

# GRADALL®

## XL 3100 IV

### HYDRAULIC EXCAVATOR



XL 3100 IV

## SPECIFICATIONS

### Undercarriage

4 x 2 or 4 x 4  
Wheelbase: 160" (4.06m)  
Width 102" (2.6m)

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

**Gross vehicle axle weight rating:**  
4 x 2 41,250 lb (18,711 kg)  
4 x 4 44,250 lb (20,071 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, 25,250 lb (11,453 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 LR (L) on/off highway traction tread  
4 x 2 front: 385/65R22.5 LR (J) on/off highway tread  
4 x 2 and 4 x 4 rear: 11R24.5 LR (H) on/off highway traction tread

### Steering:

Ross, integral hydraulic power steering. Gear type power steering pump. 4-quart power steering reservoir with filter and 10 Micron pre-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.

One gear pump (pilot & cooling) 11 gpm (42 L/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" Borex 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

##### Three hydraulic motors:

Swing, 51 Hp (38kW); tilt, 21 Hp (16kW); remote drive, 110 Hp (82kW) total.

##### Operating pressures:

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

##### Oil capacity:

Reservoir 50 gallons (189 L), system 65 gallons (246 L). Pressurized reservoir with visual oil level gauge.

##### Filtration system:

5 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, 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 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

Upperstructure powered by chassis hydraulics through hydraulic motor and transfer case. 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 OM926 Tier 4i: diesel with Selective Catalytic Reduction. 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: 235 HP @ 2200 RPM. 627 FT LB Torque @ 1200 RPM. Net Rating: 218 HP @ 2200 RPM.

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

**Electrical System:** 24 volt, 70 amp alternator with integral voltage regulator. 2 SAE #C31-S 1000 CCA batteries.

**Chassis Cooling Package:** consists of three aluminum bar-plate type coolers stacked vertically: an air-air charge air cooler, radiator, and a transmission cooler. All three coolers are backed by a molded fan shroud and a 28", nine-blade fan driven by a Horton thermostatically controlled, variable-speed fan drive.

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

**Urea Tank Capacity:** 10.5 gal (40 L)

**Transmission:** Allison 3500 RDS 6-speed automatic.

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

Gear	1	2	3	4	5	6
MPH	6.6	17.0	25.3	39.2	52.9	60.0
Km/hr	(10.6)	(27.4)	(40.7)	(63.1)	(85.1)	(96.6)

Gear	Rev
MPH	6.4
Km/hr	(10.3)

**Drivelines:** Spicer 1710 Series with "Half Round" yokes.

**Transfer Case:** (4 x 2) Cushman Model 479-1, 1:1 Ratio, Pneumatic engage for Remote Propel.

(4 x 4) Cushman Model 479A-1, 1:1 Ratio, Pneumatic engage for Remote Propel and Front Drive.

## Upperstructure Controls

Two electronic joysticks (hoist & bucket, telescope & 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 switch located on instrument panel.

Two foot pedals for remote control of undercarriage steering, travel and digging brakes.

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.

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

LOAD POINT HEIGHT		LOAD RADIUS										
		10' (3.0m)		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)
	5' (1.5m)			7870 (3570)	7870 (3570)	5050 (2290)	5045 (2290)			24'2" (7.4m)	3625 (1645)	3625 (1645)
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)

Loads shown in shaded areas indicate the load is limited by tipping rather than hydraulic lift capacity

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.

