

Example data from fit file repair tool (German test version):

Fit File Repair Tool

Fit File Repair Tool

 **Import/Reparatur**
 **Datei-Export**
 **Datei-Upload**

C:\Users\Sven\Desktop\Gamin Sicherung\Totals.fit

Geschw./Tempo:

Datensatz	Sportart	Gesamtzeit (s) (hh:mm:ss)	Distanz (km)	Kalorien	Sessions	Zeit vergangen (hh:mm:ss)	Aktivitätsprofil
▶ 1	Radfahren	5018507 (1394:01:47)	24483,17	807233	540		
2	Radfahren	973424 (270:23:44)	7458,02	190909	134		RENNRAD
3	Radfahren	3980698 (1105:44:58)	16717,72	607272	399		Radon
4	Radfahren	64385 (17:53:05)	307,43	9052	7		Orbea

Data record structure and single field types and length can be taken from there:

Fit File Repair Tool

Fit File Repair Tool | Satzarten-Details

C:\Users\Sven\Desktop\Gamin Sicherung\Totals.fit

Geschw./Tempo: Tempo

Gesamtwerte | Geräte, Datei | Spezielle Reparaturfunktionen | **Dateistruktur** | Persönliche Daten

Struktur mit MS Excel auswerten | Fehlerpositionen | **Details anzeigen**

Satzart-Nr.	Satzart-bezeichnung	Definition/Daten	Fehler	Anzahl
0	File ID	Definition	<input type="checkbox"/>	1
0	File ID	Data	<input type="checkbox"/>	1
49	File Creator	Definition	<input type="checkbox"/>	1

Satzart-Nr.	Satzart-bezeichnung	Definitions-Datensätze	Daten-Datensätze
0	File ID	1	1
33	Totals	1	11
49	File Creator	1	1

Datensatz-Definitionen

Satzart-Definitionen:

ID	Lokale Satzart	Globale Satzart	Name der Satzart	Definitions-Nr
1	0	0	File ID	
2	1	49	File Creator	
3	10	33	Totals	

Datenfelder:

Nr.	Developer	Feldcode	Feldgröße	Feldtyp	Bedeutung
1	<input type="checkbox"/>	0	4	uint32	Timer Time
2	<input type="checkbox"/>	1	4	uint32	Distance
3	<input type="checkbox"/>	2	4	uint32	Calories
4	<input type="checkbox"/>	10	32	string	ActivityProfileName
5	<input type="checkbox"/>	11	4	uint32	
6	<input type="checkbox"/>	254	2	uint16	message_index
7	<input type="checkbox"/>	5	2	uint16	Sessions
8	<input type="checkbox"/>	3	1	enum	Sport
9	<input type="checkbox"/>	9	1	uint8	Field9

How to edit data in HEX Editor (used editor named HxD):

You can simply enter the desired values in the corresponding data type field in the right editor window (here) named “Datensinspektor” (German version of the program) and confirm by pressing “enter key”:

Eg. profile “RENNRAD” shows a total of 134 sessions at the moment in the fit file repair tool:

Datensatz	Sportart	Gesamtzeit (s) (hh:mm:ss)	Distanz (km)	Kalorien	Sessions	Zeit vergangen (hh:mm:ss)	Aktivitätsprofil
1	Radfahren	5018507 (1394:01:47)	24483,17	807233	540		
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4	Radfahren	64385 (17:53:05)	307,43	9052	7		Orbea

Identify the relevant HEX fields in the totals.fit file (details following below) and directly edit in HEX editor:

```
16 17 18 19 1A 1B 1C 1D 1E 1F Dekodierter Text
8C 04 04 86 07 04 86 01 02 84 ..sRÜ...FITZ.@.....E..t..t...
01 00 DE 0F FF FF 0A 41 00 00 .....i.Liyyyyyyyy..P.yÿ.A..
00 00 00 00 00 00 00 00 00 00 l.....
04 86 02 04 86 0A 20 07 0B 04 .....;ÿÿÿB..!.....t..t..t. ...
41 51 0C 00 00 00 00 00 00 00 tþ.....<"L.b*u.AQ.....
00 00 00 00 00 00 00 00 00 00 .....
41 44 00 00 00 00 00 00 00 00 ...ÿ.pÛ..äiq.¸é..RENNRAD.....
00 86 00 02 FF 02 9A BD 3C 00 .....f..ÿ.š¸<.
00 00 00 00 00 00 00 00 00 00 ~.ÿ.(D..Radon.....
```

