



Ferrari North America

Technical Information

Date:	June 2015
Bulletin #:	2261
Campaign #:	
Supersedes:	
Section:	6

SB-10058331-5304

Model Type: 360modena, 360 spider, Challenge stradale, GTO, 430 scuderia, 16M scuderia spider, 599 GTB Fiorano, SA Aperta, 612 Scaglietti, 612 Sessanta

Model Year: All

Subject: Suspension arm ball joints

Please note that the following components will be available as spare parts from **May 2015** for the aforementioned vehicles:

- Ball joint for lower suspension arm **Part No. 203632** Qty. 1;
- Ball joint for upper suspension arm **Part No. 203633** Qty. 1;

NOTE: The new components will be included in the Spare Parts Catalog along with the relative service times from the June 2015 update of the catalog.

For future updates, please refer to the respective table in the Replacement Parts catalog.

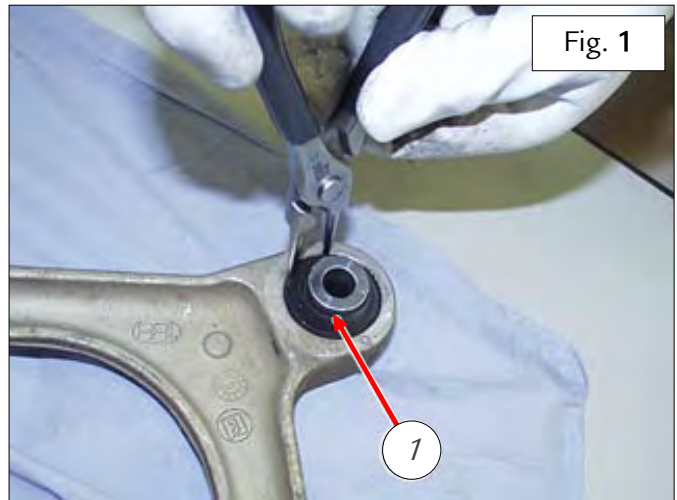


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Procedure

Removal

- Remove the dust boots (1) on the upper arm on both sides of the joint using circlip pliers – Fig. 1.



- Remove the dust boots (2) on the lower arm on both sides of the joint using circlip pliers – Fig. 2.

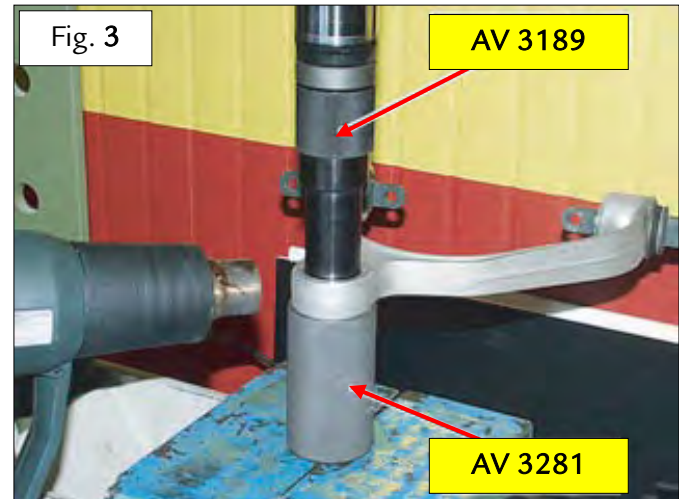




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UPPER ARM

- Place the arm under the press, resting on tool AV 3281 or AS 10723-07 – Fig. 3.
- Place tool AV 3189 on the joint, then heat the joint to 40-60 °C with a hot air gun to facilitate extraction – Fig. 3.

