

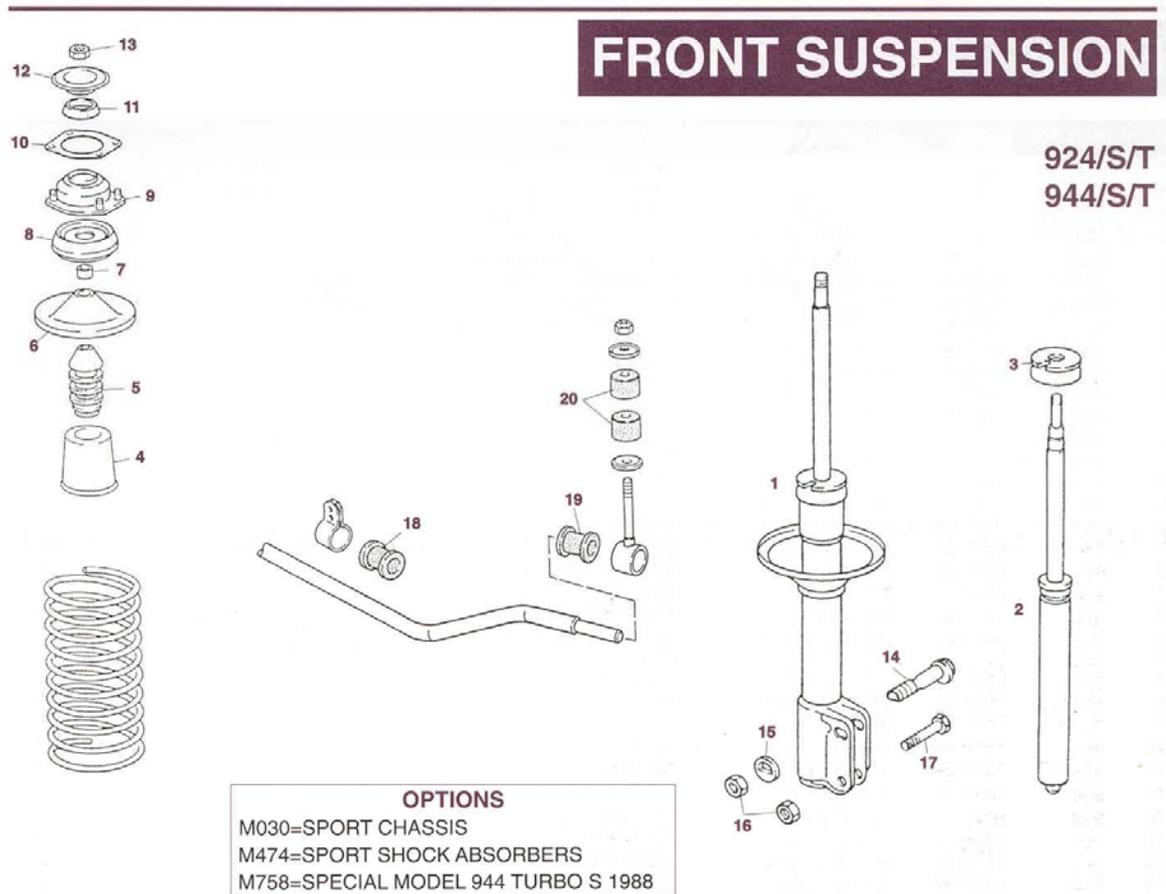
SUSP-02, Strut Removal and Replacement

Tools

- Metric Socket Set
- Metric Wrench Set
- Scribe, Paint Pen, or Brightly Colored Nail Polish
- Air Impact Wrench
- Strut Spring Compressor
- Porsche tool 9186 or equivalent (if rebuilding the old strut)
- Jack Stands
- Floor Jack

