



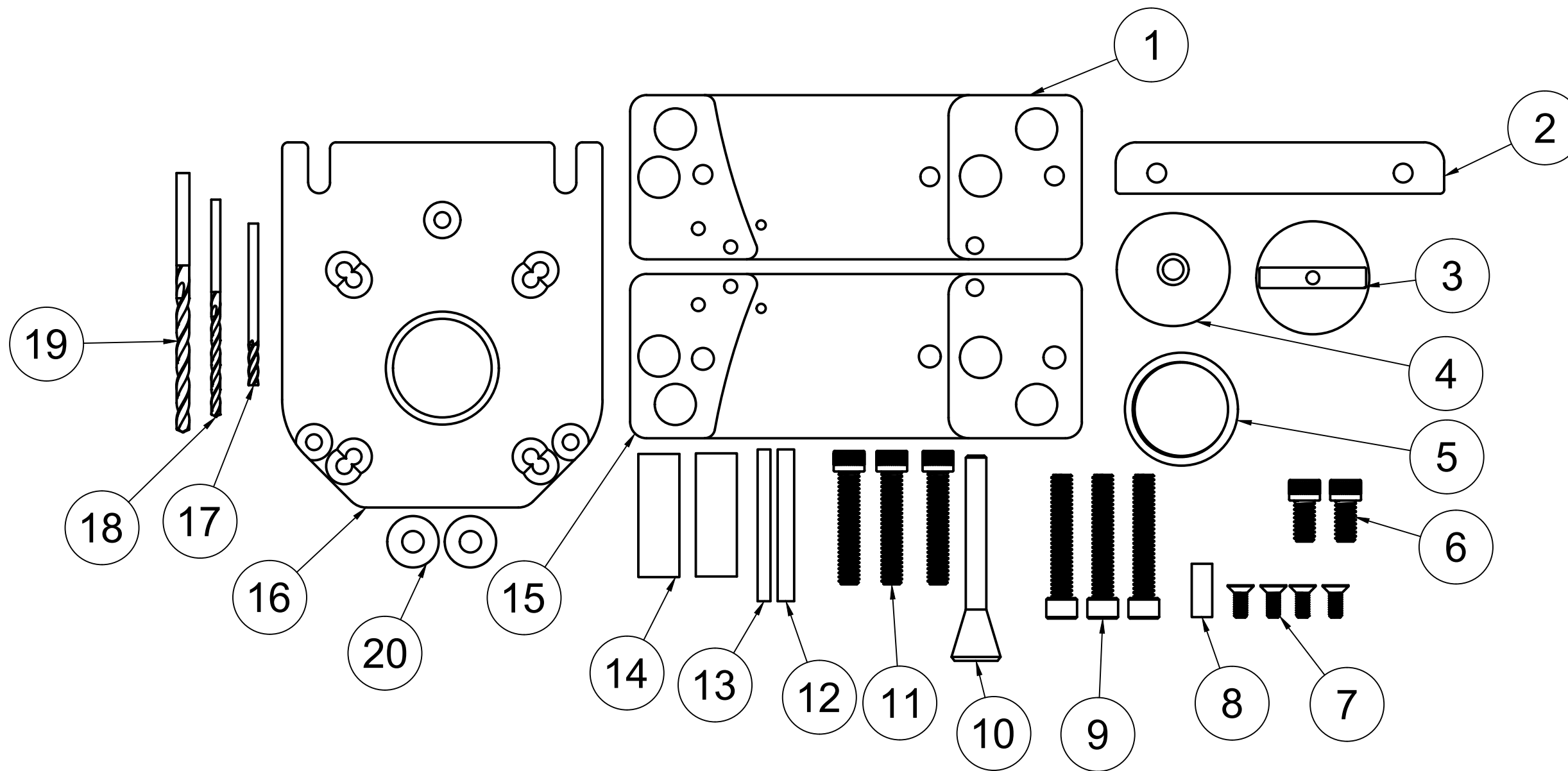
## **-UFS GEN.1 2011/1911 ROUTER JIG INSTRUCTIONS MANUAL-**



PLEASE BEGIN BY READING THIS DOCUMENT IN ITS ENTIRETY AND MAKING SURE YOU HAVE ALL NECESSARY COMPONENTS AND TOOLS. THIS DOCUMENT IS INTENDED TO GIVE A BASIC DIRECTION AND/OR GUIDANCE WHEN COMPLETING OR FINISHING A 2011 OR 1911 80 PERCENT FRAME. ALWAYS REMEMBER TO WEAR PROPER PPE (PERSONAL PROTECTIVE EQUIPMENT) AND PRACTICE PROPER MACHINE TOOL SAFETY WHEN FINISHING ANY 80% FRAME. UNIQUE FIREARM SOLUTIONS, L.L.C. IS NOT RESPONSIBLE FOR ANY MACHINING ERRORS OR BODILY INJURIES THAT MAY OCCUR WHILE USING THIS JIG TO COMPLETE ANY FRAME OR RECEIVER. **PROCEED AT YOUR OWN RISK. ALSO, PLEASE BE AWARE OF ALL STATE AND LOCAL LAWS BEFORE PROCEEDING!!**

**\*\*PATENT PENDING\*\***

# INCLUDED PARTS LIST



PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	2011/1911 ROUTER JIG SIDE PLATE 2
2	1	ALIGNMENT/SUPPORT RAIL
3	1	GUIDE BUSHING
4	1	1/4" ROUTER ALIGNMENT BUSHING
5	1	BUSHING NUT
6	2	SUPPORT RAIL 91251A537_SCREW
7	4	ROUTER BASE PLATE SCREWS 91294A190

PARTS LIST		
ITEM	QTY	PART NUMBER
8	1	REDUCER COLLET
9	3	SIDE PLATE SCREWS_2011_90044A123
10	1	1/4" ROUTER ALIGNMENT TAPERED PIN
11	3	SIDE PLATE SCREWS_1911_91251A543
12	1	.201 LOCATING PIN
13	1	5/32" LOCATING PIN
14	2	SUPPORT SPACER
15	1	2011/1911 ROUTER JIG SIDE PLATE 1

PARTS LIST		
ITEM	QTY	PART NUMBER
16	1	ROUTER BASE PLATE
17	1	3MM ENDMILL
18	1	# 35 DRILL BIT
19	1	# 22 DRILL BIT
20	2	1/4" FLAT WASHER

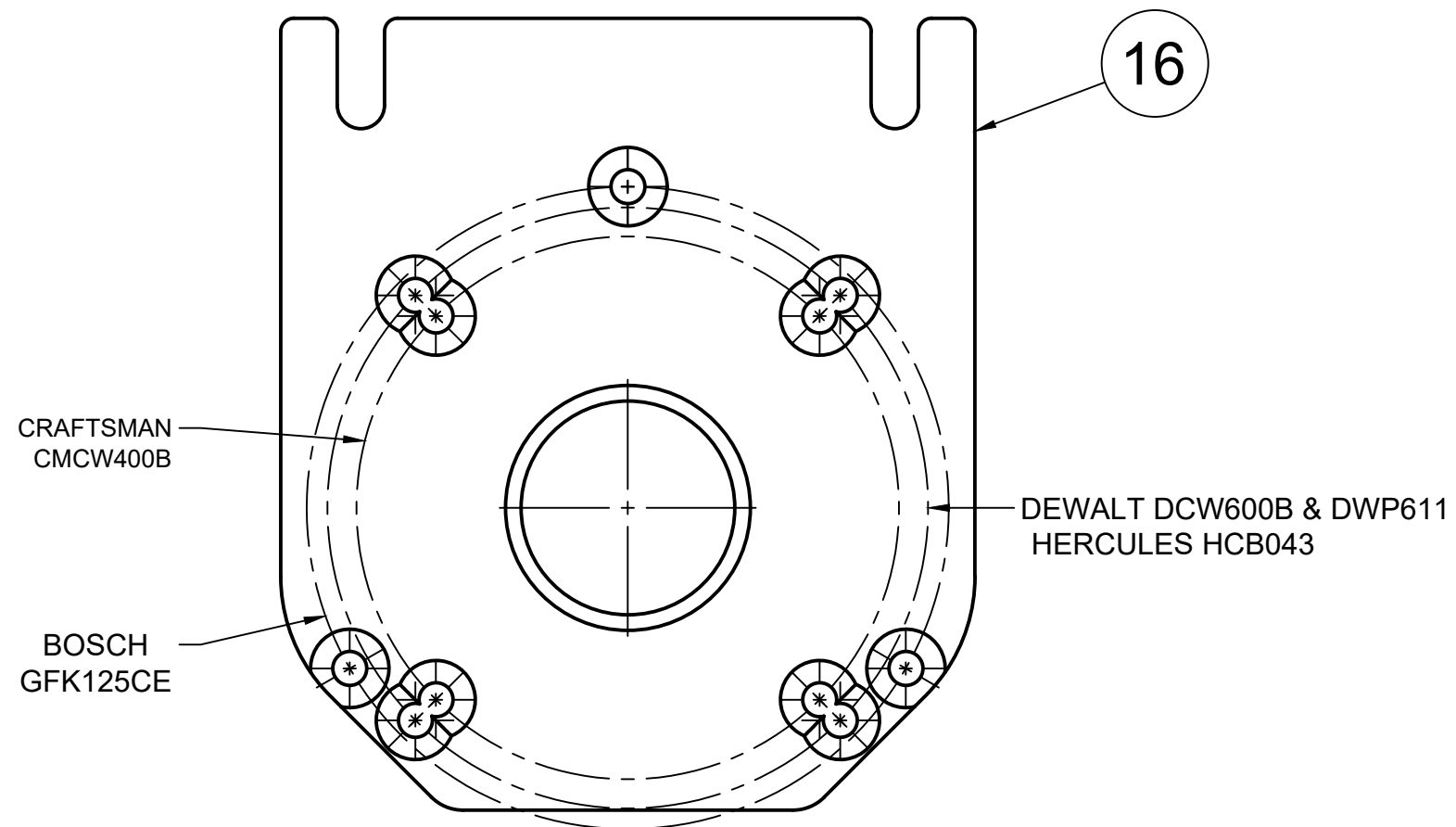
## OTHER MATERIALS/TOOLS NEEDED NOT PROVIDED

- 80% FRAME (2011 OR 1911)
- COMPACT HANDHELD ROUTER THAT IS COMPATIBLE WITH UFS 2011/1911 ROUTER BASE PLATE (SEE COMPATIBILITY PAGE)
- CHUCK NUT WRENCH (SHOULD COME WITH ROUTER)
- VISE
- VISE PARALLELS
- FINE GRIT SAND PAPER, FILE, LAPPING COMPOUND...ETC, FOR FITTING SLIDE TO FRAME
- DRILL PRESS OR HAND HELD DRILL
- DRILLING FLUID
- $\frac{3}{16}$ " HEX/ALLEN WRENCH
- 2.5mm HEX/ALLEN WRENCH

# CURRENT ROUTER BASE PLATE/ROUTER COMPATIBILITY:

-OUR ROUTER BASE PLATE CURRENTLY FITS THE FOLLOWING BRAND AND MODEL ROUTERS:

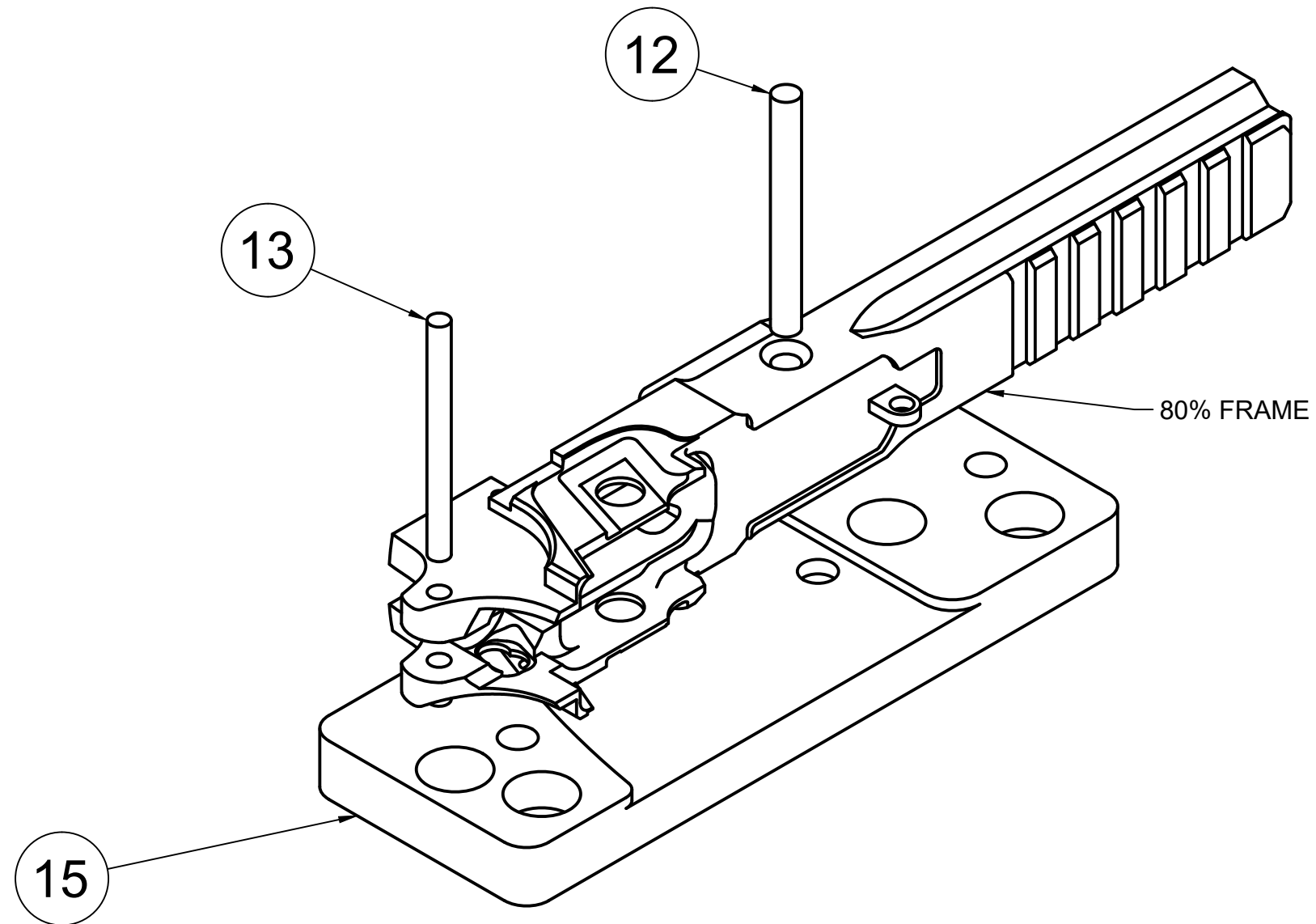
<u>BRAND</u>	<u>MODEL</u>
CRAFTSMAN	CMCW400B
DEWALT	DCW600B
DEWALT	DWP611
BOSCH	GFK125CE
HERCULES	HCB043



## JIG TO FRAME ASSEMBLY

### STEP 1:

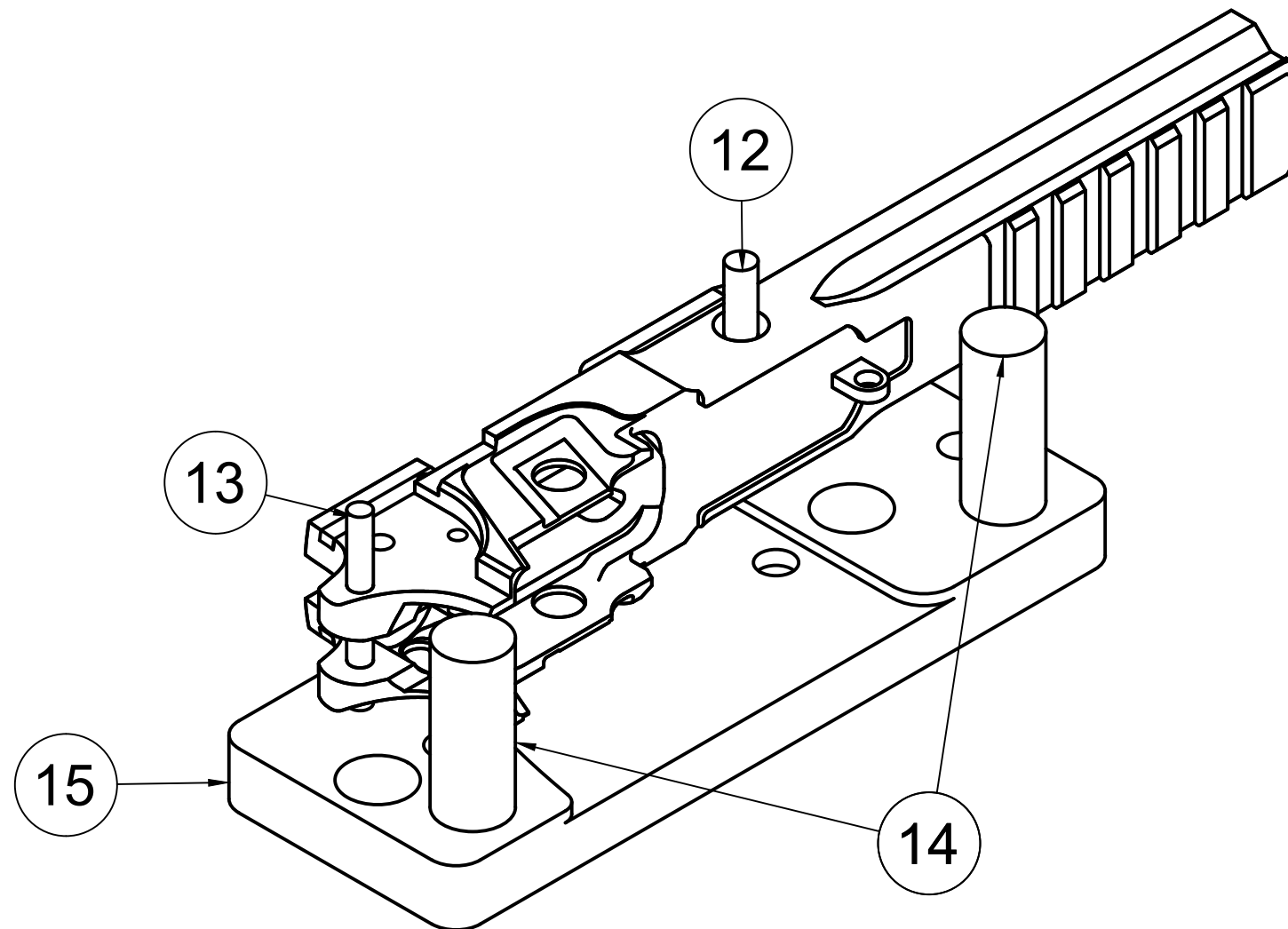
-PLACE 80% FRAME ON SIDE PLATE 1 (PART 15) AND INSERT TWO LOCATING PINS (PART 12) & (PART 13) THROUGH THE HOLES IN 80% FRAME AND INTO THE ALIGNING HOLES IN THE SIDE PLATE 1 (PART 15) AS SHOWN BELOW.



