

Wheel Bearing Installation Guide



MSA5TT0201
Replaces MSA5TT0001

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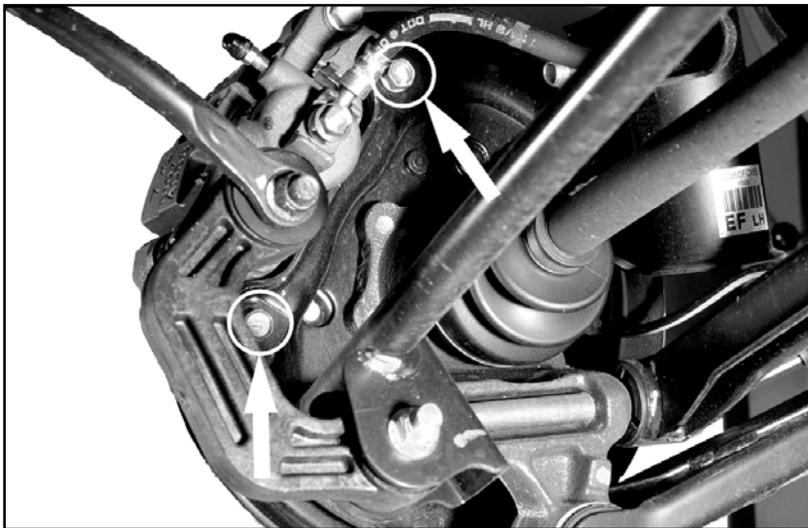
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1. Remove the wheel.



2. Remove the caliper mounting bolts.



3. Secure the caliper. Place a mark on the hub and rotor so that they can be reassembled the same way they came apart.



4. Remove the rotor.
5. Unstake and remove the axle nut.



6. Remove the lateral link bolt.



7. Push the bearing housing outward and slide the axle out.



8. Set the axle below the lateral link bolt and reinstall the lateral link bolt.

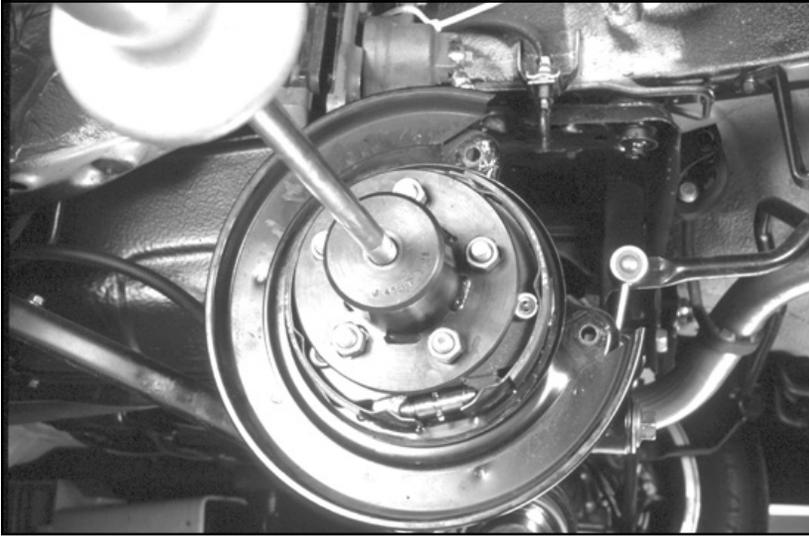


(Inspect the axle for any deep scratches, pitting and damage to the dust shield. Replace if necessary.)

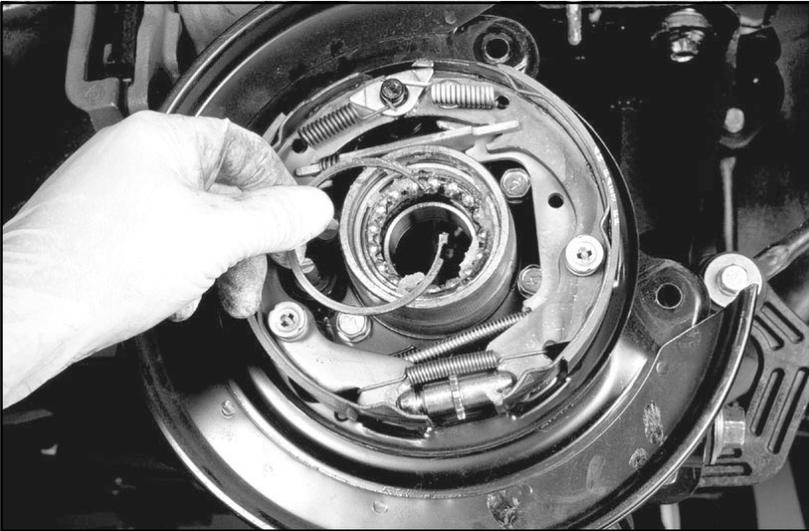
9. Connect the slide hammer to the wheel-bearing hub. Do not use the original wheel lug nuts. Note: After threading on the 5 lug adapter to the slide hammer, thread on the nut and tighten the adapter to the nut.

