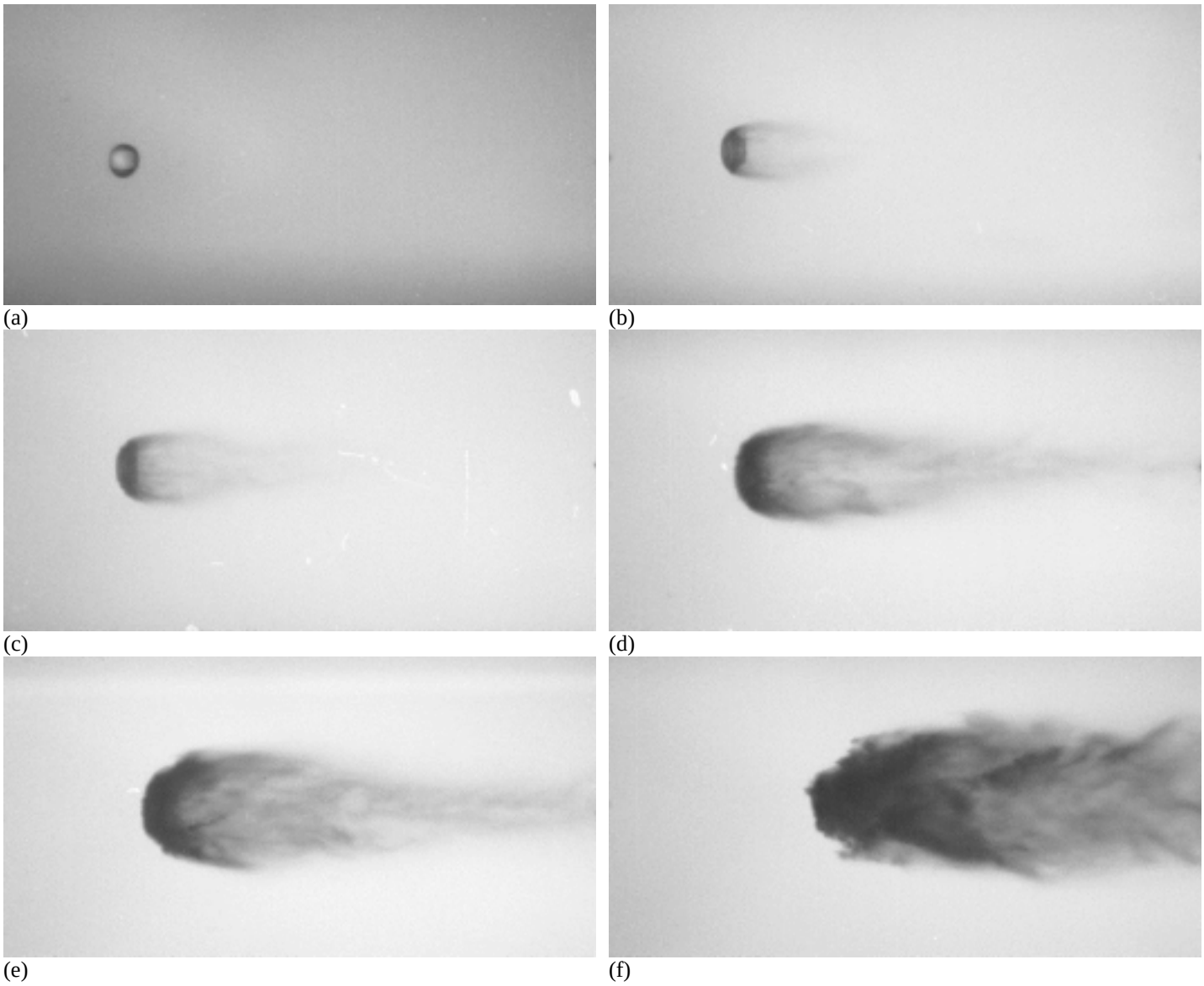


Figure 1. Stages in the breakup of a water drop (diameter = 2.6 mm) in the flow behind a Mach 2 shock wave. Air velocity = 432 m/sec; dynamic pressure = 158.0 kPa; Weber no. = 11,700
Time (microseconds): (a) 0 (b) 45 (c) 70 (d) 135 (e) 170 (f) 290

