



TECHNOLOGY AUTOMATICALLY SETS THE MAXIMUM POSSIBLE SPEED BY OPTIMIZING THE TORQUE APPLIED TO THE WHEEL

- **ONE PEDAL**
- **ONE POSITION**
- **AUTOMATICALLY ADJUSTABLE SPEED**

TORQUE VS RPM

Torque requirements are different for every category of tire and wheel assembly

Aspect ratio and tire type are two important factors to consider when selecting a tire changer



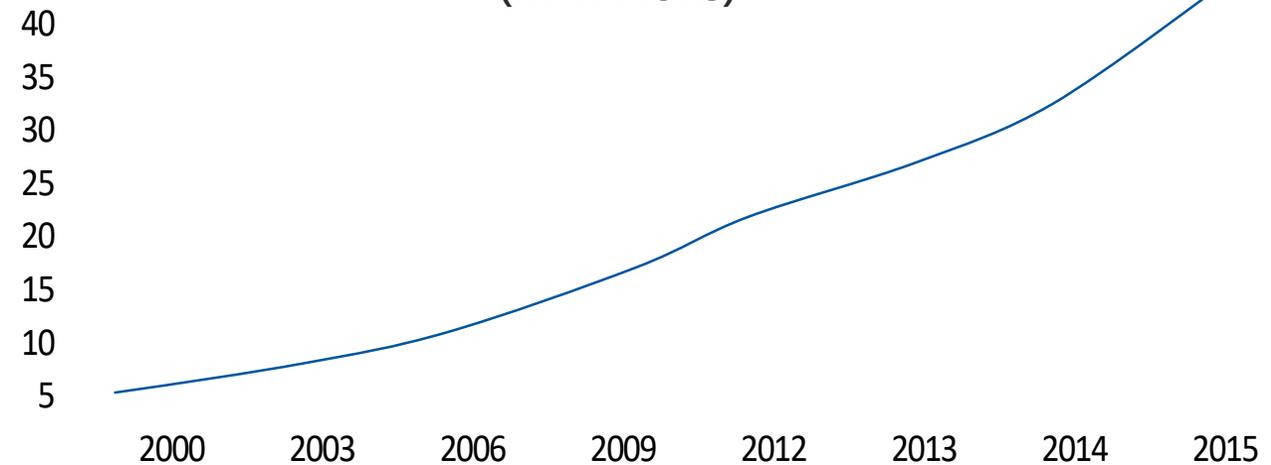
TIRE TYPES

Vehicle manufacturers use more UHP tires

Every year, UHP tires represent a greater percentage of the overall market. In 2000, the number was only 10.8%; in 2015, it was 37.7%.

Tire and wheel assemblies are becoming more difficult to handle. PROSpeed™ makes changing tire easy and fast.

UHP tire shipments, 2000 – 2015
(in millions)

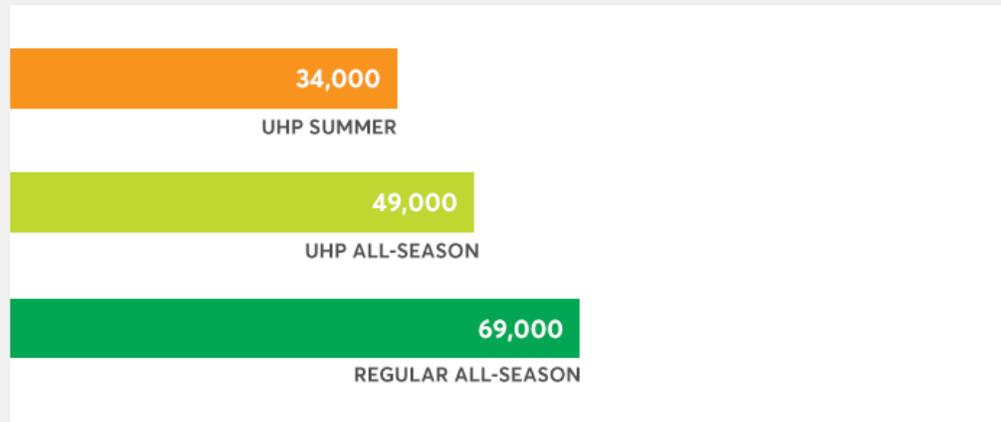


Source Modern Tire Dealer web site Posted on February 11, 2016

TIRE TYPES

Vehicle manufacturers use more UHP tires and they wear faster

Average predicted tread life by tire type based on CR tests (miles)



© Consumer Reports 2016. All Rights Reserved.