Datensinspektor

Binär (8 Bit)	10000110
Int8	gehe zu: -122
UInt8	gehe zu: 134
Int16	gehe zu: 134
UInt16	gehe zu: 134
Int24	gehe zu: 131206

New value entered at the right site in field called “UInt16” and confirmed via enter key (not saved yet, therefore changed values indicated in red):

```
16 17 18 19 1A 1B 1C 1D 1E 1F Dekodierter Text
8C 04 04 86 07 04 86 01 02 84 ..sRÜ...FITZ.@.....E..t..t...
01 00 DE 0F FF FF 0A 41 00 00 .....i.Liyyyyyyyy..P.yÿ.A..
00 00 00 00 00 00 00 00 00 00 l.....
04 86 02 04 86 0A 20 07 0B 04 .....;ÿÿÿB..!.....t..t..t. ...
41 51 0C 00 00 00 00 00 00 00 tþ.....<"L.b*u.AQ.....
00 00 00 00 00 00 00 00 00 00 .....
41 44 00 00 00 00 00 00 00 00 ...ÿ.pÛ..äiq.¸é..RENNRAD.....
00 C8 00 02 FF 02 9A BD 3C 00 .....E..ÿ.š¸<.
00 00 00 00 00 00 00 00 00 00 ~.ÿ.(D..Radon.....
```

Datensinspektor

Binär (8 Bit)	11001000
Int8	gehe zu: -56
UInt8	gehe zu: 200
Int16	gehe zu: 200
UInt16	gehe zu: 200
Int24	gehe zu: 131272

Save file and re-open in fit file repair tool to see result:

Datensatz	Sportart	Gesamtzeit (s) (hh:mm:ss)	Distanz (km)	Kalorien	Sessions	Zeit vergangen (hh:mm:ss)	Aktivitätsprofil
1	Radfahren	5018507 (1394:01:47)	24483,17	807233	540		
2	Radfahren	973424 (270:23:44)	7458,02	190909	200		RENNRAD
3	Radfahren	3980698 (1105:44:58)	16717,72	607272	399		Radon
4	Radfahren	64385 (17:53:05)	307,43	9052	7		Orbea

After you've changed all relevant values simply copy the modified totals.fit file in the folder "NewFiles" on your Garmin device and restart it.

Single fields to be edited:

Profile name (field of type string length 32 HEX values):

The screenshot shows the HxD hex editor interface. The main window displays a hex dump of the file 'Totals.fit'. The 'Dekodierter Text' column shows the profile name 'RENNRAD' starting at offset 000000C0. The hex values for 'RENNRAD' are 52 45 4E 4E 52 41 44. A red box highlights these hex values. The 'Spezielle Editoren' panel on the right shows the 'Dateninspektor' view with various data types and their values, including 'Binär (8 Bit)' at 01010010 and 'Int8' at 82.

Calories (field of type uint32 length 4 HEX values):

The screenshot shows the HxD hex editor interface. The main window displays a hex dump of the file 'Totals.fit'. The 'Dekodierter Text' column shows the calories field '190909' starting at offset 000000C0. The hex values for '190909' are ED E9 02 00. A red box highlights these hex values. A red callout points to the hex values with the text 'Calories for profile "RENNRAD"'. Another red callout points to the 'Int32' entry in the 'Spezielle Editoren' panel, which has a value of 190909. The 'Spezielle Editoren' panel also shows other data types and their values, including 'Binär (8 Bit)' at 10111101 and 'Int8' at -67.

