



WILLY NILLIES.COM

**WHEEL PANTS BUILD MANUAL
FOR WIRE GEAR & ALUMINUM GEAR**

PREFACE

THANK YOU FOR PURCHASING YOUR NEW WILLYNILLIES.COM WHEEL PANT KIT. THESE PANTS WERE SPECIFICALLY DESIGNED TO BE USED WITH WILLYNILLIES.COM 1.25" LIGHT WEIGHT WHEELS.

TOTAL WEIGHT OF WHEEL PANT PAIR IS 6G.

THEY CAN BE MOUNTED ON .064" WIRE GEARS YOU BEND FROM PATTERNS OR ALUMINUM GEARS AVAILABLE FOR PURCHASE AT WILLYNILLIES.COM.

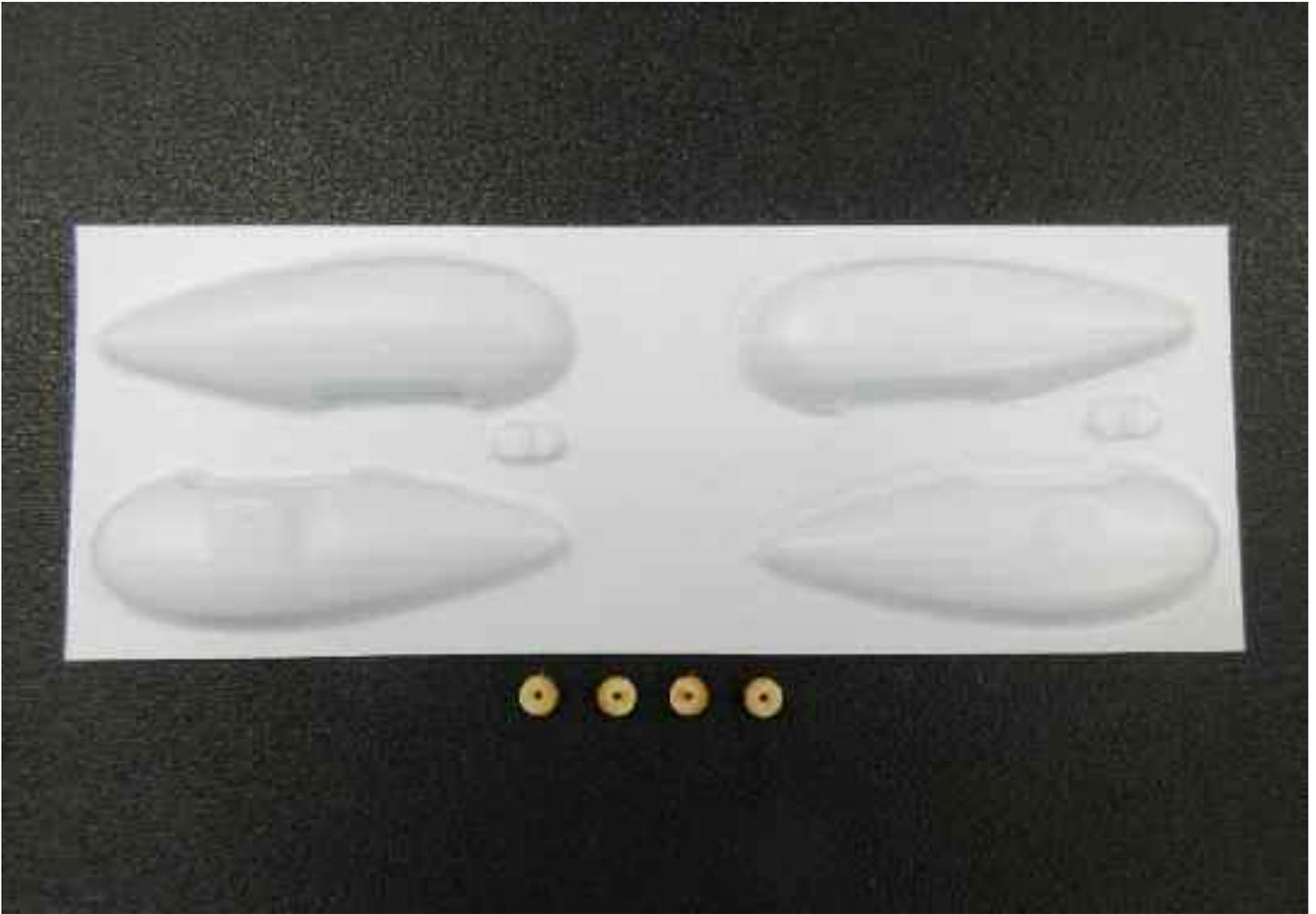
READ THROUGH THIS MANUAL, TAKE YOUR TIME, AND YOU WILL HAVE AN ENJOYABLE BUILD, A BEAUTIFUL PRODUCT, AND A GREAT LOOKING ACCESSORY TO ADD TO ANY OF OUR WILLYNILLIES.COM AIRPLANES.

BE SURE TO LOOK FOR OUR OTHER ACCESSORIES, AND PLEASE GIVE US YOUR FEEDBACK AT WILLYNILLIES.COM.



REQUIRED SUPPLIES

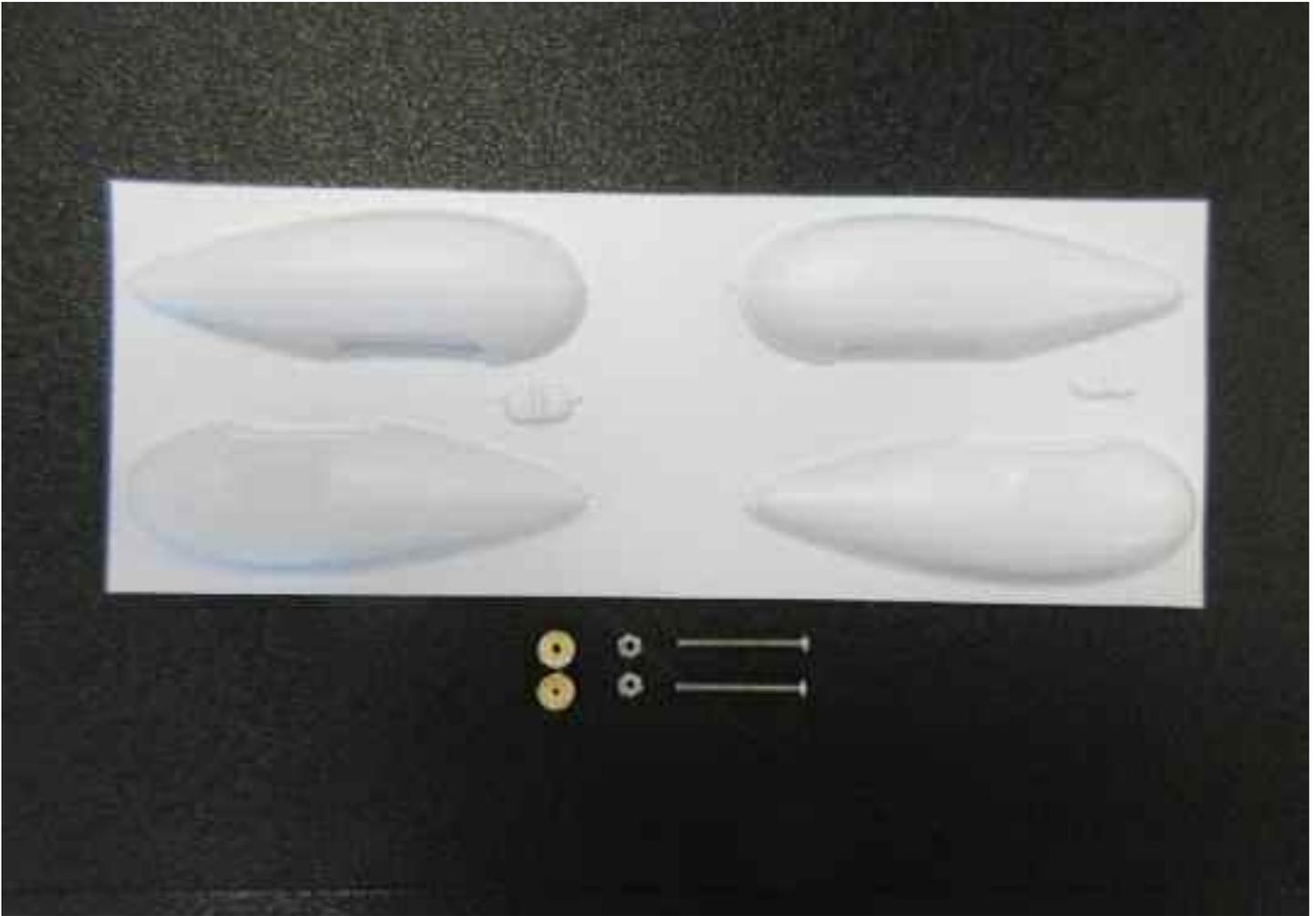
- THIN CA
- MEDIUM CA
- HOBBY KNIFE
- 400 WET/DRY SAND PAPER
- ROTARY CUTTER
- CLEAR TAPE
- SCUFF PAD