## JIG TO FRAME ASSEMBLY

### STEP 2:

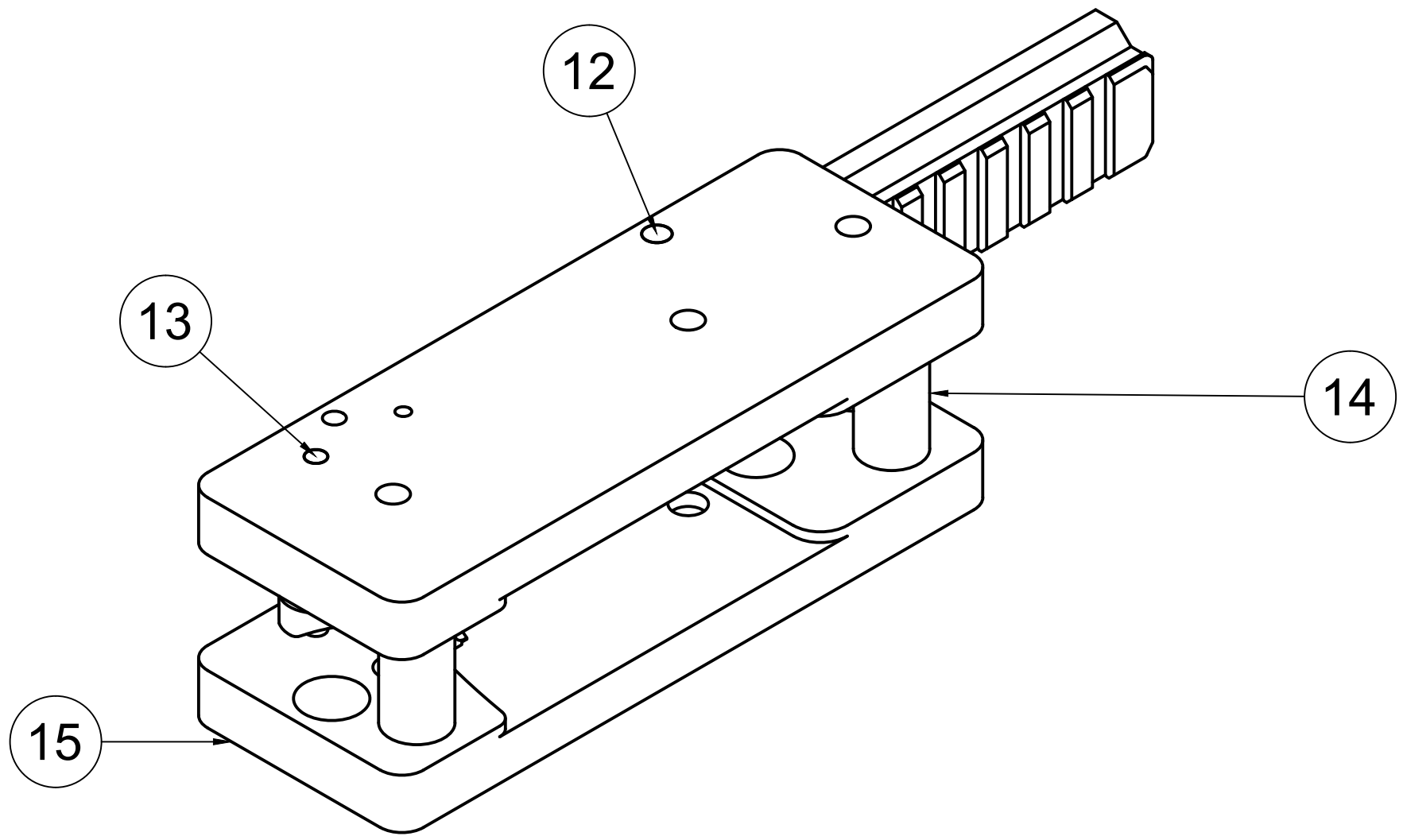
-PLACE THE TWO SUPPORT SPACERS (PART 14) IN THE CORRESPONDING (2011 OR 1911) HOLES IN THE SIDE PLATE 1 (PART 15) AS SHOWN BELOW



JIG TO FRAME ASSEMBLY

STEP 3:

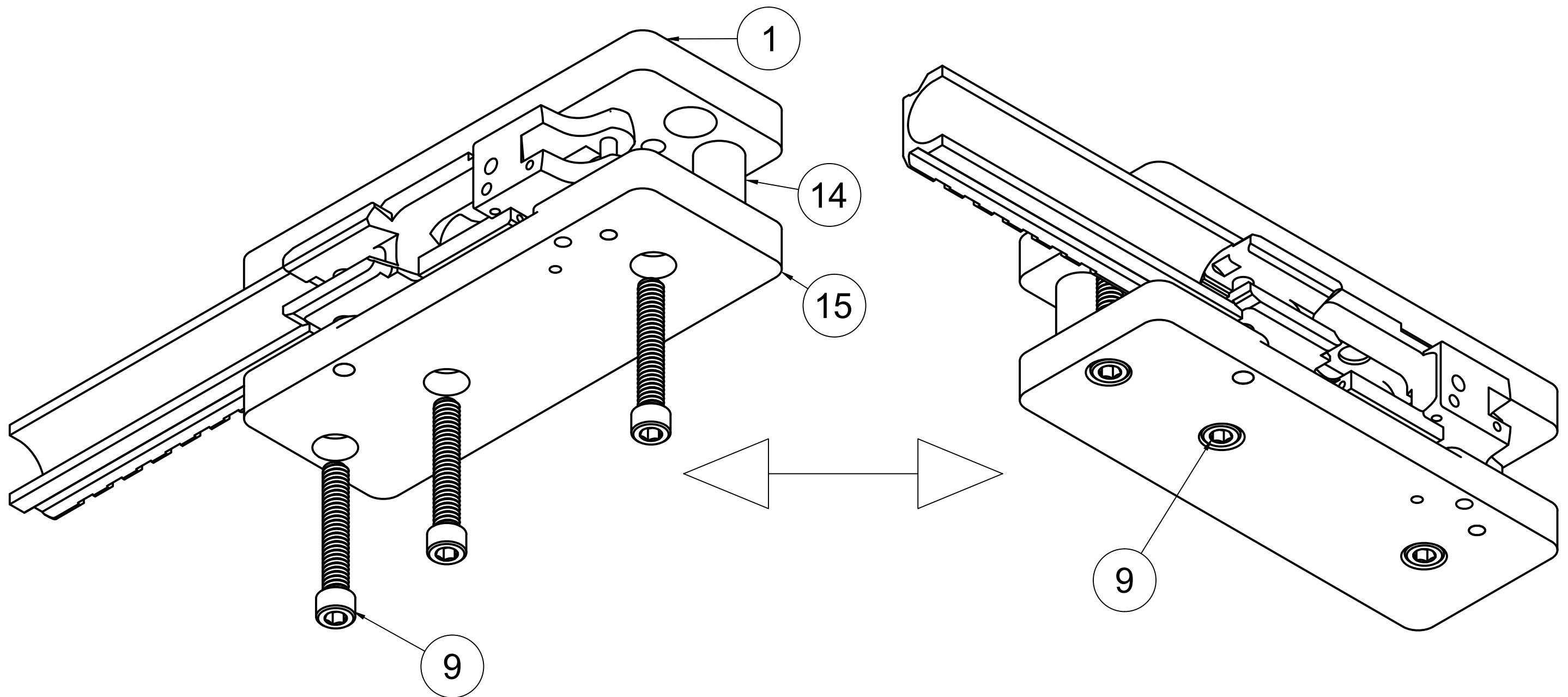
-PLACE THE OTHER SIDE PLATE 2 (PART 1) ALIGNING THE LOCATING PINS (PART 12) & (PART 13) AND THE SUPPORT SPACERS (PART 14) WITH THE CORRESPONDING HOLES IN THE SIDE PLATE 1 (PART 15)



## JIG TO FRAME ASSEMBLY

### STEP 4:

-INSERT THE THREE CORRECT HEX HEAD CAP SCREWS (PART 11) FOR 1911 OR (PART 9) FOR 2011 THROUGH THE HOLES OF THE SIDE PLATE 1 (PART 15) AND SCREW INTO THE CORRESPONDING HOLES IN THE OTHER SIDE PLATE 2 (PART 1). THE SCREWS SHOULD PASS THROUGH ONE SIDE PLATE AND THREAD INTO THE OTHER SIDE PLATE WITHOUT TOUCHING THE 80% FRAME. SNUGLY TIGHTEN SCREWS.



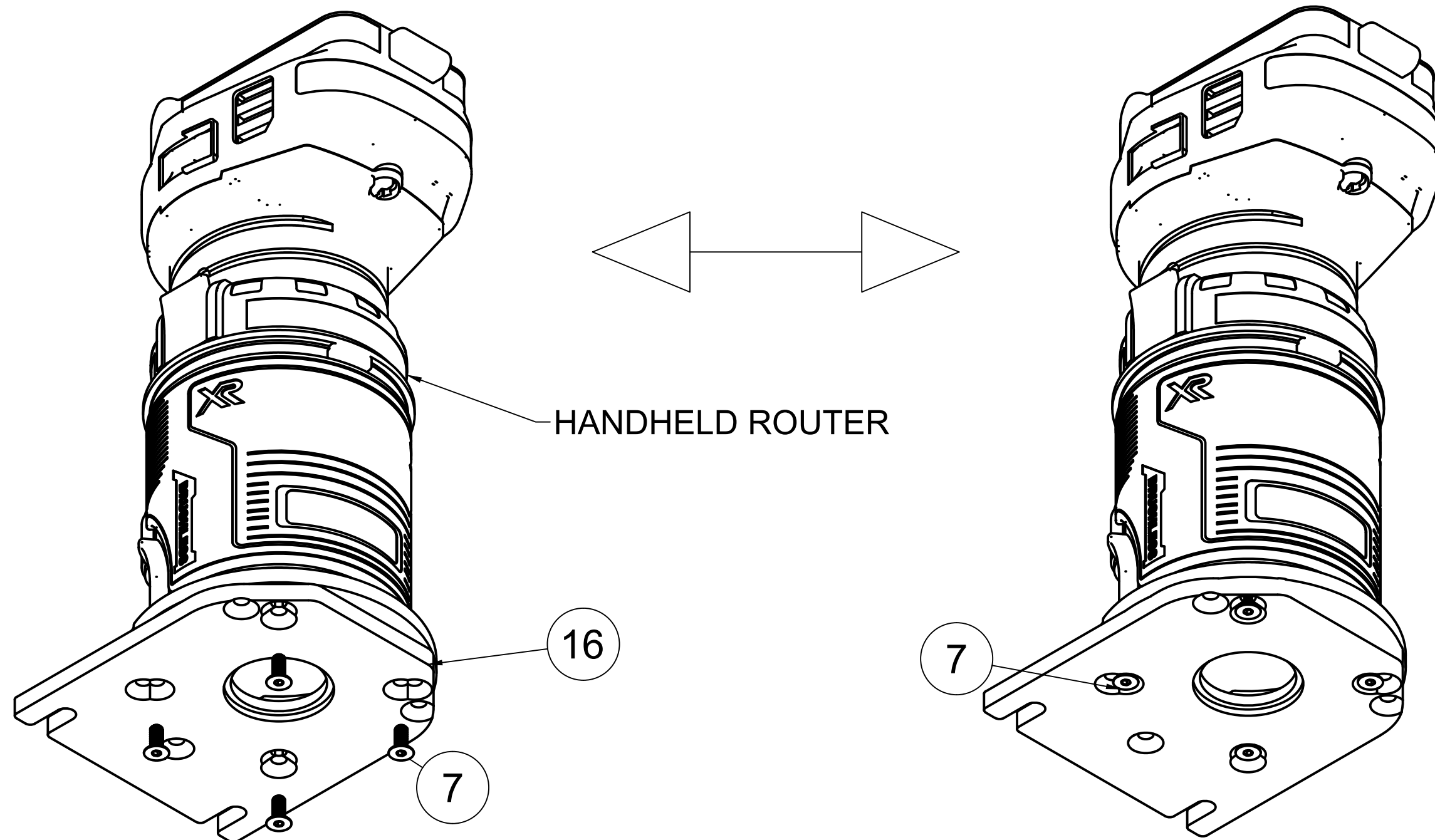


## BASE PLATE TO ROUTER ASSEMBLY

### STEP 5:

**!!!MAKE SURE BATTERY OR POWER IS DISCONNECTED FROM ROUTER!!!**

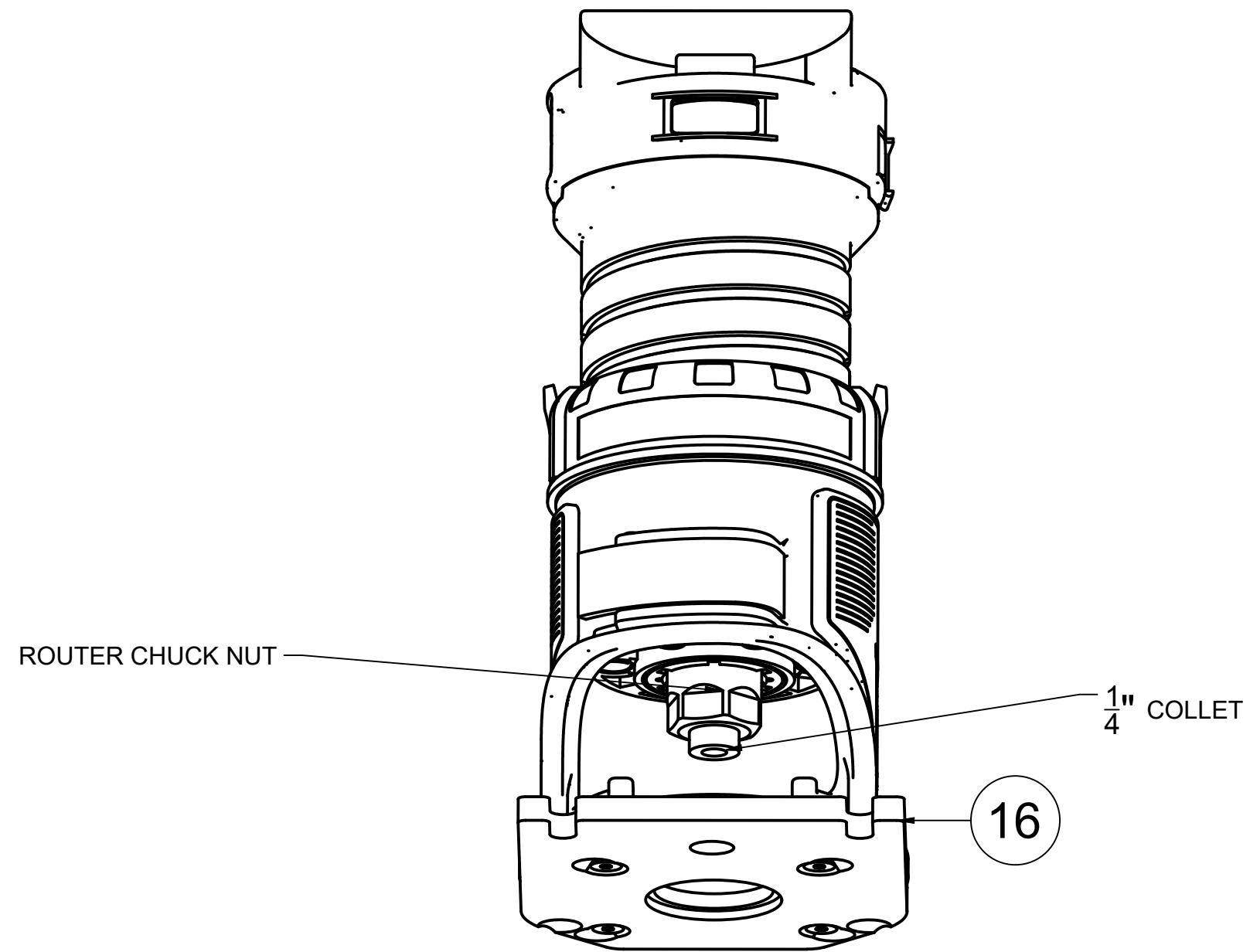
-BASED ON YOUR BRAND OF ROUTER, ALIGN BASE PLATE (PART 16) THROUGH HOLES WITH TAPPED HOLES ON ROUTER AND INSERT COUNTERSUNK SCREWS (PART 7) THROUGH BASE PLATE AND THREAD INTO ROUTER BASE. ONLY SEMI TIGHTEN AT THIS POINT.



