

## Optional Equipment

Vandalism protection kit including window covers.

Intake air pre-cleaner.

Exhaust spark arrestor.

Strobe light.

Block heater.

Additional battery.

Tilt steering column.

Auxiliary Hydraulics - Additional hosing and piping for hydraulic powered attachments. [Maximum pressure 4800 psi (33,095 kPa) Maximum flow 30 GPM (114 L/min)]

## Attachments

Quick change and reversible buckets fabricated of steel plate, with high strength, low alloy cutting edges and wear strips. Standard attachments available for wide range of applications. Capacities shown are in heaped cu. yd.

*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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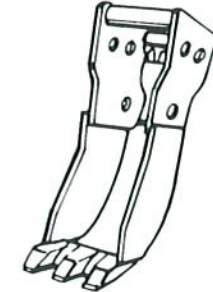


Certified ISO 9001

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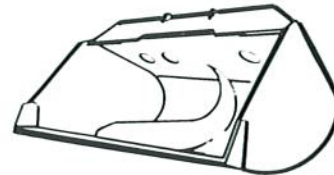
Part No.	Size	Cu. yd.	m <sup>3</sup>
8045-6020	24' (610mm) Excavating bucket	3/8	.31
8045-6021	30' (762mm) Excavating bucket	1/2	.41
8045-6022	36' (914mm) Excavating bucket	5/8	.54
8045-6023	42' (1.07m) Excavating bucket	3/4	.64
8045-6024	48' (1.22m) Excavating bucket	1	.76



Part No.	Size	Cu. yd.	m <sup>3</sup>
8065-6104	15' (381mm) Trenching bucket	1/5	.15
8065-6012	21' (533mm) Trenching bucket	1/4	.19



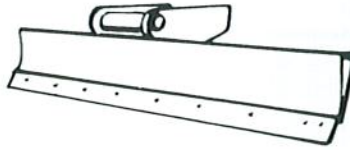
8065-6102	40' (1.02m) Pavement removal bucket
8065-6115	18' (457m) Pavement removal bucket
8065-6116	24' (610m) Pavement removal bucket
8065-6114	28' (711m) Pavement removal bucket



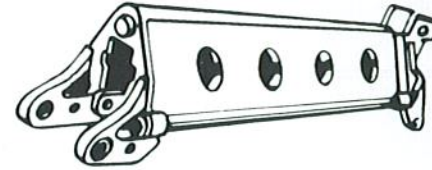
Part No.	Size	Cu. yd.	m <sup>3</sup>
8065-6040	30' (762m) Ditching bucket	3/8	.3
8065-6007	60' (1.52m) Ditching bucket	7/8	.73
8065-6006	66' (1.68m) Ditching bucket	1	.76
8065-6002	72' (1.83m) Ditching bucket	1 1/8	.87



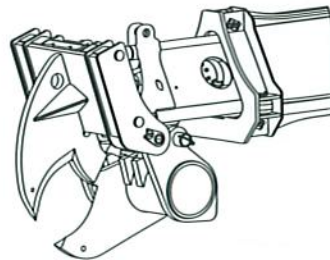
Part No.	Size	Cu. yd.	m <sup>3</sup>
8065-6013	72' (1.83m) Dredging bucket	1 1/8	.87



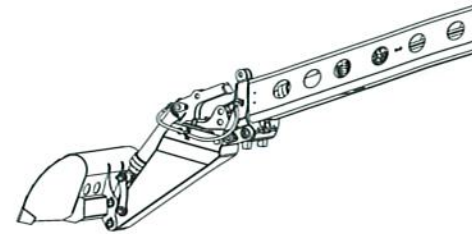
8065-6024 8' (2.4m) Grading blade



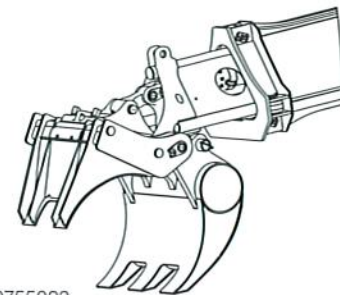
8065-5028	4' (1.2m) Boom extension
8065-5029	6' (1.8m) Boom extension
8065-5030	8' (2.4m) Boom extension



