled heater.

Yes ☒ No ☐
Page # 2

Wheels and Tires

The wheels shall be 10-stud hub piloted disc. The front tires shall be single **275/80R22.5** with highway traction tread. The four rear tires shall be **M/S11R22.5 14 ply** with mud and snow traction tread.

Yes ☒ No ☐
Page # 2

Steering

Carrier steering shall be integral hydraulic power steering.

Yes ☒ No ☐
Page # 2

Cab

The carrier cab shall be a two man, isolation mounted cab. The cab shall include a driver's high back air suspension seat, a basic high back non-suspension passenger seat, **3 point** high visibility orange driver and passenger seat belts, adjustable tilt and telescoping steering column, tinted safety glass windows, acoustical lining, and heater/defroster and Air Conditioner. Both side windows must open for ventilation and be adjustable.

Yes ☒ No ☐
Page # 1

The cab instrument panel shall include the following equipment: Gauges for oil pressure, coolant temperature, dual air tank pressures, fuel level, indicator for DEF level, low DEF level warning light/alarm, voltmeter, hour meter, speedometer and odometer and intake air restriction indicator. The carrier shall be complete with electronic cruise control, AM/FM radio, headlights, tail lights, stoplights, back-up lights, identification light clusters, turn indicators, hazard warning, electric windshield wiper and washer, back-up alarm and plain and convex mirrors on both sides.

Yes ☒ No ☐
Page # 1-2

Operating Weight

Working weight, including 60" excavating bucket and half-full fuel tanks shall meet or exceed **32,200** pounds.

Yes ☒ No ☐

Page # 3

Digging Specifications with 60" Excavating Bucket

Maximum Digging Depth: 13' 6"
Maximum Surface Reach: 24' 11"
Boom Tilt (Total Arc/CW Arc/CCW Arc): 220°/110°/110°
Minimum Reach (Cleanup - Bucket level, ground level boom retracted): 6' 8"
Maximum Digging Depth (8' level bottom): 12' 2"
Minimum Boom Arc: +30°, -60° level
Tail Swing: 6' 7"
Maximum Height with Bucket Below ground level: 14' 1"
Maximum Loading Height 16' 4"
Bucket Pivot 165°

Yes ☒ No ☐

Page # 3

Lifting Capacity without bucket, at ground level

	Over-End	Over-Side
15' 0" Radius	4,760 lbs.	4,760 lbs.
20' 0" Radius	3,365 lbs.	3,365 lbs.
22' 9" Max Radius	2,950 lbs.	2,950 lbs.

Yes ☒ No ☐

Page # 3

Travel Dimensions with 60" Excavating Bucket

Width 8' 6"
Height with bucket 12' 3"
Length 27' 1"

Yes ☒ No ☐

Page # 3

The equipment shall be capable of performing all functions without the use of outriggers.

Yes ☒ No ☐

Page # 3

★ GRADALL ★

DISCOVERY

SERIES



HIGHER PRODUCTIVITY

WITH A LOWER EQUIPMENT INVESTMENT

Crossover Hydraulic Excavators for Governments
and Specialty Contractors

THE FIRST CROSSOVER HYDRAULIC EXCAVATOR

Gradall Industries introduces the cost-effective solution for governments and contractors who need to do more work with fewer machines on tight budgets.

Gradall's Discovery Series[®] excavators... the first crossover hydraulic excavators... combining the legendary benefits of Gradall's trademark full-tilting, telescoping boom with the proven over-the-road performance of a Freightliner chassis. All combined in one highly productive, cost-efficient package.

Working closely with Freightliner, Gradall engineers have specifically designed Discovery Series Gradall excavators to deliver reliable, purpose-designed multi-task workhorses that are available only through Gradall distributors — and at a surprisingly low cost.



DESIGNED AND BUILT WITH AMERICAN INGENUITY

BENEFITS OF THE CROSSOVER:

- Compact, efficient design
- Full-size cabin with modern design
- Short turning radius to work in tight areas
- Simplified and integrated electrical and hydraulic systems
- Proven Freightliner chassis

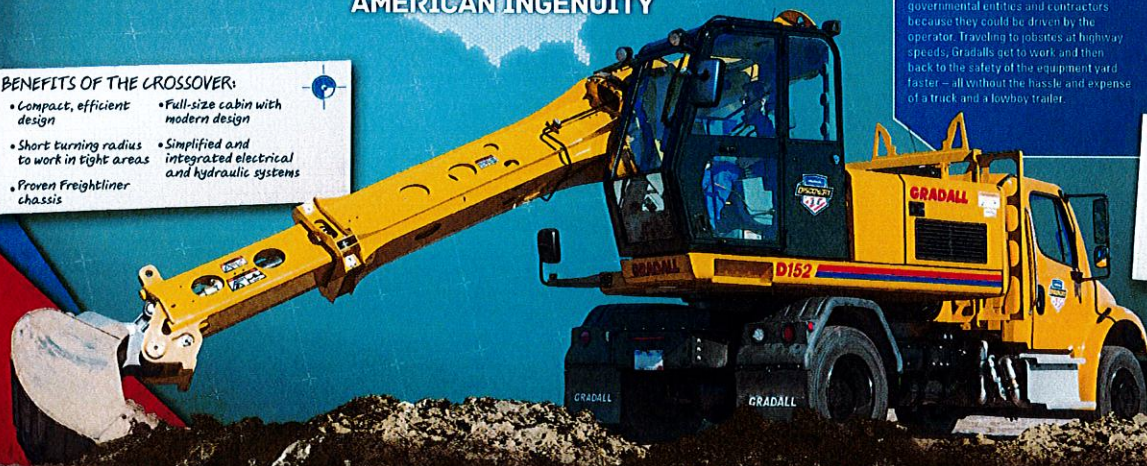
EXCEPTIONAL MOBILITY... ...A LEGENDARY GRADALL ADVANTAGE TAKES A GIANT STEP FORWARD

From their earliest days, highway speed Gradall excavators impressed governmental entities and contractors because they could be driven by the operator. Traveling to jobsites at highway speeds, Gradalls set to work and then back to the safety of the equipment yard faster — all without the hassle and expense of a truck and a lowboy trailer.