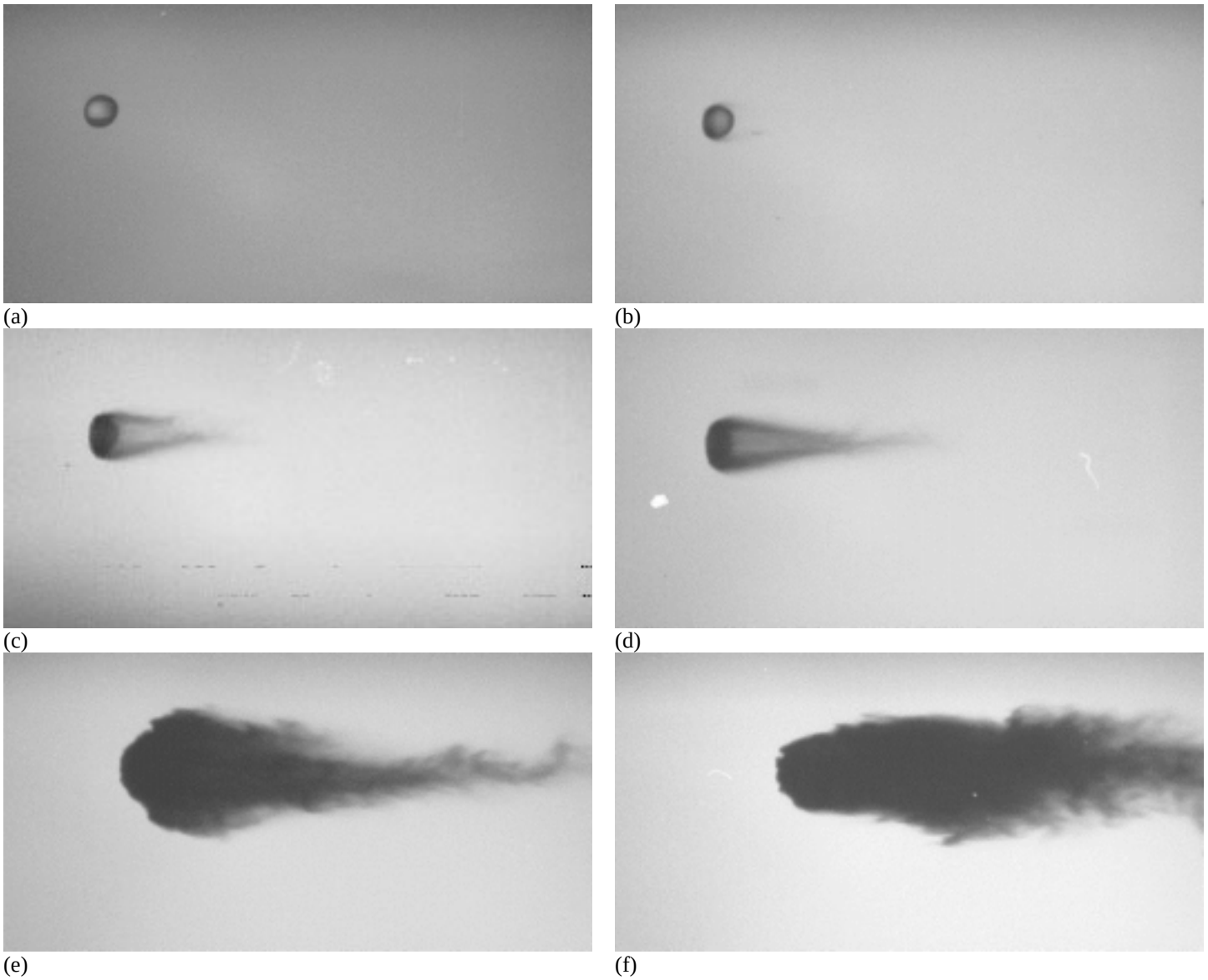


Figure 2. Stages in the breakup of a water drop (diameter = 2.5 mm) in the flow behind a Mach 3 shock wave. Air velocity = 764 m/sec; dynamic pressure = 606.4 kPa; Weber no. = 43,300
Time (microseconds): (a) 0 (b) 15 (c) 30 (d) 40 (e) 95 (f) 135

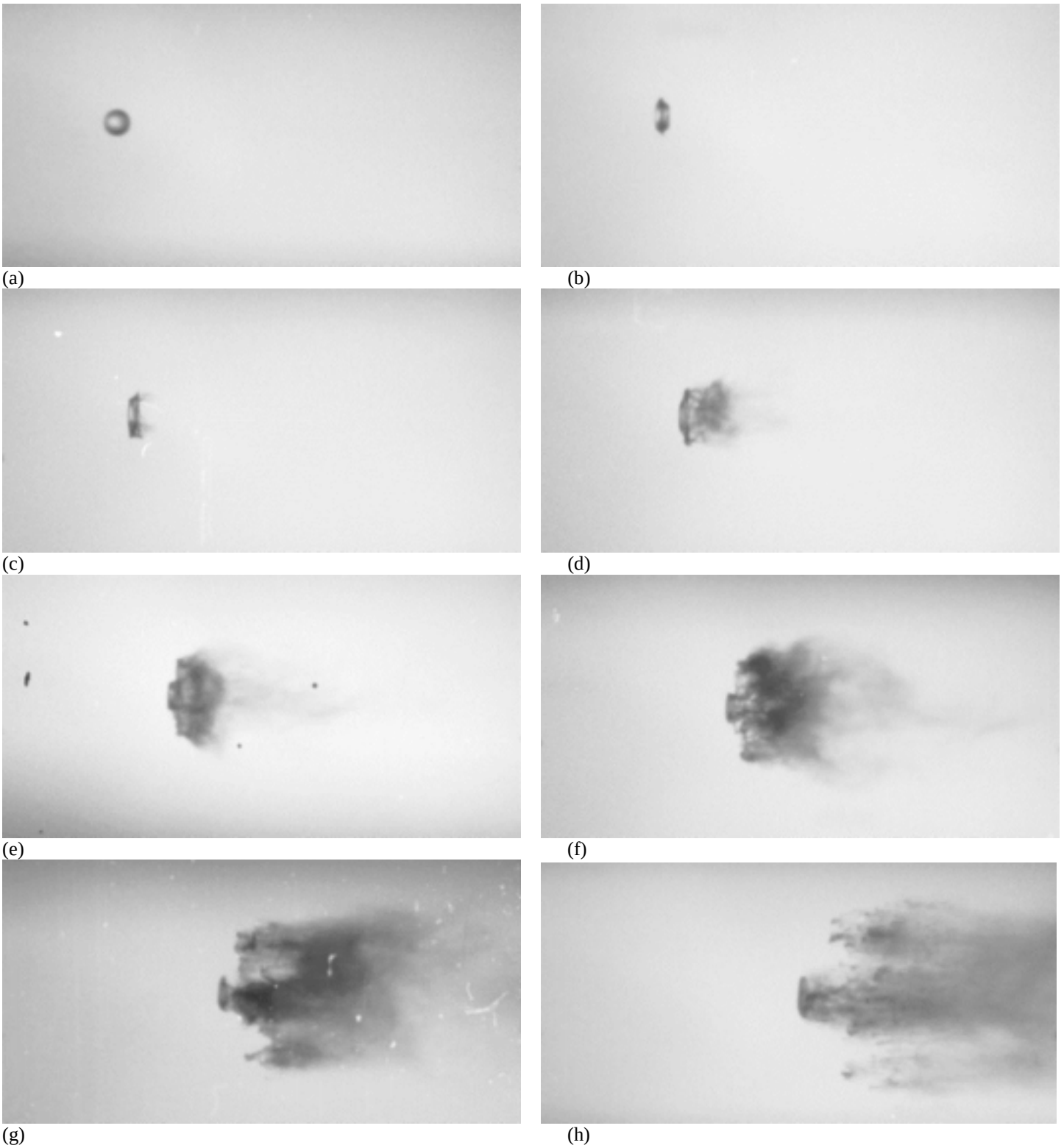


Figure 3. Stages in the breakup of a glycerine drop (diameter = 2.3 mm) in the flow behind a Mach 2 shock wave. Air velocity = 428 m/sec; dynamic pressure = 145.8 kPa; Weber no. = 10,600
Time (microseconds): (a) 0 (b) 70 (c) 115 (d) 165 (e) 220 (f) 250 (g) 295 (h) 345

