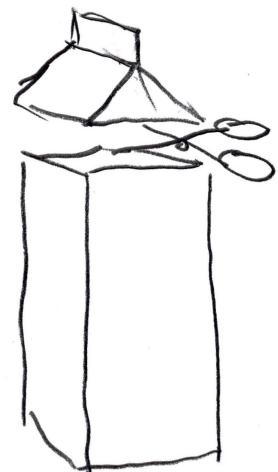
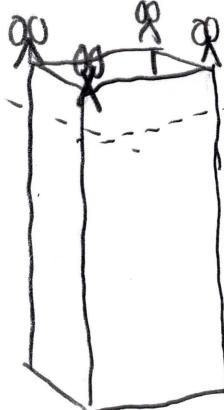


"How TO MAKE A 'CHICKEN MACHINE'
FROM *mostly* RECYCLED MATERIALS"
© JUSTIN MILES (AKA JUSTINSTARZ) FEB. 2019

① TAKE YOUR CARTON & CUT THE TOP OFF WITH SCISSORS - MAKE SURE IT STAYS LEVEL - FOLLOW THE FOLD CAREFULLY



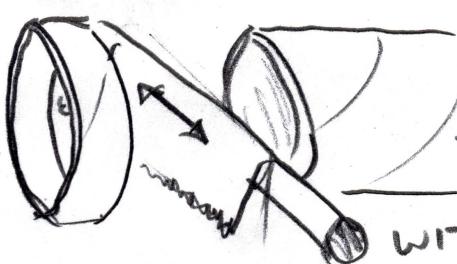
② MEASURE $1\frac{1}{2}$ cms DOWN FROM TOP AND MARK WITH SHARP PENCIL. CUT DOWN AT THE CORNERS TO THIS LINE.



③ TAKE A PIECE OF $\frac{1}{4}$ " DOWEL ADD CUT IT ROUGHLY 3cm WIDER THAN YOUR CARTON



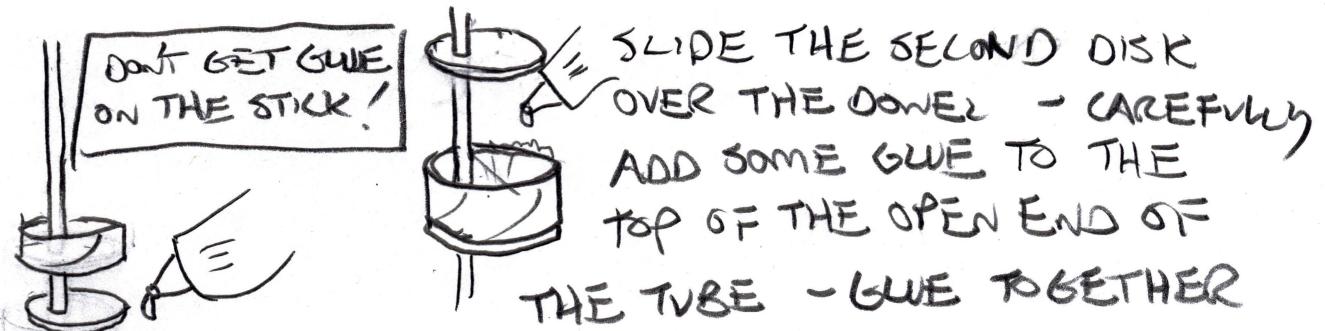
④ CUT A 12mm WIDE SECTION OF THE TUBE YOU ARE USING. USE A FINE TOOTHED SAW & CUT THIS SECTION AS ACCURATELY AS YOU CAN. USE A MITER BOX IF YOU HAVE ACCESS TO ONE.



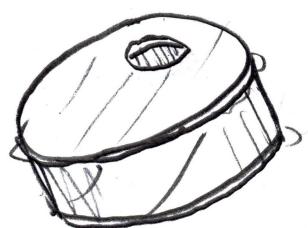
- TAKE ONE OF THE TWO CIRCLES

WITH THE OFF-CENTER HOLES

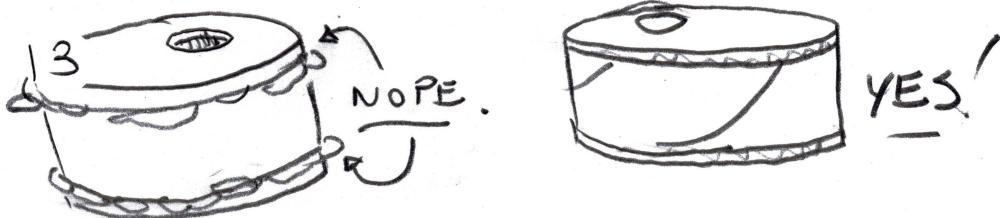
& SLIDE onto your $\frac{1}{4}$ INCH DOWEL. SLIDE THE THIN SECTION OF TUBE OVER THE DOWEL AS WELL & GLUE THIS CAREFULLY TO THE FIRST CIRCLE