Discovery Series models continue that tradition by integrating a popular Freightliner truck chassis with a highly productive Gradall excavator upper structure. Operators are immediately comfortable driving Discovery Series excavators, and even repositioning them, without leaving the upperstructure cab.

GRADALL ON-THE-GO:

- Get to jobsites quickly via interstate highways, city streets and county roads
- Convenient, productive repositioning from upperstructure cab
- No time lost to loading and transporting
- Reliable Freightliner trucks are preferred by many governmental fleets





THE GRADALL BOOM...

...carving out a worldwide reputation for versatility.
Now available in a high-value, budget-conscious design.

Gradall's legendary boom design efficiently positions attachments to achieve more productivity faster on a wider range of jobs. In effect, you can use just one machine to do the work of a backhoe, grader, excavator and a host of manual laborers.

The entire boom tilts 220° without sacrificing boom power – a common problem with conventional mini excavators using rotating boom-end devices.

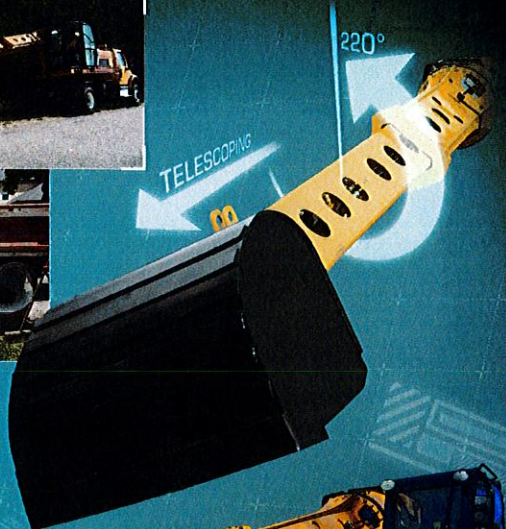
The rugged Gradall Discovery Series excavator has a strong boom with two overlapping sections that telescope out to 24 feet, 11 inches at grade – more reach and range than can be achieved with a tractor loader or compact excavator.

Plus, Discovery Series models benefit from the famous Gradall low-working-profile advantage. That's a low minimum working height that fits neatly under bridges, in tunnels, under trees and signage and into other low-overhead locations.

These are Gradall work sites where conventional digging machines simply cannot fit. Jobs conventional alternatives cannot reach. And machines with travel capabilities that simply don't compare.

GRADALL BOOM MOVEMENTS:

- Entire boom tilts 220° for full boom and bucket force
- Telescope to 24' 11" at grade
- Swing left and right
- Dig down at a 60° angle
- Raise up for truck loading and material placement
- Low working profile under bridges, trees and in tunnels



MORE DIG FOR THE DOLLAR

DESIGNED INTO EVERY DETAIL

CHASSIS CAB

- Freightliner cab accommodates a driver and a passenger
- Ergonomically designed interior with 100% sound-deadening
- Standard convenience features include dual rearview lights, radio and adjustable flooring and telescoping steering column to relieve

CHASSIS DESIGN

- Reinforced chassis with simplified suspension specially designed for all-terrain performance for all- and Freightliner engineers
- Travel at highway speeds
- Allison 5-speed automatic transmission
- No need for notepaper
- Up to a 35-degree wheel cut, providing excellent curb-to-curb maneuverability
- Powered by a single Cummins 6.7 liter engine - 50 state legal
- Fully supported by Freightliner distribution network

TYPICAL APPLICATIONS:

- Pitching
- Grading
- Culvert replacement
- Landscaping
- Mowing
- Vegetation control
- Curb, gutter, sidewalk replacement and removal

BOOM

- Full boom lifts 229'
- No loss of power to attachment lifting capability
- Rugged 24" telescoping boom
- Low working profile under bridges, trees and in tunnels
- Full selection of attachments
- Full length boom extended during the entire cycle unlike conventional boom
- Bucket capacity up to 1 yard with 60 inch ditching bucket
- Fast cycle times - ditching, loading and spreading



EXCAVATOR

- Short tail swing can clear street traffic on narrow roads
- Stable without the need for outriggers
- All-terrain electric remote size system for positioning the chassis
- No need for fuel and engine

OPERATOR CAB

- Choose the Gradall, Deere or SAE joystick pattern using automatic switch
- Quiet, roomy cab with comfortable seating module
- Excellent job site visibility
- Standard air conditioning

ADVANCED SYSTEMS

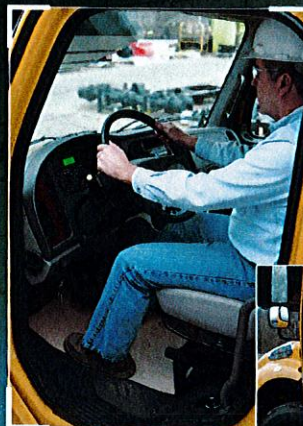
- Legendary Bosch Rexroth design and reliability
- All new, modern high pressure hydraulic systems electrically controlled with pressure, temperature and load sensing valves
- Computer electrical system for chassis and excavator delivers advanced effective operation



CABS DESIGNED FOR COMFORT AND EFFICIENCY

OPERATOR CAB

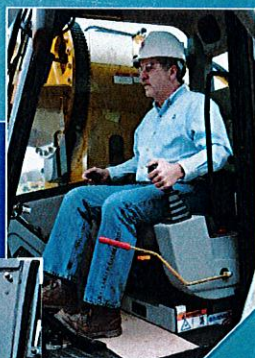
- All-electric joystick control system allows the operator to reposition the upper structure and boom.
- Monitor for critical functions is easy to read and reach.
- High-visibility cab has plenty of glass and exterior mirror to see job site.
- Wide door and conveniently placed grab handles both inside and out make cab entry and exit easier.
- Standard comfort and convenience features like heating, air conditioning, and a storable front window.
- In-cab system lets operator choose Gradall, Deere or SAE joystick pattern, expediting familiarity.
- During repositioning, acceleration up to 7 mph and brake holding pedals.



