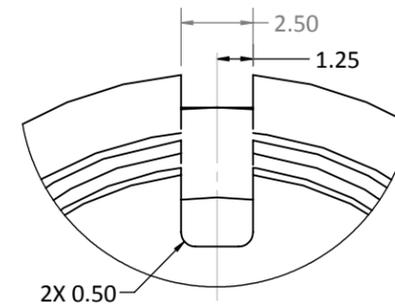
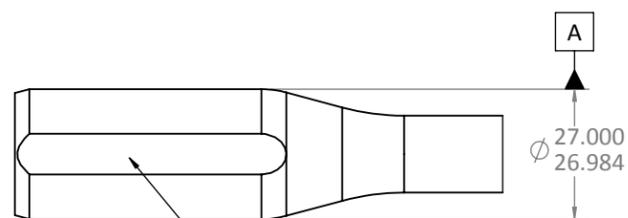


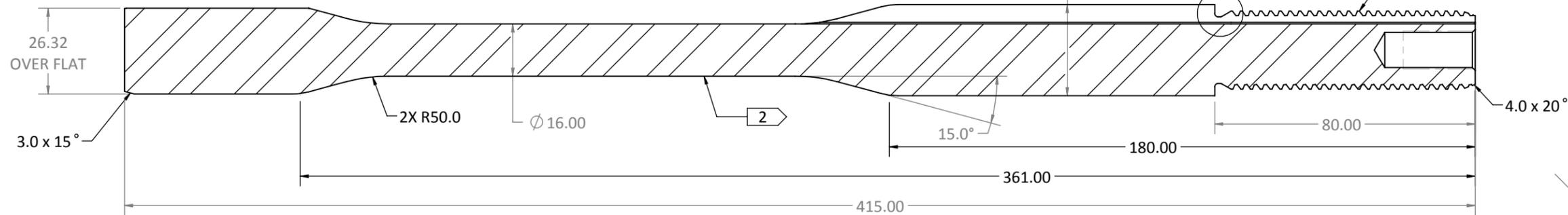
DETAIL B  
SCALE 4 : 1



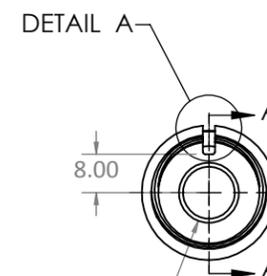
DETAIL A  
SCALE 4 : 1



FLAT FOR AIR RELEASE



SECTION A-A  
SCALE 1 : 1.5



$\phi$  10.80  $\nabla$  27.75  
 M12X1.25 - 6H  $\nabla$  24.00  
 $\checkmark$   $\phi$  12.50 X 90°, NEAR SIDE

MAKE FROM MODEL 1509-HG-021-A

NOTES:

- MATERIAL: 34CrNiMo; ALT 4140H, 4340H, BAR  
NORMALIZE OR ANNEAL TO 231 BHN MAX HARDNESS
- IDENTIFY WITH PART NUMBER, REV LEVEL, SUPPLIER INITIALS, JOB NUMBER, AND SHOP ORDER NUMBER

REV	CHANGED FROM	BY	DATE	APRD
A	PRE-RELEASE	JFC	8/25/12	
B	REVIEWED PER 1509-ENC-004	CPS	1/14/13	
C	ADD AIR RELEASE FLAT & TOL DIA TO TRANSITION FIT	CPS	3/18/13	
D	MAT'L FROM FORGING TO BAR. RELEASE FOR PRODUCTION	CPS	4/9/13	
E	REPAIR DANGLING NOTE LEADER	JMG	10/18/13	
F	CHANGES REQUESTED PER MANUFACTURER DRW REVIEW	CPG	11/15/13	

REPORT ERRORS & CHANGES  
REMOVE ALL BURRS AND SHARP EDGES  
DIMENSIONS ARE IN MILLIMETERS.  
UNSPECIFIED TOLERANCES:

DECIMALS: FINISH: ANGLES:

X.  $\pm$ 1.0 3.2  $\mu$ m Ra  $\leq$   $\pm$ 0.5°  
 .X  $\pm$ 0.5  
 .XX  $\pm$ 0.25

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DRAWN JFC DATE: 9/25/12  
 CHECKED NJB THIRD ANGLE PRJ

**National Renewable Energy Laboratory**

TITLE:  
DOWEL, SPECIAL, STEPPED AND NECKED

SIZE **B** DWG. NO. **254552** REV **F**

SCALE: 1:1.5 WEIGHT: 1.28 kgs SHEET 1 OF 1