WIRE GEAR APPLICATION USE:

(2) WIRE GEAR RETAINERS (LOCATED ON SHEET)

(4) PLYWOOD WHEEL SPACERS

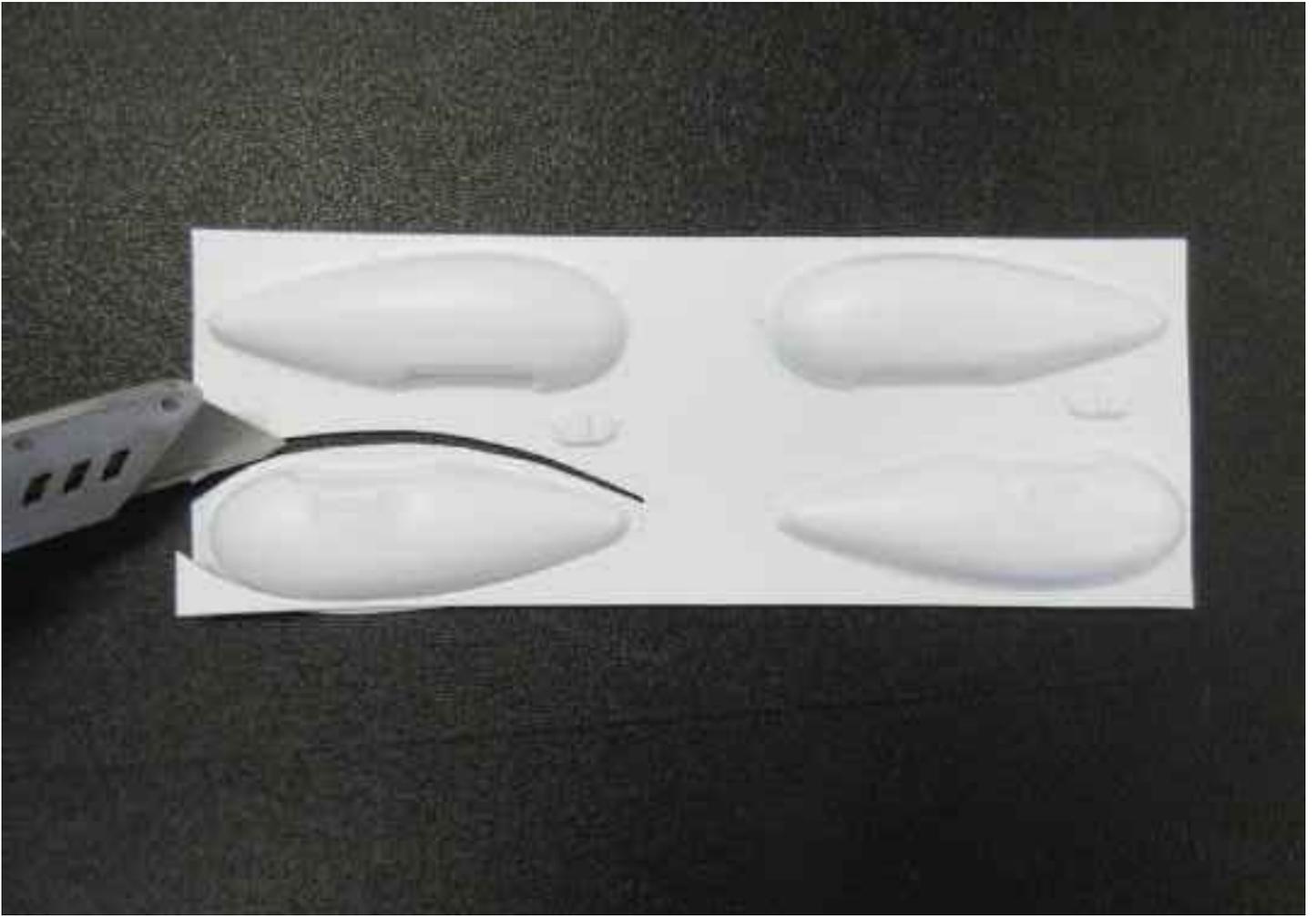


ALUMINUM GEAR APPLICATION WILL USE:

(2) 2-56 SCREWS

(2) 2-56 NUTS

(2) PLYWOOD WHEEL SPACERS



PART WHEEL PANT HALVES FROM SHEET.



MARK VISUAL PARTING LINE IN GROOVE AROUND ENTIRE
PANT WITH PENCIL.



USING A NEW BLADE, CUT BELOW PENCIL MARK WITH HOBBY KNIFE OR UTILITY KNIFE.



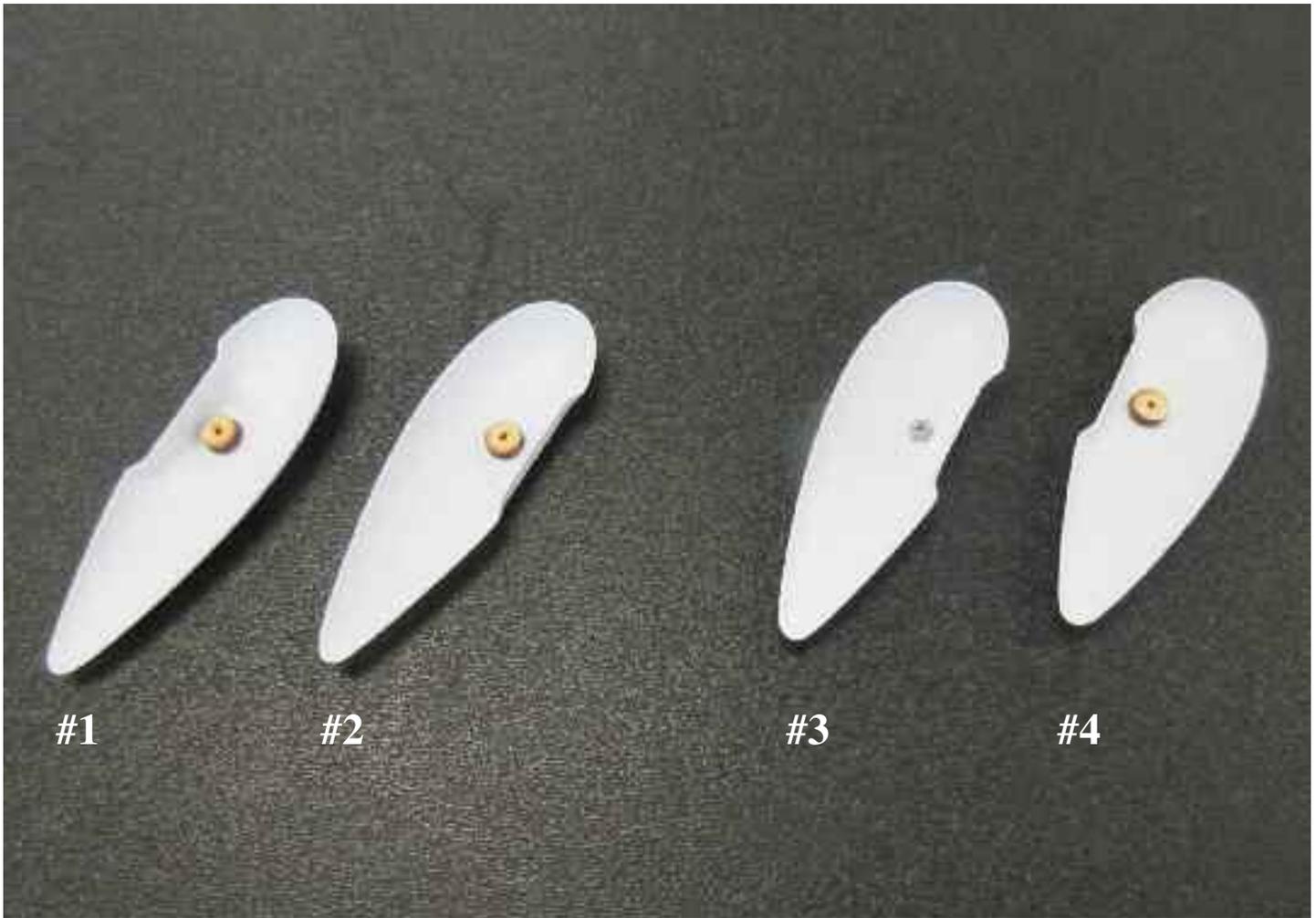
1. ATTACH A FULL SHEET OF 400 WET/DRY SANDPAPER TO A FLAT SURFACE.
2. WET SAND WITH LIGHT PRESSURE AND LONG STROKES.
3. CHECK OFTEN TO ENSURE EVERY REMOVAL.
4. SAND JUST TO THE POINT OF REMOVING PENCIL LINE.