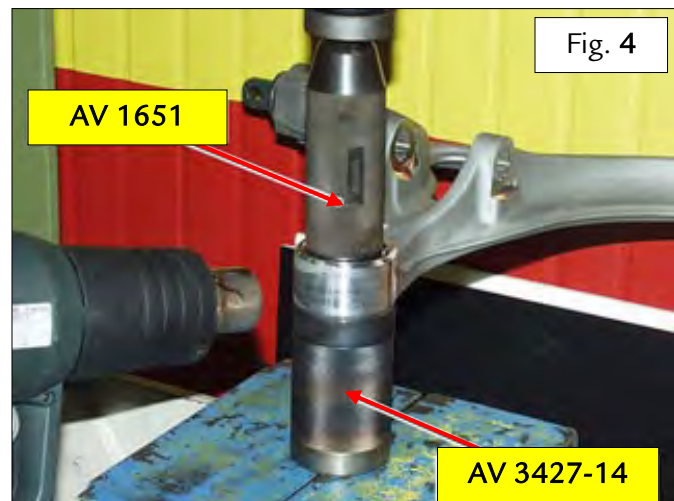


- IMPORTANT -

The lower arm must be placed under the press exactly as shown in the photo below, as the arm and the ball joint have a detent on the side opposite the mounting side for the shock absorber.

LOWER ARM

- Place the arm under the press, resting on tool AV 3427-14 or AV 3189 – Fig. 4.
- Place tool AV 1651 on the joint, then heat the joint to 40-60 °C with a hot air gun to facilitate extraction – Fig. 4.



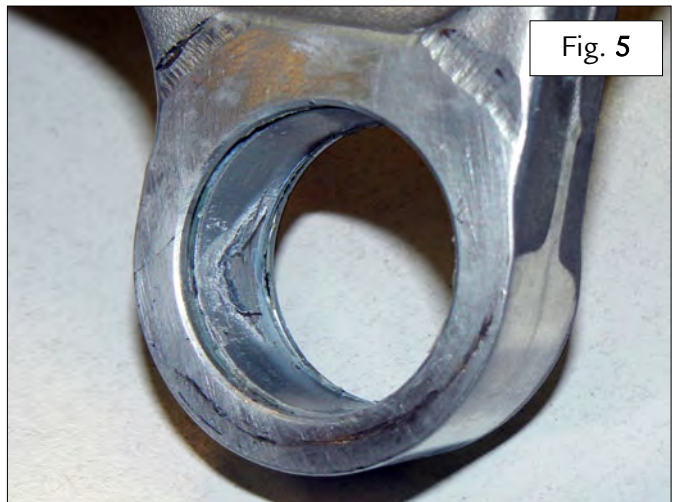
- Ensure that all elements are correctly aligned, then operate the press to drive the joint out completely.



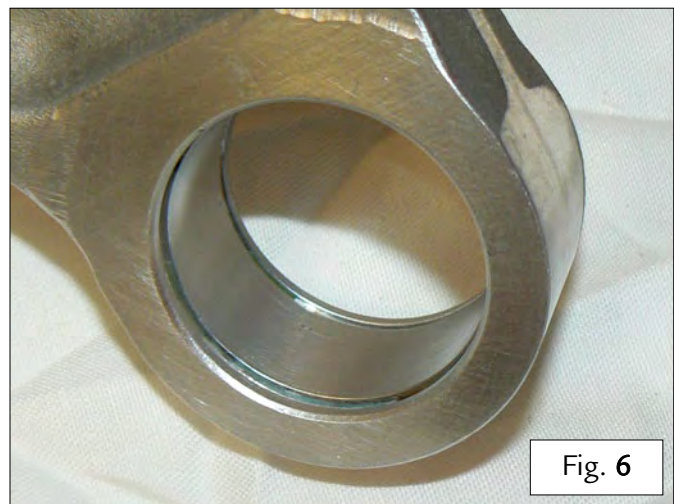
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Refitting

- Remove all residue of adhesive from the seat using **Scotch-brite 7447**.
- Using **KENT ScreenPrep Wipe degreasing wipes**, clean the seat of the joint thoroughly to remove all residue of dirt.
- Repeat the cleaning procedure with **KENT ScreenPrep Wipe degreasing wipes** until the wipe is still clean after use.