Driving from one jobsite to another can be done comfortably and efficiently in a popular Freightliner chassis cab. The spacious environment accommodates a driver and a passenger with a range of preferred features.



Spacious operator cab in the excavator upper structure provides a comfortable, productive working environment. Cab feature easy accessibility, joystick controls that are integrated into the seating module, excellent visibility and a removable front window for fresh air as well as ease in monitoring the sounds on the job site.



CHASSIS CAB

- Freightliner day cab with an roller door seat and fixed passenger seat.
- Plenty of head and elbow room, wider and taller doors and non-slip steps for easy entry and exit.
- Multiple exterior handles.
- Ergonomically designed interior has an automotive style flat dash, easy-to-read LED backlit gauges, easy-to-reach controls.
- Standard convenience features including adjustable steering column, dual radio holders, cruise control and radio.



Extensive interior insulation reduces noise and provides protection against the elements.

Excellent air flow throughout cab with advanced heating and air conditioning system.

Large 2.98 square inch tinted overhead and side window allows operator to see ahead after a clear, wide-open view to the front and sides of the cab.

DOTSA compliant high-visibility seat belts.



DISCOVERY SERIES MODEL OPTIONS:

- Passenger side door step
- Auxiliary hydraulics
- Rear step

GRADALL MODEL D152 4X2 & D154 4X4 LIFT CAPACITY OVER SIDE OR REAR - LB. (KG)

LOAD POINT HEIGHT		LOAD RADIUS					
		15' 0" (4.6 M)		20' 0" (6.1 M)		MAXIMUM RADIUS	
		OVER END	OVER SIDE	OVER END	OVER SIDE	OVER END	OVER SIDE
ABOVE GROUND LEVEL	19' 1" (5.8 M)					3000 (1360)	3000 (1360)
	15' 0" (4.6 M)	4660 (2115)	4660 (2115)	3180 (1440)	3180 (1440)	2880 (1305)	2880 (1305)
	10' 0" (3.0 M)	5390 (2445)	5390 (2445)	3530 (1600)	3530 (1600)	2880 (1305)	2880 (1305)
	BELOW LEVEL 8' 8" (2.7 M)	5490 (2490)	5490 (2490)	3580 (1625)	3580 (1625)	2885 (1310)	2885 (1310)
	5' 0" (1.5 M)	5480 (2485)	5480 (2485)	3615 (1640)	3615 (1640)	2905 (1320)	2905 (1320)
AT GROUND LEVEL		4760 (2160)	4760 (2160)	3365 (1525)	3365 (1525)	2950 (1340)	2950 (1340)
BELOW GROUND LEVEL	5' 0" (1.5 M)	3690 (1675)	3690 (1675)			2955 (1340)	2955 (1340)
	10' 0" (3.0 M)	2695 (1220)	2695 (1220)			2690 (1220)	2690 (1220)
	10' 9" (3.3 M)					2580 (1170)	2580 (1170)

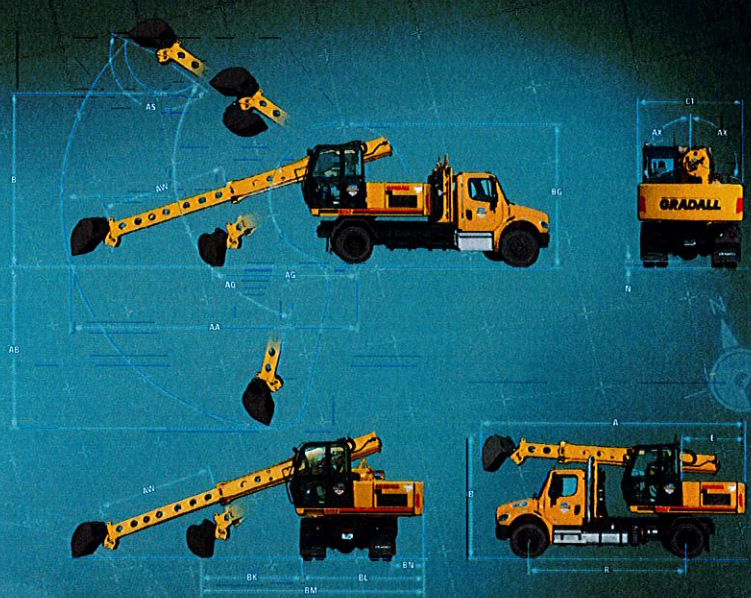
NOTE: The above loads are in compliance with the SAE standard J1092 (ICC, 199). They do not exceed 87% of hydraulic lifting capacity at 75% of boom extension.

The rated lifting capacity is based on the machine being equipped with counterweight, standard boom and bucket, auxiliary hydraulic and the following load: Adjust the listed rated capacities by subtracting the value for bucket weight from the load.

NOTE: Bucket adjustment values are 67% of the actual bucket weight. The bucket is located on the bucket pivot point, including load lifted for maximum values.

Do not attempt to lift a load any higher than the rated values at specified load radii and heights. The weight of slings and any auxiliary devices must be subtracted from the rated load to determine the net load that may be lifted.

ATTENTION: All activities are to be done in a safe manner. Stationary and to be on a firm, slippery surface. For safe parking loads, the user must make adjustments for the actual far job conditions such as: soft or uneven ground, wet or level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel must fully acquaint themselves with the Operator's Manual furnished by the manufacturer before operating this machine. Rules for safe operation of equipment must be followed at all times.