80455052 Tree Limb Shear Attachment



8045-5009 6' (1.8 m) Live Boom



80755023 Fixed Thumb Grapple

# GRADALL® XL 3100 III



## SPECIFICATIONS

### Undercarriage

4 x 2 or 4 x 4  
Wheelbase: 156" (3.96m)  
Width 102" (2.6m)

**Frame:**  
48" (1.2m) wide, welded plate design  
65 ksi material

**Gross vehicle axle weight rating:**  
4 x 2 41,000 lb (18,597 kg)  
4 x 4 44,000 lb (19,958 kg)

**Front axles:**  
4 x 2: Meritor Model MFS-16-122A, 16,000 lb (7257 kg) rating  
4 x 4: Meritor Model MX19-145, 19,000 lb (8,618 kg) rating, 7.17 ratio

**Rear axle:**  
Meritor Model RS25-160, 25,000 lb (11,340 kg) rating, 7.17 ratio, single reduction with driver controlled differential lock

**Suspension:**  
Front: 8 leaf spring with automatic lock-out cylinders  
Rear: Solid mount

**Brakes:**  
4 x 2 Front: Meritor "Q" Series Cam-Master Size: 16.5" x 5" (419 mm x 152 mm) Automatic Slack Adjusters

4 x 4 Front: Meritor "Q" Series Cam-Master Size: 16.5" x 6" (419 mm x 127 mm) Automatic Slack Adjusters

4 x 4 Rear and 4 x 2 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:**  
4 x 4 front: 425/65R22.5 20-ply  
4 x 2 front: 385/65R22.5 18-ply on/off highway tread  
4 x 2 and 4 x 4 rear: 11R24.5 14-ply highway deep tread  
4 x 4 optional front and rear: 445/65R22.5 20-ply on/off highway tread  
(Note: 445/65R22.5 tires are not intended for prolonged highway use at speeds above 50 mph.)

### Steering:

Ross, integral hydraulic power steering. Gear type power steering pump. 4-quart power steering reservoir with filter.

### Standard chassis equipment:

Halogen headlights, tail lights, back-up lights and alarm, stoplights, identification lights front and rear, directional lights, 4-way hazard lights, work lights, and instrument panel lights. Windshield wiper/washer, West Coast style mirror system with plane and convex mirrors, front and rear tow hooks, desiccant type air dryer with automatic purge valve and thermostatically controlled heater.

### Hydraulic System

#### PUMPS

One load-sensing axial piston pump; 8-55 GPM (30-208 L/min) total.  
1 Gear Pump 11GPM (42L/min)

#### SYSTEM SPECIFICATIONS

##### Four double acting cylinders:

- 2 hoist cylinders: 3.5" x 2.56" Rod x 31" stroke 89mm x 65mm x 787mm
- 1 tool cylinder: 4.25" Bore x 3.0" Rod x 25.9 stroke (108mm x 76 x 658)
- 1 telescope: 3.5" ID, 2.559" Rod (89mm x 65mm), 11'(3.34m) stroke

##### Four hydraulic motors:

Swing, 51 Hp (38kW); tilt, 21 Hp (16kW); two remote drive, 88 Hp (65kW) total.

##### Operating pressures:

Hoist	4,800 psi (331 bar)
Tilt	2,500 psi (172)
Swing	3,000 psi (206)
Tool	4,800 psi (331)
Telescope	4,800 psi (331)
Remote Propel	3,750 psi (258 bar)
Pilot system	550 psi (38 bar)

##### Oil capacity:

Reservoir 35 gallons (133 L), system 50 gallons (189 L). Pressurized reservoir with visual oil level gauges.

