

Suits

- Ford Ranger PX1, 3.2Lt diesel engine
- Ranger PX2, 3.2Lt diesel engine
- Ranger PX3, 3.2Lt diesel engine
- Mazda BT50 models UR and UP

Intercooler design

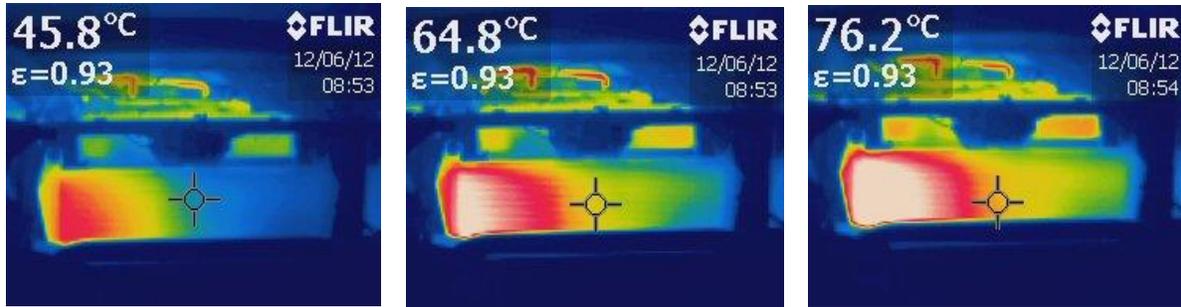
- Dimensions – 718mm x 262mm x 65mm
- Charge air cooler is manufactured with cast aluminium tanks
- The charge air core is assembled with internal fin inside the tubes.
- The core frontal area is 28% larger and 75% thicker than the standard OEM core
- The pipe kit utilises aluminium pipes and silicone hoses in combination with stainless steel T-bolt hose clamps.
- Colour of both the charge air cooler and pipe kit is satin black

Specifications/information

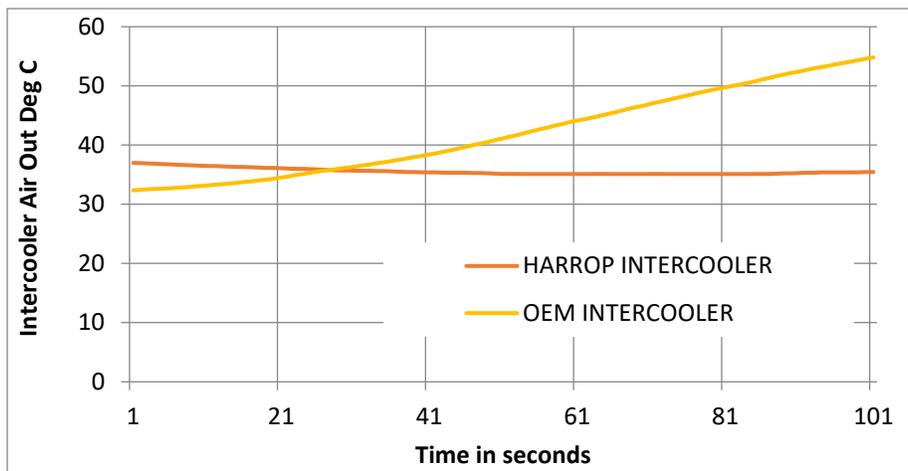
- OEM plastic tanks crimped onto aluminium cores are known to fail when vehicles are being retuned which tends to increase the boost pressure which in turn also increases the charge air temperature into the charge air cooler. The Harrop designed charge air cooler with cast aluminium tanks welded to the core is a more robust design that can handle the higher boost loads and increased temperatures of the charge air without fear of cracking or lifting off the plastic tanks from the core.
- The T-bolt clamps are designed for use where high boost applications are employed and have a greater clamping force than worm drive clamps.
- The silicone hoses are a multi reinforced layer construction designed for high temperature and high boost applications.
- The pipe kit design eliminates the factory plastic U bend on the exit of the turbo and has a boost take off port for a boost sensor or gauge installation.
- The charge air core itself comes complete for a direct swap where the OEM unit was fitted, no additional brackets required
- Whilst the charge air core is slightly thicker than the OEM unit it will still permit fitment of typical winches.
- Installation time will vary depending on the accessories and grill styles that have been fitted to the vehicle, it takes less than 1 hour on our Harrop Ranger.
- Whilst the graph shows a much cooler inlet temp for the engine, we only saw a minor increase in power on the dyno. The benefits of the cooler denser air entering the engine will only be felt under extreme load conditions, towing a trailer or lugging up long hills and may result in a slight reduction in engine operating temperatures.
- The stuffed inner fin tube and tank profile has been balanced so that flow through the charge air core is uniform and doesn't just flow straight through from the inlet to the outlet which can be seen by the thermal images below.

Tech Guide

PX Ranger Intercooler & Pipe Kit – 3.2L



INFRARED TEMPERATURE SCALE



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Tech Guide

PX Ranger Intercooler – 2.0L Bi-Turbo



Suits

- Ford Ranger PX3 – 2.0L Bi-Turbo Diesel
- Ford Ranger Raptor PX3 – 2.0L Bi-Turbo Diesel

Intercooler design

- Dimensions – 718mm x 262mm x 65mm
- Charge air cooler is manufactured with cast aluminium tanks
- The charge air core is assembled with internal fin inside the tubes
- The core frontal area is 28% larger and core thickness is 3% greater than the standard OEM core
- Colour of the charge air is satin black with silver Harrop logo
- Harrop charge air cooler is manufactured with billet quick connect fittings so that it retains the OEM hose connections

Specifications/information

- OEM plastic tanks crimped onto aluminium cores are known to fail when vehicles operate with high boost pressure which in turn also increases the charge air temperature into the charge air intercooler. The Harrop designed charge air cooler with cast aluminium tanks welded to the core is a more robust design that can handle the higher boost loads and increased temperatures of the charge air without fear of cracking or lifting off the plastic tanks from the core.
- The charge air intercooler comes complete for a direct swap where the OEM unit was fitted, there are additional brackets supplied in the kit.
- The OEM intercooler is well sealed for ram air from factory, these seals are trimmed during install to accommodate the larger intercooler and retain the ram air sealing benefits.
- While the charge air intercooler is slightly thicker than the OEM unit it will still permit fitment of typical winches.
- Installation time will vary depending on the accessories and grill styles that have been fitted to the vehicle, it will take between 1-2 hours on a stock car depending how familiar you are with the task.
- Comparative dyno testing found an 8-10% improvement in heat rejection over the OEM intercooler.
- OEM installation has a silicone hose from factory that is retained. A pipe upgrade kit is not offered for this application.
- The OEM core design is similar to the 3.2L Ranger core but thicker, uses similar tube which we have seen split open due to fatigue. The Harrop CAC uses a round nose tube which doesn't have that stress point which combined with the cast end tanks provides a heavy-duty upgrade to the OEM intercooler.

Harrop core round nose tube style	OEM core square tube style	Fail type of OEM
		

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PX Ranger Intercooler – 2.0L Bi-Turbo



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