Review: MinuteBot Base

By Oton Ribic

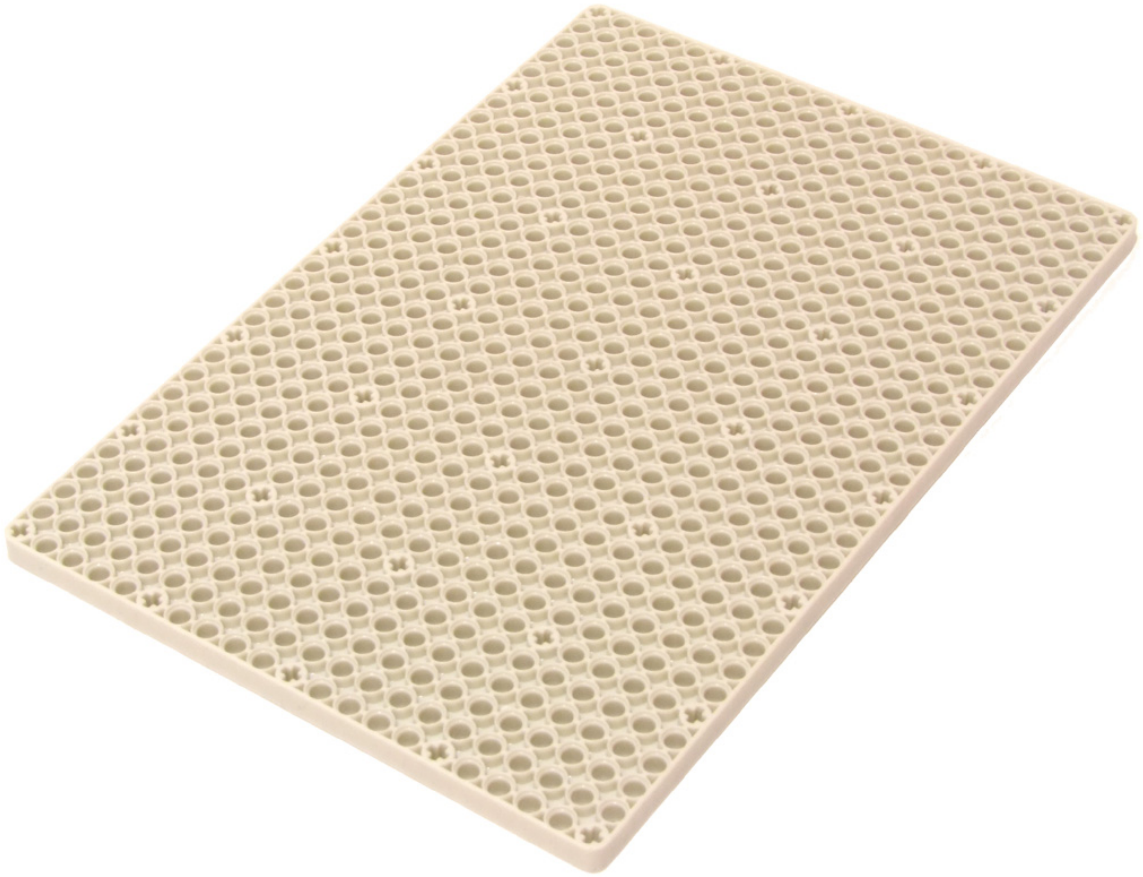
It is commonplace to begin many LEGO® System models by choosing a suitable baseplate, of which The LEGO Group produces plenty of sizes, forms and specialized varieties. However, Technic has never had an equivalent part that would provide a foundation atop which the rest can be built.

