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**SMALL-ARMS PULL APART  
MACHINE  
APE 2271  
-SPAM-**



***JMC - Ready - Reliable - Lethal***

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# Small-arms Pull Apart Machine -SPAM-



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# AGENDA



- ✓ **BENIFITS**
- ✓ **HISTORY**
- ✓ **CURRENT CAPABILITY**
- ✓ **INHERITED PROBLEMS**
- ✓ **CURRENT DESIGN GOALS**
- ✓ **MACHINE MAJOR COMPONENTS**
- ✓ **APE 2271 OVERVIEW**

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## **BENEFITS**

- ✓ **EASES IMPACT ON THE ENVIRONMENT**
  - **REDUCED OPEN BURN**
  - **POWDER NOT BURNED IN DEACTIVATION FURNACE**
    - Reducing over all emissions
- ✓ **INCREASED DEMIL PRODUCTIVITY**
  - **ONLY PROJECTILES ARE BURNED IN DEACTIVATION FURNACE**
- ✓ **UTILIZES R3 IDEALS**

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# UNCLASSIFIED HISTORY



- **Tooele Army Depot acquired the SPAM from the Olin Ordnance Products of Marion, IL**
- **Inherent troubles**
  - **High reject rate.**
  - **High mechanical failures**

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# **CURRENT CAPABILITY**

- ✓ **PROCESS 20mm AMMUNITION**
- ✓ **DEMILITARIZE 15,000 TO 18,000 ROUNDS PER 10 HR SHIFT**

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## Initial Problems



### ➤ Inherent troubles

- High reject rate.
  - ★ 70 % rounds rejected
- High mechanical failures
  - ★ Firing pin breakage
  - ★ Projectile gripping components breaking
  - ★ Primer functioning electrical faults

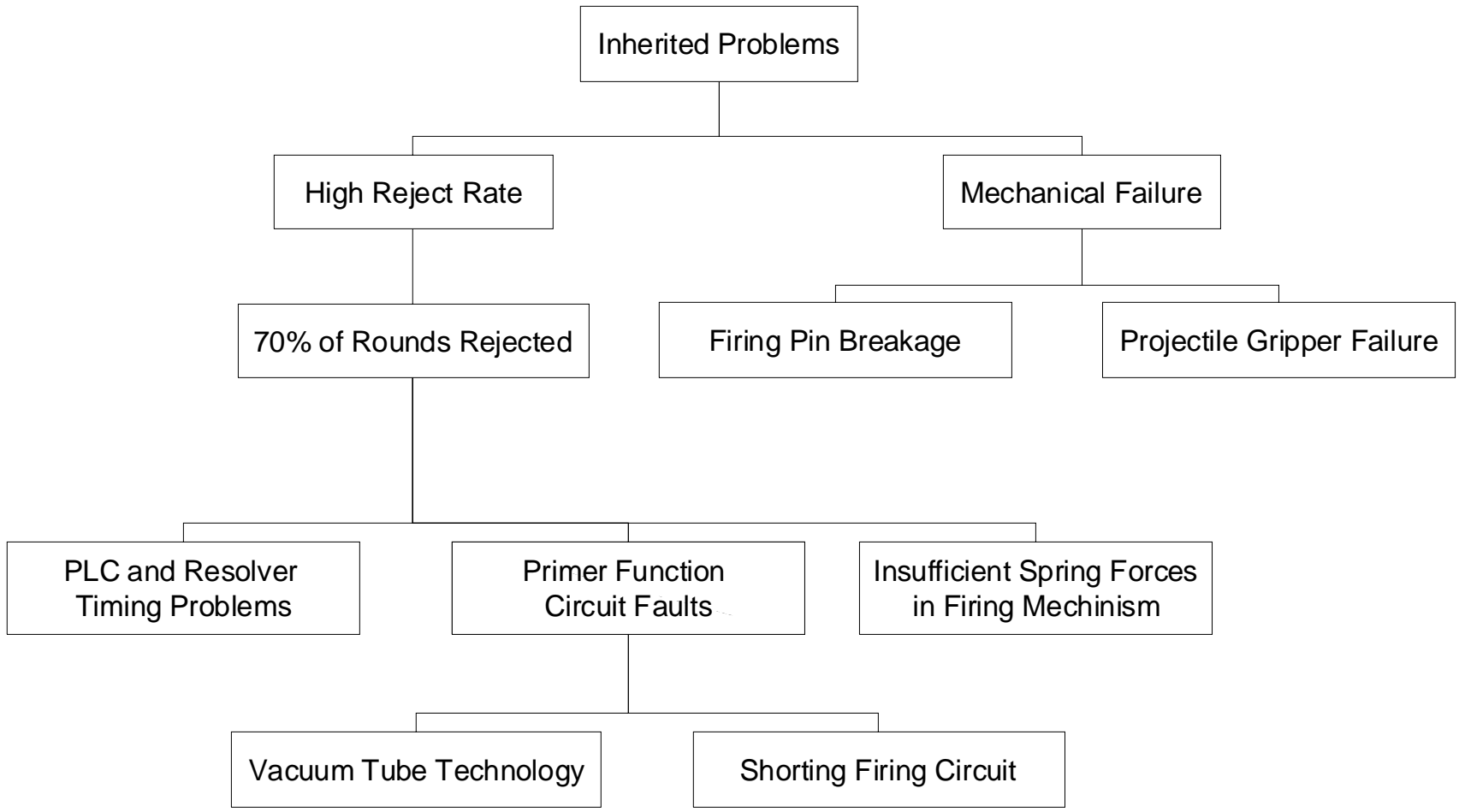
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# INHERITED PROBLEMS