Notes:

10. Carefully thrust the slide outward until the wheel bearing hub is removed.



11. Remove the snap ring.



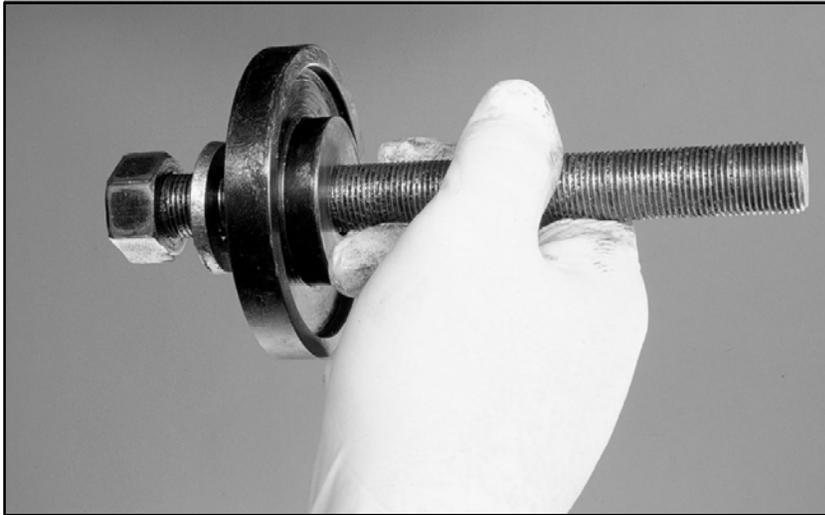
12. Remove the inner seals from the bearing housing.



13. Place OTC 311882 over the bearing housing. The groove must face outward.

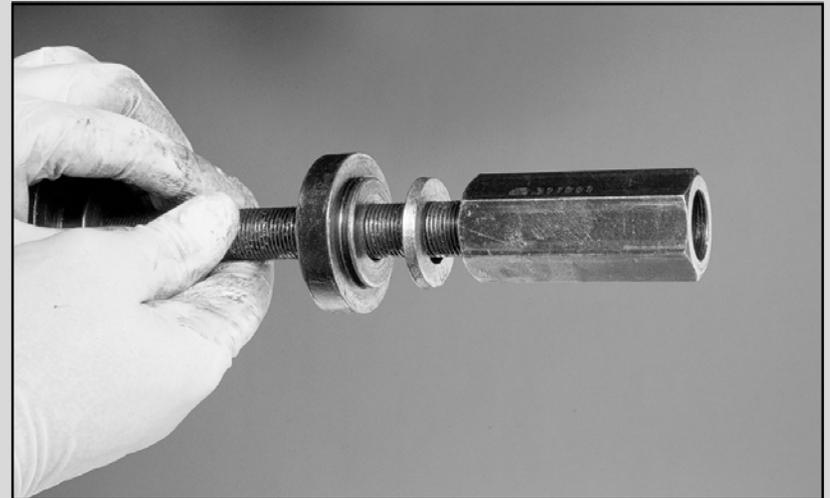


17. Place the OTC 314308 with a washer onto the puller bolt. This will be placed into the bearing housing. Apply the included special grease to the puller bolt, once during disassembly and again during reassembly.



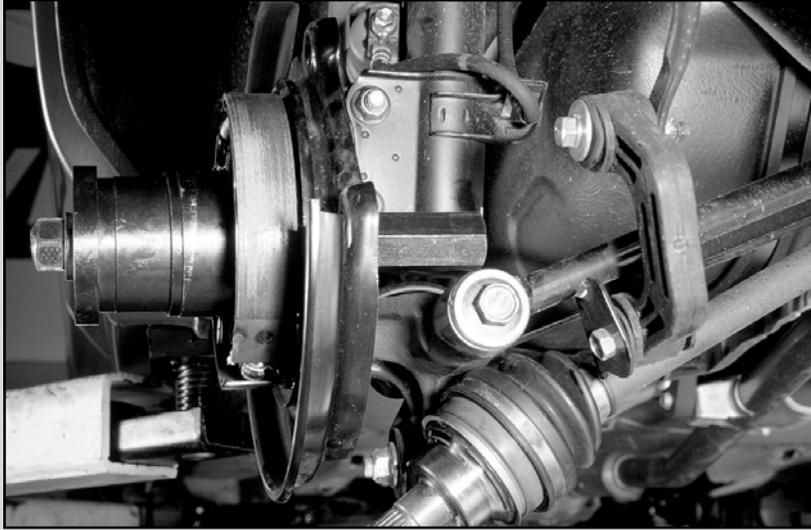
Notes:

18. The OTC 311887 with washer and nut will be placed onto the opposite end of the puller bolt after it has been inserted into the bearing housing. If the wrong side of OTC 311887 is placed against the bearing the tool will become jammed into the inner race.