# BASE PLATE TO ROUTER ASSEMBLY

## STEP 6: INSERT $\frac{1}{4}$ " COLLET

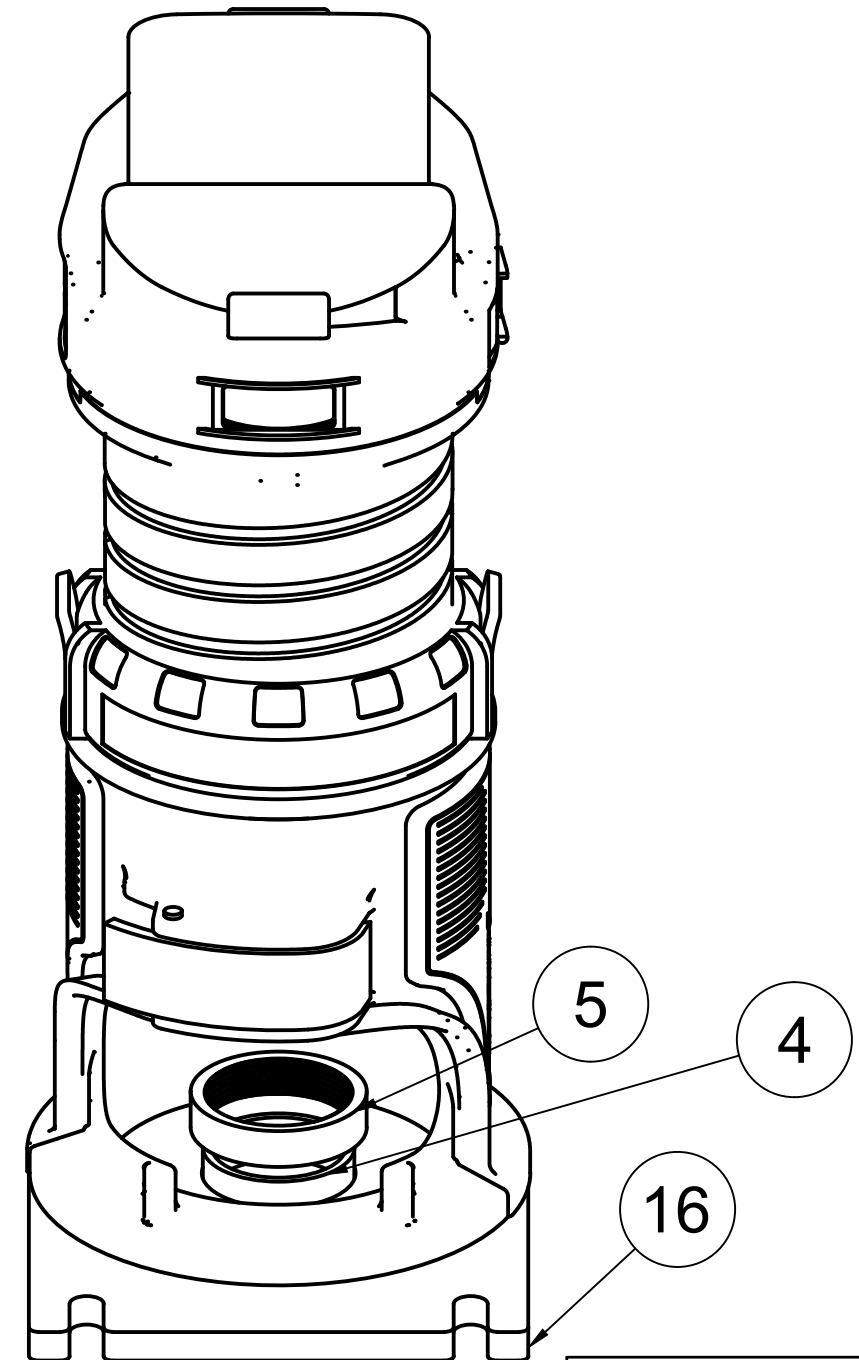
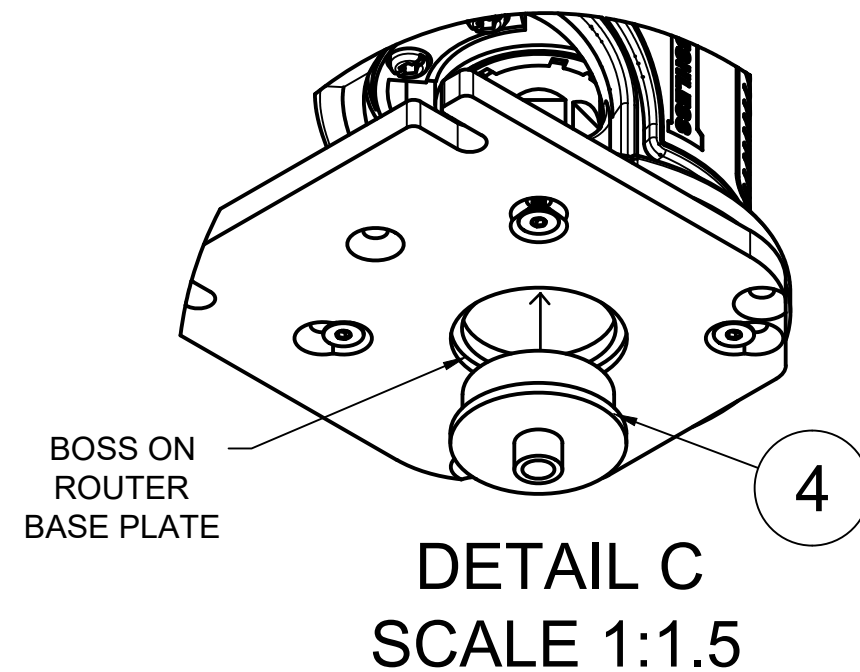
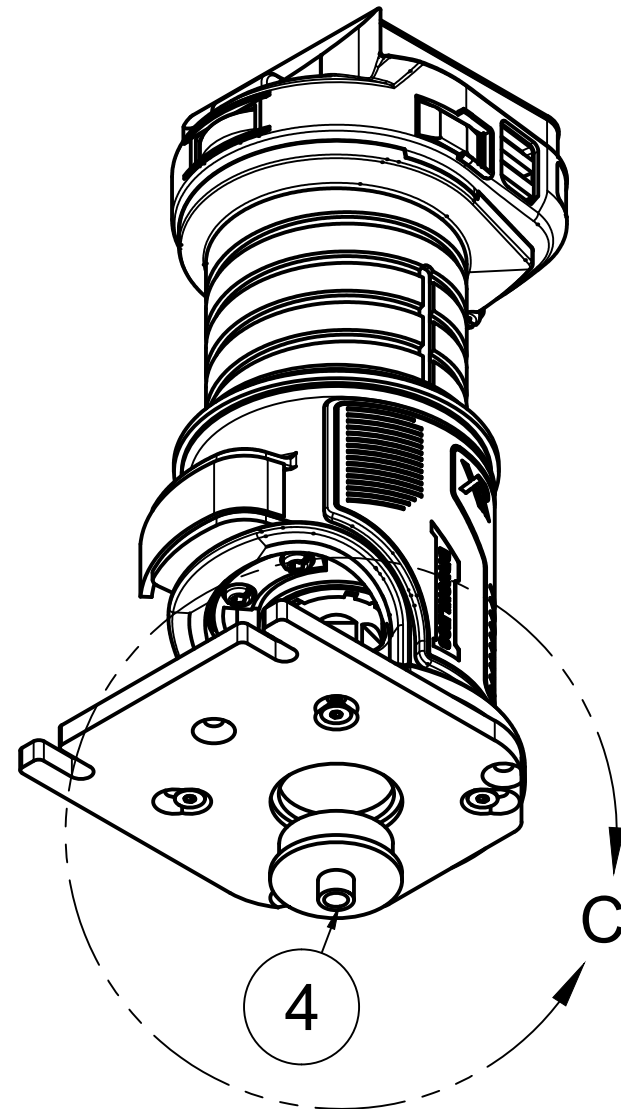
-INSERT THE  $\frac{1}{4}$ " COLLET THAT MAY HAVE COME WITH ROUTER. YOUR ROUTER MAY ALSO HAVE A COLLET THAT IS ATTACHED TO THE CHUCK NUT. SEMI TIGHTEN CHUCK NUT.



# BASE PLATE TO ROUTER ASSEMBLY

## STEP 7: ATTACH ALIGNMENT BUSHING TO ROUTER BASE PLATE

-INSERT THE ROUTER ALIGNMENT BUSHING (PART 4) THROUGH THE ROUTER BASE PLATE (PART 16). THE ALIGNMENT BUSHING OUTER FLANGE SHOULD SIT DOWN INSIDE THE BOSS ON THE ROUTER BASE PLATE (PART 16) NEXT, SCREW ON THE BUSHING NUT (PART 5) FROM OTHER SIDE OF ROUTER BASE PLATE. ONLY HAND TIGHTEN BUSHING NUT. IF NEEDED, YOU MAY REMOVE ROUTER DEPTH CONTROL GAUGE/SLEEVE FROM ROUTER FOR THIS STEP. WHEN ALIGNMENT BUSHING AND BUSHING NUT ARE SECURED TO THE BASE PLATE RE-INSTALL ROUTER DEPTH CONTROL SLEEVE.



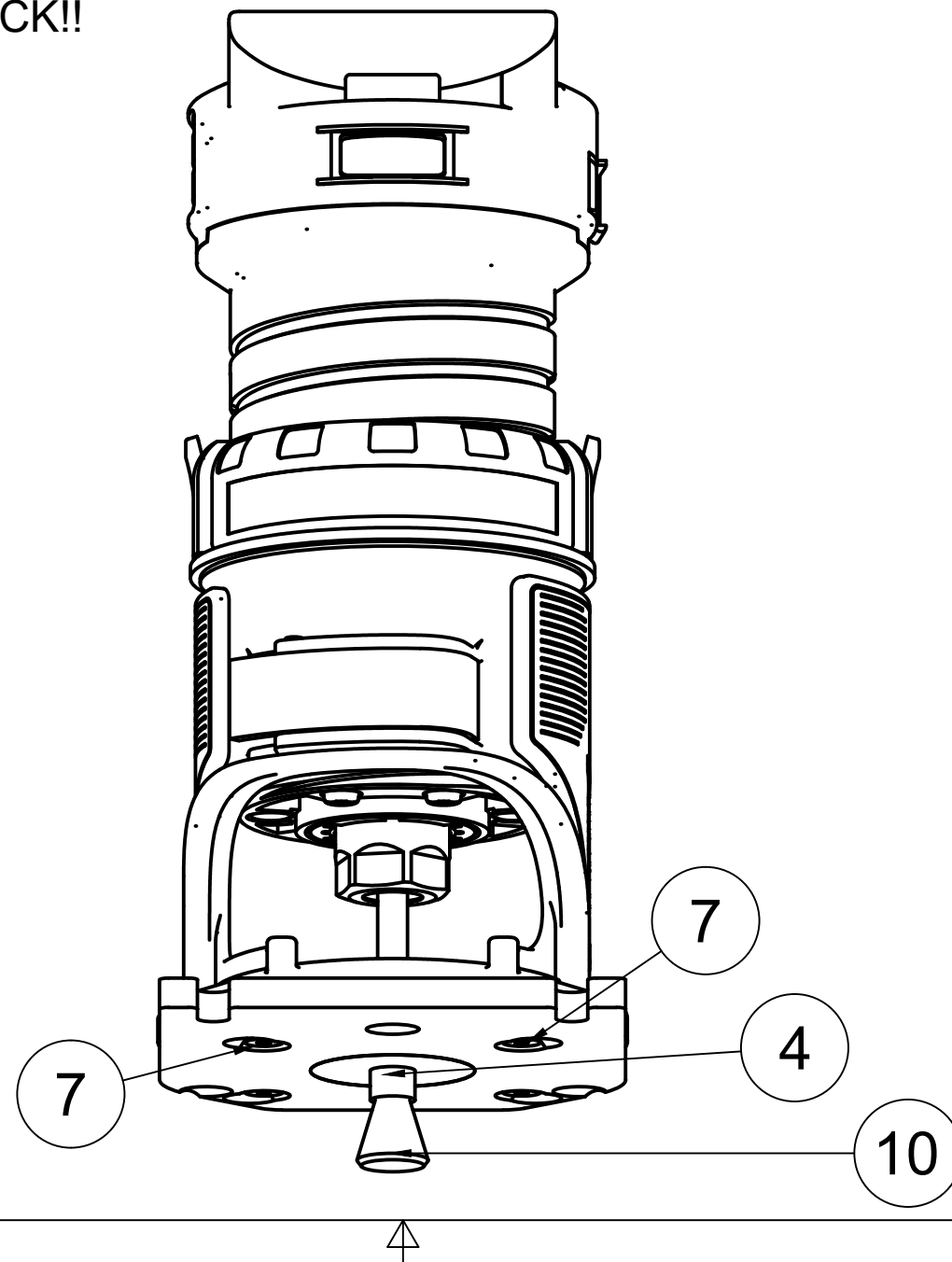
## BASE PLATE TO ROUTER ASSEMBLY

### STEP 8: ALIGN ROUTER BASE PLATE TO ROUTER CHUCK VIA TAPERED PIN

**-\*\*MAKE SURE ROUTER DEPTH ADJUSTMENT LEVER IS LOCKED WHILE DOING THE ALIGNMENT\*\***

-INSERT THE  $\frac{1}{4}$ " ROUTER ALIGNMENT PIN (PART 10) THROUGH THE ROUTER ALIGNMENT BUSHING (PART 4) AND INTO THE COLLET IN THE ROUTER CHUCK. MAKE SURE THE TAPER ON THE PIN IS TOUCHING THE TOP OF THE ALIGNMENT BUSHING, THIS WILL SELF CENTER. SEMI-TIGHTEN THE ROUTER CHUCK. NOW FINISH TIGHTENING THE 4 COUNTERSUNK BASE PLATE SCREWS (PART 7). YOU HAVE ALIGNED THE ROUTER BASE PLATE WITH THE ROUTER CHUCK!!

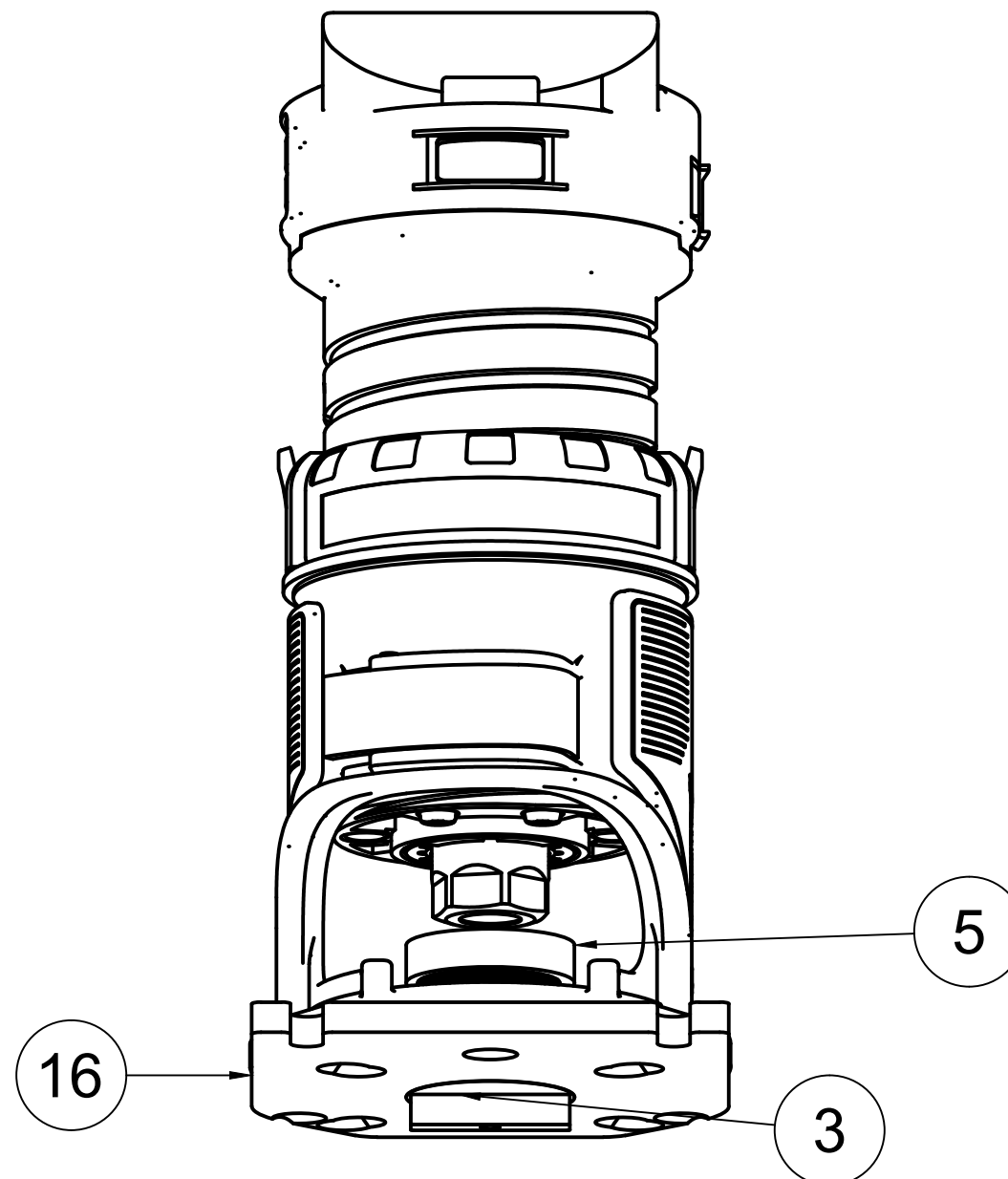
-ONCE BASE PLATE IS ALIGNED WITH ROUTER CHUCK, YOU MAY REMOVE THE TAPERED LOCATING PIN (PART 10) AND LOCATING BUSHING (PART 4) FROM THE ROUTER BASE PLATE