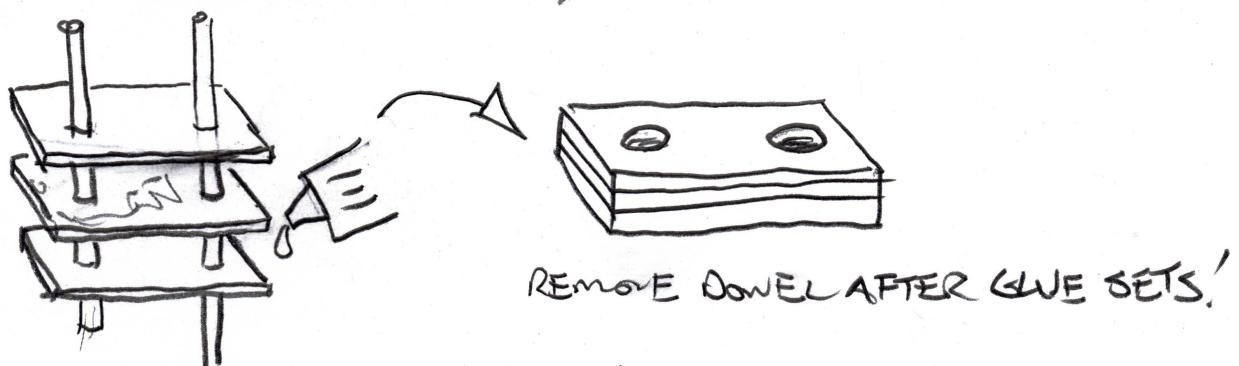
ALIGN CAREFULLY so you HAVE THIS:
REMOVE DOWEL — THIS IS YOUR CAM



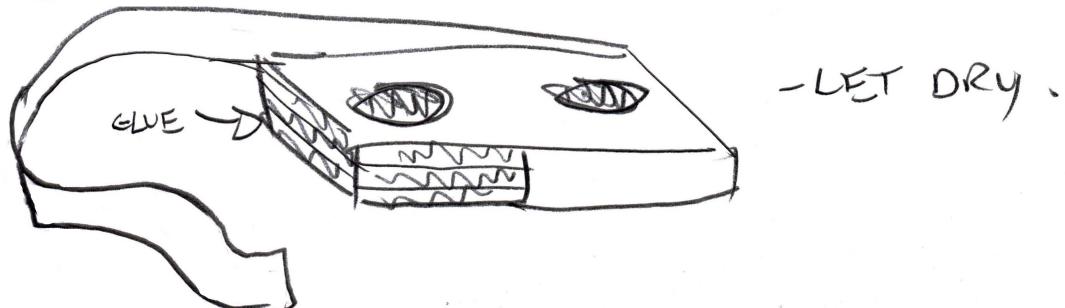
- 5) IF THERE IS ANY OOZED GLUE,
MAKE SURE THAT IS CLEANED OFF.



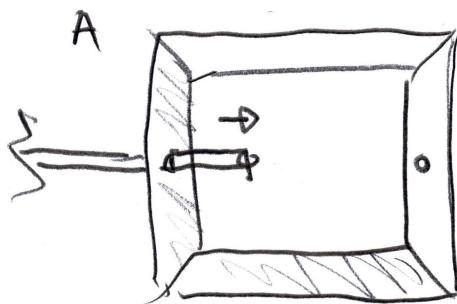
- 6) TAKE THE THREE RECTANGULAR PIECES & GLUE
TOGETHER USING TWO OF THE DOWEL PIECES TO
ALIGN — CAREFULLY GLUE THEM TOGETHER — BUT
DO NOT ALLOW GLUE TO STICK TO YOUR DOWEL.



⑧ (OPTIONAL) THIS RECTANGLE WILL BE PART OF YOUR HANDLE. IF you LIKE , GLUE PAPER ON THE SIDES

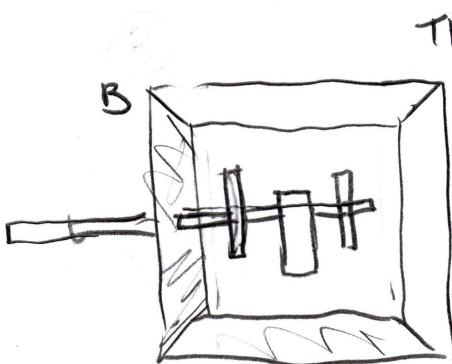


⑨ A TAKE your CARTON & DowEL , POKE THE DowEL INTO THE CARTON $\frac{1}{2}$ way down from THE top on opposite sides. BE ACCURATE .