- Once cleaned correctly, the seat of the ball joint on the suspension arm should appear as shown in the photo here – Fig. 6.

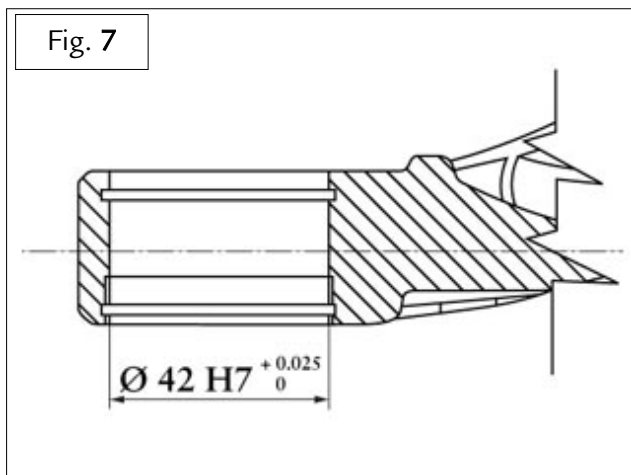


- After cleaning, measure the diameter of the joint seat with an inside micrometer or bore gauge and compare the values measured against the values given as follows – Fig. 7 - 8.
- If the values measured are not within the range indicated, replace the arm – Fig. 7 - 8.

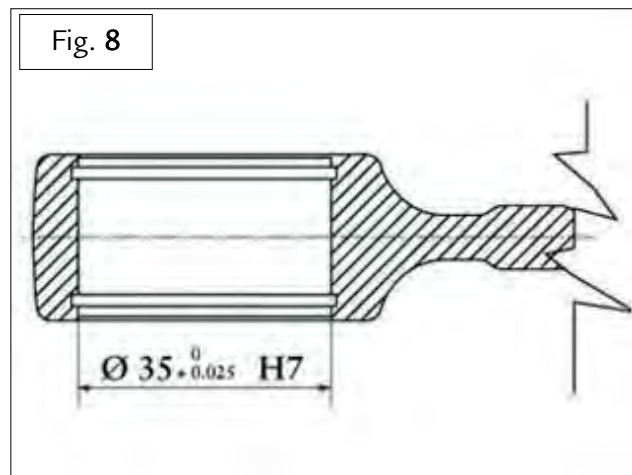


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LOWER ARM



UPPER ARM



- Remove the circlips from the dust boots removed previously (Fig. 1 & Fig. 2).
NOTE: Fit new dust boots during reassembly.

- IMPORTANT -

IMPORTANT - the washed and degreased surfaces must be kept clean and must not be soiled by touching with dirty gloves or bare hands.

Latex gloves must be worn to protect the skin against contact with the adhesive and also prevent soiling of the adhesive application surfaces.

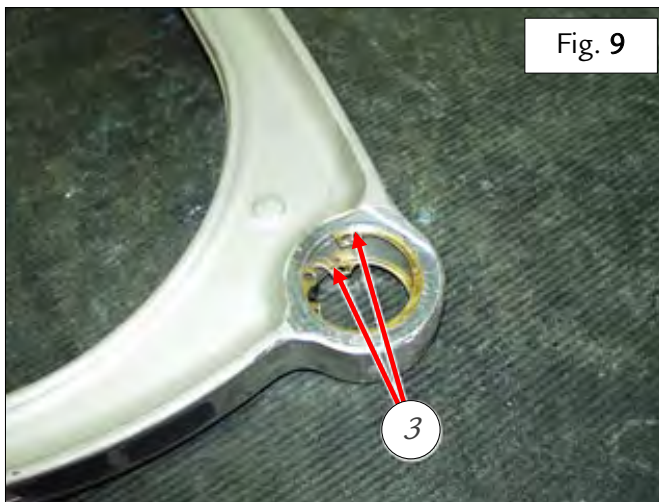
Use gloves and degreasing wipes once only and throw away immediately after use.

