There is a new sheriff in town.....a look at the new Festool T15+3 drill

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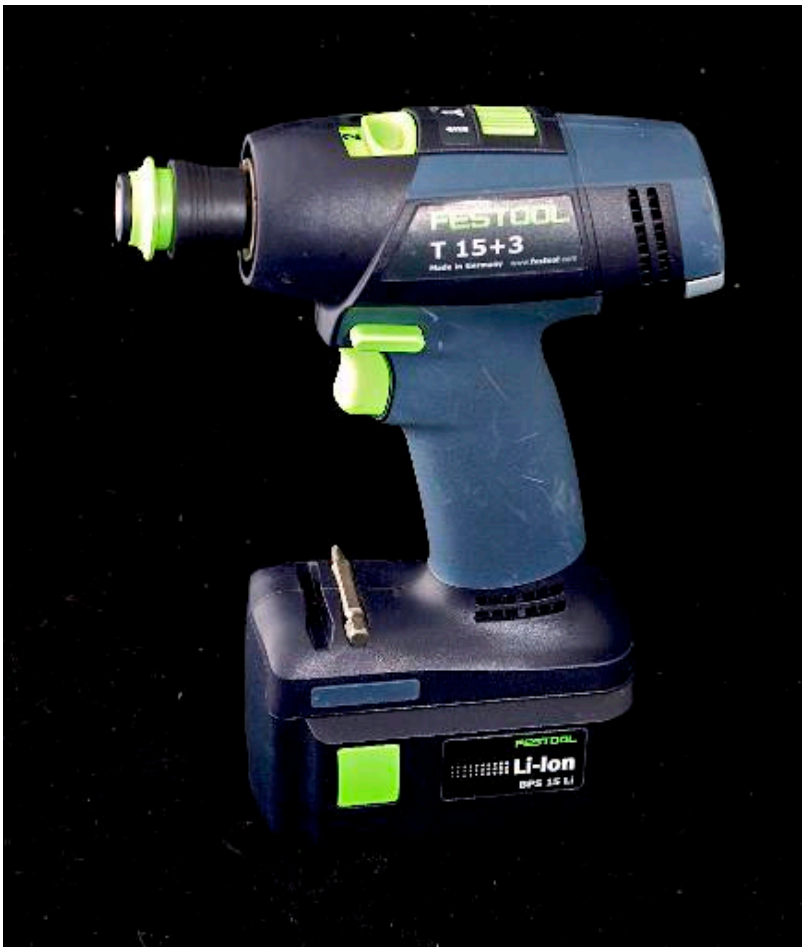
In the old west when a new good guy who was faster than all the other good guys that preceded him came to the lawless town, the word went out to the bad guys that they had better change their ways! The meaning was clear, the new guy was better than all the other good guys they had confronted before so they should think twice before taking on the “new sheriff.”

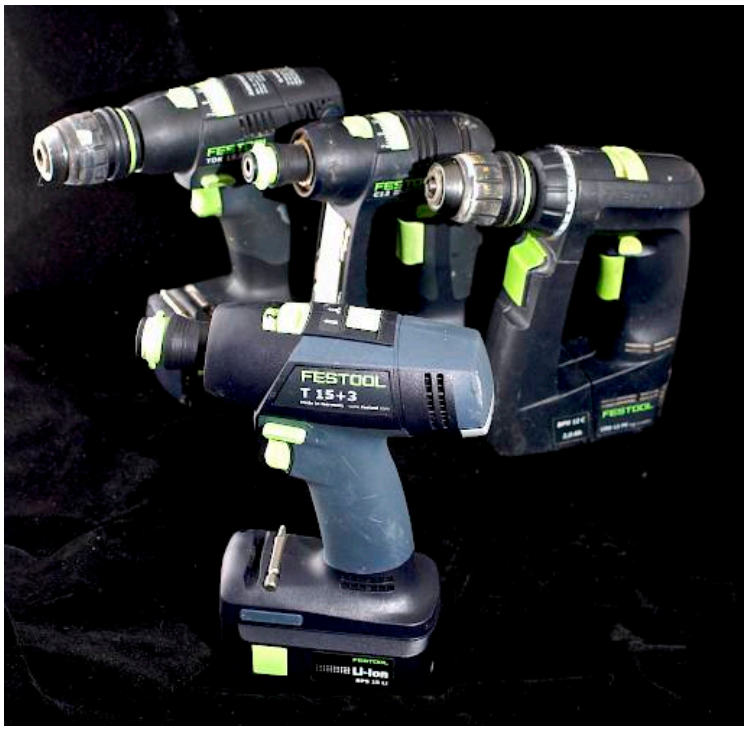
Those were the words that came to mind when I first opened the Systainer containing the new design +3 Festool drill, this one a 15 volt version. It was even lighter than my previous favorite Festool drill, the C-12, was nearly the same physical size, but promised some 50% better performance. If that all proved to be true this really would be the “new sheriff” among battery operated drills!



Since I planned to do this short review, I should have stopped right then and done all the photography while the drill was still shiny and new, but the new guy looked so appealing that I simply put it into immediate daily production in my studio where I design and hand craft fine furniture.

It found its way into my hands for just about everything. When I finally did get around to the photography it was as marked up as all my other Festool drills that are also in daily professional use. So, pardon the dust and a few marks while we take a closer look at this really remarkable new drill.