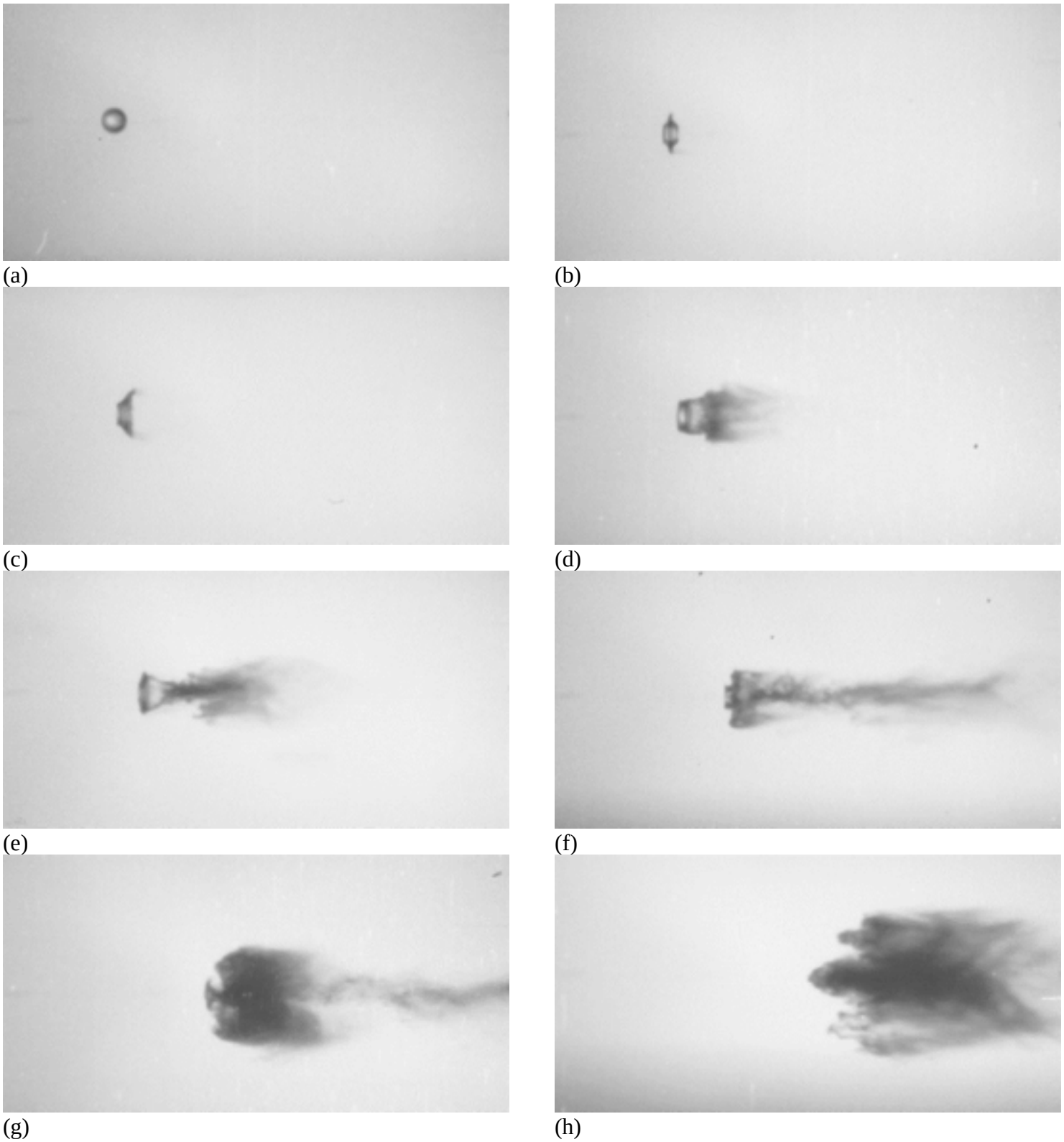


Figure 4. Stages in the breakup of a drop of glycerine (diameter = 2.4 mm) in the flow behind a Mach 3 shock wave. Air velocity = 758 m/sec; dynamic pressure = 554.0 kPa; Weber no. = 42,200
Time (microseconds): (a) 0 (b) 35 (c) 50 (d) 70 (e) 90 (f) 125 (g) 150 (h) 185

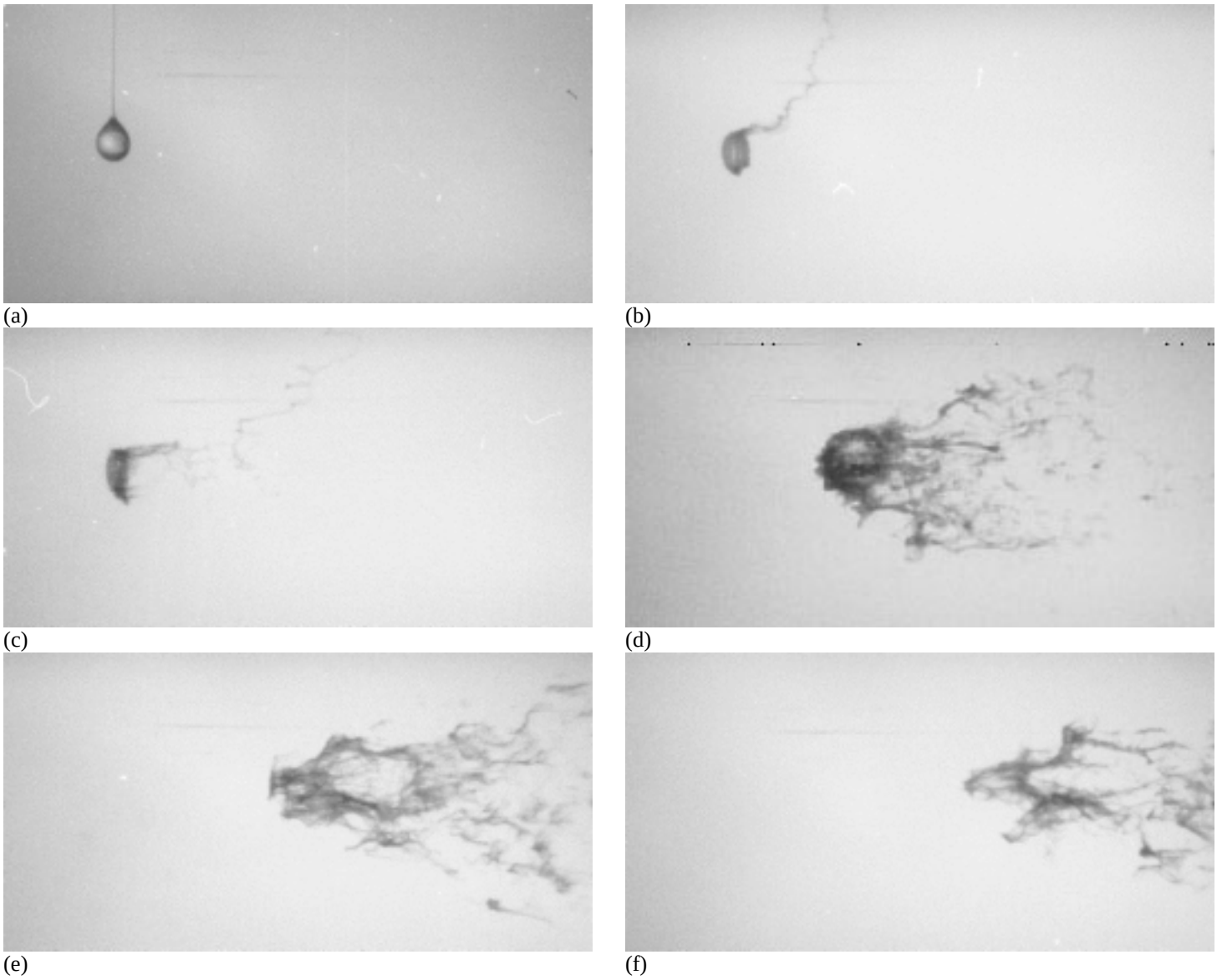


Figure 5. Stages in the breakup of a drop of 2% aqueous solution of polyox (WSR 301; diameter = 2.9 mm) in the flow behind a Mach 2 shock wave. Air velocity = 432 m/sec; dynamic pressure = 165.5 kPa; Weber no. = 15,200 Time (microseconds): (a) 0 (b) 55 (c) 95 (d) 290 (e) 370 (f) 435

