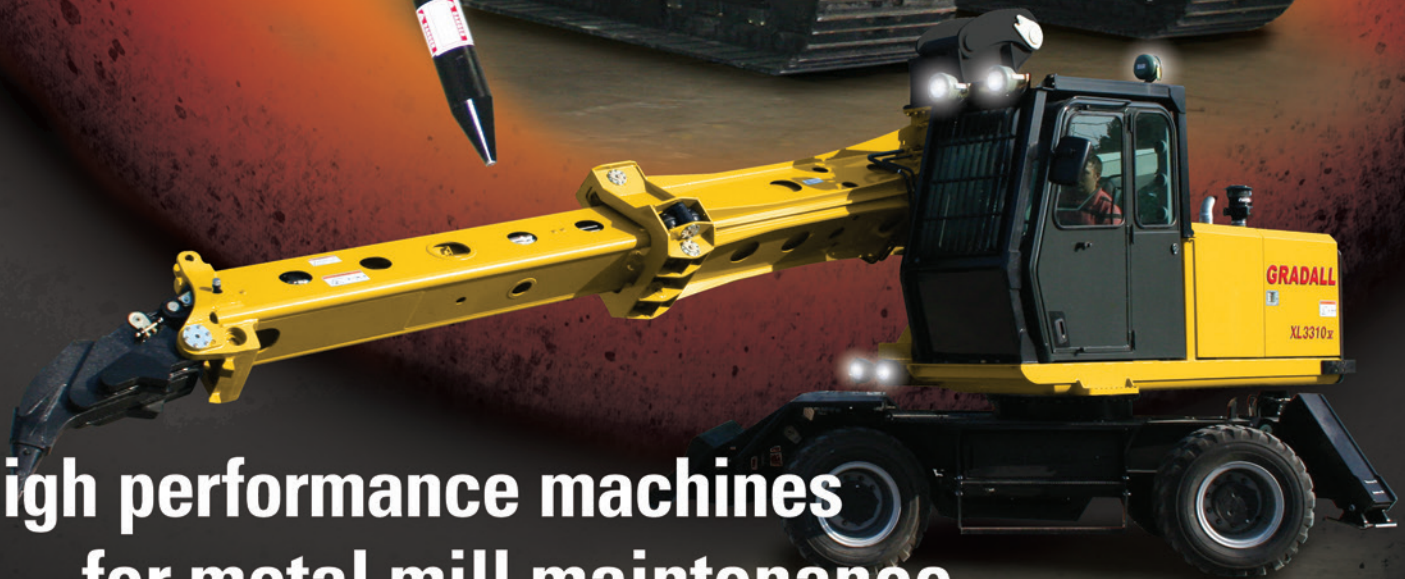


GRADALL[®]

Industrial Maintenance



**High performance machines
for metal mill maintenance**

**VERSATILITY
EFFICIENCY
CONTROL
POWER**



Metal mill maintenance is dirty, hot, rugged work in extreme environments. It demands a durable machine that can handle challenging conditions and get the job done efficiently. Gradall industrial maintenance machines are engineered and manufactured with this environment in mind. The machines' boom range, swing and 360-degree rotational movement allow for precise control in confined or crowded work areas.

Gradall industrial maintenance machines have the strength and power to withstand the vigorous pounding and vibration found in the metal, steel, and aluminum mill industries. Gradall's unique hydraulically integrated load-sensing system automatically adjusts for any job, big or small, without the need to select working modes. From ground level to boom end, Gradall's industrial maintenance machines are built and tested for tough, efficient work.



Auxiliary hydraulics line is fully protected, assuring a long life in rugged industrial applications.

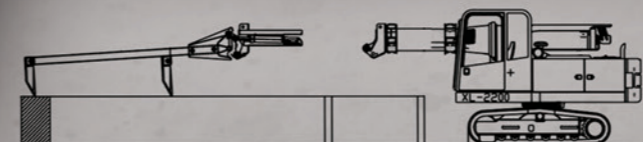


THE GRADALL BOOM. IN A CLASS BY ITSELF.