Here is the new 15+3 shown with the three previous generations of Festool drills. There certainly are design

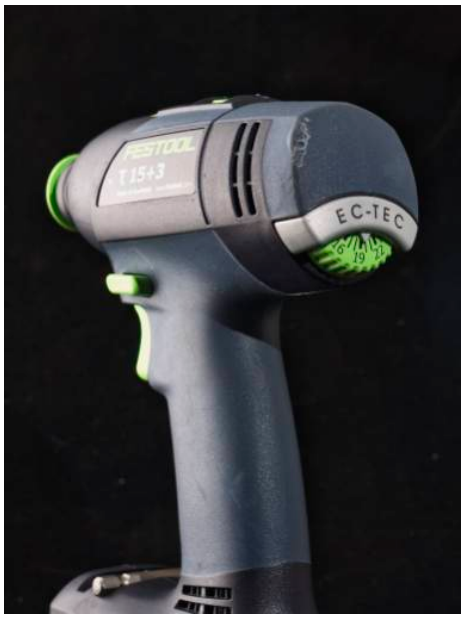


similarities to the previous generation “T” handle drill, the TDK 15.6 shown at the left in the back row, but, as we will see in a moment, everything is different -- for the better. Continuous improvement engineering at its best.

The first difference is the drive/power system. The TDK 15.6 is a high quality version of a conventional brush style DC motor drill. The motor, two speed gear selector and mechanical clutch are all in line making the head considerably longer than on the T 15+3. In the new drill DC power is drawn out of the now utilized Li-Ion batter pack, inverted into three phase AC, passed through a sophisticated pulse width modulation style speed controller and then passed to an AC stepper motor just as you would find in industrial process control machinery.

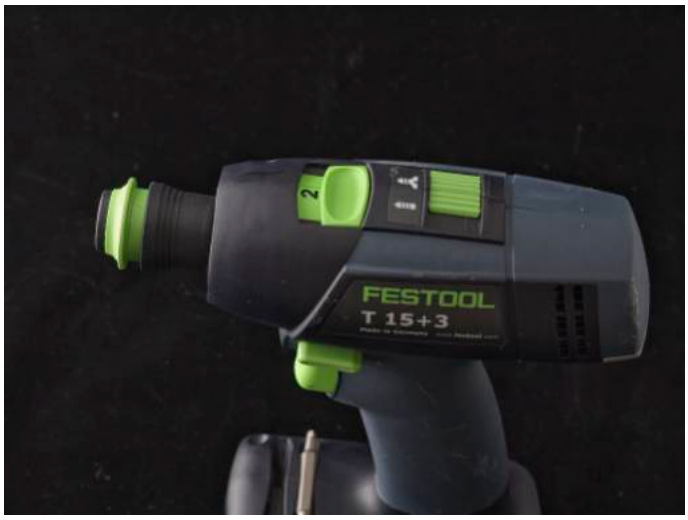
Eliminating the brush style DC motor results in far greater efficiency so the same number of amps drawn out of the battery perform far more real work of drilling and driving. Also, there is only one moving part, the motor shaft itself, (plus some bearings and the two speed gear train) so there is far less to wear out.

That is a big part of the nearly 50% increase in efficiency enjoyed by the new T 15+3. That name, by the way, is derived from the notion that this 15v drill will out-perform 18v (or even greater voltage) conventional drills with brush style DC motors.



A second reason for the increased efficiency and smaller physical size is that the clutch is now electronic rather than mechanical. The setting dial is located at the rear of the motor body. When the stepper motor senses an increase in resistance equal to the clutch setting, the electronics shut off the flow of power to

the motor. Simple and nothing to wear out.

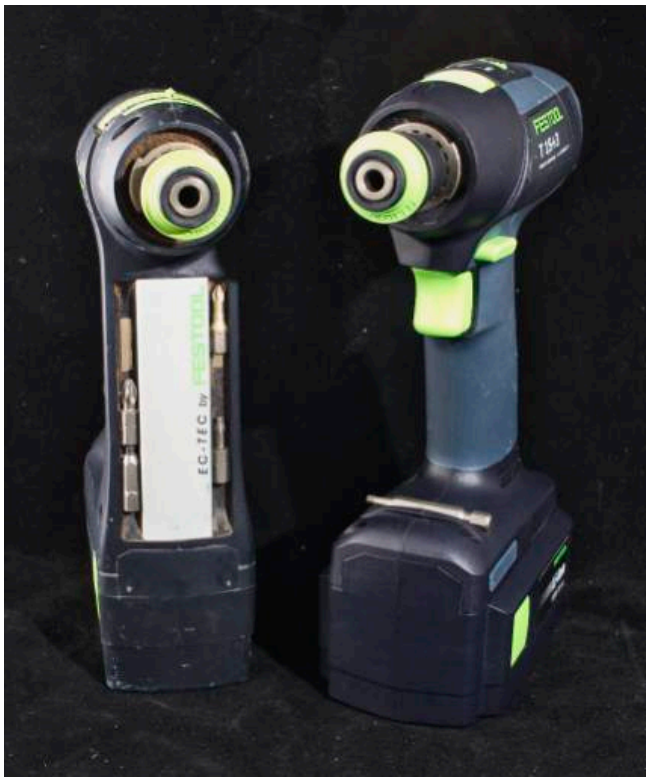


The two speed gear selector remains at the top where it is out of the way but still easy to reach. Behind it is a new drill/ drive selector so you can go from full power drilling to clutch controlled driving with just a flip of that switch. This feature is really handy when you are installing hinges, for example. Switch on drill mode to drill the centered guide hole, then switch to clutch mode to gently but firmly set the hinge screws without breaking them.

