

Boom Systems

An extensive range of booms to suit everything from the smallest stationary crushing plants and mobile crushers up to the worlds largest gyratory crushers and ROM bin applications, with industry leading specialty booms for continuous and high demand mining operations.

- FAST OPERATION
- LONG REACH
- IMPROVED SAFETY
- SIMPLE MAINTENANCE

BoomSafe®
PROTECTED

smart boom technology

INTELLIGENT AND AUTOMATED

Protected by our industry leading BoomSafe® automation, collision avoidance and remote control system.

BoomSafe®
PROTECTED

HD10-09

TRS / Total
Rockbreaking
Solutions

ADVICE AND SUPPORT YOU CAN TRUST

1300 921 498 | totalrockbreaking.com.au





“

Over the past decade, TRS has set the benchmark for innovative boom systems. Synonymous with reliability, performance and safety, we have made it our mission to engineer products that perform day in, day out, in the most demanding applications and environments.



We are a wholly Western Australian owned company, focused entirely on the design, sales and service of hard rock mining boom systems, hydraulic power units and a large range of specialist hydraulic attachments for the mining, construction and recycling industries.

when reliability matters you need a partner you can trust

We understand your industry, the challenges you face, and what it takes to protect your people. No matter the job at hand, we stop at nothing to build only the best, keeping your equipment running harder, and for longer.

Advice and support

With extensive industry-specific knowledge and experience we provide you with service, advice and solutions that meet the specific needs of your application and ensure you achieve the maximum return on your capital investment.

We will help you choose the right rock-breaker, boom, controls and hydraulic power unit to suit your application.

Our in-house engineering and project management team can assist you to optimise the installation to ensure reliable operation and maximum productivity and serviceability.



Full range of booms

We offer a full range of fixed pedestal mounted boom systems, that cover a variety of client needs.

This spans from proprietary Rammer boom systems through to high duty, remotely operated TRS booms with premium hydraulic power units, clean-fill lubrication systems and tool change facilities.

Automation & Remote operation

Automation will increase staff safety and reduce downtime. You can now have the most advanced remote operator controlled, collision prevention and automated movement system, BoomSafe® factory fitted on new Boom Systems or retro-fitted to your existing Rockbreaker Boom.

- boom systems
- rockbreakers
- hydraulic power units
- boom control systems
- specialty attachments
- service & maintenance
- onsite service team

Service

With an extensive workshop and site service capabilities, TRS has become the partner of choice for operators looking for reliable and fully supported rockbreaker boom systems.

Our world-class facilities in Kewdale, Perth incorporate over 3,000 sqm of custom built workshop suitable for manufacturing, assembly, testing and servicing of hydraulic equipment as well storage and multiple office areas.



Factors for a targeted solution driven approach

- application
- maximum reach
- horizontal reach
- vertical reach
- vertical breaker coverage
- boom size
- rockbreaker size
- HPU size
- working slew angle
- safety
- automation
- remote operation

the right boom for every need

At TRS, we are renowned for having the right boom system for every application.

There are four key considerations when it comes to choosing a rockbreaker boom system:

- a correctly sized hydraulic rock-breaker,
- boom size and reach,
- the position, elevation and working slew angle of the boom itself, and
- safety systems, automation, remote operation and spare parts.

We will help you choose the right rock-breaker, boom, control system and hydraulic power unit, so you get the most out of your machine and can perform when and where it counts.

Our in-house engineering and project management team can assist you to optimise the installation to ensure reliable operation and maximum productivity and serviceability.

Extensive range of Rammer® booms

Rammer Boom Systems have been an integral part of Australian crushing circuits for more than 40 years.

Manufactured on a global scale for a global market, Rammer has 28 models from 1 tonne up to 18 tonne heavy duty models. With reaches from 1 metre up to 17 metres there is a boom to suit all types of mining and quarrying applications – from small stationary crushing plants and mobile crushers to larger gyratory crushers and ROM bins.

Authorised Rammer dealer

As the exclusive, authorised WA dealer for the Rammer range of hydraulic attachments and boom systems TRS will help you take advantage of the extensive Rammer product range by selecting the right boom and rockbreaker for the job and package this with the correct controls and hydraulic power unit to match your requirements.

TRS HD series for high duty applications

The TRS High-Duty (HD) booms are purpose-built for large-scale mining and hard rockbreaking applications.

Australian Made

The 'HD' stands for 'high duty' and these Australian-engineered and manufactured systems are designed to handle the stress of constant use and allowing operators to reach further and work harder, with greater speed and precision.