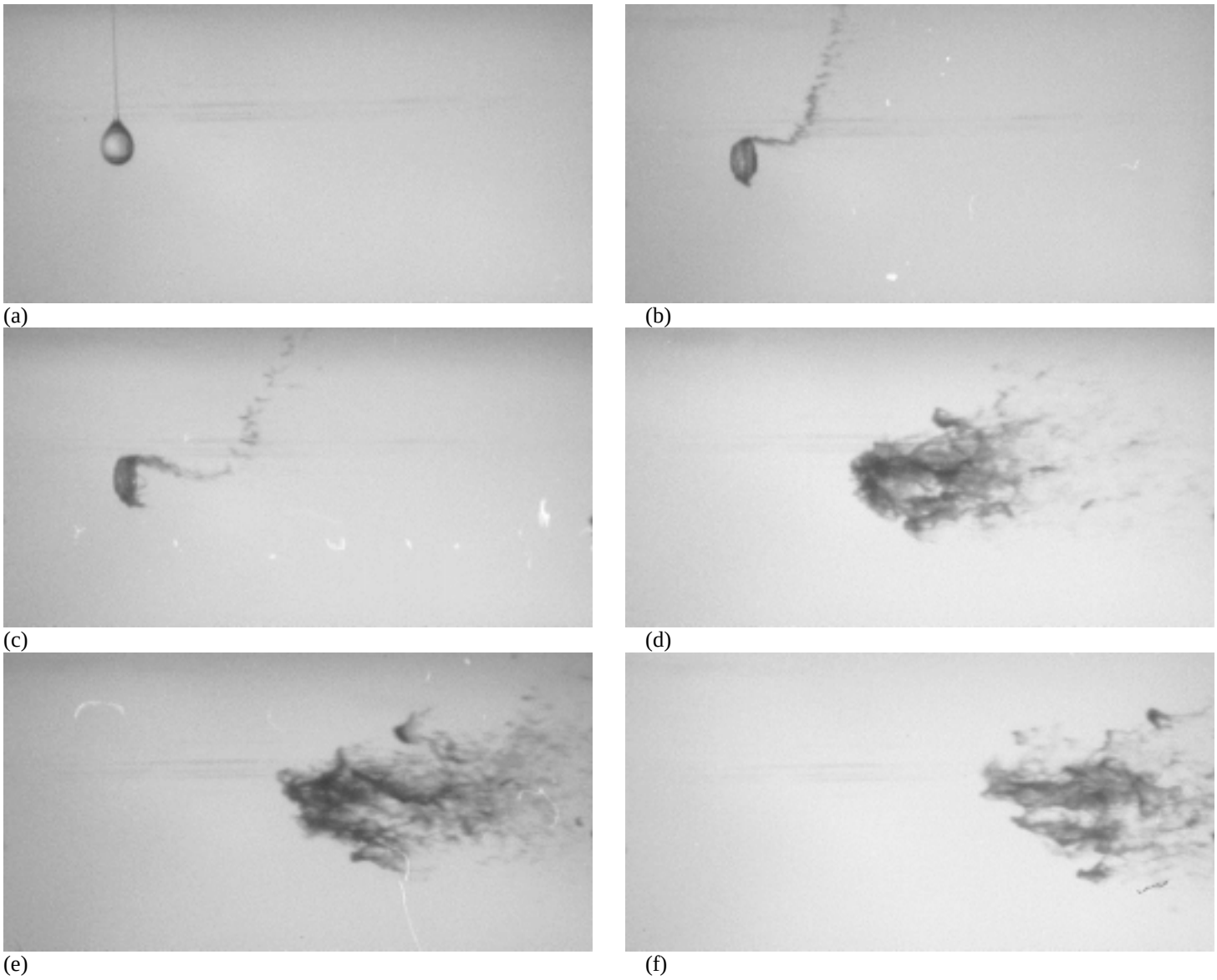


Figure 6. Stages in the breakup of a drop of 2% aqueous solution of polyox (WSR 301; diameter = 2.9 mm) in the flow behind a Mach 3 shock wave. Air velocity = 755 m/sec; dynamic pressure = 587.2 kPa; Weber no. = 54,100
Time (microseconds): (a) 0 (b) 30 (c) 45 (d) 170 (e) 195 (f) 235

