

Reduce SD Card wearing

[Transient log](#)

[Finding SD card erase size](#)

Check who is writing

Start logging disc access and kernel log:

```
sysctl vm.block_dump=1  
dmesg -e -T -w
```

Stop logging:

```
sysctl vm.block_dump=0
```

Set noop elevator

[/etc/rc.local](#)

```
...  
echo noop > /sys/block/mmcblk0/queue/scheduler  
exit 0
```

Use tmpfs

[/etc/fstab](#)

tmpfs	/tmp	tmpfs		
defaults,nosuid,nodev,mode=1777,size=10%		0	0	
tmpfs	/var/tmp	tmpfs		
defaults,nosuid,nodev,mode=1777,size=10%		0	0	
tmpfs	/var/cache/apt/archives	tmpfs		
defaults,nosuid,nodev,mode=1777,size=80%		0	0	

Move some volatile dirs to tmp folder:

```
rm -rf /var/run /var/lock  
ln -s /run /var/run  
ln -s /run/lock /var/lock
```

```
rm -rf /var/lib/dhcp/ /var/spool
ln -s /tmp /var/lib/dhcp
ln -s /tmp /var/spool;
```

Disable logging to disc

```
systemctl stop mosquitto
systemctl disable mosquitto
```

```
apt-get remove anacron
```

Remove syslog

```
dpkg --purge rsyslog
```

Use syslog from busybox package with circular log buffer in RAM:

```
apt-get install busybox-syslogd
```

```
SYSLLOG_OPTS="-C256 -L -R remote.host.org"
KLOG_OPTS=""
```

Use journald and configure it to use RAM:

</etc/systemd/journald.conf>

```
Storage=volatile
Compress=yes
```

Run fstrim weekly

Check TRIM support

```
sudo hdparm -I /dev/sda | grep "TRIM supported"
```

</etc/systemd/system/fstrim.service>

```
[Unit]
Description=Discard unused blocks

[Service]
Type=oneshot
ExecStart=/sbin/fstrim -av
```

[/etc/systemd/system/fstrim.timer](#)

```
[Unit]
Description=Discard unused blocks once a week
Documentation=man:fstrim

[Timer]
OnCalendar=weekly
AccuracySec=1h
Persistent=true

[Install]
WantedBy=multi-user.target
```

```
systemctl daemon-reload
systemctl enable fstrim.timer
```

Broken SD Card

Bad magic number in super-block

```
[ 7000.203888] F2FS-fs (sda2): Magic Mismatch, valid(0xf2f52010) - read(0x0)
[ 7000.203926] F2FS-fs (sda2): Can't find valid F2FS filesystem in 1th
superblock
```

```
e2fsck /dev/sda2
e2fsck 1.42.12 (29-Aug-2014)
ext2fs_open2: Bad magic number in super-block
e2fsck: Superblock invalid, trying backup blocks...
/dev/sda2: recovering journal
e2fsck: unable to set superblock flags on /dev/sda2
```

```
/dev/sda2: ***** FILE SYSTEM WAS MODIFIED *****
```

```
/dev/sda2: ***** WARNING: Filesystem still has errors *****
```

To get superblock backups, simulate fs creation

```
sudo mke2fs -n /dev/xxx
```

Then run fsck with superblock backup

```
sudo e2fsck -b block_number /dev/xxx
```

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