With increased performance and reliability, as well as several contemporary enhancements, including single touch DEPLOY and PARK commands, our HD boom system range has been welcomed by mineral resources operators in Pilbara.

The range is 7-models strong, spanning from 22.5 to 25.8 tonne, with reaches up to 17.8 metres.

4 things to consider before buying a rockbreaker boom system

To maximise the return on investment and ensure optimum performance, it is important to consider the following before purchasing a new rock breaker boom system:

1 ensure the hydraulic rockbreaker is correctly sized for the application. Consider the rock hardness, rock size, expected duty (number of rocks per hour) and the physical size of the chute or crusher inlet.

2 the boom size and reach must be correct. Too light for the application will lead to higher maintenance costs and a reduced effective life of the boom. Conversely, over-sizing the rockbreaker and / or the boom system will increase the initial capital cost and have a flow on effect on the cost of support structures and foundations.

3 the position, elevation and working slew angle of the boom system need to be assessed. Correct positioning of the boom can make a big difference to the useability and maintainability of the system.

Ideally, the normal working area of the rockbreaker should be well within the maximum and minimum limits of the boom reach.

4 the availability of advanced safety and remote operation systems such as BoomSafe® options and readily available tools and spare parts.

Read the full article on totalrockbreaking.com.au/downloads

BoomSafe®
PROTECTED

smart boom technology

Automation
Remote operation
Collision prevention

The TRS BoomSafe® boom control system is available factory fitted on new Boom Systems or can be retrofitted to any brand of boom without making changes to hydraulic components.



TRS HD series



TRS HD Booms are specifically designed for large scale mining and high demand rockbreaking applications consistently delivering effective rockbreaking with high speed and accuracy".

engineered for safer, easier and reliable operation

The TRS HD Series of fixed pedestal mounted boom systems have been specifically engineered for challenging mining environments to maximise reliability and availability in high duty, hardworking applications.

High speed & long reach

The HD Booms operate fast, have long reach, carry large hammers and present easy servicing and maintenance features.

With TRS HD booms routine movements at the start and end of every operation are carried out at maximum speed and without risk of collision with surrounding infrastructure, which means the HD range can cater for even the most demanding applications.

Combined with the TRS 'Zero-Tension' hose support, 'Clean-Fill' lubrication system and the TRS BoomSafe® control and automation system, you can be assured of significant increases in availability and reliability whilst also maximising the overall life of the asset.

The range of High Duty (HD) boom systems - proudly Australian made - include 7 models spanning from 22.5 to 25.8 tonne, with reaches up to 17.8 metres.

- LONG REACH
- FAST OPERATION
- IMPROVED SAFETY
- SIMPLE MAINTENANCE
- RELIABLE

Automation, collision avoidance & remote operation

The HD-Series boom range feature the innovative TRS BoomSafe® smart boom control system as standard, which provides reliable, proven automated movements, collision avoidance and remote operation capability.

Users can set the direction, acceleration, maximum speed, and minimum creep speed for each joint of the hydraulic boom independently. This level of control enhances the boom's performance, improves ease of operation for local and remote operators, while reducing unnecessary wear and tear on mechanical components.