Shown with 8215-6006 60" (1.52 m) ditching bucket

	4 x 2	4 x 4	
A	27' 1" (8.2 m)	27' 1" (8.2 m)	Over all length (boom + bucket) with bucket.
B	12' 3" (3.7 m)	12' 3" (3.7 m)	Over all height (boom + bucket) with bucket.
C1	8' 6" (2.6 m)	8' 6" (2.6 m)	Width of upper structure.
E	6' 7" (2.0 m)	6' 7" (2.0 m)	Strut clearance, rear of bucket structure.
N	19' (5.8 m)	19' (5.8 m)	Grapp clearances (S&H 11221) at boom tip.
R	15' 10" (4.8 m)	15' 10" (4.8 m)	Maximum wheel at ground line (at boom tip).
AA	14' 11" (4.6 m)	14' 5" (4.4 m)	Maximum height at ground line (at boom tip).
AB	13' 6" (4.1 m)	13' 0" (4.0 m)	Maximum height at 15m (at boom tip).
AG	11' 4" (3.5 m)	11' 0" (3.3 m)	Maximum height at 20m (at boom tip).
AO	30' (9.1 m)	30' (9.1 m)	Maximum height at 10m (at boom tip).
AS	30' (9.1 m)	30' (9.1 m)	Maximum height at 8m (at boom tip).
AW	11' 1" (3.4 m)	11' 1" (3.4 m)	Maximum height at 5m (at boom tip).
AX	11' 1" (3.4 m)	11' 1" (3.4 m)	Maximum height at 0m (at boom tip).

	4 x 2	4 x 4	
BD	16' 4" (5.0 m)	16' 10" (5.1 m)	Minimum height of bucket tip, with bucket at maximum height.
BG	14' 1" (4.3 m)	14' 7" (4.5 m)	Maximum height of working platform with bucket at ground line.
BK	6' 8" (2.0 m)	6' 5" (1.9 m)	Minimum bucket clearance.
BL	10' 8" (3.3 m)	10' 4" (3.1 m)	Strut line clearance.
BM	12' 11" (3.9 m)	12' 7" (3.8 m)	Minimum machine clearance at ground level.
BN	10' (3.0 m)	10' (3.0 m)	Passenger side door clearance.
Rated boom force: 16,287 lb (7,387 kg)			
Rated bucket breakout force: 11,100 lb (5,034 kg)			
Weight: Approximate gross weight including a 60" (1.52 m) bucket: 44,112 lb (20,014 kg) 44,112 lb (20,014 kg) 44,112 lb (20,014 kg)			

Specifications subject to change without notice.



Get an even greater RETURN ON YOUR INVESTMENT combining designed-in Gradall versatility with a range of ATTACHMENTS

Governmental entities as well as small and specialty contractors will appreciate their return on investment, thanks to Gradall's famous designed-in versatility and a host of attachments.

Not only can you drive your Discovery Series excavator quickly from one site to another, our attachment design lets you perform one or more jobs – ditching, concrete and asphalt repair, mowing and culvert replacement – in a single day.

High-pressure, load-sensing hydraulics adjust automatically to deliver the power you need to handle various jobs while also conserving fuel. Optional auxiliary hydraulics at the boom end further extend the range of available attachments.

TYPICAL ATTACHMENTS:

- Ditching Bucket
8215-6009 • 60" (1.52 m)
- Pavement Removal Bucket
8215-6004 • 24" (0.610 m)
- Excavating Bucket
8215-6008 • 36" (914 mm)
- Rotary Mower
8215-5005 • 50" (1.27 m)
- Flail Mower
8215-5006 • 40" (1.02 m)
- Fixed Thumb Grapple
8215-5003
- Tree Limb Shear
8215-5004

GRADALL

406 Mill Ave. SW, New Philadelphia, OH 44663

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FREIGHTLINER

It is Gradall's policy to continually improve its products. Therefore, designs, materials and specifications are subject to change without notice, and to the extent of any liability on, parts sold. Unit pictured here equipped with standard optional equipment. See applicable specifications and price lists for optional equipment.

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Certified ISO 9001

AMMO GROUP

**IMAKE
AMERICA**

NIPA AWARDED

HGACBuy

GRADALL®

D172

CROSSOVER
HYDRAULIC EXCAVATOR



D172 CROSSOVER HYDRAULIC EXCAVATOR

SPECIFICATIONS

Engine

- Cummins ISB 6.7. 660 ft lb Torque @ 1600 rpm. 300 hp @ 1600 rpm

Intake: Electric grid air warmer

Air Filter

- 2-stage dry type with safety element, ejector valve and service indicator

Electrical System

- 12 volt, 160 amp alternator with integral voltage regulator. 2 SAE Group 31 1900 CCA batteries

Fuel Tank Capacity: 80 gal (303 L)

DEF Tank Capacity: 13 gal (49 L)

Gear Speeds (with 11R22.5 tires)

Gear	1	2	3	4	5	REV
MPH	10.6	21.7	31.6	48.7	60	9.74
Km/hr	(17.0)	(34.9)	(50.9)	(78.4)	(97)	(15.2)

Upperstructure Cab

- All-weather cab isolated from frame on rubber mounts
- Tinted safety glass windows
- Skylight
- Acoustical lining
- Four-way adjustable seat
- Dome light
- Filtered air heater and defroster
- Air conditioning
- AM/FM radio
- Heat source is provided by a fast response, closed circuit hydraulic heater with 20,000 BTU/Hr. capacity
- Front window slides to overhead storage
- Rearview mirrors on right and left sides of the machine
- Windshield wiper and washer
- Operator's seat belt

Upperstructure Controls

- Two electronic joysticks control (hoist, bucket, telescope and swing)
- One rocker switch (tilt) control
- Joysticks are mounted on arm pods that are adjustable for individual operator comfort and convenience
- Quick change joystick pattern using interactive display
- Two foot pedals for remote control of undercarriage travel and brakes
- Steering is handled with a rocker switch on top of the left hand joystick
- Self-centering joysticks and panels; when controls are released, power for movement disengages and swing and travel brakes set automatically

System Monitor

- Top selector buttons include
 - Joystick pattern, hour meter and indicator lamps
- Bottom selector buttons include
 - Engine speed control, auto idle select
 - A/C on select and heater temperature control