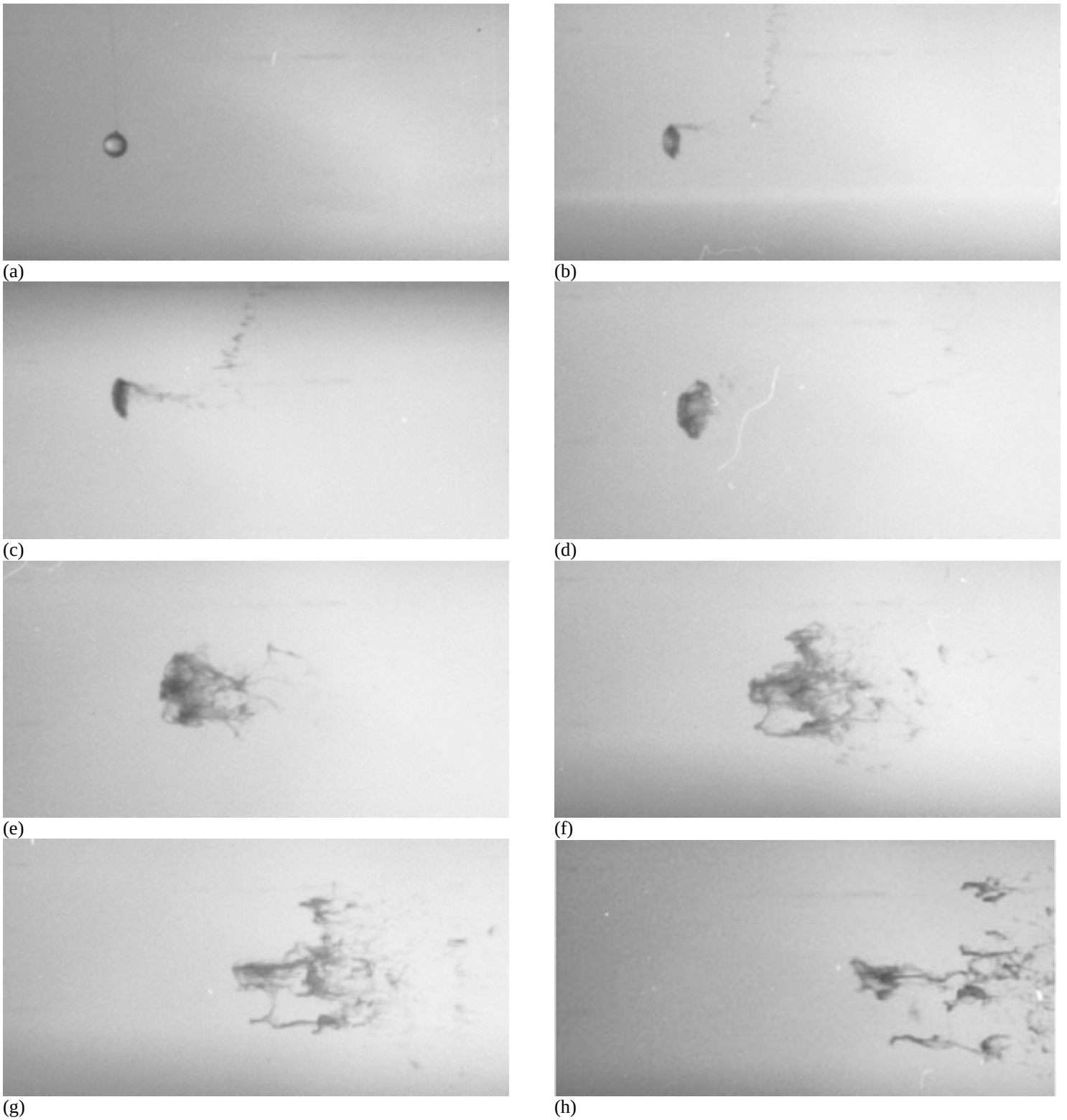
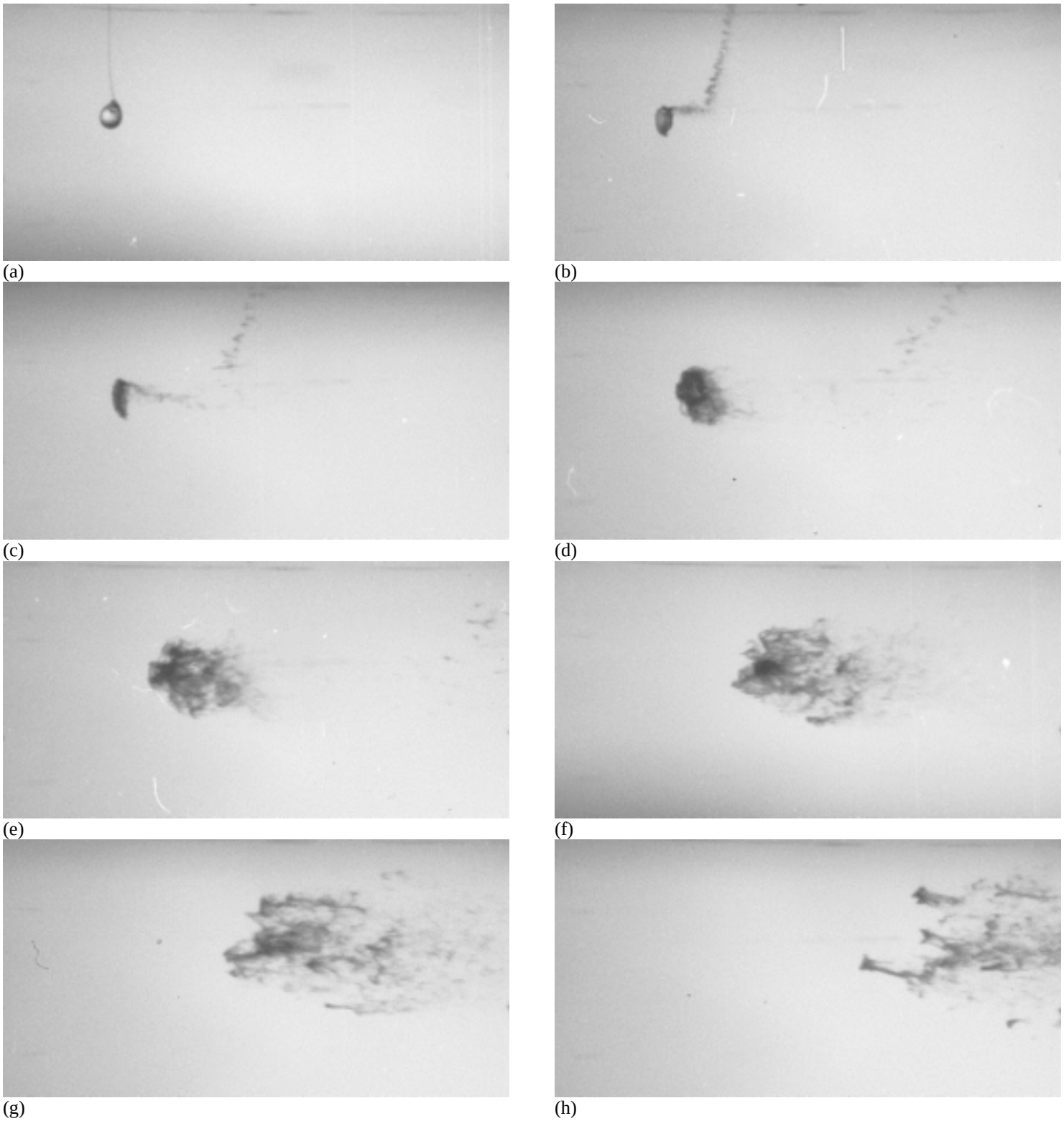


Figure 7. Stages in the breakup of a drop of 2.6% solution of polystyrene butylacrylate (47025-24) in tributyl phosphate (PSBA/TBP; diameter = 2.2 mm) in the flow behind a Mach 2 shock wave. Air velocity = 435 m/sec; dynamic pressure = 152.4 kPa; Weber no. = 31,900
Time (microseconds): (a) 0 (b) 60 (c) 80 (d) 125 (e) 205 (f) 260 (g) 300 (h) 360



(a) (b) (c) (d) (e) (f) (g) (h)

Figure 8. Stages in the breakup of a drop of 2.6% solution of polystyrene butylacrylate (47025-24) in tributyl phosphate (PSBA/TBP ; diameter = 2.2 mm) in the flow behind a Mach 3 shock wave. Air velocity = 736 m/sec; dynamic pressure = 513.0 kPa; Weber no. = 107,500
Time (microseconds): (a) 0 (b) 30 (c) 50 (d) 80 (e) 105 (f) 135 (g) 160 (h) 200