The drill's electronic clutch is far more sensitive to torque applied to a fragile brass screw than a person could ever be while trying to modulate the variable speed trigger to keep from scarring up such screws. And, I find it far more consistent than any of the mechanical clutch mechanisms.

I use a lot of Lamello hinges that fit into a semi-round biscuit-like mortise cut half into the door and half into the jamb. They are attached with very small Torx style screws that look great if they are not marked up but quite amateurish if the head is torn out by the drive bit. I always thought the C-12 did a great job on these screws but the T 15+3 is even better.

The one area where I still like the C-12 a little better is the wonderful magnetic

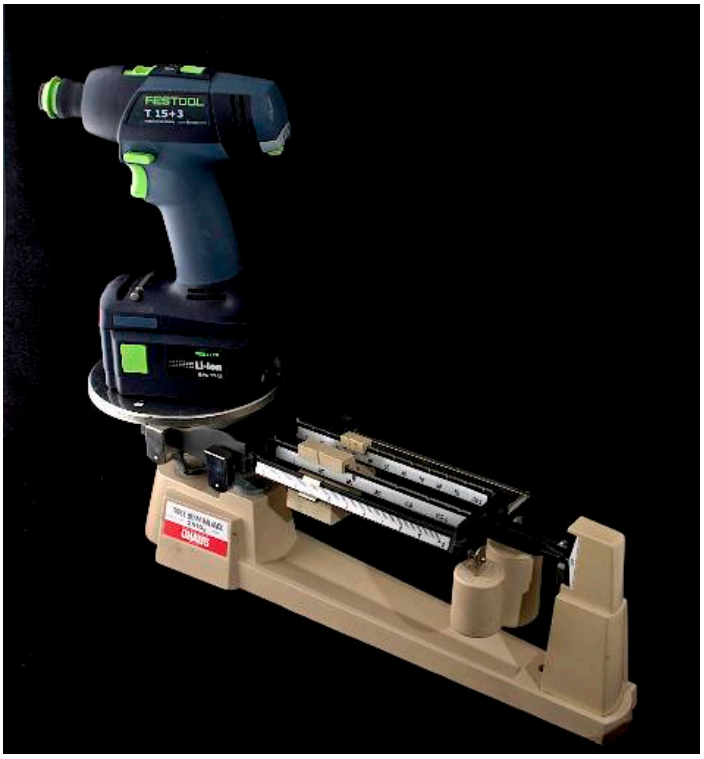


bit holder on the front upright on the C-12. It is faster for me to slide the bits out of the magnetic holder (C-12 shown left) than to slide them sideways out of the bit holder in the top of the T 15.3 battery (shown right).

Of course, the T 15+3 accepts all five of the Festool removable chucks just as all Festool drills do so no change there.

Where there really is a big change is in all around performance per unit of weight. While the T 15+3 will drill and drive circles around any other battery operated

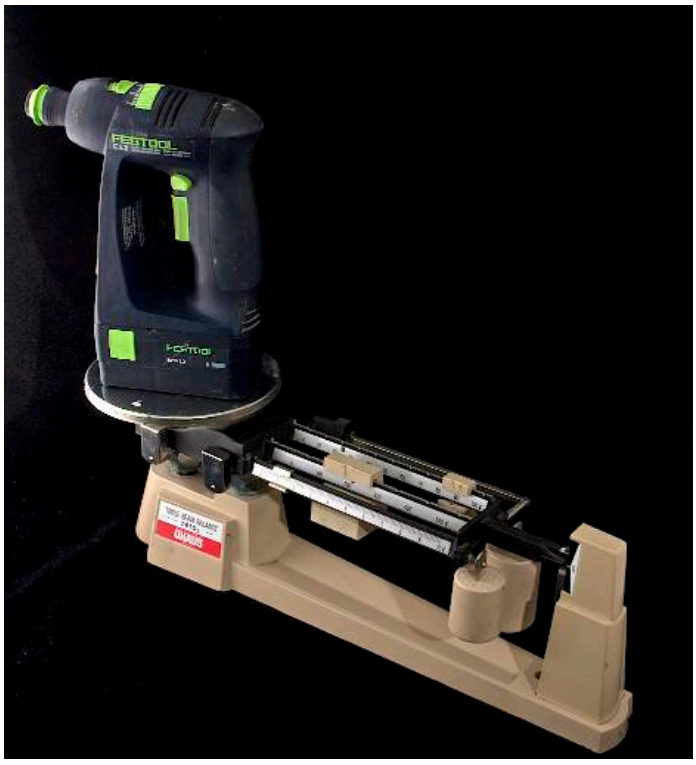
drill, Festool or any other brand, it is actually lighter and nearly as small as even the 12v C-12 Festool drill that features a similar set of electronics including the inverter and industrial brushless stepper motor.



Let's look at a series of photos to show the comparison. In the photo above left the 15+3 is sitting on a lab quality balance scale. With the 2.6 Ahr Li-Ion battery attached it weighs in at 1633 grams.

