



*MiniSShot*

*ProtoSShot-M Short Stack* Rocket Motor

Thermal Label Mapping

Rev. 2008/09/19

## Introduction

The document illustrates the mounting locations for the thermal measurement labels to be mounted on the *ProtoSShot-M Short Stack* rocket motor.

A table is provided for recording post-firing temperature readings.

## Labels

### *Omega* Irreversible Temperature Monitoring Labels

<i>Omega</i> P/N	Temperature Ratings							
TL-5-340	°F	340	350	360	370	<b>380</b>		<b>YELLOW</b>
	°C	171	177	182	188	193		
TL-5-450	°F	450	465	480	490	<b>500</b>		<b>GOLD</b>
	°C	232	241	249	254	260		
6MB-175/79	°F	175	200	225	250	275	<b>300</b>	<b>RED</b>
	°C	78	93	107	121	135	149	

Adhesive Backs for Easy Mounting for  
Temperatures Above -40°C/°F

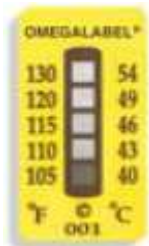
Indicator Turns Black When Exposed

### Specifications (TL series)

Accuracy: Up to 99°C (210°F) is ±1°C (1.8°F)

From 100°C (212°F) to 154°C (309°F) is ±1.5°C (2.7°F)

From 160°C (320°F) to 280°C (536°F) is ±1% and ±1°C (1.8°F)



Typical appearance of TL series label.



Typical appearance of MB series label.

**PRIOR TO INSTALLATION OF LABELS, CLEAN CASING SURFACE WITH ISOPROPYL ALCOHOL OR MINERAL SPIRITS.**  
**CLEAN METAL SURFACE WITH LACQUER THINNER OR ACETONE.**

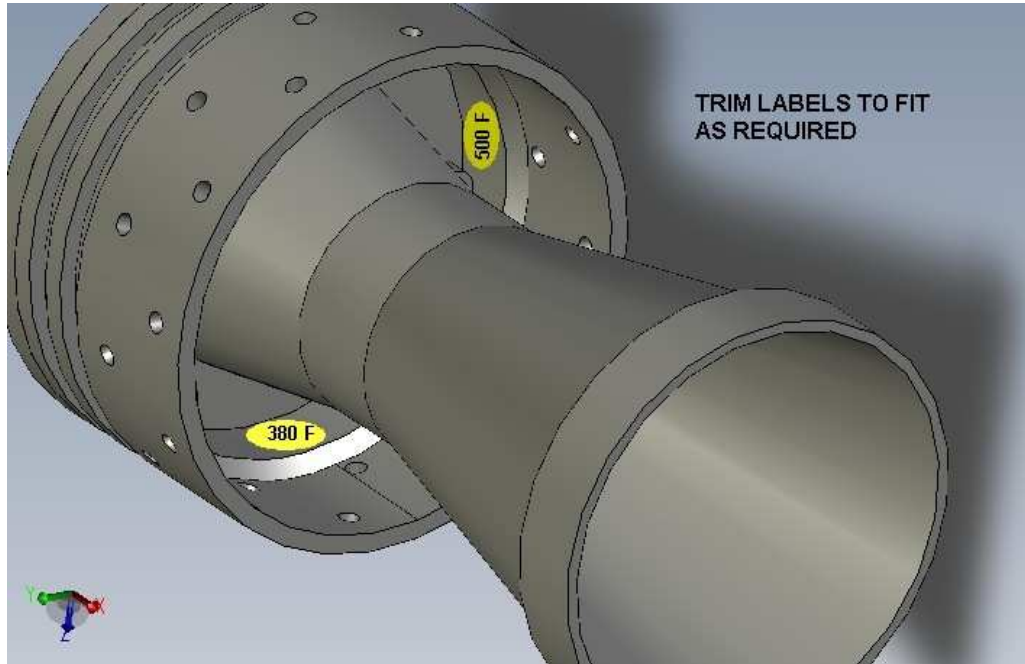


Figure 1 – Labels 380-1, 500-1 (Nozzle Ring)