Notes:

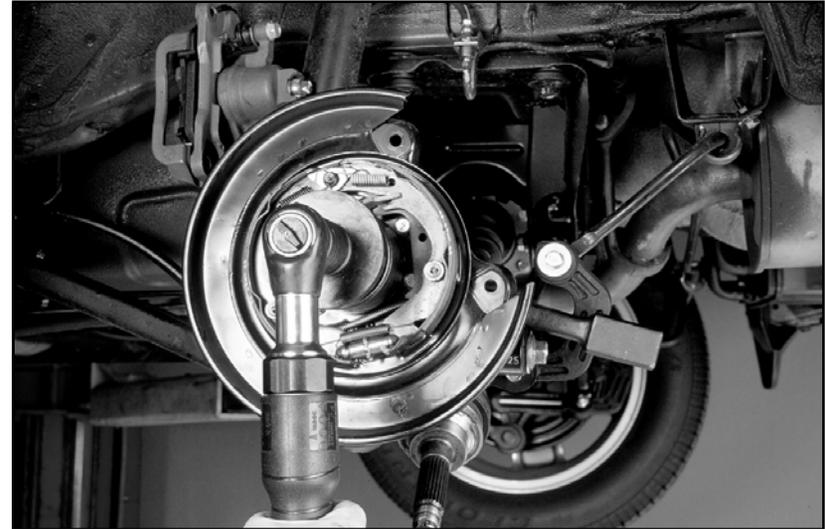
19. Tools positioned for bearing removal.



20. Secure a wrench on the nut located on the backside of the bearing housing. Using a breaker bar begin tightening the puller bolt.



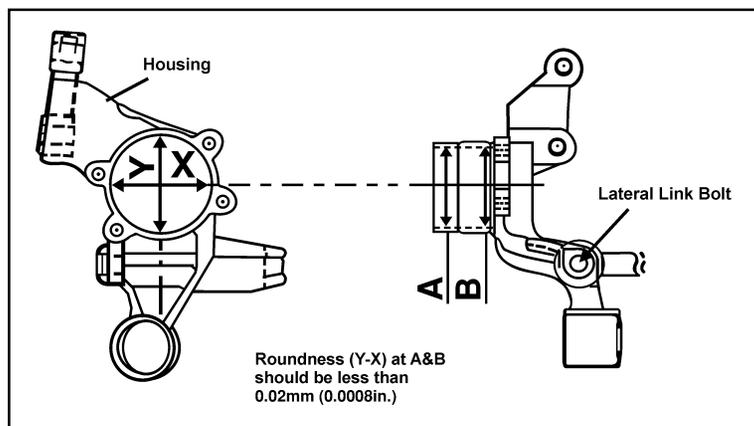
21. Switch to the air ratchet after the initial tension of the bearing has been overcome.



22. Remove the bearing and tools from the outside of the bearing housing.



23. Clean and inspect the bearing housing for damage. Use the test outlined below to check for out of roundness condition. Replace bearing housing if out of round.



Note: Measure the roundness of the housing where the bearing is installed as follows.

- Measure inner diameter "X" and "Y" at both "A" and "B" positions by using cylinder bore gauge.
- If difference of the measurement between "X" and "Y" is more than .020mm, replace the housing with a new one.

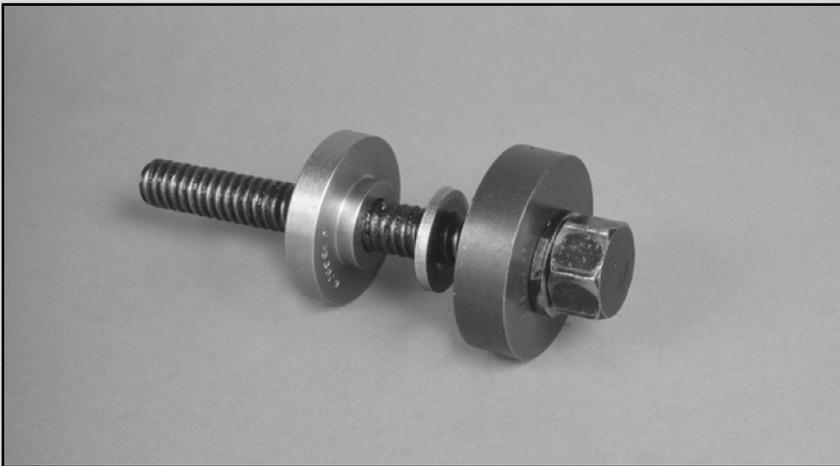
24. Prepare the new tapered roller bearing for installation. Do not remove the bearing stay (plastic piece inside the bearing) at this time. **Do not disassemble the bearing. Do not add any grease to the bearing.**