## BASE PLATE TO ROUTER ASSEMBLY

### STEP 9: INSTALL GUIDE BUSHING ONTO ROUTER BASE PLATE

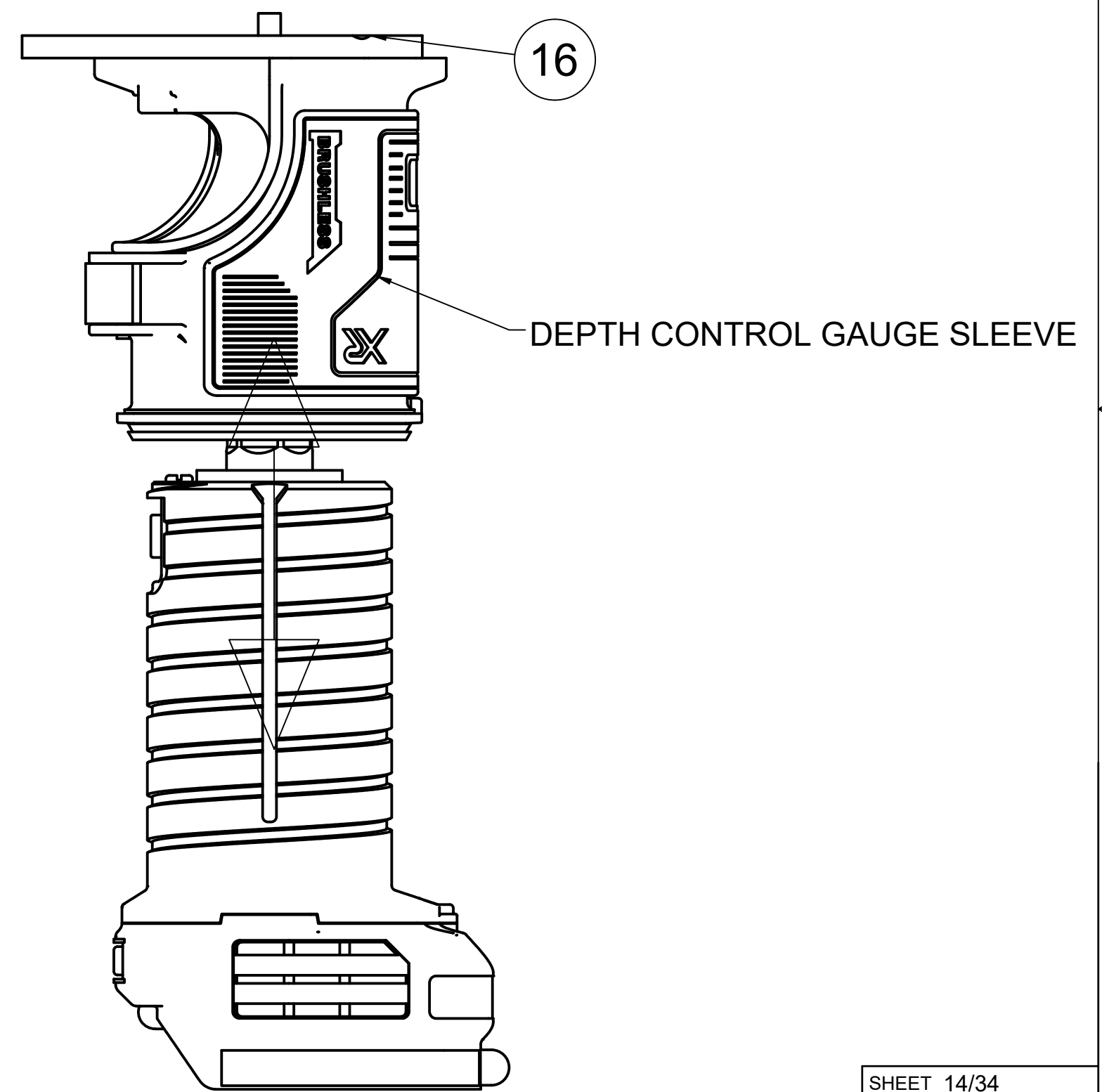
-INSERT THE GUIDE BUSHING (PART 3) THROUGH THE ROUTER BASE PLATE (PART 16). THE OUTER FLANGE OF THE GUIDE BUSHING SHOULD SIT DOWN INSIDE THE BOSS OF THE ROUTER BASE PLATE. NEXT, SCREW ON THE BUSHING NUT (PART 5) FROM OTHER SIDE OF ROUTER BASE PLATE. TIGHTEN BUSHING NUT SNUGLY BY HAND (DO NOT OVER TIGHTEN OR USE TOOLS TO TIGHTEN). THE GUIDE BUSHING WILL BE TIGHT ENOUGH TO ALLOW IT TO SLIGHTLY ROTATE IN FUTURE STEPS ALLOWING THE AUTO ALIGN FUNCTION.



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## **STEP 10: REMOVE THE ROUTER BASE PLATE AND DEPTH CONTROL GAUGE SLEEVE FROM THE ROUTER**

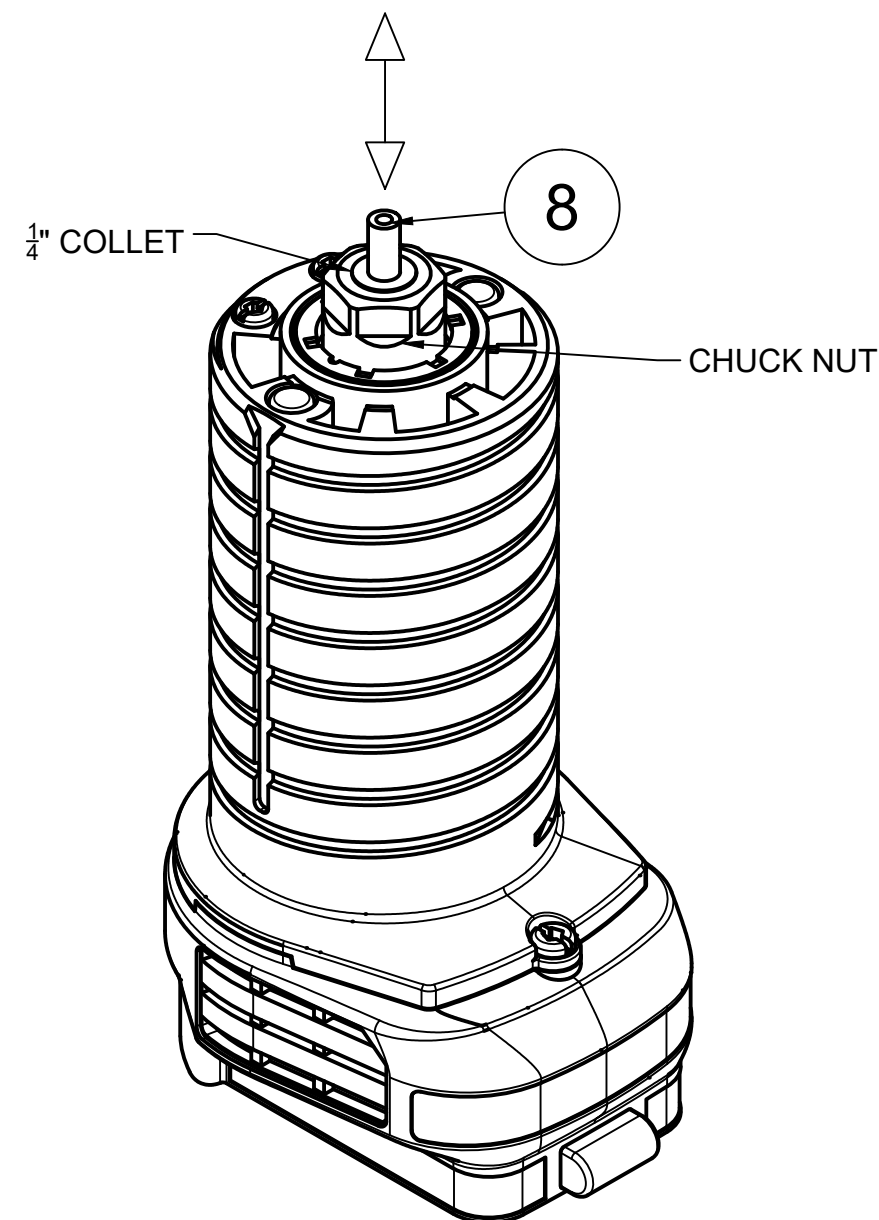
TURN ROUTER UPSIDE DOWN AND REMOVE THE DEPTH CONTROL GAUGE SLEEVE AND ATTACHED ROUTER BASE PLATE (PART 16) FROM THE ROUTER BODY.



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 11: INSERT REDUCER COLLET (PART 8) INTO ROUTER CHUCK

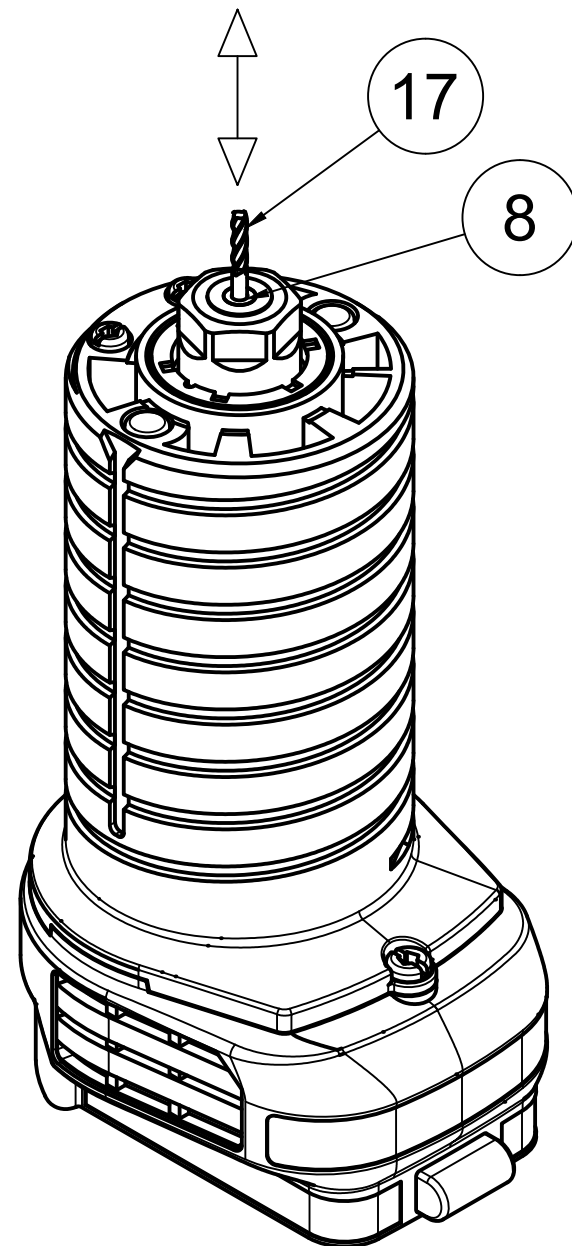
MAKE SURE THAT THE  $\frac{1}{4}$ " COLLET THAT CAME WITH YOUR ROUTER IS STILL INSERTED INTO ROUTER CHUCK. NOW LOOSEN ROUTER CHUCK NUT ENOUGH TO INSERT THE PROVIDED REDUCER BUSHING (PART 8) INSIDE THE  $\frac{1}{4}$ " COLLET. TIGHTEN CHUCK NUT ONLY ENOUGH TO KEEP THE REDUCER BUSHING FROM SLIDING UP AND DOWN INSIDE THE  $\frac{1}{4}$ " COLLET. THE REDUCER BUSHING SHOULD SIT FLUSH WITH ROUTER CHUCK AND NOT STICK OUT ANY.



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 12: INSERT 3MM END MILL INTO REDUCER BUSHING

INSERT THE PROVIDED 3MM END MILL (PART 17) INTO REDUCER BUSHING (PART 8) & TIGHTEN CHUCK NUT ENOUGH TO WHERE END MILL WILL NOT FALL FREELY IN CHUCK, BUT CAN STILL SLIDE INSIDE REDUCER BUSHING.