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# **MUNITION PROBLEM**

## **✓ BAD PRIMERS**

### **➤ CORRODED**

- (ELECTRICAL INITIATED)

### **➤ PRIMER BURNING INSTEAD OF POPPING**

- PERCUSSION

## **✓ POWDER CLUMPING**

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# **SOLUTIONS**

## **✓ PRIMERS**

- REPLACE VACUUM TUBE CIRCUIT WITH SOLID STATE ADJUSTABLE VOLTAGE CIRCUIT**
- OPTICAL INSPECTION**

## **✓ POWDER**

- VIBRATOR**
- AIR INJECTION**

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# **CURRENT DESIGN GOALS**

- ✓ **INCREASE PRODUCTION**
  - **20,000 TO 25,000 ROUNDS / 10 HR SHIFT**
- ✓ **INCREASE RANGE OF MUNITION**
  - **50 CALIBER TO 30mm MUNITION**
  - **INVESTIGATE DIFFERENT CONFIGURED MUNITION**
    - **40mm, M344 CARTRIDGE**

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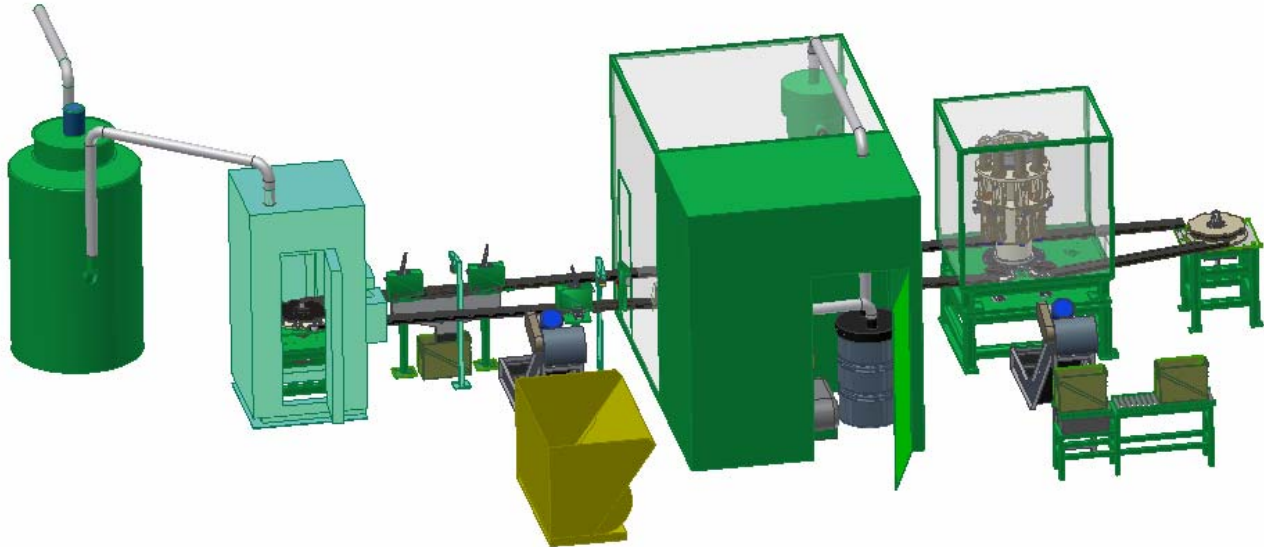