ON THE INSIDE OF EACH PANT HALF WHERE DIMPLE INDICATES AXLE LOCATION, PREPARE AREA WITH SCUFF PAD.



ON THE INSIDE OF EACH PANT HALF, MARK THE TOP OF THE AXLE LOCATION DIMPLE.



EACH WILL PANT HALF WILL HAVE A SPECIFIC WHEEL SPACER.
INBOARD PANT HALF HAS FLAT RAISED AREA AT AXLE.
OUTBOARD PANT HALF IS COMPLETELY SMOOTH.

WIRE GEAR

- #1 INBOARD PANT – FULL THICKNESS PLYWOOD SPACER
- #2 OUTBOARD PANT – HALF THICKNESS PLYWOOD SPACER

ALUMINUM GEAR

- #3 INBOARD PANT – 2-56 NUT
- #4 OUTBOARD PANT – HALF THICKNESS PLYWOOD SPACER



PLYWOOD WHEEL SPACERS SHOULD BE
PRESIZED BEFORE BONDING TO PANTS.

WIRE GEAR WHEEL SPACERS - DRILL WITH 1/16" DRILL BIT.

ALUMINUM GEAR WHEEL SPACERS - DRILL WITH 3/32"
DRILL BIT.



USE MEDIUM CA TO ATTACH WHEEL SPACERS.



TO ENSURE EXACT LOCATION OF
WHEEL SPACER, SLIDE SPACER ONTO A PIN.

PLACE PIN POINT ON PENCIL MARK.

WITH PIN UPRIGHT, SLIDE SPACER
DOWN TO BOND WITH PANT.



PREPARE A NUMBER OF 1" LENGTHS
OF TAPE BY FOLDING OVER ONE END.
THIS WILL AID IN ADJUSTMENT AND REMOVAL.

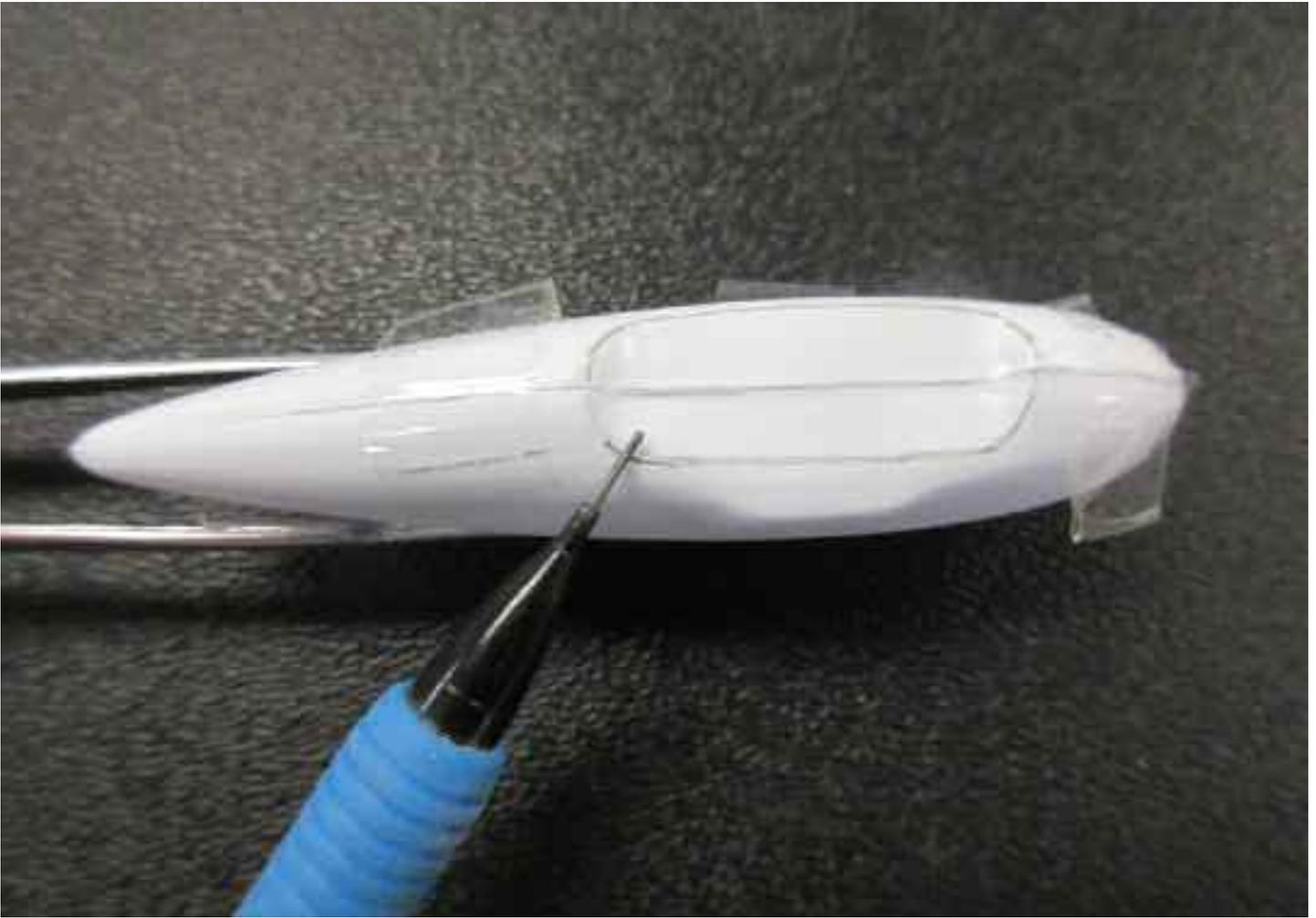


APPLY CLEAR TAPE TO HOLD PANT HALVES TOGETHER.

HALVES SHOULD LINE UP PERFECTLY WITH
NO GAPS IN BETWEEN. ADJUST TAPE AS NECESSARY.