- Using **KENT ScreenPrep Wipe degreasing wipes**, thoroughly clean the joint seat on the arm, the new ball joint and the circlips removed previously from the old dust boots (which will be used for provisional fitment) to remove all residue of dirt.



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- Fit the retainer rings (3) in the seats on the upper arm to keep adhesive out of the seats themselves – Fig. 9.



- Fit the retainer rings (4) in the seats on the lower arm to keep adhesive out of the seats themselves – Fig. 10.



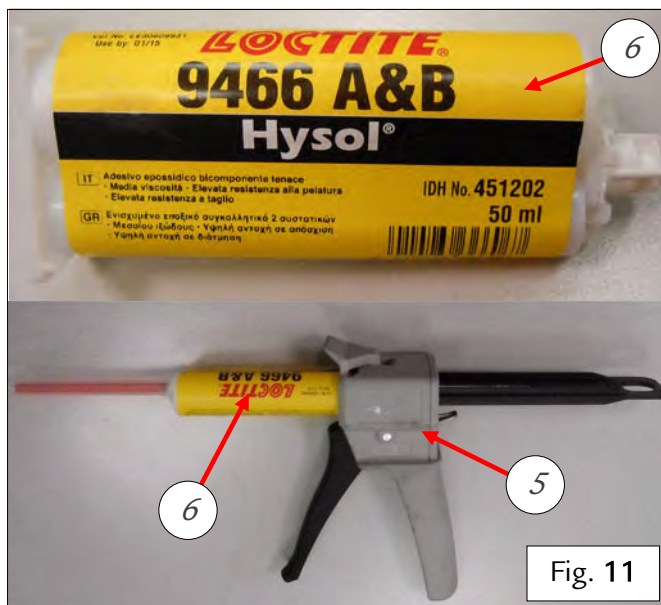
- IMPORTANT -

The following procedure for applying adhesive must be performed in suitably clean conditions and away from vapor, dust or grease.



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- Use an extrusion gun for bicomponent adhesive (5) with LOCTITE 9466 A&B HYSOL 50 ML adhesive (Part No. 70003277) (6) – Fig. 11.
- Wearing latex gloves, fit the cartridge of bicomponent adhesive (6) onto the adhesive applicator gun (5) – Fig. 11.
- Tighten the specific adhesive extruder nozzle onto the cartridge of bicomponent adhesive (6) – Fig. 11.
NOTE: Always replace the glue extruder nozzle before resuming work or starting a new job if the gun is not used for more than 100 minutes.



- IMPORTANT -

To ensure optimum results, the adhesive must be applied over the **ENTIRE** contact surface to minimize the possibility of gaps, which will reduce the adhesive force retaining the bush in its seat.

- The installation procedure is the same for both the upper and the lower arms.



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- Extrude the gun onto a toothbrush – Fig. 12.

NOTE: Discard the brush if not used for more than 60 minutes.

NOTE: Do not use a normal paint brush instead of a toothbrush, as it may leave bristles.



- IMPORTANT -

Ensure that no adhesive enters the interior of the joint.

- Using the toothbrush, spread adhesive evenly over the entire outer adhesion surface of the new ball joint, as shown in the photo here – Fig. 13.

NOTE: Discard the brush if not used for more than 60 minutes.

NOTE: Do not use a normal paint brush instead of a toothbrush, as it may leave bristles.



