

PLUG PATCH



VIDEO

Repair example 1

Attaching PLUG PATCH(PW-4007) to P/C (passenger) radial treads.

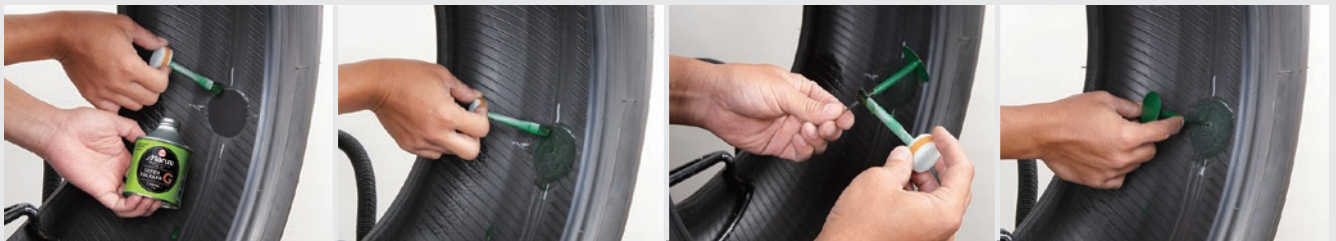
- PLUG PATCH ▶ P9
- CARBIDE CUTTER ▶ P9
- SUPER VALKARN G ▶ P14/P17
- SEALINER ▶ P15/P17
- LIQUID BUFFER ▶ P15/P18



- 1** Remove foreign objects with pliers and mark the injured area with chalk to identify the area.
- 2** Prepare the injured area by inserting a carbide cutter into it 2 to 3 times.
- 3** Prepare the injured area by also inserting the carbide cutter 2 to 3 times from the inside of tire as well.
- 4** Adjust the PLUG PATCH so that the injured area is in the center of the patch and then outline an area slightly larger than the patch.



- 5** Use LIQUID BUFFER / CFC FREE to lift oil and stains from the inside of the guidelines on the attachment side.
- 6** Use a scraper to scrape off the lifted oil and stains.
- 7** Buff the attachment side of the tire with a low speed air buffer.
- 8** Use an air vacuum to thoroughly remove any scraps and residue.



- 9** Evenly and thoroughly coat the patch attachment side of the tire with SUPER VALKARN G / CFC FREE and let it completely dry.
- 10** Apply one drop of SUPER VALKARN G / CFC FREE to the injured area as well.
- 11** Coat the tapered portion (black) of the PLUG PATCH with SUPER VALKARN G / CFC FREE.
- 12** After loosening the tire spreader, insert the wire of the PLUG PATCH into the puncture flaw from the inside while taking care not to touch the patch attachment surface.



- 13** Use pliers to grasp and pull out the wire.
- 14** Pressure bond with a milling roller from the center outwards to prevent air from entering the patch.
- 15** Cut the plug so that there is still 2 to 3mm in length protruding from the tire.
- 16** Coat portions that have been over-buffed with SEALINER / CFC FREE to prevent minute air leaks. The repair is complete.

TIRE-PATCH MR & STEM



VIDEO

Repair example 2

Applying STEM(SM-10) and TIRE-PATCH (MR-20) to T/B (truck and bus) radial tire treads.

- TIRE-PATCH MR ▶P3
- STEM ▶P9
- CARBIDE CUTTER ▶P9
- SUPER VALKARN G ▶P14/P17
- SEALINER ▶P15/P17
- LIQUID BUFFER ▶P15/P18



1 Use pliers to remove foreign objects and mark with chalk to identify the injured area.



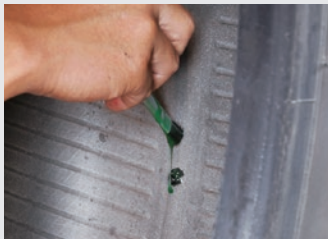
2 Prepare the injured area by inserting a carbide cutter into it 2 to 3 times from the inner and outer side of tire.