Other Procedures Needed

None



Removal

1. Disconnect the battery negative cable.
2. Loosen the four strut mounting bolts in the engine compartment several turns. Do not remove yet.
3. Place the vehicle on jack stands.
4. Remove the front wheels.
5. Remove the brake line from the clip on the front strut.
6. At the bottom of the strut, there are two bolts which attach the front strut to the spindle assembly. The top bolt is an eccentric bolt which provides for adjustment of the wheel camber. Using a paint pen, scribe, or brightly colored nail polish, mark the orientation of the eccentric bolt to the strut.
7. Remove the eccentric bolt and bottom retaining bolt from the bottom of the strut.
8. Pull the strut away from the spindle until it is free from the bottom of the assembly.
9. Hold the strut while removing the four mounting bolts at the top of the strut. Remove strut from the vehicle.
10. If the strut is to be replaced, note the orientation of the eccentric bolt alignment mark from Step six and transfer that mark to the new strut.

Strut Insert Replacement

CAUTION!

Extreme caution must be used when using double spring compressors where the springs are not held rigidly in place. This is the type of compressors you'll normally find for sale in auto parts stores or those offered by auto parts stores for loan. I've seen a number of folks get badly hurt when the spring popped out of one of the compressors. The key to using this style or spring compressor safely is to make small adjusts and alternate sides after each adjustment. The safest type of compressor is a rigid wall or stand mounted professional spring compressor. However, most of us aren't willing to go out and spend hundreds of dollars on a professional spring compressor. So, you have two options. You can use the double spring compressors as described above or you can simply take the strut assembly and the new insert to a suspension and brake shop and have them swap the insert for you.

1. Using a spring compressor tool, compress the coil over spring to until there is only a slight amount of pressure on the strut assembly top plate.

NOTE

If you attempt to use a regular socket and ratchet to remove the strut assembly top plate retaining nut, the strut rod will simply spin as you turn the retaining nut. An air impact wrench is needed to spin the nut fast enough to break the nut free without spinning the strut rod.

2. Using an air impact wrench and socket, remove the spring strut bearing retaining nut.
3. Remove the bearing from the strut.
4. Slide the strut assembly out of the spring
5. If you're rebuilding the old strut perform the following:
 - a. Clamp the assembly in a vise and remove the strut assembly insert cap using Porsche tool 9186 or a similar tool.
 - b. Remove the old insert from the strut.
 - c. Remove any oil from the housing and clean the inside of the housing.
 - d. Install the new cartridge. Ensure that the spacer is installed between the cap and the cartridge.
 - e. Torque cartridge cap to 150 ± 30 Nm (111 ± 22 ft-lbs.).

Note From Factory Shop Manual

The shock absorber housing may be filled with thin oil or ATF to improve cooling. However, the shock absorber housing should not be more than max. 2/3 full, if cartridge is touching bottom of housing. If too much oil was added, it would run out of the housing when hot. This would automatically cause incorrect diagnosis (defective absorber).

6. Install the spring onto the new or rebuild strut assembly.
7. Install the bearing onto the spring strut assembly.
8. Using an air impact wrench and socket, tighten the spring strut bearing retaining nut. Torque the retaining nut to 77 Nm (57 ft-lbs.).
9. The strut assembly is now ready to be installed in the car.

Installation

1. Insert the new or rebuilt strut assembly up through the opening at the top of the strut tower and loosely install the four retaining nuts on top of the strut tower.
2. Slide the bottom of the strut onto the spindle and install the bottom retaining nut and top eccentric nut.
3. Set the top eccentric nut to the orientation mark on the strut made during the strut removal.
4. Tighten the eccentric bolt locking nut and the bottom retaining bolt lock nut.

NOTE

Even though the strut was aligned using the mark for the eccentric bolt, the car should be taken to an alignment shop to have the camber checked at the first opportunity.

5. Tighten the four retaining bolts on top of the strut tower.
6. Attach the brake line to the clip on the strut.
7. Install the front wheels and lower the vehicle.

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