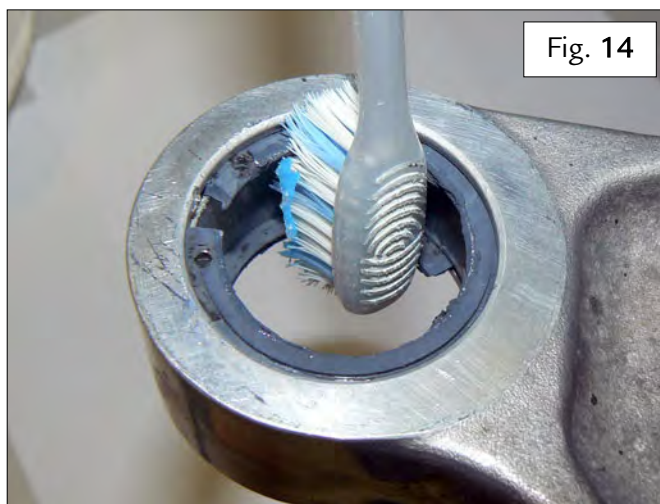


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- Using the toothbrush, spread adhesive evenly over the entire adhesion surface of the ball joint seat on the arm, as shown in the photo here – Fig. 14.

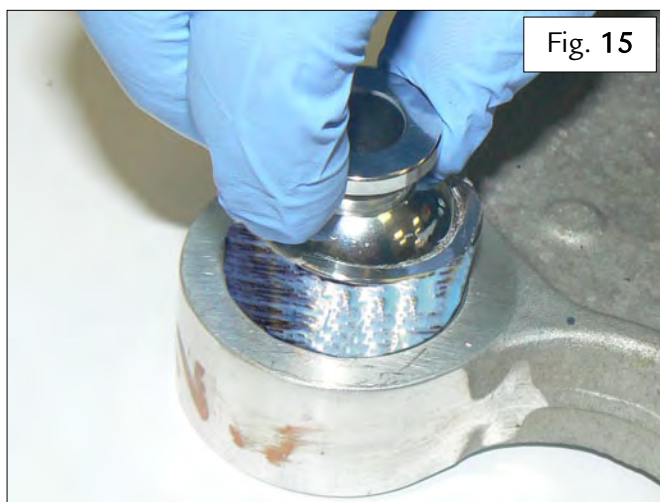
NOTE: Discard the brush if not used for more than 60 minutes.

NOTE: Do not use a normal paint brush instead of a toothbrush, as it may leave bristles.



- After removing one of the retainer rings on each arm, fit the joint in the arm – Fig. 15.

NOTE: For the lower arm, the circlip on the side opposite the shock absorber mounting side must be removed.



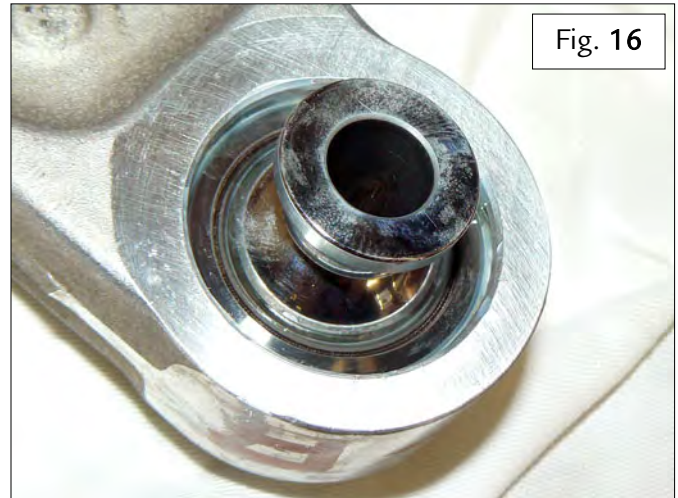
- IMPORTANT -

Ensure that there is no residue of adhesive in the seats of the retainer rings.



