



A-43402

FIGURE 1. ASSEMBLY DRAWING OF TOOLING FOR HYDROSTATIC EXTRUSION

TABLE 1. BILLET LUBRICANTS EVALUATED IN CURRENT HYDROSTATIC EXTRUSION PROGRAM

Lubricant	Source	Description	Billet Materials Treated
L11	Commercial	"Castor wax" (hydrogenated castor oil; 158 F mp)	AISI 4340 and 7075 Al
L17	Battelle	20 w/o MoS ₂ in castor wax	AISI 4340, Ti-6Al-4V, 7075 Al
L22	Battelle	20 w/o MoS ₂ in polyethylene glycol, mw 1000	AISI 4340
L23	Battelle	20 w/o MoS ₂ in low melting castor oil product	AISI 4340
L24	Battelle	20 w/o I ₂ in naphthalene	Ti-6Al-4V
L25	Battelle	20 w/o I ₂ and 10 w/o MoS ₂ in naphthalene	Ti-6Al-4V
L26	Battelle	20 w/o I ₂ in a chlorinated terphenyl (42% chlorine)	Ti-6Al-4V
L27	Battelle	50 w/o I ₂ in oleic acid	Ti-6Al-4V
L28	Battelle	20 w/o MoS ₂ in a chlorinated paraffin (70% chlorine)	Ti-6Al-4V
L29	Battelle	20 w/o MoS ₂ in chloro-fluorocarbon wax, mp 200 F	Ti-6Al-4V
L30	Commercial	Cindol No. 4616	Ti-6Al-4V
L31	Commercial	Fluorocarbon telomer	Ti-6Al-4V
L32	Commercial	Polyethylene bag	Ti-6Al-4V