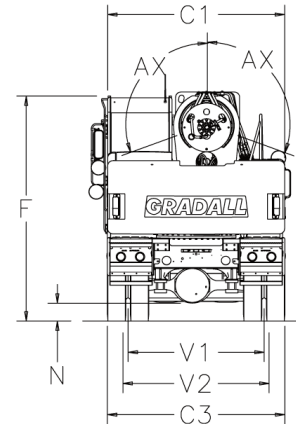
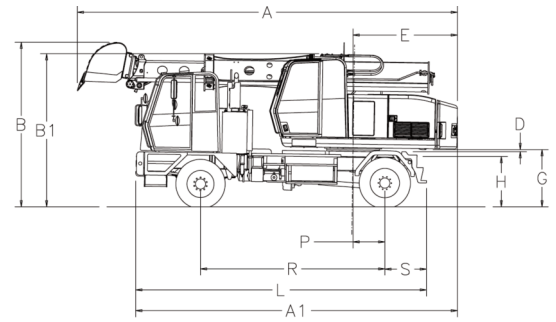
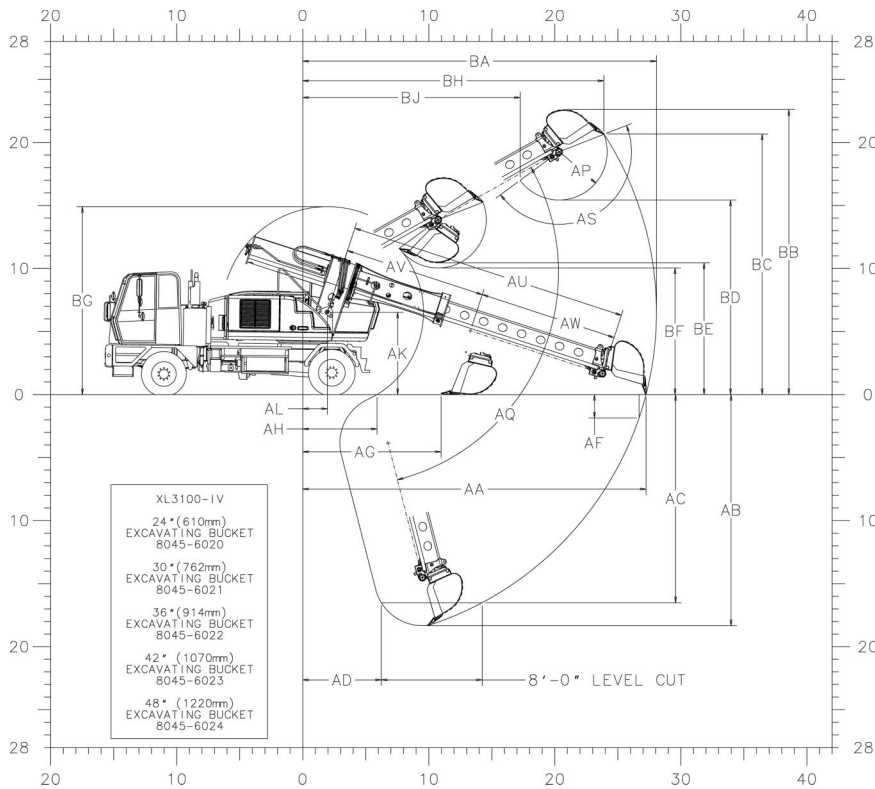
**ATTENTION:** All rated loads are based on the machine being stationary and level on a firm supporting surface. For safe working loads, the user must make allowance for his particular job conditions such as soft or uneven ground, out of level conditions, side loads, hazardous conditions, experience 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.

**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 6,000 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)

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



**Shown with 8035-6006 48" (1.2m) excavating bucket**

4 x 2	4 x 4
A 27'6" (8.4m)	27'6" (8.4m)
A1 23'3" (7.1m)	23'3" (7.1m)
B 11'11" (3.6m)	12'3" (3.7m)
B1 11'1" (3.4m)	11'5" (3.5m)
C1 8'6" (2.6m)	8'6" (2.6m)
C3 8'6" (2.6m)	8'6" (2.6m)
D 2" (45mm)	2" (45mm)
E 7'6" (2.3m)	7'6" (2.3m)
F 10'10" (3.3m)	11'1" (3.4m)
G 50" (1.3m)	54" (1.4m)
H 44" (1.1m)	47" (1.2m)
L 21'0" (6.4m)	21'0" (6.4m)
N 10" (254mm)	10" (254mm)
P 28" (701mm)	28" (701mm)
R 13'4" (4.1)	13'4" (4.1)
S 36" (916mm)	36" (916mm)
V1 6'6" (2.0m)	6'6" (2.0m)
V2 7'0" (2.1m)	7'0" (2.1m)
AA 27'3" (8.3m)	27'2" (8.3m)
AB 18'4" (5.6m)	18'1" (5.5m)
AC 16'6" (5.0m)	16'3" (4.9m)
AD 6'3" (1.9m)	6'3" (1.9m)
AF 1'10" (0.6m)	1'10" (0.6m)
AG 11'0" (3.3m)	10'11" (3.3m)
AH 5'11" (1.8m)	5'4" (1.6m)
AK 6'6" (2.0m)	6'10" (2.1m)
AL 23" (596mm)	23" (596mm)
AP 46" (1.2m)	46" (1.2m)
AQ 30° Up & 75° Down	30° Up & 75° Down
AS 165°	165°

