APPENDIX C

COMPUTER PROGRAMS

The analyses described in the text were programmed in the FORTRAN IV alogarithmic language for calculation on Battelle's CDC 3400 computer. The following is a list of programs which includes a brief description of each:

- PROGRAM COMPST1 Analysis of compound (multi-ring) cylinder based upon static shear strength. Calculation of pressure-to-strength ratio p/2S in Figure 10 in the text.
- PROGRAM COMPFG1 Analysis of compound cylinder based upon shear fatigue strength. Calculation of pressure-to-strength ratio p/σ shown in Figure 11.
- PROGRAM SEGMENT1 Analysis of ring segment under radial pressures. Some results given in Appendix A.
- PROGRAM SEGM2N Analysis of pin segment under radial pressures and shear. Some results given in Appendix A.
- PROGRAM COMPHS1 Analysis of compound cylinder with high-strength liner. Calculations of pressure-to-strength ratios p/σ_1 and p/σ shown in Figures 12, 13, 14, and 15.
- PROGRAM COMPHS2 Analysis of compound cylinder with high-strength liner. Calculation of shrink-fit interferences, operating stresses, and prestresses.
- PROGRAM PLTR1 Analysis of Poulter (ring-segment) cylinder with highstrength liner. Calculation of pressure-to-strength ratios p/σ_1 and p/σ shown in Figures 16, 17, 18, and 19.
- PROGRAM PLTR2 Analysis of Poulter cylinder or pressure support cylinder (inner part of ring-fluid-segment container). Calculation of interferences, operating stresses, and prestress.
- PROGRAM PSCYL1 Analysis of pressure support cylinder (inner part of ringfluid-segment container). Calculation of pressure-to-strength ratios p/σ_1 and p/σ_3 shown in Figures 20, 21, 22, 23, and 24.
- PROGRAM PGSPNCYL Analysis of segmented shear-pin (pin-segment) cylinder with high-strength liner. Calculation of pressure-to-strength ratio p/σ_1 and p_1/p shown in Figures 25 and 26.