##### Filtration system:

10 micron return filter with magnet.  
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.

### Chassis Cab

One-person cab, left-hand mount, isolated from frame on rubber mounts. Acoustical lining. Sun visor. Gauges for oil pressure, coolant temperature, air tank pressures, fuel level, voltmeter, speedometer with odometer, tachometer, hour meter. Engine monitor lights. Engine shutdown controlled by engine electronics. Indicator lights and controls for front axle engagement (4 x 4 only) and rear axle differential lock. Park brake control. Tinted safety glass. Sliding side windows. Fresh air heater and defroster. Dome light. Air suspension seat with seat belt. Vent in door.

### Upperstructure Cab

All-weather cab isolated from frame on rubber mounts. Tinted safety glass windows, skylight, acoustical lining, four-way adjustable operator's seat, dome light, filtered air heater and defroster. AM/FM Radio, Air-Conditioning work light package.

The 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.

### Hydraulic Remote Control

Undercarriage powered by upperstructure hydraulics through hydraulic motors and PTOs on transmission. Travel and steering pedals in upperstructure cab. 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.



## Engine

Detroit Diesel OM906 diesel with EGR. 4 cycle, inline 6 cylinder, liquid cooled. Turbo/Charge air aftercooled. Off-road Certified. Electronic controlled. Vertical canister style lube filter attached to engine. Vertical canister style fuel filters, (main and pre-filter) attached to engine. Remote mount primary fuel/water separator. Gross Rating: 201HP @ 2200 RPM. 553 FT LB Torque @ 1200 RPM. Net Rating: 184 HP @ 2200 RPM.

**Air Filter:** 2-stage dry type with safety element, ejector valve and service indicator.

**Electrical System:** 12 volt, 100 amp alternator with integral voltage regulator. 2 SAE #C31-S 1000 CCA batteries.

**Variable Viscous Fan Clutch System:** Fin and tube radiator with fan shroud. 9 blade, 28" diameter fan. Engine charge air cooler mounted in front of radiator. Transmission oil cooler mounted in front of radiator below charge air cooler.

**Fuel Tank Capacity:** 100 gal (378 L)

**Transmission:** Eaton Roadranger RTX-14609B, 9-speed FWD, 2-speed reverse. Internal oil pump with external spin-on filter. Transmission oil cooler. Neutral start switch. Input shaft clutch brake. 8-bolt air shifted PTO for hydraulic pump drive. Dual rear countershaft, air shifted PTO's for remote propel motors.

**Gear Speeds:** (with 11R24.5 tires)

Gear	Lo	1	2	3	4	5	6	7	8*
MPH	3.1	5.2	7.4	10.2	14.0	20.0	28.3	39.0	53.4
Km/hr	(4.9)	(8.4)	(11.9)	(16.4)	(22.5)	(32.2)	(45.3)	(62.7)	(85.9)

Gear	Rev Lo	Rev Hi
MPH	3.4	13.1
Km/hr	(5.5)	(21.1)

\*Limit speed to 50mph with 445/65R22.5 tires.

**Clutch:** Hydraulic actuated. Spicer Model 107, pull type. 14" dia, 2-plate, organic disc.

**Drivelines:** Spicer 1760 Series with "Half Round" yokes.

**Transfer Case:** (4 x 4 only) Meritor Model T-211HD, 1/1 ratio, 3 shaft single speed. With air operated front axle disconnect.