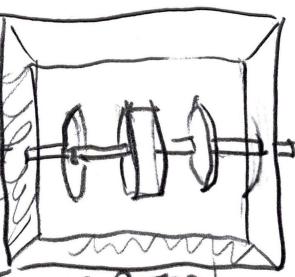
B SLIDE ONE CENTER HOLE DISK onto the DowEL INSIDE THE CARTON .

* TRY NOT TO RIP OR EXPAND THE HOLES ON THE SIDE OF THE CARTON

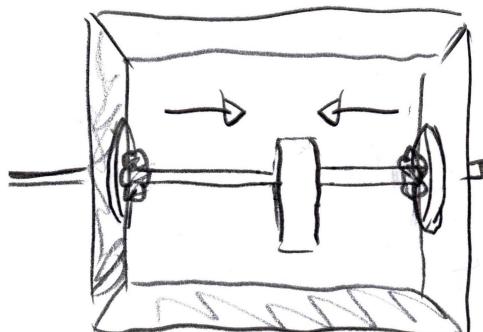


(C) THEN THE CAM, AND
THEN ANOTHER
CENTER-HOLE
DISK.

STICK THE DOWEL
1 CM OUTSIDE THE
OPPOSITE END OF THE CARTON

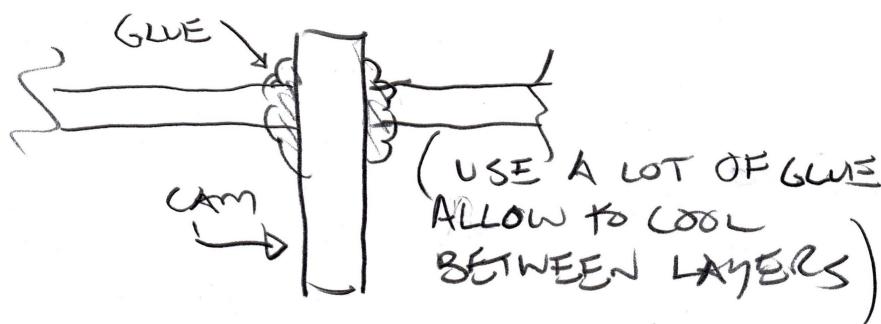


- ⑩ PUSH THE TWO CENTER-HOLE DISKS TO THE EDGES
OF THE CARTON & GLUE ONTO THE DOWEL
* DO NOT GLUE DISKS TO CARTON!!



- SLIDE THE CAM TO THE CENTER

& GLUE IT TO THE DOWEL



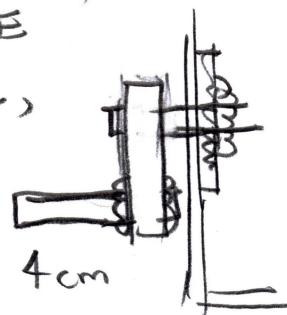
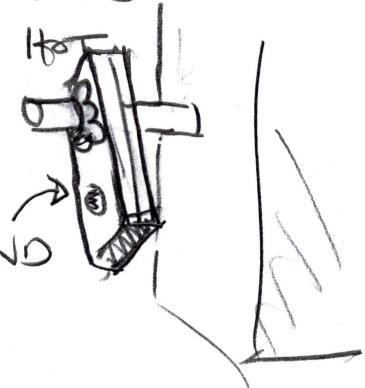
11 - TAKE YOUR HANDLE RECTANGLE & GLUE THIS

