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## TDS3054B horizontal timebase jumps all over the place

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### TDS3054B horizontal timebase jumps all over the place

August 13th, 2015, 12:47 pm

Hello,

my TDS3054B "Horizontal" position timebase knob shows random settings, when turned.  
The timebase setting jumps all over the place, and seems to get more worse especially when cold.

I am on the latest FW version (V3.41).

Is there a way to "clean" the knob (potmeter?) or does it need a replacement part (679-4119-XX CKT BD SUBASSY:OEM FRONT PANEL 32997 3777S-TEK-010)?

Thanks, regards Kees



David N  
Tektronix Applications



### Re: TDS3054B horizontal timebase jumps all over the place

August 13th, 2015, 1:35 pm

You will need to replace the front panel board. The original board (679-4119-XX) has been replaced by a front panel kit. The p/n for this kit is 050378201.



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### Re: TDS3054B horizontal timebase jumps all over the place

August 13th, 2015, 1:49 pm

Thanks Hiker, any idea where to get such a kit?  
I see some hits here: <http://www.zauba.com>  
I got a quote request outstanding at Tek support too.

Regards Kees

David N  
Tektronix Applications



### Re: TDS3054B horizontal timebase jumps all over the place

August 13th, 2015, 2:16 pm

Hello Kees,

You will need to order this from Tektronix, Inc. To place an order, please call 1-800-833-9200, option 1 for Sales.

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### Re: TDS3054B horizontal timebase jumps all over the place

August 14th, 2015, 2:08 am

Great, thanks.

Kees

cap



### Re: TDS3054B horizontal timebase jumps all over the place

August 17th, 2015, 3:42 pm

I think these are similar to the later dpo's, 2 forks of different lengths that brush along encoder strips (pc board traces); these make and break connections and determine speed and direction of rotation. If dirty or more commonly the knob gets whacked the shaft will now have some play and the operation becomes iffy. The plastic welds that hold it all together will give with a blow. You can cut these welds off with a razor blade to disassemble. Be VERY careful with the forks during disassemble, they will bend if not careful. The encoder is literally apart of the PC board, if the bushing gets out of square then you may be out of luck. Also, when pulling the shaft out there is an O-ring that can be damaged that helps make the rotation feel more precision.

If you open it up and find standard soldered in parts the above does not apply. cap

tech8



### Re: TDS3054B horizontal timebase jumps all over the place

August 18th, 2015, 3:49 pm

cap is on the right track. Follow the service manual for instructions on disassembling the unit. The encoders are staked in place. It just might be that one of the plastic stakes broke. You can re-stake it with the point of a hot soldering iron and then reinforce the encoder housing with hot glue. I have also seen many of these act erratic because the surface contacts on the ECB is dirty. Remove the encoder as cap suggested (cutting the staking off). Clean the gold surface on the ECB with an eraser and/or an alcohol dipped swab. Then carefully re-insert the encoder housing, stake, and hot glue the encoder housing in place. Bad news if you remove the encoder and you see circular lines cutting down through the gold contacts on the ECB. Unless you want to delve into the wonders of gold electroplating, you'll have to replace the front panel board.

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### Re: TDS3054B horizontal timebase jumps all over the place

August 21st, 2015, 2:43 am

Great info guys, i will open it up and take a look, thanks.

Kees

kfeelders



### Re: TDS3054B horizontal timebase jumps all over the place

November 28th, 2015, 10:18 am

Ok, i toke the easy way out (well, kind of as the front panel is way down) and replaced the front panel. The new panel had some different sized encoders, so hopefully they have improved on the old ones. The Tek is working as a charm again, thanks for the advices.

Kees

norbinz



### Re: TDS3054B horizontal timebase jumps all over the place

September 18th, 2018, 3:55 am

My TDS3054B Horiz Scale knob recently became erratic, almost unusable. I noticed that the front-panel's microcontroller is easily confused by slight contact bounce. So instead of buying a replacement front-panel board or disassembling the encoders, I did this:

1. Disassemble scope. Locate PCB traces to encoder's three pins. I call them Common, A, and B.
2. Add two 0603 size components in series: from Common through 27 nF through 680 ohms to A.
3. Add two 0603 size components in series: from Common through 27 nF through 680 ohms to B.

The Horiz Scale knob now works like new. We'll see how long it lasts.

I applied the same mod to the Vert Scale knob, just in case.

By the way, the encoders resemble Bourns "Customized Solutions". Here are PDF data sheets from 2005: [https://web.archive.org/web/20051017061 ... 66|9311205](https://web.archive.org/web/20051017061...66|9311205)

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