3 Attach the STEM to a pulling wire.



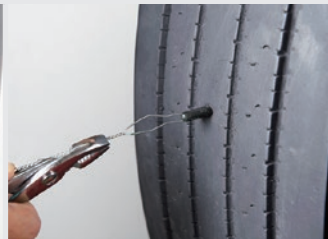
4 Peel off the seal and coat with SUPER VALKARN G / CFC FREE.



5 Apply SUPER VALKARN G / CFC FREE to the injury as well.



6 Insert the pulling wire to pass through the injury from the inside of the tire.



7 Pull the pulling wire with pliers from the outside. Once the tip of the STEM appears, grasp the tip and pull until it has almost but not quite comes out.



8 Cut so that the STEM protrudes 2 to 3 mm in length from the inside of the tire.



9 Adjust the patch so that the injury is in the center of the patch and outline an area slightly larger than the patch. Make sure to match the bead section of tire and bead direction of the patch.



10 Use LIQUID BUFFER / CFC FREE to lift oil and stains and remove with a scraper.



11 Buff the attachment side of the patch with a low speed air buffer.



12 Use an air vacuum to thoroughly remove any scraps and residue.



13 Evenly and thoroughly coat the patch attachment side of the tire with SUPER VALKARN G / CFC FREE and let it completely dry.



14 After loosening the tire spreader, peel off the film of the patch and attach it to the tire while taking care not to touch the patch attachment surface. Make sure to match the bead section of tire and bead direction of the patch.



15 Pressure bond with a milling roller from the center outwards to prevent air from entering the patch.



16 Cut the STEM on the outside of the tire so that there is still 2 to 3mm in length protruding. Using SEALINER / CFC FREE to finish will ensure a more thorough repair. The repair is complete.

TIRE-PATCH MB & STEM

Repair example 3

Applying STEM(SM-15) and TIRE-PATCH (MB-04) to T/B (truck and bus) bias tire treads.

- TIRE-PATCH MB ▶P5
- STEM ▶P9
- CARBIDE CUTTER ▶P9
- SUPER VALKARN G ▶P14/P17
- SEALINER ▶P15/P17
- LIQUID BUFFER ▶P15/P18



1~8 Perform steps 1-8 on page 20 to fill the injury with the STEM.



9 Adjust the patch so that the injury is in the center of the patch and outline an area slightly larger than the patch. Make sure to match the bead section of tire and bead direction of the patch.



10~13 Perform steps 10-13 on page 20.



14 Remove the film from the patch and attach to the tire without touching the attachment side. Make sure to match the bead section of tire and bead direction of the patch.



15 Pressure bond with a milling roller from the center outwards to prevent air from entering the patch.



16 Cut the STEM on the outside of the tire so that there is still 2 to 3mm in length protruding. Using SEALINER / CFC FREE to finish will ensure a more thorough repair. The repair is complete.

TIRE-PATCH MU & STEM

Repair example 4

Applying STEM(SM-07) and TIRE-PATCH(MU-01) to T/B (truck and bus) radial tire treads.

- TIRE-PATCH MU ▶P7
- STEM ▶P9
- CARBIDE CUTTER ▶P9
- SUPER VALKARN G ▶P14/P17
- SEALINER ▶P15/P17
- LIQUID BUFFER ▶P15/P18



1~8 Perform steps 1-8 on page 20 to fill the injury with the STEM.



9 Adjust the patch so that the injury is in the center of the patch and outline an area slightly larger than the patch.



10~13 Perform steps 10-13 on page 20.



14 Remove the film from the patch and attach to the tire without touching the attachment side.



15 Pressure bond with a milling roller from the center outwards to prevent air from entering the patch.



16 Cut the STEM on the outside of the tire so that there is still 2 to 3mm in length protruding. Using SEALINER / CFC FREE to finish will ensure a more thorough repair. The repair is complete.

TUBE-PATCH



VIDEO

Repair example 5

Applying TUBE-PATCH (M2) to T/B (truck and bus) tubes.