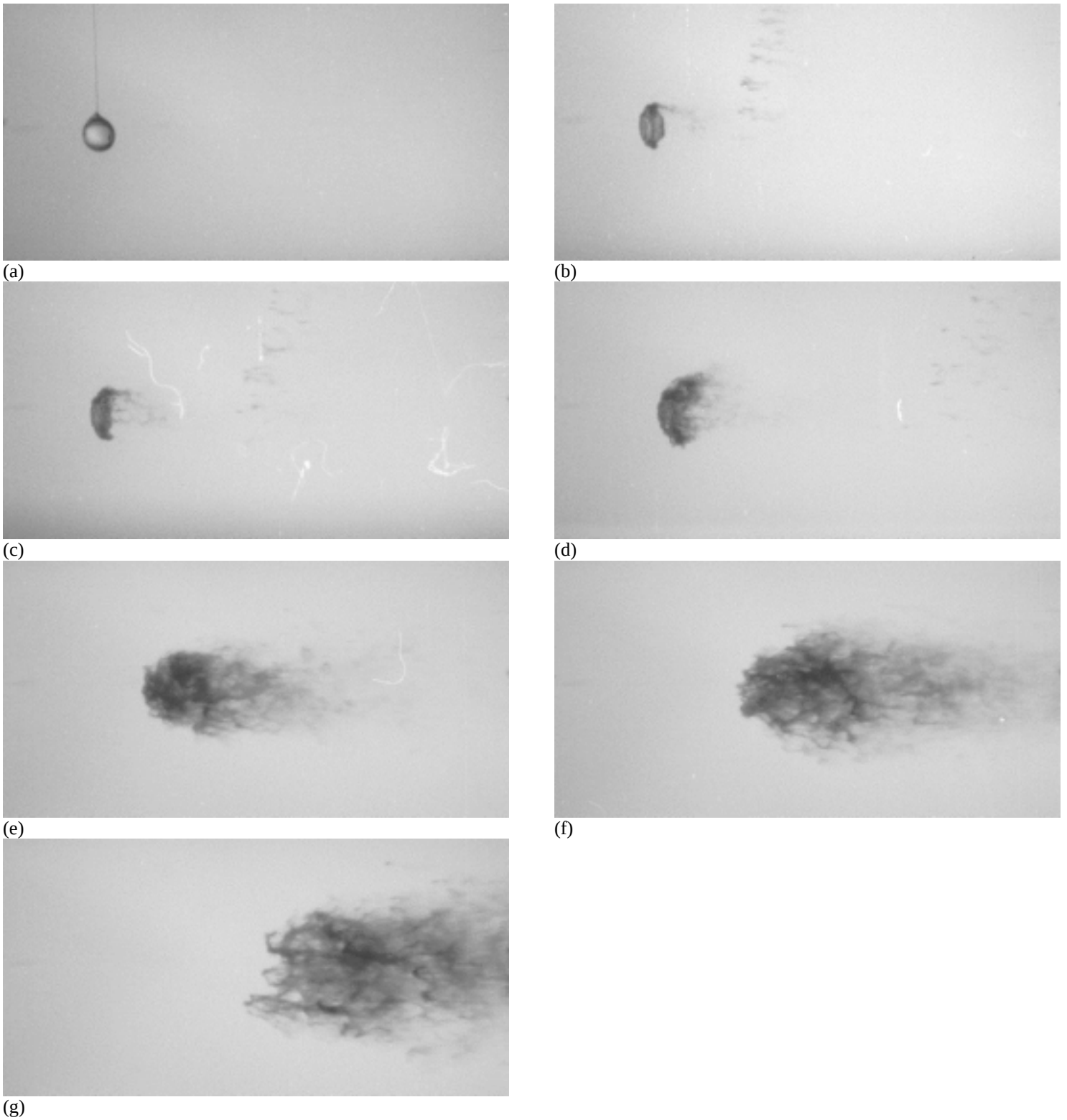


Figure 9. Stages in the breakup of a drop of 2% aqueous solution of polyacrylamide (Cyanamer N-300LMW ; diameter = 3.2 mm) in the flow behind a Mach 3 shock wave. Air velocity = 771 m/sec; dynamic pressure = 578.1 kPa; Weber no. = 82,200
Time (microseconds): (a) 0 (b) 45 (c) 60 (d) 90 (e) 145 (f) 185 (g) 225

