

Boron MT4400 Suspension discharging and oil level check procedure

1. Gather tools



Wheel Chocks



2 Jacks



Ladders/Platforms



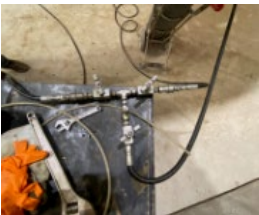
Schrader charge adapters with quick disconnects, drain tubes & oil fill hoses



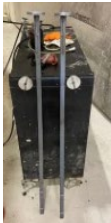
Nitrogen Bottle



Nitrogen Gauges



Nitrogen hoses & valves



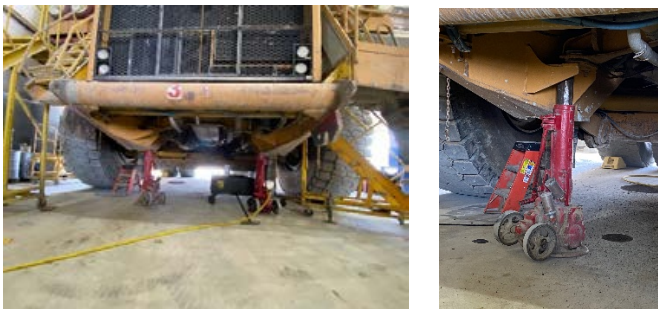
Strut length measurement tools

2. Check the bed of the truck for carry back. The bed needs to be empty & clean in order to set struts at the correct ride height. If there is material in the bed, mine operations will need to clean it out before this procedure can be done.

3. Park the truck in a safe position on level ground. Chock the tires, bleed steering accumulators, and lock-out the truck.



4. Position ladders/platforms to access the front struts. Careful not to position them where the truck will crush them when bleeding down the struts. Position jacks under the front engine mounts.



5. Remove the front strut protective covers. Install the Schrader charge adapters with quick disconnects and drain tubes going into an oil drain bucket. Zip-tie a heavy object to the drain tube to keep it from falling out of the bucket.



CAUTION



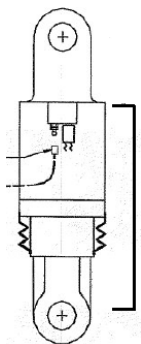
The struts contain gas and oil under high pressure. Extra care must be taken when adjusting or servicing the struts. Since internal pressures can exceed 2000 psi (13 800 kPa), it is important to open the charge valves slowly and allow the pressures to be fully released before working on the struts. Also only dry nitrogen gas should be used for charging.



6. Carefully open both left and right valves, releasing nitrogen gas and oil. Lower the jacks until the struts fully bottom out.
7. After both front struts bottom out & no more nitrogen gas or oil discharges from the drain tube, close the discharge valves, remove the strut pressure transducer and attach the oil fill hose to 30w oil.



8. Check the strut measurement tool for accuracy with a tape measure. Measure from the bottom of the magnet where the tool sits on the strut ledge. Install tool on front struts.



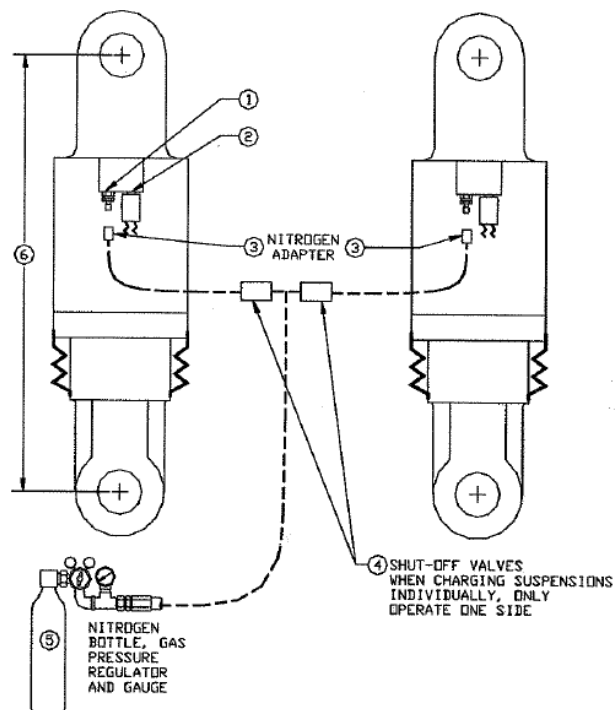
Front Oil Level: 44 3/4"
Rear Oil Level: 44 5/16"
Front Nitrogen Charge: 51 1/8"
Rear Nitrogen Charge: 46 9/16"