Built for Speed, Not Longevity

We fitted UHP tires to eight 2015 Ford Mustangs and logged 16,000 miles per tire over public roads in Texas for our treadwear test. Despite rotating the tires and checking inflation and alignment every 1,000 miles, we found that the UHP tires wore out relatively quickly.

UHP tires come in summer, winter, and all-season variants. As you might expect, UHP summer tires are optimized for warm weather and are designed to provide the ultimate performance in dry and wet stopping as well as in cornering. But they lose grip as temperatures drop, and they deliver a harsher, noisier ride than regular all-season tires. In our treadwear tests, UHP summers lasted, on average, about 34,000 miles, with some projected to wear out in just 25,000 miles.

Consumer Report November 25, 2016

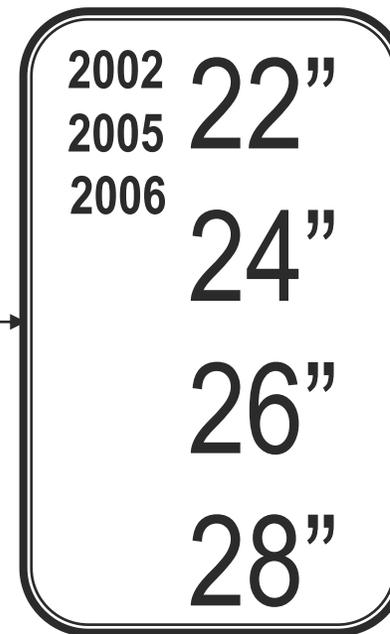
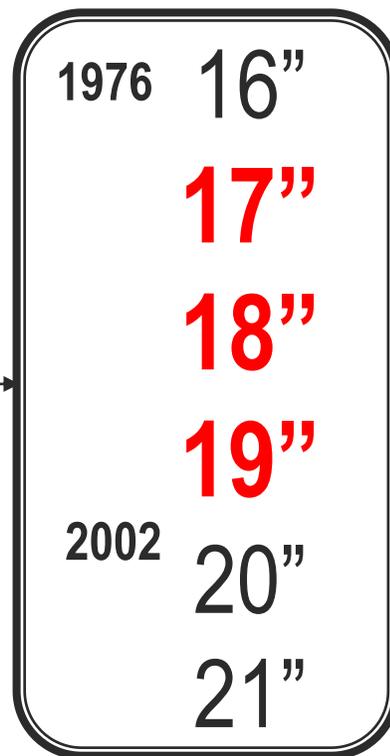
WHY YOU NEED A PROSpeed™ EQUIPPED MACHINE

