

TRUCK & BUS TYRES REGROOVING



ATTENTION!

The information contained in this manual relates to tyres designed exclusively for goods vehicles and/or passenger vehicles. Any other applications are not permitted.

INCORRECT OR IMPROPERLY USED TYRES CAN BE DANGEROUS.

The manual has been produced in an easily understood form for information purposes and is not intended to be comprehensive in nature. The data given will be updated periodically.

Since the manual is intended for international use the information may not reflect national legislative requirements which must be taken into consideration.

With regard to care and maintenance it is necessary to follow the tyre manufacturer's instructions. In particular, please remember that tyres age even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is evidence of ageing.

Old and aged tyres must be checked by a tyre specialist to ascertain their suitability for further use.

If in doubt concerning the interpretation of information please contact your local Pirelli representative.

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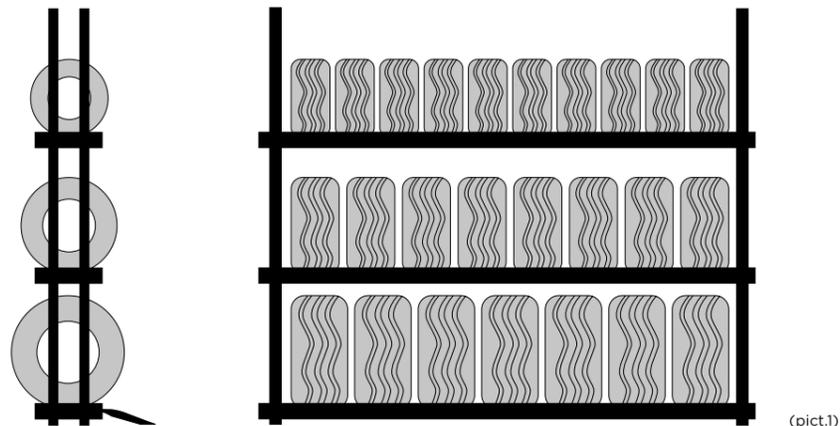
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STORAGE IN A ROW ON PALLETS (BEST METHOD)



(pict.1)

SHORT TERM STORAGE

Up to 4 weeks, tyres can be stored in stacks, one on top of the other, preferably on a fixed rack or on stackable pallets, reforming the stack inverting the order of the tyres on a weekly basis. In all cases when tyres are stored in stacks, it is necessary to ensure that there is no partial misplacement from the vertical plane, in order to avoid any permanent deformation of the lower tyres in the stack.

The maximum height of the stack must not exceed 1.2m and the tyres in the stack must all be of the same dimension.

INNER TUBES AND VALVES

Whether inner tubes are supplied by the producer in single boxes, large boxes or wrapped in plastic film, it is always preferable to maintain the original packaging.

In alternative they can be stored also slightly inflated, inserted within the tyre, or piled deflated, up to a maximum height of 50 cm, on racking shelves with a closed base, accurately avoiding that the valve can damage the surface of the tube when squashed under the pressure of their own weight.

Ensure that the tubes do not overlap the edge of the plane on which they are stored to avoid accidental laceration. It is not recommended to store on slatted pallets because the pressure applied to the tubes will not be uniform. Do not hang inner tubes during storage. Valves should be stored in their packaging in a clean, well ventilated and dry location.

FLAPS

Flaps should preferably be placed within the tyre together with the inner tube. If they are stored separately, they should be placed horizontally, in a pile on a shelf, protected from dust, grease, humidity, ozone and direct sunlight. To avoid deformation and stretching they must not be hung up in any way.

STOCK ROTATION

The storage location must be organized in such a way as to guarantee constant stock rotation, limiting to the minimum the storage period of the tyres. Products which enter storage first must be the first to leave. First in, first out.

