

Ball Joint Removal

- The procedure for the installation of ball joints and tie rods is fairly straightforward, but you will need a couple of special tools to complete these procedures.
- **READ THE MANUAL FIRST!**
- *You will need a FLAT surface to complete this repair for your safety.*
- Upper ball joints adjust the **Caster** and **Camber**. The tie rods adjust **Toe in** and **Toe out**
- **READ ALL OF THIS PROCEDURE SEVERAL TIMES SO THAT YOU UNDERSTAND IT. DO NOT PERFORM THE PROCEDURE OUT OF ORDER. THIS WILL RESULT IN DEATH OR SERIOUS INJURY.**

TOOLS NEEDED:

1. 19mm combination wrench
2. 13mm combination wrench
3. 13mm Socket (3/8 or 1/2)
4. 19mm deep socket (1/2 inch drive)
5. 1/2 drive break over bar
6. 3/8 or 1/2 drive ratchet
7. Tie Rod separator
8. Ball Joint press (uses a 22mm socket to turn) (OTC #7065)
9. Multiple shop towels (least 15)
10. 4 lbs. dead blow hammer or Sledge hammer
11. Pliers
12. lineman dikes or wire cutters
13. Floor Jack (4000 lbs. capacity)
14. 2 jack stands
15. 2 Wheel Chocks
16. 2 wire coat hangers
17. 1 roll masking tape

Procedure for removal

1. Drive or drain fuel tank until the fuel gauge shows **EMPTY** or at least in reserve. We say this due to the weight of the fuel in the tank.

2. Remove the four bolts that hold in fuel tank:



3. Disconnect all hoses and vacuum lines from tank:



Wolfsburg II

4. **Remove the fuel tank, take care of the electric wiring and hoses:**



5. **Remove hub caps on front axle with a screwdriver or tire iron:**



6. **Break loose all lug bolts on tire**



7. **Chock the rear tires**

8. **Place floor jack in center of lower beam just behind the sway bar. Jack up the vehicle to a height of a comfortable level for you to crawl underneath**



9. **BEFORE GETTING UNDER THE VW:** Place jack stands just to the



outside of the zerck fittings.

10. Remove all lug bolts and place them in the hub cap:



11. Remove the tire from the Brake Drum.



12. Remove tie rods as a complete assembly. **DO NOT** loosen clamp or locknut.
13. Mark the position of the upper ball joints. Marking the lower ball joint is unnecessary since there is no adjustment and only a notch orientation to the



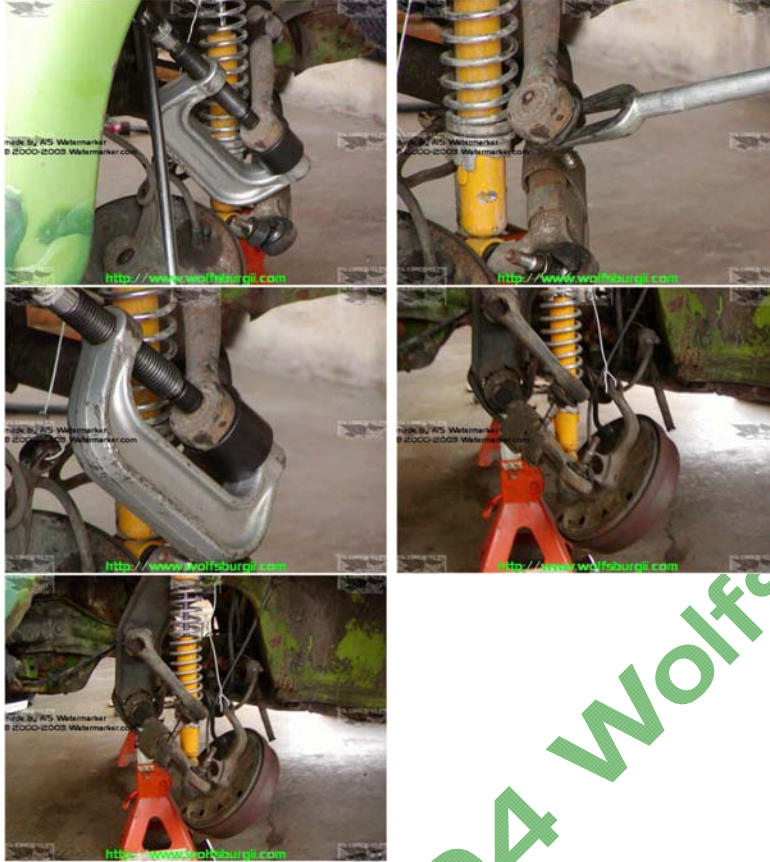
joint.

14. **ONLY REMOVE ONE SIDE AT A TIME. COUNT** the number of turns **IN** of the tie rod until it stops. This is a left hand thread (lefty Tightey, righty loosey) on The Driver's side Outer tie rod and on the Passenger's side Inner tie rod.
15. Press the ball joints out. They press out **TOWARDS** each other. During the process of removing the ball joints, if they get stuck, hung up or wedged, tap on the torsion arm with any type of hammer to release the ball joint. While at the same time you can check that the ball joint is actually moving by turning the ball joint remover (if it feels like it has freed up and gotten tight again and continue to repeat procedure until ball joint comes out or ball joint



remover moves freely).





16. Hang Steering knuckle from the shock tower with a length of coat hanger.

DO NOT let the knuckles hang from the brake lines.



Failure to tie down the knuckle complete will cause



this!

[Now go to the procedure of reinstallation of the ball joints](#)