



Report #5-10

Key Components:

- Lower Cost
- Eliminated Quality Problem
- Improved Performance
- Increased Consistency
- Eliminated scrap and rework
- **No Redesign of other components**



High Speed Hand Tool *Fastener Redesign*

Opportunity:

High scrap and rework was caused by the fastener over engaging into the plastic material. Potential for failures exists when the end user is operating the tool. Production line throughput reduces due to fastening problems.

Previous Design:

The previous design had significant **failure** and **scrap rate**. The boss on the nut member side would crack during installation. Since the boss was internal, failure could sometimes be very hard to detect or may not be detected at all. The **clamping component** had significant interference causing a bulging issue. Additionally, the fastener would not close the gap caused by internal components. There was an **inconsistency of clamp** created by an improperly sized fastener.

New Design:

The new design utilized a fastener that created **additional clamp** in the application while **reducing the installation torque**. It consistently clamped the two halves together while **not requiring any redesign** of the plastic bosses. It **eliminated the cracking** issue in the bosses while it subsequently **reduced the interference** with the clamping component.

Field's Design

Eliminated the Scrap and Rework

Increased Safety of End Product
Reduced Potential Warranty Claims

40 Units per Day Scrapped		
	Unit Cost	Annual Savings
Housings Scrapped (Top and Bottom)	\$2.00	\$20,000
2 Minutes Rework & Re-Assembly	\$0.12	\$2,080
Total Savings	\$3.95	\$22,080