TO THE LONGER SIDE OF THE DOWEL. APPLY HOT
GLUE TO BOTH SIDES, FOR A STRONG BOND

- CUT A 4cm LENGTH OF $\frac{1}{4}$ " DOWEL

AS YOUR HANDLE — GLUE THIS INTO THE SECOND
HOLE. THIS IS YOUR CRANK HANDLE

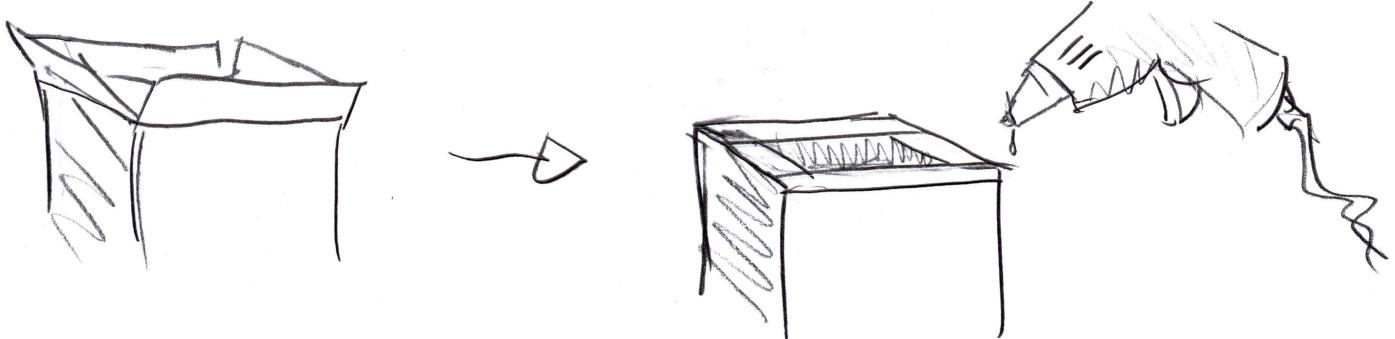
RE-ENFORCE WITH EXTRA GLUE,
BEING SURE NOT TO GLUE THE
DOWEL TO THE CARTON.



THE BASE IS DONE

⑫ FOLD DOWN THE TOP FLAPS ON THE CARTON
& GLUE THE OVERLAP TOGETHER.

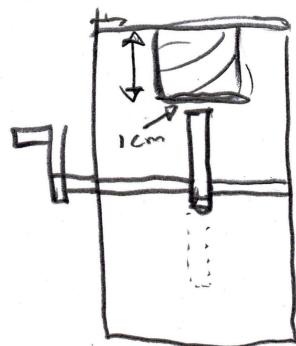
* HOLD IT DOWN UNTIL THE HOT GWE SETS *



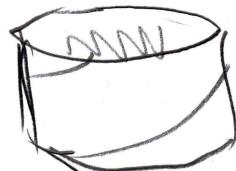
⑬ TAKE THE TOP SQUARES & ALIGN THEM USING
A PIECE OF DOWEL. CAREFULLY GLUE TOGETHER,
AGAIN DON'T GLUE YOUR DOWEL IN THERE. SLIDE OUT
BEFORE GWE SETS.



14 TAKE YOUR CARDBOARD TUBE AND CUT A LENGTH THAT'S SLIGHTLY SHORTER THAN THE MAXIMUM HEIGHT OF YOUR CAM.



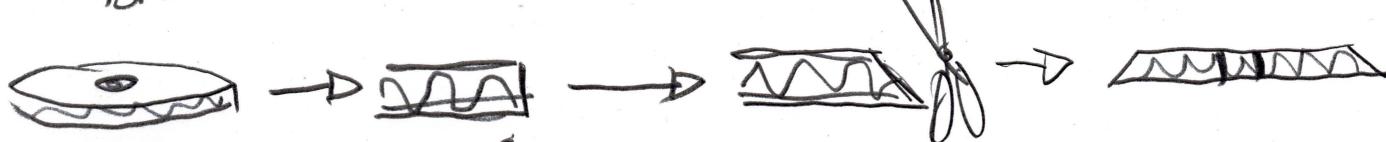
GIVE YOURSELF ABOUT 1 cm CLEARANCE



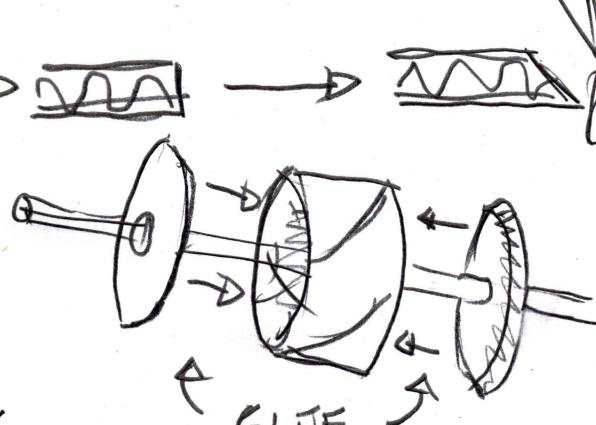
* THE HEIGHT WILL DEPEND ON YOUR BUILD. MEASURE CAREFULLY.

CUT OFF THIS SECTION OF TUBE.

