



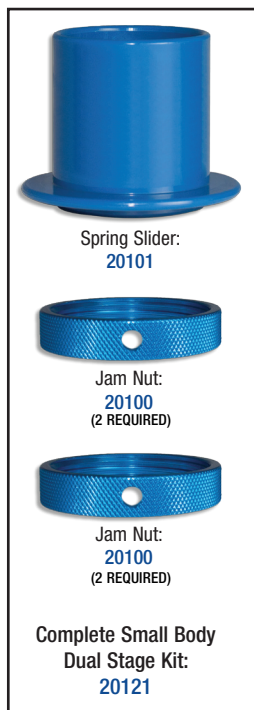
Dual Stage Coil-Over Setup Instructions

AFCO's dual stage coil-over setups provide variable spring rates that can be used to improve handling in all types of track conditions. Additionally, the assemblies improve traction & handling stability by keeping the springs (and suspension) loaded at all times. A variety of specifically designed AFCO springs are available to provide you with the ultimate combination for traction improvement (see catalog for available springs).

How It Works - AFCO dual stage coil-over assemblies use two coil-over springs, a special nylon slider for small body shocks or a nylon/aluminum slider for big body shocks and (two) thin-walled jam nuts. The jam nuts are used to jam the slider assembly in order to increase suspension stiffness at some point during suspension compression travel.

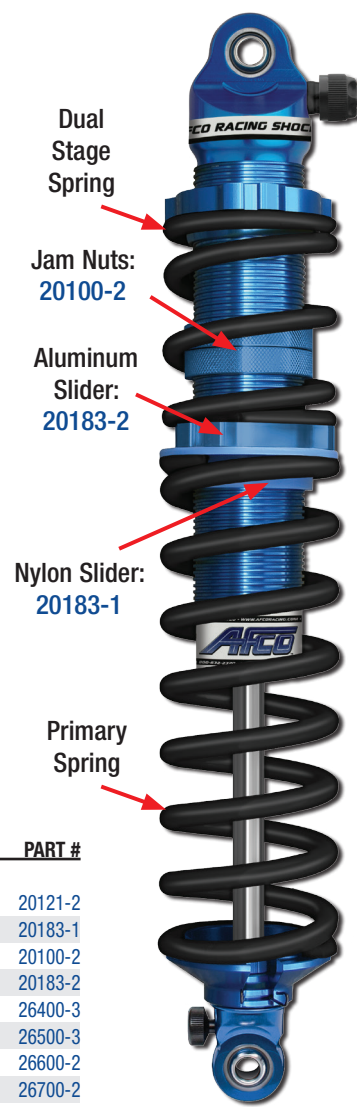
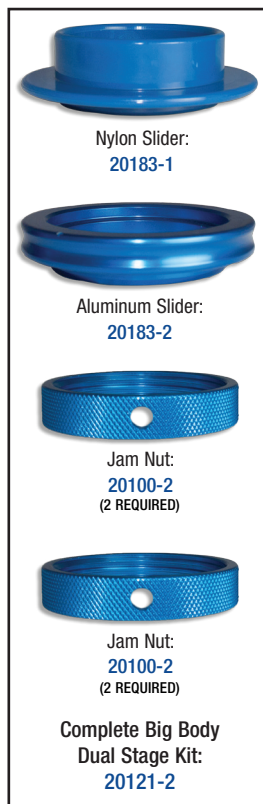
When the slider assembly (located between the two springs) is free to slide on the shock, the "Dual Stage" assembly produces a combined spring rate softer than either rate of the two springs used (see Combined Spring Rate Formula: Dual Active Springs).

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



DESCRIPTION	PART #
DUAL STAGE HARDWARE KIT (2 X 20100 & 1 X 20101)	20121
DUAL STAGE JAM NUT	20100
DUAL STAGE SPRING SLIDER	20101
4" DUAL STAGE SPRING	29015-3
4" DUAL STAGE SPRING	29025-3
4" DUAL STAGE SPRING	29065-3

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



DESCRIPTION	PART #
BIG BODY DUAL STAGE HARDWARE KIT	
(INCLUDES (2) 20100-2, 20183-1, 20183-2)	20121-2
DUAL STAGE SPRING SLIDER NYLON	20183-1
DUAL STAGE JAM NUT (REQUIRES 2 PCS.)	20100-2
DUAL STAGE SPRING SLIDER ALUMINUM	20183-2
SECONDARY SPRING 5" X 400 (2-5/8" ID)	26400-3
SECONDARY SPRING 5" X 500 (2-5/8" ID)	26500-3
PRIMARY SPRING 8.25" X 600 (2-5/8" ID)	26600-2
PRIMARY SPRING 8.25" X 700 (2-5/8" ID)	26700-2