The photo right shows the C-12 sitting on the scale with its 3 Ahr NiMH battery weighing in at 1791 grams. Lest you think I am trying to "cook the books" here, the C-12 with the diminutive 1.3 Ahr NiMH battery weighs in at 1568 grams, just 65 grams (2.3 oz) less than the far more powerful T 15+3 with twice the ampacity.

It is not that the C-12 is "heavy," far from it. Before this "new sheriff" it was the lightest, most capable drill I had ever used and I thought nothing could beat it for the combination of small size, light weight, and low speed control. I was

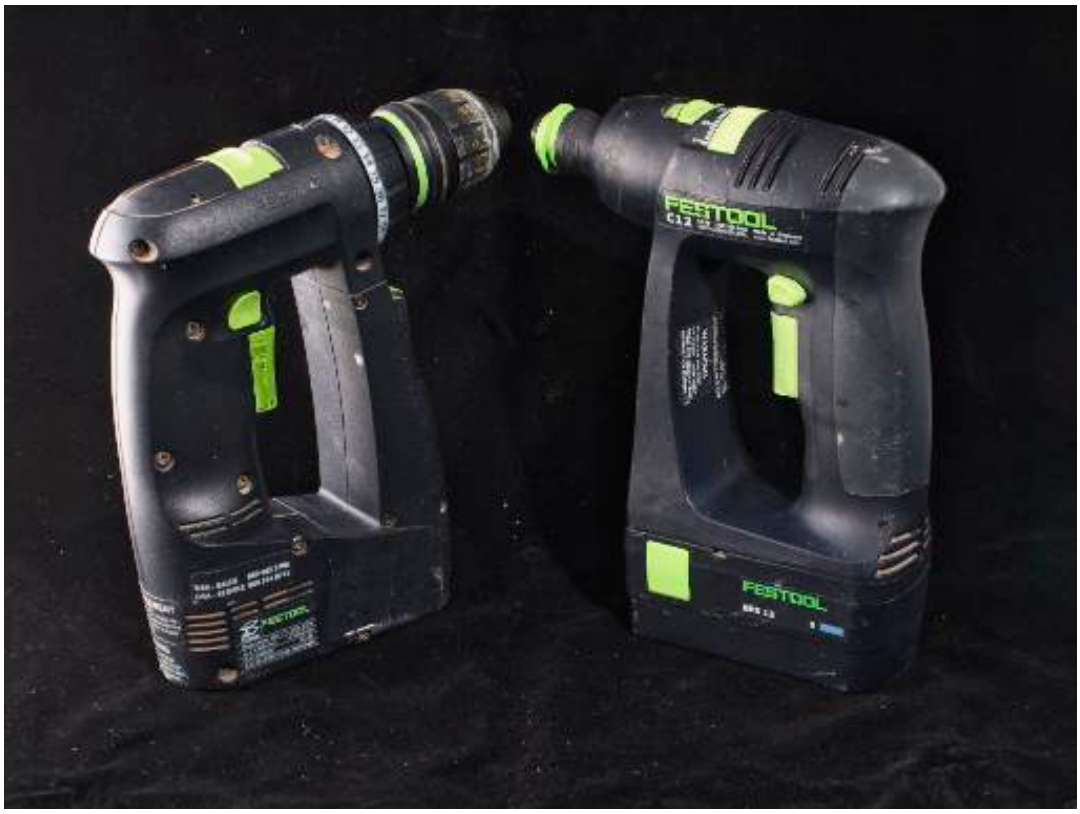


wrong. The T 15+3 has it beat across the board.

I have yet to use the T 12+3 so I can't comment on how much smaller and/or lighter it is than the T 15+3, but the Festool website lists the weight for the T 12+3 at 1400 grams (3# 1.4 oz) and the T 15.3 at 1500 grams (3# 4.9 oz). That is lighter than the 1633 I measured but it could have been weighed with a different battery and/or without the Centrotech chuck I had attached to all the drills I weighed.

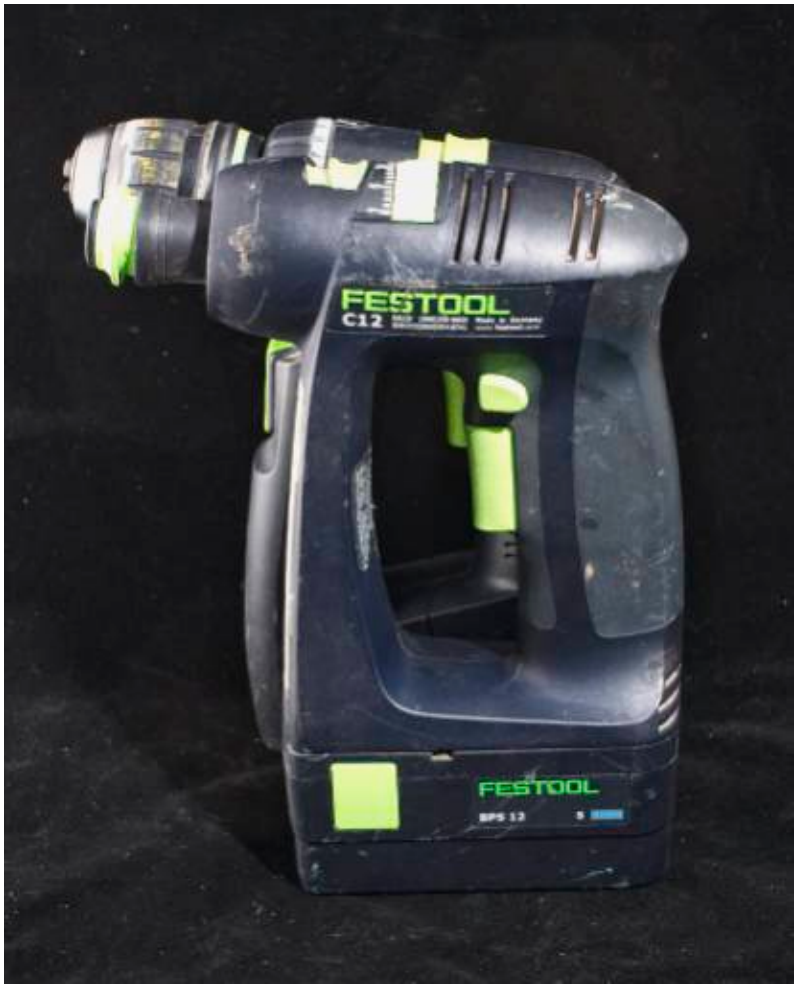
In any event, the difference in weight between the T 12+3 and 15+3 is no more

