

Hyperco / ICP Hydraulic (load centering) Spring Perches (FAQ)

Q. What function does the Hydraulic Spring Perch perform?

A. An inherent characteristic of all coil springs is that they produce a lateral, or sideways, load due to their uneven distribution of forces around the face of the end coils when used with fixed position (standard coil over) perches. This lateral loading manifests itself as a bending load in coil over applications, with the result being highly increased frictional forces within the shock / spring assembly. These friction forces result in lowered tire grip level and higher tire wear. The Hyperco / ICP Hydraulic spring perch nearly eliminates the bending load that coil springs exert on shock absorbers thus reducing friction and increasing mechanical grip at the tire.

Q. How does it work?

A. Each perch is comprised of an annular outer body cylinder, and an annular piston/perch sealed to the body with (2) O-rings. The resulting cavity between the two halves is filled with hydraulic fluid and sealed with sealing screws. The assembly allows the end coils to the spring to tilt (up to 4 degrees) as compressive loads are applied. The hydraulic pressure centralizes the load around the centerline of the shock absorber. The result is that 96% of the bending load on the shock absorber is eliminated and mechanical grip is enhanced.

Q. What types of cars are running these units?

A. Initially the Hydraulic Spring Perches were directed toward the IndyCar, F-1 and Sports Car Market with very favorable feedback. In the last year the market for Hydraulic Perches has expanded to include nearly all types of coil over applications, Dirt Late Models, Pavement Late Models, Silver Crown, Sprint Cars, Midgets, Road Racing Motorbikes, MX, Mini sprints, Formula Fords, Formula Atlantic, Trans-Am.....etc. (virtually any coil application).

Q. How do I determine which units are best suited for my application?

A. The I.D. of your suspension coils and your model of shock absorbers determine the specification of perch required. Perches are available in two basic types, (1) add on / slide on, which are designed to fit on top of your O.E. perch (similar to a spring spacer). (2) Bods. & Tops: designed to completely replace the O.E. perches. The add on / slide on style are the most popular and can be used with nearly all existing shock absorbers. The O.E. replacement bods. & tops, are available for Penske 8760 style, Penske 8175 style, Ohlins T40 and TT 44 style shock absorbers.

Q. Do I need to install Hydraulic Perches at both ends of my shock / spring assembly?

A. Extensive testing indicates that two perches (one at each end of the spring) is optimum for applications running spring free lengths of 10" or less. For applications running free lengths longer than 10" only one unit is recommended.

Q. Will my perches need to be serviced on a regular basis?

A. Yes, for optimum performance it is recommended that the perches be serviced after every 6 hrs. of on track running. Maintenance of the units is very simple and can be completed with standard hand tools and a rebuild kit (see maintenance / service instructions).

Quick questions for helping customer select correct perch for their application.....

What ID of springs are you using? (1.875", 2.00", 2.25", 2.50".....?)

What brand / model of shock absorber are you using? (this will quickly identify if the application is suited for O.E. replacing units (Bods. & Tops) or Add On / Slide On units.....reference part list) *Max shock absorber body dia. 2.110" for use with 2.25 add on / slide on units.

What Free length springs are you using? (This will determine if one unit or two is recommended per shock / spring assembly)

At present, most Grass Roots / Short Track Applications will required the Add On / Slide On units to fit the spring I.D. specification.