Wheel sizes where difficult UHP and run flat tires can be found

• **WHEEL SIZES**

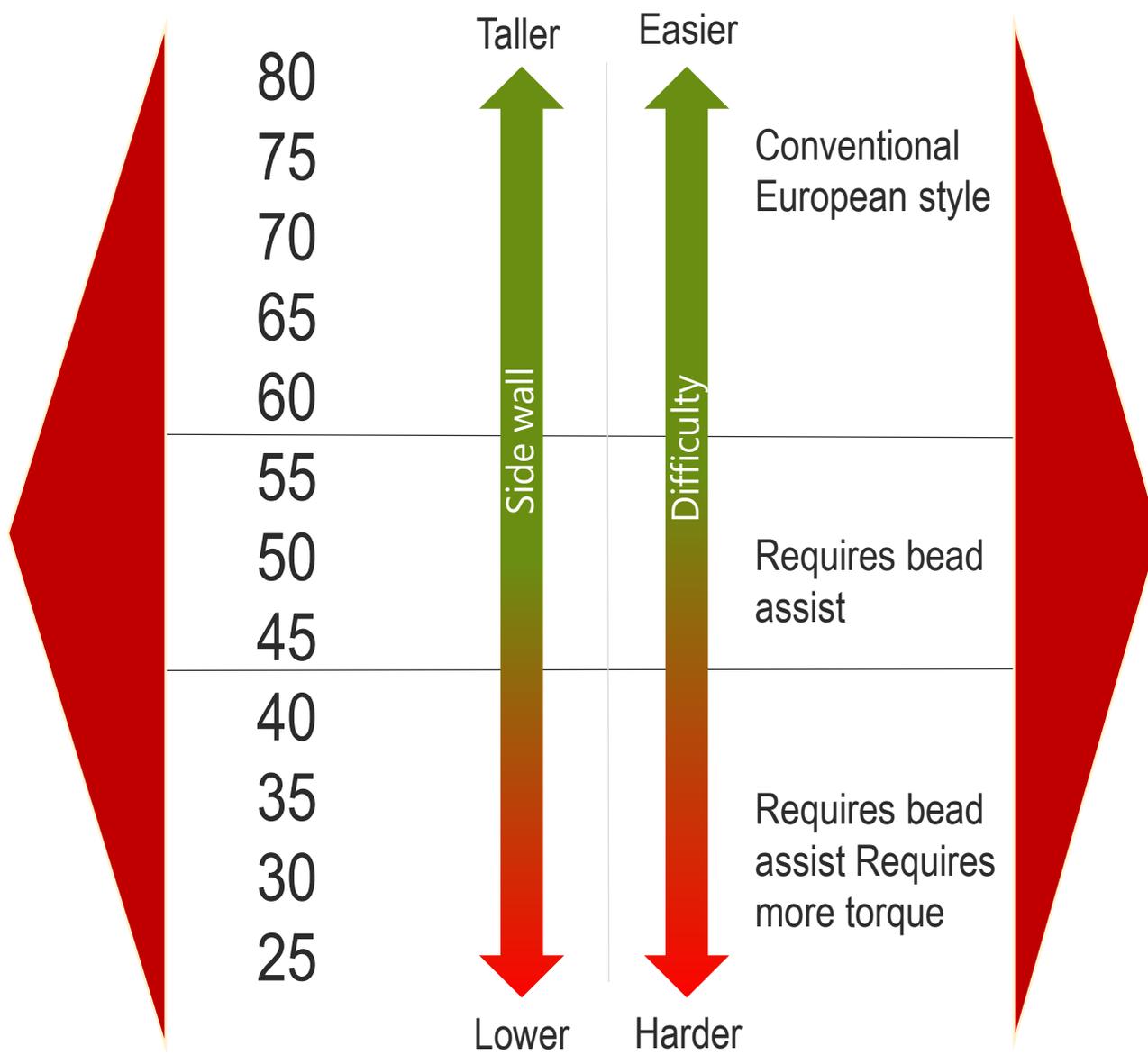
Pre 1976

12"
13"
14"
15"



- **RUN FLAT**
- **EXTENDED MOBILITY TIRES**
- **ULTRA HIGH PERFORMANCE TIRES**

TIRE ASPECT RATIOS, HAVE A DIRECT EFFECT ON THE TIRE CHANGER'S PERCEIVED PERFORMANCE



WHEEL DAMAGE CAN BE COSTLY

STEEL



Mostly found on Police Cars, steel wheels are still around. Some clad wheels are steel with a plastic bonded chrome cover

ALLOY PAINTED



Very common today. Scratches are highly visible, extra care must be taken. Aftermarket wheels sometimes cannot be replaced as they have limited production. Damaging "a" wheel could mean replacing all four wheels.

SPLIT



ATC1000 allows mounting and demounting without separating the rim

WHEELS

CATEGORY: Scratch sensitive and expensive

Clad wheel with closed center

Chrome clad with closed center require the use of pin plates and collets to insure proper mounting and not damage the clad surface.

