

★ **GRADALL** ★

DISCOVERY

SERIES



HIGHER PRODUCTIVITY
WITH A **LOWER EQUIPMENT INVESTMENT**

Highway Speed Hydraulic Excavators for Governments
and Specialty Contractors

GRADALL VERSATILITY WITH FREIGHTLINER MOBILITY

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 combine 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.



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

DESIGNED AND BUILT WITH AMERICAN INGENUITY

BENEFITS OF THE DISCOVERY SERIES:

- 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

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 get 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 upperstructure. 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 extra sound-deadening
- Standard convenience features include dual reading lights, radio and adjustable tilting and telescoping steering with quick release

CHASSIS DESIGN

- Reinforced chassis with a modified suspension, specifically designed in a collaboration between Gradall and Freightliner engineers
- Travel at highway speeds
- Allison 5-speed automatic transmission
- No need for outriggers
- Up to a 55-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:

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

BOOM

- Full boom tilts 220°
- No loss of power to attachment tilting capability
- Rugged 24' 11" telescoping boom
- Low working profile under bridges, trees and in tunnels
- Full selection of attachments
- Full-length boom visibility during the entire dig cycle unlike conventional boom
- Bucket capacity up to $\frac{3}{4}$ yard with 60-inch ditching bucket
- Fast cycle times – ditching, loading and spreading



EXCAVATOR

- Short tail swing won't obstruct traffic on narrow roads
- Stable, without the need for outriggers
- All new electric remote drive system for positioning the chassis
- No need for second engine

ADVANCED SYSTEMS

- Legendary Bosch Rexroth design and reliability
- All new, modern high-pressure hydraulic system is electronically controlled with pressure-compensated, load-sensing valves
- Combined electrical system for chassis and excavator delivers advanced, effective operation

