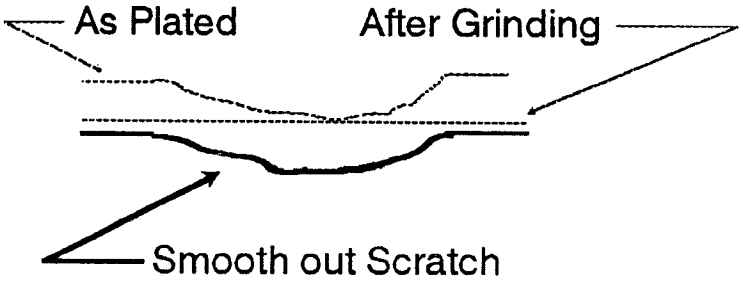
CHARACTERISTICS OF DEPOSITION

- **MAGNIFICATION OF THE BASE MATERIAL**
  - **Deposit will Enlarge Surface Irregularities**
  - **Surface Defects [Porosity, Deep Scratches, Etc.] cause discontinuities in the deposit**
    - **Surface should be Smooth and Free from Defects**
    - **Ground and Polished surface is best**

Thin, Deep Scratches

Discontinuity in the Deposit



CHARACTERISTICS OF DEPOSITION

CONT'D

- **SHARP CORNERS**
  - ▸ **External Angles - Excessive Deposit**
  - ▸ **Internal Angles - Lack of Deposit**
    - √ **Maximum Radius whenever possible - No Sharp Edges**

- **THREADS**
  - ▸ **Deposit alters diameter and Angle**
    - √ **Compensate by grinding or polishing to allow for plating**
    - √ **Gages should be supplied to plater for proper fit**

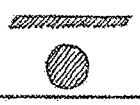
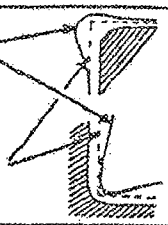
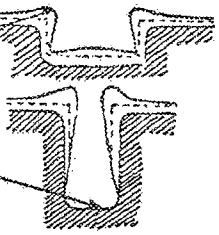
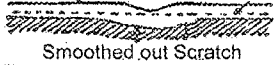
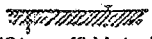
CHARACTERISTICS OF DEPOSITION

cont'd

- **RECESSED AREAS**
  - **Depth less than width - No special difficulty**
  - **Depth greater than width - Very difficult**

- **BOUNDARY OF DEPOSIT**
  - **Formation of brittle overgrowth**
    - **Allow overlap (runover) onto adjacent areas**
    - **Remove with a portable grinder or by hand stoning**
    - **Remove during grinding**
    - **Always remove by working from the deposit side outwards**
    - **<u>Carefully</u> - Chrome chips easily!**

Characteristics of the Chrome Deposit on the Surface to be Plated

Type of Surface	Surface Shape	Result of Surface Shape	Preparation & Finishing (Possible Solutions)
Flat Surfaces Round Surfaces			Surface should be as good or better than you would like to end up with
Sharp Corners	External Angle  Internal Angle 	 Excessive plating and possible 'Treeing'. High Current Density Area  Lack of Deposit Low Current Density Area	 Maximum Radius whenever possible  Deposition of excess plating Obtain sharp angles by grinding AP 
Recessed Areas	 Deep less than width  Depth greater than width 	No great difficulty if corners are Rounded Plating very difficult & may be impossible	After Grinding : As Plated  Lack of Deposit
Threads		 Deposit alters thread Diameter & Angle	Difficulties increase with sharp angles. Remedies include: 1. Plate & Grind 2. Plate & Polish 3. 'Flash' Plating 4. Prepare for Deposit shape before plating
Surface Defects			As Plated After Grinding  Smoothed out Scratch
Boundary of the Deposit	To be Plated  'Stop off' Material	 Brittle Overgrowth of Deposit	Allow Deposit to Overlap onto adjacent (Non-critical) Area Unmachined Parts: Remove overgrowth with a hand grinder or by 'Stoning' Machined Parts: Overgrowth removed during Grinding