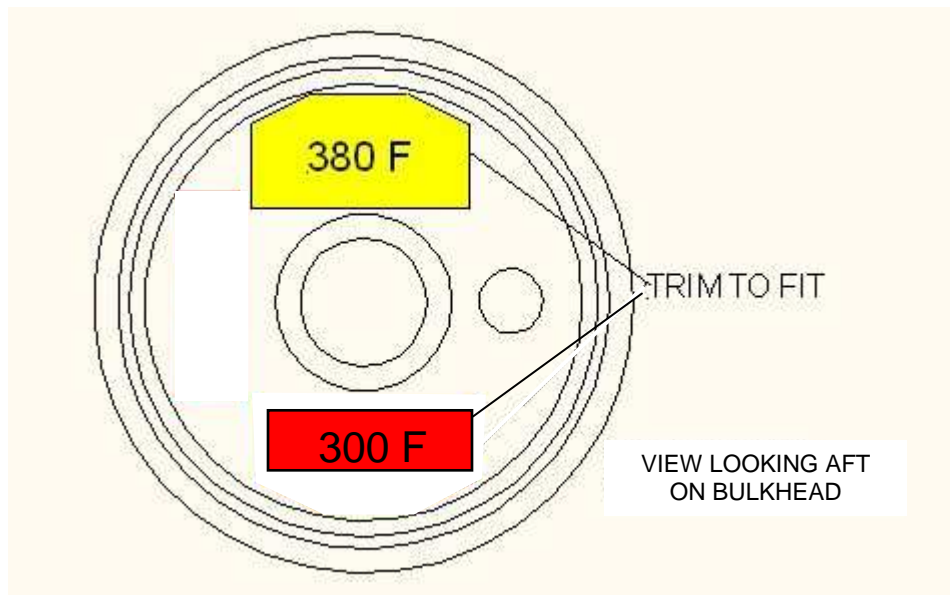


Figure 2 – Labels 300-1, 380-2 (Bulkhead)

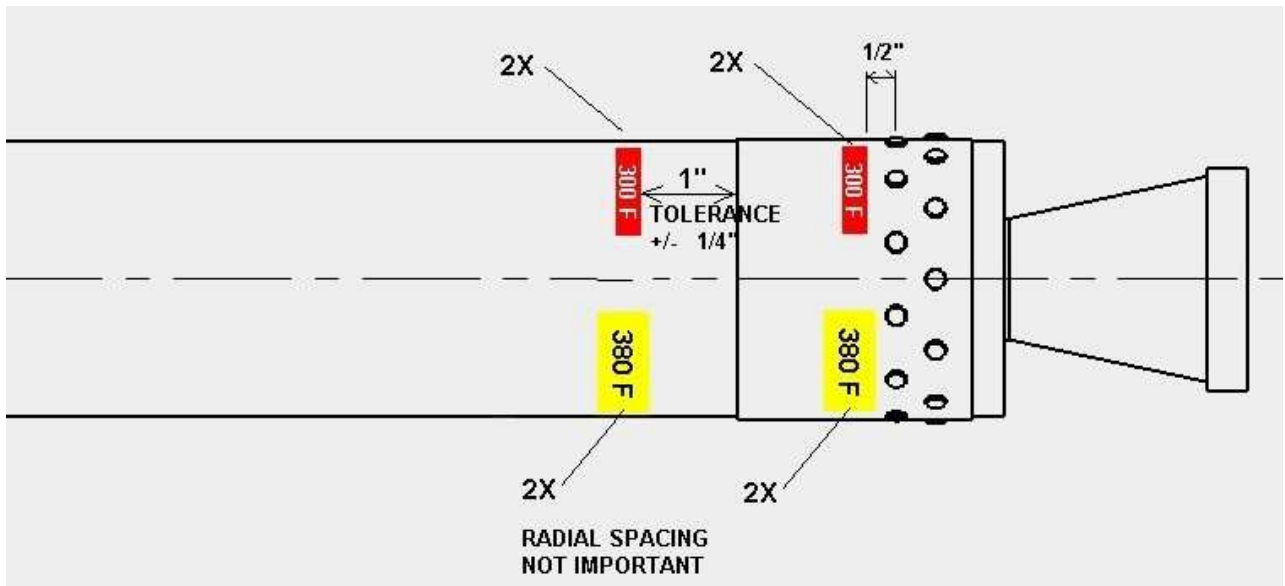


Figure 3 – Labels 300-2a, 300-2b, 380-3a, 380-3b (forward location)  
 300-3a, 300-3b, 380-4a, 380-4b (aft location)