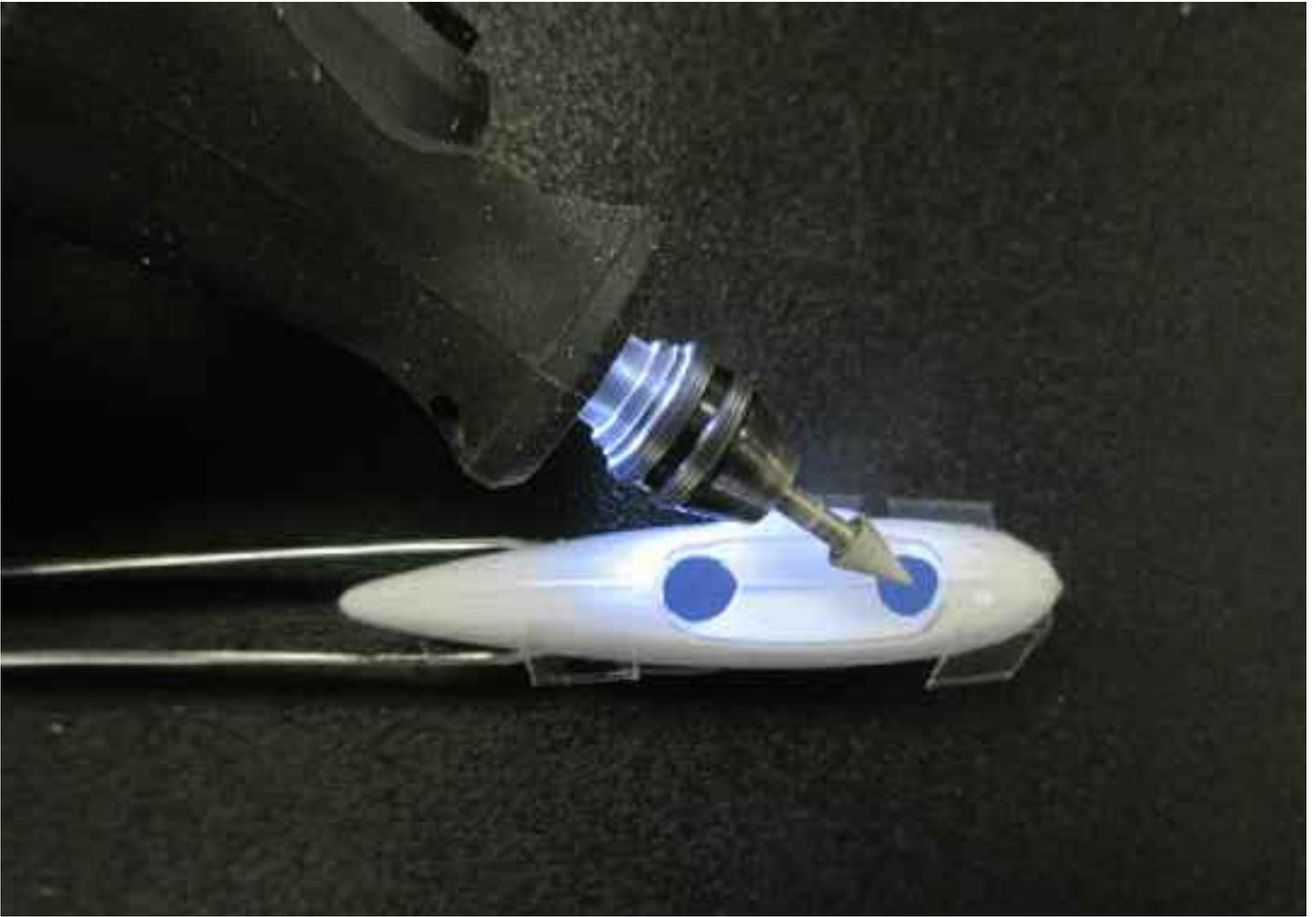


USE THIN CA TO TACK IN
SEVERAL SPOTS ON OUTSIDE SEAM.



USE THE SIDE OF PENCIL LEAD TO
MARK A VISUAL PARTING LINE FOR WHEEL OPENING.

NOTE: THE INBOARD PART LINE WILL BE STRAIGHT.
DO NOT FOLLOW THE OFFSET LINE.



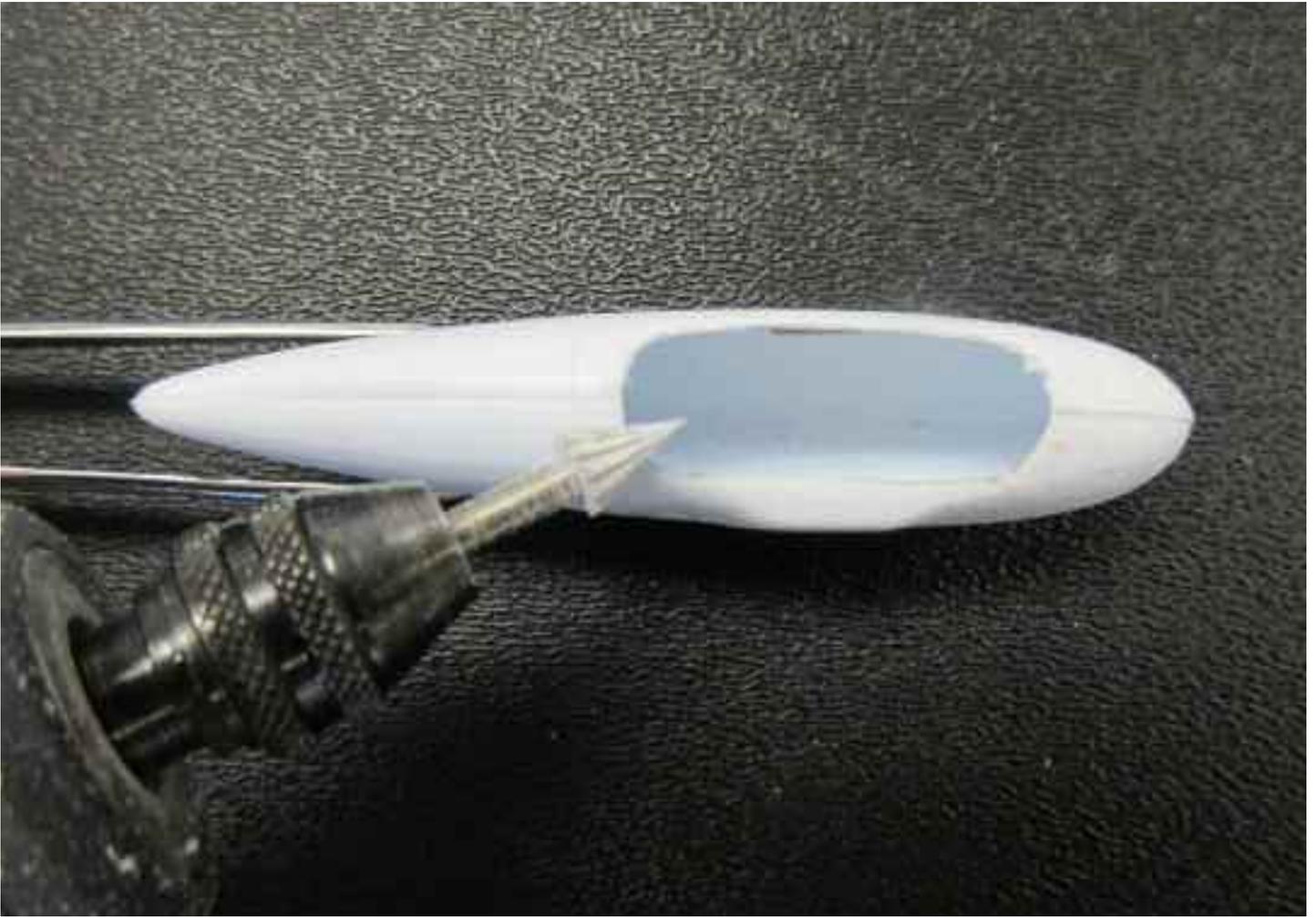
WITH A ROTARY CUTTER, OPEN FRONT
AND BACK OF WHEEL OPENING.
DO NOT CUT TO PENCIL LINE.



BE SURE TO REMOVE ALL PLASTIC
BITS AND DUST FROM INSIDE PANTS.