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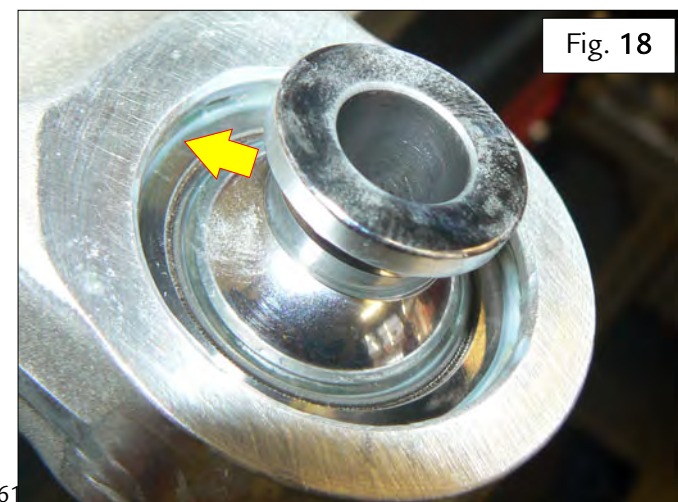
- Push the joint until it comes into contact with the other retainer ring – Fig. 16.



- During the following steps, both levers must be positioned as shown in the photo aside to ensure that the weight of the arms themselves is not carried by the newly fitted joints – Fig. 17.



- On the side that the joint was installed from, remove any excess adhesive from the indicated seat of the ball joint on the arm – Fig. 18.





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- IMPORTANT -

Ensure that there is no residue of adhesive in the seats of the retainer rings.

- Apply TUTELA Z2 grease on the inner side of the new dust boot with retainer ring – Fig. 19.
NOTE: New dust boots must be used.



Fig. 19

- Install the new dust boot in the relative seat – Fig. 20.

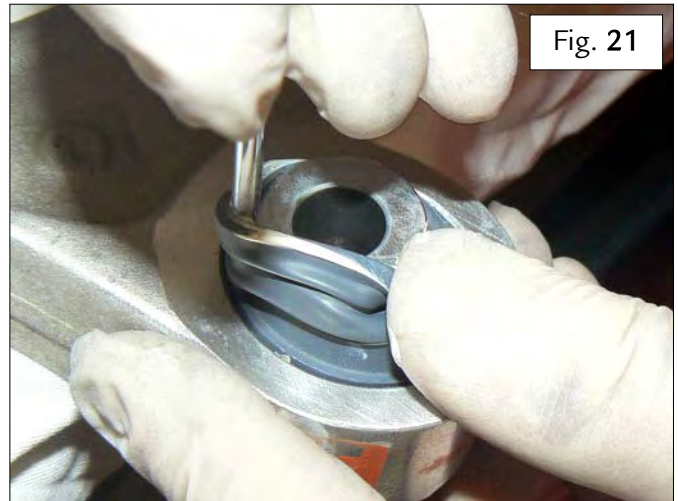


Fig. 20



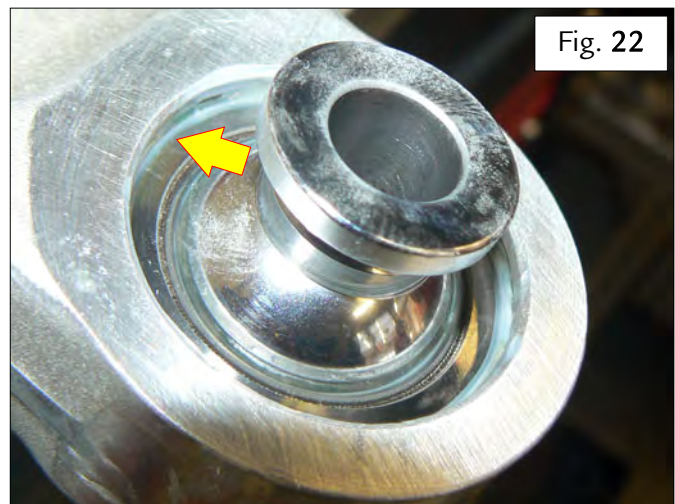
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- Using a suitable tool, push the lip of the dust boot under the edge of the joint – Fig. 21.
- After installing, visually check that the newly fitted dust boot is intact – Fig. 21.