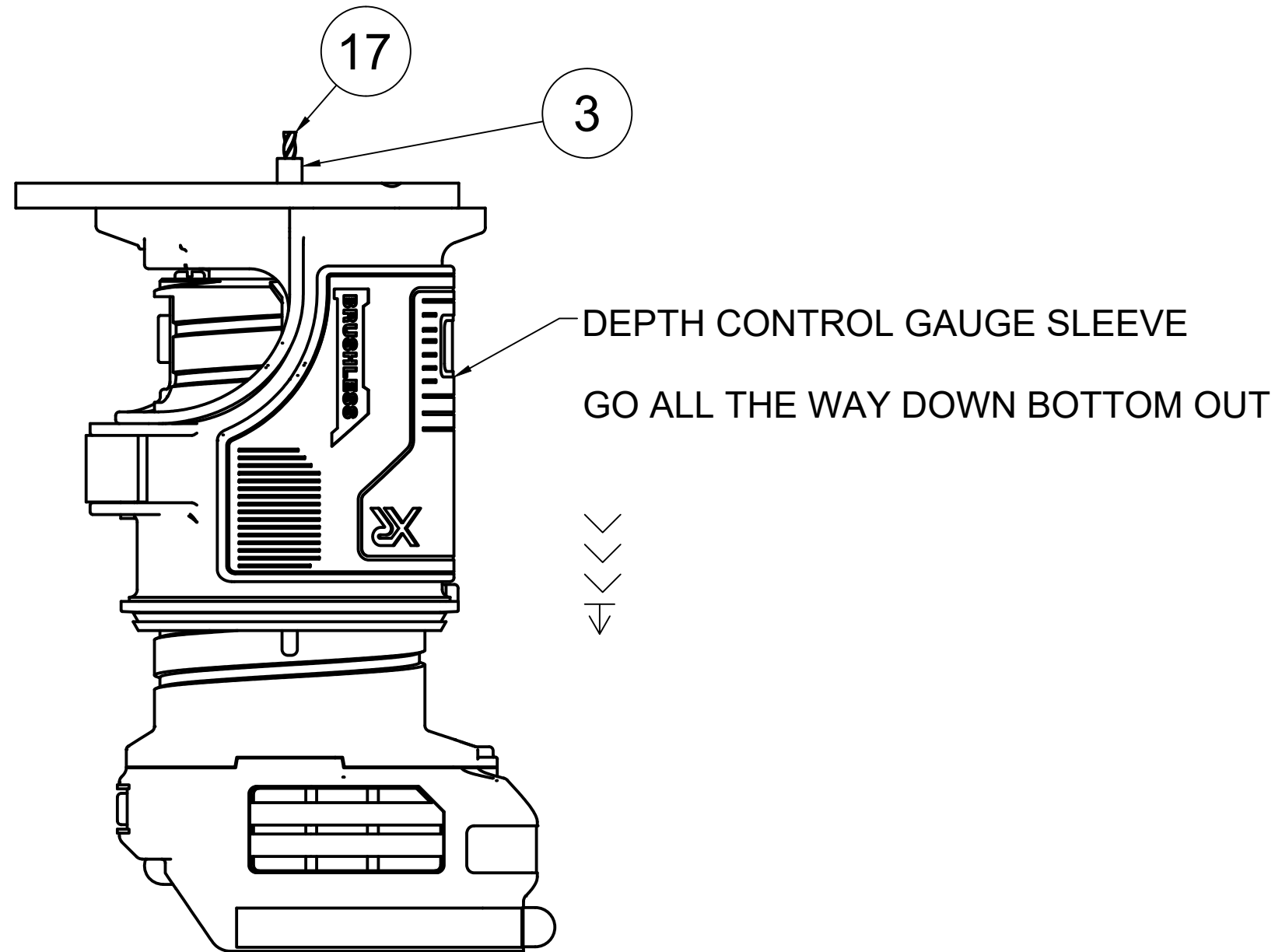




# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 13: RE-INSTALL ROUTER DEPTH CONTROL GAUGE SLEEVE

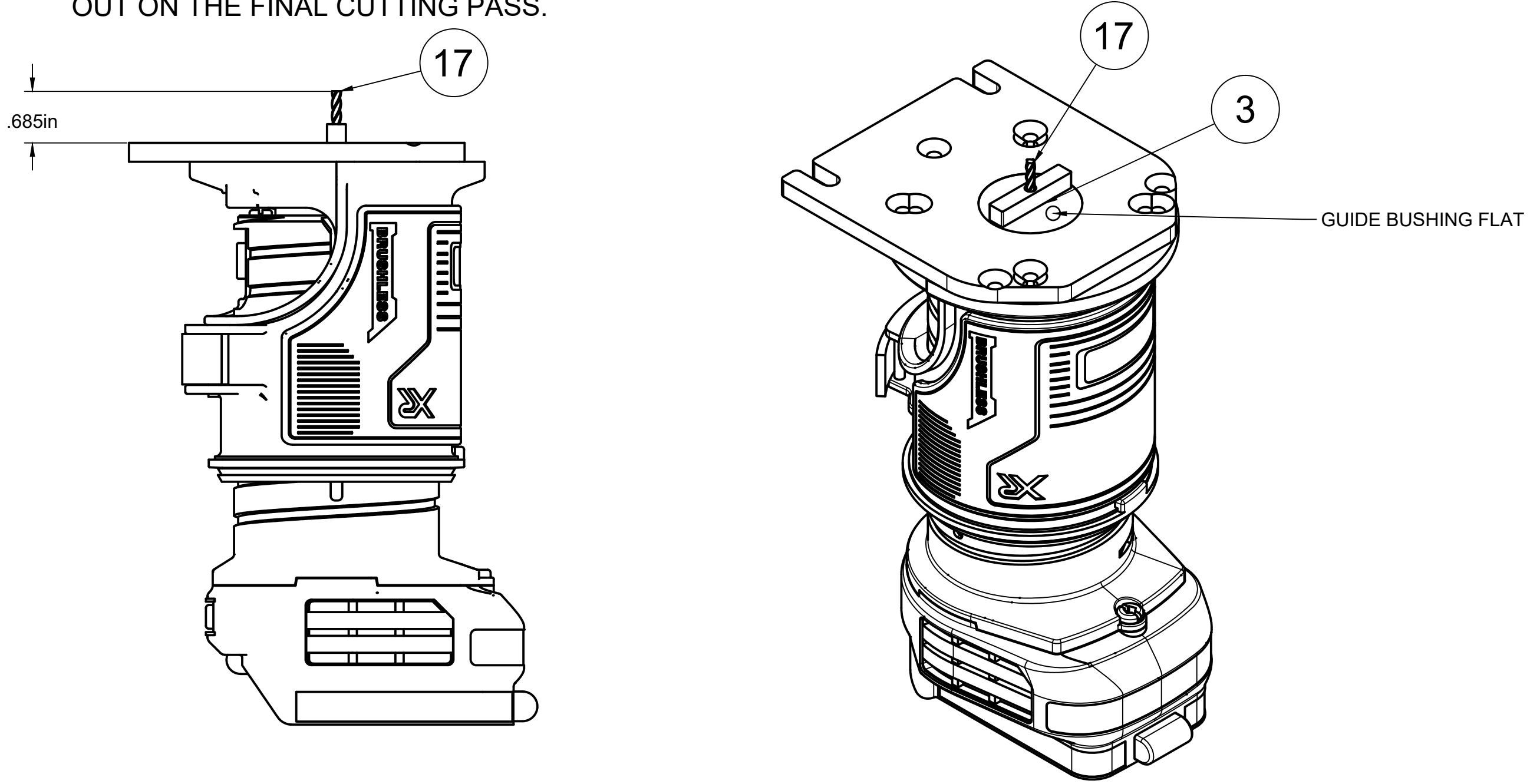
RE-INSTALL ROUTER DEPTH CONTROL GAUGE SLEEVE ONTO THE ROUTER CAREFULLY, WHILE END MILL (PART 17) WILL PASS THROUGH THE CENTER HOLE IN THE GUIDE BUSHING (PART 3). GO ALL THE WAY TO THE BOTTOM OF THE (BOTTOM OUT) ROUTER DEPTH CONTROL. THIS LETS US KNOW THE END OF TRAVEL FOR DEPTH FOR THE ROUTER.



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 14: SET END MILL INITIAL DEPTH TO 0.685" WITH CALIPERS

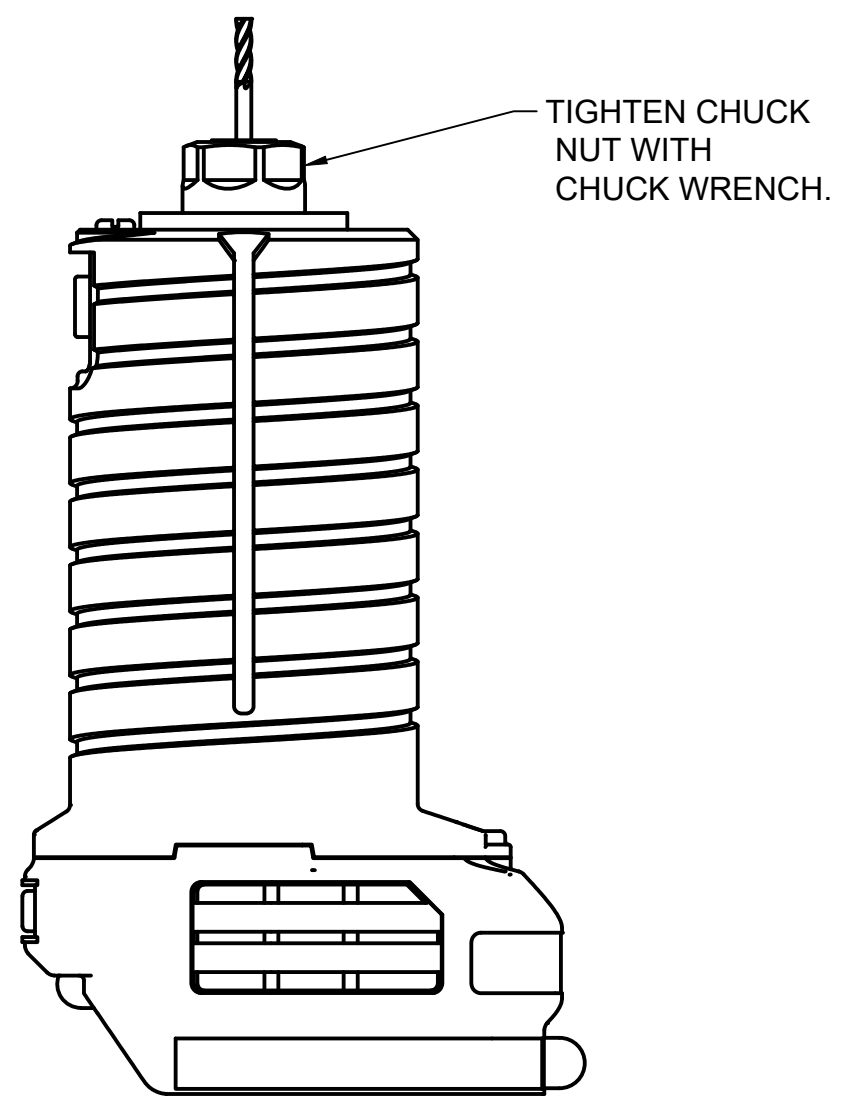
MEASURE WITH DEPTH GAUGE ON CALIPERS FROM THE FLAT ON THE GUIDE BUSHING (PART 3) TO THE TIP OF THE ENDMILL (PART 17). THE ENDMILL STICKOUT SHOULD MEASURE ABOUT 0.685" FROM THE GUIDE BUSHING FLAT. THIS SHOULD GIVE ENOUGH CLEARANCE TO KEEP THE ROUTER DEPTH ADJUSTMENT FROM RUNNING OUT ON THE FINAL CUTTING PASS.



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 15: TIGHTEN END MILL IN ROUTER CHUCK

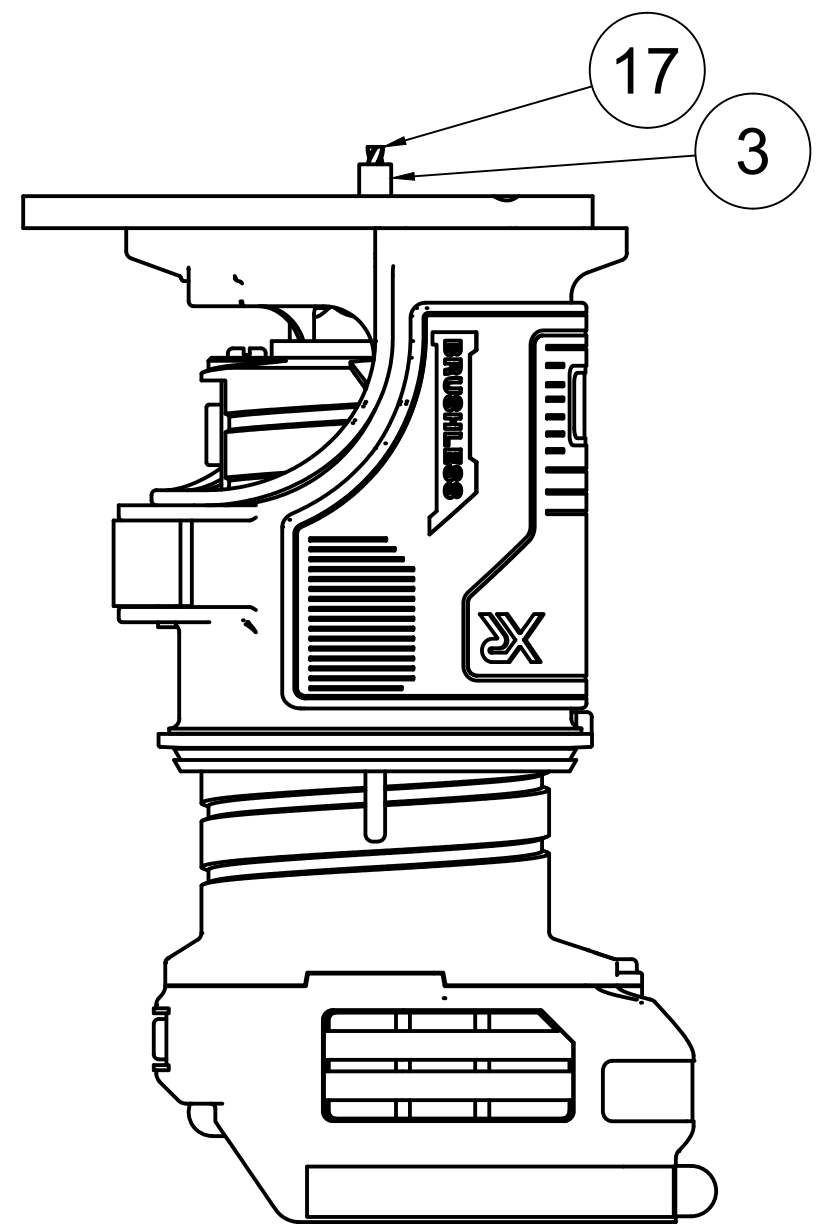
WE NOW REMOVE THE ROUTER DEPTH CONTROL SLEEVE ONCE MORE AND TIGHTEN ROUTER CHUCK WITH ROUTER CHUCK WRENCH



# MOUNTING END MILL AND SETTING INITIAL END MILL DEPTH

## STEP 16: RE-INSTALL ROUTER DEPTH CONTROL SLEEVE

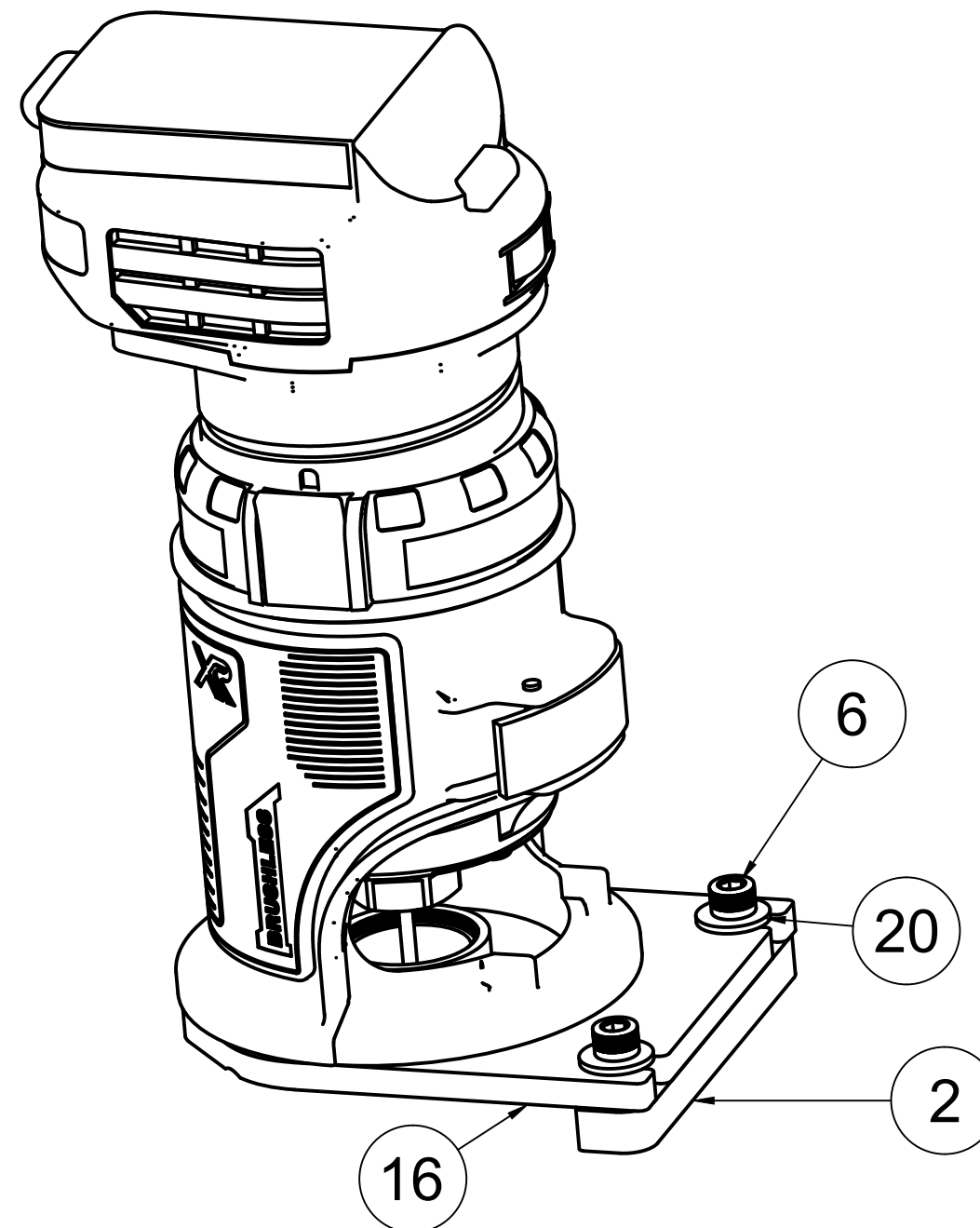
WE RE-INSTALL ROUTER DEPTH CONTROL SLEEVE WHILE NOT GOING TO THE FULL DEPTH. PLEASE BE CAREFUL TO NOT LET THE END MILL (PART 17) HIT THE 80 % FRAME. THE END MILL SHOULD BARELY BE STICKING OUT OF THE GUIDE BUSHING (PART 3) AT THIS POINT.



## MOUNT BASE PLATE AND ROUTER ON TOP OF JIG SIDE PLATES

### STEP 17: INSTALL ALIGNMENT/SUPPORT RAIL TO ROUTER BASE PLATE

-PLACE ALIGNMENT/SUPPORT RAIL (PART 2) BELOW THE ROUTER BASE PLATE (PART 16) TO WHERE THE THREADED HOLES LINE UP WITH THE SLOTS IN THE ROUTER BASE PLATE. INSERT THE PROVIDED SCREWS (PART 6) THROUGH THE WASHERS (PART 20) AND INSERT SCREWS THROUGH THE SLOTS IN THE ROUTER BASE PLATE AND THREAD INTO THE TAPPED HOLES OF THE ALIGNMENT/SUPPORT RAIL. FINGER TIGHTEN.



