TomTom - "Map too large" problem!

**PROBLEM**

Recent updates to the Western Europe mapping data from TomTom mean the file size won't fit onto the 2GB SD card originally supplied with my TomTom Rider 2. As a result you are forced to choose a subset of the map despite having paid for a map of the whole area, removing/reloading bits of the map as you cross borders - which if you are planning a long biking trip across Europe - is BLOODY infuriating!

*It seems the same problem applies to owners of several other TomTom models. (This table [http://en.wikipedia.org/wiki/TomTom](http://en.wikipedia.org/wiki/TomTom) shows what type of SD card slot is installed in most TomTom GPS units).*

**SOLUTION #1**

As I am paying TomTom for the whole Western Europe map, I looked for a way to add more storage. However the TomTom website asserts that 2GB is the maximum card size my Rider 2 can use!

So what to do? **Well over time I found 2 solutions** - and if you can, I strongly suggest you opt for the second!

Way back when the Rider 1 and 2 models were first designed, the software installed on them could only talk to SD cards which complied with the original SD card specification. So at least to start with, none of the SDHC type SD cards, could be used in these models!

The first solution was simple - fit a bigger SD card. Despite what TomTom say about 2GB being the limit, if you search the web, you will eventually find a few companies like Pretec who manufacture both the newer SDHC type SD cards and some 4GB SD cards made to the original SD standard.

Suffice to say, if you own a TomTom which still uses the original application, then the only solution was to replace the original SD card with a larger one which was still built to the original SD standard. The largest versions of these original spec SD cards are rated at 4GB. These were never cheap and over time they have become increasingly rare and expensive - especially when compared with an equivalent size SDHC type SD cards. [NB if you have one of the very early TomTom Rider (version one) GPS units then this remains the only way to add a bigger SD card, as it appears the SD slot installed in the first batch of Rider models cannot be updated to run with SDHC type SD cards.] However for owners of most of the Rider (version one) and Rider 2nd edition models, fortunately things have moved on, and allows us to adopt a better a cheaper solution #2.

**SOLUTION #2**

So why the second solution?

Thankfully a while back, TomTom quietly released via the TomTom Home "Update my Rider" option - a free to install software update for Rider 1 and 2 models which effectively replaced the software bit in the original application which controlled the onboard SD slot. The change meant that updated units could finally read SDHC versions of SD cards **BUT and this is really important** the ability to read SDHC cards is strictly limited to cards with a maximum of 4GB size - that is it just wont handle any larger cards. The original SD card supplied with your TomTom Rider will of course work with the updated software but if you want to install a card bigger than 2GB then another important thing to be aware of is that you will need to buy an SDHC card which matches or slightly exceeds the read/write speeds of the original SD card - so you need to look for either Class 4 or Class 6. That way, despite the SD slot having to find data spread over a much larger data store, the on road performance of your TomTom Rider will not be adversely affected. Don't be tempted to purchase any of the faster "UHS rated" (Ultra High Speed) cards either as these won't be recognised by the card reader on the Rider even with the updated software - sometimes too much speed is not a good thing!

How do I find out what version Application is currently installed on my TomTom?

(1) Turn it on,
(2) Wait until it has finished firing up,
(3) then tap the bottom right corner of the screen - you should now see a small rectangle at the bottom right corner which states the Application Version number. If it says version 7.901 or later (any number above that) then you will already have an "upgraded" application installed on your TomTom and it is ready to work with a 4gb SD card made to SDHC specification. Just remember don't go for a larger size - as they won't work!
How do I update the application installed on my Tomtom Rider from a version lower than 7.901?

If the application number is lower than 7.901 - then your TomTom Rider is currently running an earlier version of the application, and the SD card reader will not work with SDHC type cards unless/until you update the application, however before attempting to install an updated applications it is important you make a full back-up of your TomTom Rider. There are two ways to make a back-up, and two ways to make the connection…

Connection

You can make a backup VERY SLOWLY by connecting your TomTom Rider to a PC running TomTom Home via the USB cable which came with the GPS. This will start-up TomTom Home and then allow you to select the "Make a Back-up" option. This will take ages - so make sure the power lead is also attached to the Rider.