The display shows as follows

- Park brake
- Low air brake pressure
- Malfunction indicator lamp (mil)
- Hydraulic oil level warning
- Hydraulic oil filter warning
- Engine stop lamp
- Amber warning lamp (engine)
- Wait to start lamp
- Diesel particulate filter lamp
- High exhaust system temperature
- Engine speed
- Fuel level
- DEF level
- Transmission gear request
- Transmission gear status
- Transmission oil temp
- Hydraulic oil temp
- Mode status (travel/remote)
- Check transmission lamp and cab blower fan

Boom

- Two piece triangular telescoping boom
- Adjustable boom rollers with eccentric shafts
- 220° boom tilt
- 105° boom pivot angle

Hydraulic System

Pumps

- One load-sensing bent axis piston pump; 0-58 GPM (0-219 L/min) total

SYSTEM SPECIFICATIONS

Four Double Acting Cylinders

- 2 hoist cylinders: 3.25" bore x 2.25" rod x 28.5" stroke (83 mm x 57 mm x 724 mm)
- 1 tool cylinder: 4.5" bore x 2.5" rod x 18.88" stroke (114 mm x 63.5 mm x 479 mm)
- 1 boom cylinder: 3.25" bore x 2.25" rod x 123" stroke (83 mm x 57 mm x 3124 mm)

Two Hydraulic Motors

- Swing, 51 hp (38kW); Tilt, 21 hp (16kW)

Operating Pressures

- Hoist.....3,800 psi (262 BAR)
- Tilt.....2,500 psi (172 BAR)
- Swing.....3,800 psi (262 BAR)
- Tool.....3,800 psi (262 BAR)
- Telescope.....3,800 psi (262 BAR)
- Pilot system.....550 psi (38 BAR)

Oil Capacity

- Reservoir 62 gallons (235 L)
- System 68 gallons (257 L)
- Pressurized reservoir with visual oil level gauge

Filtration System

- 5 micron return filter
- 10 micron pilot filter
- Fin and tube-type oil cooler with thermostatically controlled cooling fan
- Pressure-compensated, load-sensing valves with circuit reliefs in all circuits

Undercarriage

- 4 x 2
- Wheelbase: 190" (4.83 m)
- Width 102" (2.6 m)

Transmission

- Allison 3500 RDS automatic

Gross Vehicle Axle Weight Rating

- 37,700 lb (17,100 kg)

Front Axles

- 14,700 lb (5,443 kg) rating

Rear Axle

- 23,000 lb (10,433 kg) rating 6.43 ratio
- Single reduction with driver controlled differential lock.

Suspension

- Front: leaf springs with automatic lock-out cylinders
- Rear: solid mount

Brakes

- Front: Meritor "Q" Series
 - Cam-Master Size: 16.5" x 5" (419 mm x 127 mm)
 - ABS Brakes
 - Automatic slack adjusters.
- Rear: Meritor "P" Series
 - Cam-Master Size: 16.5" x 7" (419 mm x 178 mm)
 - Automatic Slack Adjusters.
- Spring brake system incorporates emergency and parking brakes on the rear axle

Wheels

- Hub piloted disc 10-stud
- 11.25" (286 mm) bolt circle

Tires

- Front: 275/80R225 16-ply highway traction tread
- Rear: M/S11R22.5 14-ply mud and snow traction tread

Steering

- Integral hydraulic power steering

Standard Chassis Equipment

- Halogen headlights
- Tail lights
- Back-up lights and alarm
- Stoplights
- Identification lights front and rear
- Directional lights
- Four-way hazard lights
- Front tow hooks
- Desiccant type air dryer with automatic purge valve

Chassis Cab

- Two-person cab
- Sun visor
- Gauges for oil pressure
- Coolant temperature
- Air tank pressures
- Fuel level
- Def level
- Voltmeter
- Speedometer with odometer
- Tachometer
- Hour meter
- Engine and transmission monitor lights
- Engine shutdown controlled by engine electronics
- Indicator lights and controls for rear axle differential lock
- Park brake control
- Tinted safety glass
- Roll up and down windows
- Instrument panel lights
- Windshield wiper/washer
- West coast style mirror system with plane and convex mirrors

- Fresh air heater and defroster
- Thermostatically controlled heater
- Dome light
- Air suspension seat with seat belt both driver and passenger
- Key ignition switch with neutral start
- AM/FM bluetooth radio
- Dual electric horns
- Center storage console
- 12 volt power supply in dash
- Aluminum kick plates on insides of both chassis doors

Swing

- Priority swing circuit with axial piston motor
- Planetary transmission

Swing speed: 8 rpm

Swing Brake

- Automatic spring-set/hydraulic release wet-disc parking brake
- Dynamic braking is provided by the hydraulic system

Hydraulic Remote Control

- Upperstructure powered by chassis hydraulics through PTO
- Travel and brake pedals in the upperstructure cab
- Steering controlled with left hand joystick
- Digging brakes and front axle lockout cylinders set automatically with travel pedal in neutral
- Parking brakes controlled by toggle
- Electrically operated alarm mounted on undercarriage signal remote control movement in either direction, reverse movement when driven from undercarriage cab

GRADALL Model D152 4x2 Lift Capacity Over Side or Rear - LB. (kg)

LOAD POINT HEIGHT		LOAD RADIUS					
		15' 0" (4.6 m)		20' 0" (6.1 m)		Maximum radius	
		Over End	Over Side	Over End	Over Side	Over End	Over Side
ABOVE GROUND LEVEL	19' 1" (5.8 m)					3000 (1360)	3000 (1360)
	15' 0" (4.6 m)	4660 (2115)	4660 (2115)	3180 (1440)	3180 (1440)	2880 (1305)	2880 (1305)
	10' 0" (3.0 m)	5390 (2445)	5390 (2445)	3530 (1600)	3530 (1600)	2880 (1305)	2880 (1305)
	BOOM LEVEL 8' 8" (2.7 m)	5490 (2490)	5490 (2490)	3580 (1625)	3580 (1625)	2885 (1310)	2885 (1310)
	5' 0" (1.5 m)	5480 (2485)	5480 (2485)	3615 (1640)	3615 (1640)	2905 (1320)	2905 (1320)
AT GROUND LEVEL		4760 (2160)	4760 (2160)	3365 (1525)	3365 (1525)	2950 (1340)	2950 (1340)
BELOW GROUND LEVEL	5' 0" (1.5 m)	3690 (1675)	3690 (1675)			2955 (1340)	2955 (1340)
	10' 0" (3.0 m)	2695 (1220)	2695 (1220)			2690 (1220)	2690 (1220)
	10' 9" (3.3 m)					2580 (1170)	2580 (1170)