Notes:

25. Set the bearing assembly into the bearing housing.
26. Assemble the tools for wheel bearing installation. Place a washer on the bolt followed by OTC 311888 (open end facing toward the wheel bearing housing). Place another washer on the bolt followed by J45697-9. Apply the included grease to the puller bolt.

NOTE: All three included washers are the same thickness



27. The J45697-1 larger diameter surface will face the wheel bearing housing on the inner side after the puller bolt has been inserted into the bearing housing.



28. Front side of bearing housing with tools positioned for installation.



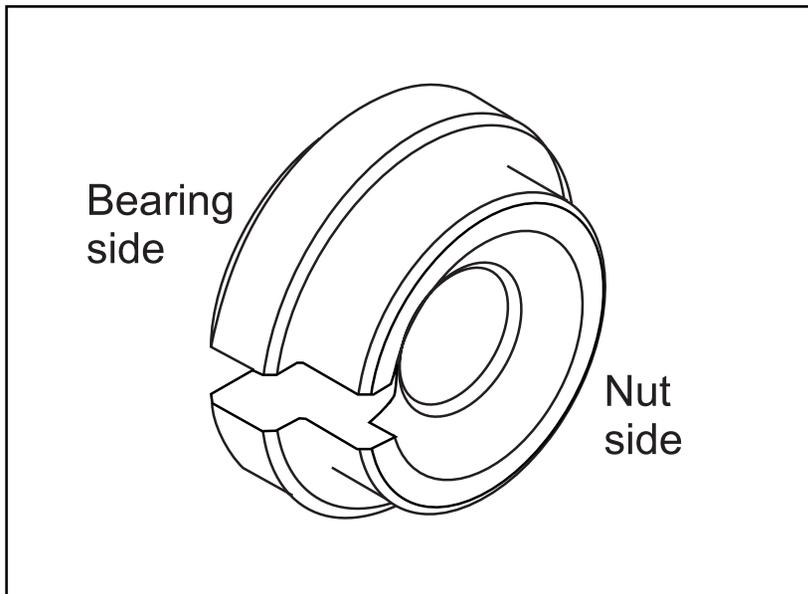
29. Back side of bearing housing positioned for bearing installation.



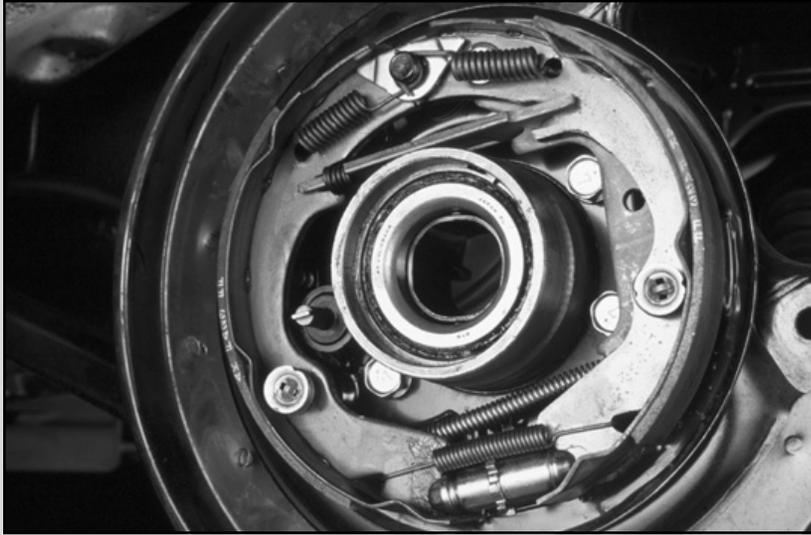
30. Secure the nut on the inner side with a wrench and begin tightening the bolt with an air ratchet.