than the difference between the C-12 with the 1.3Ahr battery and the T 15+3 with the 2.6 Ahr Li-Ion battery.

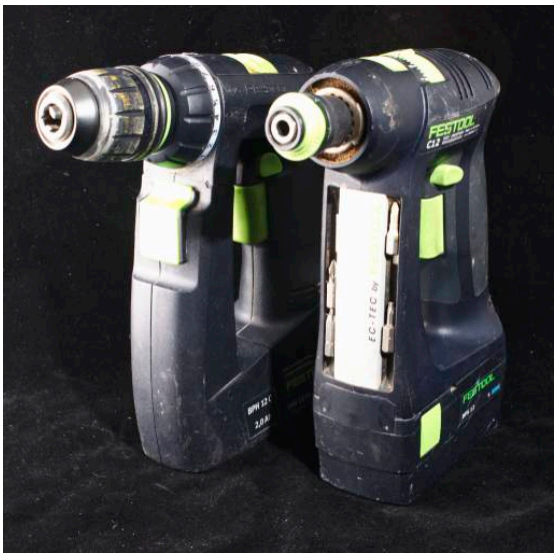


Now let's look at how the T 15+3 compares to the two "D" handle style drills, the earlier CDD12FX with a 2 Ahr NiCd battery and the C-12 with all three of it's available batteries.

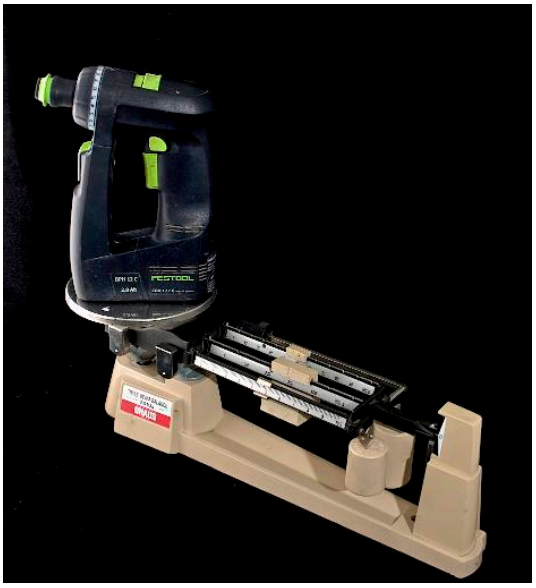
In this photo the C-12 is on the right and the CDD12FX is on the left. They are similar in physical size but not even close in terms of real world performance. The C-12 wins hands down.



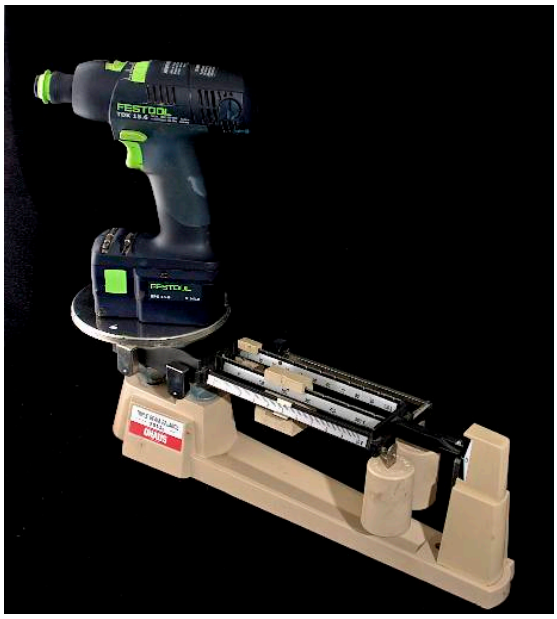
The photo left shows them in profile with the C-12 to the front and the lower photo shows them from the front quarter.