Overall length (boom in rack) with bucket  
 Overall length (boom in rack) without bucket  
 Overall height (boom in rack) with bucket  
 Overall height (boom in rack) without bucket  
 Width of upper structure  
 Width of undercarriage  
 Minimum clearance, upperstructure to undercarriage  
 Swing clearance, rear of upperstructure  
 Top of cab to ground line  
 Clearance, upperstructure to ground line  
 Top of wheel mounted undercarriage frame to ground line  
 Overall length of undercarriage  
 Ground clearance (per SAE J1234)  
 Center of rear axle to axis of rotation  
 Wheel base  
 Center of rear axle to rear of frame (step)  
 Tread, rear axles 4x4 (10:00 x 20 tires), 4x2 (Spoke Wheels)  
 Tread, front axle 4x4 (15:00 x 22.5 tires), 4x2 (Spoke Wheels)  
 Maximum radius at ground line (165° pivot)  
 Maximum digging depth (165° pivot)  
 Maximum depth for 8' level cut  
 Maximum radius of 8' level cut at depth "AC"  
 Maximum depth of vertical wall which can be excavated  
 Minimum level cut radius with bucket flat on ground line  
 Minimum radius at ground line  
 Boom pivot to ground line  
 Boom pivot to axis of rotation  
 Bucket tooth radius  
 Boom pivot angle  
 Bucket pivot angle

4 x 2	4 x 4
AU 22'3" (6.8m)	22'3" (6.8m)
AV 11'3" (3.4m)	11'3" (3.4m)
AW 11'0" (3.4m)	11'0" (3.4m)
AX 110°	110°
BA 28'1" (8.6m)	28'1" (8.6m)
BB 22'7" (6.9m)	22'11" (7.0m)
BC 20'8" (6.3m)	21'0" (6.4m)
BD 15'5" (4.7m)	15'9" (4.8m)
BE 10'5" (3.2m)	10'9" (3.3m)
BF 10'1" (3.1m)	10'4" (3.2m)
BG 14'11" (4.5m)	15'2" (4.6m)
BH 23'11" (7.3m)	23'11" (7.3m)
BJ 17'3" (5.3m)	17'3" (5.3m)

**Rated boom force:**  
 21,940 lb (97.6kN)

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

**Weight:**  
 Approximate working weight, including 30" (762mm) bucket, fuel tank half full.  
 4x2: 40,930 lb (18,566 kg)  
 4x4: 41,720 lb (18,924 kg)

Specifications subject to change without notice.

## Optional Equipment

Vandalism protection kit including window covers.

Intake air pre-cleaner.

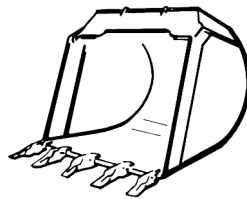
Exhaust spark arrestor.

Strobe light.

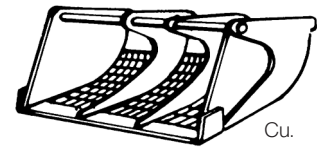
Block heater.

Tilt steering column.

