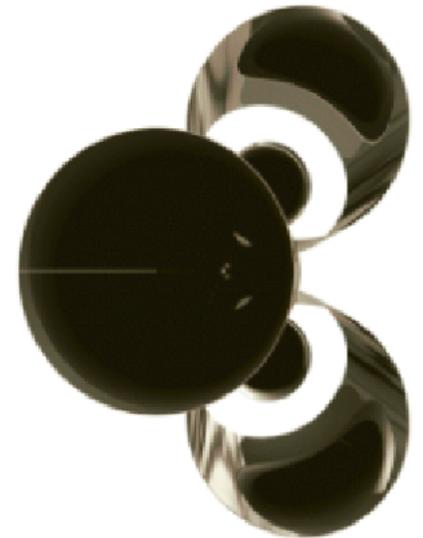


# "Thunderchine"

Superchine 9.1e (rev. 1)



- 250 N (55+ lb) pulsejet suitable for static firing & ground vehicle propulsion, eg., go-karts, etc.
- 250 N maximum continuous thrust rating without ejectors (augmentation), at sea-level, 15 °C
- suitable fuels include propane (vapour or liquid), gasoline (petrol), diesel, kerosene / similar
- unit not suitable for use with nitrous/other oxidisers/additives
- no fuel delivery system is included in these plans: please visit <http://www.pulse-jets.com/phpbb3/> for assistance/safety tips
- designer is not responsible for safe construction and/or operation
- these plans are made available for non-commercial use, no resale

"Thunderchine"



superchine 9.1e (rev. 1) 2009/2 (1)