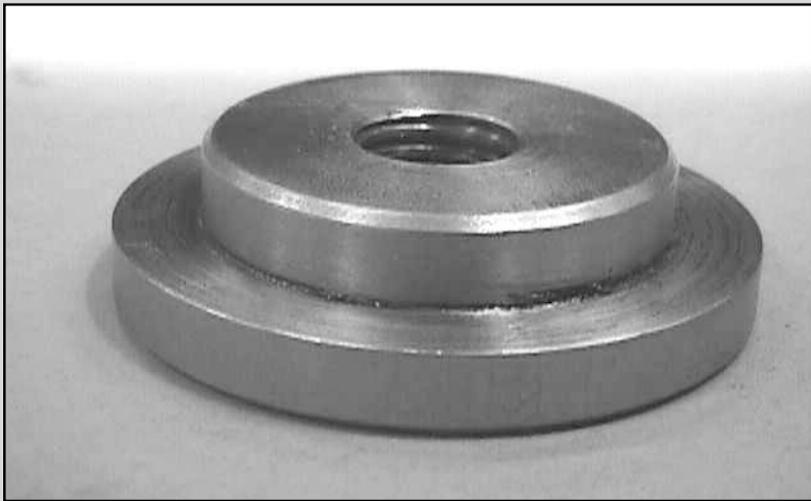
31. Tighten the last few turns with the breaker bar if necessary. Installation is complete when OTC 311888 makes contact with the bearing housing.
32. Remove the tools.



33. Insert the snap ring. If the snap ring will not seat properly the bearing is not fully installed.



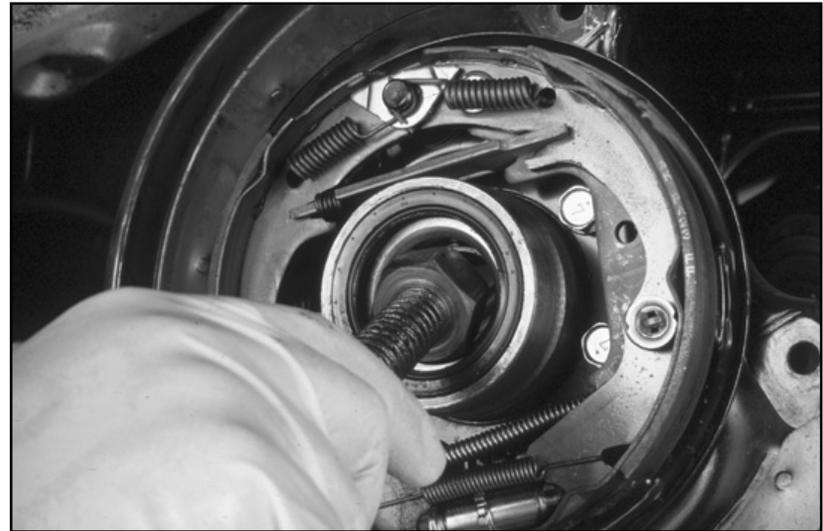
34. Thread seal installer J45697-11 with the smaller diameter facing outward onto driver handle J8092.