RUN THIN CA ON THE ENTIRE INSIDE SEAM.
ROLLING THE PANT HELPS FLOW CA TO
ENTIRE LENGTH OF SEAM.



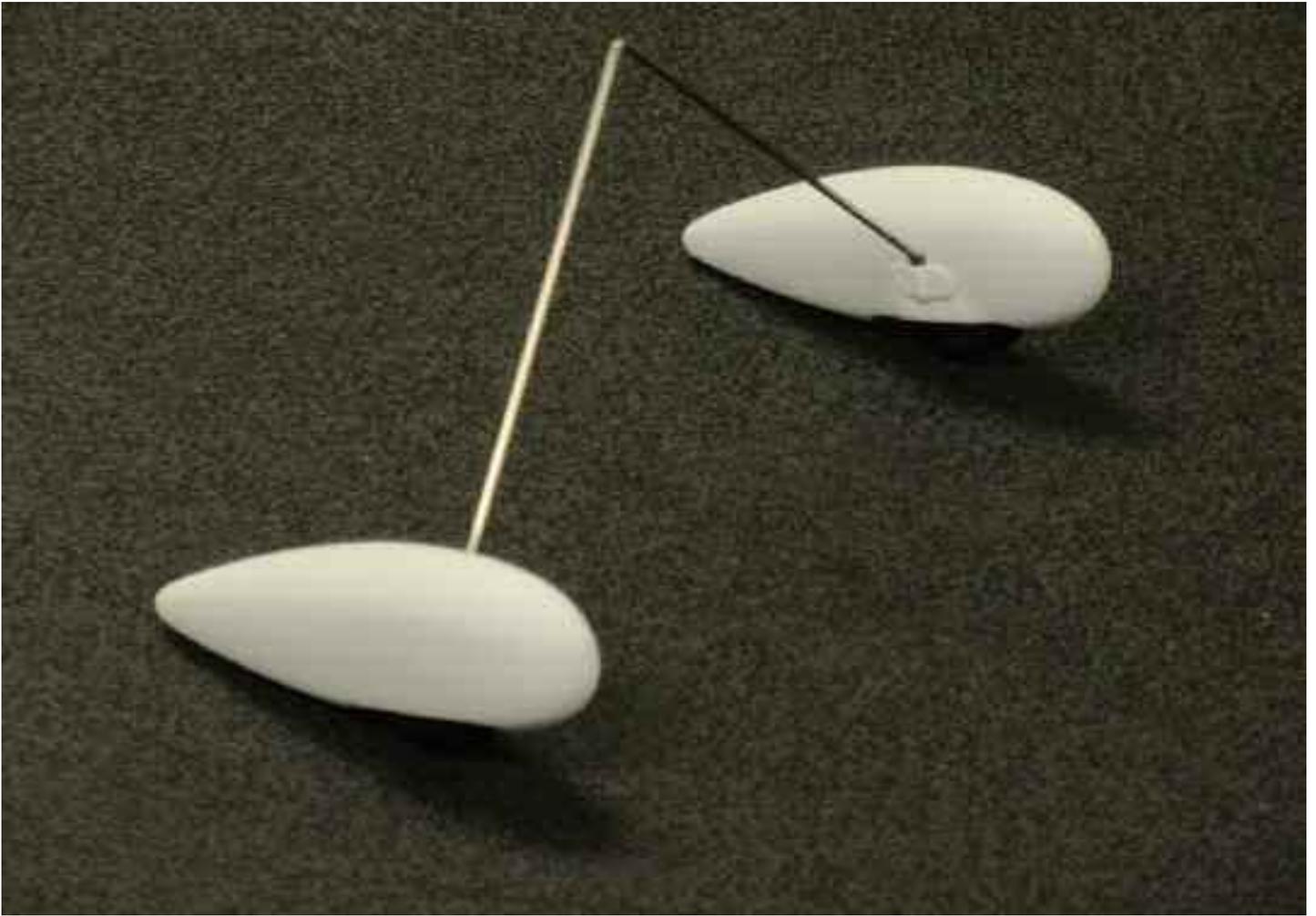
WHEN NO UNSET CA REMAINS, USE
ROTARY CUTTER TO CLEAR WHEEL OPENING.



FINAL WHEEL OPENING DETAIL CAN BE FINISHED WITH A COMBINATION OF NEEDLE FILES AND/OR FINE GRIT SAND PAPER.



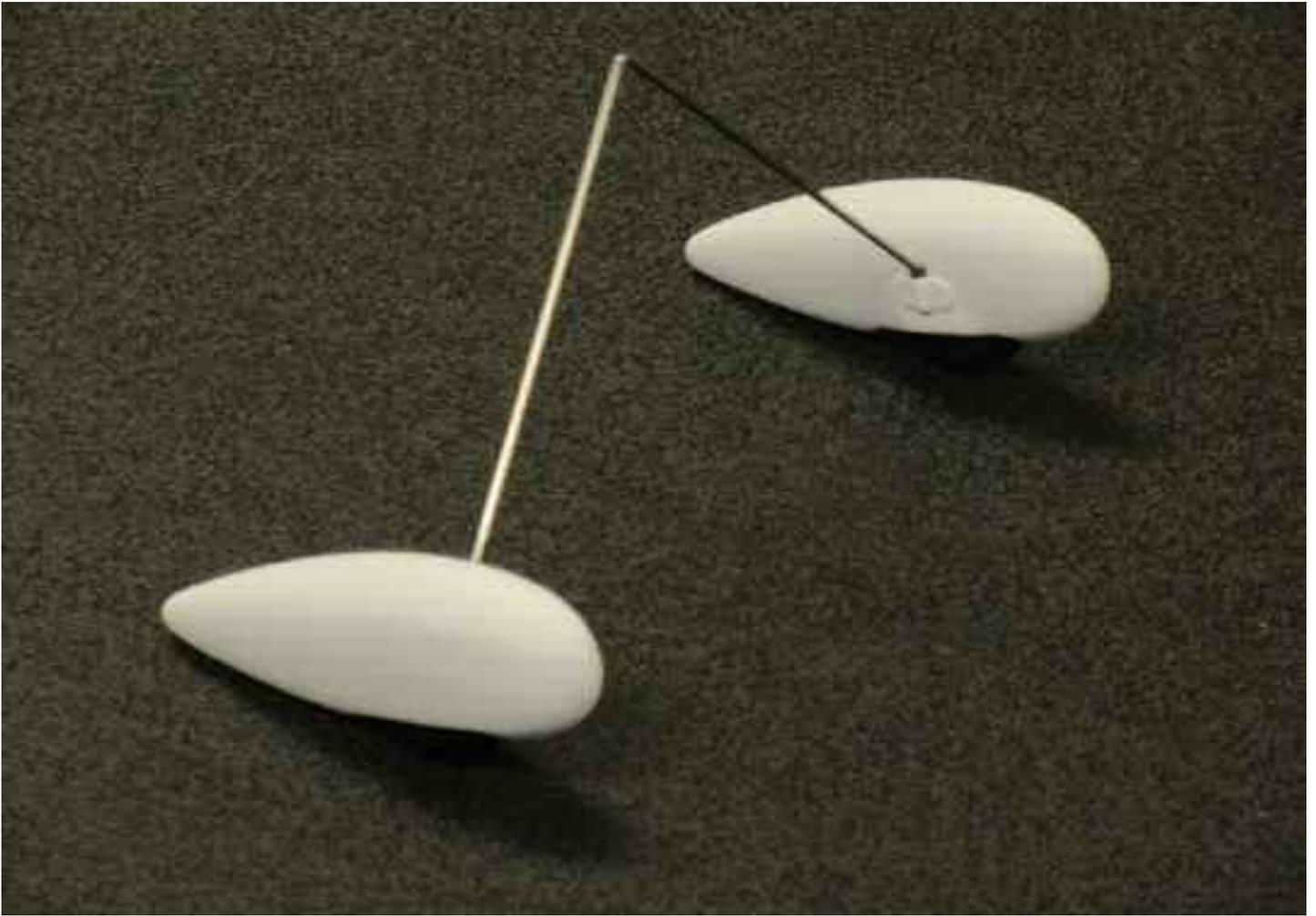
REMOVE CLEAR TAPE. WET SAND SEAMS EVEN WITH 400 GRIT PAPER.