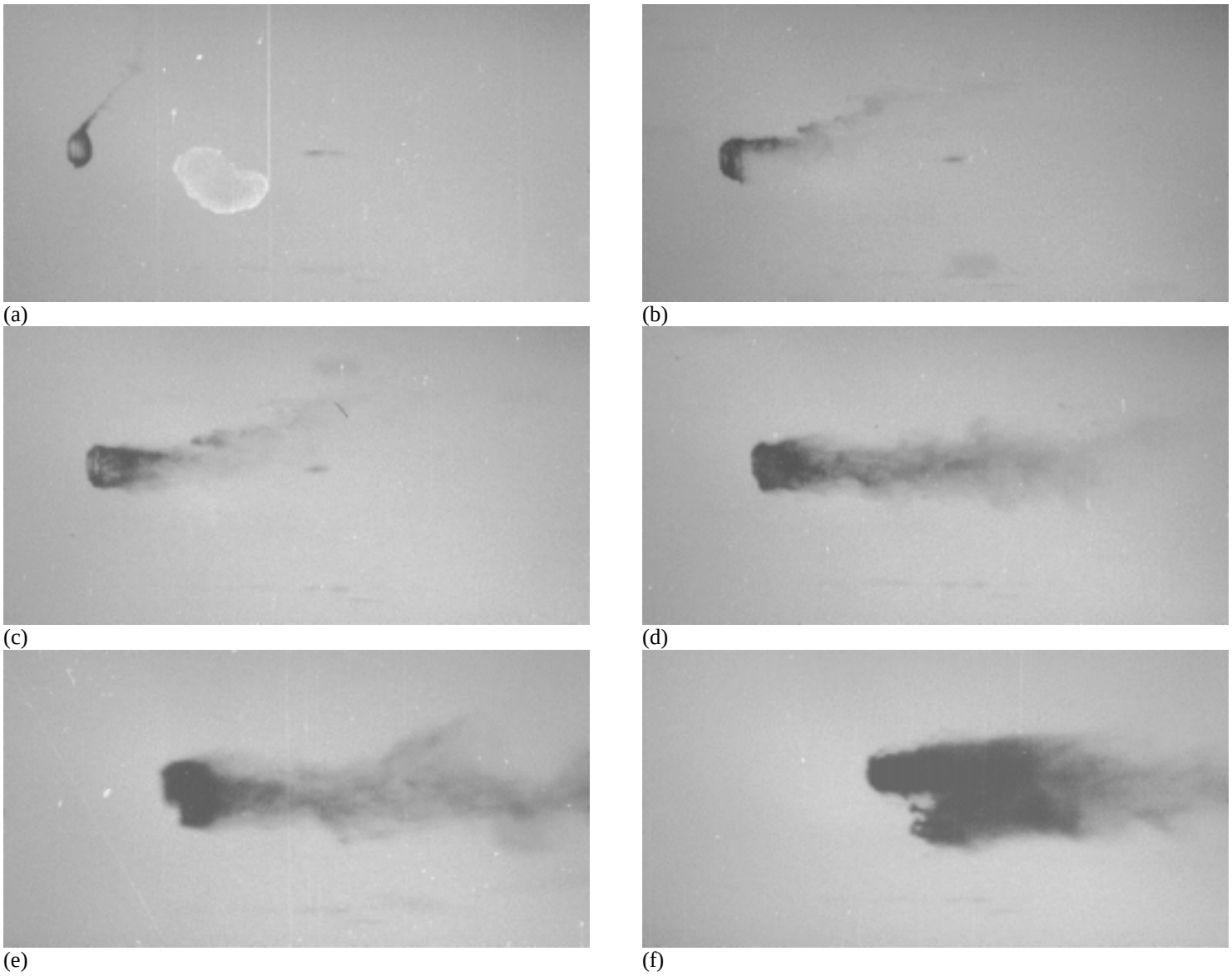


Figure 10. Example of stripping breakup; a drop of 10 Poise silicone oil (diameter = 2.6 mm) in the flow behind a Mach 3 shock wave. Air velocity = 767 m/sec; dynamic pressure = 681.0 kPa; Weber no. = 168,600
Time (microseconds): (a) 15 (b) 40 (c) 50 (d) 80 (e) 115 (f) 150

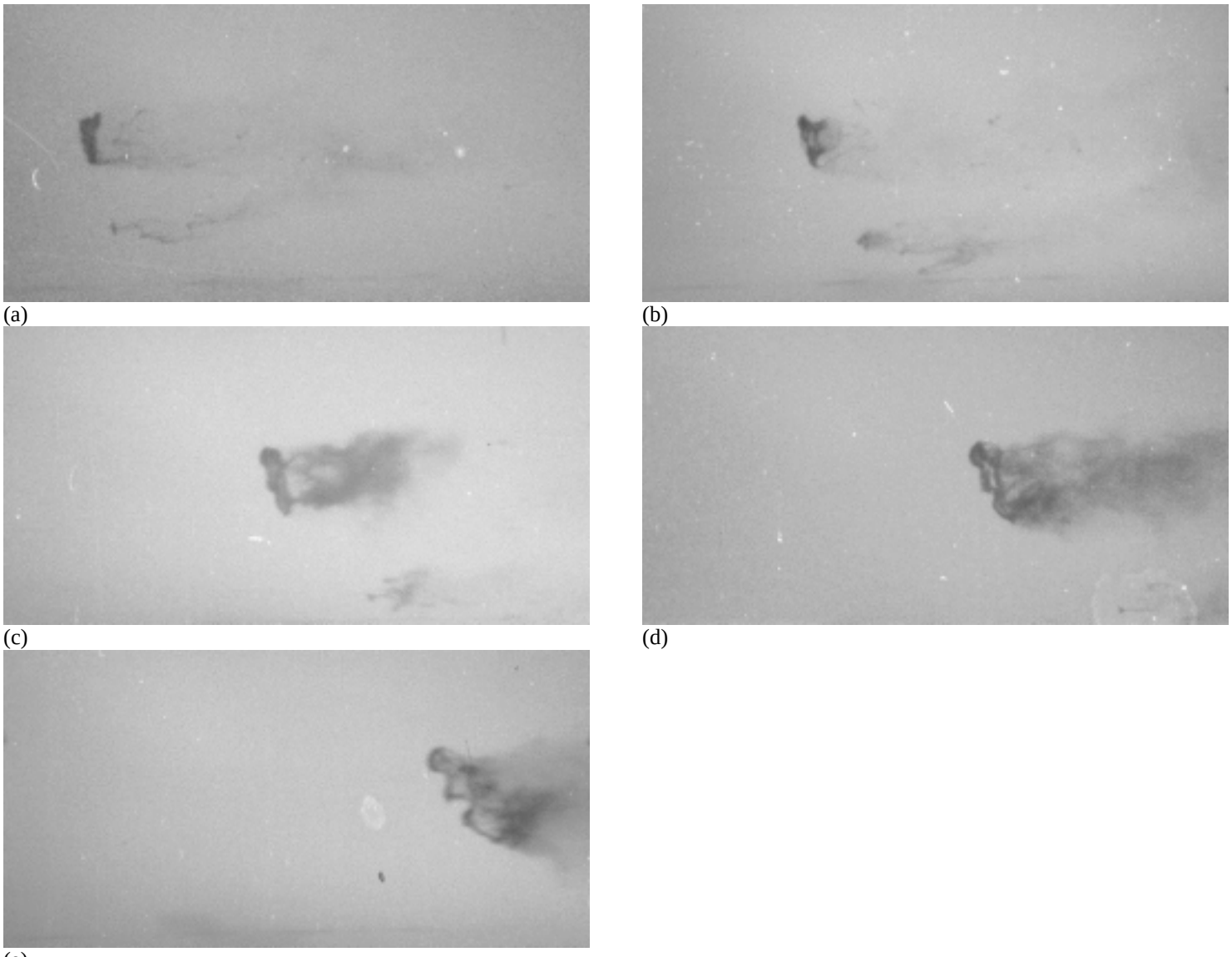


Figure 11. Example of bag breakup; a drop of 60 Poise silicone oil (diameter = 2.5 mm) in the flow behind a Mach 3 shock wave. Air velocity = 761 m/sec; dynamic pressure = 666.6 kPa; Weber no. = 158,700
Time (microseconds): (a) 265 (b) 290 (c) 320 (d) 340 (e) 365.