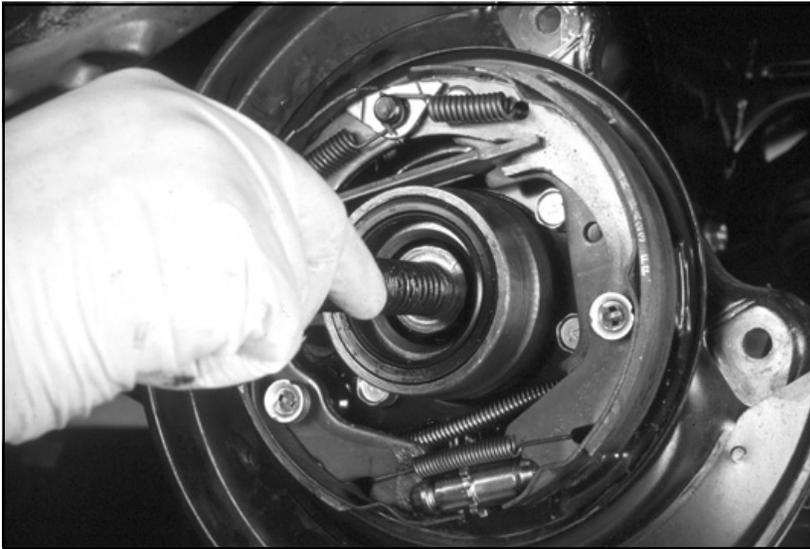


35. Install the outer seal.

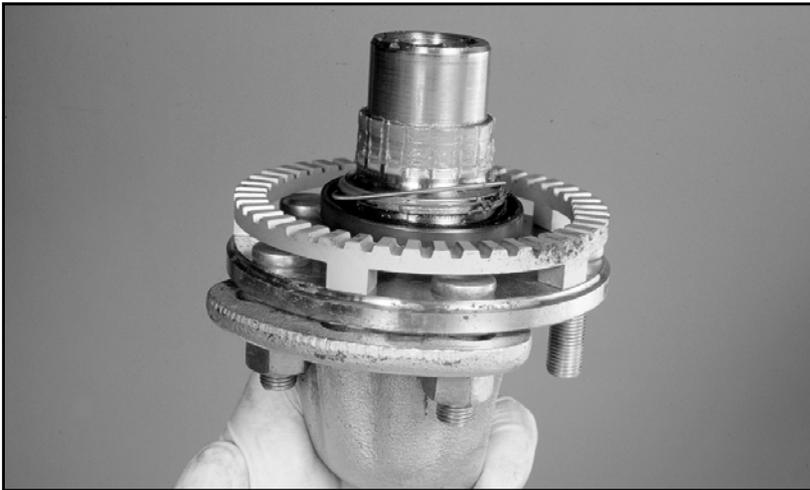


36. Remove all tools from the puller bolt. Push out the bearing stay from the center of the installed bearing using the head of the bolt.





37. Prepare the hub for installation. Remove the old outer seal from the hub.



38. Remove the tone wheel if equipped.



39. Install a set of press plates below the old inner race and remove with appropriate press and press tools.

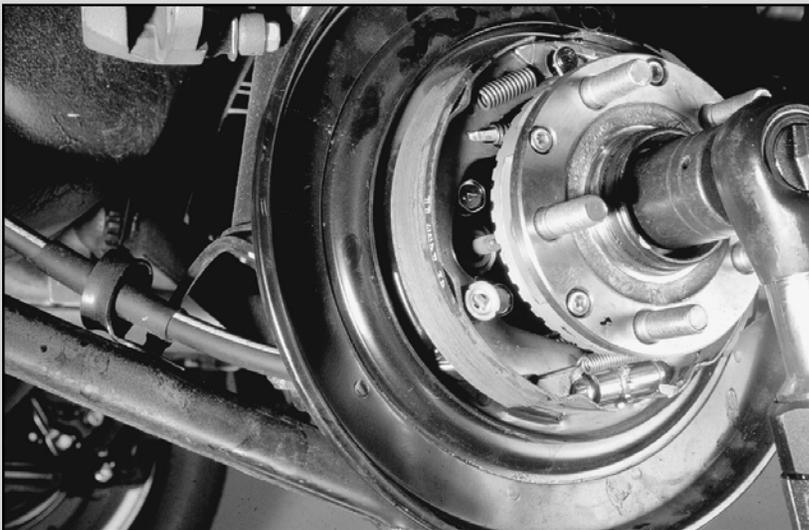
40. Reinstall the tone wheel (5.4 ft-lb) if equipped. Insert the puller bolt with washer into the hub.



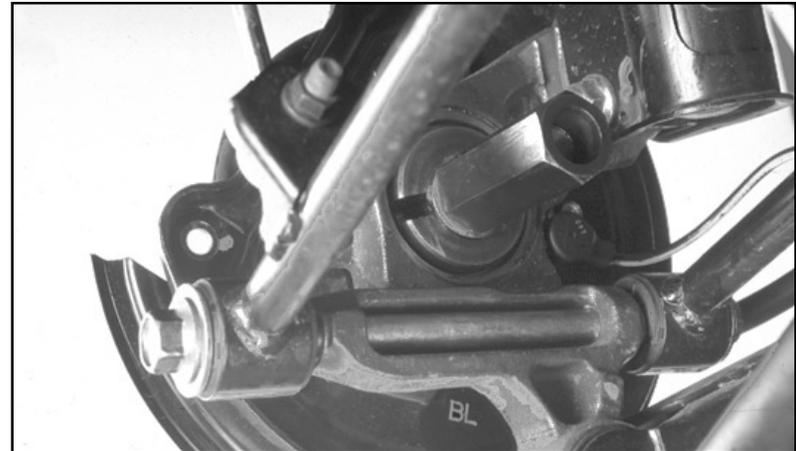
41. Place the J45697-1 with the **smaller** diameter surface facing inward onto the puller bolt after it has been inserted through the bearing housing.



42. The slot will be used to insert a depth gauge.
43. Secure a wrench on the nut and begin tightening the puller bolt with the air ratchet. Finish the installation with the breaker bar.