# STATION OVERVIEW

**WET  
SCRUBBER**

**ACOUSTIC  
CHAMBER**

**POWDER  
COLLECTION**



**PRIMER  
FUNCTION**

**BRASS  
COLLECTION**

**PROJECTILE  
COLLECTION**

**INFEED**

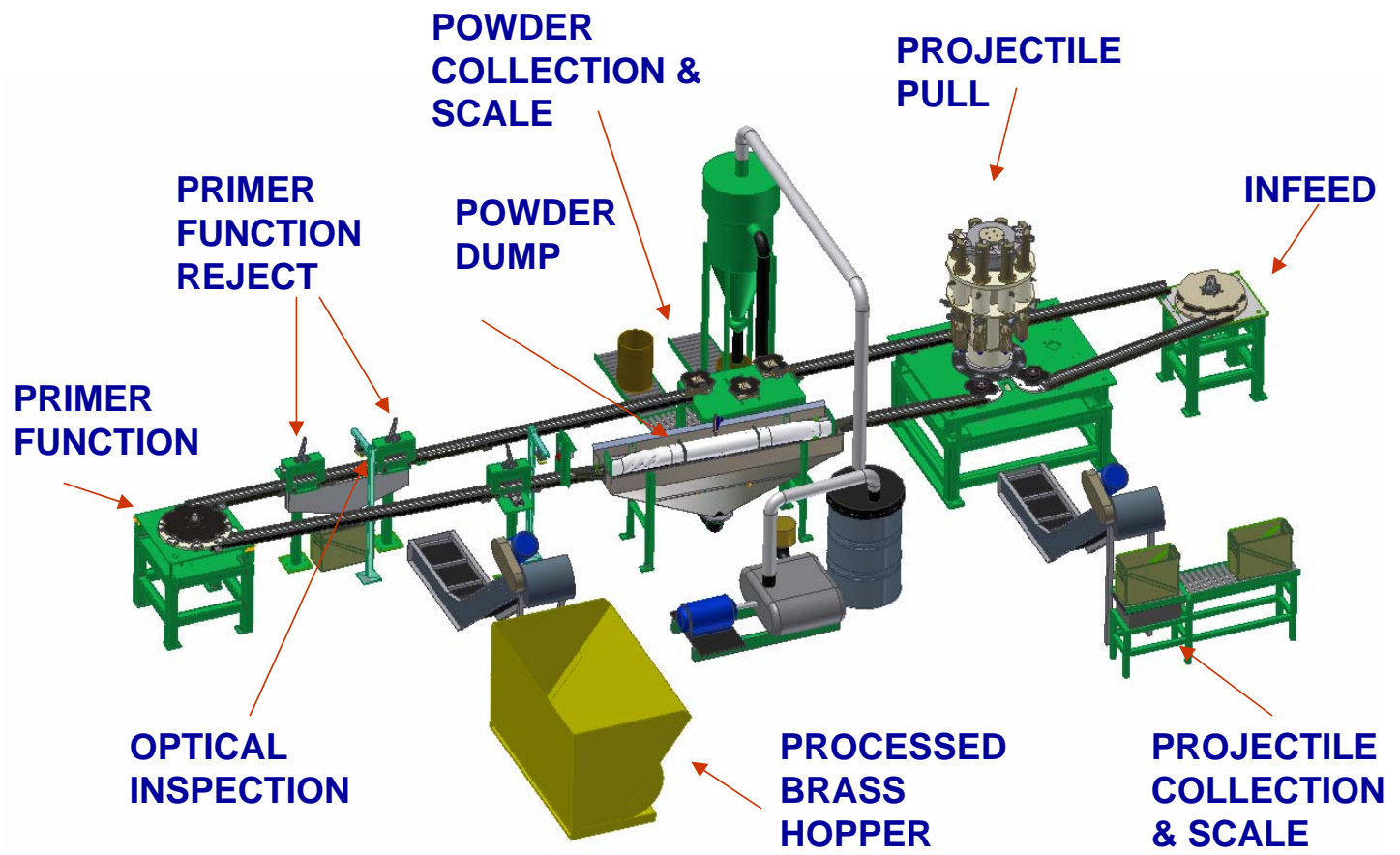
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# COMPONENTS

(shown without enclosures)



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# **APE 2271 FUTURE OVERVIEW**

- ✓ **ADDITION OF A UNPACK STATION**
  - **REDUCE MANPOWER**
  - **INCREASE FEED RATE**
  
- ✓ **CARTRIDGE CASE DEFORMER**

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**Michael Houser**  
**Tooele Army Depot**  
**Ammunition Equipment Division**  
**435-833-5017**  
**mike.houser@us.army.mil**

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