

# Comparative Analysis – Retrofit Radiator/TOC

## Design Goals

- Same in/out locations
- Same frontal dimensions
- Same heat transfer



### Existing Radiator

w/ Transmission Oil Cooler (TOC)  
Tested @ Young Calibration, UK

### TPT Retrofit

w/TOC\*

#### Aluminum – Tube & Fin

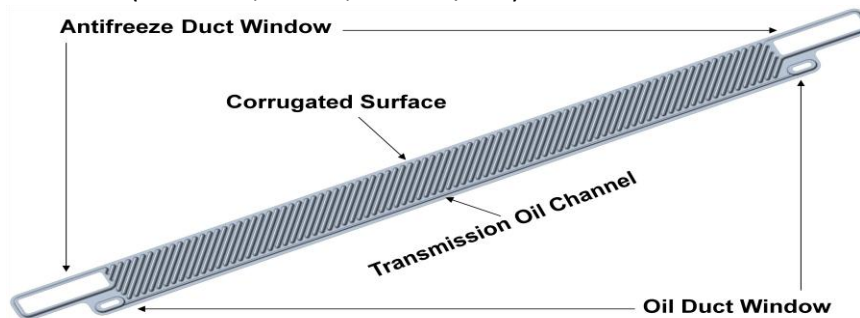
#### Stainless Steel – Plate\*

Unit Size	900mm x 600mm x 105mm	900mm x 600mm x 60mm
Mass (Radiator) core <sup>1</sup> , Alum	26.3 kg (57.9 lb)	<b>10.2 kg (22.5 lb)</b>
Mass (TOC) 10 plate, SS/CU	5.1 kg (11.2 lb)	(Integrated into core)*
Mass (Casing, ftgs, etc.), Alum	3.6 kg (7.9 lb)	<b>3.2 kg (7.1 lb)</b>
<b>Total, kg</b>	<b>35.0 kg (77.2 lb)</b>	<b>13.4 kg (29.5 lb)</b>
<b>Size Reduction**</b>		<b>43%</b>
<b>Mass Reduction</b>		<b>62%</b>

\* Any power loss or increase is negligible less than 100 watts, all components stainless steel type 304.

<sup>1</sup> Aluminum core consists of (49-tubes, 1-row, 31-Fins/dM)

\* Integrated TOC:



\*\* Saved space can be used for additional heat transfer or other components (intercooler, engine oil cooler, a/c condenser, etc). TPT manufacturing process can accommodate any shape (circle, rectangle, oval, etc).

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