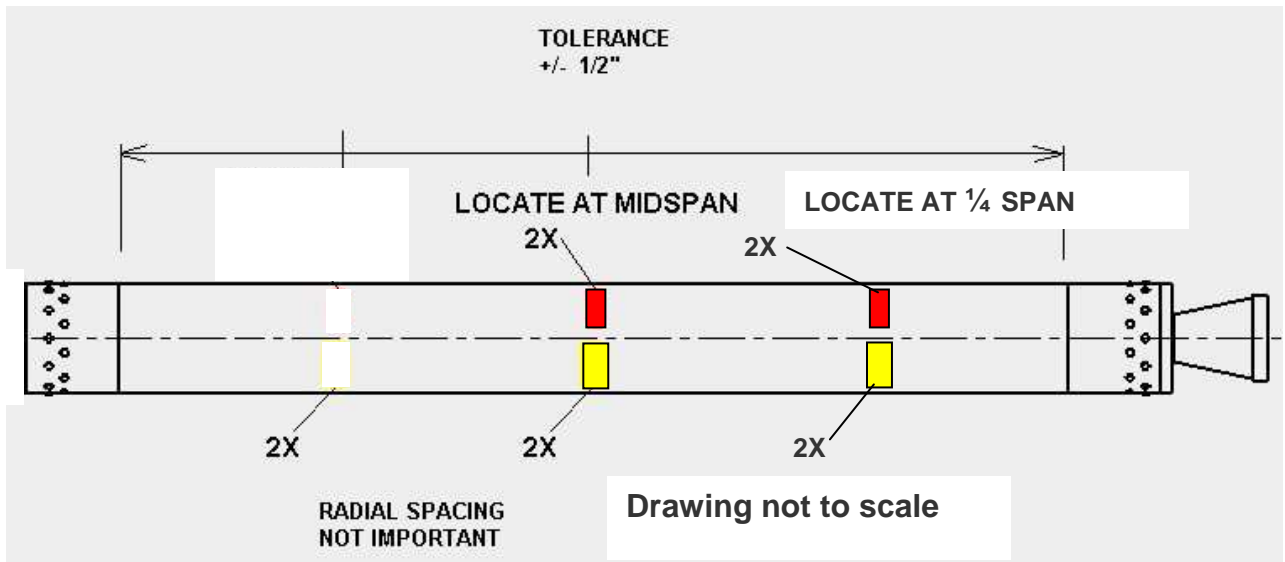


Figure 4 – Labels 300-4a, 300-4b, 380-5a, 380-5b (at midspan)  
 300-5a, 300-5b, 380-6a, 380-6b (at quarter span)

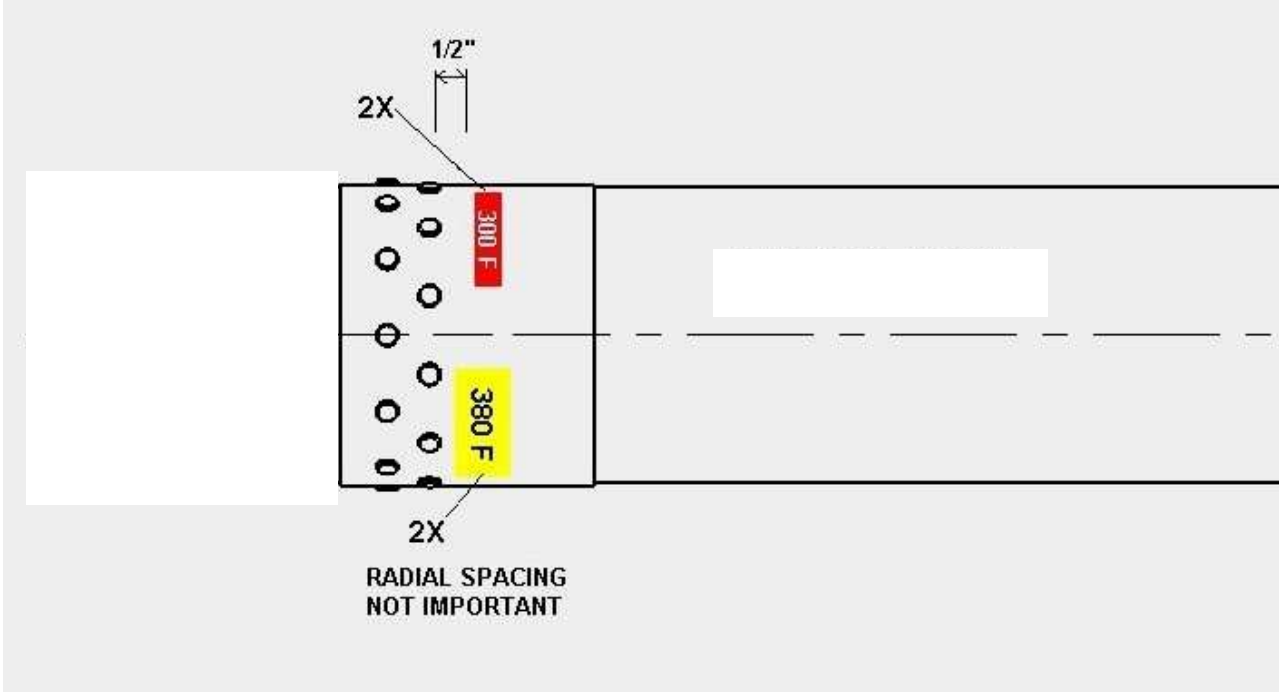


Figure 5 – Labels 300-6a, 300-6b, 380-7a, 380-7b (forward end)

Place 2 labels at middle of each grain segment, on opposing sides

If required, lightly sand painted surface with very fine (#600) sandpaper.