9. Make sure the drain valve is closed and start adding 30w oil through the oil fill hose. The oil might have enough pressure to extend the strut but if not, use the jack to help raise the truck. Extend the strut past the oil fill line. Repeat this step on the other side.
10. Carefully open the drain valve and slowly lower the jack to bleed the strut down to the correct height within 1/2". If air/nitrogen is observed coming out of the drain tubes, repeat steps 9 & 10 until there is only oil coming out of the drain tube. Repeat this step on the other side. Each front strut should contain about 9.7 gallons of 30w oil.



11. After oil is at the correct level, remove oil fill hose and reinstall the strut pressure transducers. Torque to 14 +/- 1 ft-lb. Install nitrogen charge hoses & valves. Make sure the shut off valves are closed.



⚠ DANGER



The main bodies of the suspensions are to be charged with dry nitrogen only. Use of oxygen, compressed air or other gases may result in a violent explosion.

12. Make sure the drain valves on the struts are open, the shut-off valves for charging are closed and set the nitrogen pressure regulator to approximately 600 psi.

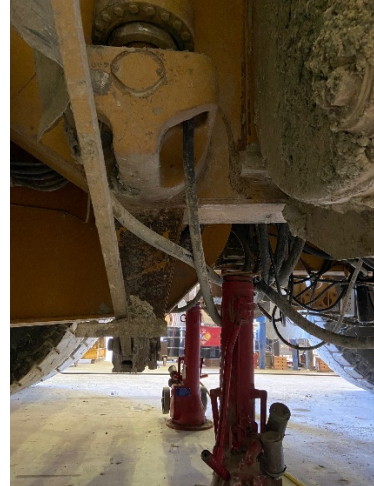


13. One side at a time, carefully open the charge valve to start the flow of nitrogen into the strut. The truck will lift off the jacks. Stop short of the height needed, it is easier to add more if needed then to bleed it back down. Charge the other side. Add small amounts until both front struts are at the proper height within 1/2".

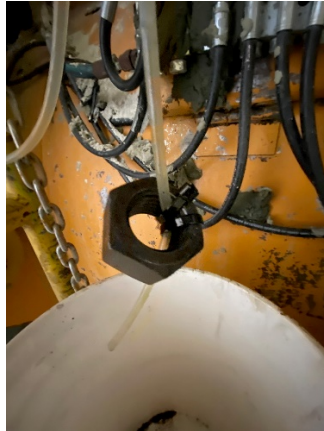


14. Close all valves and remove charging equipment. Check for leaks using soapy water.
15. Install protective covers. Torque to 40-50 in-lb.

16. Move equipment to the rear of the truck. Position ladders/platforms to access the rear struts. Position jacks at the hoist cylinder mounts. Trucks with tailgates will be behind the hoist cylinder mounts.



17. Remove the rear strut protective covers. Install the Schrader charge adapters with quick disconnects and drain tubes going into an oil drain bucket. Zip-tie a heavy object to the drain tube to keep it from falling out of the bucket.