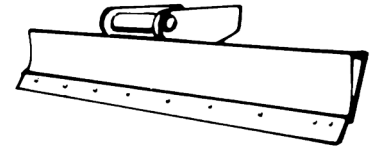
Auxiliary Hydraulics - Additional hosing and piping for hydraulic powered attachments. [Maximum pressure 4800 psi (33,095 kPa) Maximum flow 30 GPM (114 L/min)]



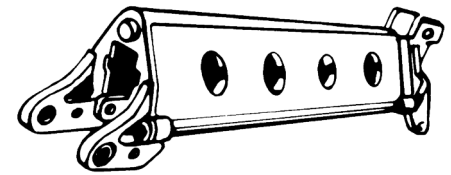
Part Number	Size	Cu. yd.	m <sup>3</sup>
8045-6020	24" (610mm) Excavating bucket	3/8	.31
8045-6021	30" (762mm) Excavating bucket	1/2	.41
8045-6022	36" (914mm) Excavating bucket	5/8	.54
8045-6023	42" (1.07m) Excavating bucket	3/4	.64
8045-6024	48" (1.22m) Excavating bucket	1	.76



Part Number	Size	Cu. yd.	m <sup>3</sup>
8065-6013	72" (1.83m) Dredging bucket	1 1/8	.87



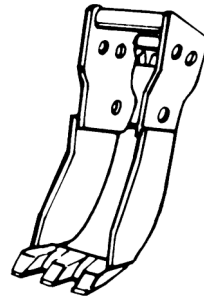
8065-6024 8' (2.4m) Grading blade



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

## 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.



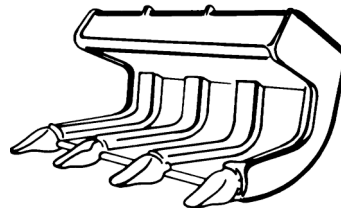
Part Number	Size	Cu. yd.	m <sup>3</sup>
8065-6104	15" (381mm) Trenching bucket	1/5	.15
8065-6012	21" (533mm) Trenching bucket	1/4	.19

See photos of the XL 3100 just click here with your smart phone.

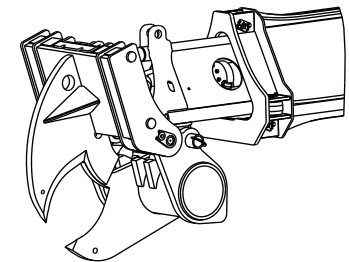


Get the free mobile app at <http://gettag.mobi>

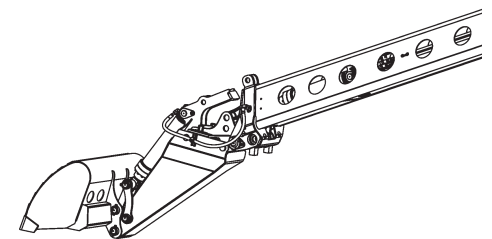
*It is Gradall Policy to continually improve its products. Therefore designs, materials and specifications are subject to change without notice and without incurring any liability on units already sold. Units shown may have optional equipment.*



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



8045-5052 Tree Limb Shear Attachment



8045-5009 6' (1.8 m) Live Boom

# GRADALL®

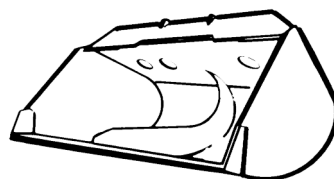
406 Mill Ave. SW, New Philadelphia, Ohio 44663  
Phone: 330-339-2211 Fax: 330-339-8468  
[www.gradall.com](http://www.gradall.com)



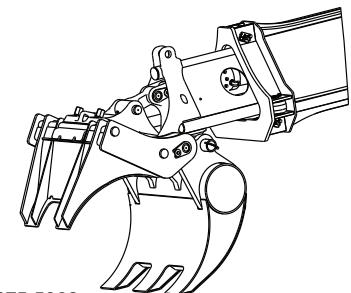
Certified ISO 9001



Form No. 11107  
Printed in USA  
05/11



Part Number	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



8075-5023 Fixed Thumb Grapple