Chrome clad is consist of a cosmetic cover that is bonded to a steel or aluminum wheel and is non-removable

These types of wheels are mostly found on domestic products and require special HANDLING when mounting on a balancer or tire changer



WHEELS

CATEGORY: Difficult and expensive

2016 Ford GT 350 Carbon fiber wheel

Carbon fiber wheels come in an assortment of configurations. The Ford GT 350RR wheel has an aluminum center core and hollow carbon fiber spokes and wheel.

This is a standard mount wheel which must be mounted on a center post tire changer using a pin plate adapter and not a centering cone.

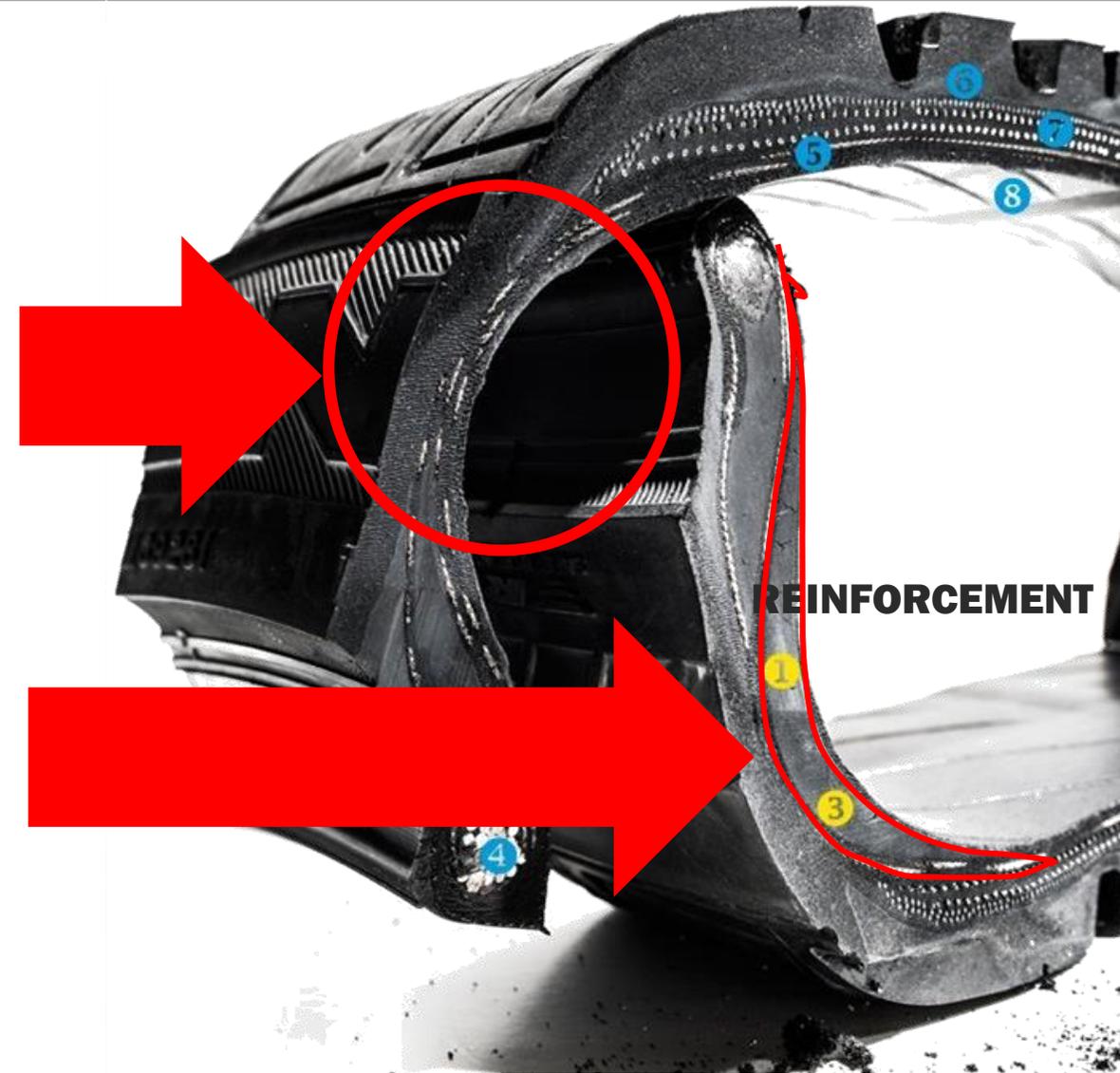


EAA0358G58A



TIRE DIFFERENCES

- **REGULAR OR STANDARD TIRES** have soft and flexible sidewalls along with a pliable carcass. Conventional tire changers can handle these types of tires with minimum effort
- **RUN FLAT TIRES** have reinforcements in the sidewalls making the tires difficult to remove and install. In addition, the carcass is not pliable. Conventional tire changers struggle with these types of tires



Set mount/demount head and begin dismount procedure



After pull over, remove tire bar, begin to rotate, and notice tire changer initial slow speed.



Once traction point is approximately at the 4 o'clock position notice that tire changer speeds up and load decreases. The motor sound will increase in pitch as speed increases.



Use mount/demount head to begin mount procedure, do not slam bottom bead on. Motor will run at its fastest speed during this operation.



Begin mounting the top bead, deliberately force bead out of drop center. Tire changer will slow down as load increases.