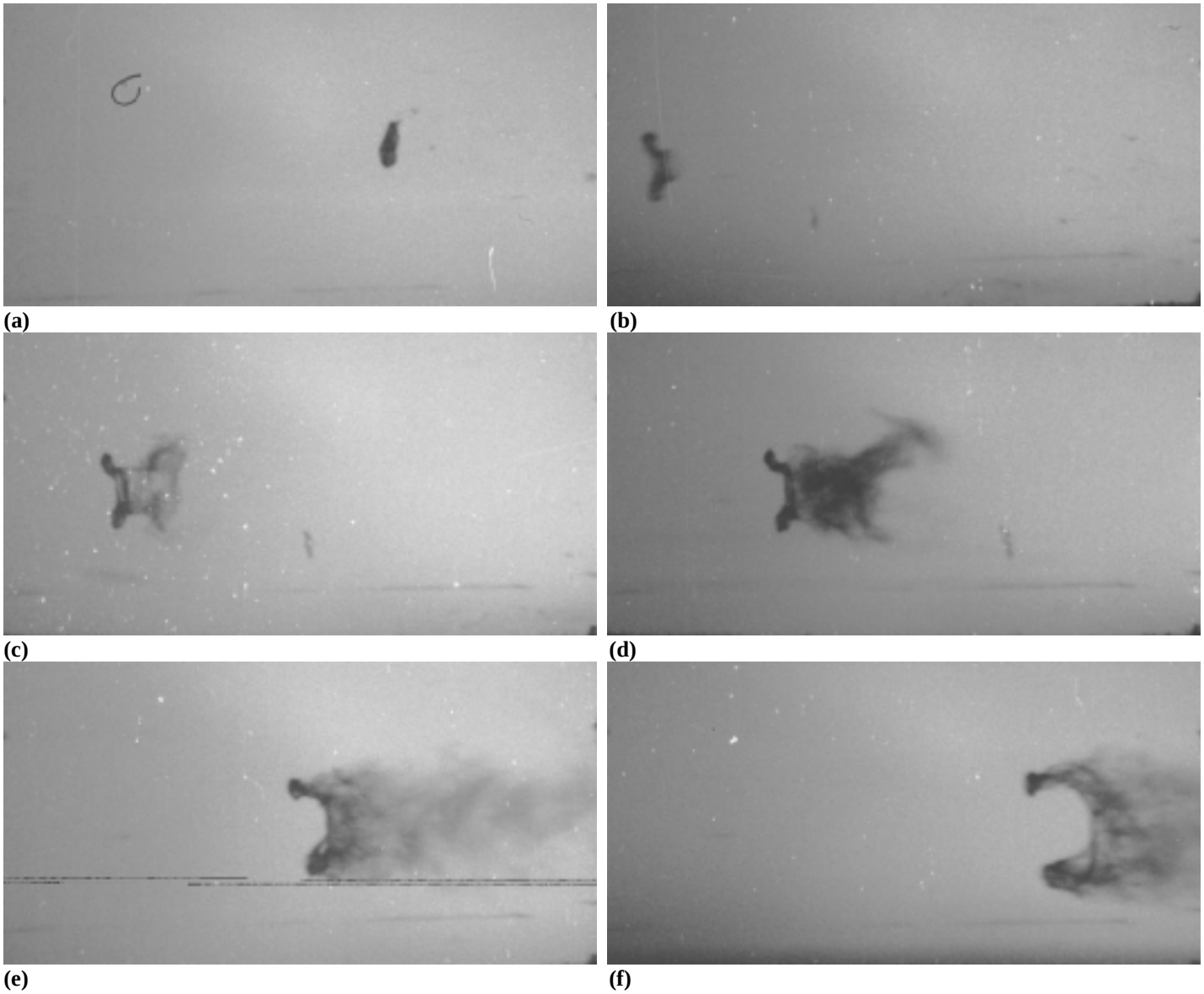


Figure 12: Example of bag breakup; a drop of 100 Poise silicone oil (diameter = 2.6mm) in the flow behind a Mach 3 shock wave. Air velocity = 754 m/sec; dynamic pressure = 652.4 kPa; Weber no. 161,000. Time (microseconds): (a) 360 (b) 375 (c) 390 (d) 405 (e) 425 (f) 455.

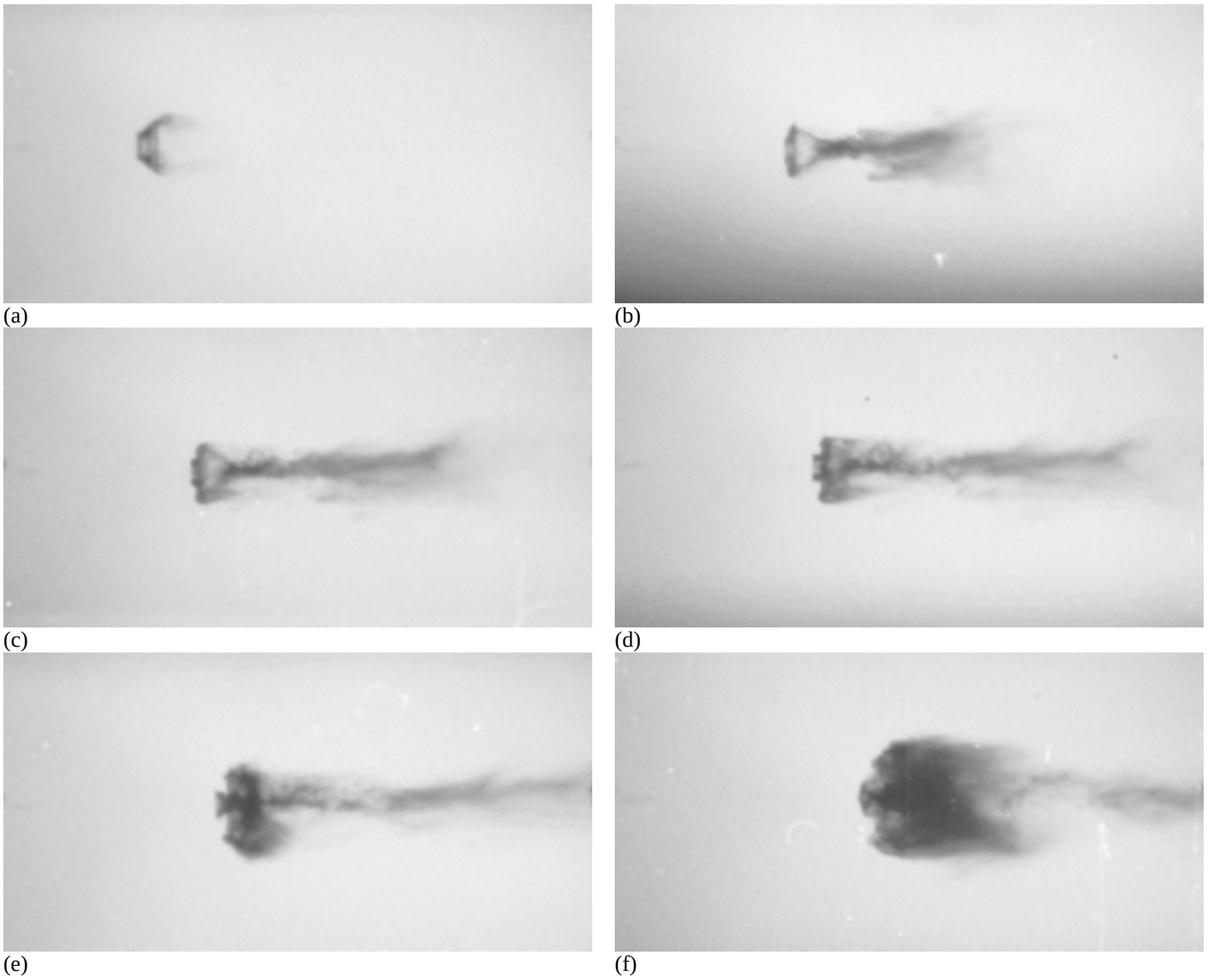


Figure 13. Example of bag-and-stamen type breakup; a drop of glycerin (diameter = 2.4 mm) in the flow behind a Mach 3 shock wave. Air velocity = 758 m/sec; dynamic pressure = 554.0 kPa; Weber no. = 42,200 Time (microseconds): (a) 55 (b) 100 (c) 115 (d) 125 (e) 135 (f) 155