

① check that focus board orientation is aligned w/ camera FOV

02.02.17

② determine focal distance of camera in air

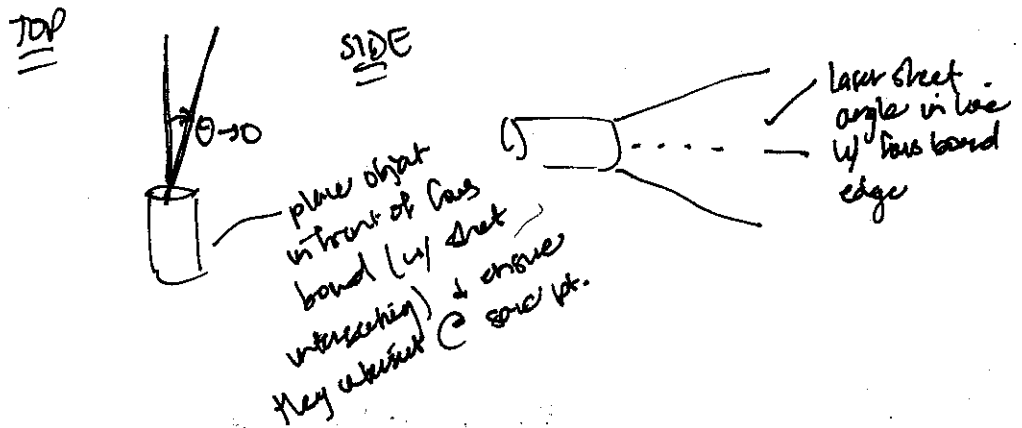
Alignment steps

center of image best focused @ 425

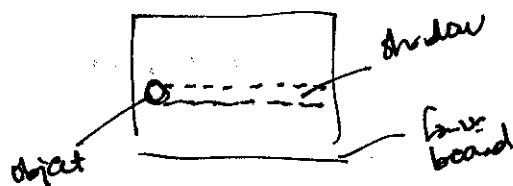
outer edges better focused > 430

* Set focus @ 430 mm (FP)

③ add shim (15) & align laser angle



④ rotate camera housing such that camera FOV aligned w/ mid-line of laser beam



⑤ move camera housing such that laser sheet intersects focus board ruler @ $1.34 \times FP \approx 576 \text{ mm}$

⑥ tighten all screws & take focus ring off

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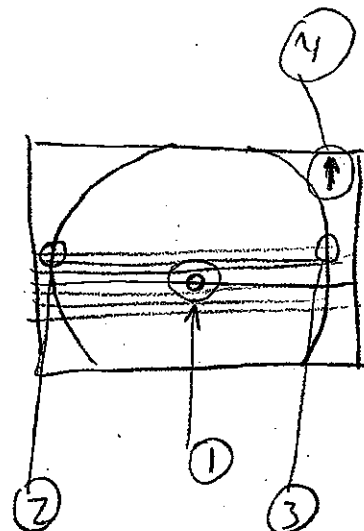
8/23/2016 Alignment

offset ~ 1kg

9:50

427.5

1. 434, 434 - ~~add~~ pattern at 4 points around center discrepancies



417 ~~415~~
bottle

testing 425.5 → OK

Fork 17

2. outer point left, top line down

⊕ 15 plastic to tube wrap to fix laser yaw &

435 → 430 → 435 → OK
→ 440

fork 10

3. outer point right on top line

419 420 → 425 → OK
475 431 430

fork 10

testing 430 → 576.2
16.930 → 22.685

571 → 426
22.480 →

4. around arrow

rest to
430 → 576
12/03/16

450

463 455

430 435

445 → 455
→ 435

430 → 576

final setting
= 430 + 1.34

11/26/2016
445 → 526