cover sheet

0.5-1.0 mm (20-25 gauge) stainless steel

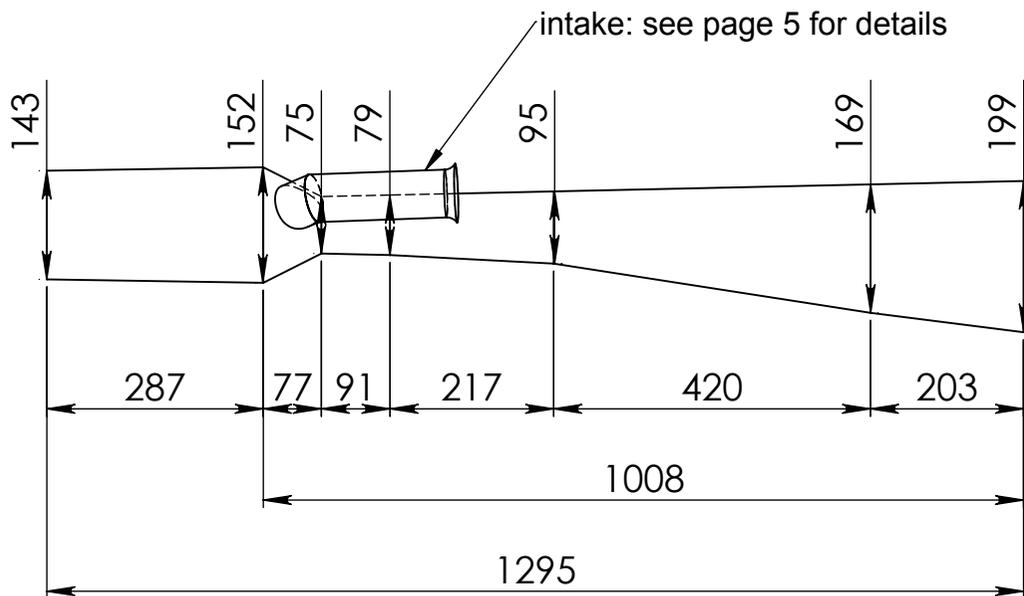
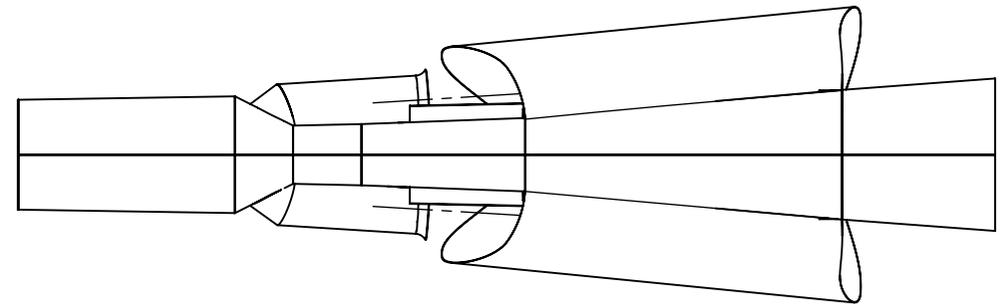
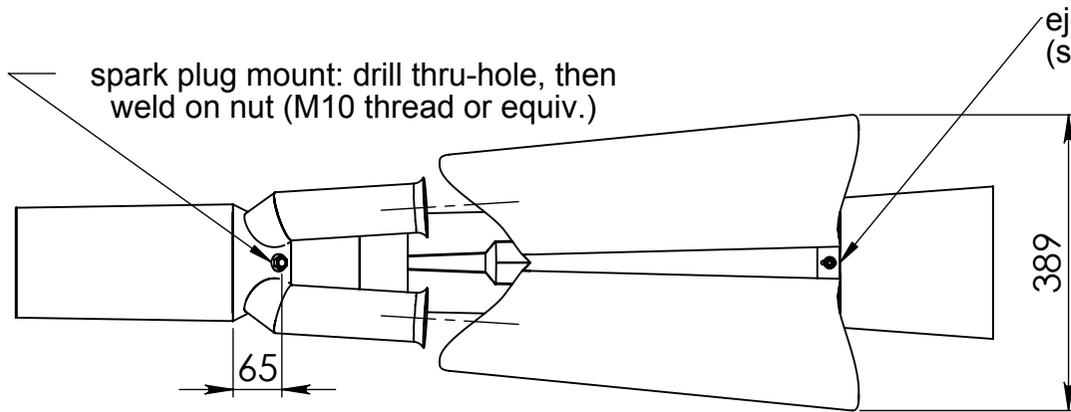
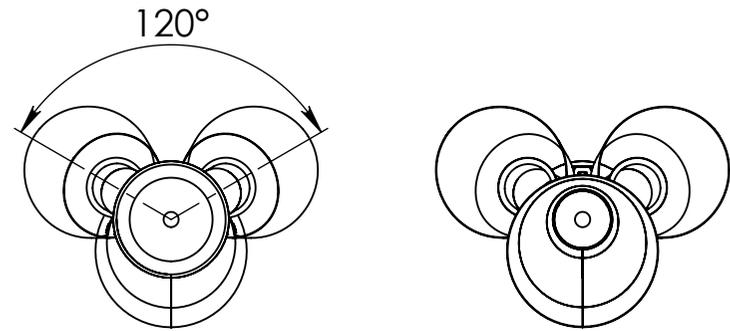
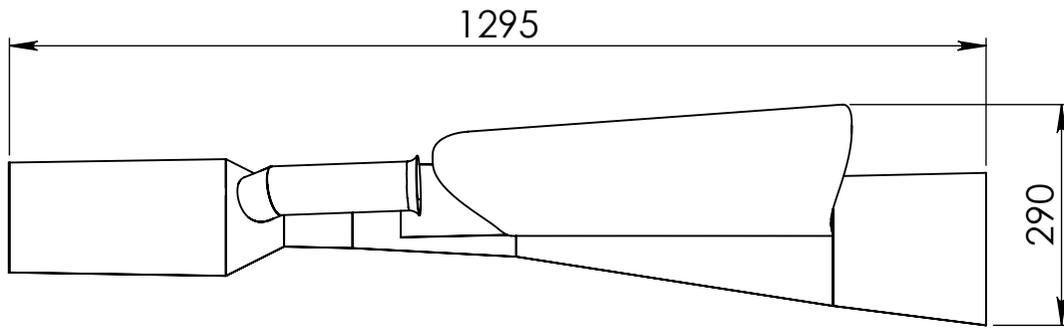
DO NOT SCALE DRAWING

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A4 sheet

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SCALE: 1:1 SHEET 1 OF 6



tolerances on diameter measurements:  
 combustor (+1, -0); transition / tailpipe (+0, -1)

(ejector omitted for clarity)

all dimensions internal and in millimeters (mm)  
 unless otherwise specified

*"Thunderchine"*



superchine 9.1e (rev. 1) 2009/2 (1)