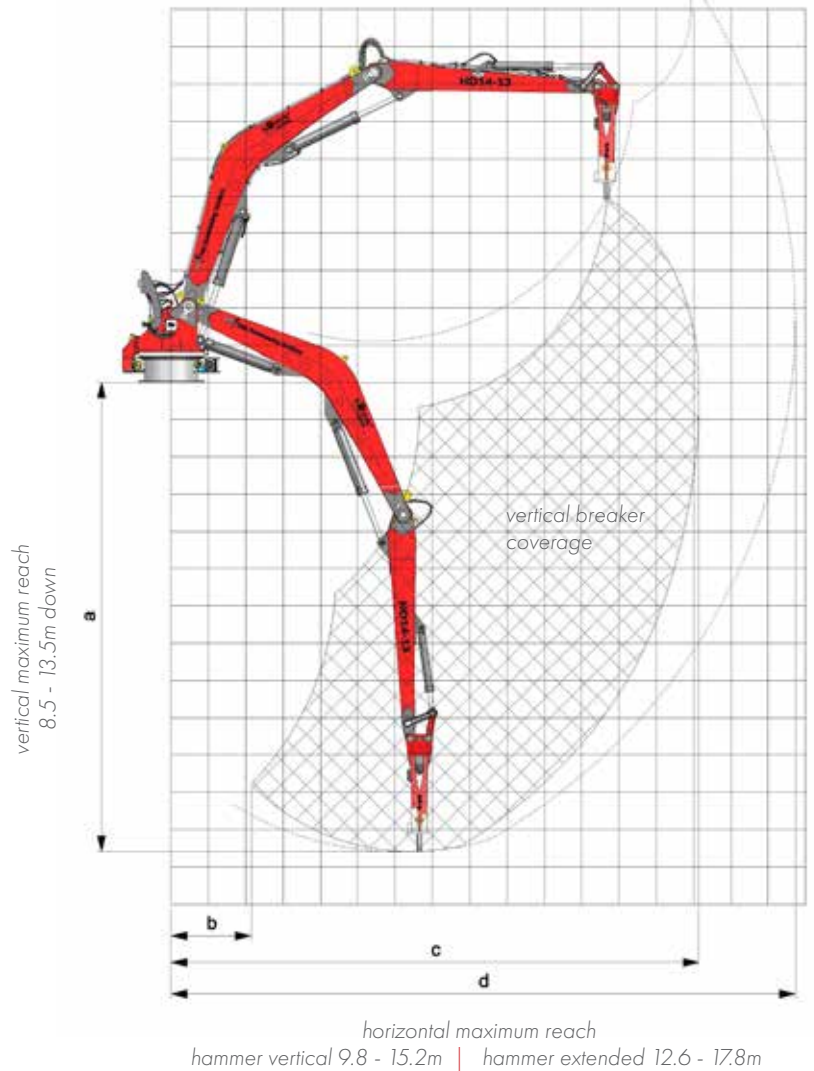
Australian designed and manufactured



With our industry leading BoomSafe® automation, collision avoidance and remote operation system, operators can enjoy one-touch PARK and DEPLOY movements.

Maintainers can also rest assured that collision with the surrounding infrastructure is prevented with our easy to configure BoomSafe® Smart Limits™ system.

- Australian engineered for high duty, hardworking applications
- Torsional strength within the heavy-duty boom structure reduces operating stresses
- Oversized pivot pins and bushes to lower bearing stresses and increase wear life
- High speed of operation
- Protected by BoomSafe® - the industry leader in reliable rock-breaker control systems
- Simple to configure collision avoidance system
- Automated one-touch PARK and DEPLOY movements
- Multiple booms can be operated from a single workstation from anywhere in the world
- 'Zero - Tension' connecting hose solutions
- Various systems for safe and fast hammer or tool changing
- Energy absorbing mechanical slew stops, to safety rated slew limit sensors



SPECIFICATIONS	HD 10-09	HD 11-09	HD 11-10	HD 12-11	HD 13-12	HD 14-13	HD 15-14
weight with hammer	22,500	23,100	23,800	24,500	25,000	25,500	25,800
max vertical reach (m)*	8.5 down	9.3 down	10 down	10.9 down	11.9 down	12.6 down	13.5 down
max horizontal reach (m)*							
1) hammer vertical	9.8	10.6	11.5	12.3	13.3	14.1	15.2
2) hammer extended	12.6	13.3	14.2	15.0	15.9	16.7	17.8
slew range	360 °						
hammer tilt angle	130 ° range						
hammers (Rammer)	3288E 4099E	3288E 4099E	3288E 4099E	3288E 4099E	3288E 4099E	3288E	3288E
recommended HPU	90kW std 110kW Hi-Flo						

* Based on 3288E Rockbreaker with Standard Tool.

For even longer reach

The TRS XD Series booms are available with capacity to carry extra-large hammers such as Rammer 3288E and 4099E. With reaches from 18m to 24m, the XD series is designed to meet the increasing requirements of modern operations which have very large gyratory and ROM bin applications.

With the same features as the HD series, the XD range has increased over-turning capacity and is also designed to withstand the rigours of constant, heavy use.

Rammer booms

Rammer booms feature a modular mechanical design that means the equipment is easy to assemble, safe to service and reliable to use resulting in higher uptime.



designed to enhance safety

Rammer Boom Systems have been an integral part of Australian crushing circuits for more than 40 years.

These booms are typically installed above crusher inlets or hoppers and grizzly screens to minimise downtime and avoid damage caused by over-size product blocking chutes or crusher inlets.

Safe Operation

All elements of Rammer booms are manufactured to stringent quality and exacting safety standards and are fully CE-compliant including fail-safe switches and redundancy monitoring in pressure lines.

Mechanical design allows for modularity, so that boom and power pack can be easily and safely mounted and dismantled.

Additionally, features such as fully encapsulated hydraulic power pack in a close skid prevents any contact with operators while boom is running and

shock absorbing pedestal mounting that results in less vibration in adjacent area.

Boom remote control enables safer operation of the boom by taking the operator out of the equipment front line.

