

# RAMMERS



SOLUTIONS THAT LAST



## R420 & R440 SERIES

The R420 & R440 Series Rammers are ideally suited for the compaction of granular, mixed, and cohesive soils in confined areas. A mainstay in many municipal fleets, the R420 & R440 offer highly productive percussion rammers at 126 & 142 lbs. respectively. The contoured fuel tank provides the largest fuel capacity in its class and effectively baffles engine noise.



R440

Power is supplied by either a 2.4 hp 4-cycle Robin engine or a 3 hp 4-cycle Honda engine.

- Up to 3800 lbs (16.9 kN) of compaction force
- 4-cycle engine

- Elevated bellows placement for trench applications
- Polyethylene slide bearings provide minimal internal wear
- 10" or 11" high density, die cast aluminum tamping shoe
- 4" and 6" trench shoes available



R420

SPECIFICATIONS	R420R	R420HC	R440HC
Shoe Size	10 x 11.5 in (25 x 29 cm)	10 x 11.5 in (25 x 29 cm)	11 x 13 in (28 x 33 cm)
Operating Weight	118 lb (54 kg)	126 lb (57 kg)	142 lb (64 kg)
Engine Option	Robin EH09 2.4 hp (1.8 kw)	Honda GX100 3 hp (2.2 kw)	Honda GX100 3 hp (2.2 kw)
Compaction Force	Up to 3100 lbf (up to 13.8 kN)	Up to 3100 lbf (up to 13.8 kN)	Up to 3800 lbf (up to 16.9 kN)
Percussion Rate	750 blow/min	750 blow/min	Up to 700 blow/min
Travel Speed	Up to 55 ft/min (16 m/min)	Up to 55 ft/min (16 m/min)	Up to 55 ft/min (16 m/min)
Compaction Depth	Up to 18 in** (45 cm)	Up to 18 in** (45 cm)	Up to 18 in** (45 cm)

Fuel capacity of 4.6 qt (4.3 l); Engine 3600 rpm

( ) Metric Measurements.

Specifications subject to change without notice.

\*\* Clean sand, optimum moisture. MBW recommends that lifts not exceed 12" of granular soil or 9" cohesive soil.

## RAMMER FEATURES

The secret to our success...

MBW achieves unmatched durability by using high-density non-metallic slide bearings and spring separators. These components last up to 6 times longer than their metal counterparts, create less friction and heat, preserve lubricant integrity, and produce less internal load for the engine to overcome. Compression springs made of stress relieved, chrome-silicon alloy steel and a percussion housing of lightweight, durable aluminum alloy provide the strength for all MBW rammers.



### R420 Series

Optional 4" and 6" trench shoes available as well as a 6" extension for deeper trench application. The unique shoe design keeps rammer on surface of lift. Standard 11" shoe is also available.



### Hand/Arm Vibration

MBW is committed to reducing hand/arm vibration on its entire range of rammers. We have made significant progress without cutting back on rammer compaction performance. Hand/arm vibration levels have decreased between 25 & 60% across the range.



### Smart Rammer

The integral tachometer/hour meter ensures that the rammer is operating at maximum capacity. It also informs service personnel of proper maintenance intervals. Optional on the R420 and R440, standard on the R480.



## SMART RAMMER SERIES

The Smartest Rammers in the industry, this MBW line is equipped with integral tachometers and hour meters that indicate when maximum operational performance is being reached and when maintenance intervals are needed. The result is higher productivity and increased service life. Weighing 160 lbs., **Smart Rammers** produce compaction depths to 25 inches (63 cm)\* and up to 4,550 lbs. (20.2 kN) of force per blow.



Smart Rammers are available with a choice of two engines which provide sure starts and long-term low maintenance.

SPECIFICATIONS	R480R	R480H	R481R	R481H
Shoe Size	11 x 13 in (28 x 33 cm)	11 x 13 in (28 x 33 cm)	13 x 15 in (33 x 38 cm)	13 x 15 in (33 x 38 cm)
Operating Weight	160 lb (73 kg)	153 lb (69 kg)	163 lb (74 kg)	156 lb (71 kg)
Engine Option	Robin EH12 4 hp (3 kw)	Honda GX100 3 hp (2.2 kw)	Robin EH12 4 hp (3 kw)	Honda GX100 3 hp (2.2 kw)
Compaction Force	4500 lbf (20.0 kN)	4500 lbf (20.0 kN)	4550 lbf (20.2 kN)	4550 lbf (20.2 kN)
Compaction Area	3300 sqft (307 sqm)	3300 sqft (307 sqm)	3900 sqft (362 sqm)	3900 sqft (362 sqm)
Travel Speed	60 ft/min (18.3 m/min)	60 ft/min (18.3 m/min)	60 ft/min (18.3 m/min)	60 ft/min (18.3 m/min)
Compaction Depth	25 in* (64 cm)	25 in* (64 cm)	25 in* (64 cm)	25 in* (64 cm)
Percussion Rate	650 blows/min	650 blows/min	650 blows/min	650 blows/min
Fuel Capacity	4.6 qt (4.3 l)	4.6 qt (4.3 l)	4.6 qt (4.3 l)	4.6 qt (4.3 l)

( ) Metric Measurements.  
Specifications subject to change without notice.