## GRADALL Model XL 3100 III Lift Capacity Over Side or Rear - LB. (KG.)

LOAD POINT HEIGHT	LOAD RADIUS											
	12' (3.7m)		15' (4.6m)		20' (6.1m)		25' (7.6m)		Maximum Radius	Over End	Over Side	
	Over End	Over Side	Over End	Over Side	Over End	Over Side	Over End	Over Side				
Above Ground Level	19'6" (6.1m)								20'2" (6.1m)	3625 (1645)	3625 (1645)	
	15' (4.6m)			6475 (2935)	6475 (2935)	4320 (1960)	4320 (1960)		22'8" (6.9m)	3545 (1610)	3545 (1610)	
	10' (3.0m)			7655 (3470)	7655 (3470)	4890 (2220)	4890 (2220)		24'0" (7.3m)	3560 (1615)	3560 (1615)	
	BOOM LEVEL 8'8" (2.7m)			7840 (3555)	7840 (3555)	4975 (2255)	4975 (2255)		24'2" (7.4m)	3575 (1620)	3575 (1620)	
At Ground Level				6840 (3105)	6840 (3105)	4710 (2135)	4710 (2135)		23'3" (7.1m)	3720 (1685)	3720 (1685)	
Below Ground Level	5' (1.5m)	5920 (2685)	5920 (2685)	5920 (2685)	5920 (2685)	4030 (1830)	4030 (1830)		21'0" (6.4m)	3785 (1715)	3785 (1715)	
	10' (3.0m)	3590 (1630)	3590 (1630)	3860 (1750)	3860 (1750)				16'11" (5.1m)	3665 (1660)	3665 (1660)	
	14'4" (4.4m)								9'9" (3m)	2155 (975)	2155 (975)	

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

The rated lift capacity is based on the machine being equipped with 6000 lb (2720 kg) counterweight, standard boom, standard tires, no auxiliary hydraulics, and no bucket. Adjust the listed rated capacities by subtracting the value listed for bucket/attachment used:

8065-6007 60" (1.5m)	Ditching-	807lbs.	(366kg)
8065-6006 66" (1.7m)	Ditching-	892lbs.	(405kg)
8065-6002 72" (1.8m)	Ditching-	944lbs.	(428kg)
8045-6020 24" (610mm)	Excavating	603lbs.	(274kg)
8045-6021 30" (762mm)	Excavating	660lbs.	(300kg)
8045-6022 36" (914mm)	Excavating	741lbs.	(336kg)
8045-6023 42" (1.1m)	Excavating	841lbs.	(382kg)
8045-6024 48" (1.2m)	Excavating	957lbs.	(434kg)
8065-6013 72" (1.8m)	Dredging	1114lbs.	(505kg)
8065-6102 40" (1.0m)	Pavement	1262lbs.	(573kg)
8065-6024 8" (2.4m)	Blade	630lbs.	(285kg)
8065-6009 Single Tooth Ripper	Ripper	557lbs.	(253kg)

## Upperstructure Controls

Two electronic joysticks (hoist & bucket, telescope & swing), one rocker switch (tilt) control upperstructure. Joysticks are mounted on arm pods that are adjustable for individual operator comfort and convenience. Quick change joystick pattern switch located on instrument panel.

Two foot pedals for remote control of undercarriage steering, travel and digging brakes. Rocker switch on control panel selects low speed or high speed remote travel.

Joysticks and pedals are self-centering; when controls are released, power for movement disengages and swing and travel brakes set automatically.

