



Dual Stage Coil-Over Setup Instructions

LIT-558 REV.

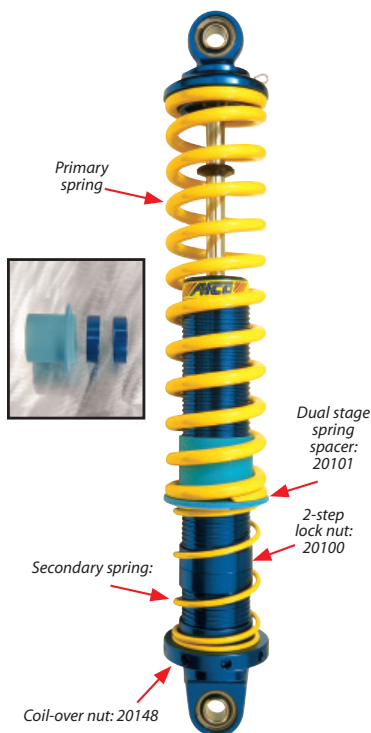
More Traction & More Forward Bite

AFCO's Dual Stage Coil-Over keeps the springs and suspension loaded at all times to improve traction. Additionally, the system's special Dual Lock Nut feature can be adjusted to enhance weight transfer, especially at corner exit.

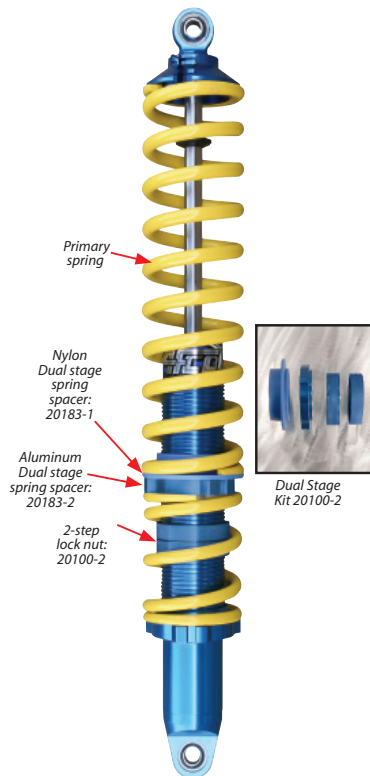
Multiple Options

A variety of spring rates is available to provide you with the ultimate combination for traction improvement.

20121: Fits Afco small body shocks using 1 7/8" ID springs.



20121-2: Fits Afco large body shocks using 2 5/8" ID springs.



SMALL BODY DUAL STAGE COMPONENTS	
DESCRIPTION	PART #
15# SECONDARY SPRING	29015-3
25# SECONDARY SPRING	29025-3
45# SECONDARY SPRING	29045-3
65# SECONDARY SPRING	29065-3
DUAL STAGE HARDWARE KIT (2 X 20100 & 1 X 20101)	20121
DUAL STAGE LOCK NUT	20100
DUAL STAGE SPRING SPACER	20101

BIG BODY DUAL STAGE COMPONENTS	
DESCRIPTION	PART #
SECONDARY SPRING 4 X 300# 2-5/8 I.D.	26300
SECONDARY SPRING 4 X 400# 2-5/8 I.D.	26400
SECONDARY SPRING 4 X 600# 2-5/8 I.D.	26600
SECONDARY SPRING 4 X 800# 2-5/8 I.D.	26800
BIG BODY DUAL STAGE HARDWARE KIT (INCLUDES 2 X 20100-2, 20183-1, 20183-2)	20121-2
DUAL STAGE SPRING SPACER/SLIDER NYLON	20183-1
DUAL STAGE LOCK NUT (REQUIRES 2 PCS.)	20100-2
DUAL STAGE SPRING SPACER ALUMINUM	20183-2

How It Works

When two springs are stacked, the overall spring rate is softer than either spring as long as both springs can flex. If one spring becomes unable to flex, then the spring rate stiffens to the rate of the active spring. The AFCO Dual Stage Coil-Over takes advantage of this principle to improve traction by providing dual spring rates.

For example, adding an AFCO Dual Stage Coil-Over to the right and/or left front will cause the front of the racecar to lift higher at corner exit. The increase in front end lift is due to the soft spring rate provided by the dual, active springs while the springs are unloading weight. The higher front end lift causes additional weight to transfer to the rear tires and improves forward bite.

The dual lock nuts can be adjusted to keep just one spring active when the suspension goes into compression beyond a certain point. Thus, you can keep your original spring rate and maintain corner entry handling with the AFCO Dual Stage Coil-Over.

The AFCO Dual Stage Coil-Over can also be used on the left rear of dirt racecars to improve corner exit handling. This system can be set up to provide a stiff compression rate along with a soft rebound rate and has proven to be more effective than a simple stacked spring arrangement, which provides a softened rate in both compression and rebound.

Set-Up

You can start out with your normal spring rate. Then add a second spring. Dirt late models will typically add a 4" x 400#/in. to 600#/in. second spring for left rear applications. Set ride heights with the dual lock nuts not touching the slider / spring spacer. Adjust the dual lock nuts to just contact the slider / spring spacer after the ride heights have been set. You can soften a spring to increase lift and hike-up or stiffen a spring to keep the chassis flatter on the race track. Keep in mind that a change to the primary spring can affect both corner exit and entry handling, especially when a right side spring is changed.

Spring Rate Formula: Dual Active Springs

$$\frac{\text{Primary Spring Rate} \times \text{Secondary Spring Rate}}{\text{Primary Spring Rate} + \text{Secondary Spring Rate}} = \text{Act. Spring Rate}$$

$$\text{Example: } \frac{200\#/in. \times 400\#/in.}{200\#/in. + 400\#/in.} = \frac{80,000}{600} = 133.33\#/in.$$

Note: The combination of a 200#/in. and 400#/in. spring works the same as a single 133#/in. spring, as long as both combination springs are active.

Options

You can apply the Dual stage principle to any spring: suspension, 5th coil, etc. You can also delay the stiffening effect of the Dual stage arrangement by adjusting the Dual stage lock nuts away from the aluminum spring spacer.