REGROOVING PRINCIPLES

PREMISE

The regrooving operation consists of cutting into the tread of a tyre a tread pattern deeper than the original so as to prolong its useful life. Mileage is thus increased and costs per kilometre are reduced. When regrooving it is of fundamental importance to pay attention to avoid exposing the upper belts of the tyre and to ensure that an adequate layer of rubber is left to protect them. In this booklet Pirelli supplies specific instructions regarding the patterns to follow in the regrooving of their tyre treads and the recommended groove widths and depth of rubber to remove from the bottom of the original grooves. The European (EEC) and American (DOT) normatives demand that tyres designed and constructed so as to be suitable for regrooving are marked on both sidewalls with the word REGROOVABLE.

TECHNICAL REQUIREMENTS

- The regrooving operation must only be carried out by specifically trained personnel. Tyres worn to the point where the original tread pattern is invisible (even in a restricted area) cannot be regrooved as it is impossible to evaluate the depth of the remaining rubber.
- As it is possible that the tyre may be worn unevenly it is important to check that the tread has a residual minimum depth of at least 2-3 mm.
- Before beginning the regrooving operation the tyre must be examined carefully to check that it is in good condition and that it has not already been regrooved. A previous regrooving is immediately recognisable to a specialist operator: the grooves lose their sharp corners, especially in areas with zig-zag grooves and there are characteristic signs (undulations) left by the blade within the grooves. If the tyre has already been regrooved the tread wear indicators (TWI), that is rubber bridges at the base of the tread, will have been removed during the regrooving operation, and the groove bottoms will be smooth.

Regrooving is inappropriate whenever the tread is scraped, cut or torn. Any tyre damage or repairs that have not been well executed must be rectified prior to regrooving.

- Before starting the regrooving operation all foreign bodies (that could damage the cutting tool) must be removed from the tread and the condition of the groove bottoms must be checked.
- The depth of the grooves must be measured at a number of points around the circumference of the tyre. The blade cutting depth must be adjusted in accordance with the minimum measured depth.
- The regrooving must be executed with the specific cutting tool (gouge) equipped with an electrically heated blade, and preferably in a well ventilated place. It is advisable to select a blade profile corresponding to the regrooving width and the profile prescribed for that particular tyre.

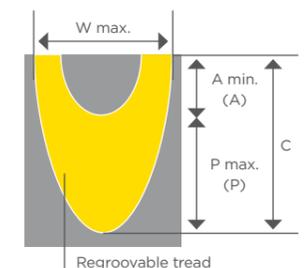
In order to adjust the regrooving blade correctly add the minimum remaining tread depth figure (A) to the regrooving thickness (P) specified by the manufacturer for that tyre size and tread pattern.

(figure A)

EXAMPLE:

minimum remaining tread depth
figureprescribed regrooving thickness
adjustment of gouge depth

A	2,5 mm
P	3,5 mm
C = A + P	6,0 mm



REGROOVING DATA

- Fit the tyre onto a proper support. Exert constant pressure and, following the prescribed pattern, cut the rubber at the bottom of the grooves following firstly the circumferential grooves and then the transverse slots where present. After few centimeters measure the regrooving width and depth in order to check the correct choice and size of the blade. For tyres with “Zero Degree Belts” complete the regrooving in the direction of rotation indicated by the equilateral triangle placed on the tyre sidewall.
- By carefully following the procedure described a thickness of rubber is left at the bottom of the groove that is sufficient to protect the upper belts of the tyre. Under no circumstances should the regrooving blade be allowed to shave or notch the metal belts as this would render the tyre unsafe and could compromise subsequent remoulding.

RESPONSIBILITY

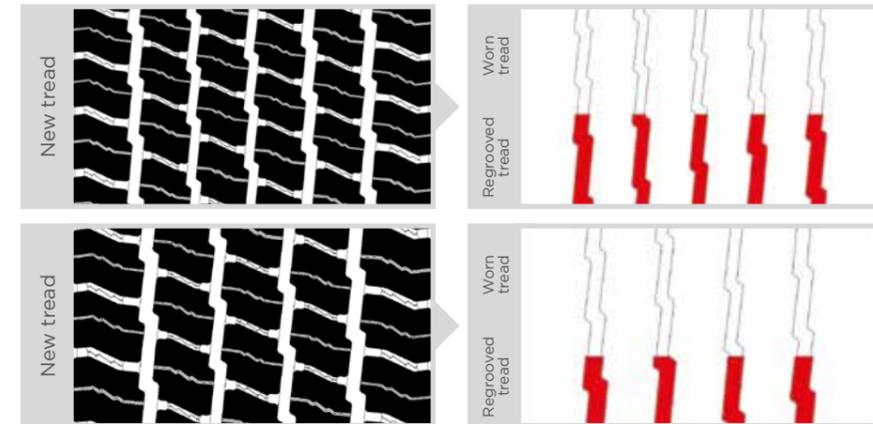
The operator executing the regrooving accepts complete responsibility for the work executed on the tyre and its suitability for use.