44. Check the installed depth of the hub with the following procedure. Measure through the provided slot on J45697-1. (Remove the washer if necessary and reinstall nut) Using an appropriate depth gauge measure from the top of J-45697-1 to the top flat edge of the wheel bearing. This will represent "A". Measure again to the top flat of the hub. This will represent "B". Use the following formula: $B-A=C$ "C" should equal 2.0 ± 0.3 mm, the correct installed depth of the wheel bearing hub.



45. Thread seal installer J 45697-10 onto driver handle J 8092 with the pictured surface facing outward. Place the inner number one seal on the tool and install the seal. The tool will make contact with the bearing housing when the seal is fully installed.



46. Reverse the J 45697-10 on the driver handle J 8092. Place the inner number two seal on the tool and install the seal. **The seal is fully installed when the seal is flush with the bearing housing.**



47. Check the rolling resistance of the hub with the supplied torque wrench. The hub should turn smoothly. (Starting force should be 7 to 17 inch pounds.)

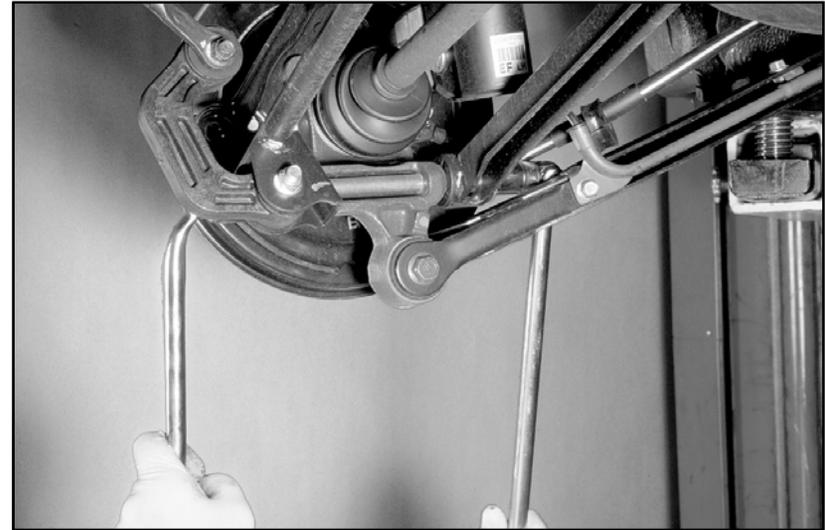


48. Remove the lateral link bolt.

49. Push the bearing housing outward and slide the axle in.



50. Install and torque the lateral link bolt. Use new self locking nut. **DO NOT USE IMPACT GUN.**
Legacy 87-116 ft-lb
Impreza and Forester 101 ± 14 ft-lb

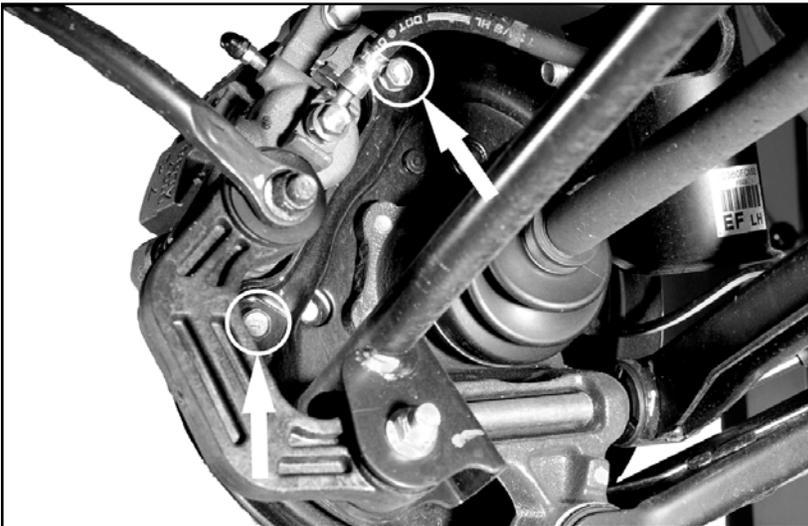


Notes:

51. Install the brake rotor. Match the marks made during dissassembly. Install and torque new axle nut. Legacy, Impreza and Forester 137 ± 14 ft-lb



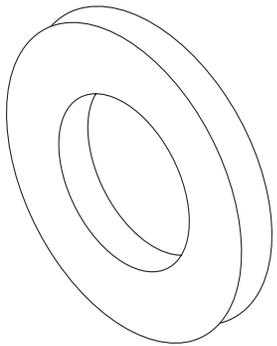
52. Stake Axle Nut. Then install the brake caliper mount and torque the bolts. Legacy, Impreza and Forester 38 ± 4 ft-lb