Gradall's innovative boom design provides exceptional reach and movement. With continuous 360-degree boom tilt, these machines can work in hard-to-reach places, telescoping into position with minimal overhead clearance. Attachments—hammers, rippers, buckets and drills—can be precisely directed to the job at hand, whether skulling and cleaning hot metal ladles, removing bricks, cleaning distribution channels, or placing tap holes. Heavy-duty boom rollers reinforce optimum strength for the exceptionally rugged boom, and the boom tilt motor is at the rear of the cradle protecting it from damage.



ALUMINUM SMELTING



Aluminum Furnace Cross Skimming

- » Handle pot cleaning and furnace teardowns
- » Reach through the mouth of a furnace for dross removal and cleaning



WHEELED UNDERCARRIAGES

EXTRA MOBILITY TO HANDLE MANY JOBS IN BUSY METAL MILLS

- » Heat-resistant foam-filled or solid tires
- » Easy maneuverability
- » Heat-resistant shields protect tires
- » Can be hoisted using single-point yoke
- » Work in any direction without outriggers
- » Up to 18 mph travel speed

Internal Metal Hose and Tube Clamps

Heavier Telescopic Boom

Heavier Main Boom

High Temperature Glass

Special Window Guards

Heavier Boom Cradle

Additional Cab Mounts

Stainless Steel Braided Hose With Fire Sleeves

Heat Shields

XL 3310 V

- » 42,294 lb (19,184 kg)
- » 28' 2" (8.6 m) reach
- » 19' 2" (5.6 m) dig depth

XL 4310 V

- » 46,580 lb (21,128 kg)
- » 31' 3" (9.5 m) reach
- » 22' 1" (6.7 m) dig depth

XL 5310 V

- » 55,926 lb (25,368 kg)
- » 34' 9" (10.6 m) reach
- » 25' 5" (7.7 m) dig depth

XL 7310 V

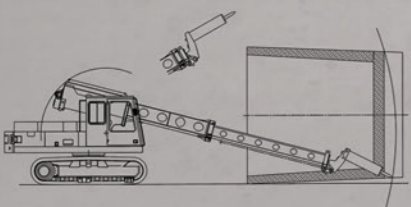
- » 77,500 lb (35,153 kg)
- » 47' 10" (14.6 m) reach
- » 6' 2" (1.9 m) max dig depth

SPECIFICATIONS

WHEELED	XL 3310 V	XL 4310 V	XL 5310 V	XL 7310 V
Engine Std.	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5
HP @ RPM	172/2000	173/2200	173/2200	173/2200
Max. Radius at Groundline	28' 2" (8.6)	31' 3" (9.5)	34' 9" (10.6)	47' 10" (14.6)
Max. Work Height, Boom Below Grade	14' 11" (4.5)	14' 11" (4.5)	14' 11" (4.5)	14' 3" (4.3)
Boom Telescope	11' 0" (3.4)	12' 6" (3.8)	14' 0" (4.3)	13' 6" (4.1)
Boom Tilt	360°	360°	360°	360°
Tool Pivot Angle	165°	165°	165°	114°
Rated Boom Force	22,075 lb (98.2kN)	22,075 lb (98.2kN)	24,941 lb (111kN)	27,700 lb (123.2kN)
Operating Weight	42,294 lb (19,184 kg)	46,580 lb (21,128 kg)	55,926 lb (25,368 kg)	77,500 lb (35,153 kg)
Swing Clearance	7' 6" (2.3)	8' 0" (2.4)	8' 6" (2.6)	10' 0" (3.0)
Transport Length w/ Scaling Hook	24' 0" (7.3)	26' 0" (7.9)	28' 4" (8.6)	43' 0" (13.1)
Transport Height w/ Scaling Hook	11' 6" (3.5)	11' 6" (3.5)	11' 6" (3.5)	13' 8" (4.2)
Transport Width	9' 0" (2.7)	9' 0" (2.7)	9' 0" (2.7)	13' 4" (4.1)
Travel Speed-MPH	12 (19.3 kph)	12 (19.3 kph)	12 (19.3 kph)	11 (17.7 kph)
Wheelbase	8' 9" (2.7)	8' 9" (2.7)	8' 9" (2.7)	12' 6" (3.8)
Ground Clearance	11" (275 mm)	11" (275 mm)	11" (275 mm)	1' 4" (0.4 m)

Metric units are meters (m) unless noted.