FOR WIRE GEAR MOUNTING
CONTINUE FROM PAGE 27.



FOR ALUMINUM GEAR MOUNTING
PROCEED TO PAGE 42.



WIRE GEAR MOUNTING



USE A 1/16" DRILL BIT IN A ROTARY TOOL
ON LOW SPEED TO SIZE WHEEL HUB FOR
.064" WIRE AXLE.

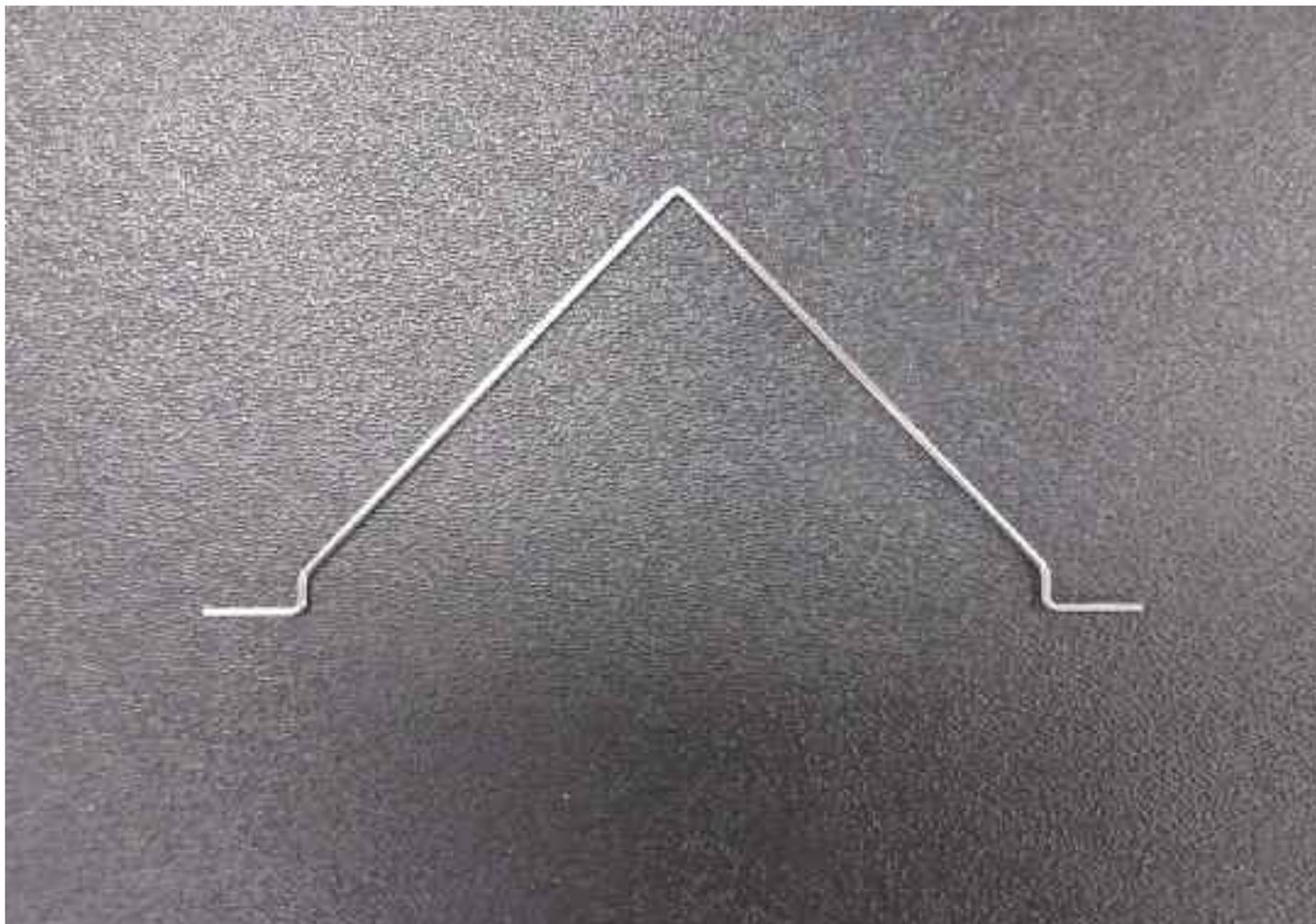


USE A 1/16" DRILL BIT IN A ROTARY
TOOL ON LOW SPEED TO OPEN
IN BOARD AXLE HOLE.

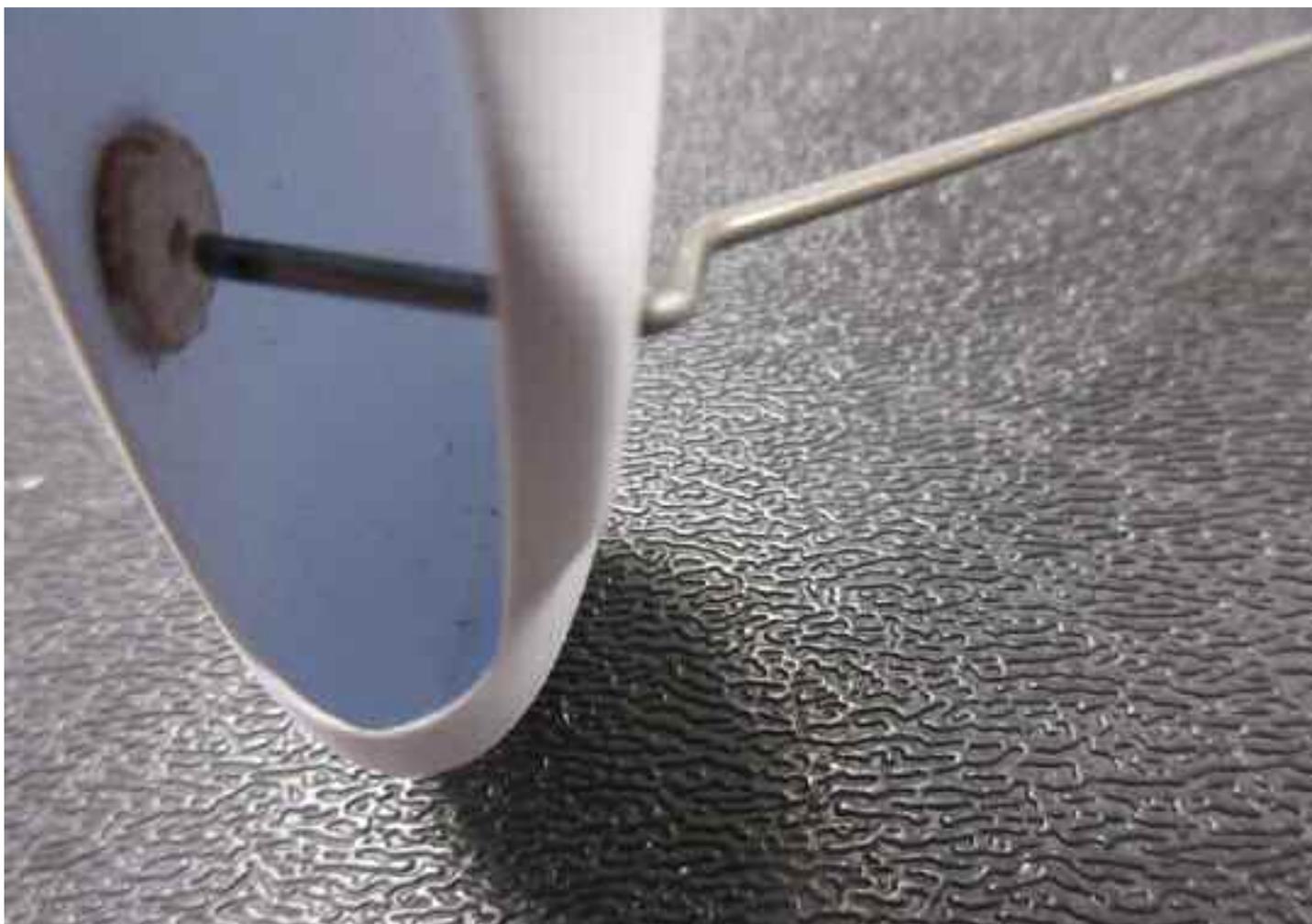


TEST FIT WHEEL CLEARANCE.

