

## ILLUSTRATIONS (Concl'd)

|        |      |                                |    |
|--------|------|--------------------------------|----|
| Figure | A-10 | Punch Assembly Number 1        | 80 |
|        | A-11 | Punch Assembly Number 2        | 80 |
|        | A-12 | Die Assembly Interface Diagram | 81 |

## TABLES

|       |       |                                                            |    |
|-------|-------|------------------------------------------------------------|----|
| Table | I.    | Stress Distribution for $1 \times 10^6$ psi Punch Assembly | 5  |
|       | II.   | Stress Distribution for $3 \times 10^6$ psi Die Assembly   | 6  |
|       | III.  | Cubic Boron Nitride Preparations                           | 14 |
|       | IV.   | $\text{Sm}_2\text{O}_3$ Runs                               | 18 |
|       | V.    | X-ray Diffraction Results $\beta$ SmOOH                    | 21 |
|       | VI.   | X-ray Diffraction Results $\text{Sm}(\text{OH})_3$         | 23 |
|       | VII.  | MgO Samples Sent to AFCRL                                  | 31 |
|       | VIII. | NiO Preparations                                           | 33 |
|       | IX.   | $\text{Cr}_2\text{O}_3$ Preparations                       | 36 |