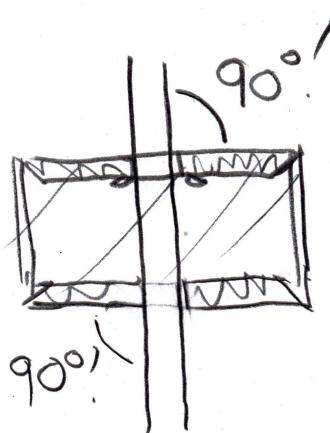
15 TAKE TWO CENTER HOLE DISKS, TRIM THE CARDBOARD AT ROUGHLY 45° ON THE EDGES, & GLUE TO EITHER END OF THE TUBE SECTION YOU JUST CUT.



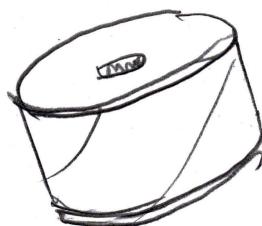
* USE
A PIECE OF
 $\frac{1}{4}$ " DOWEL
TO HELP ALIGN
THE CENTERS



- ITS VERY IMPORTANT THAT THE HOLES STAY AT 90°
TO THE DIRECTION OF DOWEL.

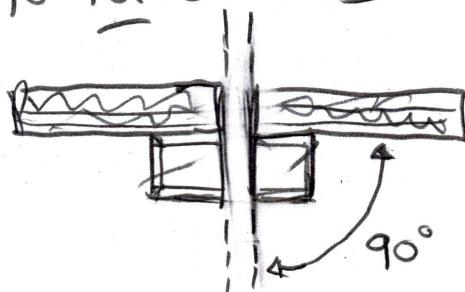


WHEN DONE IT LOOKS
LIKE THIS.



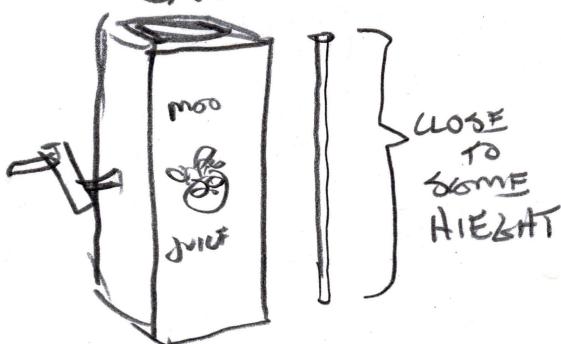
16

GLUE THIS THICK DISK TO THE BOTTOM OF THE TOP PIECE. USE DOWEL AGAIN TO HELP CENTER & TO KEEP THE HOLES STRAIGHT UP & DOWN (@ 90° TO TOP SURFACE.



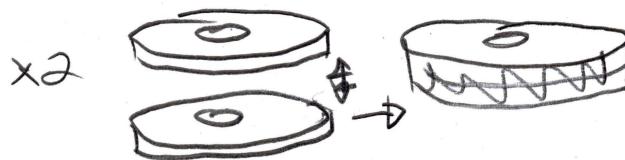
17

CUT A LENGTH OF DOWEL AS TALL AS YOUR CARTON



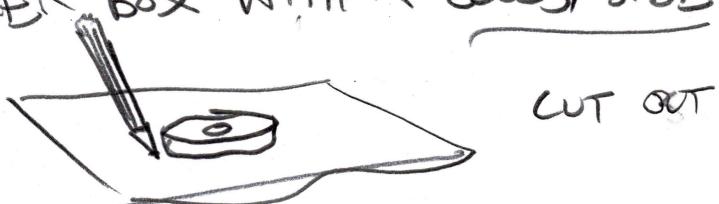
18

TAKE TWO CENTER HOLE DISKS & STICK THEM TOGETHER



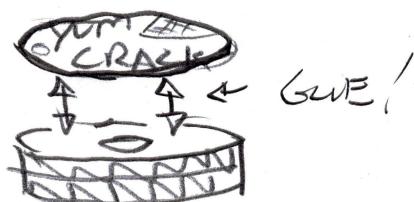
19

TRACE THE DISK onto some CARD STOCK, PREFERABLY A CRACKER BOX WITH A GLOSSY SIDE. (OR SIMILAR)