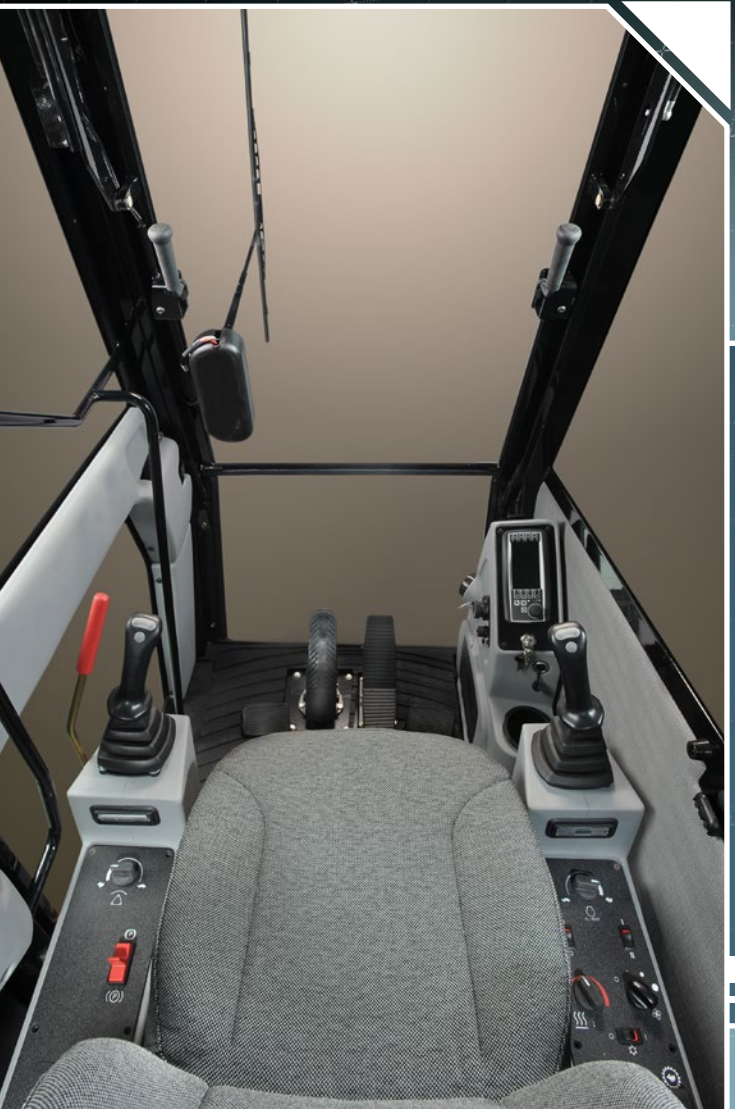
OPERATOR CAB

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

CABS DESIGNED FOR COMFORT AND EFFICIENCY

OPERATOR CAB

- All-electric joystick control system allows the operator to reposition the upperstructure 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 switch lets operator choose Gradall, Deere or SAE joystick pattern, expediting familiarity
- During repositioning, accelerate up to 7 mph and brake with foot 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 upperstructure 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 air ride driver 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 back-lit gauges, easy-to-reach controls
- Standard convenience features including adjustable steering column, dual reading lights, 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 2,500 square-inch tinted windshield and downward sloping aerodynamic hood offer a clear, wide-open view to the front and sides of the cab
- NHTSA compliant high visibility seat belts





DISCOVERY SERIES MODEL OPTIONS:

- Passenger side door step
- Auxiliary hydraulics
- Rear step

GRADALL MODEL D172 4X2 & D174 4X4 LIFT CAPACITY OVER SIDE OR REAR - LB. (KG)

LOAD POINT HEIGHT		LOAD RADIUS					
		15' 6" (4.7 M)		20' 6" (6.2 M)		MAXIMUM RADIUS	
		OVER END	OVER SIDE	OVER END	OVER SIDE	OVER END	OVER SIDE
ABOVE GROUND LEVEL	19' 7" (6.0 M)					3000 (1360)	3000 (1360)
	15' 6" (4.7 M)	4660 (2115)	4660 (2115)	3180 (1440)	3180 (1440)	2880 (1305)	2880 (1305)
	10' 6" (3.2 M)	5390 (2445)	5390 (2445)	3530 (1600)	3530 (1600)	2880 (1305)	2880 (1305)
	BOOM LEVEL 9' 2" (2.8 M)	5490 (2490)	5490 (2490)	3580 (1625)	3580 (1625)	2885 (1310)	2885 (1310)
	5' 6" (1.7 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	4' 6" (1.4 M)	3690 (1675)	3690 (1675)			2955 (1340)	2955 (1340)
	9' 6" (2.9 M)	2695 (1220)	2695 (1220)			2690 (1220)	2690 (1220)
	10' 3" (3.1 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 counterweight, standard boom, standard tires, no auxiliary hydraulics, and no bucket. Adjust the listed rated capacities by subtracting the value for bucket/attachment used:

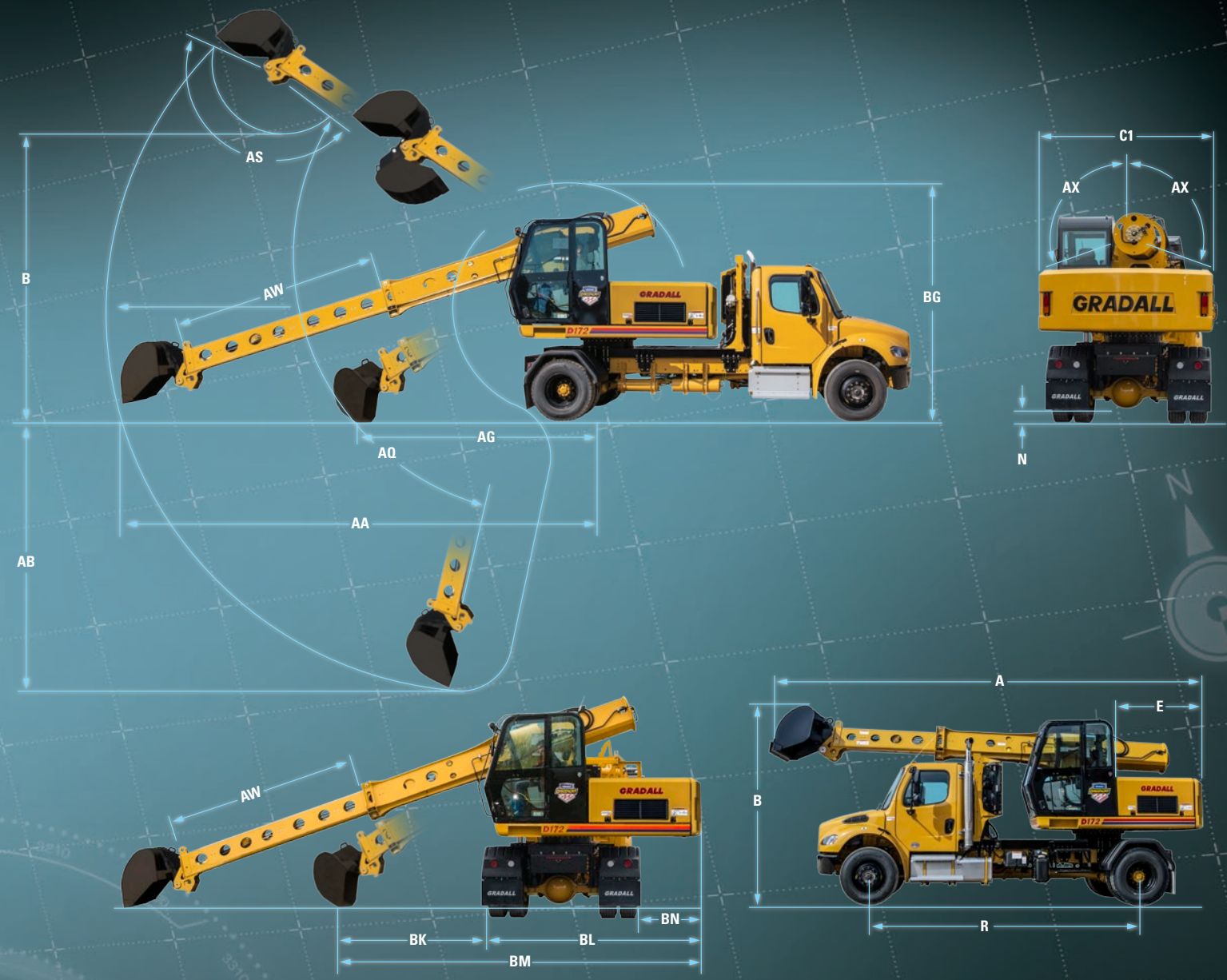
8215-6006 60" (1.5 m)	Ditching -	789 lbs (358 kg)
8215-6008 36" (914 mm)	Excavating -	786 lbs (357 kg)