⚠ CAUTION

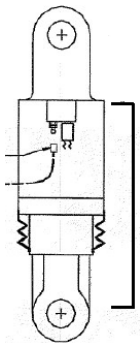
The struts contain gas and oil under high pressure. Extra care must be taken when adjusting or servicing the struts. Since internal pressures can exceed 2000 psi (13 800 kPa), it is important to open the charge valves slowly and allow the pressures to be fully released before working on the struts. Also only dry nitrogen gas should be used for charging.



18. Carefully open both left and right valves, releasing nitrogen gas and oil. Lower the jacks until the struts fully bottom out.
19. After both rear struts bottom out & no more nitrogen gas or oil discharges from the drain tube, close the discharge valves, remove the strut pressure transducer and attach the oil fill hose to 30w oil.



20. Check the strut measurement tool for accuracy with a tape measure. Measure from the bottom of the magnet where the tool sits on the strut ledge. Install tool on rear struts.



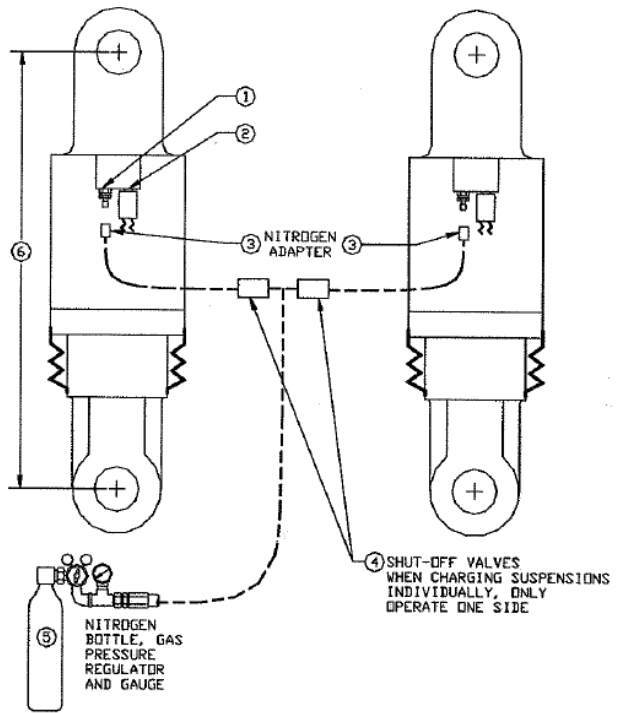
Front Oil Level: 44 3/4"
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 Front Nitrogen Charge: 51 1/8"
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21. Make sure the drain valve is closed and start adding 30w oil through the oil fill hose. The oil might have enough pressure to extend the strut but if not, use the jack to help raise the truck. Extend the strut past the oil fill line. Repeat this step on the other side.
22. Carefully open the drain valve and slowly lower the jack to bleed the strut down to the correct height within 1/2". If air/nitrogen is observed coming out of the drain tubes, repeat steps 21 & 22 until there is only oil coming out of the drain tube. Repeat this step on the other side. Each rear strut should contain about 8.9 gallons of 30w oil.



23. After oil is at the correct level, remove oil fill hose and reinstall the strut pressure transducers. Torque to 14 +/- 1 ft-lb. Install nitrogen charge hoses & valves. Make sure the shut off valves are closed.



⚠ DANGER



The main bodies of the suspensions are to be charged with dry nitrogen only. Use of oxygen, compressed air or other gases may result in a violent explosion.

24. Make sure the drain valves on the struts are open, the shut-off valves for charging are closed and set the nitrogen pressure regulator to approximately 600 psi.



25. Charge both rear struts together. Open the side charge valves, then carefully open the main charge valve to start the flow of nitrogen into the struts. The truck will lift off the jacks. Stop short of the height needed, it is easier to add more if needed then to bleed it back down. Add small amounts until both rear struts are at the proper height within 1/2". **It is important that the rear struts are equalized to ensure the load is being carried equally.** If the height measurements end up being a little off, that is OK, as long as they are close.



26. Close all valves and remove charging equipment. Check for leaks using soapy water.
27. Install protective covers. Torque to 40-50 in-lb.