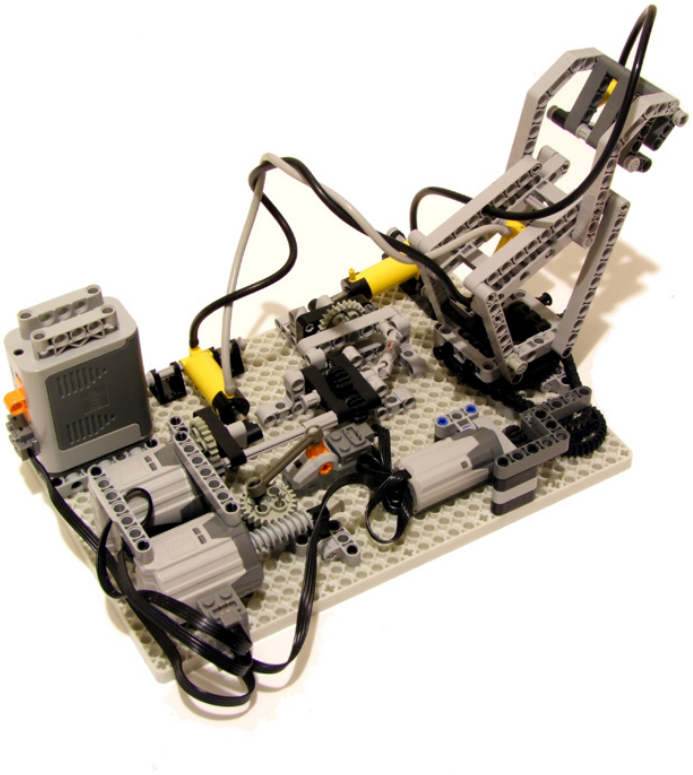
Admittedly, the need for such a baseplate is not immediately obvious since, for example, vehicles that represent a large share of Technic models typically do not require one in the first place. Still, there are many situations where it would help, both as an integral part of models, or as a testing ground for quick prototyping or concept development. When facing a need for such baseplate, builders typically connect series of 7x5 frames into patterns or work around the problem using trusses or stacked beams, but it is still a matter of improvisation over convenience.

To be very precise, Technic baseplate still does not exist if we restrict ourselves to pure LEGO parts only, but the Heveas company has started their production under the MinuteBot brand which is probably already known to many Technic builders. Here are my impressions of this interesting product.

It is a rather simple “part” to describe — a light grey studless Technic beam expanded to cover the area 31 studs long and 21 studs wide, which corresponds to 248mm x 168mm (about 9” 1/4 x 6” 5/8), and weighs 146 grams. Every fifth hole from and including the edges in both directions is an axle hole, making a large 7x5 grid of axle holes evenly spread across the baseplate. The remaining 616 holes are all pin holes. Overall rigidity is adequate: supported at its outer edges and carrying a load of 1 kg in the middle, its center bends only 2 mm — so there should be no problems supporting large constructions.

As its name suggests, MinuteBot Base is particularly practical for building small-scale robots and automation mechanisms. Lots of time and effort is usually devoted to creating their stiff underlying skeleton and modifying it accordingly to the





changes that appear on-the-fly. With this sort of baseplate, most of such problems are avoided as any component can be positioned literally anywhere — as long as it fits within the 31x21 studs constraints. Also, most Technic components, including motors and more complex parts, are easily and strongly connected to the baseplate using only a few friction pins — or axle pins if they happen to reside over an axle hole.

As all the holes are oriented vertically, you occasionally needs perpendicular connectors for certain components, but it is still much faster than improvising the baseplate from scratch. You just need to keep in mind that the mechanisms on the baseplate may not rely on too much vertical strength which thus relies primarily on pin friction, unless it adheres to the edge in some fashion. Perhaps it would help for the future versions to have a couple of side holes, similar to the existing Technic panels and frames. That would also simplify connecting several MinuteBot Bases together if the need arises, as the manufacturer suggests on the official website.

For some applications it may be useful to have the baseplate suspended; this is where the four axle holes in the corners serve perfectly. All you need is four 5.5-stud axles with stop, which are very common. Of course, using the axle connectors the height can be increased further as desired.

Apart from robots and automation, MinuteBot Base is useful for the aforementioned quick prototyping. Checking whether an idea works is much easier when there is a structure in place that provides pin holes everywhere. As the idea is refined and optimized, it is easy to note the important strong points and think up an ideal, economical skeleton consisting of smaller, standard parts.

In a similar fashion, it may be useful as a temporary bracing for building various complex constructions that consist of components that are difficult to connect together and would require too many hands at once (a notorious “octopus effect” when, for example, a large gearbox needs to be assembled by connecting many parts simultaneously). This temporary bracing technique is not uncommon in instruction books in the official LEGO® Technic sets, though this baseplate makes the entire process easier and faster to dismantle.

Overall, this is certainly a welcome addition to any experimental-minded Technic builder’s arsenal, and perhaps in a larger quantities than one, especially if have some more advanced robotics and systems in mind. Its size is well judged, and its rectangular (as opposed to square) shape allows some extra flexibility. While not extremely cheap, at US$20 (14,49 € at the time of writing) per piece, its price is reasonable in comparison to the usual LEGO System baseplates, especially taking into account the manufacturing quality which is right up to the standard of The LEGO Group. The manufacturer delivers the MinuteBot Bases worldwide for an additional fixed shipping fee of US$10, and orders can be placed at the official website, at www.minutebot.com/minuteproducts/base.
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