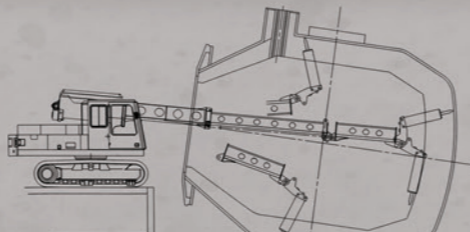
LADLE MAINTENANCE



Ladle Maintenance

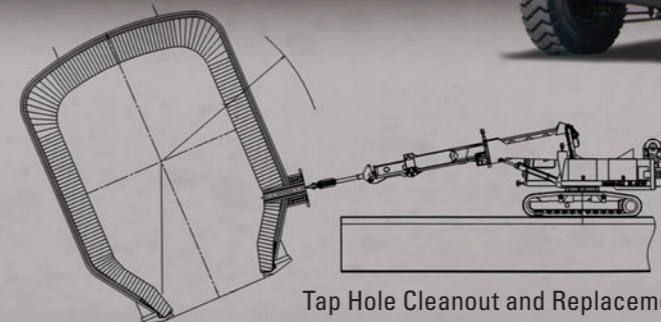
- » Clean the bottom and side walls in hot condition
- » Debrick the wear lining, while not damaging the permanent lining
- » Rake and remove slag from hot metal, with a minimum loss of metal
- » Push out and remove plug at the base of ladle

BOF MAINTENANCE



BOF Furnace Maintenance

- » Effectively descull the converter lip
- » Clean and replace tap holes
- » Clean, debrick, repair and drill tap holes in converters



Tap Hole Cleanout and Replacement

- » Hydraulic tap hole drill attachment can drill out a tap hole in five minutes
- » New tap hole insert tool reduces overall tap hole replacement time