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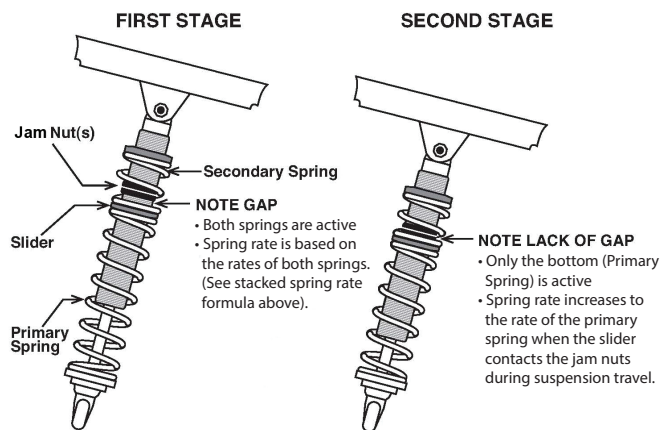
Combined Spring Rate Formula: Dual Active Springs

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

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

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

However, the spring rate of a "Dual Stage" assembly stiffens to that of the primary spring, which remains as the sole, active spring whenever the slider assembly contacts the adjustable Dual Stage jam nuts. In the above example, the spring rate increases from 133 #/inch to 200 #/inch whenever the slider contacts the jam nuts during suspension compression travel. The point of contact is adjusted by changing the gap between the slider & the jam nuts. The illustration below shows the workings of a "Dual Stage" spring assembly.



Set-up Information

NOTE: This setup information applies directly to dirt late model race cars and, in general, to other types.

Right Front: Combine one each of AFCO's specially designed 26000-2 series primary and 26000-3 series secondary springs on your right front coil-over. These springs are specially designed to eliminate coil-bind and the need to compress the spring assembly prior to installation onto a 7 inch stroke shock. Set ride heights (make sure the dual jam nuts are not in contact with the slider assembly). Adjust the jam nuts to achieve a 1.5 inch gap between the jam nuts and slider assembly after ride heights have been set. This set-up provides a soft spring rate at corner entry and a stiff spring rate at corner exit. This works well in slick conditions to help eliminate loose corner entry deceleration handling and to tighten handling off the corners. If necessary, you can increase the gap to loosen corner exit handling (adjust in 0.250 inch increments). You can decrease the gap to tighten corner exit handling (insufficient gap can cause loose deceleration handling).

A properly set up dual stage spring assembly also helps to keep right front suspensions from bottoming out during cornering. Some of the popular right front dual stage spring combinations include: 26700-2 / 26400-3, which produces dual rates of 254 #/inch and 700 #/inch, and 26600-2 / 26500-3, which produces dual rates of 272 #/inch and 600 #/inch.

Left Rear: You can use AFCO's Dual Stage Coil-Over assembly on the left rear to help improve forward bite off the corners in the slickest of conditions. Start out with a 200 #/inch primary and a 400 #/inch secondary spring. The primary spring should be at least 12 inches tall and the secondary spring should be at least 4 inches tall to avoid potential coil-bind problems on left rear suspension applications. Set ride heights (make sure the dual jam nuts are not in contact with the slider assembly). Adjust the jam nuts to just touch the slider assembly after ride heights have been set. This set-up provides a relatively soft, 133 #/inch spring rate during rebound travel beyond ride height, which lets a chassis hike up easily and develop left rear drive off the corners. However, this set-up produces a stiffened rate of 200 #/inch during compression travel beyond ride height. This "staged" rise in spring rate increases weight transfer to the left rear tire during initial acceleration before the chassis hikes up, which tightens handling during initial acceleration. You can use a 250 #/inch primary spring to further tighten handling off the corners.

Also, the soft initial spring rate of this dual spring assembly requires additional preloading of the coil-over assembly in order to maintain left rear ride heights. The extra preload helps to keep the coil-over assembly loaded at all times, which can improve overall traction and handling consistency.

Right Rear: Start with a 400 #/inch primary and a 300 #/inch secondary spring to free overall handling in heavy track conditions. Set ride heights (make sure the dual jam nuts are not in contact with the slider assembly). Adjust the jam nuts to achieve a 2 inch gap (to start) between the jam nuts and slider assembly after ride heights have been set. This set-up provides a 171 #/inch rate at corner entry and a 400 #/inch rate at corner exit. Use 8 inch tall springs to avoid potential coil bind problems. Decrease the gap in 1/4 inch increments to loosen acceleration handling (insufficient gap may cause tight deceleration handling). Increase the gap in 1/4 inch increments to free deceleration handling (excessive gap may cause tight acceleration handling).

Stiffening the primary spring tightens deceleration and loosens acceleration handling, whereas softening the primary spring loosens deceleration and tightens acceleration handling.

Stiffening the secondary spring tightens deceleration handling, whereas softening the secondary spring loosens deceleration handling.