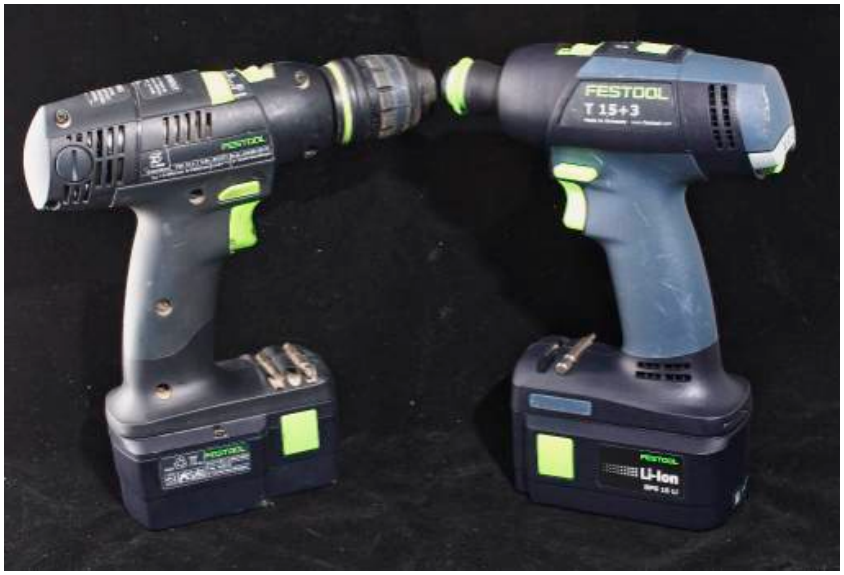
We saw earlier that the T 15+3 weighed 1633 grams while the C-12 weighed 1791 with the 3 Ar battery and 1568 with the 1.3 Ahr battery. In this photo you can see



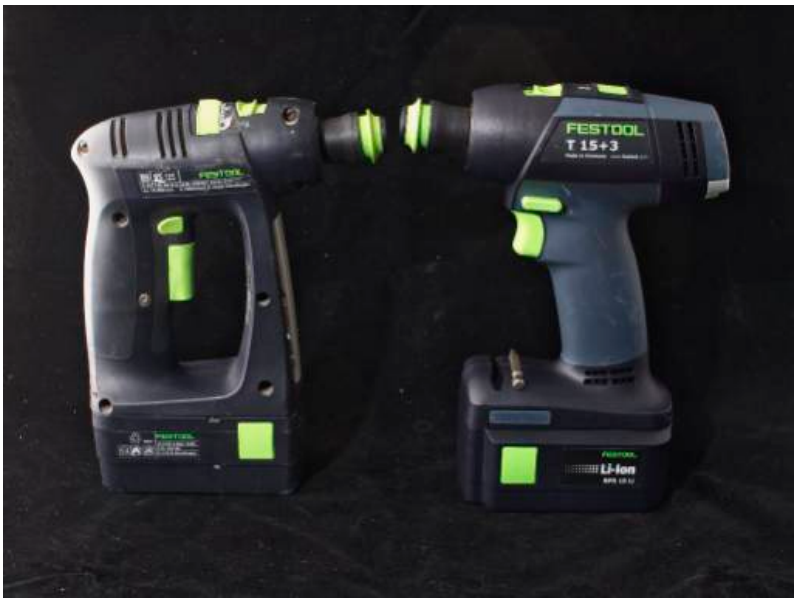
the older CDD12FX with a 2 Ahr NiCd weighs 1855 grams while the older TDK 15.6 (shown below) loses the weight derby at 2205 grams with a 2.4 Ahr NiMH battery.



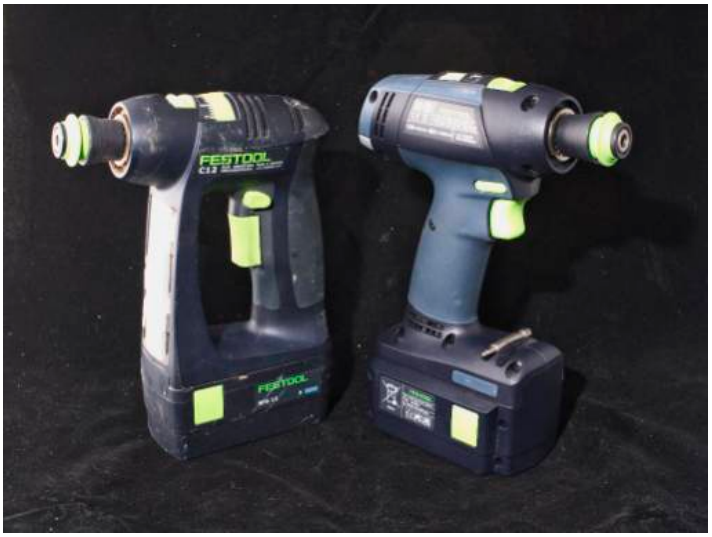
So, both of the newer drills (C-12 & T +3) way out- perform their older cousins in terms of performance per unit of weight. And, they do so while being smaller, or at least no larger than the drill they replace.