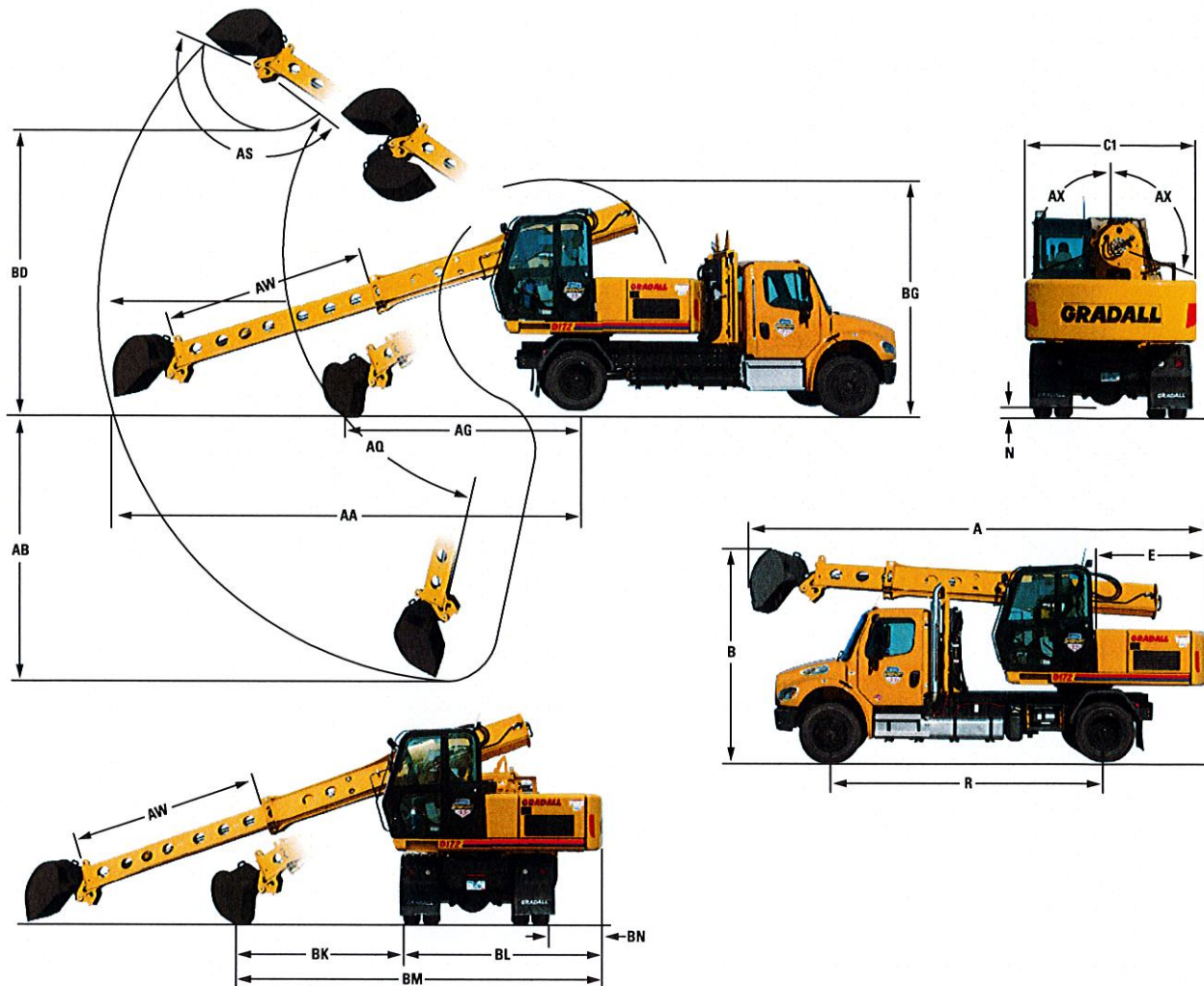
NOTE: The above loads are in compliance with the SAE standard J1097 DEC2005. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

The rated lift capacity is based on the machine being equipped with 4,500 lb (2041 kg) counterweight, standard boom, standard tires, no auxiliary hydraulics and no bucket.

The load point is located on the bucket pivot point, including load listed for maximum radius.

Do not attempt to lift or hold any load greater than these rated values at specified load radii and heights. The weight of slings and any auxiliary devices must be deducted from the rated load to determine the net load that may be lifted.

ATTENTION: All rated loads are based on the machine being stationary and level on a firm supporting surface. For safe working loads, the user must make allowance for his particular job conditions such as soft or uneven ground, out of level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel must fully acquaint themselves with the Operator's Manual furnished by the manufacturer before operating this machine. Rules for safe operation of equipment must be adhered to at all times.