TUBE-PATCH ▶ P11
VALKARN ▶ P14/P17
LIQUID BUFFER ▶ P15/P18



1 Mark the injured area with chalk to identify the area.



2 For rupture injuries, round the sides of the injury to prevent the injury from enlarging.



3 Use LIQUID BUFFER / CFC FREE to lift oil and stains from around the injury.



4 Use a rag to thoroughly remove oil and stains.



5 Place patch on the injury and use marking chalk to outline an area slightly larger than the patch.



6 Buff the attachment area of the tube.



7 Use an air vacuum to thoroughly remove any scraps and residue.



8 Thoroughly coat the patch attachment area on the tube with VALKARN / CFC FREE and let completely dry.



9 Remove the aluminum portion of the patch taking care not to touch the attachment side.



10 Apply the patch.



11 Thoroughly pressure bond with a milling roller from the center outwards to prevent air from entering the patch.



12 Remove the film to complete the repair.

FILLER GUM, FLOATER GUM & TIRE-PATCH MS



VIDEO

Repair example 6

Attaching FILLER GUM, FLOATER GUM, and TIRE-PATCH (MS-05) to the side of T/B (truck and bus) bias tires.

This is for side, shoulder and large injuries that cannot be repaired with STEM, perform hot curing using filler gum.



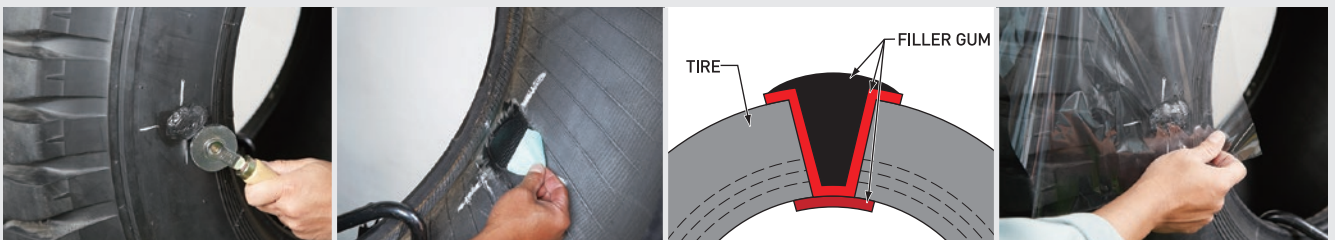
- 1** Use a rotary gorge on the outside of the tire to remove the injured sections.
- 2** Prepare the injury so that it becomes to be cone-shaped using a pencil or cone rasp from the outside of the tire.
- 3** Buff the area surrounding the prepare injury from the outside of the tire with a low speed air buffer.
- 4** Use marking chalk to mark a cross on the inside of the tire with the center of the injury at the center of the cross.



- 5** Buff the area surrounding the injury on the inside of the tire with a low speed air buffer.
- 6** Use an air vacuum to thoroughly remove any scraps and residue.
- 7** Measure the diameter and depth of the injury.
- 8** Coat the entire injury from the outside with THERMO LIQUID and let it completely dry.



- 9** Coat the FILLER GUM attachment area on the inside with THERMO LIQUID and let it completely dry.
- 10** Apply 1 piece of FILLER GUM to the injury from the inside of the tire, and thoroughly pressure bond with a milling roller.
- 11** Cut the FILLER GUM to an appropriate size to fill the injury, remove the film and heat on a plate or other devices to soften.
- 12** Fill the injury with FILLER GUM by layering it in the injury taking care not let air enter.



- 13** Once the FILLER GUM has been layered so that it rises slightly above the tire, use a milling roller to pressure bond.
- 14** Remove the FILLER GUM film that was attached to the inside of the tire.
- 15** The cross-section of the tire at this point is as shown.
- 16** Place cellophane on top of the FILLER GUM on the inside and outside.