**master dimensions**

0.5-1.0 mm (20-25 gauge) stainless steel

**DO NOT SCALE DRAWING**

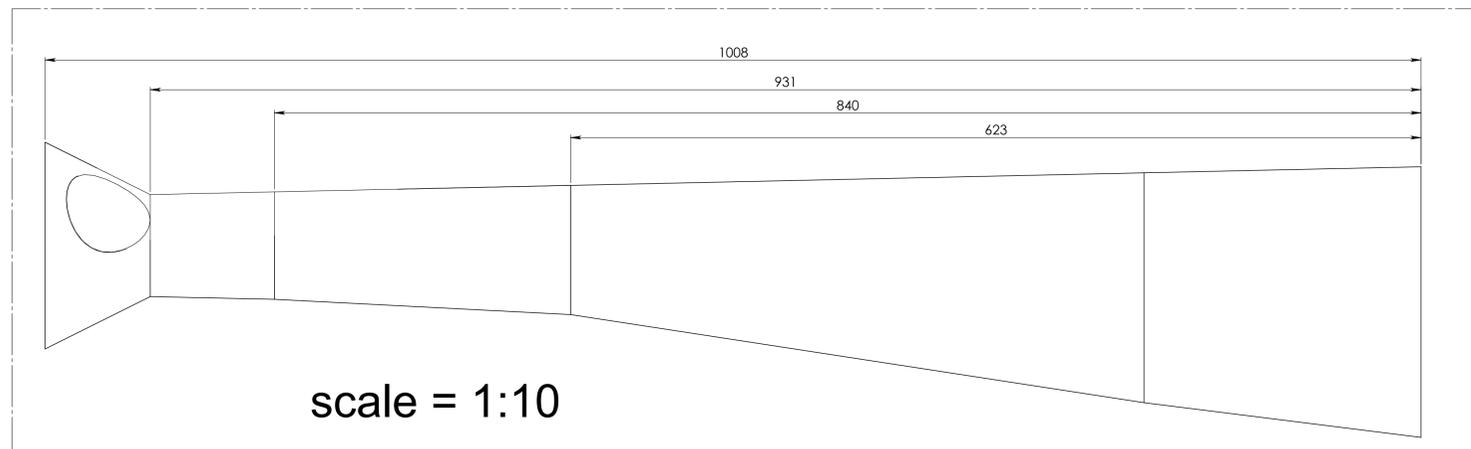
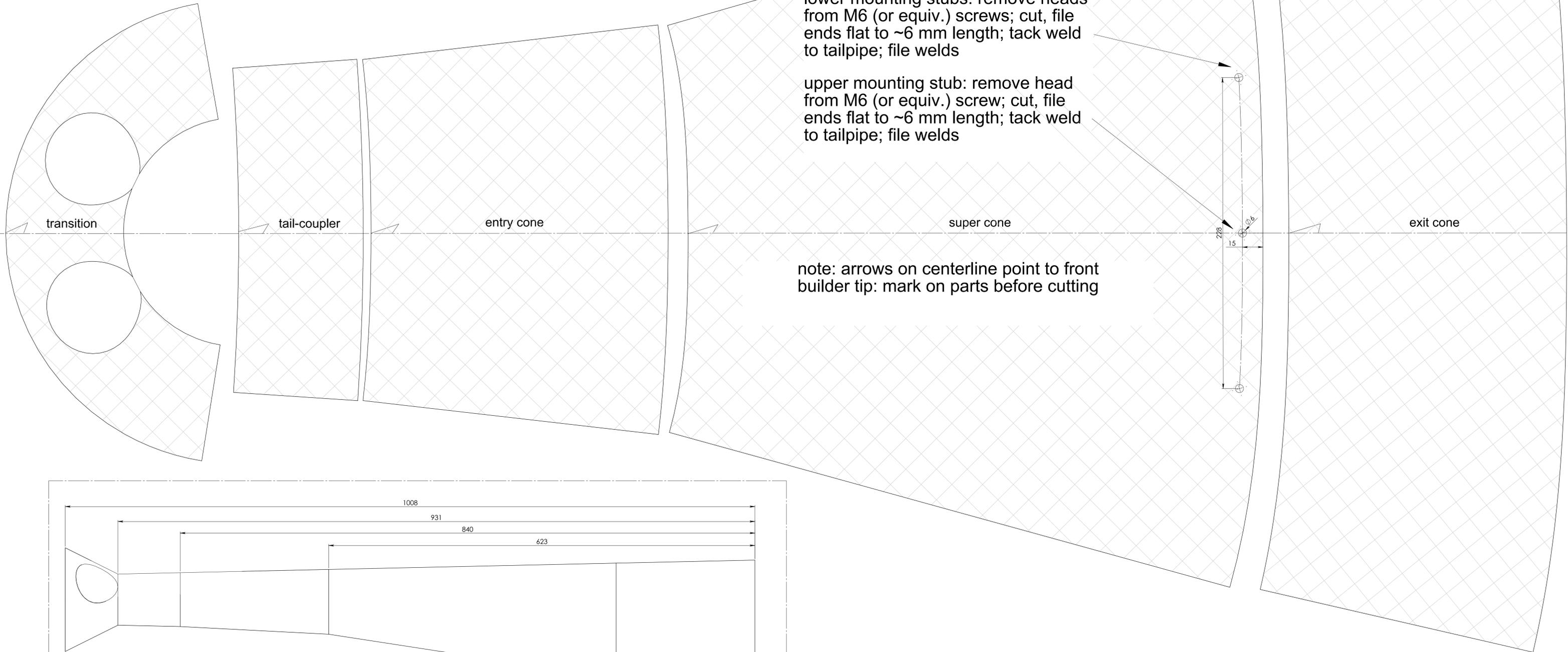
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**A4 sheet**