### Engine Controls

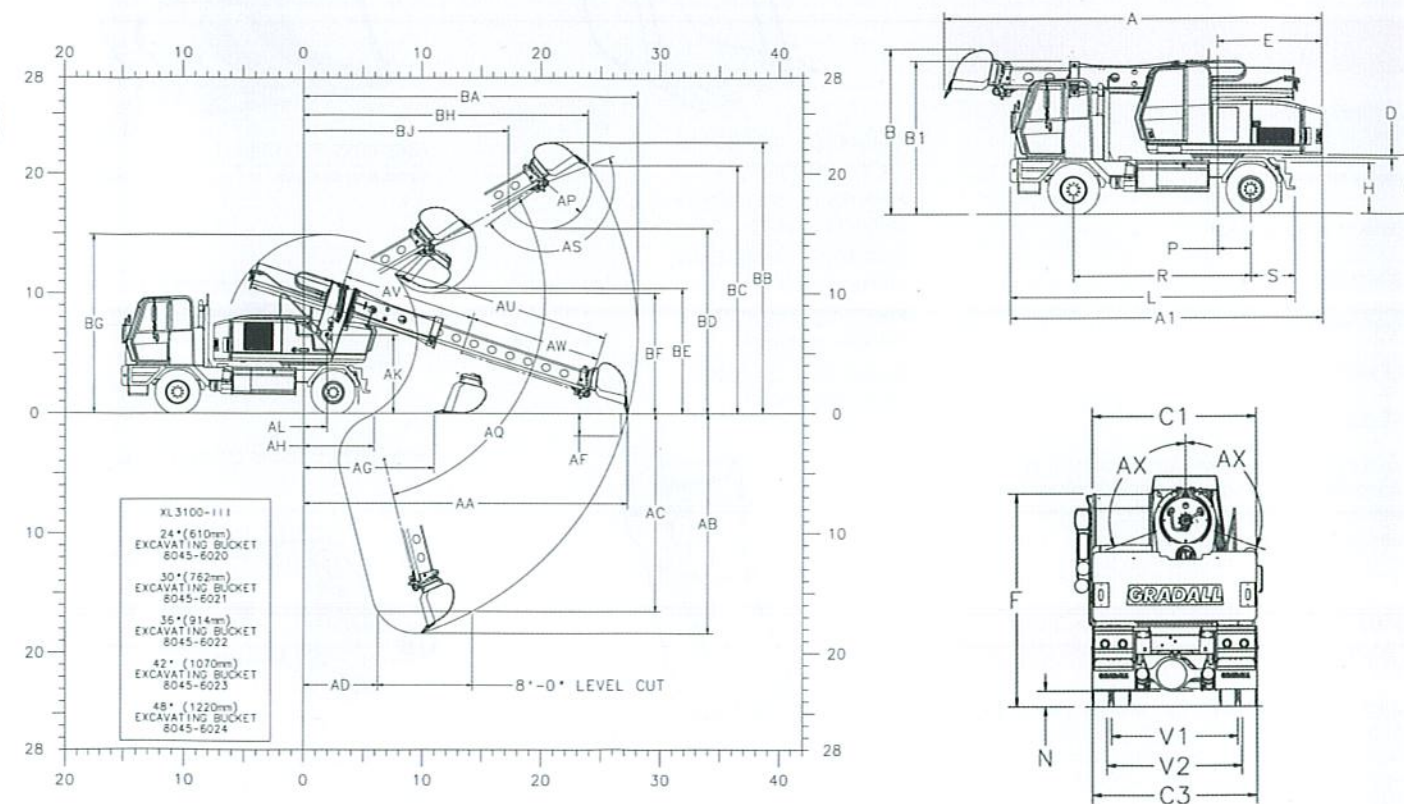
Key ignition switch with neutral start and indicator lights for low air, engine status, park brake, travel status, hydraulic fluid temperature and level.

Automatic engine shut down occurs with low oil pressure or high coolant temperature.