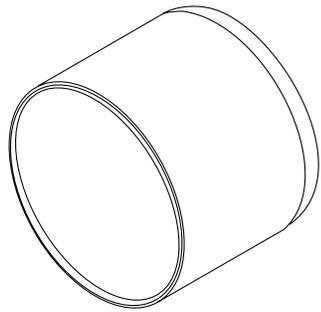
53. Install the wheel and torque the lug nuts. Legacy, Impreza and Forester steel wheels 65.7 ft-lb



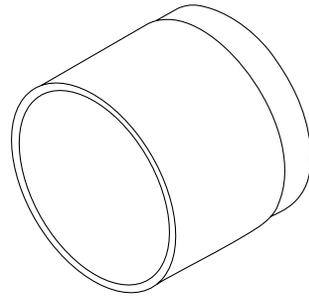
54. Pump the brake pedal before moving the vehicle.



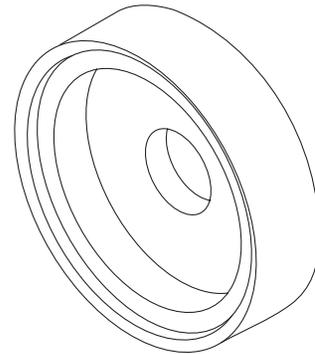
219646
Washer



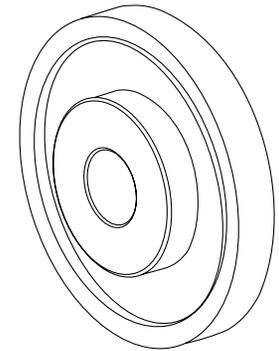
OTC 311883



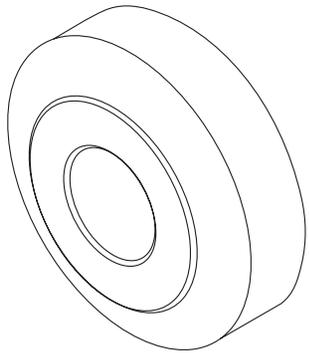
OTC 311882



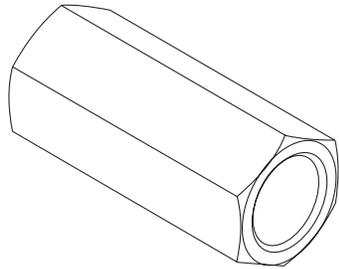
OTC 311888



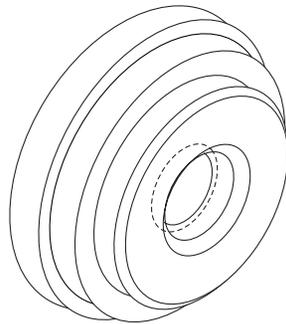
OTC 314308



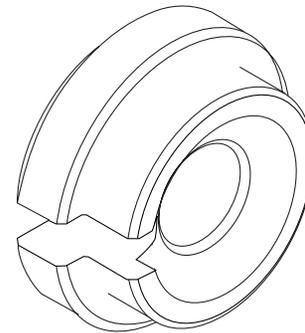
OTC 311887



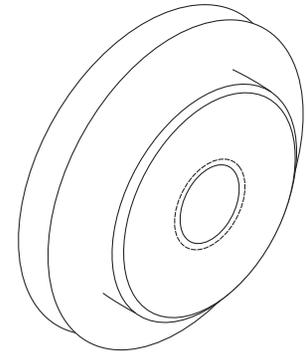
510155
Nut



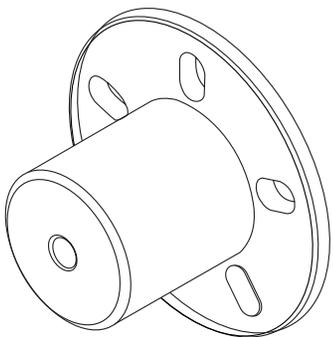
J-45697-10



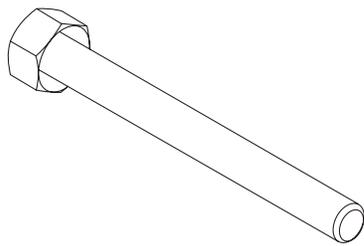
J-45697-1



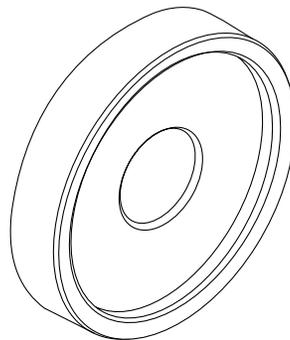
J-45697-11



J-45697-8
5 Lug Adapter



516362
Puller Bolt



J-45697-9

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