Dimensions

4 x 2

A	27'1" (8.3 m)	Overall length (boom in rack) with bucket
B	12'3" (3.7 m)	Overall height (boom in rack) with bucket
C1	8'6" (2.6 m)	Width of upperstructure
E	6'7" (2.0 m)	Swing clearance, rear of upperstructure
N	10" (254 mm)	Ground clearance (per SAE J1234)
R	15'10" (4.8 m)	Wheelbase
AA	24'11" (7.6 m)	Maximum radius at ground line (165° pivot)
AB	13'6" (4.1 m)	Maximum digging depth (165° pivot)
AG	11'4" (3.5 m)	Minimum level cut radius with bucket flat on ground line
AQ	30° Up & 60° Down	Boom pivot angle

4 x 2

AS	165°	Bucket pivot angle
AW	10'3" (3.1 m)	Telescoping boom travel
AX	110°	Bucket tilt angle (both sides of center)
BD	16'4" (5.0 m)	Minimum clearance of bucket teeth, with bucket pivot at maximum height
BG	14'1" (4.3 m)	Maximum height of working equipment with bucket below ground line
BK	6'8" (2.0 m)	Minimum bucket cleanup
BL	10'8" (3.3 m)	Swing lane clearance
BM	17'11" (5.5 m)	Minimum machine swing radius at ground level
BN	30" (762 mm)	Passenger side swing clearance

Function Forces

Rated boom force:

16,387 lb (72.9 kN)

Rated bucket breakout force:

11,400 lb (50.7 kN)

Weight

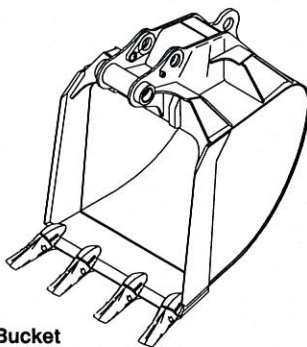
- Approximate working weight, including a 60" (1.54 m) bucket, fuel tank half full
- 4 x 2: 32,200 lb (14,600 kg)

Optional Equipment

- Set of five working lights
- Passenger side door step
- Auxiliary hydraulics
- Rear step

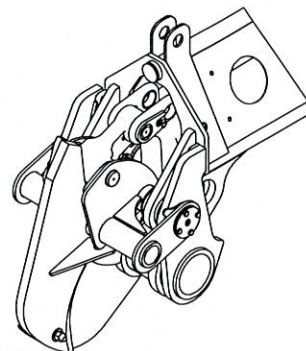
Attachments

- Buckets fabricated of steel plate, with high strength, low alloy cutting edges and wear strips
- Standard attachments available for wide range of applications



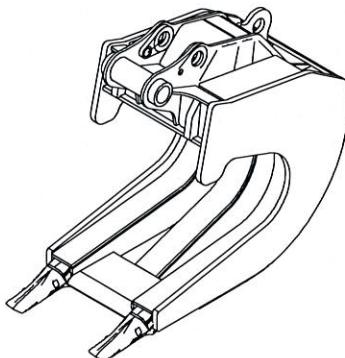
Excavating Bucket

8215-6008	36" (914 mm)	yd ³	m ³
	785 lbs (356 kg)	5/8	0.54



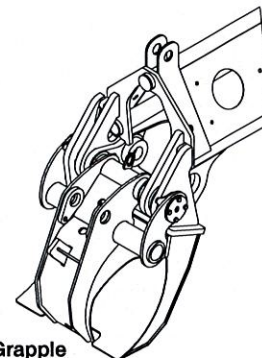
Tree Limb Shear

8215-5004 770 lbs (349 kg)



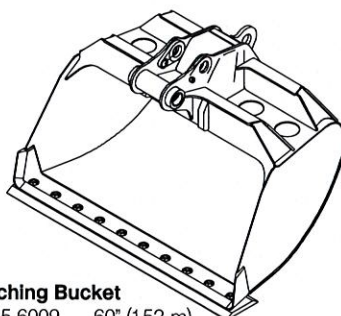
Pavement Removal Bucket

8215-6004	24" (0.610 m)
	1284 lbs (582 kg)



Fixed Thumb Grapple

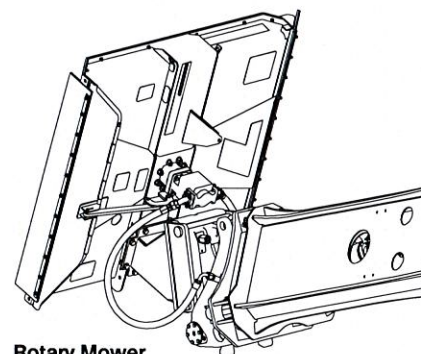
8215-5003 530 lbs (240 kg)



Ditching Bucket

8215-6009	60" (1.52 m)
	784 lbs (356 kg)

8215-5001	60" (1.52 m)
	914 lbs (415 kg)



Rotary Mower

8215-5005	50" (1.27 m)
	1290 lbs (585 kg)

Flail Mower

8215-5006	40" (1.02 m)
	1053 lbs (478 kg)

It is Gradall Policy to continually improve its products. Therefore designs, materials and specifications are subject to change without notice and without incurring any liability on units already sold. Units shown may have optional equipment.

GRADALL®

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Form No. 12001 3/20
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Excavator Pricing

SP 85 - Effective September 22, 2021

Discovery Crossover Series Excavators

Discovery Series excavators are the cost-effective solution for governments and contractors who need to get to jobs faster, complete many different jobs with fewer men and machines, all while keeping within tight equipment budgets. Both two-wheel and four-wheel-drive models feature the famous telescoping, tilting Gradall boom as well as a Freightliner truck chassis.

Model	Net Weight Lbs (kg)	Price
D152 4x2	32,200 (14,600)	\$271,285
D172 4x2	32,200 (14,600)	\$312,610
D174 4x4	34,500 (15,650)	\$338,350

Highway Speed Wheeled Excavators

Highway speed excavators can be driven up to 60 mph, eliminating the need for a lowboy trailer while they move quickly to job sites and then back to the safety of the equipment yard. Series V models feature full-tilting telescoping booms and new Tier 4 final complaint Volvo engines as well as AutoDrive™ mobility advantages including an automatic transmission and other advantages.

Model	Net Weight Lbs (kg)	Price
XL3100 V 4x2	40,930 (18,566)	\$371,332
XL3100 V 4x4	41,720 (18,924)	\$401,865
XL4100 V 6x4	49,684 (22,539)	\$444,743
XL4100 V 6x6	50,925 (23,099)	\$466,952
XL5100 V 6x4	57,670 (26,159)	\$502,863
XL5100 V 6x6	58,379 (26,488)	\$524,583

Rough Terrain Wheeled Excavators

Excellent stability allows rough terrain wheeled models to pick and carry large loads as well as work at the front, rear or either side of the carrier - all without the need for optional outriggers. A highly mobile undercarriage on Series V models moves easily over both pavement and dirt, all powered by a Tier 4 final complaint Volvo engine. The low-profile telescoping boom can work under bridges and trees, accomplishing more work with full boom tilt advantage.