## 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.



### Shown with 8035-6006 30" (762mm) excavating bucket

	4 x 4	4 x 2		4 x 4	4 x 2	
A	27'3" (8.3m)	27'3" (8.3m)	Overall length (boom in rack) with bucket	AU 23'0" (7.0m)	23'0" (7.0m)	Maximum telescoping boom length (boom pivot to bucket pivot)
A1	22'7" (6.9m)	22'8" (6.9m)	Overall length (boom in rack) without bucket			Minimum telescoping boom length (boom pivot to bucket pivot)
B	12'11" (3.9m)	12'8" (3.9m)	Overall height (boom in rack) with bucket	AV 12'0" (3.6m)	12'0" (3.6m)	Telescoping boom travel
B1	11'6" (3.5m)	11'3" (3.4m)	Overall height (boom in rack) without bucket			Bucket tilt angle (both sides of center)
C1	8'6" (2.6m)	8'6" (2.6m)	Width of upper structure	AW 11'0" (3.3m)	11'0" (3.3m)	Maximum radius of working equipment
C3	8'6" (2.6m)	8'6" (2.6m)	Width of undercarriage	AX 11'0"	11'0"	Minimum clearance of bucket teeth, with bucket pivot at maximum height
D	2" (50mm)	2" (50mm)	Minimum clearance, upperstructure to undercarriage	BA 28'1" (8.6m)	28'1" (8.6m)	Minimum clearance of bucket teeth, with bucket pivot at maximum height
E	7'6" (2.3m)	7'6" (2.3m)	Swing clearance, rear of upperstructure	BB 23'5" (7.1m)	23'1" (7.0m)	Minimum clearance of fully curled bucket at maximum boom height
F	10'10" (3.3m)	10'6" (3.2m)	Top of cab to ground line	BC 21'7" (6.6m)	21'3" (6.5m)	Minimum clearance of bucket teeth at maximum boom height
G	51" (1.3m)	47" (1.2m)	Clearance, upperstructure to ground line	BD 16'3" (5.0m)	15'11" (4.8m)	Radius of bucket teeth at maximum height
H	48" (1.2m)	44" (1.1m)	Top of wheel mounted undercarriage frame to ground line	BE 10'11" (3.3m)	10'7" (3.2m)	Minimum radius of bucket teeth at maximum bucket pivot height
L	20'3" (6.2m)	20'3" (6.2m)	Overall length of undercarriage			
N	10" (250mm)	10" (250mm)	Ground clearance (per SAE J1234)	BF 10'6" (3.2m)	10'3" (3.1m)	
P	30" (760mm)	30" (760mm)	Center of rear axle to axis of rotation	BG 13'5" (4.1m)	13'2" (4.0m)	
R	13'0" (4.0)	13'0" (4.0)	Wheel base	BH 23'3" (7.1m)	23'3" (7.1m)	
S	32" (810mm)	32" (810mm)	Center of rear axle to rear of frame (step)	BJ 16'9" (5.1m)	16'9" (5.1m)	
V1	6'5" (2.0m)	6'5" (2.0m)	Tread, rear axles 4x4 (10:00 x 20 tires), 4x2 (Spoke Wheels)			
V2	7'1" (2.2m)	6'10" (2.1m)	Tread, front axle 4x4 (15:00 x 22.5 tires), 4x2 (Spoke Wheels)			
AA	27'5" (8.4m)	27'5" (8.4m)	Maximum radius at ground line (165° pivot)			
AB	19'4" (5.9m)	19'8" (6.0m)	Maximum digging depth (165° pivot)			
AC	17'6" (5.3m)	17'10" (5.4m)	Maximum depth for 8' level cut			
AD	5'11" (1.8m)	5'11" (1.8m)	Maximum radius of 8' level cut at depth "AC"			
AF	18" (460mm)	18" (460mm)	Maximum depth of vertical wall which can be excavated			
AG	11'3" (3.4m)	11'4" (3.5m)	Minimum level cut radius with bucket flat on ground line			
AH	6'11" (2.1m)	7'3" (2.2m)	Minimum radius at ground line			
AK	6'2" (1.9m)	5'11" (1.8m)	Boom pivot to ground line			
AL	15.3" (390mm)	15.3" (390mm)	Boom pivot to axis of rotation			
AP	46" (1.2m)	46" (1.2m)	Bucket tooth radius			
AQ	32° Up & 75° Down	32° Up & 75° Down	Boom pivot angle			
AS	165°	165°	Bucket pivot angle			

**Rated boom force:**  
21,940 lb (976kN)

**Rated bucket breakout force:**  
17,990 lb (80kN)

**Weight:**  
Approximate working weight, including 30" (762mm) bucket, fuel tank half full.  
4x2: 39,486 lb (17,911 kg)  
4x4: 41,176 lb (18,677 kg)

Specifications subject to change without notice.