<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>driver_shaft_01</td>
<td>Finished Blade Shaft</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>tube_01</td>
<td>Tube</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>handle_03</td>
<td>Hammer Handle</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Head_plastic_face</td>
<td>Hammer Head</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Head_plastic_face_2</td>
<td>Plastic Face</td>
<td>1</td>
</tr>
</tbody>
</table>

**DIMENSIONS ARE IN INCHES**

**TOLERANCES:**
- FRACTIONAL: ±1/32"
- ANGULAR: MACH ±.5° BEND ± .01
- TWO PLACE DECIMAL ± .01
- THREE PLACE DECIMAL ± .005

**INTERPRET DRAWING PER: ASME Y14.5-1994**

**MATERIAL:** Steel/Acrylic

**FINISH**

**UNLESS OTHERWISE SPECIFIED:**

**COMMENTS:**
- SIZE: A 100
- PART: Hammer_plastic_face_02
- DOCUMENT REV: 7
- DRAWN BY: EJJ
- CHECKED BY: D&G
- DATE: 2/13/2013

**Hammer Assembly**

**SCALE: 1:2**

**WEIGHT:**

**REMOVE ALL SHARP EDGES AND BURRS**

**ANALYZE:**

**COMMENTS:**

- D&G 2/13/2013

**SHEET 1 OF 7**
### Operations List

<table>
<thead>
<tr>
<th></th>
<th>Machining Machine</th>
<th>Operation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trak CNC Lathe</td>
<td>Turn radiuses, Cutoff</td>
<td>Program 810</td>
</tr>
<tr>
<td>2</td>
<td>Trak CNC Lathe</td>
<td>Face Cleanup, Drill DRO</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sherline CNC Mill</td>
<td>Mill Flutes</td>
<td></td>
</tr>
</tbody>
</table>

---

**Hammer Handle**

- **Material**: Clear Acrylic
- **Finish**: As per ASME Y14.5-1994
- **Drawing Date**: 2/13/2013
- **Checked By**: D&G

---

**Dimensions**

- **23/64 DRILL 2.75 DEEP**
- **R.125 .115 DEEP (6 PLACES)**
- **R.438**
- **R.370**
- **R.150**
- **R.911**
- **R.016**

---

**Comments**

- **Prog 810 notes**
- **Remove all sharp edges and burrs**

---

**Technical Specifications**

- **Weight**: Not specified
- **Scale**: 1:2
- **Part Number**: A100
- **Part Rev**: 7
- **Sheet**: 2 of 7
### OPERATIONS LIST

<table>
<thead>
<tr>
<th>No.</th>
<th>Operation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saw</td>
<td>Cut stock to 7 length</td>
</tr>
<tr>
<td>2</td>
<td>Trak CNC Lathe</td>
<td>Face/Turn/Center Drill one end</td>
</tr>
<tr>
<td>3</td>
<td>Trak CNC Lathe</td>
<td>Turn profile/Thread/Groove Prog 711</td>
</tr>
<tr>
<td>4</td>
<td>Wire brush wheel</td>
<td>Burnish threads</td>
</tr>
</tbody>
</table>

**Prog 711 notes**

- CENTER DRILL
- SCALE 2 : 1
- \(.250\) stock

**Dimensions**

- **Material**: Steel
- **Finish**
- **Comments**: REMOVE ALL SHARP EDGES AND BURRS

**CNC turned shaft**

- **Size**: A
- **Part**: 100
- **Part Rev**: 1

**Drawn by**: EJJ
- **Date**: 2/13/2013

**Checked by**: D&G
- **Date**: 2/13/2013

**Material**: Steel

*INTERPRET DRAWING PER: ASME Y14.5-1994*
<table>
<thead>
<tr>
<th>Operations</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emery cloth Polish shaft</td>
</tr>
<tr>
<td>2</td>
<td>Bridgeport Mill Mill .250 square flats</td>
</tr>
<tr>
<td>3</td>
<td>Trak Mill Machine blade shape/trim end/Engrave</td>
</tr>
<tr>
<td>4</td>
<td>Torch/casenite Heat treat and temper blade</td>
</tr>
<tr>
<td>5</td>
<td>Emery cloth Polish blade faces</td>
</tr>
</tbody>
</table>

Finished Blade Shaft

**Materials:** Steel

**Drawn:** EJJ  
**Checked:** D&G  
**Date:** 2/13/2013

**Comments:** REMOVE ALL SHARP EDGES AND BURRS

**Weight:** SCALE: 1:1  
**Sheet:** 4 OF 7
OPERATIONS LIST

1. Saw
   - Cut stock to 4-1/8 inch length

2. Engine Lathe
   - Face end/Countersink

3. Engine Lathe
   - Drill

4. Engine Lathe
   - Tap (Use tap guide, tailstock)

5. Engine Lathe
   - Turn Diameter

DIMENSIONS ARE IN INCHES
TOLERANCES:

FRACTIONAL ± 1/32

ANGULAR: MACH ± .5 BEND ± .01

TWO PLACE DECIMAL ± .005

THREE PLACE DECIMAL ± .005

INTERPRET DRAWING PER: ASME Y14.5-1994

MATERIAL:
Black Water Pipe

FINISH

UNLESS OTHERWISE SPECIFIED:

REMARKS:

REMOVE ALL SHARP EDGES AND BURRS

SIZE

Part

100

PART REV

DOC REV

1

SMITH COLLEGE

Hammer_plastic_face_02
OPERATIONS LIST

1. Saw
   Cutoff long enough to make two heads
2. Engine Lathe
   Face/Chamfer Hammer face
3. Engine Lathe
   Turn Grooves - regrip for each groove
4. Engine Lathe
   Knurl
5. Saw
   Cutoff hammer head 2-1/8
6. Engine Lathe
   Face/Turn to 2.05 length
7. Bridgeport
   Drill/Ream (use fixture block to locate centers)
8. Engine Lathe
   Centerdrill/Drill/Tap 1/4-20

R.125 x .125 DEEP TYP.
31/64 DRILL .75 DEEP REAM .500
1/32 CHAMFER
KNURL
1/4-20 Tapped Hole
Φ 1.000

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/32"
ANGULAR: MACH ± .5 BEND ± .01
TWO PLACE DECIMAL ± .005
THREE PLACE DECIMAL ± .005
INTERPRET DRAWING PER: ASME Y14.5-1994

MATERIAL: Plain Carbon Steel
FINISH:
COMMENTS: REMOVE ALL SHARP EDGES AND BURRS

Hammer Head

DRAWN: EJJ
DATE: 2/13/2013
CHECKED: D&G
DATE: 2/13/2013

SIZE: A 100
PART: 100
PART REV: 7
DOC REV: 7
SCALE: 1:1
WEIGHT:
SHEET 6 OF 7

Hammer_plastic_face_02
1/4-20 Tapped Hole
Drill .201 DIA .38 DEEP

1/32 CHAMFER