SUPPLEMENTARY ANCHORING

This operation consists of the cutting of supplementary grooves (not deeper than the original ones) or slots in the tyre tread, usually in a diagonal or transverse direction so as to guarantee improved adhesion on slippery surfaces.

The work must be executed by specialists who will assume full responsibility, taking into account the instructions supplied by the tyre manufacturers.

FW:01

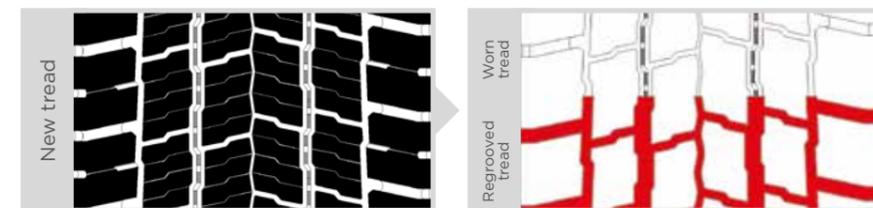


SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/55 R 22.5	2,5
385/65 R 22.5	3

SIZE	P MAX
315/60 R 22.5	3
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3
215/75 R 17.5	3
225/75 R 17.5	3
235/75 R 17.5	3

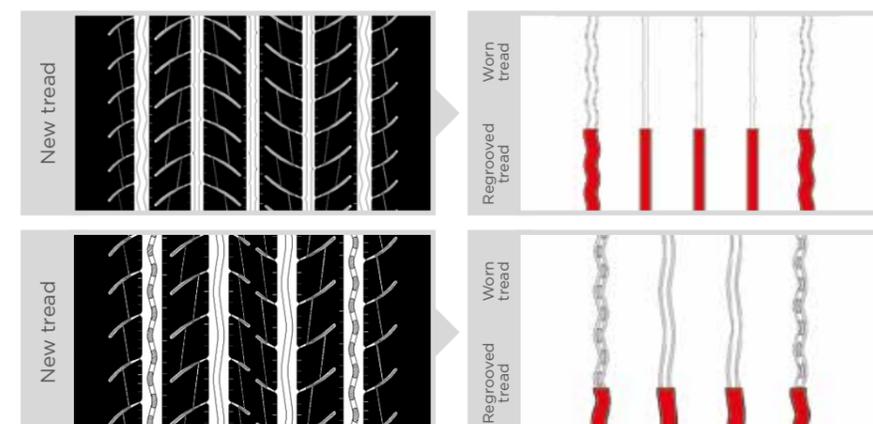
TW:01



SIZE RANGE (W. MAX: 8)

SIZE	P MAX
215/75 R 17.5	3
225/75 R 17.5	3
235/75 R 17.5	3
315/60 R 22.5	3
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3

FH:01 ENERGY



SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/55 R 22.5	2,5
385/65 R 22.5	3,5

SIZE	P MAX
295/60 R 22.5	3,5
315/60 R 22.5	3,5
275/70 R 22.5	3
305/70 R 22.5	3,5
315/70 R 22.5	3,5
295/80 R 22.5	3,5
315/80 R 22.5	3,5

REGROOVING DATA

FH:01 ENERGY COACH

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
295/80 R 22.5	3,5

TH:01 ENERGY

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
295/60 R 22.5	3,5
315/60 R 22.5	3,5
275/70 R 22.5	3
305/70 R 22.5	3,5
315/70 R 22.5	3,5
295/80 R 22.5	3,5
315/80 R 22.5	3,5