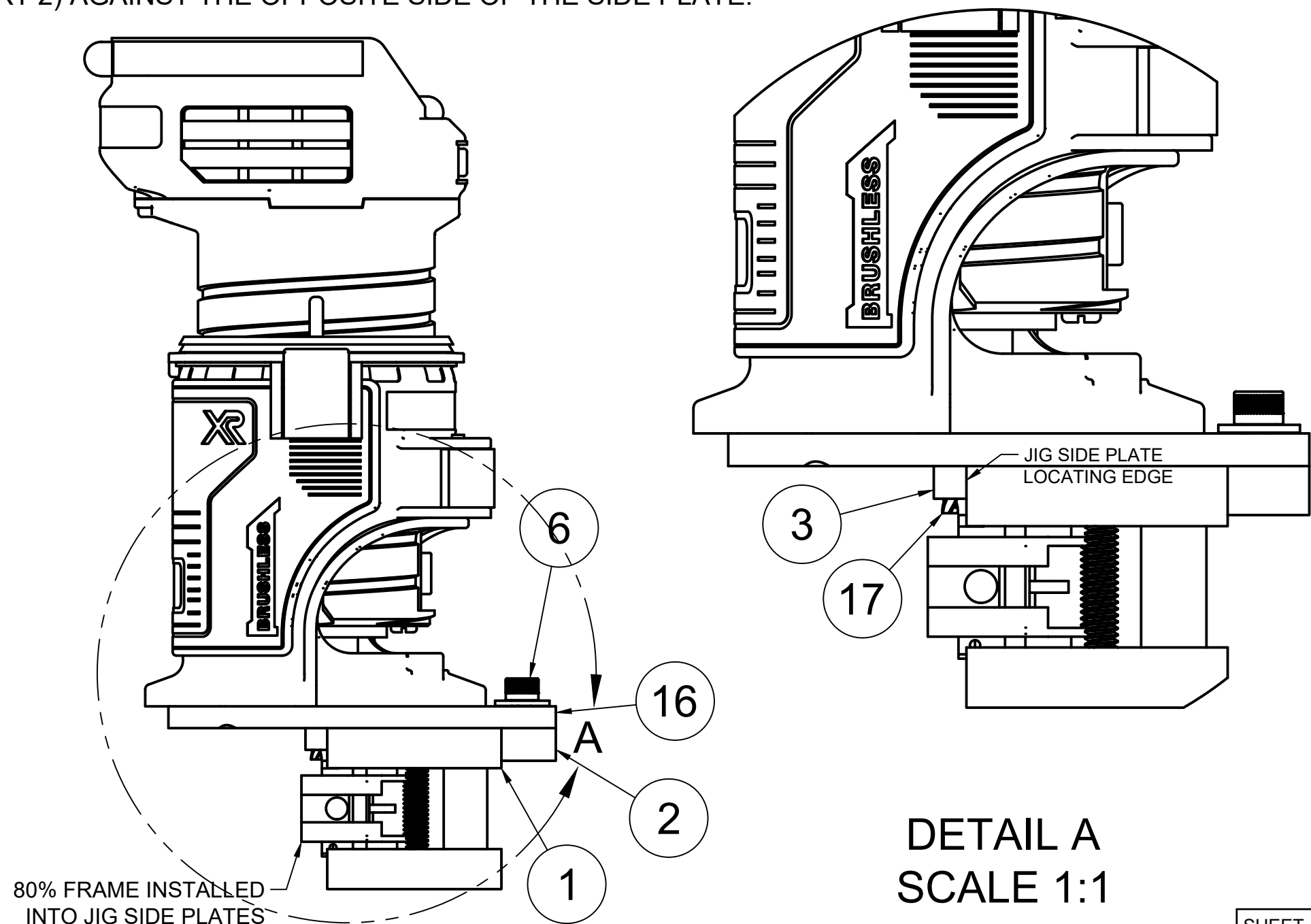
# MOUNT BASE PLATE AND ROUTER ON TOP OF JIG SIDE PLATES

## STEP 18: ALIGN ROUTER AND ROUTER BASE PLATE WITH ALREADY ASSEMBLED 80 PERCENT FRAME AND SIDE PLATES.

**-BE CAREFUL TO NOT HIT END MILL (PART 17) AGAINST 80% FRAME !! MAKE SURE ROUTER DEPTH CONTROL IS HIGH ENOUGH TO NOT ALLOW ENDMILL TO HIT 80% FRAME!!!!**

YOU WILL NEED TO USE A VISE AND VISE PARALLELS TO HOLD THE 80 % FRAME AND MOUNTED JIG SIDE PLATES STATIONARY. PLACE THE ROUTER AND ATTACHED ROUTER BASE PLATE ON TOP OF THE JIG SIDE PLATE AS SHOWN. WHILE HOLDING THE ROUTER UPRIGHT AND PUSHING THE GUIDE BUSHING (PART 3) AGAINST THE LOCATING EDGE OF THE SIDE PLATE, PUSH THE ALIGNMENT/SUPPORT RAIL (PART 2) AGAINST THE OPPOSITE SIDE OF THE SIDE PLATE.

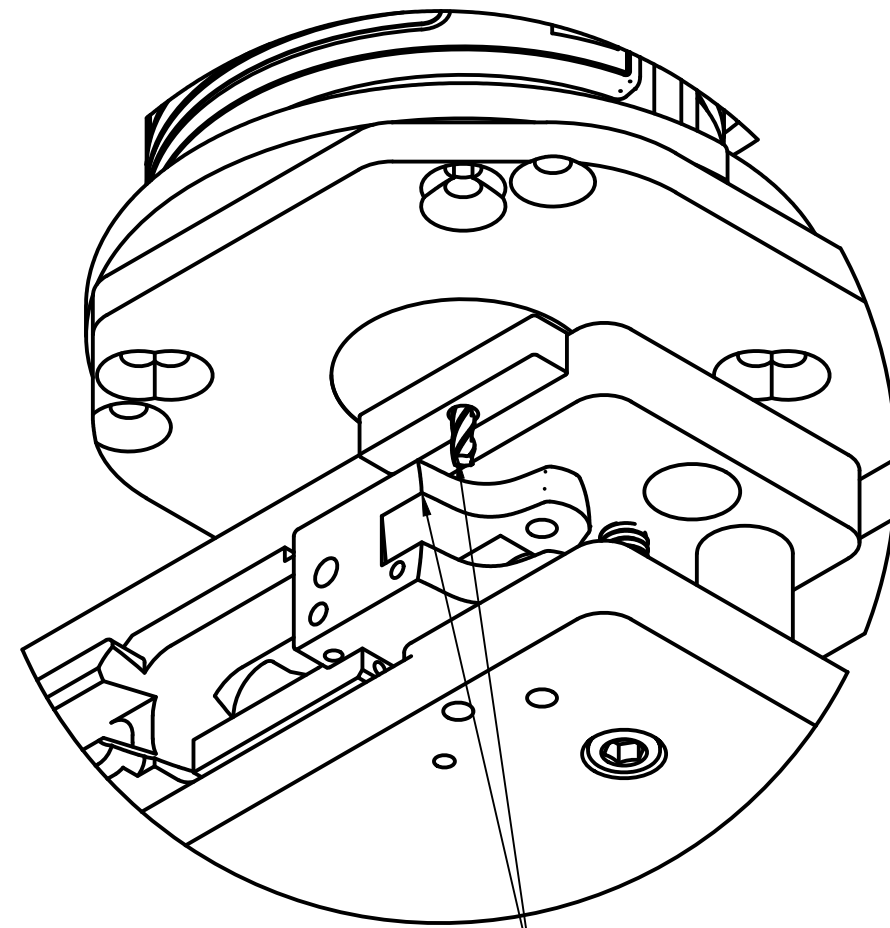
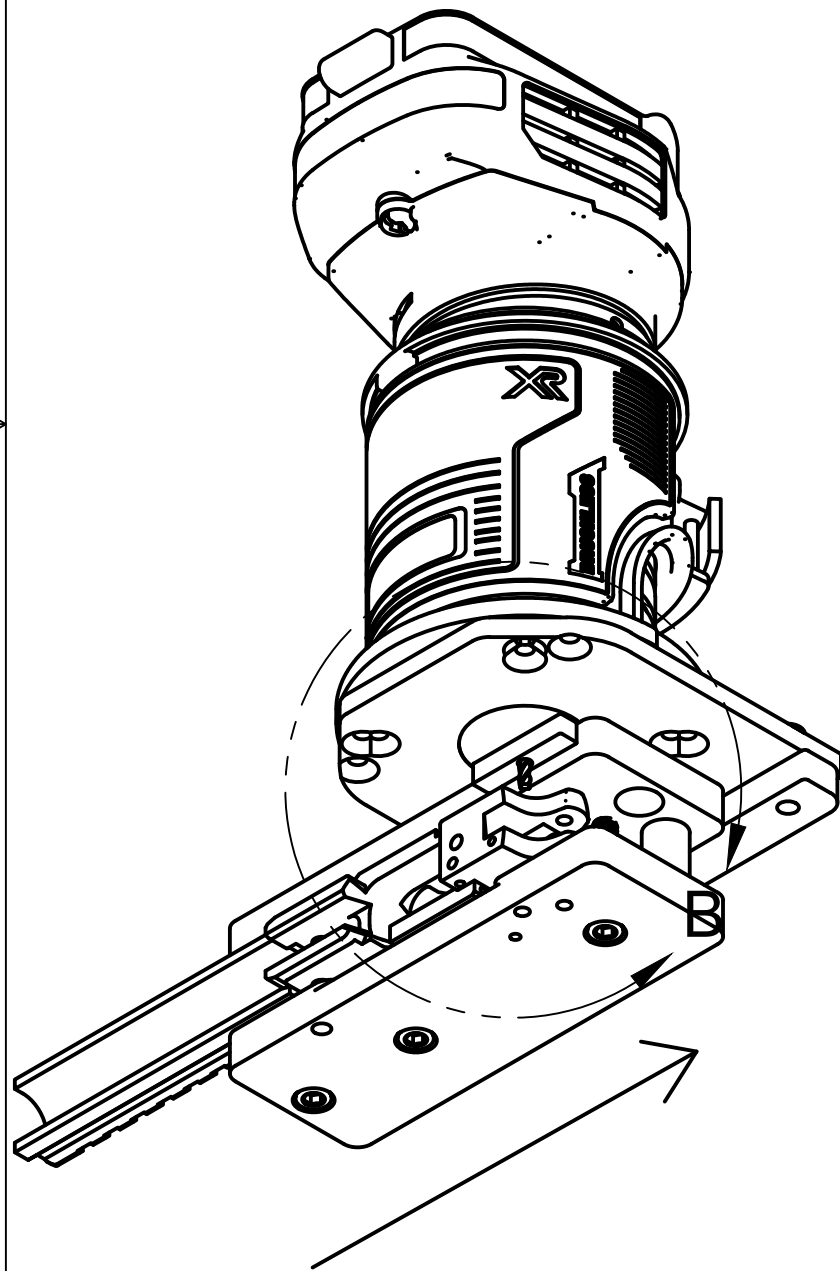
ONE MAY NOTICE AT THIS POINT, THE GUIDE BUSHING (PART 3) MAY ROTATE INSIDE THE BOSS OF THE ROUTER BASE PLATE (PART 16) TO ALLOW FOR THE AUTO ALIGN FUNCTION TO ALIGN THE GUIDE BUSHING AND ALIGNMENT/SUPPORT RAIL (PART 2) WITH THE PARALLEL SIDES OF THE JIG SIDE PLATE. THIS ENABLES THE ROUTER TO CUT PARALLEL AND ACCURATELY ALONG JIG SIDE PLATES. WHILE KEEPING SIDE AND DOWNWARD PRESSURE, AND ROUTER BASE PLATE ALIGNED, TIGHTEN THE 2 SCREWS. BE SURE NOT TO OVER TIGHTEN THE SCREWS AND STRIP THE THREADED HOLES IN THE ALIGNMENT/SUPPORT RAIL (PART 2). NOW THE ROUTER & ROUTER BASE PLATE ARE ALIGNED AND MOUNTED SECURELY TO THE JIG SIDE PLATES. THE ROUTER SHOULD BE ABLE TO SLIDE ACROSS THE SIDE PLATE FAIRLY EASY.



# RAIL CUTTING PROCESS

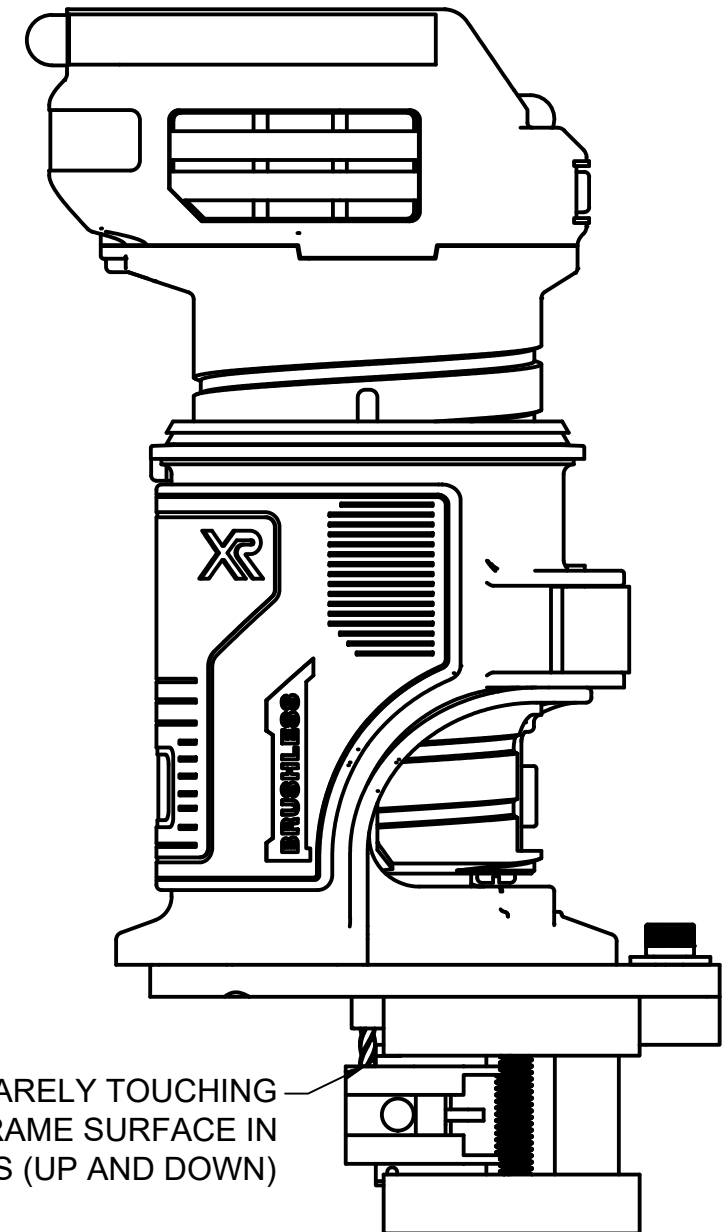
## STEP 19: SET END MILL TOUCH OFF AND INITIAL CUT PASS LENGTH

-NOW THAT THE ROUTER IS MOUNTED TO THE SIDE PLATES, SLIDE THE ROUTER AND MOUNTED BASE PLATE ALONG THE GUIDE BUSHING EDGE TOWARDS THE THE BACK EDGE OF THE 80% FRAME AND/OR JIG SIDE PLATES AS SHOWN BELOW. THE ENDMILL SHOULD NOW BE SITTING CLEAR OF THE 80% FRAME. SLIDE THE ROUTER AND BASE PLATE CLOSE TO THE FRAME AND USING THE ROUTER'S FINE DEPTH ADJUSTMENT, LOWER THE ENDMILL UNTIL IT BARELY TOUCHES OFF ON THE 80% FRAME (IN THE Z-AXIS (UP AND DOWN)). LOCK THE DEPTH ADJUSTMENT LEVER. THIS WILL BE OUR INITIAL CUT DEPTH.



END MILL CLEARING 80% FRAME

DETAIL B  
SCALE 1:1



BARELY TOUCHING  
80% FRAME SURFACE IN  
Z AXIS (UP AND DOWN)

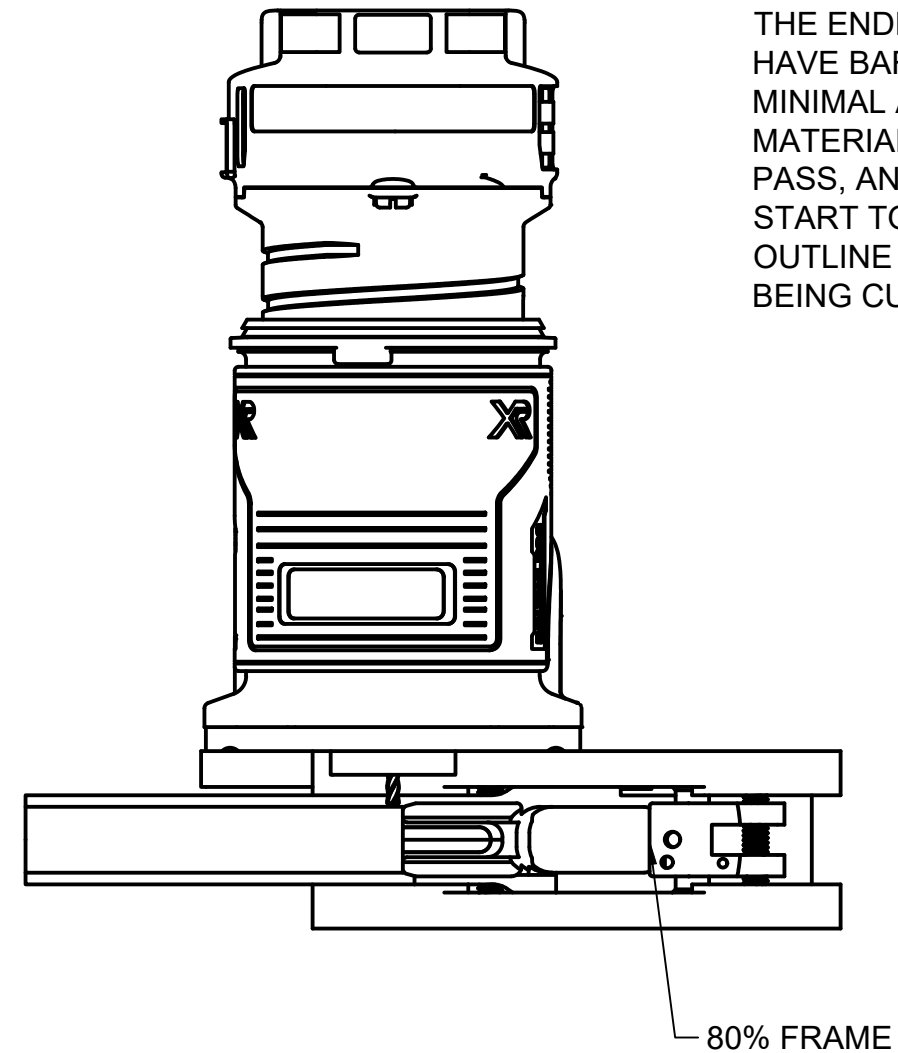
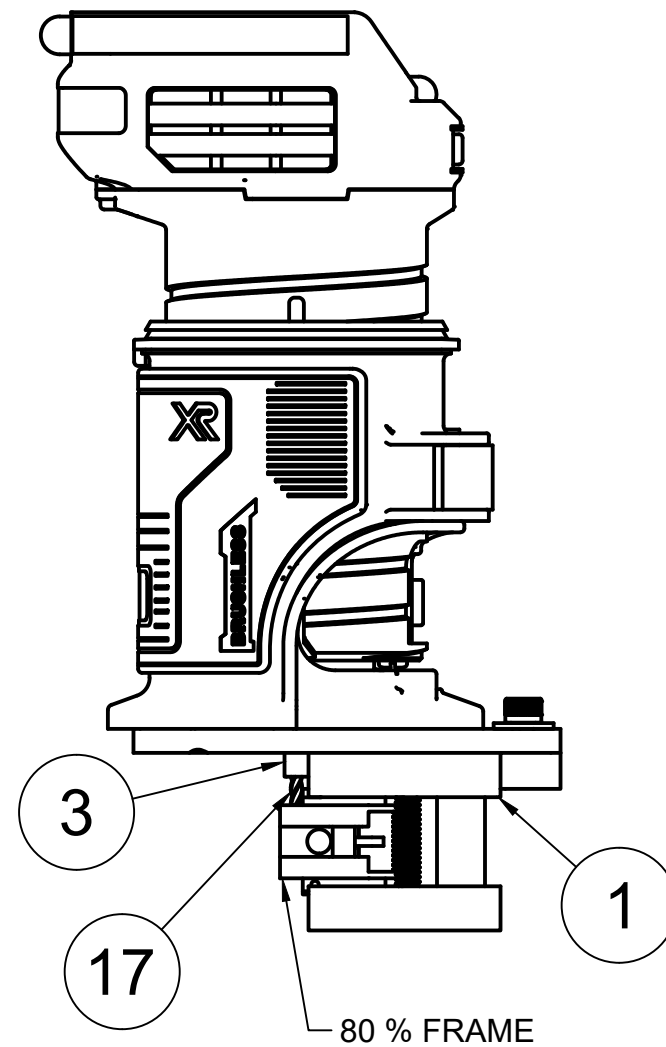
# RAIL CUTTING PROCESS

