**Analysis of the main reasons for the throwing of SMT placement machine**

The so-called material throwing means that the SMT placement machine does not stick the material after sucking the material, but throws the material into the throwing box or other places, or performs the above throwing action without sucking the material. .   
  
Throwing causes material loss, prolongs production time, reduces production efficiency, and increases production cost. In order to optimize production efficiency and reduce costs, the problem of high throwing rate must be solved.  
  
The main reasons and countermeasures for throwing materials:  
  
**Reason 1**: The suction nozzle is defective, the suction nozzle is deformed, blocked, and damaged, resulting in insufficient air pressure and air leakage, resulting in the inability to absorb the material, the material is not taken correctly, and the material is thrown out if the identification fails.  
  
**Countermeasures**: clean and replace the nozzle;  
  
**Reason 2**: Problems with the identification system, poor vision, unclean vision or laser lens, debris interfering with identification, improper selection of identification light source and insufficient intensity and grayscale, and the identification system may be damaged.  
  
**Countermeasures:** Clean and wipe the surface of the identification system, keep it clean and free of debris, etc., adjust the intensity and gray level of the light source, and replace the parts of the identification system;  
  
**Reason 3**: Position problem, the reclaiming material is not in the center of the material, the reclaiming height is not correct (generally, it is subject to pressing down 0.05MM after touching the part), which causes the offset, the reclaiming material is not correct, there is an offset,   
                    and the corresponding identification is performed. The data parameters do not match and are discarded by the identification system as invalid materials.  
  
**Countermeasure:** adjust the reclaiming position;  
  
**Reason 4**: Vacuum problem, insufficient air pressure, unsmooth vacuum air pipe channel, guide object blocking the vacuum channel, or vacuum leakage caused the air pressure to be insufficient and the material could not be picked up or dropped on the way to paste after picking up.  
  
**Countermeasure:** Adjust the air pressure steeply to the required air pressure value of the equipment (such as 0.5~0.6Mpa-YAMAHA mounter), clean the air pressure pipeline, and repair the leaking air path;  
  
**Reason 5:** There is a problem with the program. The parameter settings of the components in the edited program are incorrect, and the parameters such as the actual size and brightness of the incoming material do not match, so that the recognition cannot be passed and it is discarded.  
  
**Countermeasures:** Modify the component parameters and search for the best parameter settings of the component;