Clean surface with IPA prior to mounting labels.

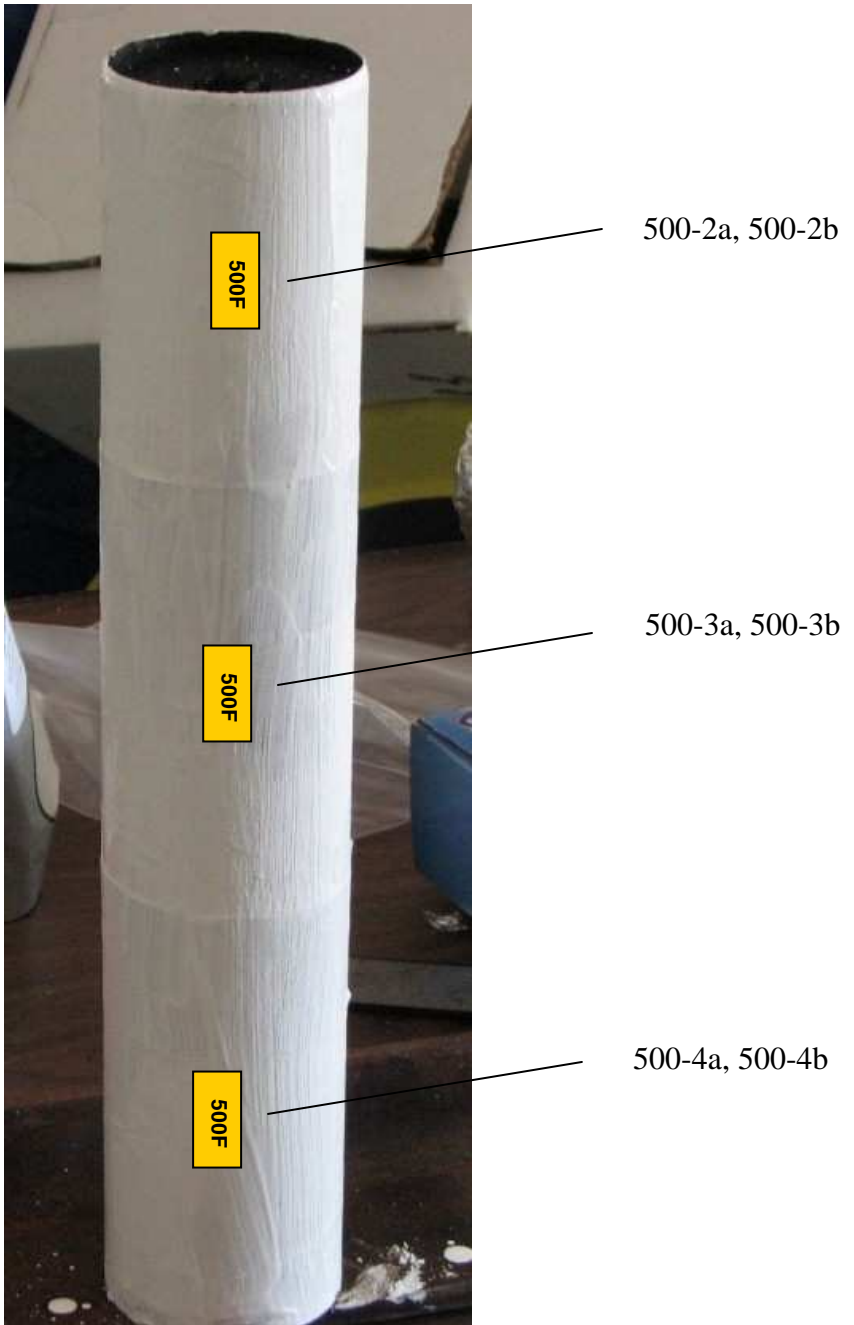


Figure 6 – Labels 500-2a, 500-2b, 500-3a, 500-3b, 500-4a & 500-4b

**Table** for recording post-firing temperatures

Figure	Label no.	Temperature (°F)	Notes
1	380-1		
	500-1		
2	300-1		
	380-2		
3	300-2a		
	300-2b		
	380-3a		
	380-3b		
	300-3a		
	300-3b		
	380-4a		
	380-4b		
4	300-4a		
	300-4b		
	380-5a		
	380-5b		
	300-5a		
	300-5b		
	380-6a		
	380-6b		
5	300-6a		
	300-6b		
	380-7a		
	380-7b		
6	500-2a		
	500-2b		
	500-3a		
	500-3b		
	500-4a		
	500-4b		
Notes			