Less maintenance

High quality manufacturing ensures long service life with less maintenance that means fewer touch points with operators.

However, if operators need to service the equipment, they can rely on a number of mechanical and electrical safeguards to protect them from any risky situation.

- Height and width design of boom arms enable practical and safe access to servicing the equipment.
- Booms are equipped with heated treated conical pins that increase service life and can be easily and

A correctly sized Rammer hydraulic rockbreaker for boulder breaking:

Boulder size (m ³)	Boulders per hour	Hard rock (basalt, gabro, granite, gneiss)	Medium hard rock (hard limestone, andesite, sandstone)	Soft rock (coal, shale, soft limestone)
0 - 1	0 - 10	1533 - 2155	999 - 1533	777 - 999
	10 - ...	2155 - 2577	1533	1533
1 - 2	0 - 10	2155 - 2577	1533	999 - 1533
	10 - ...	2577	1533 - 2155	1533
2 - 4	0 - 10	3288	2155 - 2577	1533 - 2155
	10 - ...	3288 - 4099	3288	2577

All the models above are Rammer Excellence line (E).

safely removed when replacing the bushings.

- Cylinder design is heavy duty to ensure longer life and thus fewer change-outs, i.e. reducing operators exposure to service maneuver.
- High quality and certified hoses, sealings, and components prevent oil leaks, reducing oil consumption and reducing number of change-outs.

Complete safe turn-key packages

As the exclusive, authorised WA dealer for the Rammer range of hydraulic attachments and boom systems we can offer complete safe turn-key packages comprising

- rockbreaker,
- boom system,
- power pack and
- full electrification of the system

that are customized to meet the specific application requirements.



We can help optimise your installation and ensure safe and reliable operation with maximum productivity and serviceability.

Right boom for any application

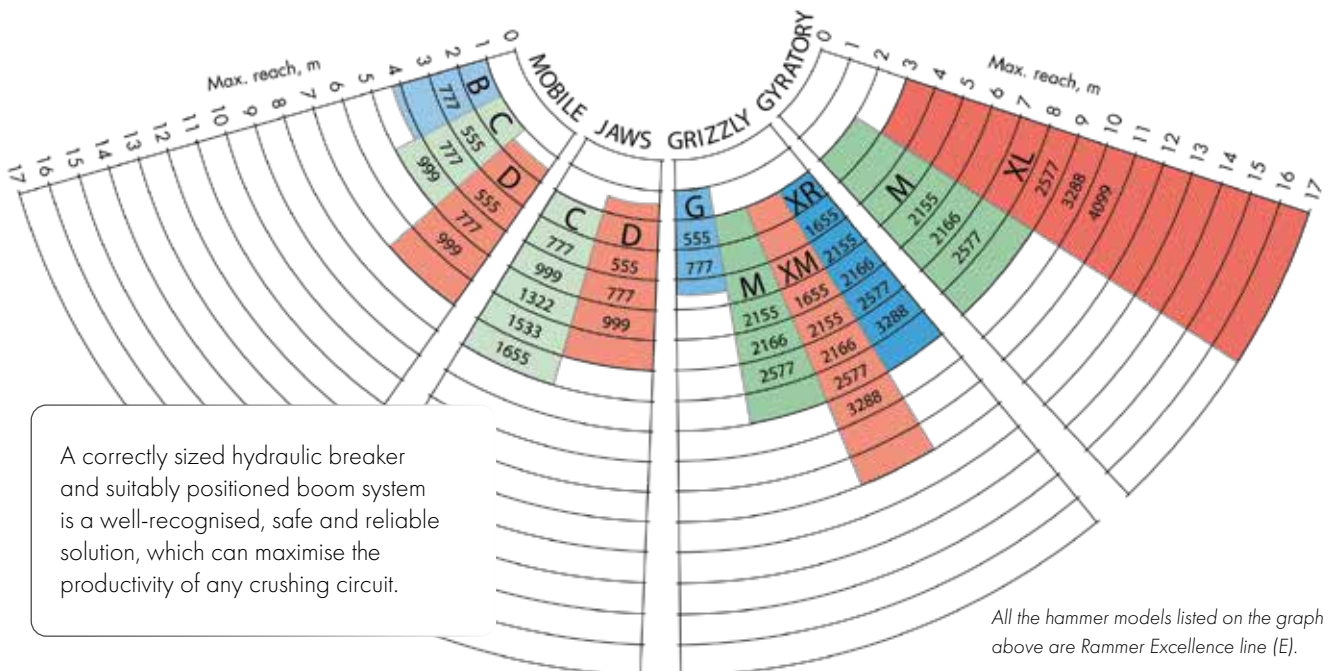
Manufactured on a global scale for a global market, Rammer has 28 models to suit all types of mining and quarrying applications – from small stationary crushing plants and mobile crushers to larger gyratory crushers and ROM bins.

