My transcript for fixing error based on original documentation

```
root@t42:~# smartctl -l selftest /dev/hda
smartctl version 5.38 [i686-pc-linux-gnu] Copyright (C) 2002-8 Bruce Allen
Home page is http://smartmontools.sourceforge.net/

=== START OF READ SMART DATA SECTION ===
SMART Self-test log structure revision number 1
Num  Test_Description    Status                  Remaining  LifeTime(hours)  LBA_of_first_error
# 1  Extended offline    Completed: read failure       50%      1863         48784734
# 2  Extended offline    Completed: read failure       50%      1719         48784734
```

sic we have an error at `48784734`

```
root@t42:~# smartctl -A /dev/hda
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=== START OF READ SMART DATA SECTION ===
SMART Attributes Data Structure revision number: 16
Vendor Specific SMART Attributes with Thresholds:
ID# ATTRIBUTE_NAME          FLAG     VALUE WORST THRESH TYPE      UPDATED  WHEN_FAILED RAW_VALUE
  1 Raw_Read_Error_Rate     0x000b   100   100   062    Pre-fail  Always       -       65536
  2 Throughput_Performance  0x0005   100   100   040    Pre-fail  Offline      -       3662
  3 Spin_Up_Time            0x0007   250   250   033    Pre-fail  Always       -       1
  4 Start_Stop_Count        0x0012   100   100   000    Old_age   Always       -       1520
  5 Reallocated_Sector_Ct   0x0033   100   100   005    Pre-fail  Always       -       0
  7 Seek_Error_Rate         0x000b   100   100   067    Pre-fail  Always       -       0
  8 Seek_Time_Performance   0x0005   100   100   040    Pre-fail  Offline      -       0
  9 Power_On_Hours          0x0012   096   096   000    Old_age   Always       -       1866
 10 Spin_Retry_Count        0x0013   100   100   060    Pre-fail  Always       -       0
 12 Power_Cycle_Count       0x0032   100   100   000    Old_age   Always       -       1319
191 G-Sense_Error_Rate      0x000a   100   100   000    Old_age   Always       -       1
192 Power-Off_Retract_Count 0x0032   100   100   000    Old_age   Always       -       1703983
193 Load_Cycle_Count        0x0012   095   095   000    Old_age   Always       -       56800
194 Temperature_Celsius     0x0002   171   171   000    Old_age   Always       -       32 (Lifeti
196 Reallocated_Event_Count 0x0032   100   100   000    Old_age   Always       -       5
197 Current_Pending_Sector  0x0022   100   100   000    Old_age   Always       -       1
198 Offline_Uncorrectable   0x0008   100   100   000    Old_age   Offline      -       0
199 UDMA_CRC_Error_Count    0x000a   200   200   000    Old_age   Always       -       0
```

And we do have `Current_Pending_Sector`

```
root@t42:~# fdisk -lu /dev/hda

Disk /dev/hda: 40.0 GB, 40007761920 bytes
255 heads, 63 sectors/track, 4864 cylinders, total 78140160 sectors
Units = sectors of 1 * 512 = 512 bytes
Disk identifier: 0xcccdcccd

   Device Boot      Start         End      Blocks   Id  System
/dev/hda1   *          63    75119939    37559938+  83  Linux
/dev/hda2        75119940    78140159     1510110    5  Extended
/dev/hda5        75120003    78140159     1510078+  82  Linux swap / Solaris
```

sector is part of `/dev/hda1`

let's find it, first what is filesystem block size?

```
root@t42:~# tune2fs -l /dev/hda1 | grep Block
Block count:              9389984
Block size:               4096
Blocks per group:         32768
```

Then let's calculate offset in `/dev/hda1` partition:

```
root@t42:~# bc
( ( 48784734 - 63 ) * 512 ) / 4096
6098083
```

Let's see do we have any files there...

```
root@t42:~# debugfs /dev/hda1
debugfs 1.41.3 (12-Oct-2008)
debugfs:  icheck 6098083
Block   Inode number
6098083 <block not found>
```

No files landed on it yet.

So let's just relocate it:

```
root@t42:~# dd if=/dev/zero of=/dev/hda1 bs=4096 count=1 seek=6098083
1+0 records in
1+0 records out
4096 bytes (4.1 kB) copied, 6.0343e-05 s, 67.9 MB/s
root@t42:~# sync
```

And check smart status again:

```
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  1 Raw_Read_Error_Rate     0x000b   100   100   062    Pre-fail  Always       -       1
  2 Throughput_Performance  0x0005   100   100   040    Pre-fail  Offline      -       3662
  3 Spin_Up_Time            0x0007   250   250   033    Pre-fail  Always       -       1
  4 Start_Stop_Count        0x0012   100   100   000    Old_age   Always       -       1520
  5 Reallocated_Sector_Ct   0x0033   100   100   005    Pre-fail  Always       -       0
  7 Seek_Error_Rate         0x000b   100   100   067    Pre-fail  Always       -       0
  8 Seek_Time_Performance   0x0005   100   100   040    Pre-fail  Offline      -       0
  9 Power_On_Hours          0x0012   096   096   000    Old_age   Always       -       1866
 10 Spin_Retry_Count        0x0013   100   100   060    Pre-fail  Always       -       0
 12 Power_Cycle_Count       0x0032   100   100   000    Old_age   Always       -       1319
191 G-Sense_Error_Rate      0x000a   100   100   000    Old_age   Always       -       1
192 Power-Off_Retract_Count 0x0032   100   100   000    Old_age   Always       -       1703983
```

```
193 Load_Cycle_Count        0x0012   095   095   000    Old_age   Always       -       56800
194 Temperature_Celsius     0x0002   157   157   000    Old_age   Always       -       35 (Lifeti
196 Reallocated_Event_Count 0x0032   100   100   000    Old_age   Always       -       6
197 Current_Pending_Sector  0x0022   100   100   000    Old_age   Always       -       0
198 Offline_Uncorrectable   0x0008   100   100   000    Old_age   Offline      -       0
199 UDMA_CRC_Error_Count    0x000a   200   200   000    Old_age   Always       -       0
```

You will see that `Current_Pending_Sector` dropped to 0 and `Reallocated_Event_Count` increased to 6. It's probably time to throw away this disk...

Let's run test again

```
root@t42:~# smartctl -t long /dev/hda
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=== START OF OFFLINE IMMEDIATE AND SELF-TEST SECTION ===
Sending command: "Execute SMART Extended self-test routine immediately in off-line mode".
Drive command "Execute SMART Extended self-test routine immediately in off-line mode" successful.
Testing has begun.
Please wait 29 minutes for test to complete.
Test will complete after Tue Jan 27 14:07:03 2009

Use smartctl -X to abort test.
```

And wait for test to finish to get:

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SMART Self-test log structure revision number 1
Num  Test_Description    Status                  Remaining  LifeTime(hours)  LBA_of_first_error
# 1  Extended offline    Completed without error       00%      1866         -
# 2  Extended offline    Completed: read failure       50%      1863         48784734
# 3  Extended offline    Completed: read failure       50%      1719         48784734
```