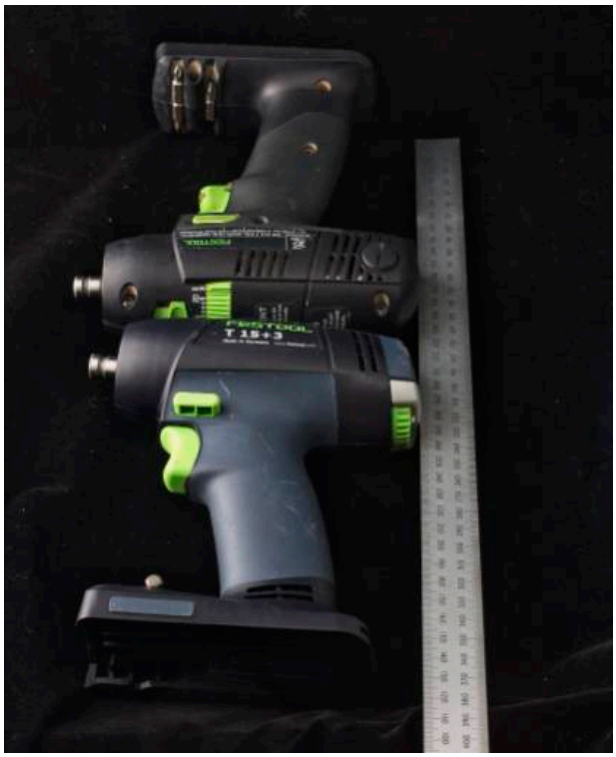
TDK 15.6 left, T 15+3 right

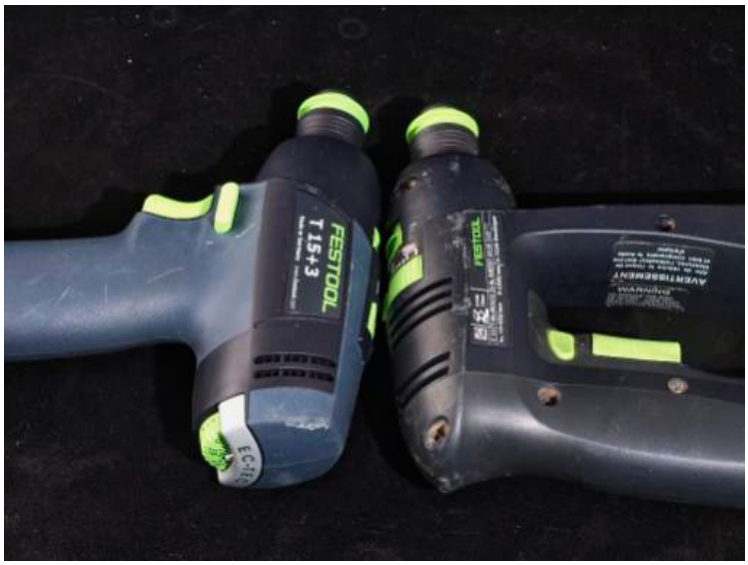


C-12 left, T 15.3 right

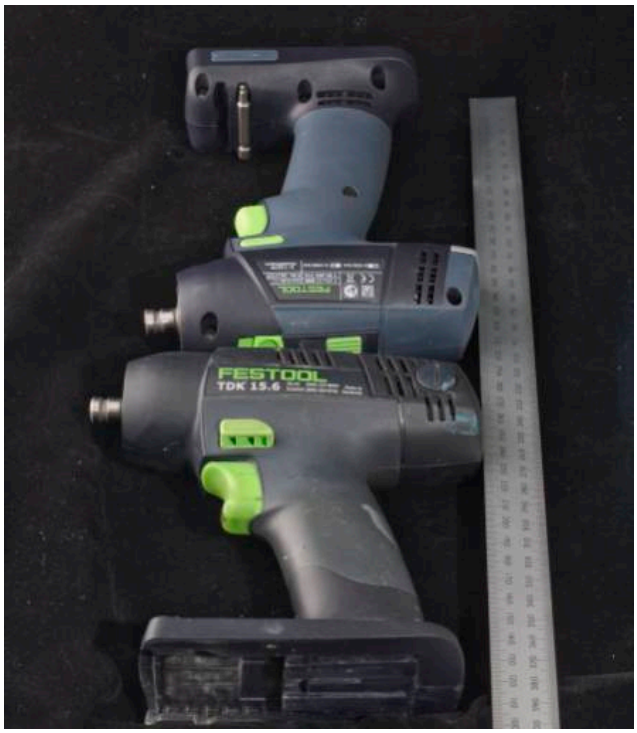


The C-12 is on the left in the photo above and on the right in the photo below.
The two photos to the right show the T





15+3 compared to the older TDK 15.6.
To overcome the natural perspective distortion I placed the T 15+3 both in front of and behind the TDK 15.6 in the comparison photos. Note that the back edges of the motor housings are aligned to show just how much shorter the 15+3 really is. Slick!

