

# *Installation Guide*

for

## *Harrop Engine Oil Cooler*

into

### *Holden VE & VF Commodores*



## **ATTENTION**

**Installing the engine oil cooler kit indicates your acceptance of the liability associated with the fitment and use of this product.**

Thank you for purchasing this Harrop Engine Oil Cooler Kit. The owner of the vehicle must be aware that fitment of a Harrop Engine Oil Cooler may affect the vehicle's factory warranty.

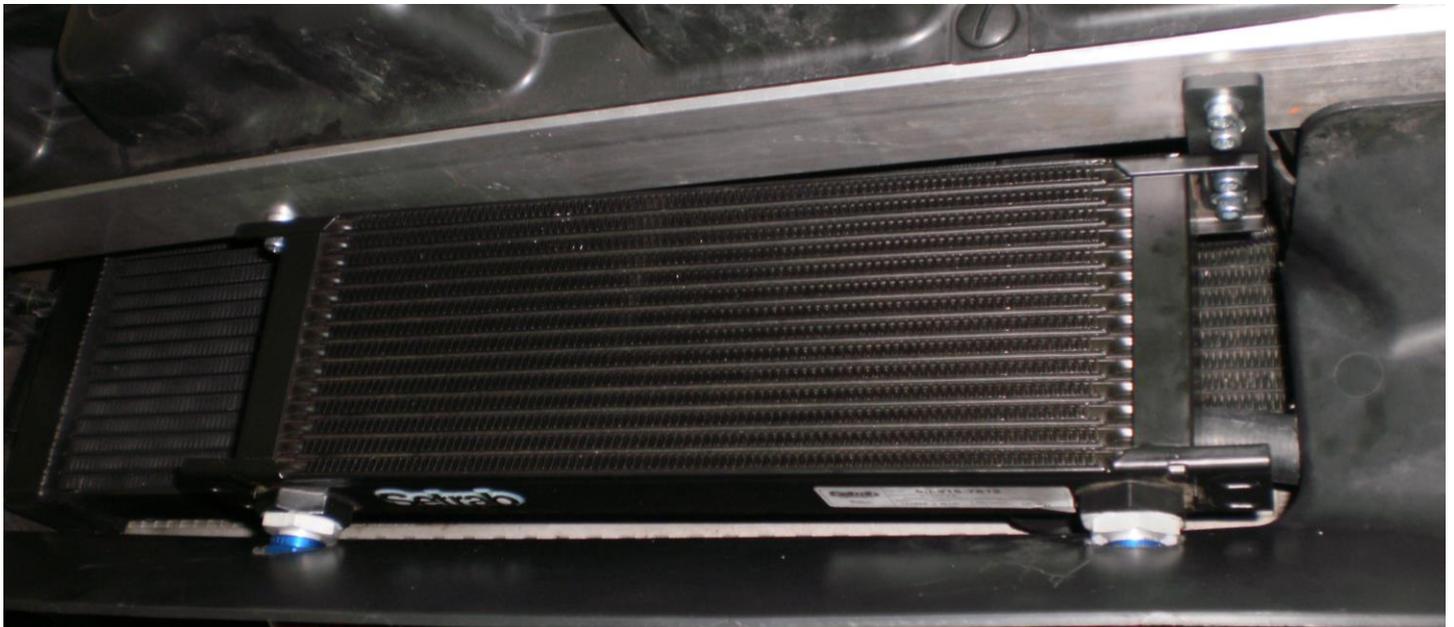
### **Warranty.**

This Engine Oil Cooler Kit is covered by a limited warranty on components and workmanship for a period of 12 months from the date of purchase, subject to the following:

- Installation must be completed by a qualified motor mechanic or technician.

No warranty shall apply where Harrop have determined improper fitment or handling, misuse in operation, neglect, or accident damage. Engine modifications made prior to or in conjunction with the Oil Cooler Kit fitment may invalidate the Harrop limited warranty. Any warranty claims must be made immediately & directly in writing to Harrop Engineering so that a determination can be made promptly. Involvement of a third party or an attempt to repair a perceived/actual fault may invalidate the warranty. To the extent of the law, the determination on any warranty claim & associated costs will be at the sole discretion of Harrop Engineering.

**By installing the engine oil cooler kit you acknowledge that all conditions pertaining to this Kit and its operation have been read, understood and accepted.**



## Start guide for experienced Automotive Technicians.

This document is meant only as a guide, as any vehicle modification should be completed by a certified technician who has the relevant experience and equipment to be competent of a safe and effective installation.

The following notes will highlight most of the primary steps needed during the installation of a Harrop Engine Oil Cooler kit into a Holden VE Commodore. Some images may vary from kit supplied and instructions may be omitted or irrelevant due to variations between vehicle models and applications.

**Please ensure the safe operation of all tools and equipment are adhered to in accordance with the vehicle and equipment manufacture's recommendation.**

### 1. Prepare to mount the engine oil cooler by removing the front bar.



### 2. Mark out and pre drill the oil cooler mounting holes on the underside of the aluminium crash beam as follows:

- Starting from the left hand side outer edge, measure in 212 mm and scribe a line square to the beam.
- Measure two more lines from the rear face of the crash beam to intersect the line above, first line is to be 18 mm from the rear face, the second line is to be 33 mm from the rear face.
- Mark out the one hole near the centre, measure in 597 mm from the left hand side outer edge of the aluminium crash beam and scribe a line square to the beam.
- Measure 14 mm from the rear face of the aluminium crash beam and scribe a line across the one just completed above.
- Using a diameter 4.5 mm drill bit, pre drill the three scribed holes.