However if your PC (or printer) has an integral SD card slot, these usually offer a much faster connection which can transfer data much quicker. So if you have that option, I strongly suggest you remove the SD card from the TomTom and insert it in SD card slot on the computer.

Backing up the data

I suggest you use BOTH of the following routes to make a back-up.
First use Windows Explorer (or equivalent) to create a new folder on your PC and then do a simple copy/paste of all the files on the SD card into a folder. (Make sure the file view options on your computer are set to "reveal all files."

Then make a second back-up using the internal back-up process which you will find within TomTom Home.

Whilst this may seem OTT, it greatly increases the chances that if for any reason the application software update fails, you can successfully recover your files from one or other source.

Updating the application

Once you have the files safely backed up on you PC, then put the original SD card back into your TomTom and connect it via the USB lead to your computer and TomTom Home, and select the "update my Rider" feature to install the newer application. Once the update is complete, turn the GPS off then back on and then follow the steps described above check the application version has been updated.

If it is working fine then it’s a simple case of swapping over the old SD card with a 4GB SDHC card, and installing the backed up files you made earlier onto the new SDHC card using TomTom Home.

BACKGROUND

It may be worth briefly describing the underlying terminology which can be confusing, and underlies why some of us are having problems when our TomTom map got too big. When the original Rider 1 and 2 were being designed there was only one type of SD card. These were all the same physical size and typically ranged up to 2GB in capacity. However once manufacturers attempted to increase the storage capacity of these original type SD cards beyond 2GB the defect/reject rate soared meaning, the cost per card rose disproportionately. So manufacturers got together and worked out how to modify the original SD card spec to allow them to cost effectively manufacture reliable bigger cards. In essence this revision entailed making changes to both the cards and the card reader software, with compliant equipment displaying the "SDHC" symbol. Whilst these new SDHC cards looked physically the same as the previous SD cards, unfortunately they had a different data layout which meant most original spec card reader slots (including those installed on the early model TomTom Rider GPS) could not work with SDHC cards.

For TomTom this limitation came to a head with the release of updated European Maps which exceeded the 2gb capacity of standard SD cards, thankfully updating the application software to version 7.901 or higher also updated the card reader slot control software sufficiently for it to work with small SDHC cards up to 4GB in size.

TECHY STUFF - IF YOU MUST

If you really want to know, here is a Techy description of the problem -

"Standard-SD cards (non-SDHC) with greater than 1 GB capacity"
According to the original SD card specification - the maximum capacity of a standard SD card is defined by \((\text{BLOCKNR} \times \text{BLOCK\_LEN})\), where \(\text{BLOCKNR} = (4,096 \times 512)\) and \(\text{BLOCK\_LEN} = \) up to 2,048. This theoretically allows SD cards with a capacity of up to 4 GB, although most manufacturers never bothered to make standard SD cards in sizes above 2GB. The main reason being that some of the card readers support only a block (or, sector) size of 512 bytes, so greater than 1 GB non-SDHC cards may cause compatibility difficulties for users of such devices (and of course it was cheaper to make SDHC cards).

"SDHC specification SD card"

To increase addressable storage, SDHC uses sector addressing instead of byte addressing in the previous SD standard." So up to 1GB, byte addressing, with 512 byte blocks, should always work. Devices bigger than 1GB, may need larger sector size, like 2048 bytes. Once over 4GB, the SD standard changes to SDHC specification which requires a redesigned card reader compatible with the SDHC specification and the original specification.

SDXC specification SD Cards

Just like the original standard, manufacturers eventually hit problems making higher capacity cards bigger than 32GB using the SDHC format, so yet another variant SD card appeared allowing cards up to 2TB (again these were physically the same dimensions as the original). I am not aware of any TomTom models which can use this type of card. So in this context - avoid!

Micro SD Cards

These are a simply dwarf versions of the standard SD card primarily designed for cameras and mobile phones. They were made in all three of the above versions and when fitted into a suitable adapter can be used in compatible SD card slots.

Finally if you really need to understand the technical issues involved, the following link should keep you happy for hours: [http://en.wikipedia.org/wiki/Secure_Digital](http://en.wikipedia.org/wiki/Secure_Digital) Enjoy