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Cheater Bar, Breaker Bar and General Leverage Assistance

Cheater Bar

Cheater bars are usually used to break free threaded pipe, screws, bolts, and other fasteners too difficult to remove with a ratchet or pipe wrench alone.

They are also commonly used to operate valves. ¹⁾

The cheater bar allows higher torque with the same force by:
 $\text{torque} = \text{radius} \times \text{force}$

A cheater bar (snipe, a pipe extension or an extension pipe) is slipped over the handle of a wrench to extend the length of the handle.

The extra length adds leverage and allows you to pull with the same force to add extra turning power to the wrench.

A cheater bar is generally not needed while using a torque wrench on a Sportster.

The wrench itself is designed for the intended torque range that it works in.

There is change of torque applied to the wrench if using a cheater bar on it.

You will lose 'feel' when using one. If using it on a clicker wrench, you can easily over-torque before the wrench clicks.

Avoid using a cheater bar on a torque wrench unless it's necessary.

The bar over the end can move the set value on a clicker wrench while you're using it.

Problems with using cheater bars: ²⁾

OSHA, MSHA, CCOHS, EU-OSHA, etc. strictly prohibit or discourage the use of cheater bars due to the extreme risk of injury or death to users and bystanders.

If the component frees suddenly, you can become a projectile propelled into whatever is in the "line-of-fire".

This could (and has) resulted in falls, impacts, punctures, and other injuries.

The cheater bar itself can become a catapult.

Heat is produced whenever a bolt is tightened or loosened. The faster you turn, the more the heat.

A cheater bar can quickly heat (or overheat) a fastener or the opposing threads where the fastener resides.



Breaker Bar (pull handle)

A breaker bar is a lengthy, non-ratcheting tool intended for use with sockets. It works on the same principle of length as a cheater bar.

The primary function of this long tool is to generate more torque than a standard socket wrench when you apply the same amount of force.

Breaker bars can range from 10"-38.5" in length.

These tools are useful for turning sockets and loosening any nuts and bolts that are tight or have become stuck. They are much more safer than a cheater bar.



Double Wrench Method

You can wedge a bigger open/box end wrench on a smaller one to gain extra leverage.

This works on the same principle of extending the pull point for extra length/leverage. Caution: The leverage wrench can slip with busted knuckles or other injury to follow.



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https://en.wikipedia.org/wiki/Cheater_bar

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photo by Hippysmack

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