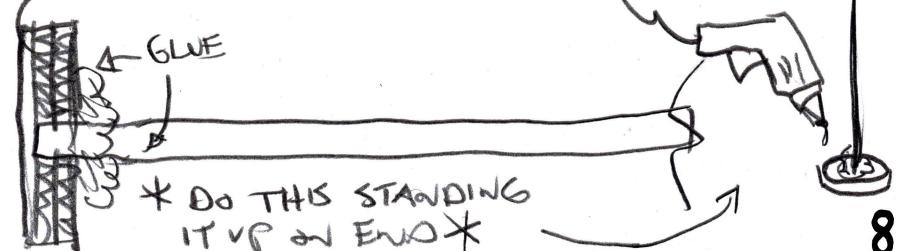
CUT OUT

GLUE TO DISK - WITH THE SHINY OR GLOSSY SIDE FACING OUT



20

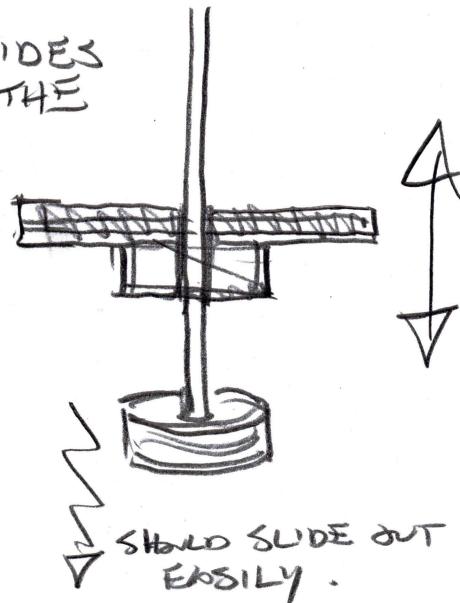
TAKE THE DOWEL & GLUE IT INTO THE HOLE ON THE DISK
USE LOTS OF GLUE



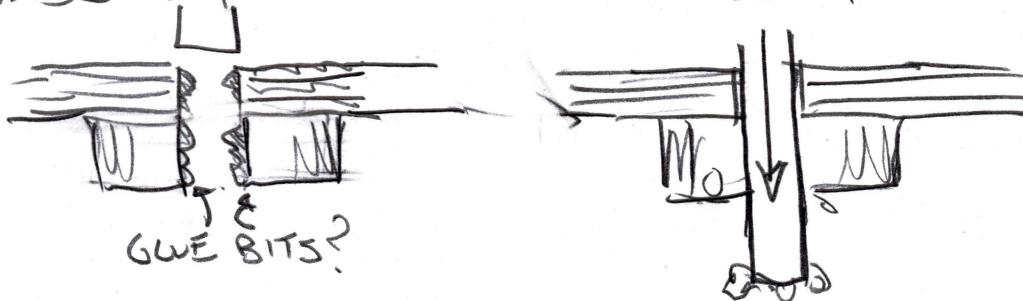
21 ONCE THE GLUE IS SET, PUSH THE DOWEL THROUGH THE TOP PIECE WITH THE DISK PORTION BELOW

* MAKE SURE THIS 'PISTON' SLIDES FREELY UP & DOWN THE HOLE IN THE TOP PIECE.

* NOT TOO LOOSE, JUST ENOUGH FOR THE PISTON TO SLIDE OUT UNDER ITS OWN WEIGHT.



* IF IT DOES NOT, WIGGLE THE DOWEL OFF 90° A LITTLE & FORCE THE BLUNT END OF THE DOWEL UP & DOWN THRU THE HOLE A FEW TIMES.

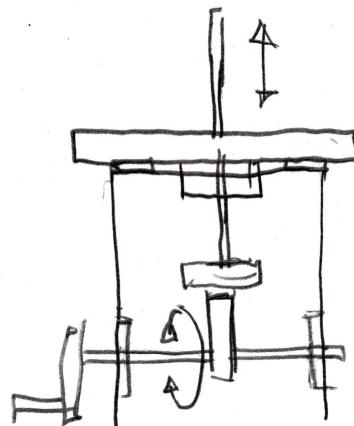
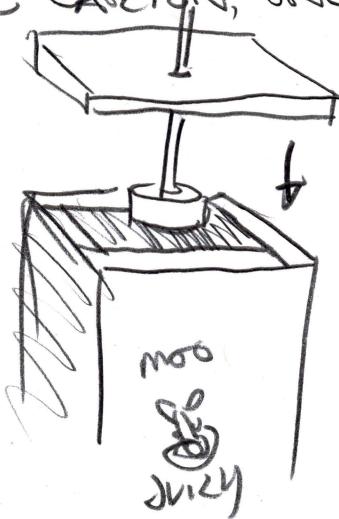