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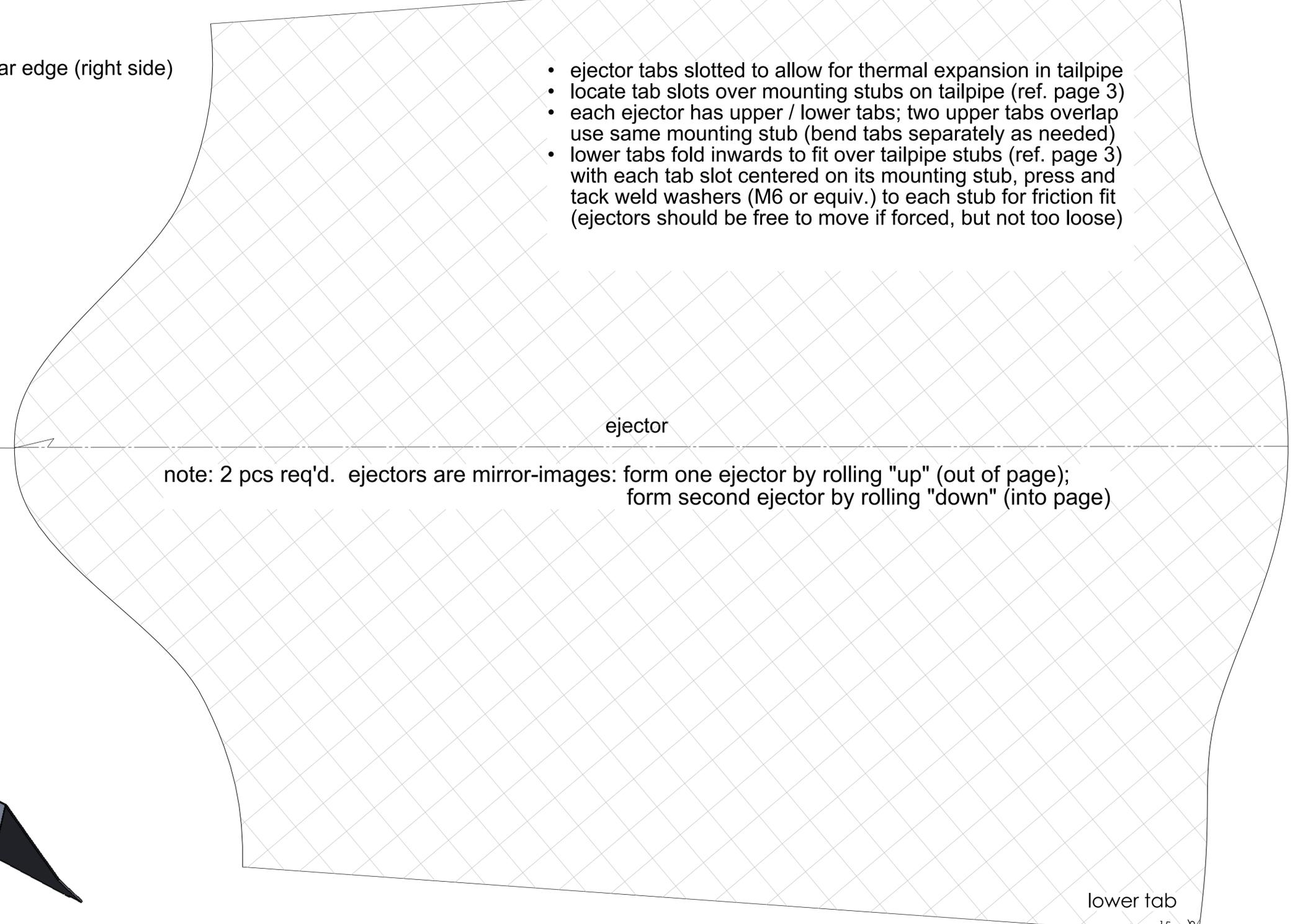
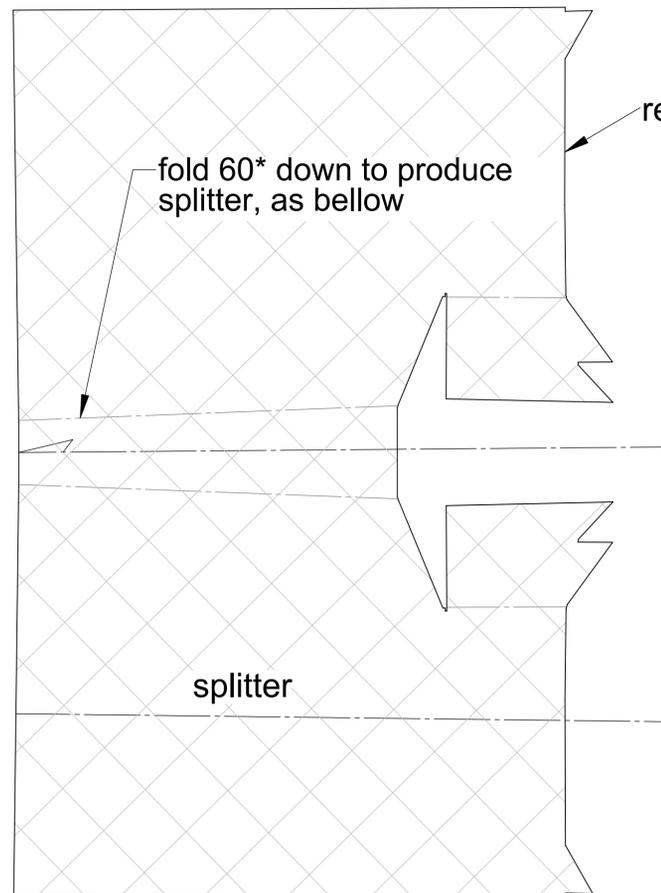
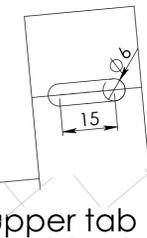
SCALE: 1:10 SHEET 2 OF 6

