

Leaf Spring Suspension Performance Tips

On parabolic and multi-leaf applications, it is not recommended to run a torque device, such as a torque arm or a spring or rubber torque link. The front half of the leaf spring should be sufficient to control rapid positive torque. Installing a torque device combined with these types of suspensions will cause the wrap-up rate to be excessive. The effect will be a lack of forward and side bite under acceleration. A dampening shock may be used to tighten the car on entry. This can enhance the life of the leaf spring because the shock will be absorbing some of the braking forces.

When towing the race car, avoid strapping the vehicle by the chassis. This puts undue stress on the leaf springs.

Proper U-bolt selection is critical, use only Grade 5 U-Bolts. Softer grades tend to stretch under stress created while tightening instead of maintaining compression between the spring and axle perch. Maximum U-bolt torque for 1/2" diameter, plated U-bolts are 45 lbs; always use Grade 5 washers and deep well nuts.

Never over torque the stationary end (front eye) bolts, as it will prevent the suspension from moving freely. Recommended torque is 20 lbs. Because the torque requirements are low, it is suggested to always use self-locking nuts to prevent nuts from backing off. This applies equally to the shackle and slider ends.

With the exception of U-Bolts LANDRUM recommends Permatex Anti-Seize on all leaf spring bolts, pivoting points, and slider components to promote free movement in the suspension.

MEASURING ARCH OF A LEAF SPRING

The true arch of a leaf spring is derived from the measurement between the main leaf the leaf containing the bushings, and the "datum line" (the line that intersects the center of the front and rear bushings). Measuring the arch from the floor up to the main leaf is referred to as "table arch." **LANDRUM SPRING** does not recommend using this method to accurately measure spring arch. Different bushing diameters and unlevelled floors will lead to inaccurate measurements. (See Figure below.)

1. Remove the spring from the car and place it on its side on the floor or a flat surface.
2. Use a long (60" should be adequate) straight edge as a datum line. Place the straight edge on the spring so that it intersects the front and rear bushing.
3. Measure from the main leaf to the datum line. This is the "true arch" of the spring.