## STEP 20: CUTTING INITIAL PASS

**WEAR SAFETY GLASSES!!**

-NOW THAT THE INITIAL CUT PASS DEPTH IS SET, WE CAN INSERT THE ROUTER BATTERY OR PLUG IN ROUTER TO POWER. ALL CUTTING PASSES SHOULD START AND END "OFF" OF THE 80% FRAME MATERIAL. **FOR STEEL 80% FRAMES**, THE ROUTER RPM SETTING SHOULD BE SET TO THE **LOWEST** SETTING (10,000 - 15,000 RPM). **FOR ALUMINUM** WE CAN USE **MIDDLE TO HIGH** RPM SETTING ON THE ROUTER. YOU MAY NEED TO ADJUST YOUR RPM SETTING AFTER CUTTING TO OPTIMIZE END MILL TOOL LIFE BASED ON CUTTING SOUND AND FEEL.

-WE NOW TURN ON THE ROUTER AND BEGIN TO SLOWLY PUSH THE ROUTER AND ENDMILL (PART 17) ALONG THE JIG SIDE PLATE (PART 1). PLEASE MAKE SURE TO KEEP SIDEWARD AND DOWNWARD FORCE TO ENABLE THE GUIDE BUSHING (PART 3) LOCATING EDGE TO FOLLOW THE JIG SIDE PLATE EDGE. **ALSO, DO NOT USE LUBRICANT OR CUTTING FLUID** FOR CUTTING AS THE CUTTINGS WILL STICK TO THE WORKPIECE AND MAKE IT HARD TO PUSH THE ROUTER ALONG THE JIG SIDE PLATES. IT IS BEST TO USE AN AIR GUN TO BLOW CHIPS OR CUTTINGS AWAY AS ROUTER CUTS MATERIAL. WE WANT TO GO ALL THE WAY OFF THE 80% FRAME (NOT JIG SIDE PLATES) AND SLOWLY COME BACK FOR A FINISHING PASS AT THE SAME DEPTH. **GO SLOW AND LET THE TOOL DO THE WORK!!! WHEN INITIAL CUTTING PASS IS COMPLETE TURN OFF POWER TO ROUTER!!!**



-YOU WILL NOTICE THAT THE ENDMILL SHOULD HAVE BARELY CUT A MINIMAL AMOUNT OF MATERIAL ON THIS INITIAL PASS, AND YOU SHOULD START TO SEE THE OUTLINE OF THE RAIL BEING CUT

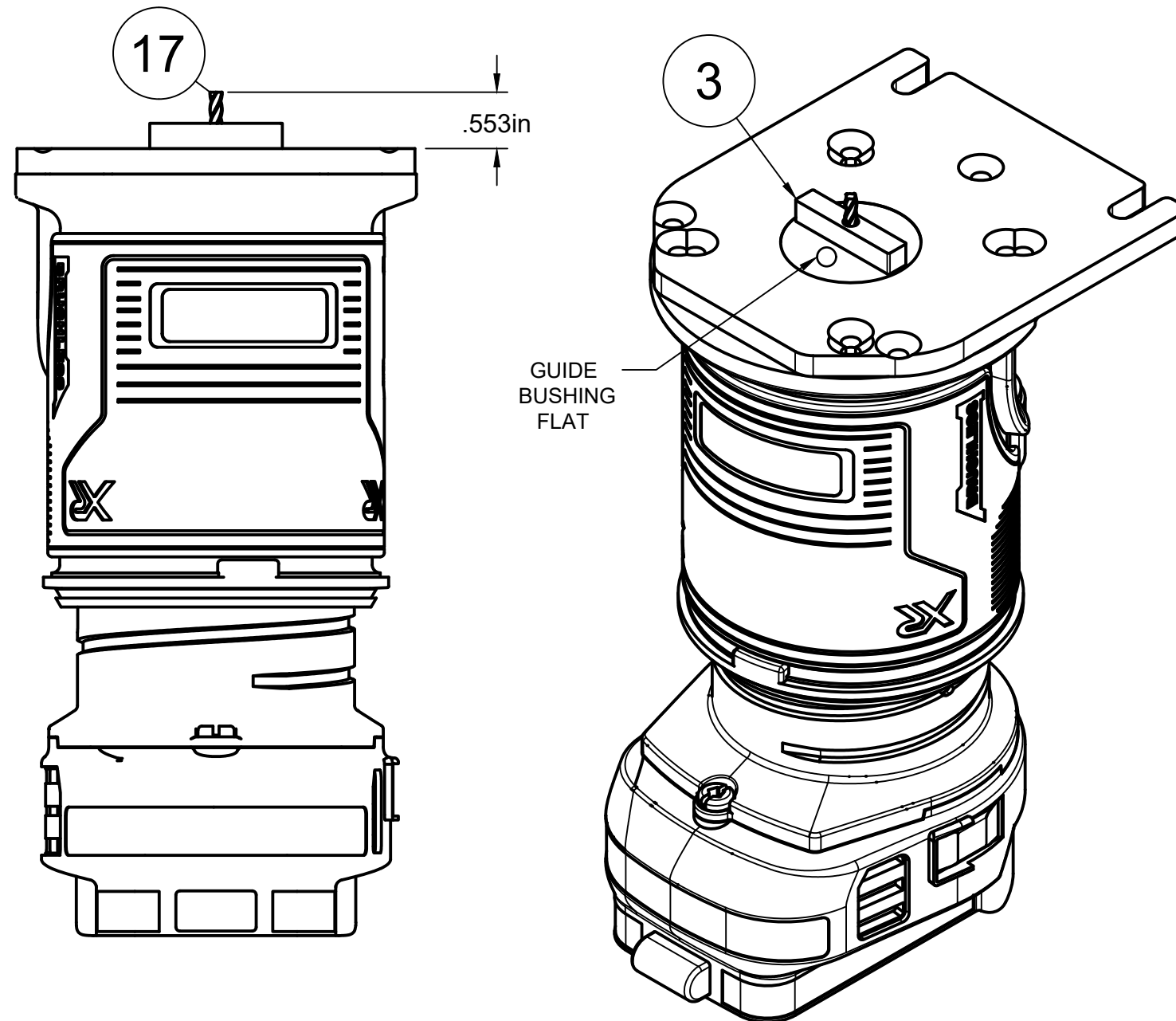


# RAIL CUTTING PROCESS

## STEP 21: RECORDING END MILL DEPTH TO END MILL DEPTHS SHEET

WEAR SAFETY GLASSES!!

-BEFORE MAKING ANY ENDMILL DEPTH ADJUSTMENTS, WE NOW NEED TO RECORD THE INTIIAL/START MEASURED END MILL DEPTH TO THE PROVIDED END MILL DEPTH SHEET/CHART. PLEASE SEE EXAMPLE BELOW. THE ENDMILL DEPTHS SHEET IS ATTACHED AT THE END OF THIS MANUAL. TO RECORD END MILL DEPTH, TAKE ROUTER AND ATTACHED BASE PLATE, END MILL...ETC OFF OF THE JIG SIDE PLATES AND TURN UPSIDE DOWN. MEASURE FROM GUIDE BUSHING FLAT TO TIP OF END MILL WITH CALIPERS DEPTH GAUGE AND RECORD THIS VALUE IN THE SHOWN LOCATION.



<u>PASS NUMBER</u> (INCHES)	<u>MEASURED END</u> <u>MILL DEPTH</u> (INCHES)	<u>FRAME RAIL DEPTH</u> (INCHES)	<u>DEPTH REMAINING</u> (0.067" - FRAME RAIL DEPTH) (INCHES)
INITIAL/START	0.553	0	0.067

RECORD DEPTH  
ON DEPTH SHEET  
IN THIS LOCATION

YOUR VALUES MAY  
BE DIFFERENT

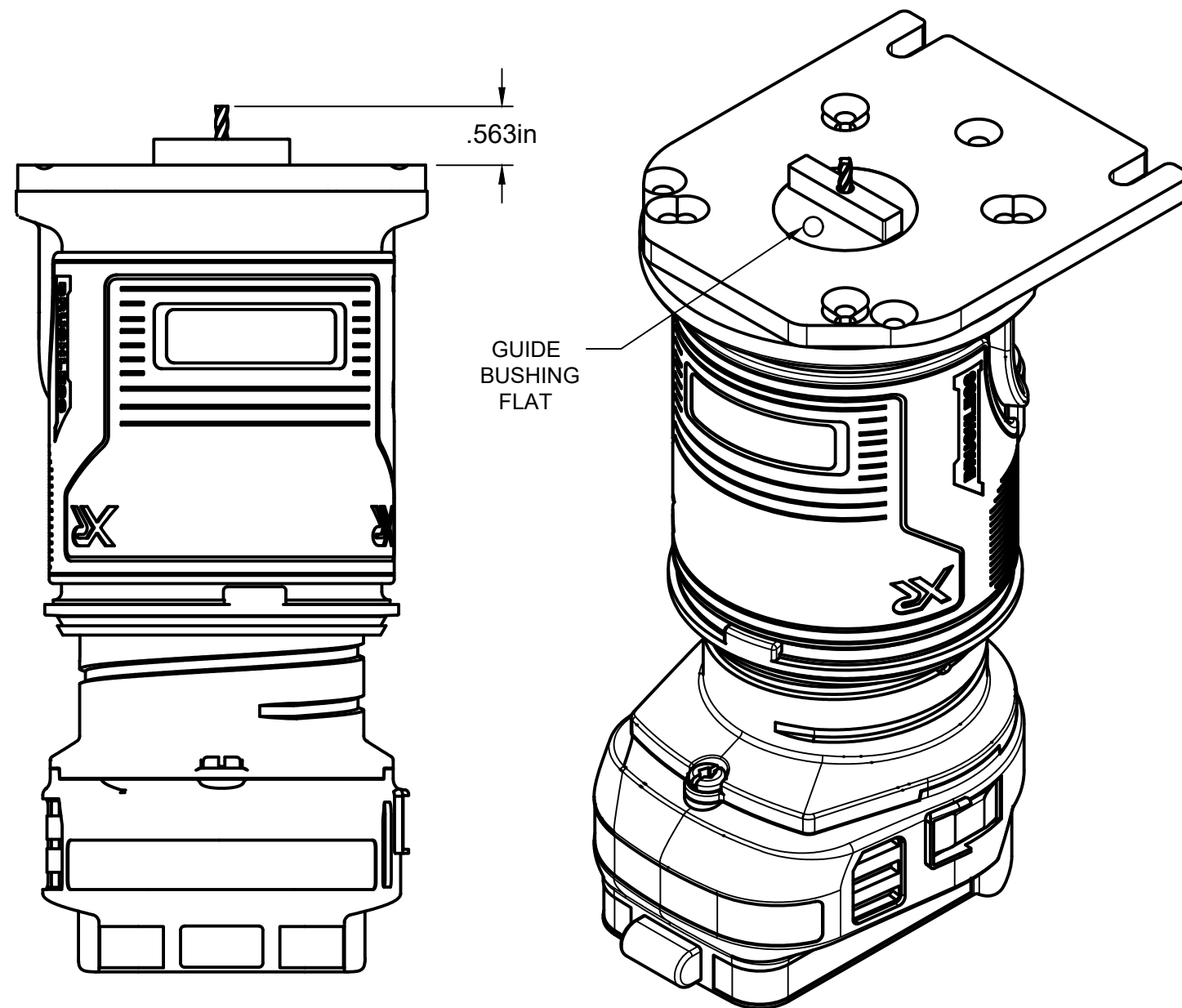
-TOTAL RAIL DEPTH WILL BE ABOUT **0.067"**. AT THIS POINT WE ARE GOING TO SAY OUR FRAME RAIL DEPTH IS "0" AND WE STILL HAVE 0.067" TO GO. WE WILL MEASURE AND RECORD THESE VALUES AFTER FUTURE CUTTING PASSES

# RAIL CUTTING PROCESS

## STEP 22: INCREASING END MILL CUT DEPTH

**WEAR SAFETY GLASSES!!**

-YOU ARE NOW GOING TO LOWER THE ENDMILL OR INCREASE THE ENDMILL CUTTING DEPTH. FIRST, RELEASE THE ROUTER DEPTH LOCK LEVER AND MEASURE WITH CALIPERS DEPTH GAUGE FROM GUIDE BUSHING FLAT TO TIP OF ENDMILL. WE RECOMMEND FOR CUTTING PASS DEPTHS TO BE BETWEEN 0.008" TO 0.012". YOU ARE GOING TO LOWER THE ENDMILL BY 0.010", SO THE ENDMILL DEPTH WILL GO FROM 0.553" TO 0.563". TO LOWER THE END MILL, MOST ROUTERS HAVE A FIND DEPTH ADJUSTMENT DIAL. YOU THEN RECORD THIS VALUE ON THE END MILL DEPTH SHEET IN THE CORRECT LOCATION. RE-ENGAGE THE ROUTER DEPTH LOCKING LEVER. IF THE ROUTER DEPTH LOCK LEVER IS NOT SECURED OR LOCKED BEFORE EACH CUTTING PASS, THE RAIL MAY NOT CUT ACCURATELY OR PRECISELY.