Next, remount top bead and this time use the bar to force the bead into the drop center, Notice how the machine stays in its higher speed now that the load is light.





7-20 RPM Center Post Style Machines

TOO MUCH SPEED AND TORQUE ON START UP CAN RIP THE TIRE

PROSpeed™ greatly reduces the chances of this happening. The torque required to rip a bead like this, exceeds the machine limit of approximately 1200 nm. PROSpeed™ will stop before damaging the tire

Tire bead rip caused by forcing the rubber against the tool and applying excessive torque to the point where the tire slips under the tool and cuts the rubber



This is a run flat tire, on a standard single or two speed table top tire changer. The tire and wheel assembly exceeds the machines capability.



7-20 RPM Center Post Style Machines

TOO MUCH SPEED AND TORQUE AT THE END OF THE MOUNTING PROCES

PROSpeed™ monitors the amount of torque needed during mounting and will stop the tire changer if the force is excessive, allowing the technician to reposition the tire in the drop center and proceed to mount the tire

This is the danger zone when mounting a new tire. In this case, the PROSpeed™ stopped the tire changer and prevented the tire from sliding underneath the tool and ripping the bead



Incorrect procedure, the tire is not in the drop center, excessive pressure is applied to the mount/demount head, PROSpeed™ stops the machine



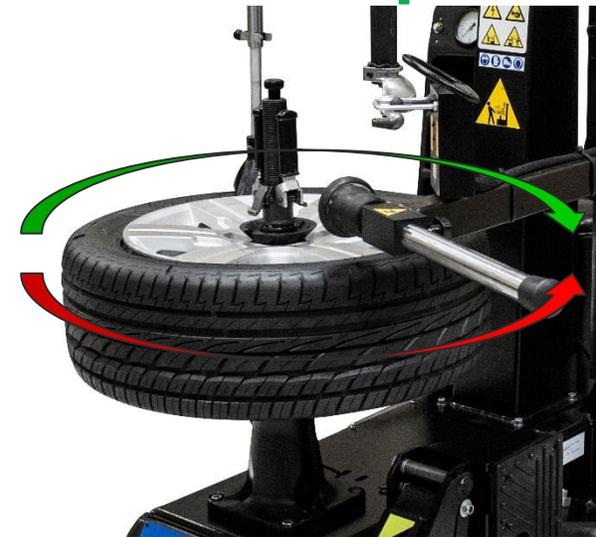
7-20 RPM Center Post Style Machines

VARIABLE SPEED AND TORQUE

PROSpeed™ has torque variable forward
speed and one reverse speed

Highest RPM in the industry for a center post style tire changer

CW 7 – 20 rpm



CCW 7 rpm

7 to 20 RPM clockwise rotation and 7 RPM counter clockwise (reverse)