The different boom models offer multiple possibilities for hydraulic power and reach, which provides a greater operational flexibility.

We will help you take advantage of the extensive Rammer product range by selecting the right boom and rockbreaker for the job.

a wide range

- models from 1 tonne up to 18 tonnes heavy duty applications
- reach from 1 metre up to 17 metres



A correctly sized hydraulic breaker and suitably positioned boom system is a well-recognised, safe and reliable solution, which can maximise the productivity of any crushing circuit.

All the hammer models listed on the graph above are Rammer Excellence line (E).

BoomSafe®

welcome to the next generation in Boom Automation

With an increasing demand for automated mining and remote operation, mine owners and operators are looking for intelligent technology that minimises exposure to risk and helps drive safer, more efficient operations.

TRS BoomSafe™ is purpose-built for hydraulic boom systems. It provides safe and reliable remote operation, and incorporates automated movements and advanced collision prevention to improve the safety of any fixed pedestal boom system.

easy retro fit

TRS BoomSafe® system can be retro-fitted to any brand of boom without the need to make any large changes to hydraulic equipment so, no heavy lifting equipment is required for installation or commissioning.

Remote operation

Operators control of all their network-connected rockbreaker boom systems from a single workstation.

Remote operators can execute automated movements such as 'Park', 'Deploy',



'Tool Replacement Position', 'Hammer Change Position' with the press of a single button, improving speed and precision.

Commands are easy to setup and can be configured without specialist technicians.

All commands from either the local radio control or remote operation station are supervised by BoomSafe® to avoid damage to the boom and surrounding infrastructure, preventing all movements which would result in the boom moving outside the designated safe work area

Collision Prevention

At the heart of BoomSafe® is an automated collision prevention system allowing maintenance personnel to set up a safe work area where the boom is allowed to operate. This unique 'operator assist' function automatically corrects and adjusts the human operator-initiated movements to direct the boom back into the safe work area, instead of halting the boom operation and requiring further operator intervention to continue.

Rammer Rockbreakers

Rockbreaker size

Rockbreaker power required is determined by the hardness, toughness and size of material to be broken, expected duty (number of rocks per hour) and the physical size of the chute or crusher inlet.

Powerful and reliable

Manufactured with robust components and high-quality steel, the excellent power-to-weight ratio make Rammer rockbreakers the powerful and reliable choice for sites that demand the best, with extra durability throughout the breaker lifecycle.

The rockbreakers feature a built-in pressure adjusting valve, guaranteeing each blow is delivered with maximum power, while an optimised piston design transfers the maximum energy to every blow for greater productivity in all applications. This is further enhanced

by a wear resistant lower boot and heavy-duty housing option, as well as membrane type accumulator that eliminates gas leakage during operations, and subsequently the need to recharge onsite.

Remote Monitoring

The premium 'Excellence Line' of Rammer hydraulic rockbreakers are equipped with the RD3 remote monitoring device, which when coupled with SAM, is the world's first cloud-based telematics monitoring system for hydraulic rockbreakers.

With RD3 operators receive detailed information about their rockbreaking operation via the cloud based SAM platform helping them manage service periods and minimise machinery downtime by scheduling maintenance without impacting production.

The RD3 can also be retrofitted on any Rammer rockbreaker built after 2009, which means your operators won't need to upgrade their toolbelt to take advantage of this cutting-edge technology.

Manufactured to exceed industry expectations

TRS Premium Spec HPUs are self-contained, fully enclosed units and are fitted with pockets for forklift handling and lifting lugs for ease of installation.

Each system boasts an impressive list of standard features to maximise availability and reliability in the most arduous conditions and, depending on the project requirements, a large range of optional features which are readily available, including foam fire suppression, bladder breathers and additional filtration and condition monitoring.

With internal lighting, bolted roof panels and a full enclosure with all side panels either bolted or hinged, complete access to the internal components is possible for maintenance.

The HPUs, available in 55kW, 90kW and 110kW models are matched to suit the selected boom and hammer model and can be further customised to meet any project or site electrical or hydraulic specifications.

Hydraulic Power Units





TRS HMD series of booms ready for delivery



TRS Total
Rockbreaking
Solutions

ADVICE AND SUPPORT YOU CAN TRUST

1300 921 498 | totalrockbreaking.com.au



10 Ferguson Street, Kewdale WA 6105