22 GLUE THE TOP PIECE onto the tabs you folded over on the carton

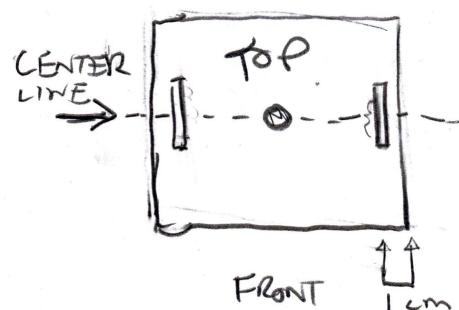
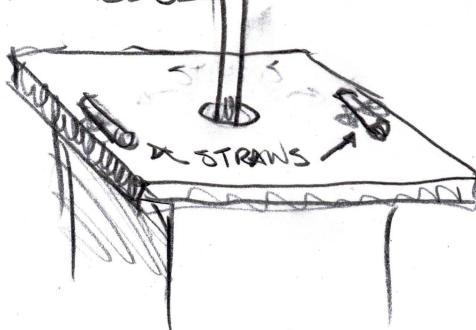
* BE SURE THE DOWEL/PISTON IS LONG ENOUGH NOT TO FALL INTO THE CARTON, ONCE YOU'VE GLUED THE TOP IN PLACE! *

- THE PISTON SHOULD LINE UP WITH THE CAM BELOW.

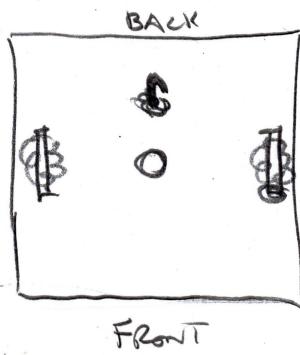
- MAYBE TEST FIRST THAT THE PISTON & CAM WORK WELL TOGETHER. HOLD DOWN TOP & TRY CRANKING.



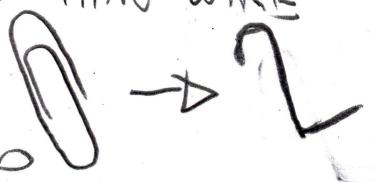
23) ON THE TOP, GIVE (X2) 2 cm LENGTH OF NARROW STRAW 1 cm FROM THE EDGE OF THE CENTER LINE OF TOP EDGES



24) MAKE A 'J' SHAPED HOOK OUT OF THIN WIRE OR A PAPER CLIP.



- MAKE A SMALL BEND @ 90° AT THE OTHER END



- POKE THE WIRE INTO THE TOP, HALF WAY TOWARDS THE BACK FROM THE CENTER.
- GLUE IN PLACE.

CHICKEN / BIRD TIME

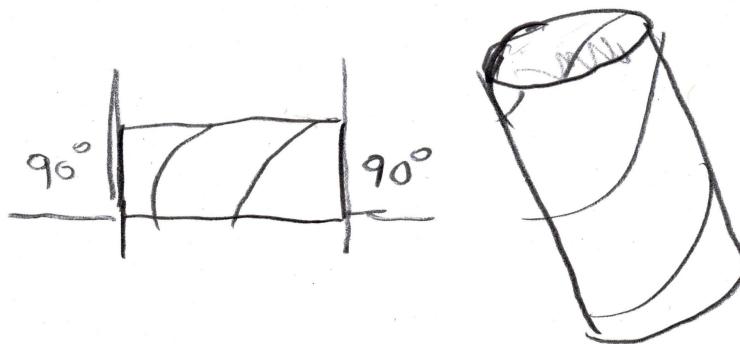
(or ^ WHATEVER...)

25) CHOOSE THE HEIGHT OF YOUR BIRD -

BUT IT MUST BE AT LEAST 5 cm TALL TO

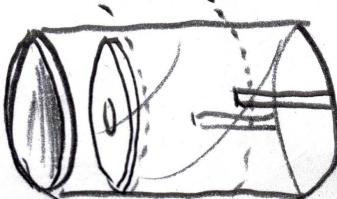
ACCOMMODATE THE DOWEL POST & A MOUTH MECHANISM

CUT YOUR REMAINING CARDBOARD TUBE TO THIS LENGTH - BEING SURE THE CUT IS SQUARE.



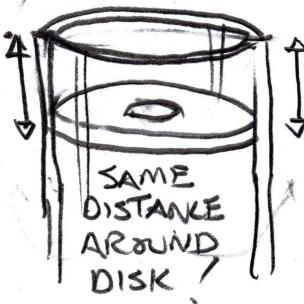
(26) TAKE THE BODY TUBE & GLUE ONE OF THE SMALLER DISKS (WITH THE CENTER HOLES) & SLIDE INTO THE TUBE

(A) GLUE THIS FIRST DISK $\frac{1}{3}$ OF THE WAY INTO THE TUBE

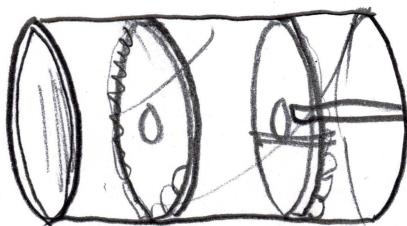


-GLUE CAREFULLY IN PLACE

*MAKE SURE THE DISK IS EVENLY INSERTED.