THIS ILLUSTRATES THE DIFFERENCE IN ROTATIONAL SPEED

7-20 RPM Center Post Style Machines

Fixed rotational speed non torque sensing | slow | low production

Fixed rotational speed non torque sensing | fast | no control on applied forces | high production

PROSpeed™ torque sensing adjustable speed | faster | high volume and high production | force controlled



7 RPM



14 RPM



0-20 RPM

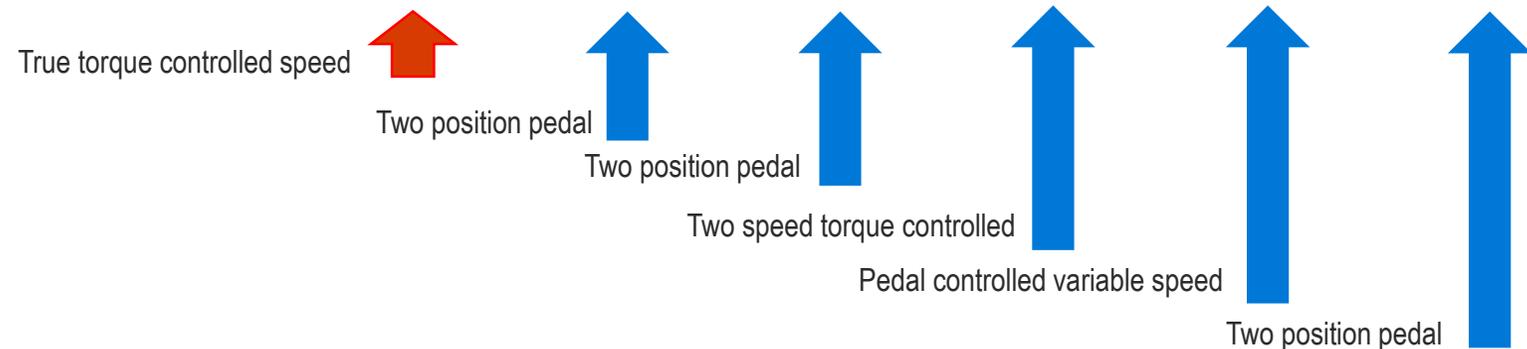


7-20 RPM Center Post Style Machines

COMPETITIVE INFORMATION

Most common equipment out
in the field

Brand	John Bean	BOSCH	CEMB	M&B	RAVAGLIOLI	CORGHI
Models	PROSpeed™	TCE 4430	MATIC series	TC 522-525-528 Motoinverter	D models	Center post
High speed	20 rpm	15 rpm	14 rpm	17 rpm	15 rpm	18 rpm
Low speed	7 rpm	7 rpm	7 rpm	10 rpm	0	7 rpm
Low speed for critical task	Yes - 7 rpm	Yes - 7 rpm	Yes - 7 rpm	No	No	Yes - 7 rpm
Speed variation	Auto adjustable to max, speed dependent on the torque	2 positions of the pedal	2 positions of the pedal	Automatic switch from 17 to 10 depending by the torque	Speed depends on the pressure on the pedal	2 positions of the pedal
Speed controller	Inverter	Inverter	2/4 poles motor	Inverter	Inverter	Inverter