Model	Net Weight Lbs (kg)	Price
XL3300 V	39,294 (17,823)	\$331,738
XL4300 V	43,580 (19,768)	\$375,172
XL5300 V	51,216 (23,231)	\$425,292

Crawler Excavators

Series V models feature Tier 4 final complaint Volvo engines and other advantages, preparing them for cost-efficient, highly productive versatility on mud, rocks, sand and dirt. Versatility is rooted in the legendary full tilting, telescoping boom that can do more with more attachments, even working under bridges and in tunnels where conventional booms won't fit.

Model	Net Weight Lbs (kg)	Price
XL3200 V	39,240 (17,799)	\$282,511
XL4200 V	46,862 (21,256)	\$341,997
XL5200 V	54,452 (24,699)	\$408,021

SP 85 - Effective September 22, 2021

GRADALL®

Gradall Industries, Inc. • 406 Mill Avenue SW • New Philadelphia, OH 44663 • Ph: (330) 339-2211



GRADALL® LIMITED WARRANTY

Gradall Industries, Inc. d/b/a Gradall ("Gradall") will repair or replace, at its option, any factory-installed part that is defective in materials or workmanship under normal use. Any needed part replacements will be made using new or remanufactured parts. This Limited Warranty is limited to repairing or replacing, at Gradall's option, any part proven defective under normal use; provided that the product has been properly registered with Gradall within thirty days after the in-service date and that all required reports are current. The warranty period begins on the product's in-service date, which is the first date the unit is either delivered to an end-user (the "Owner"), for purchase, rental or lease.

THIS WARRANTY EXTENDS ONLY TO THE ORIGINAL PURCHASER FROM GRADALL INDUSTRIES, INC. AND IS NON-TRANSFERABLE.

The Owner is responsible for all normal preventative maintenance and scheduled maintenance as detailed in the machine's Operator and Safety Manual. The Owner is also responsible for:

- Keeping the Operator and Safety Manual available to the operator of the product.
- Using the product in accordance with the Operator and Safety Manual.
- Releasing the product for warranty work.
- Reporting accidents immediately to Gradall.
- Using the product for safe, approved applications and using only approved accessories.
- Complying with factory initiated Field Campaigns.
- Using only approved components for maintenance and replacement parts.
- Ensuring that the operator of the product has been properly trained in the safe and proper use of the product.

This Limited Warranty is subject to those limitations and exclusions as listed in the Gradall Policies & Procedures Manual (41200037), which includes timelines and requirements for making claims under this Limited Warranty.

STANDARD WARRANTY

Gradall products carry the following warranties from the unit's in-service date for 2019 model-year (and beyond) machines:

- Standard Machines 2 Years or 3000 hrs., whichever comes first.
- Special Industrial Machines . . 1 Year or 1500 hrs., whichever comes first.

"Standard" and "Special Industrial" machine model designations are defined in the Gradall Policies & Procedures Manual (41200037)

What Is Not Covered

- Parts associated with unit maintenance are not warranted beyond 1 year of the product's in-service date.
- Items subject to normal wear and tear, noise, vibration, or deterioration are not warranted.
- This Limited Warranty does not cover damage caused by abusive usage or extreme applications.
- Any operation beyond the rated capacity or the improper use or application of the product or the substitution of parts not approved by Gradall or the failure to release the product for warranty work.
- Tires, engines and batteries are warranted by the applicable Manufacturer.
- Corrosion due to external forces or damage caused by stones, salt, gravel, accidents, chemicals or other forms of impact, industrial fallout or pollution, or previous repair.
- External surface rust left unrepaired due to neglect of the product.
- Chassis not manufactured by Gradall.



EXTENDED WARRANTY

An Extended Warranty may be purchased for a Gradall product at any time up to the end of the Standard Warranty period. A maximum of 1 extra year of Extended Warranty may be purchased for a maximum warranty period of 3 years.

What Is Not Covered

- Items subject to service, maintenance, or normal wear, including but not limited to O-rings, Seals, Hoses, Paint, Tires, Belts, or Filters.
- Items supported by separate warranties such as the Engine or Transmission.
- Extended Warranty is not available for Special Industrial Machines and/or Applications due to their extreme nature.

MISCELLANEOUS

- Proper venue for any lawsuits arising from or related to this Limited Warranty shall only be in Tuscarawas County, Ohio, and governing law shall be the laws of the State of Ohio.
- Gradall may waive compliance with any of the terms of this Limited Warranty, but no waiver of any terms shall be deemed to be a waiver of that term in the future or of any other term.
- If any provision of this Limited Warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.

EXCEPT AS PROVIDED HEREIN, GRADALL MAKES NO WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE WITH RESPECT TO PRODUCTS OR PARTS FURNISHED BY GRADALL. EXCEPT AS PROVIDED HEREIN, GRADALL SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO OWNER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE PRODUCTS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE PRODUCTS OR ANY BREACH OF THIS WARRANTY. GRADALL'S MAXIMUM LIABILITY UNDER THIS WARRANTY SHALL BE THE PURCHASE PRICE PAID TO GRADALL WITH RESPECT TO THE WARRANTED PRODUCT.

GRADALL®

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Certified ISO 9001 • 01/20
Part No. 41200003



Company ID Number:571783

Client Company ID Number:1453697

Information Required for the E-Verify Program	
Information relating to your Company:	
Company Name	Tractor & Equipment Co Inc
Company Facility Address	5336 Messer Airport Highway Birmingham, AL 35212
Company Alternate Address	PO Box 12326 Birmingham, AL 35202
County or Parish	Jefferson
Employer Identification Number	63-0211767
North American Industry Classification Systems Code	Merchant Wholesalers, Durable Goods (423)
Parent Company	
Number of Employees	500 to 999
Number of Sites Verified for	22