

TABLE 2. (Continued)

Item	Trial	Extrusion Ratio	Stem Speed, ipm	Die Angle, degrees	Hydrostatic Fluid	Billet Lubrication	Extrusion Pressure, 1000 psi				Length of Extrusion, inches	Comments
							Breakthrough		Runout			
							Stem	Fluid	Stem	Fluid		
4	276	5.0	20	45	Polyethylene glycol	L22	278.0	224.0	--	--	3/4	Stem seal broke just after breakthrough
	275	5.0	20	45	Polyethylene glycol	L23	247.0	230.0	245.0	228.0	13-1/4	Slight $P_b$ peak; $P_r$ uniform

- (a) Parentheses indicate that true breakthrough pressure was not attained.  
 (b)  $P_b$  - breakthrough pressure.  
 (c)  $P_r$  - runout pressure.  
 (d) Billet surface finish was obtained by grit blasting followed by vapor blasting.

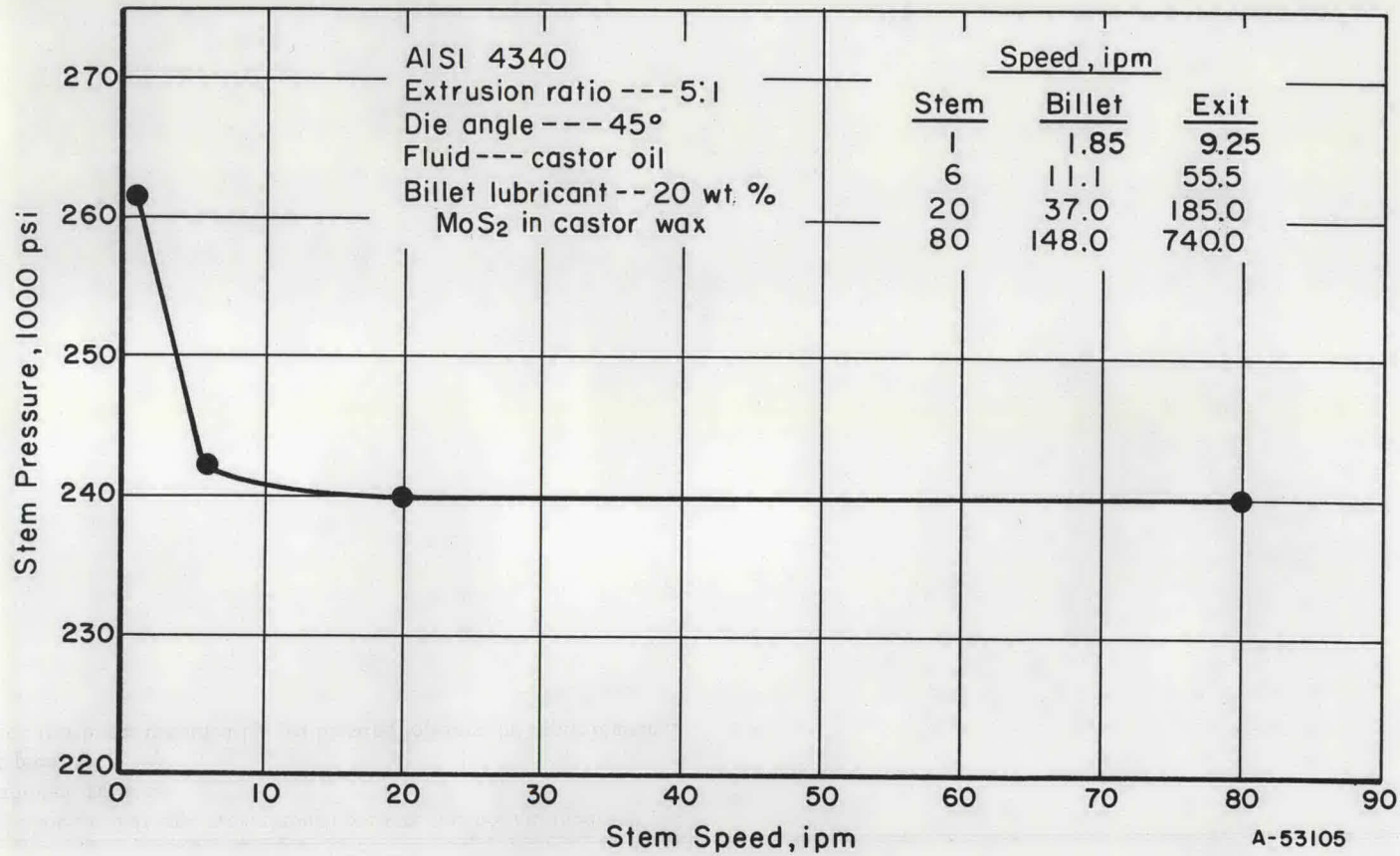


FIGURE 2. EFFECT OF STEM AND BILLET SPEED ON STEM PRESSURE FOR COLD HYDROSTATIC EXTRUSION OF AISI 4340 AT AN EXTRUSION RATIO OF 5:1