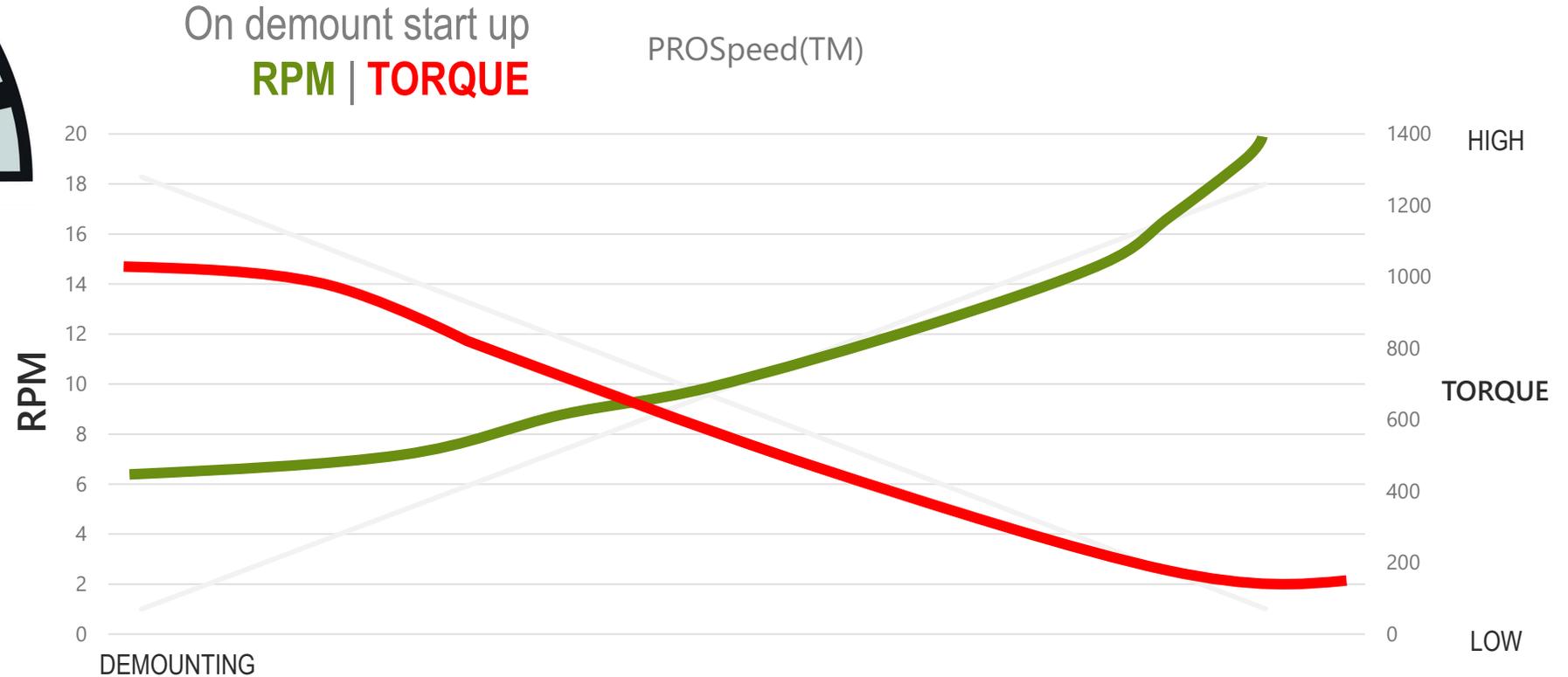




7-20 RPM Center Post Style Machines

DEMOUNTING

PROSpeed™ provides smooth start ups with low speed and high torque then changes progressively towards adjusting and regulating the rpm and torque