NOTE: Bucket adjustment values are 87% of the actual bucket weights.

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.



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

A	27'1" (8.3 m)	27'1" (8.3 m)	Overall length (boom in rack) with bucket	BD	16'4" (5.0 m)	16'10" (5.1 m)	Minimum clearance of bucket teeth, with bucket pivot at maximum height
B	12'3" (3.7 m)	12'9" (3.8 m)	Overall height (boom in rack) with bucket	BG	14'1" (4.3 m)	14'7" (4.5 m)	Maximum height of working equipment with bucket below ground line
C1	8'6" (2.6 m)	8'6" (2.6 m)	Width of upperstructure	BK	6'8" (2.0 m)	6'5" (2.0 m)	Minimum bucket cleanup
E	6'7" (2.0 m)	6'7" (2.0 m)	Swing clearance, rear of upperstructure	BL	10'8" (3.3 m)	10'8" (3.3 m)	Swing lane clearance
N	10" (254 mm)	10" (254 mm)	Ground clearance (per SAE J1234)	BM	17'11" (5.5 m)	17'7" (5.4 m)	Minimum machine swing radius at ground level
R	15'10" (4.8 m)	15'10" (4.8 m)	Wheel base	BN	30" (762 mm)	30" (762 mm)	Passenger side swing clearance
AA	24'11" (7.6 m)	24'9" (7.5 m)	Maximum radius at ground line (165° pivot)	Rated boom force: 16,387 lb (97.6kN)			
AB	13'6" (4.1 m)	13'0" (4.0 m)	Maximum digging depth (165° pivot)	Rated bucket breakout force: 11,400 lb (50.7 kN)			
AG	11'4" (3.5 m)	11'0" (3.4 m)	Minimum level cut radius with bucket flat on ground line	Weight: Approximate working weight, including a 60" (1.54 m) bucket, fuel tank half full. 4x2: 32,200 lb (14,600 kg) 4x4: 34,500 lb (15,650 kg)			
AQ	30° Up & 60° Down	30° Up & 60° Down	Boom pivot angle	Specifications subject to change without notice.			
AS	165°	165°	Bucket pivot angle				
AW	10'3" (3.1 m)	10'3" (3.1 m)	Telescoping boom travel				
AX	110°	110°	Bucket tilt angle (both sides of center)				



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

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FREIGHTLINER

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 sold. Units pictured are equipped without optional equipment. See applicable specifications and price lists for optional equipment.

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