TH:01 ENERGY COACH

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
295/80 R 22.5	3,5

AMARANTO FH88

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
315/70 R 22.5	3,5
295/80 R 22.5	3,5
315/80 R 22.5	3,5

AMARANTO TH88

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
315/70 R 22.5	3,5
295/80 R 22.5	3,5
315/80 R 22.5	3,5

FR:01 II

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3

FR:01

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
245/70 R 19.5	3
265/70 R 19.5	3
285/70 R 19.5	3
305/70 R 19.5	3
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3
12 R 22.5	2,5

TR:01 II

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3

TR:01

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
245/70 R 19.5	3
265/70 R 19.5	3
285/70 R 19.5	3
305/70 R 19.5	3
315/70 R 22.5	3
295/80 R 22.5	3
315/80 R 22.5	3
12 R 22.5	2,5

FR85 AMARANTO

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
245/70 R 17.5	3
205/75 R 17.5	2,5
215/75 R 17.5	3
225/75 R 17.5	3
235/75 R 17.5	3

REGROOVING DATA

TR85 AMARANTO

New tread: A complex, interlocking tread pattern with multiple sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
245/70 R 17.5	3
205/75 R 17.5	2,5
215/75 R 17.5	3
225/75 R 17.5	3
235/75 R 17.5	3

MC88 II AMARANTO M+S

New tread: A tread pattern with large, rectangular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
275/70 R 22.5	3,5

FR25

New tread: A tread pattern with vertical, wavy sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
12 R 22.5	2,5

FG:01

New tread: A tread pattern with large, irregular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
315/80 R 22.5	3

TR25

New tread: A tread pattern with large, rectangular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
11 R 22.5	3

TG:01

New tread: A tread pattern with large, irregular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
13 R 22.5	3,5
295/80 R 22.5	3

MC85 II AMARANTO

New tread: A tread pattern with large, rectangular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
275/70 R 22.5	3,5

TG:01

New tread: A tread pattern with large, irregular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
13 R 22.5	3,5
295/80 R 22.5	3
315/80 R 22.5	3

MC85 II AMARANTO M+S

New tread: A tread pattern with large, rectangular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
275/70 R 22.5	3,5

FG88 - FG85

New tread: A tread pattern with large, rectangular blocks and deep sipes.

Worn tread: The tread pattern is shown in red, indicating the remaining tread depth after significant wear.

SIZE	P MAX
12,00 R 20	2,5
12,00 R 24	3
315/80 R 22.5	3
12 R 22.5	3
13 R 22.5	3,5

REGROOVING DATA

TG88 - TG85

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
12.00 R 20	2,5
12.00 R 24	3
315/80 R 22.5	3
12 R 22.5	3
13 R 22.5	3,5

AP05

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/65 R 22.5	3

PS22

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
14/00R20	3,5
335/80R20	3
365/80R20	3
365/85R20	3
395/85R20	3,5

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
365/85 R	3
395/85 R	3

TQ99

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
13 R 22.5	3,5

ST:01 NEVERENDING ENERGY

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/55 R 22.5	2
385/65 R 22.5	2

ST:01 MEGATRAILER

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
435/50 R 19.5	2,5
445/45 R 19.5	2,5

ST:01 BASE

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/55 R 22.5	2
385/65 R 22.5	2

ST:01 BASE M+S

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/55 R 22.5	3
385/65 R 22.5	3

ST:01 M+S

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
385/65 R 22.5	3

REGROOVING DATA

ST:01 - 17.5"/ 19.5"

SIZE RANGE (W. MAX: 8)

SIZE	P MAX
205/65 R 17.5	2,5
245/70 R 17.5	2,5
215/75 R 17.5	2,5
235/75 R 17.5	2,5
245/70 R 19.5	3

SIZE	P MAX
265/70 R 19.5	3
285/70 R 19.5	3

THERE'S NO BORDER
BETWEEN YOUR TYRE
AND YOUR BUSINESS.



PIRELLI.CO.UK



POWER IS NOTHING WITHOUT CONTROL