TIRE-PATCH MS ▶P5
 FLOATER GUM ▶P8
 FILLER GUM ▶P8
 SUPER VALKARN G ▶P14/P17
 THERMO LIQUID ▶P14
 SEALINER ▶P15/P17
 LIQUID BUFFER ▶P15/P18



17 Perform hot curing by using a spotter. (Approximately 4 minutes for each 1 millimeter of thickness + warm up times for the spotter requires a separate 20 to 30 minutes)



18 Shape the injury with a low speed air buffer or similar tool.



19 Apply MS-05 from the inside of the tire and outline an area slightly larger than the patch. Make sure to match bead section of tire and bead direction of patch.



20 Use LIQUID BUFFER / CFC FREE to lift oil and stains from the inside of the guidelines on the attachment side.



21 Use a scraper to scrape off the lifted oil and stains.



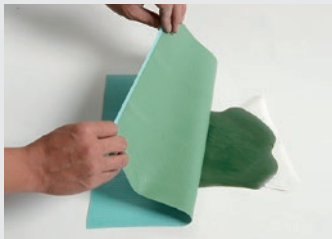
22 Buff the attachment side of the patch with a low speed air buffer.



23 Use an air vacuum to thoroughly remove any scraps and residue.



24 Remove the film from the patch taking care not to touch the patch attachment side and coat with SUPER VALKARN G / CFC FREE. Let it completely dry.



25 Attach FLOATER GUM to the patch attachment side and pressure bond with a milling roller while taking care not to let air enter. Remove any air by piercing the FLOATER GUM with a needle.



26 Cut off extra FLOATER GUM while leaving an area slightly larger than the patch.



27 Remove the film from the FLOATER GUM that was attached to the patch taking care not to touch the attachment side.



28 Coat the attachment area of the FLOATER GUM with SUPER VALKARN G / CFC FREE and let completely dry.



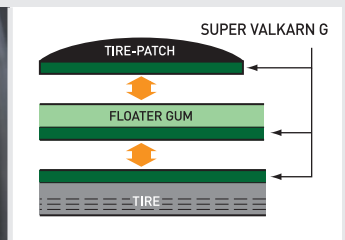
29 Coat the attachment area of the tire with SUPER VALKARN G / CFC FREE and let completely dry.



30 After the SUPER VALKARN G / CFC FREE coating on the tire and the FLOATER GUM have completely dried, loosen the tire spreader and apply the patch.



31 Complete the repair by pressure bonding with a milling roller from the center outwards to prevent air from entering the patch.



32 How to apply SUPER VALKARN G / CFC FREE when using FLOATER GUM.

POWER VALKASEAL



VIDEO

Repair example 7

Attaching POWER VALKASEAL (L-1050) to PC (passenger) radial tire treads.

POWER VALKASEAL ▶P10
 SUPER VALKARN G ▶P14/P17
 SCREW REAMER L ▶P18
 INSERT NEEDLE L ▶P18



1 Remove foreign objects with pliers and mark the injured area with chalk to identify the area.



2 Thoroughly coat the SCREW REAMER with SUPER VALKARN G / CFC FREE.



3 Insert the SCREW REAMER L into the injury and turn clockwise to adjust the flaw. Repeat this procedure 2 to 3 times. Remove the SCREW REAMER L while turning clockwise.



4 Remove the polyfilm from the POWER VALKASEAL.



5 Apply POWER VALKASEAL to the INSERT NEEDLE L.



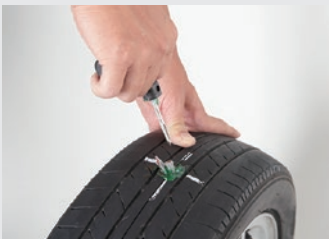
6 Coat POWER VALKASEAL with SUPER VALKARN G / CFC FREE.



7 Insert POWER VALKASEAL into the tire. Do not rotate while inserting, insert straight.



8 Insert fully.



9 Remove the INSERT NEEDLE L straight.



10 This is how it appears from the inside.



11 Cut so that there is 2 to 3mm in length protruding from both edges on the outside of the tire. The repair is complete.