roughen transition inside surface,  
eg., bead-blast, wire-brush, etc.

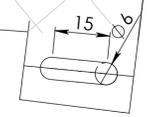
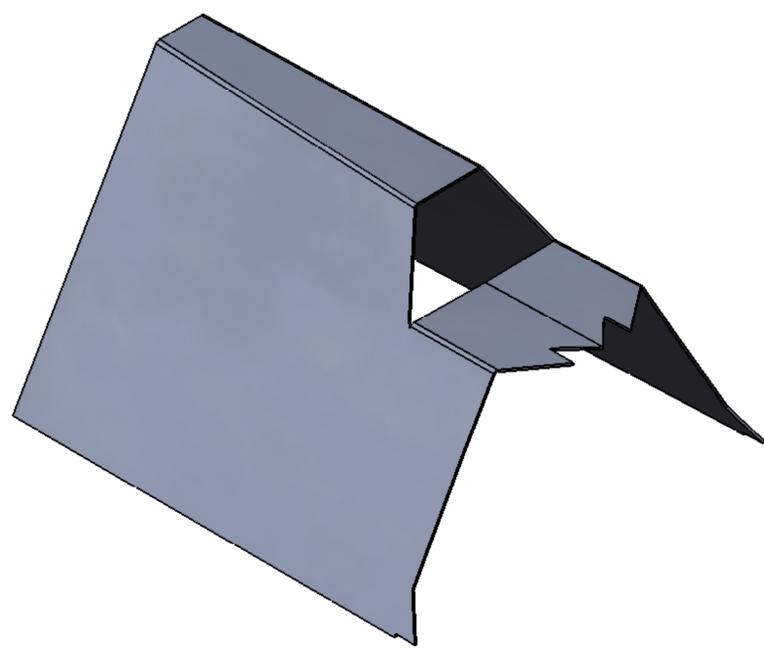


scale = 1:10

- **note: before welding splitter to entry cone, please complete tailpipe assembly as shown on page 3 (inset)**
- position splitter on top of entry cone, rear edges aligned to the join between the entry and super cones
- tack weld splitter to entry cone using all accessible points of contact (front / rear)
  - note: do not obstruct the "teeth" (notched cut-outs) at back of splitter
  - note: use splitter "teeth" to capture leading edges of left / right ejectors



- ejector tabs slotted to allow for thermal expansion in tailpipe
- locate tab slots over mounting stubs on tailpipe (ref. page 3)
- each ejector has upper / lower tabs; two upper tabs overlap use same mounting stub (bend tabs separately as needed)
- lower tabs fold inwards to fit over tailpipe stubs (ref. page 3) with each tab slot centered on its mounting stub, press and tack weld washers (M6 or equiv.) to each stub for friction fit (ejectors should be free to move if forced, but not too loose)



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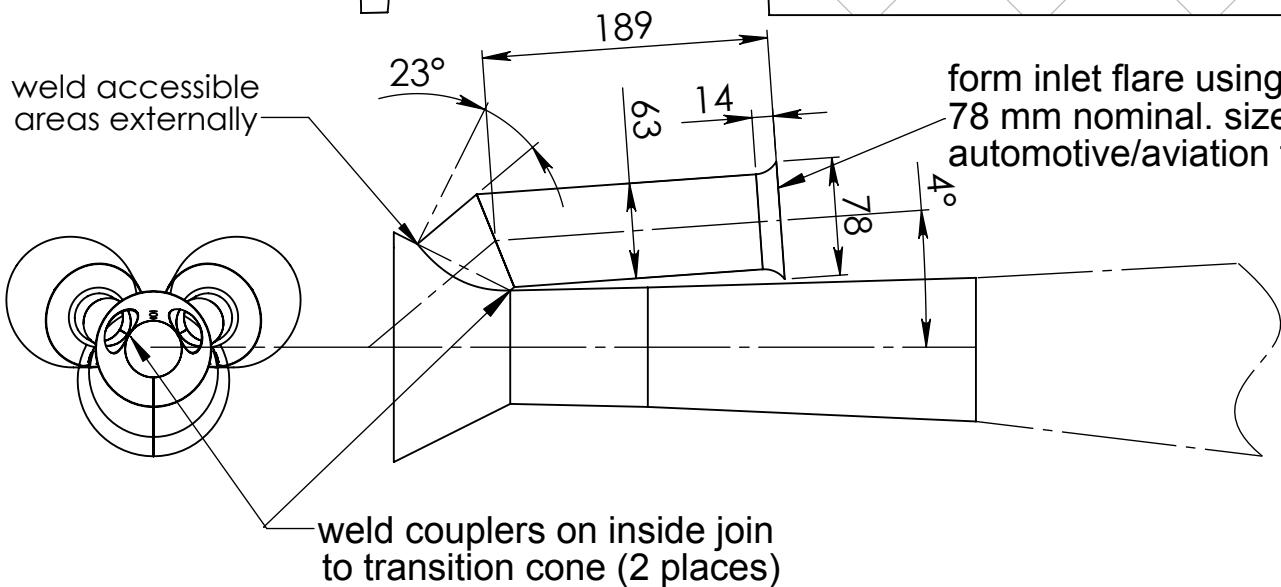
note: pattern length is approx. 2.5 mm longer than length of finished part (189 mm) to allow for the flare; hold centerline length of finished part (with flare) to 189 mm (+/- 0.5 mm)

