Appendix J Ignition Location



(e) **T**: Shot 10 (t = 0.2 ms) (f) **T**: Shot 11 (t = 0.3 ms) (g) **S**: Shot 12 (t = 0.3 ms) (h) **T**: Shot 15 (t = 0.2 ms)

Figure J.1: Ignition locations observed in schlieren videos (T - top ignition, S - side ignition, P - plume ignition, time indicated is elapsed from 1 frame before any flame is visible)



(a) **T**: Shot 17 (t = 1.0 ms) (b) **P**: Shot 19 (t = 12.0 ms) (c) **T**: Shot 20 (t = 0.5 ms) (d) **T**: Shot 21 (t = 10.0 ms) (



(e) **P**: Shot 23 (t = 10.0 ms) (f) **S**: Shot 24 (t = 0.5 ms) (g) **S**: Shot 25 (t = 1.5 ms) (h) **S**: Shot 26 (t = 2.0 ms)



(i) S: Shot 27 (t = 1.5 ms) (j) P: Shot 28 (t = 16.5 ms) (k) S: Shot 29 (t = 0.5 ms) (l) P: Shot 30 (t = 22.5 ms) (t = 22.5 ms)



(m) S: Shot 31 (t = 0.5 ms) (n) S: Shot 32 (t = 0.5 ms) (o) T: Shot 33 (t = 0.5 ms) (p) T: Shot 34 (t = 1.0 ms) (m) S: Shot 34 (t = 1.0 ms) (m) S: Shot 31 (t = 0.5 ms) (m) S: Shot 32 (t = 0.5 ms) (m) S: Shot 32 (t = 0.5 ms) (m) S: Shot 33 (t = 0.5 ms) (m) S: Shot 34 (t = 1.0 ms) (

Figure J.2: Ignition locations observed in schlieren videos continued (\mathbf{T} - top ignition, \mathbf{S} - side ignition, \mathbf{P} - plume ignition, time indicated is elapsed from 1 frame before any flame is visible)



(a) **P**: Shot 36 (t = 13 ms) (b) **P**: Shot 37 (t = 11 ms) (c) **T**: Shot 38 (t = 1.0 ms) (d) **T**: Shot 40 (t = 0.5 ms) (d) **T**



(e) **T**: Shot 41 (t = 0.5 ms) (f) **T**: Shot 42 (t = 1.0 ms) (g) **T**: Shot 43 (t = 1.0 ms)



(h) **T**: Shot 44 (t = 1.0 ms) (i) **T**: Shot 45 (t = 2.0 ms) (j) **T**: Shot 46 (t = 1.0 ms)

Figure J.3: Ignition locations observed in schlieren videos continued (T - top ignition, S - side ignition, P - plume ignition, time indicated is elapsed from 1 frame before any flame is visible)

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