

Why can't I use the machine on a slope greater than 15 degrees?

A slope limitation is not something unique to the Hunkin Trimmer. It is a limitation with all machines using a small 4-cycle engine and this would include many ride-on mowers. All small 4-cycle engines with an oil sump essentially use a form of splash lubrication. This is where a small dipper is attached to the conrod. This dipper dips into the oil every revolution and literally throws the oil around inside the machine to spread oil everywhere. For a better explanation follow this link. There is a very good little video. <http://www.ustudy.in/node/4023>

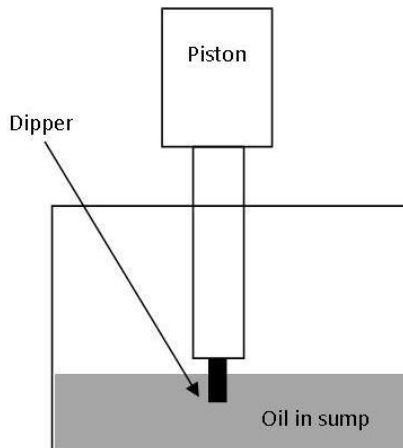


Fig 1

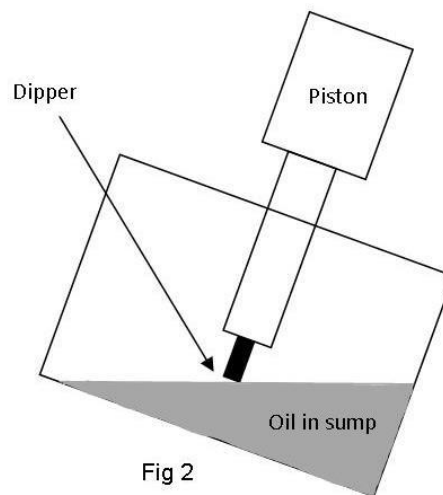


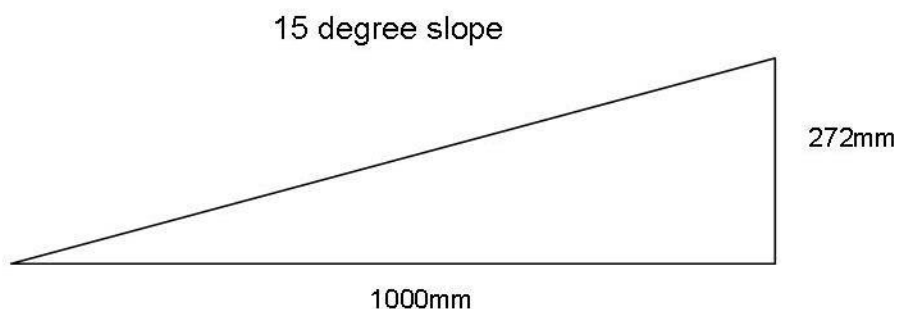
Fig 2

In Fig 1 the machine is being used on flat ground. In Fig 2 the machine is now on a slope. Notice how the dipper is now not able to dip into the oil. If the engine is used like this for any length of time the engine will be deprived of oil and will suffer permanent engine damage. In the worst case scenario, the engine would seize. Seizure in a small engine generally means a new engine is required.

To avoid this happening **never** operate your machine on a slope greater than 15 degrees for any prolonged length of time. Mow across slopes and never forwards down a steep incline. With steep inclines the oil can run in behind the piston which is going up and down 50 times a second. At this speed when a piston hits a body of oil, the oil is like a solid object. Something has to break and it won't be the oil.

What does a 15 degree slope look like?

A 15 degree slope is 272mm in 1 metre, so it is quite a slope and you would have to be sure of your footing when mowing.





15 degree slope sideways



15 degree slope uphill



15 degree slope downhill

The type of terrain this machine mows is not smooth so there will be times when the machine is tilted **sideways**, more than 15 degrees (one wheel falls into a depression for instance) but as long as these incidents are of short duration the engine will not be harmed. Making sure the oil in the sump is at the correct level is very important. **Do not be tempted to overfill**, as this may be equally damaging, especially if going downhill.