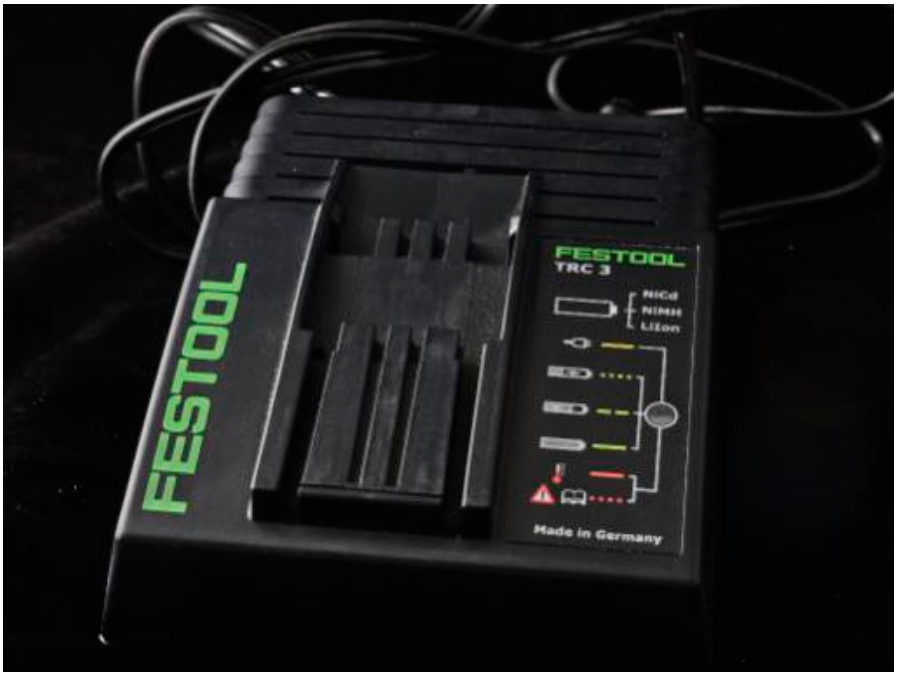


BATTERIES and CHARGERS

Much hype surrounds Li-Ion batteries these days with some thinking that a drill with a Li-Ion battery must inherently be better than one with a different battery technology.

The truth is that the whole system - battery technology, electronic conversion, drive train, and charger must all be matched to the expected discharge and

recharge profile. You can't simply throw a Li-Ion battery on a drill or charger designed for another battery technology and expect the battery to last any time at all.



Li-Ion batteries are very sensitive to the rate at which power is taken out and the depth to which they are discharged before recharging. They also are very sensitive to both the rate at which they are recharged and the level to which they are recharged as well.

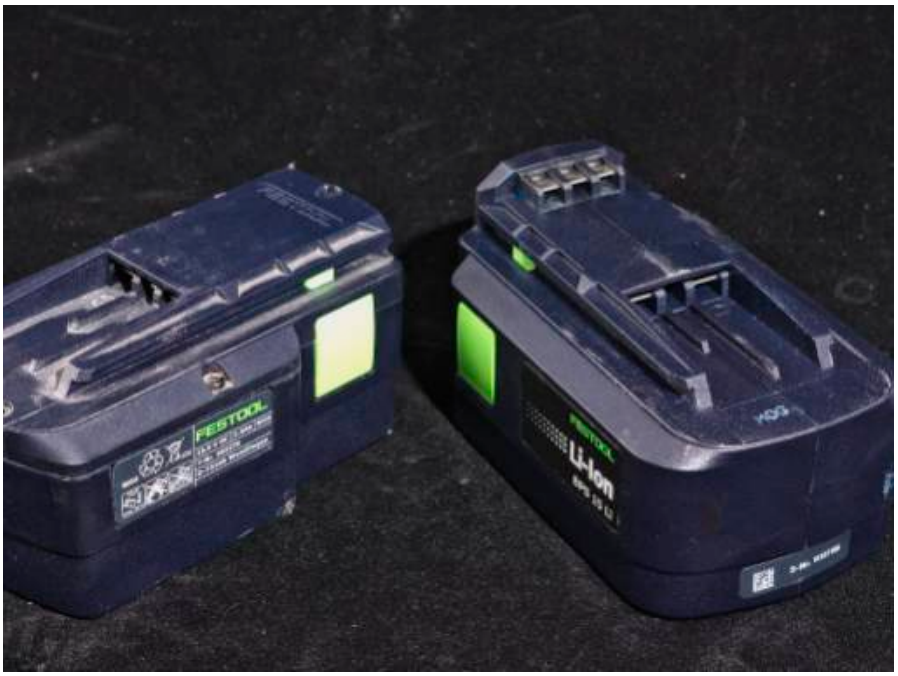
Take too much out too fast or put too much back in, too fast or for too long and the life of the battery will be significantly shortened.

That said, they do have the great advantage of offering the most energy density per unit of weight of any battery technology commonly used for things like electric drills.

I was impressed that Festool took the time to not only engineer a charger designed to maximize the life of these Li-Ion batteries, but they also took the time to engineer it to be backward compatible and able to recharge any of the other technologies as well, and automatically.

To provide the heat and discharge/recharge rate info required by both the drill electronics and the charger, the Li-Ion batteries on the T 12+3 and 15+3 drills have a second level of contacts which you can see below.

You ***cannot*** insert a NiMH or NiCd battery into the T 12+3 or 15+3 drill but you can insert them into the charger shown above. Similarly you cannot put the Li-Ion battery onto any of the other Festool drills or chargers.



While a bit corny, I do like the “new sheriff in town” description for the T 15+3 drill. It does everything a bit better, and some things a whole lot better, than any of its predecessors. Once you start using it I think it will become your go-to drill for nearly everything just as it has established its superiority in my studio.

From drilling the smallest holes you can chuck to drilling with large Forstner type bits, from driving the most fragile brass hinge screws to honking deck screws through hardwood, I just have not found anything this “new sheriff” can’t do, and do better than any of the other Festool or other brand drills.

Gold star (or did the sheriff wear a silver star?) to Festool for this one!

Jerry