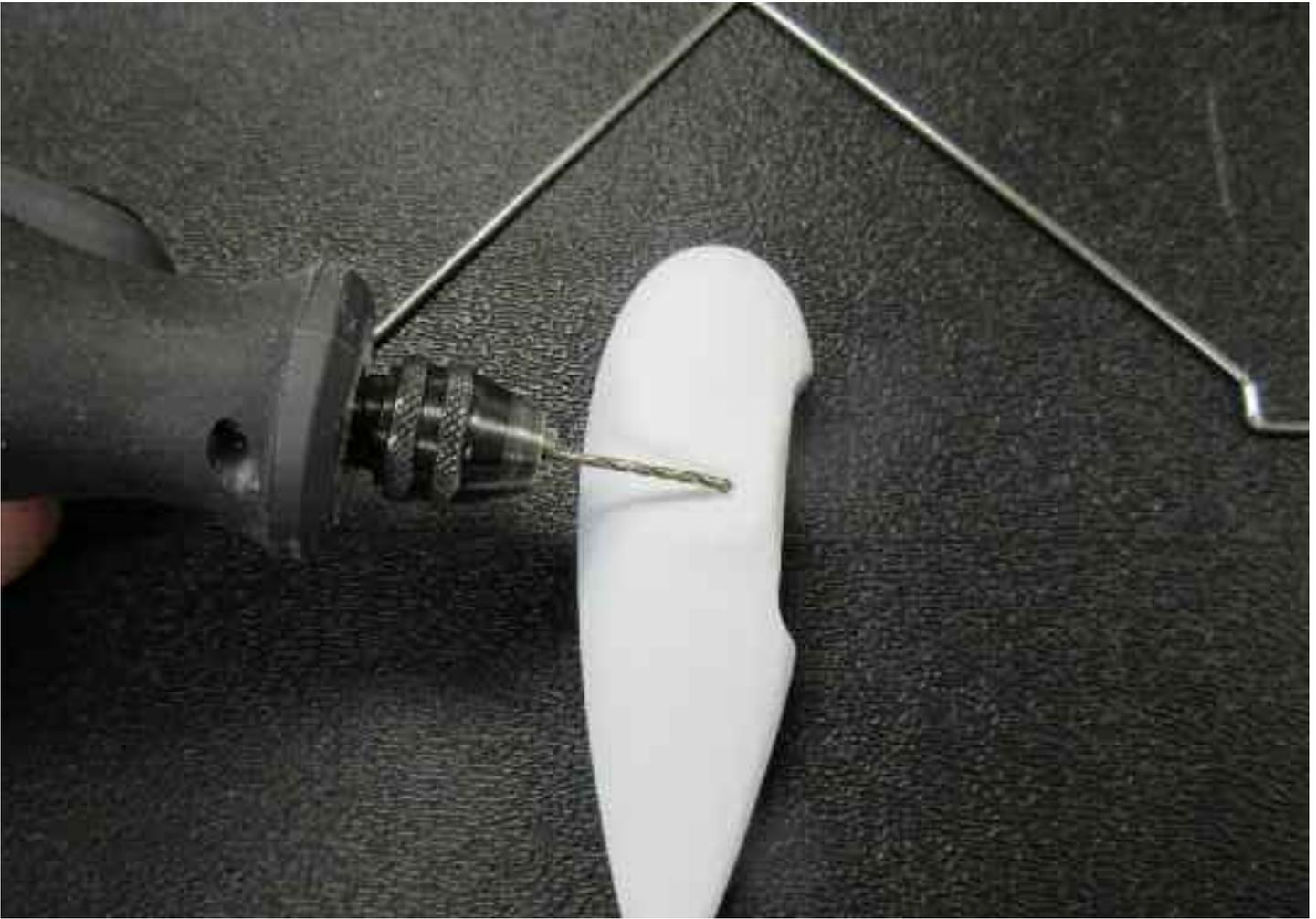
SPACERS IN WHEEL PANTS CAN BE SANDED TO ADJUST WHEEL SPACING. WHEELS SHOULD SPIN FREELY WITHOUT COMING INTO CONTACT WITH ANY PART OF THE PANT.



MAKE WIRE GEAR BY BENDING
.064" WIRE TO FIT PATTERN.
PATTERNS FOR YOUR SPECIFIC AIRPLANE CAN
BE FOUND ON
[Http://www.willynillies.info](http://www.willynillies.info)



THE BEND AT AXLE TO GEAR LOCATION
WILL INTERFERE WITH PROPPER GEAR
TO PANT SEATING.



USE A ROTARY TOOL WITH A 1/16" DRILL BIT TO RADIUS AXLE HOLE UNTIL UPRIGHT ON GEAR COMPLETELY SEATS ON PANT. AXLE LENGTH WILL NEED TO BE FINE TUNED DURING THIS PROCESS. AXLE SHOULD FULLY ENGAGE OUTBOARD WHEEL SPACER. BUT NOT PUT PRESSURE ON OUTBOARD SIDE OF PANT.



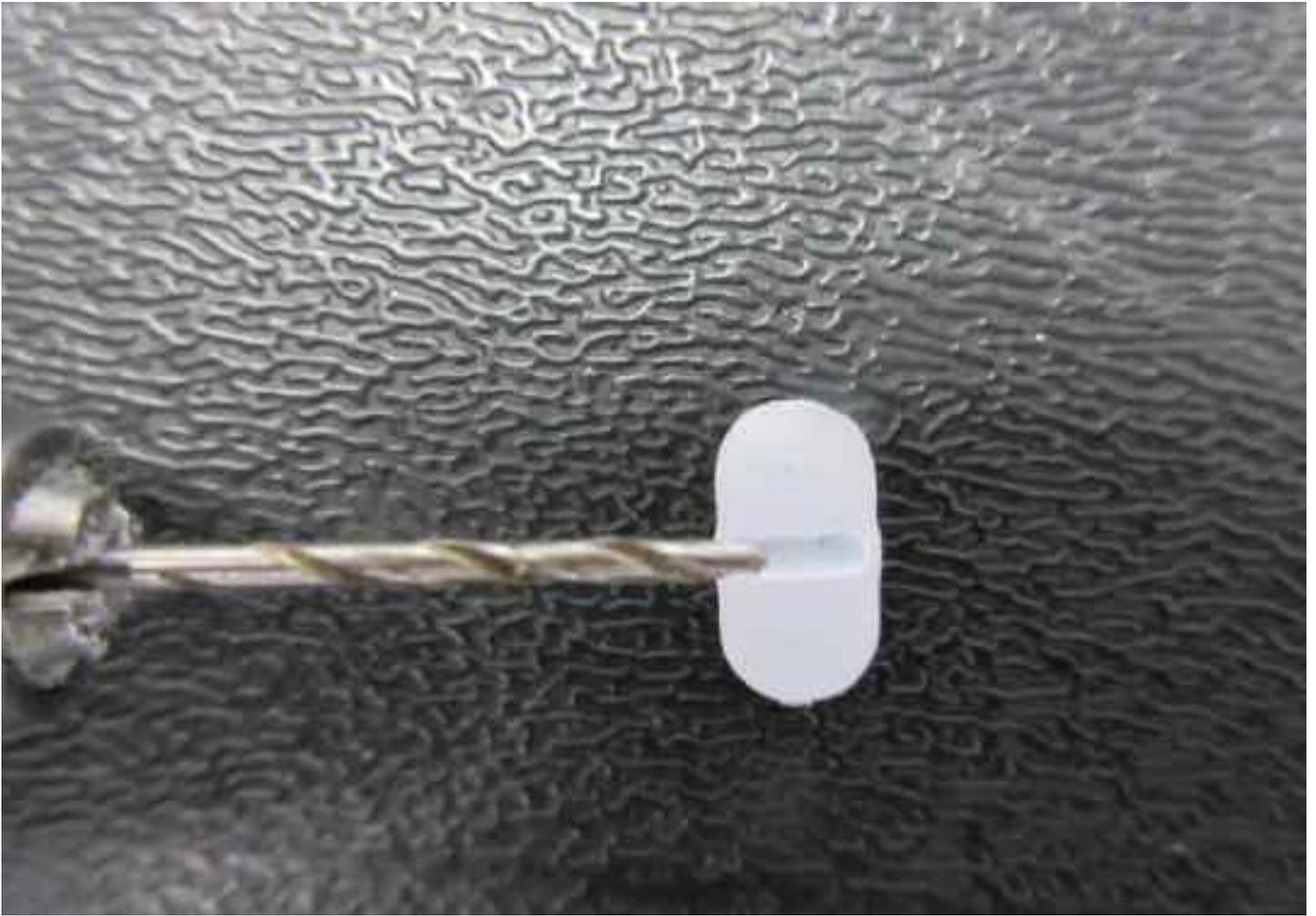
PART WIRE GEAR RETAINERS FROM SHEET.



