

JFK

62-109060

SERIAL 4199 EBF

PART 3

WORK
COPY

front of car does not touch line drawn
from left edge of sign 172

Line from edge of sign directs
K's head 197

K's head ^{left} ~~above~~ post of sign 201

Car first protrudes from
right edge of sign 205

Full face of Connally 222

Copy slides to be of frames 172
through 323.

Film Test of Muckmore Camera.

| | | | |
|-------------|------|------|------|
| 1st 10 sec. | 18.8 | 18.6 | 18.9 |
| 2nd 10 sec. | 18.6 | 18.4 | 19.2 |
| 3rd 10 sec. | 17.6 | 18.1 | 17.3 |
| last 5 sec. | 16. | 16.6 | 16.2 |

| | | | |
|-------------|------|------|------|
| 1st 10 sec. | 19.2 | 19.2 | 19.6 |
| 2nd 10 sec. | 18.7 | 19.2 | 18.8 |
| 3rd 10 sec. | 18.0 | 17.9 | 17.0 |
| last 5 sec. | 12.6 | 16.4 | 15.8 |

Average 1st 10 sec. 19.05

" 2nd 10 sec 18.8

" 3rd 10 sec 17.6

Overall average 18.5

2/15/16
ly

Mrs Marie Muchmore Film:—

Relevant portion total 66 frames.

3rd shot on frame 42

First 12 frames not clear.

She was standing on N.W. corner
of Main + Houston

Comparison of Nix + Zapruder frames
from 3rd slot on:

frame # 13 Rt hand up.

.. #44 Left hand on trunk deck

.. #53 Rt hand on deck

.. #54 One foot on bumper

.. #58 Jackie's knees on deck +
Will one foot on bumper.

.. #68 Will both feet on bumper.

.. #81 Jackie's head turns to start
back into car.

Key Camera

| <u>1st 10 sec</u> | <u>2nd 10 sec</u> | <u>3rd 10 sec</u> | <u>Last 5 sec</u> | <u>Average</u> |
|-------------------|-------------------|-------------------|-------------------|---------------------------|
| 18.5 | 184 | 184 | 83 | peak 18.433 all 18.171 |
| 185 | 185 | 186 | 81 | peak 18.533 all 18.2 |
| 188 | 186 | 184 | 74 | peak 18.6 all 18.057 |
| 192 | 189 | 183 | 77 | peak 18.8 all 18.314 |
| <u>740</u> | <u>744</u> | <u>739</u> | <u>315</u> | |

Averages

$$18.5 \quad 18.6 \quad 18.425, \quad 15.75 = 17.825$$

average 18.5 (exclusive of run down end)

News Film

Frame #1 is start of portion after
shots 1 and 2.

Third Shot - Frame #24

Hill's head behind lamp post center

of frame # 88 - 89 frames @ 18.5
4.324 sec.

Complete blur - #123 = 6.649 sec

Total 267 frames

Approx 200 frames at first
portion of motorcade before shots.

Total film - 467 frames @ 18.5 = 25.243
sec.

Change in frame count.

seconds.

Middle of sign to 3rd shot

$$\text{Frame } 212 \text{ to } 313 = 102 = 5.573$$

K. head after sign to 3rd shot

$$225 \text{ to } 313 = 89 = 4.863$$

K. head after sign to lamp post.

$$225 \text{ to } 272 = 48 = 2.623$$

Lamp post to 3rd shot -

$$272 \text{ to } 313 = 42 = 2.295$$

K head $\frac{1}{3}$ from edge of sign to 3rd shot

$$216 \text{ to } 313 = 98 = 5.355$$

(Above based on inclusive count)

Frame Count - Zabruder Film

| | |
|---|------------|
| From begin to "start-Stop" + pres. car. | 132 |
| First frame showing president's car | 133 |
| Frame with K head center of sign | 212 |
| Frame with K head $\frac{1}{3}$ from edge of sign | 216 |
| Full face of K after sign board | 225 |
| President's head behind lamp post | 272 |
| Third shot | 313 |
| Lands Touch (Mrs K + Hill) | 397 or 398 |
| Clear lamp post in center frame | 405 |
| Last frame | 486 |

Total elapsed time @ 18.3 fps.