(B) REPEAT PROCESS FOR THE 2ND DISK FROM THE OTHER END

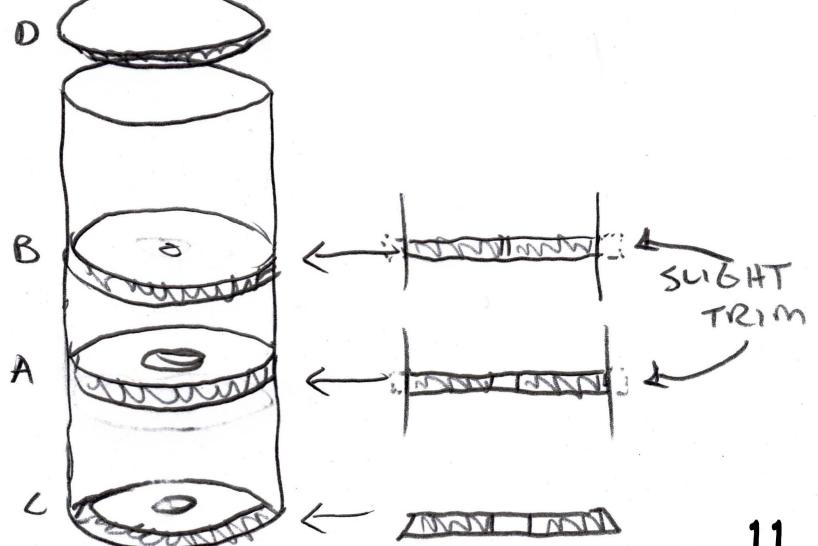


(C) TAKE THE TOP & BOTTOM SLIGHTLY LARGER CIRCLES AND TRIM ROUGHLY 45° OF CARD BOARD AWAY WITH SCISSORS.*TRY NOT TO MAKE THE CIRCLES ANY SMALLER.*



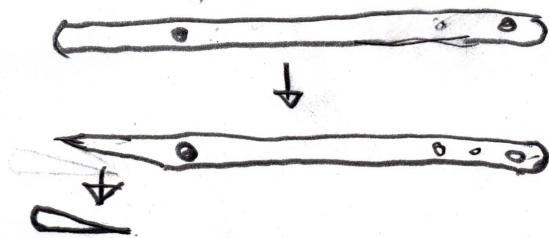
(E) GLUE THE SOLID DISK TO THE TOP.

& THE CENTER HOLE DISK TO THE BOTTOM



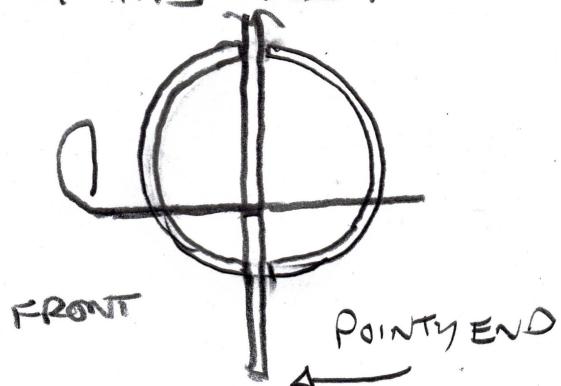
27

TAKE THE COFFEE STICK WITH THE TWO HOLES & ON THE END WITH THE HOLE FURTHER FROM THE END, USING SCISSORS, CUT IT TO A POINT



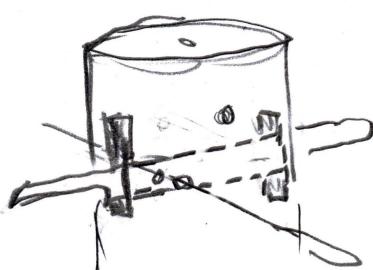
- PLACE THE STICK IN THE SLOT CUT IN THE TUBE. THE POINTY END SHOULD STICK OUT THE 'FRONT'.

- INSERT A STRAIGHTENED PAPER CLIP IN ONE HOLE, THROUGH THE HOLE IN THE STIR STICK, & OUT THE OTHER SIDE OF THE TUBE.



28

DAB SOME HOT GLUE ON THE SPOTS WHERE THE WIRE EXITS & CUT OFF EXCESS WIRE.



- TRIM THE STICK AT THE BACK OF THE HEAD OFF SO THAT 2 cm REMAIN -