<u>PASS NUMBER</u> <u>(INCHES)</u>	<u>MEASURED END</u> <u>MILL DEPTH</u> <u>(INCHES)</u>	<u>MEASURED FRAME</u> <u>RAIL DEPTH</u> <u>(INCHES)</u>	<u>DEPTH REMAINING</u> <u>(0.067" - FRAME RAIL</u> <u>DEPTH)</u> <u>(INCHES)</u>
INITIAL/START	0.553	0	0.067
1	0.563		

RECORD DEPTH ON DEPTH SHEET IN THIS LOCATION

YOUR VALUES MAY BE DIFFERENT

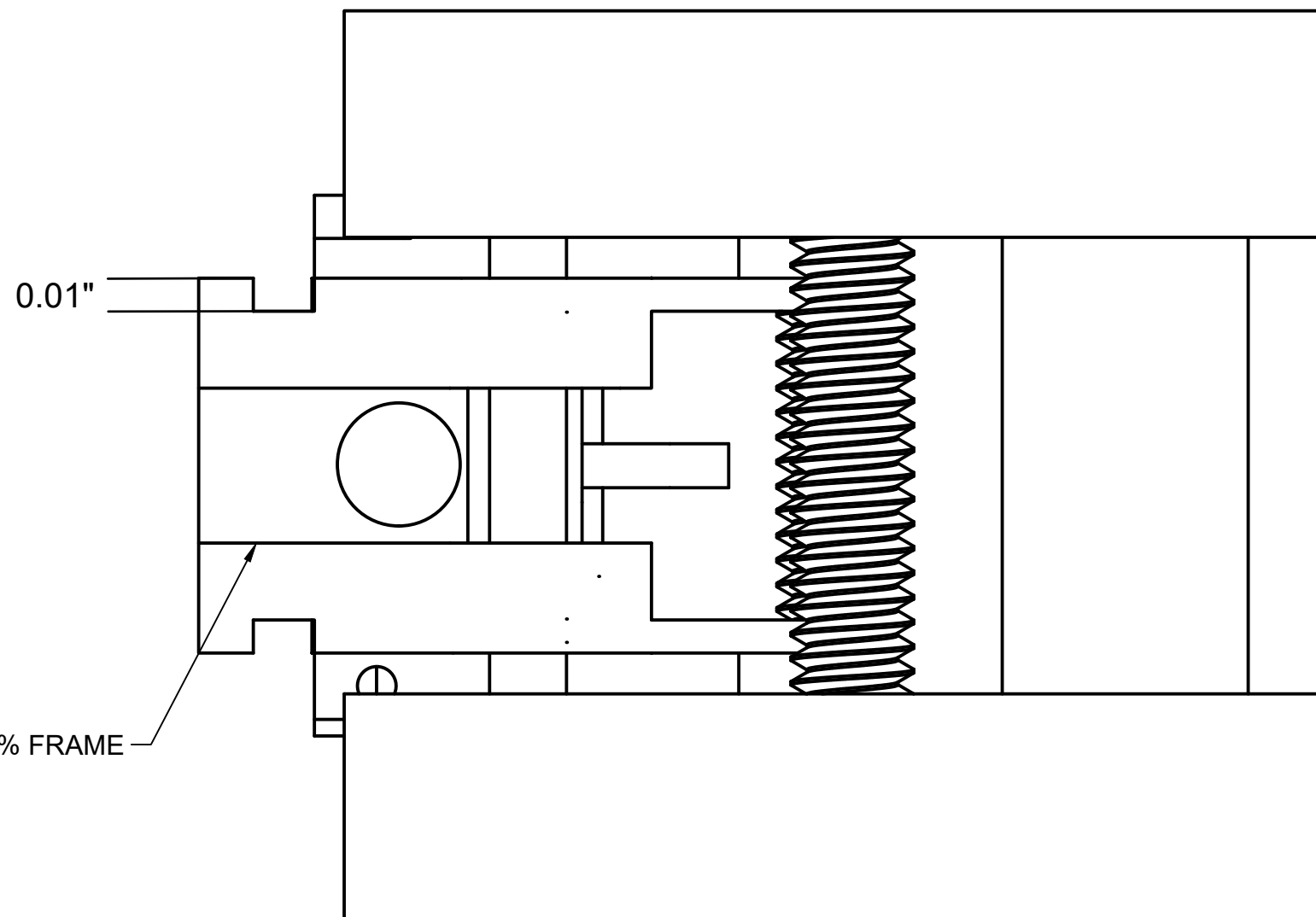
-TOTAL RAIL DEPTH WILL BE ABOUT **0.067"**. AFTER THIS CUTTING PASS WE WILL MEASURE FRAME RAIL DEPTH WITH CALIPERS AND RECORD IN ON END MILL DEPTHS CHART

# RAIL CUTTING PROCESS

## STEP 23: CUTTING PASSES AND RECORDING DEPTHS

**WEAR SAFETY GLASSES!!**

-NOW THAT YOU HAVE COMPLETED THE 1ST MAIN CUTTING PASS, REMOVE ROUTER AND ATTACHED BASE PLATE, END MILL, ...ETC OFF OF THE JIG SIDE PLATES. NEXT, USE THE CALIPER'S DEPTH GAUGE TO MEASURE THE CURRENT RAIL DEPTH AND RECORD VALUE IN CORRECT LOCATION ON THE END MILL DEPTHS CHART. THIS FIRST MEASURED RAIL DEPTH SHOULD BE ABOUT 0.010" SINCE YOU LOWERED OR INCREASED THE ENDMILL CUT DEPTH IN THE PREVIOUS STEP BY 0.010". THE FINAL RAIL DEPTH WILL BE ABOUT 0.067", SO NOW SUBTRACT THE MEASURED RAIL DEPTH FROM 0.067" ( $0.067" - 0.010" = 0.057"$ ) WHICH SHOULD LEAVE AROUND 0.057" OF MATERIAL LEFT TO REMOVE FOR THE 80% FRAME RAIL. RECORD THE DEPTH REMAINING (0.057") IN THE CORRECT LOCATION AS WELL.



<u>PASS NUMBER</u> <u>(INCHES)</u>	<u>MEASURED END</u> <u>MILL DEPTH</u> <u>(INCHES)</u>	<u>MEASURED FRAME</u> <u>RAIL DEPTH</u> <u>(INCHES)</u>	<u>DEPTH REMAINING</u> <u>(0.067" - FRAME RAIL</u> <u>DEPTH)</u> <u>(INCHES)</u>
INITIAL/START	0.553	0	0.067
1	0.563	0.01	0.057

RECORD DEPTHS  
ON DEPTH SHEET  
IN THIS LOCATION

▽

## RAIL CUTTING PROCESS

### STEP 24: REPEAT STEPS 22 AND 23

WEAR SAFETY GLASSES!!

-REPEAT STEPS 22 & 23 UNTIL THE DESIRED RAIL DEPTH OF 0.067" IS REACHED. REMEMBER TO RECORD VALUES TO THE PROVIDED CHART AND TO **ALWAYS LOCK THE ROUTER DEPTH GAUGE LOCK LEVER** AFTER CHANGING ENDMILL DEPTH TO MAINTAIN PRECISE AND ACCURATE CUTS.

-ON FINAL DEPTH (RAIL DEPTH AT 0.067") YOU CAN DO MULTIPLE FINISHING PASSES UNTIL YOU STOP HEARING THE END MILL ENGAGE THE MATERIAL OF THE 80% FRAME. THIS MAY MAKE FITTING SLIDE TO FRAME EASIER.

-FLIP THE 80% FRAME OVER AND REPEAT THE ENTIRE RAIL CUTTING PROCESS ON THE OTHER SIDE.

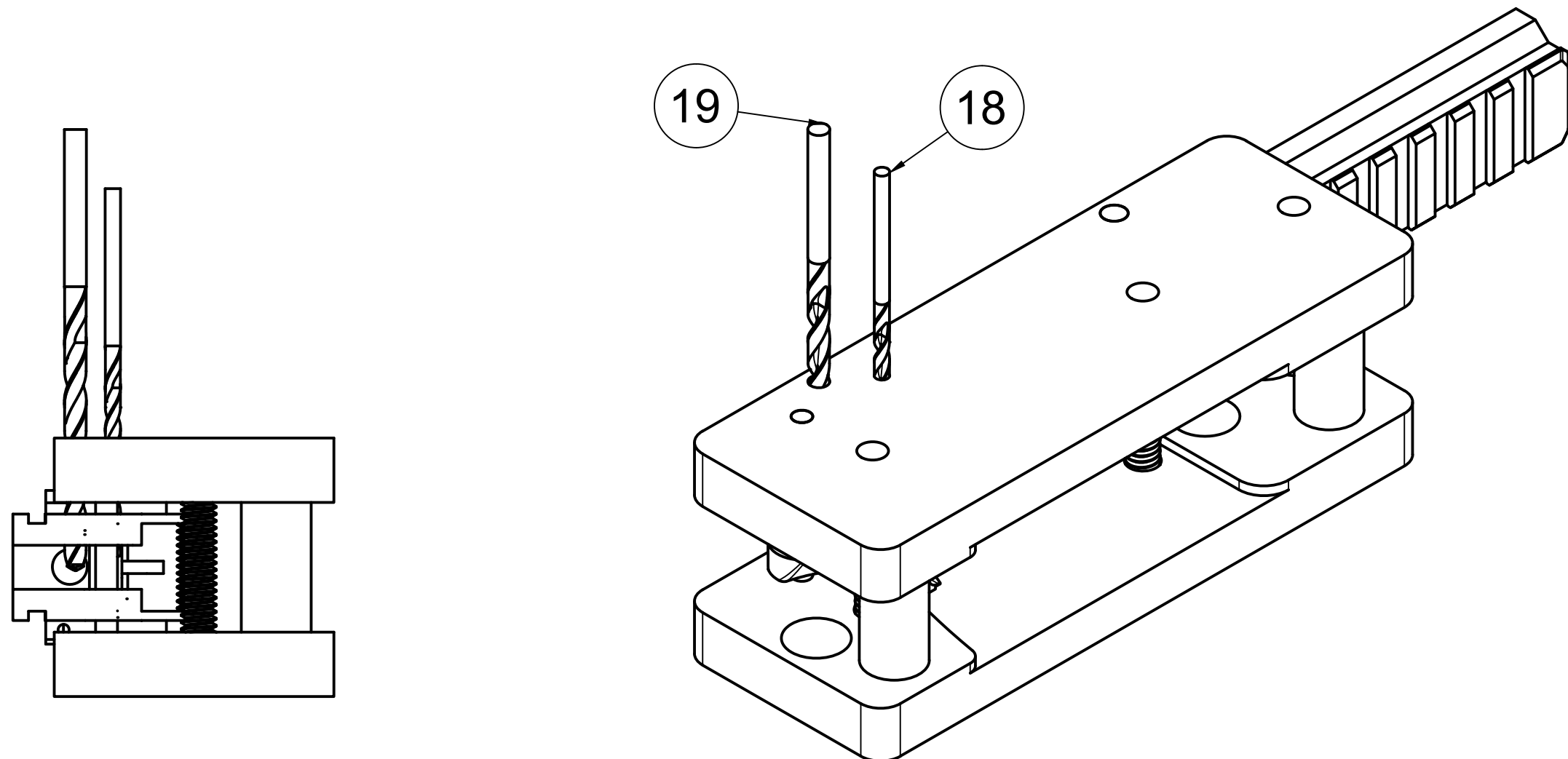
-GO SLOW AND TAKE YOUR TIME!! "YOU CAN ALWAYS TAKE MORE MATERIAL OFF, YOU CANT PUT IT BACK ON"

## DRILLING HOLES

### STEP 25: DRILL HAMMER PIN AND SEAR PIN HOLES

WEAR SAFETY GLASSES!!

-AFTER THE RAIL CUTS ARE COMPLETE, YOU NOW DRILL THE HAMMER PIN AND SEAR PIN HOLES WITH THE PROVIDED DRILL BITS. USE THE PRE-DRILLED AND LABELED (22 & 35) HOLES IN THE JIG SIDE PLATES AS A DRILL GUIDE. IT IS RECOMENDED TO USE A DRILL PRESS WITH A VISE AND PARALLES IF POSSIBLE, BUT YOU MAY USE A HAND DRILL IF NECESSARY. MAKE SURE JIG SIDE PLATES AND FRAME ARE LEVEL AND THE DRILL BIT IS PROPERLY ALIGNED. YOU MAY WANT TO USE SOME TYPE OF DRILLING FLUID IN THIS PROCESS. WE ONLY WANT TO DRILL HALF WAY THROUGH THE FRAME FROM ONE SIDE AND THEN FLIP THE JIG SIDE PLATES AND FRAME OVER AND DRILL AGAIN FROM THE OPPOSITE SIDE.



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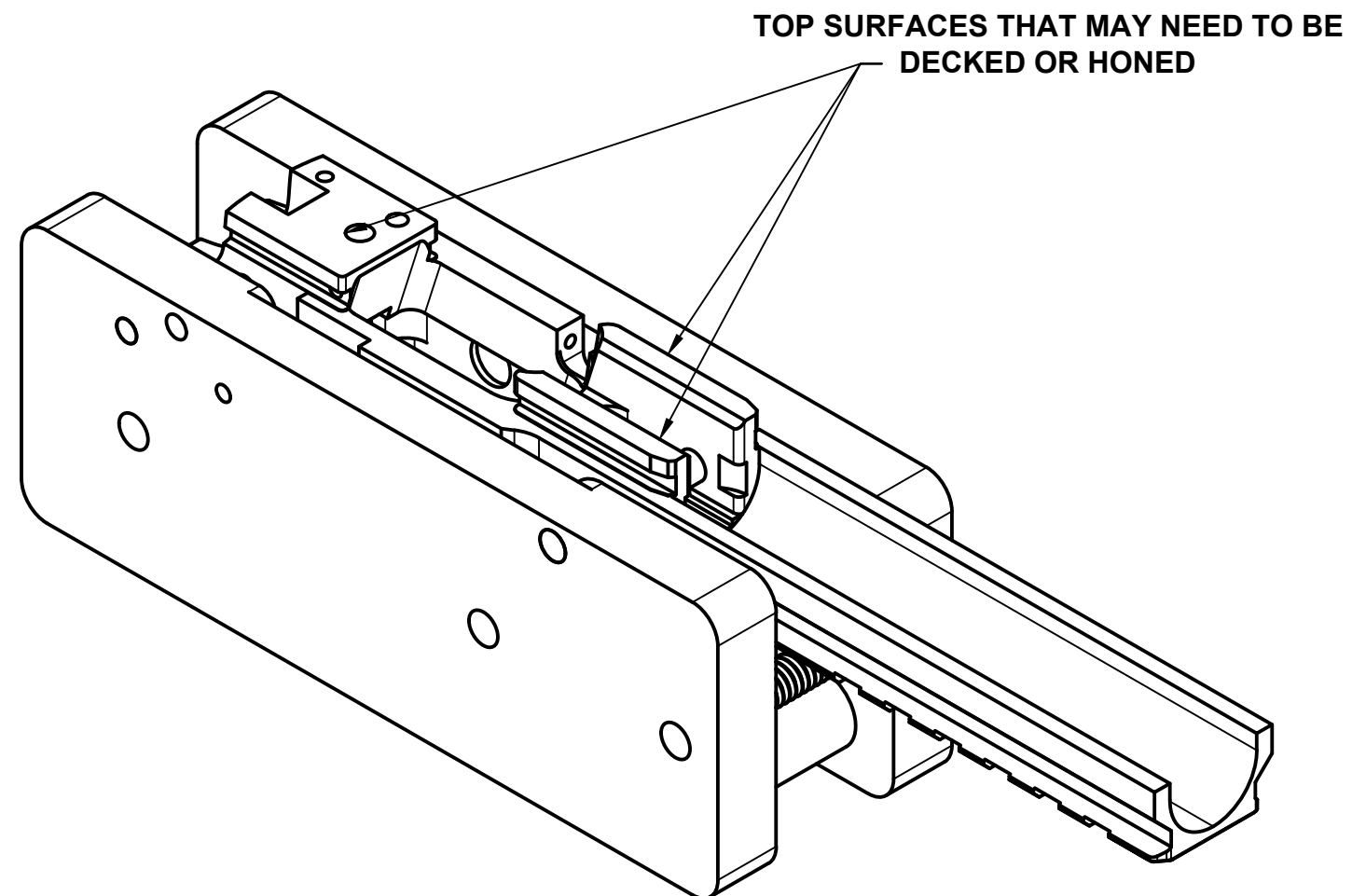
# FITTING SLIDE

## STEP 26: DECK FRAME TOP SURFACE IF NEEDED

**WEAR SAFETY GLASSES!!**

-YOU NOW TRY TO FIT A SLIDE TO THE COMPLETED FRAME. IT MAY BE REQUIRED TO DECK THE FRAME TOP SURFACES WITH A FILE OR FINE GRIT SAND PAPER TO REMOVE A SMALL AMOUNT OF MATERIAL IN TO CREATE A NICE FRAME TO SLIDE FIT. YOU MAY ALSO USE LAPPING COMPOUND AFTER DECKING TO FINE HONE THE SLIDE AND FRAME FITMENT.

WHILE FITTING THE SLIDE TO THE FRAME, WE HAVE FOUND THAT IT IS EASIER TO USE PERMANENT MARKER OR LAYOUT FLUID TO MARK SURFACES. THIS WILL HELP TO SEE WHAT IS HITTING AND WHERE MATERIAL NEEDS TO BE REMOVED.



**FOR 1911 80% FRAMES**

**MAKE SURE TO USE CORRECT BORED HOLES IN  
JIG SIDE PLATES (LABELED 1911) FOR THE  
SUPPORT SPACERS (PART 14) AND THE  
CORRECT LENGTH SCREWS (PART 11) TO  
SECURE JIG SIDE PLATES TO 80% FRAME.**

**ALL OTHER INSTRUCTIONS ARE THE SAME AS  
2011 80% FRAMES!!**

# 3MM END MILL DEPTHS SHEET

- TOTAL FRAME RAIL/FINAL DEPTH: 0.067"
- RECOMMENDED DEPTH PER PASS: 0.008"-0.012"
- MEASURE END MILL STICK OUT FROM GUIDE BUSHING FLAT AFTER EVERY PASS AND RECORD VALUE IN CHART BELOW
- MEASURE FRAME RAIL DEPTH AFTER EACH PASS AND RECORD VALUE IN CHART BELOW

<u>PASS NUMBER</u>	<u>MEASURED END MILL DEPTH (INCHES)</u>	<u>MEASURED FRAME RAIL DEPTH (INCHES)</u>	<u>DEPTH REMAINING</u> <small>(0.067" - FRAME RAIL DEPTH)</small> <u>(INCHES)</u>
INITIAL/START			
1			
2			
3			
4			
5			
6			
7			
8			



# 3MM END MILL DEPTHS SHEET

EXAMPLE CHART BELOW (YOUR VALUES WILL BE DIFFERENT) ALL VALUES ARE IN INCHES

<u>PASS NUMBER</u>	<u>MEASURED END MILL DEPTH (INCHES)</u>	<u>MEASURED FRAME RAIL DEPTH (INCHES)</u>	<u>DEPTH REMAINING (0.067" - FRAME RAIL DEPTH) (INCHES)</u>
INITIAL/START	0.553	0	0.067
1	0.563	0.01	0.057
2	0.573	0.022	0.045
3	0.583	0.033	0.034
4	0.593	0.04	0.027
5	0.603	0.052	0.015
6	0.613	0.06	0.007
7	0.617	0.0675	-0.0005
8		COMPLETED	

**THIS IS THE END OF THIS  
DOCUMENT**