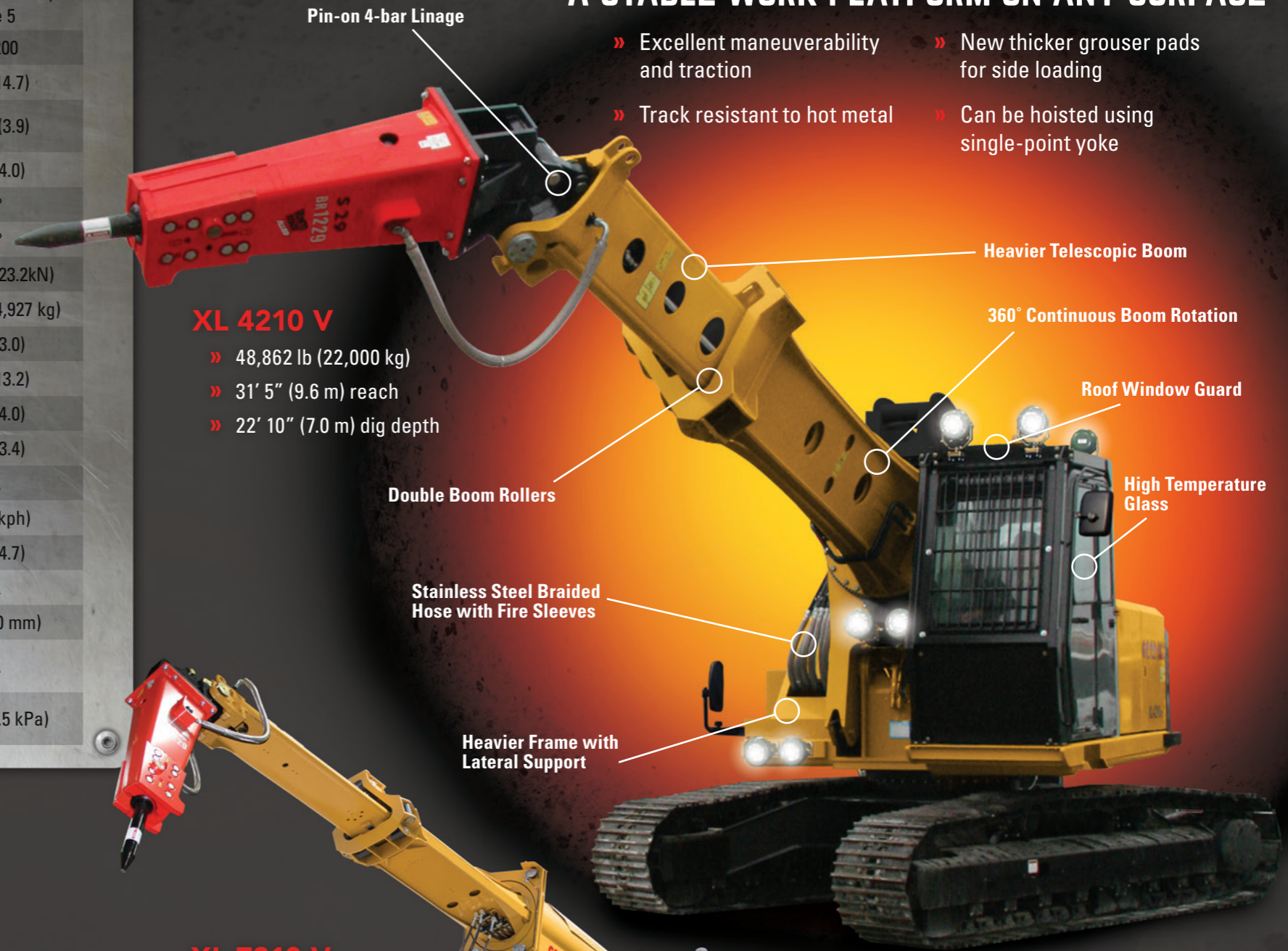
SPECIFICATIONS

CRAWLER	XL 3210 V	XL 4210 V	XL 5210 V	XL 7210 V
Engine Std.	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5	Volvo TAD581VE, Stage 5
HP @ RPM	172/2000	173/2200	173/2200	173/2200
Max. Radius at Groundline	28' 4" (8.6)	31' 5" (9.6)	34' 10" (10.6)	48' 1" (14.7)
Max. Work Height, Boom Below Grade	14' 2" (4.3)	14' 2" (4.3)	14' 2" (4.3)	12' 10" (3.9)
Boom Telescope	11' 0" (3.4)	12' 6" (3.8)	14' 0" (4.3)	13' 3" (4.0)
Boom Tilt	360°	360°	360°	360°
Tool Pivot Angle	165°	165°	165°	114°
Rated Boom Force	22,075 lb (98.2kN)	22,075 lb (98.2kN)	24,941 lb (111kN)	27,700 lb (123.2kN)
Operating Weight	44,327 lb (20,106 kg)	48,862 lb (22,000 kg)	59,162 lb (26,835 kg)	77,000 lb (34,927 kg)
Swing Clearance	7' 6" (2.3)	8' 0" (2.4)	8' 6" (2.6)	10' 0" (3.0)
Transport Length w/ Scaling Hook	23' 11" (7.3)	25' 11" (7.9)	28' 4" (8.6)	43' 3" (13.2)
Transport Height	10' 9" (3.3)	10' 9" (3.3)	10' 9" (3.3)	13' 3" (4.0)
Transport Width – Wide	9' 0" (2.7)	10' 6" (3.2)	10' 6" (3.2)	11' 1" (3.4)
Transport Width – Narrow	9' 0" (2.7)	9' 10" (3.0)	9' 10" (3.0)	N/A
Travel Speed-MPH	3.4 (5.5 kph)	3.4 (5.5 kph)	3.4 (5.5 kph)	2.4 (3.9 kph)
Track Length	11' 9" (3.6)	13' 8" (4.2)	13' 8" (4.2)	15' 4" (4.7)
Pad Width – Narrow	19.7" (500 mm)	23.6" (600 mm)	23.6" (600 mm)	N/A
Pad Width – Wide	23.6" (600 mm)	31.5" (800 mm)	31.5" (800 mm)	31.5" (800 mm)
Ground Bearing Pressure – Narrow	10.1 psi (69.6kPa)	7.7 psi (52.8 kPa)	9.3 psi (64.1 kPa)	N/A
Ground Bearing Pressure – Wide	8.5 psi (58.6kPa)	5.8 psi (40.2 kPa)	7.1 psi (48.9 kPa)	8.2 psi (56.5 kPa)

Metric units are meters (m) unless noted.