intake coupler

note: 2 pcs req'd

intake

note: 2 pcs req'd



form inlet flare using hand tools. diameter (min-max): 72-81 mm; 78 mm nominal. size flare for primary fuel: propane (75-81 mm); automotive/aviation fuels (72-78 mm)

all dimensions internal and in millimeters (mm) unless otherwise specified

*"Thunderchine"*



superchine 9.1e (rev. 1) 2009/2 (1)

intake assembly

0.5-1.0 mm (20-25 gauge) stainless steel

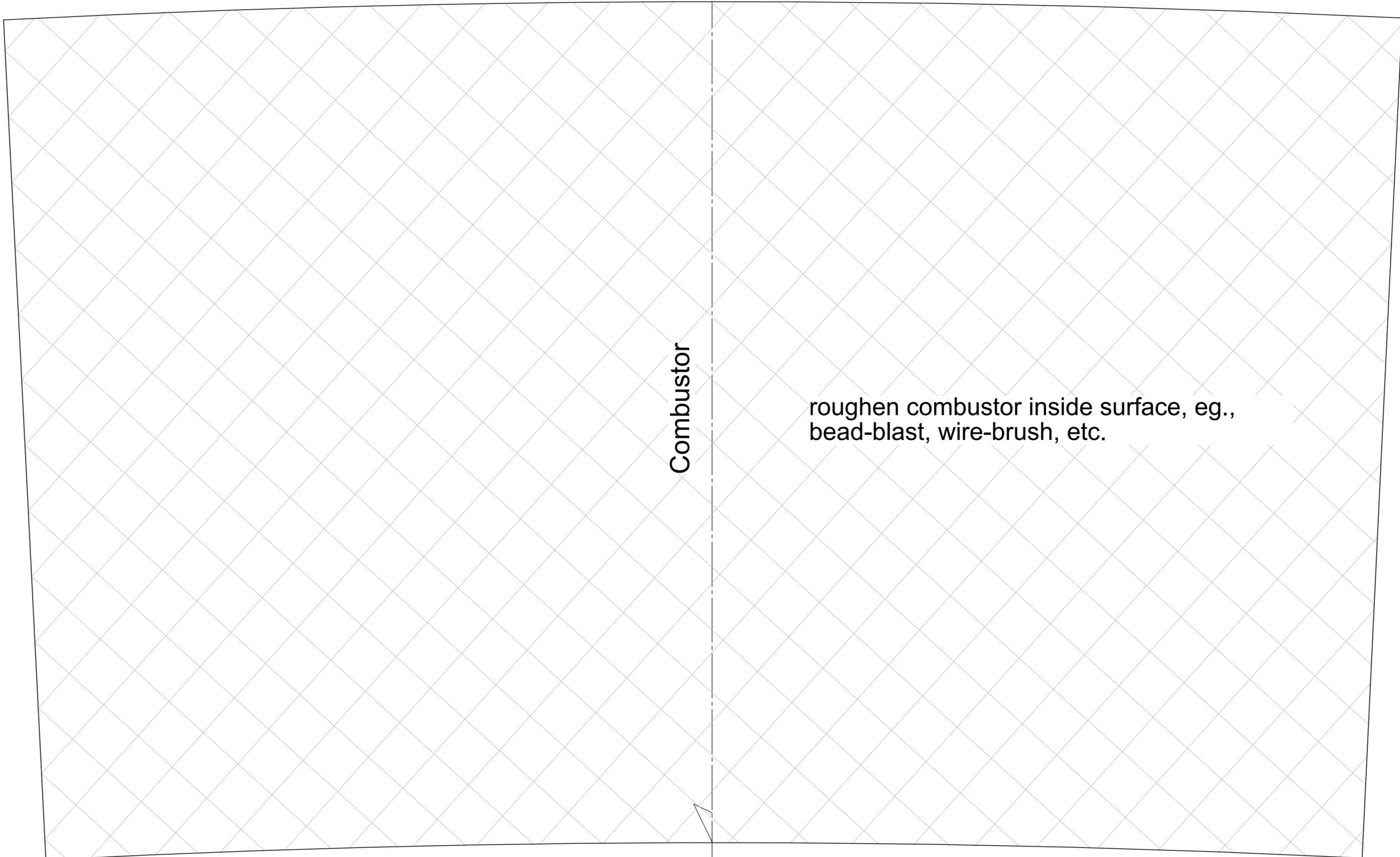
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300 X 300mm sheet