WET SAND WIRE GEAR RETAINERS ON
400 WET/DRY PAPER ATTACHED
TO A FLAT SURFACE.



WET SAND WIRE GEAR RETAINERS DOWN
TO FLAT SURFACE.



USE 1/16" DRILL BIT IN ROTARY TOOL TO
OPEN ONE SIDE OF GROOVE IN WIRE
GEAR RETAINER.



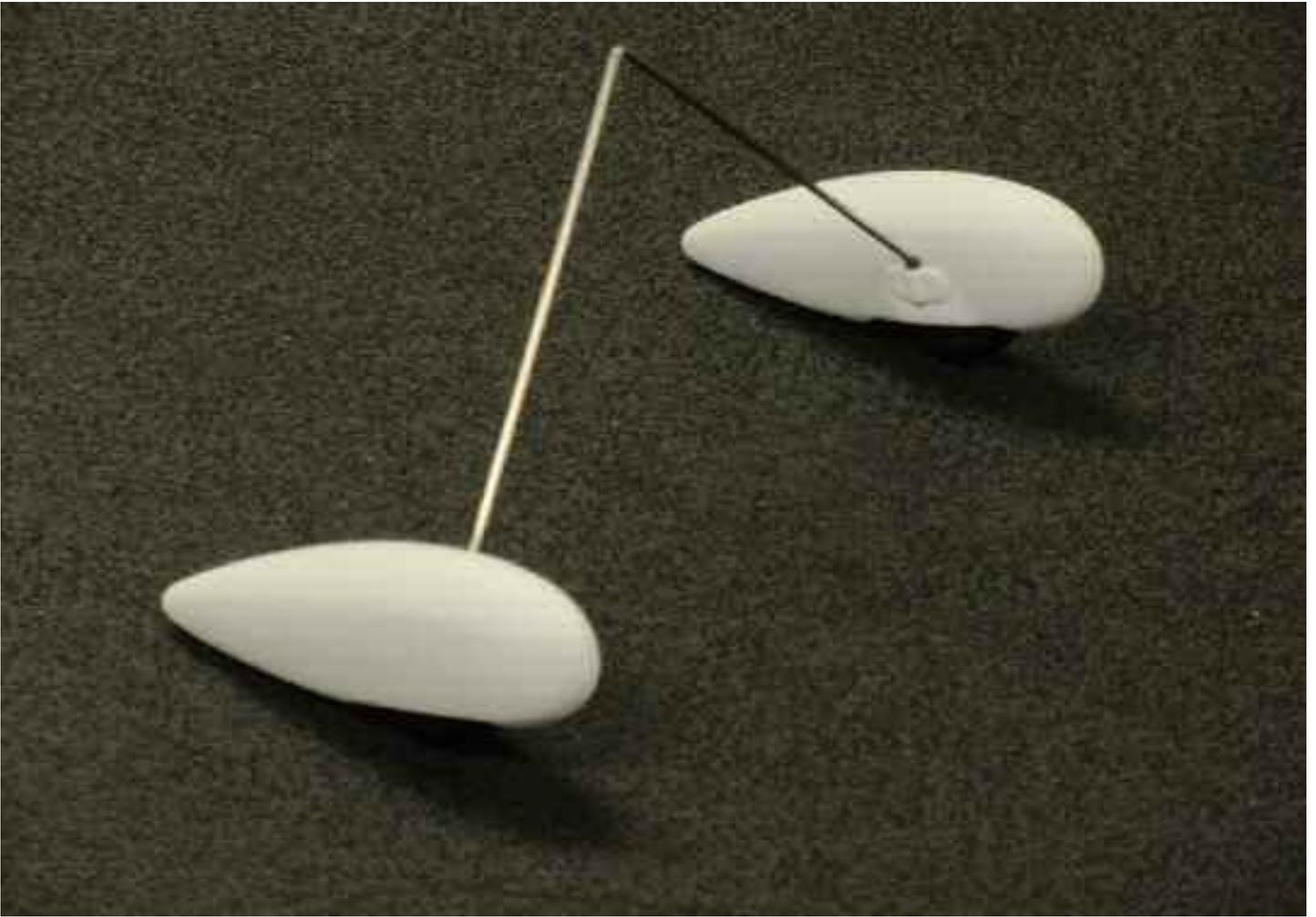
FINISHED WIRE GEAR RETAINER.



TEST FIT ASSEMBLY.



GLUE WIRE GEAR RETAINER WITH MEDIUM CA.



YOU ARE NOW READY TO FLY
IN STYLE WITH YOUR NEW
WILLYNILLIES.COM WHEEL PANTS.

ENJOY YOUR AIRPLANE'S NEW LOOK,
AND PLEASE LEAVE US YOUR
FEEDBACK AT WILLYNILLIES.COM.

THANK YOU!



ALUMINUM GEAR MOUNTING



USE A 3/32" DRILL BIT IN A ROTARY
TOOL ON LOW SPEED TO SIZE WHEEL HUB
TO A 2-56 SCREW AXLE.



USE A 3/32" DRILL BIT IN A
ROTARY TOOL ON LOW SPEED TO
OPEN AXLE HOLE. DO NOT DRILL
INTO THE THREADS OF THE NUT
INSIDE THE PANT.



USE A 3/32" DRILL BIT IN A ROTARY TOOL
TO OPEN AXLE HOLE IN ALUMINUM GEAR.



TRIM AXLE SCREW TO LENGTH.
AXLE SCREW SHOULD FULLY ENGAGE
OUTBOARD WHEEL SPACER, BUT NOT
PUT PRESSURE ON OUTBOARD SIDE OF PANT.



TEST FIT WHEEL CLEARANCE

OUTBOARD SPACER IN WHEEL PANT CAN BE SANDED TO ADJUST WHEEL SPACING. INBOARD SPACING MAY REQUIRE THE ADDITION OF ONE WASHER BETWEEN WHEEL & NUT. WHEELS SHOULD SPIN FREELY WITHOUT COMING INTO CONTACT WITH ANY PART OF THE PANT.



APPLY A SMALL AMOUNT OF THREAD
LOC TO THE THREADS JUST BELOW THE
HEAD OF THE AXLE SCREW.



LIGHTLY TIGHTEN AXLE SCREW TO ALLOW
ALIGNMENT ADJUSTMENT. TIGHTEN
AXLE SCREW WHEN ALIGNED TO YOUR
REQUIREMENTS.



USE THIN CA TO SECURE
WHEEL PANT TO ALUMINUM GEAR.



YOU ARE NOW READY TO FLY
IN STYLE WITH YOUR NEW
WILLYNILLIES.COM WHEEL PANTS.

ENJOY YOUR AIRPLANE'S NEW LOOK,
AND PLEASE LEAVE US YOUR
FEEDBACK AT WILLYNILLIES.COM.

THANK YOU!