



Three Part Harmony: Understanding Your Power Tool System

Power Tool Institute advises against adapters and third-party batteries

September 1, 2021—Is your power tool pairing with its battery and battery charger? The [Power Tool Institute](#), the leading industry organization for power tool safety resources, says if all three are made by the same manufacturer and designed to work together as a system, then the answer is yes. But, if you're using a third-party battery or an adapter that purports to allow battery-switching between brands, the answer is a resounding no.

You might wonder why choosing only batteries designed to match the tool system matters. But when you look inside, you see that it gets to the very heart of what makes a power tool run safely and efficiently.

Power tool battery packs contain very high amounts of stored energy. Original equipment manufacturers manage this energy storage and release by employing a sophisticated battery management system (BMS) present in the battery, in the power tool, and in the battery charger. The BMS allows electronic synchronicity between system components so that, in addition to numerous parameters it monitors, proper charge and discharge levels are achieved during use.

Third-party batteries do not contain the same electronics, so the battery, charger, and tools of different manufacturers either don't work at all or work but at greater risk when paired with each other. The use of either a third-party battery or a battery adapter may bypass the BMS elements contained in tools or chargers, which can create a potentially dangerous situation. This can include causing contact with caustic chemicals, burns from escaping chemicals, fire, or even explosion.

For these reasons, the Power Tool Institute strongly recommends using only the original equipment manufacturer's battery, tool, and charger together; never using third-party or knock-off batteries; and avoiding battery adapters.

For more information about safe usage of power tool systems, visit <https://www.powertoolinstitute.com/pti-pages/battery-safety.asp>.

About PTI

With the vision to inform and educate others about power tools, since its founding in 1968, the Power Tool Institute (PTI) has established itself as the leading organization for building global understanding of power tools and for maintaining high standards of safety in the industry. Its members, a list of whom can be found [here](#), represent market-leading brands in the areas of portable and stationary power tools. PTI's members are committed to improving the industry and to being the premier resource for power tool education. For more information, contact PTI 216-241-7333 or pti@powertoolinstitute.com. On the Web: www.PowerToolInstitute.com and www.TakeChargeOfYourBattery.com.