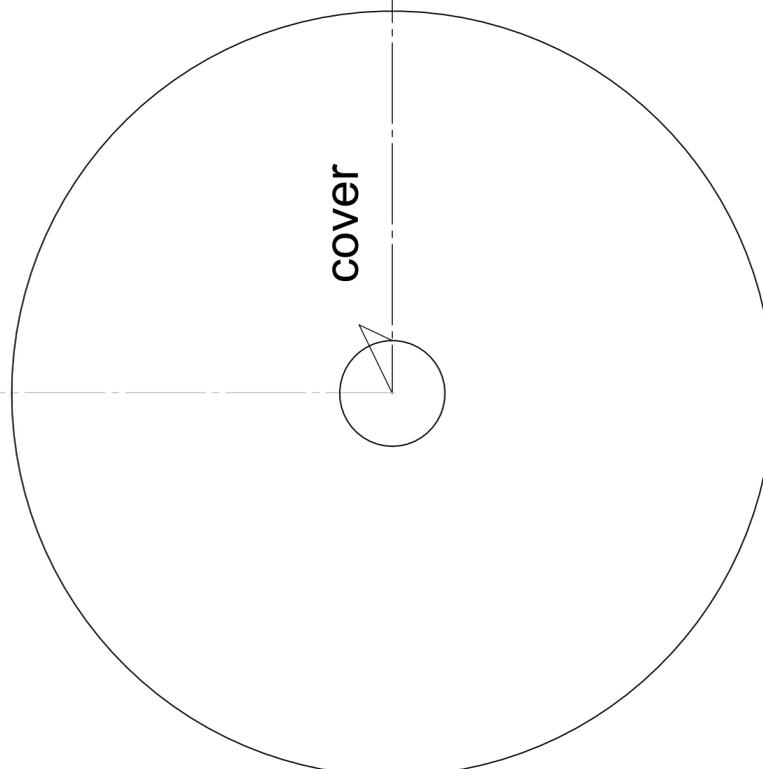
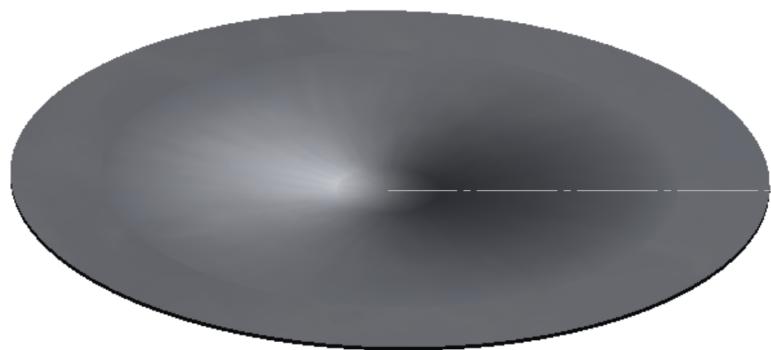
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SCALE: 1:1 SHEET 5 OF 6



Combustor

roughen combustor inside surface, eg.,  
bead-blast, wire-brush, etc.



cover

- weld cover onto front end of (welded-up) combustor cylinder
- use ball-peen hammer (or equiv.) to dish in cover, as shown

<i>"Thunderchine"</i>		
superchine 9.1e (rev. 1) 2009/2 (1)	<b>combustion chamber</b>	
0.5-1.0 mm (20-25 gauge) stainless steel	DO NOT SCALE DRAWING	
© 2009 Propulsive Sound. All rights reserved.	500 X 450mm sheet	
<small>more free plans available at <a href="http://www.pulse-jets.com/">http://www.pulse-jets.com/</a></small>	SCALE: 1:1	SHEET 6 OF 6