

FIGURE A3—DETERMINATIONS OF MINIMUM DESIGN SPEEDS—EQUATIONS  
SPEEDS ARE IN KNOTS

$$V_{D \text{ min}} = 24.0 \sqrt{n_1 \frac{W}{S}} \text{ but need not exceed } 1.4 \sqrt{n_1} \frac{V_{C \text{ min}}}{3.8};$$

$$V_{C \text{ min}} = 17.0 \sqrt{n_1 \frac{W}{S}} \text{ but need not exceed}$$

$$0.9 V_H: V_{A \text{ min}} = 15.0 \sqrt{n_1 \frac{W}{S}} \text{ but need not exceed } V_C \text{ used}$$

$$\text{in design. } V_F \text{ min} = 11.0 \sqrt{n_1 \frac{W}{S}}$$