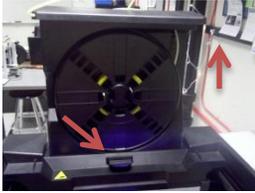
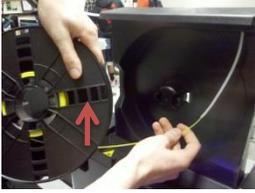
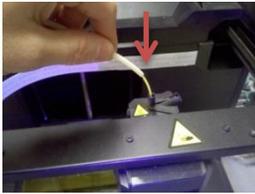
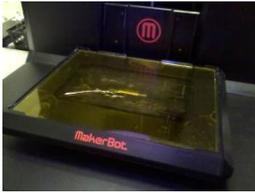


# HOW TO USE THE MAKERBOT 5<sup>th</sup> GEN PRINTER (PERCIVAL)

## Change filament if necessary...

1. If there is no filament on the spool holder or you want a different color, do the following:
2. Push spool holder tab, then slide spool holder upward until it clicks. 
3. Choose "Filament > Unload Filament" from printer panel.
4. Wait for extruder to heat up, then firmly pull out filament when prompted.
5. Remove spool, then place another spool on holder (**PLA plastic only**). Ensure spool "windows" are facing you. 
6. Choose "Filament > Load Filament" from printer panel.
7. Wait for extruder to heat-up, then insert filament when prompted. Apply slight pressure while filament loads to force-through possible hardened plastic inside nozzle. 
8. After filament extrudes for 30 seconds, press round panel dial to stop loading.

## Replace Kapton tape if necessary...

1. If the tape surface is very bumpy or torn badly, do the following to avoid problems during printing:
2. Remove tape, then clean surface with acetone and/or rubbing alcohol. 
3. Apply new Kapton tape by cutting a sheet, let fall onto build plate by touching the middle first (let ends fall), then pick-up each end and push smooth with scraper from middle to each side.

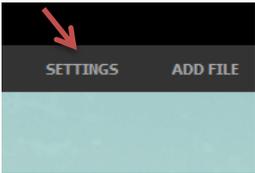
## Apply glue stick

1. Apply thin layer of glue stick before every print. This ensures that your part sticks to the build plate. This is especially important when printing large parts. 

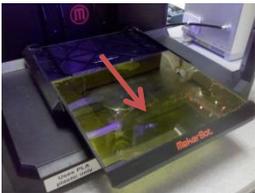
## Level build plate if necessary...

1. Do this when parts are not sticking to build plate, filament jams during printing, or the plate seems higher on one side than the other.
2. Choose "Utilities > Level Build Plate" from printer panel. 
3. Unload filament if prompted.
4. Following on-screen instructions. When turning knobs under build plate, **turn very slowly** until the nozzle light turns on. 
5. When leveling is complete, re-load filament via "Filament > Load Filament" on printer panel.

## Load part in MakerWare...

1. Open MakerBot Desktop by clicking icon on desktop. 
2. Click [Add File] button to locate your STL file.
3. Use buttons on left-side toolbar to move, rotate, and/or scale your part.
4. Click [Settings] button, choose the desired shells and infill, and whether to use a raft and/or supports. Click [OK] to save settings. 
5. Click [Print] to generate a print preview, then click [Start Print] button to begin printing.

## After printing...

1. Remove the build plate by sliding it toward you. 
2. Use palette knives or the large putty knife to remove part.