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## Coil Springs

All Bronco coil springs Date 5/17/06 rev. 0

**WH coil spring history.** Years ago when rock crawling was beginning to gain momentum most of the Bronco coil springs were a linear rate design with very heavy spring rates (stiff non-flexible). It became obvious to us that we needed something different. WH forged ahead into the void and developed our flagship Rock Crawler coil line. Since that time we have received an overwhelming positive response for these coils. Despite the Rock Crawler name these coils are completely compatible with daily driving. With years of experience behind us and thousands of sets of coils in the field we felt it was time to update the line with subtle changes, some new manufacturing technology, and a new 4.5" version. Some of the changes for the new and improved WH coils include initial load increases specifically designed to offset heavier front bumpers and winches. All our springs are wound on CNC coiling machines for consistent height and spacing within the variable coil windings. Each spring is shot peened for initial stress relief, preset to coil bind and load tested. These procedures are used to insure the correct rates and heights. All WH coils are variable rate design. This design allows for great flexibility off-road without sacrificing street ability. Each spring is powder coated for protection and durability. For these reasons we believe these are the finest coil springs on the market.

**Pre-installation notes:** Any time taller coils are installed the proper C-bushings need to be installed at the same time in order to maintain correct front end caster. The following are the accepted industry standards for degree C-bushing and lift heights. Stock 2°, 2.5" lift 4°, 3.5" lift 7°. Occasionally some 4.5" and a few 5.5" coil users will be able to get away with just 7° bushings. The reason for this is all the Broncos that rolled off the factory floor did not have exactly the same caster, that's called variation and there was a lot of it coming out of Detroit during the time the Broncos were built. Most 4.5-5.5" and taller coil users will need Radius arm drop brackets or long radius arms to end up with correct caster. There are numerous drop brackets and long arms available. WH complete suspension systems contain the correct C-bushings for the system ordered. If you are mixing and matching parts from multiple sources it is your responsibility to order the correct C-bushings. One more notable thing to look for is bent stock radius arms. Back before degree C-bushings shops would bend the radius arms when installing taller springs in order to get the correct caster. The stock radius arm should be straight with no bends.

With lifts of 3" or more a frame mounted trac bar drop bracket in conjunction with a drop pitman arm are recommended. There are exceptions to this rule; one is if you are using the F100-350 2WD steering box mounted on the inside of the frame, if so you will not need the drop pitman arm. Another common variation these days is the tie rod over knuckle system. In that case a front end mounted trac bar riser with no drop pitman arm should be sufficient. The main consideration here is to keep the trac bar and drag links running at near the same angle.

To take full advantage of the travel capabilities of your WH coils. RUBBER radius arms bushing are recommended. Urethane bushings may limit the range of movement. Front shock hoops will allow the installation of longer shocks for more available suspension travel.

### Removal instructions:

1. Move the Bronco to a flat and level area. Block the rear wheels and disconnect the battery.
2. Raise the front axle with a floor jack and support the front frame rails with jack stands. Leave the floor jack in place.
3. Remove the wheels.
4. Remove the breather hose located at the top of the axle housing. Remove the brake line retaining/front end vent bolt.
5. Remove the shocks if they are being replaced. If you are reusing your existing shocks just unbolt the lower part.
6. Lower the front end enough to take some tension off the coils and remove the upper spring retaining clips.

7. Slowly and carefully lower the front axle until the springs fall free front the spring buckets.
8. Slowly and carefully lower spring retaining bolts. The old coils can now be “unwound” from the lower spring retainer without removing the bolts. If the coils cannot be unwound at this point, completely remove the two lower springs retaining bolts and remove the springs.

**Installation of new springs:**

9. Loosely install the coil cup and lower coil retainer using two 7/16” bolts. Wind the new coils in place. Properly align the coil with the lower retaining plate and the coil bucket snug up the bolts just a little. **DO NOT** tighten them at this time.
10. Raise the axle until the spring makes contact with the upper part of the coil spring bucket. **DO NOT PLACE TENSION ON THE COIL AT THIS TIME.** You may find that the coil depending on the amount of lift will seem too tall to go into the bucket. Push down on the front end while pushing the coil into the bucket. This may take some force. We have never had to use a coil compressor but if you happen to have one and it seems easier for you to use it then go for it.
11. Install the upper spring retainer. First install the bolt which comes in from the top of the spring tower, just get it started a few turns into the retainer. **DO NOT** tighten at this time.
12. Install the bolt that goes through the front of the retainer into the spring tower. This may not line up perfect so use a tapered punch to line up the hole in the retainer with the hole in the spring bucket. Hit the tapered punch into the holes until they line up. Hold the spring retainer in place with Vise Grips (or a similar tool). Remove the punch and insert the 3/8” nut and bolt. Tighten this bolt and nut first. Remove the Vise Grips. Now tighten the bolt going into the retainer from the top down. See it really does fit.
13. Raise the front axle slightly more, to put tension on the coils. Tighten the lower coil retaining hardware.
14. Install the shocks.
15. Install the brake line retaining bolt and breather hose. It is recommended that longer brake lines be installed on any lifted vehicle.
16. Install wheels.
17. Remove the jack stands and lower the Bronco.
18. Recheck all mounting hardware.
19. If the brake lines were changed or disconnected, bleed brakes.
20. Connect battery
21. Front end toe adjustment will be necessary for all Broncos with '76-'77 Bronco Dana 44 front ends equipped with the inverted Y tie rod and drag link. Toe adjustment (alignment) is not necessary with the T style tie rod and drag link.

**General observations:**

**Coil bow:** You may notice your coil springs bow slightly to the front or side. This is normal and the amount of bow will depend on a number of other things such as using or not using radius arm drop brackets and adjustable trac bars.

**Front end offset:** Even on a stock Bronco if you look close you may notice the front end is sticking out father on one side than the other. We call this front end offset. Unless this is excessive it does not cause any drivability or handling issues. One thing to keep in mind is the fact that the front end may be offset perfectly to the frame and the body itself might be sitting to one side or the other. You can measure static points on the frame and front end to figure this out. Don't forget to have your motor installed when you take your measurements because they will all change with the motor out. The main thing is if you don't like the way it looks how do you fix it? The answer is usually with an adjustable trac bar. The adjustable trac bar will push the front end to the passenger side or pull it out the driver's side depending on how you adjust it.