where R_a is the radial position where T_{rz} becomes equiva-
lent to T_o. The value of T_o is considered to be one-
half of the effective stress $\bar{\sigma}$ at any given stage of
strain. The limits of integration are taken as shown since
the shear stress is zero at the wafer axis, and increases
with increase in radial position. The computer program
used in solving this problem first calculates the shear
stress T_{rz} at the top surface of the wafer, and then runs
a comparison check between T_{rz} and T_o at ten equally spaced
intervals across the wafer. If T_{rz} is less than T_o at all
radial positions, then R_a is set equal to R_t and equation
(52) reduces to (51), thus eliminating the need of equation
(51). Combining the known stress equations with (52), and
performing the indicated integration yields the results
shown in equation (53).

$$\frac{2}{3} hc \left(3a_2 - 4a_1 \right) \left(\tfrac{1}{3} R_a^3 + \sigma_o N_a \right)$$

$$+ \frac{1}{4} \sigma_o (R_t^2 - R_a^2) + \frac{1}{2} b \left[(K_t \bar{\epsilon}_t - K_a \bar{\epsilon}_a) / 8\alpha_t \right.$$

$$\left. + M(L_t - L_a) \right] = f F_t / 2\pi \qquad (53)$$