\* Clean sand, optimum moisture. MBW recommends that lifts not exceed 12" of granular soil or 9" cohesive soil.

## ABOUT RAMMER SPECIFICATIONS

- Published lift capacity reflects ideal conditions (clean sand, optimum moisture). Good compaction practice restricts lift depth to a maximum of 12 inches for granular soils, 6 to 9 inches for cohesive soils.
- Published travel speeds generally indicate operation under ideal conditions.
- Area of compaction calculations factor in lift and travel expectations that may not be realistic for all conditions of compaction.
- There is no universally accepted formula or method for determining rammer "compaction force". Manufacturers employ their own formulas/methods to develop "compaction force" specifications thereby rendering comparison between rammers an exercise in futility.

**1/8" Thick Polyethylene**  
fuel tank to resist punctures and abrasions and has largest capacity in the industry

**Non-Metallic Spring Separator**  
to further reduce friction

**4 Ply Vulcanized Rubber Bellows**  
reinforced with stranded steel cable

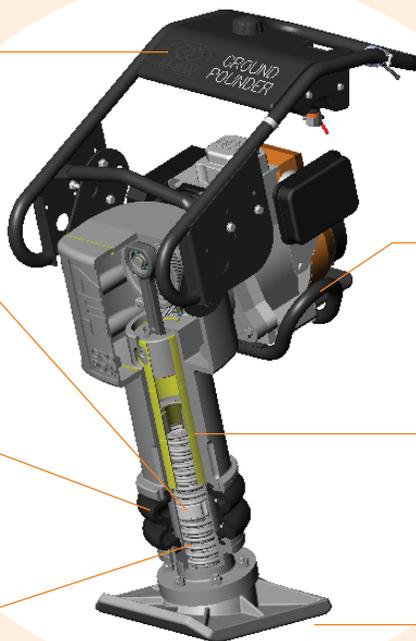
**Compression Springs**  
manufactured of highest quality, stress relieved alloy steel. Springs do not bottom out or require rubber stoppers like competitive models

**Precision Balanced Handle**  
with contoured fuel tank

**Impact Resistant Engine Guard**  
protects against damage

**High Density Non-Metallic Slide Bearings**  
reduce internal friction to the lowest levels in the industry

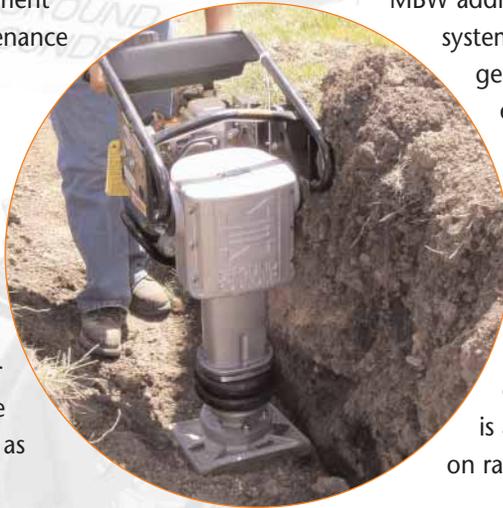
**Low Pressure, High Density Casted Aluminum Alloy Shoe**  
MBW shoes do not absorb impact like competitive models but transfer all force to soil



1-800-678-5237

## HIGH PERFORMANCE PERCUSSION RAMMERS

MBW approaches rammer development aggressively. We attack high maintenance issues usually associated with this product type. The MBW delivery system is the lowest friction, heat, and maintenance percussion unit in the industry. Less friction, heat, and wear in the delivery system translates into lower continuous horsepower demands to keep the rammer running. That means fewer engine problems and longer engine life. Bellows failures are reduced by as much as 90% with MBW's 4-ply, steel reinforced, vulcanized rubber bellows.



MBW addresses maintenance issues on throttle systems, tamping shoes, fuel tanks, gearboxes, shock mounts, proper engine rpm, and we answer the question as to when your service staff should perform routine maintenance.

While MBW rammers are decidedly high performance, the thing that truly separates our rammers from the competition is an unrelenting, aggressive attack on rammer problems.

## RATING RAMMER ENGINES

In January 2004 MBW eliminated 2-cycle engines on its rammers. The change was the direct result of ever more stringent EPA regulations and a growing user preference for 4-cycle engines. Indeed, the trend toward 4-cycles has been so pronounced that the world's largest producer of 2-cycle engines for the rammer application, Subaru-Robin, discontinued 2-cycle engine production in early 2004.

MBW offers both Honda and Robin 4-cycles. The Honda GX100 is a 3 hp engine and is used on both the R420H and R480H. Please note that when altitude exceeds 4000 feet, MBW recommends Robin model EH12 on R480.

The Robin EH09 is a 2.4 hp engine used only on model R420. Please note that when altitude exceeds 4000 feet, MBW recommends GX100 on R420.



**HONDA GX100  
4-CYCLE**



**ROBIN EH09  
4-CYCLE**



**ROBIN EH12  
4-CYCLE**

The Robin EH12 is a 4 hp engine. The EH12 is used only on model R480. MBW has subjected all of the above engines to rigorous endurance testing and found them a good match for the rammer application. We do, however, suggest that buyers pay close attention to matching engines (horsepower) to the altitude in which they are anticipated to operate.

## AUTHORIZED DISTRIBUTOR



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