- Turn the arm over and remove the remaining provisional circlip.

- Remove any excess adhesive from the seat of the ball joint on the arm – Fig. 22.



- IMPORTANT -

Ensure that there is no residue of adhesive in the seats of the retainer rings.



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- Apply TUTELA Z2 grease on the inner side of the new dust boot with retainer ring – Fig. 23.

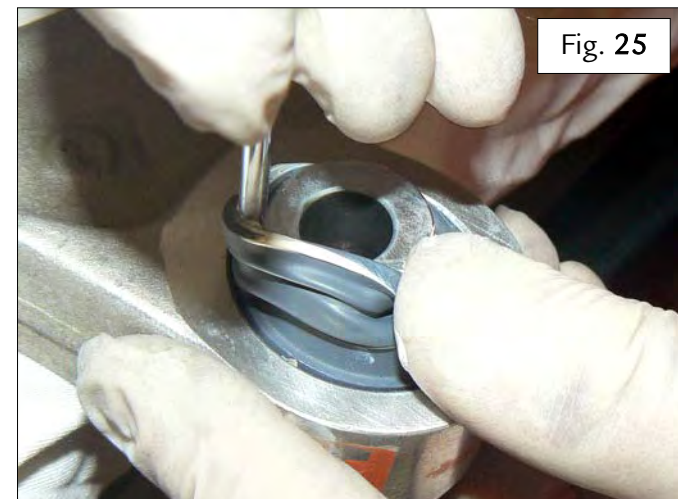
NOTE: New dust boots must be used.



- Install the new dust boot in the relative seat – Fig. 24.



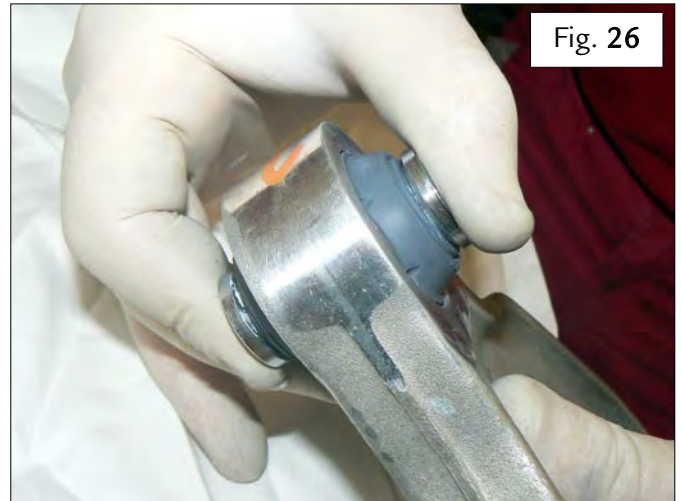
- Using a suitable tool, push the lip of the dust boot under the edge of the joint – Fig. 25.
- After installing, visually check that the newly fitted dust boot is intact – Fig. 25.





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- Rotate both retainer rings to ensure that the ball joint is installed correctly and can move correctly.
- Clean the exterior of the dust boots thoroughly to remove all residue of grease.
- Move the joint by hand to settle the ball joint correctly in its seat – Fig. 26.



- To prevent contamination with water and dirt, preferably seal the two holes in the dust gaiter, for installing the retainer ring, with silicone.
- Remove any excess silicone.
- Place the levers in a vertical position as shown in the photo aside to ensure that the weight of the arms themselves is not carried by the newly fitted joints – Fig. 27.





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- IMPORTANT -

Before refitting the arms in the vehicle, heat the arms in an oven at 90 °C for 45 minutes to ensure that the adhesive applied previously is completely cured.

- Refit the suspension arm removed during the procedure (as described in the Workshop Manual).
- Check the vehicle alignment and adjust if necessary (as described in the Workshop Manual).

Thank you for your co-operation.