26.557

Same @ 18.1 fps = 26.850

61-213

55 Showdown face

~~showdown~~

56 →

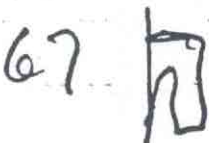


61

62

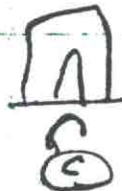


66 + A A



68 ←

73



4.917
From sign to 3rd shot 89 fr. - 4.863 sec.
Middle of sign to 3rd shot 102 fr. - ^{5.646}5.573 sec.
Lead edge of sign to 3rd shot 117 fr. - 6.4 sec.
From sign to lamp post 48 fr. - 2.623 sec.
From lamp post to 3rd shot 48 fr. - 2.295 sec.
Pres. waving behind sign to 3rd shot 107 fr. - ^{5.847}5.874 sec.
 $\frac{1}{3}$ from edge of sign to 3rd shot 98 fr. - 5.355
18.3 frames per second
.0546 ~~546~~ seconds per frame

1/29/64
B

Take 1

2 to 4 = 183

4 to 6 = 185

6 to 8 = 179

8 to 10 = 178

10 to 12 = 174

2 to 12 = 899

Average speed Take 1 = 17.98

(12 to 2 area fogged)

Take 2

$$12 \text{ to } 2 = 181$$

$$2 \text{ to } 4 = 183$$

$$4 \text{ to } 6 = 184$$

$$6 \text{ to } 8 = 181$$

$$8 \text{ to } 10 = 178$$

$$10 \text{ to } 12 = 178$$

$$12 \text{ to } 12 = 1085$$

Average speed 18.083

Take 3

Too limited for accuracy

Take 4

(12 to 6 area fogged)

$$6 \text{ to } 8 = 189$$

$$8 \text{ to } 10 = \underline{185}$$

$$6 \text{ to } 10 = 374$$

Average speed 18.7

Take 5

$$12 \text{ to } 2 = 180$$

$$2 \text{ to } 4 = 185$$

$$4 \text{ to } 6 = 184$$

$$6 \text{ to } 8 = 191$$

$$8 \text{ to } 10 = 179$$

$$10 \text{ to } 12 = \underline{176}$$

$$12 \text{ to } 12 = 1085$$

Average speed 18.083

Take 6

$$12 \text{ to } 2 = 177$$

$$2 \text{ to } 4 = 181$$

$$4 \text{ to } 6 = 184$$

$$5 \text{ to } 7 = 182$$

$$\text{Total} = 724$$

Average Speed 18.1

$$\text{Take 1} = 17.980$$

$$\dots 2 = 18.083$$

$$\dots 4 = 18.700$$

$$\dots 5 = 18.083$$

$$\dots 6 = 18.100$$

$$\text{Total} = 90.946$$

Average speed 18.189

Individual average speed 18.117

Take!

183

185

179

178

174

899

179.8
5.7899

Take 2

1 8 1
1 8 3
1 8 4
1 8 1
1 7 8
1 7 8

1 0 8 5

18.083
6/10850

Take 4

18.7

189

185

374

2/ $\frac{18.7}{374}$

Take 5

180
185
184
181
179
176

1085

18,083
6,10850

Take 6

177

181

184

182

724

18.1
4 || 724

Average of
Averages

1-17980
2-8083
4-6700
5-6083
6-8100

90946

18.189
5 / 90946

1 8 3
1 8 5
1 7 9
1 7 8
1 7 4
1 8 1
1 8 3
1 8 4
1 8 1
1 7 8
1 7 8
1 8 9
1 8 5
1 8 0
1 8 5
1 8 4
1 8 1
1 7 9
1 7 6
1 7 7
1 8 1
1 8 4
1 8 2

4 1 6 7

18.118
23 | 4187
 23

 186
 184

 27
 23

 40

170
161
 9

