

Take Good Care Of Your Torque Wrench:

Taking good care of your torque wrench will not only extend the life of this delicate instrument but will also assure you of the torque wrench's ability to provide you with even and consistent torque values. Tightening nuts, bolts and other fasteners is often the final task in automotive repair projects. Improper torquing can lead to catastrophic results such as leaking or cracked cylinder heads, broken studs, warped brake rotors, or even wheels falling off. Therefore, it is important that an accurately calibrated torque wrench is used, and that it is used properly. Even though torque wrenches may look sturdy, they are precision instruments that have to be treated with care to retain calibration so accurate torque is applied.

Here are a few tips on using and caring for torque wrenches to assure not only proper torque values, but a long life for the wrench. Some apply to all types of torque wrenches, others only to specific units such as click-release, dial or beam types.

Use torque wrenches only for setting the final torque values. Use a regular box, open end or socket wrench for all but the final tightening to the specified torque value. This will protect the internal mechanisms, retain calibration and assure the torque wrench has a long life. Even though a torque wrench can apply lots of torque, never use it as a pry bar to remove stubborn nuts and bolts. Do not use a cheater bar to get extra leverage since this can over-stress the wrench and result in subsequent inaccurate readings.

Use the torque wrench "in-plane" since any inward or outward pressure can affect the torque value significantly. Stop as soon as you reach the desired torque value. For example, when using a "click" type torque wrench, stop applying force immediately when hearing or feeling the click. Stopping too late can result in over torquing or uneven torquing, which is especially critical where identical torque values are required to prevent warping of a component. Improper use can be a bigger problem than using an improperly calibrated torque wrench. The torque values may be wrong, but at least they will be consistent.

Many torque wrenches are designed to operate only in one direction. That is clockwise for nuts and bolts with right-hand threads. Use in a counter-clockwise direction in which it was not intended to be used can affect the calibration. Ratcheting or dial type torque wrenches should definitely not be used to remove nuts and bolts.

Never use a torque wrench beyond its intended range. Not only will this result in inaccurate values, it can also change the calibration and make all subsequent readings wrong too. If possible, select a torque wrench so the required values are near the mid-range; for example, a 0-100 foot-pound scale for required values of 40 to 60 foot-pounds. Thus, you might need more than one torque wrench in your toolbox. This is a cheap investment compared to the consequences of a mis-torqued nut or bolt or damaging the torque wrench.

Adapters must be used properly. If a socket extension is used, no compensation is required as long as the extension does not change the driveline angle. Using a u-joint or wobble type extension will affect the accuracy of the value reading if the driveline angle is altered. However, if an adapter lengthens the wrench, then compensation must be made. After using an adjustable-setting torque wrench, it should be "dialed back" to a low setting to relieve any excessive preload on the internal spring. This will greatly extend the life of the spring.

Keep torque wrenches clean, and never submerge a torque wrench in degreasers or solvents, which can remove internal lubricants. Store them away from dust, dirt, oil and shop grime. If the torque wrench suffers any external damage such as a broken handle or damaged ratcheting mechanism, then there is a good chance there is internal damage that can affect calibration. Let a professional such as the wrench manufacturers or a service shop approved by the manufacturer make any repairs since special skills and tools are usually needed. Recalibration of torque wrenches is periodically required regardless of the design, because internal wear occurs with each one.....Happy Motoring.....Ron Couturier

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