7-20 RPM Center Post Style Machines

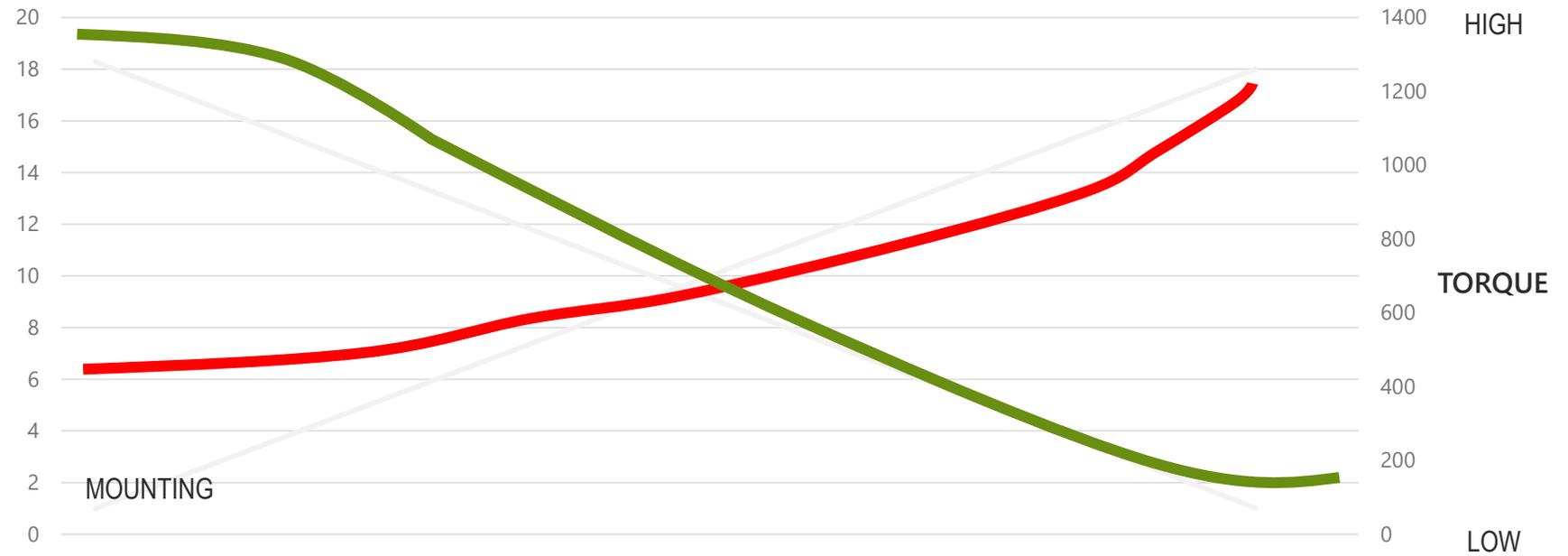
MOUNTING

PROSpeed™ provides fast start ups with high speed and low torque, then progressively adjusts the RPM and torque towards the end of the mounting cycle to prevent tire damage

On tire mounting start up

RPM | TORQUE

PROSpeed(TM)



PROSpeed™

TORQUE LIMITED
SPEED REGULATED

JohnBean
A division of Snap-on, Inc

RPM vs TORQUE



7-20 RPM Center Post Style Machines

WATCH IT HERE

The JohnBean logo is centered on a red rectangular background. The logo itself is rendered in a metallic, 3D-style font with a grey-to-white gradient and a black outline. A small "TM" trademark symbol is at the end of the word "Bean".

Safety Message: Snap-on Equipment is designed and manufactured to stringent safety requirements. In order to maintain the equipment in a safe condition and ensure safe operation, the operating instructions MUST be followed and precautions and warnings strictly observed. Do not operate any equipment in this training video until you have read all safety instructions and confirm that the equipment is in a safe condition.

PROSpeed™

TORQUE LIMITED
SPEED REGULATED

JohnBean
A division of Snap-on, Inc

CENTER POST TIRE CHANGER WITH PROSpeed™

ONE PEDAL, ONE POSITION

PROSpeed™ does all the work by regulating the speed and increasing the torque on start up and then decreasing the torque and increasing the speed for faster tire removal



PROspeed™ Family of Tire Changers

Swing Arm

System III tire changer is designed for high-volume tire shops, multi-bay repair shops and car dealerships. The System III series swing-arm tire changers feature 24" outer-wheel clamping standard (28" with optional adapters). The advantage of smartSpeed™ allows the technician faster throughput through the bay. These tire changers feature a four-jaw clamping chuck which is self-centering and clamps wheels with either a 26" inner or 24" outer diameter.



JBC System III with PROspeed™

Tilt Tower

JBC System V series of high-performance tire changers feature the industry's most advanced capabilities to service a wide variety of wheel and tire assemblies. The System V series is specifically designed to change low-profile, high performance and run-flat tires maximizing a shop's versatility.



JBC System V with PROspeed™

Center Post

The JBC T7100S center post tire changer is designed for easy use with minimal training of technicians reducing shop overhead and adding to your bottom line. Traditional center post design coupled with JBC's innovative feature set makes this tire changer highly productive and reduces the risk of wheel damage.



JBC T7100S with PROspeed™