CRAWLER UNDERCARRIAGES

A STABLE WORK PLATFORM ON ANY SURFACE



- » Excellent maneuverability and traction
- » New thicker grouser pads for side loading
- » Track resistant to hot metal
- » Can be hoisted using single-point yoke

XL 4210 V

- » 48,862 lb (22,000 kg)
- » 31' 5" (9.6 m) reach
- » 22' 10" (7.0 m) dig depth

XL 5210 V

- » 59,162 lb (26,835 kg)
- » 34' 10" (10.6 m) reach
- » 26' 2" (8.0 m) dig depth

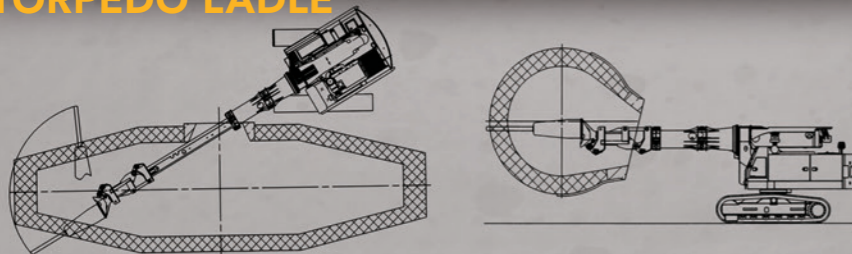
XL 3210 V

- » 44,327 lb (20,106 kg)
- » 28' 4" (8.6 m) reach
- » 19' 11" (6.1 m) dig depth

XL 7210 V

- » 77,000 lb (34,927 kg)
- » 48' 1" (14.7 m) reach
- » 10' 4" (3.1 m) max dig depth

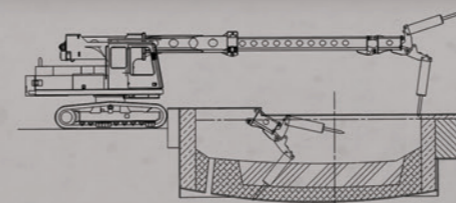
TORPEDO LADLE



Hot Metal Transfer Car Cleanout

- » Maintain hot metal troughs by removing hard slag
- » Clean out refractory brick
- » Topedo car cleanup

ELECTRIC FURNACES



Electric Arc Furnace Lining Removal

- » Clean and replace tap holes
- » Debrick and remove refractory lining materials
- » Rake and remove hot slag from pit below the furnace



OPTIONS

- » 23.6" (600 mm) track pads, triple grouser or flat, for XL 4210 V and XL 5210 V
- » 19.7" (500 mm) track pads, triple grouser or flat, for XL 3210 V
- » Auxiliary hosing and piping for pneumatic or hydraulic hammers
- » Single-point lifting yoke
- » Extended reach boom
- » Fire resistant hydraulic fluid
- » Work lights
- » Warning beacon
- » Attachment adapter to accommodate standard XL Series ditching buckets
- » Radio remote control with umbilical cord

ATTACHMENTS



Hydraulic Hammers



Pneumatic Hammers



Tap Hole Drill



Double Tooth Steel Mill Ripper



Single Tooth Steel Mill Rippers



Core Drill



Excavating Buckets:
28", 36" and 48"

A COMFORTABLE, PROTECTIVE WORKING ENVIRONMENT

Gradall XL Series V feature spacious cabs designed for operator comfort and safety, with plenty of windows for excellent visibility in all directions. Gradall, Deere or SAE boom control joysticks are built into the adjustable seat, enhancing operator efficiency, and convenient foot pedals allow the operator exacting control to position the carrier. For operator comfort, heaters, air conditioning and more are all standard.



GRADALL 406 Mill Ave. SW, New Philadelphia, OH 44663
330.339.2211 • GradallMetalMill.com



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.

Form No. 11719 4/26
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