3. Assemble the mounting bracket to the oil cooler as per picture below using the two M6 screws supplied.



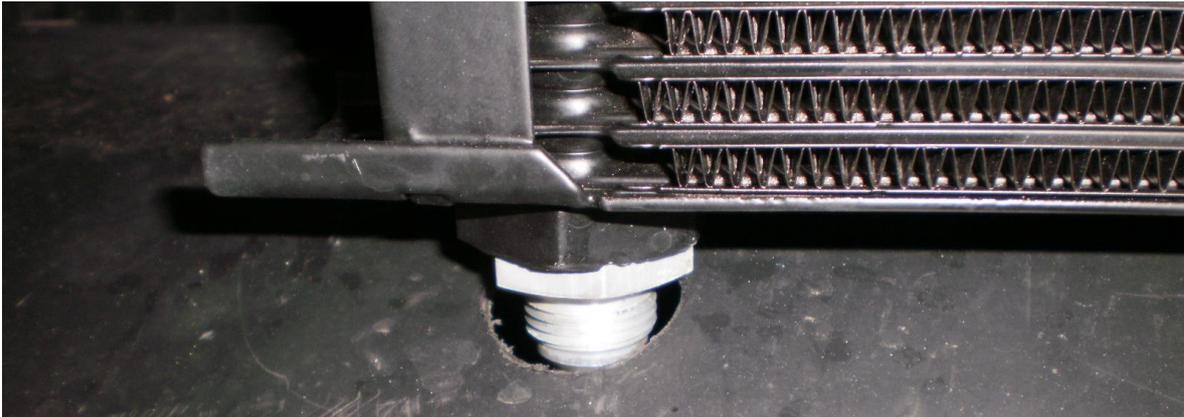
4. Assemble the two adaptor fittings into the oil cooler ensuring that the 'O' rings have been lightly lubricated with some engine oil. Note; Ensure that the hex fitting on the oil cooler is held with a spanner when tightening the fitting, no warranty given on twisted oil cooler fittings.



- Using the three self drilling/tapping screws supplied, fit the oil cooler to the aluminium crash beam as per picture below remembering to fit the round spacer in between the beam and oil cooler on the single middle hole.



- With the oil cooler mounted you can now transfer the centers of the oil cooler fitting to the lower air intake duct for the radiator. Remove the oil cooler. Using a 3 mm drill bit, drill this through from the top down, once this has been completed use a 38 mm hole saw and drill this through from the underside of the car. Refit the oil cooler to the beam.



- Remove the auxiliary oil cooler blanking cap from the left hand rear of the engine, note this is best done when the engine has been sitting for a while and is cool as some oil will flow out from here.



8. Feed the hoses through the underside of the car and over the 'K' frame as per pictures below. Connect the short length hose to the bottom of the adaptor manifold with the 90 degree fitting and to the left hand side of the oil cooler. Connect the longer hose to the front of the adaptor block with the straight fitting and to the right hand side of the oil cooler with the 90 degree fitting.



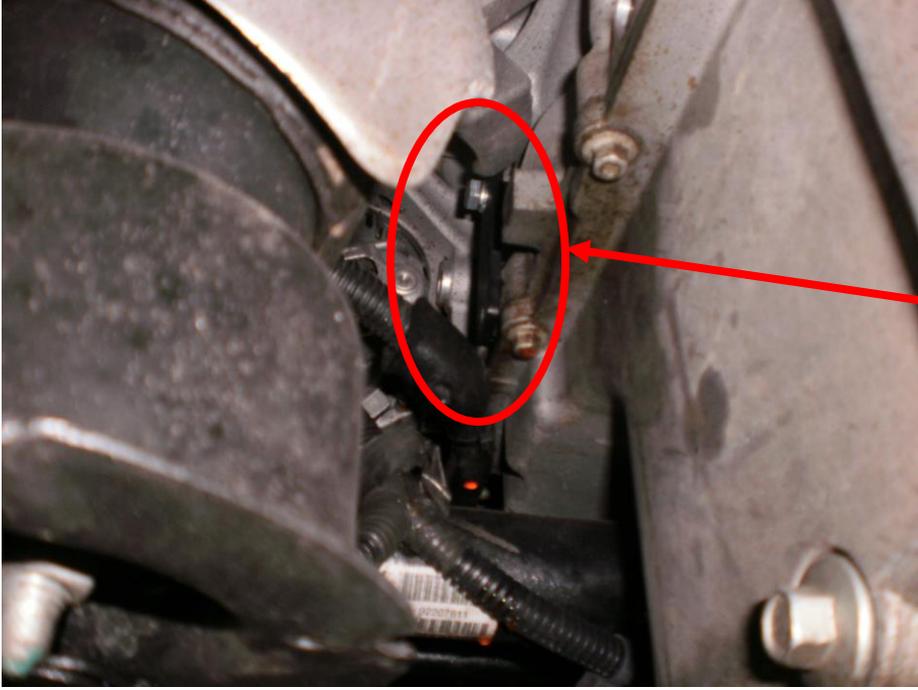
9. Connect the oil cooler lines to the adaptor manifold with the top (90 degree line) tightened prior to mounting. Fit the oil cooler adaptor manifold to the sump where the blanking cap was fitted. Ensure that the two small 'O' rings are fitted to the manifold. Connect the straight line and ensure everything is tight.



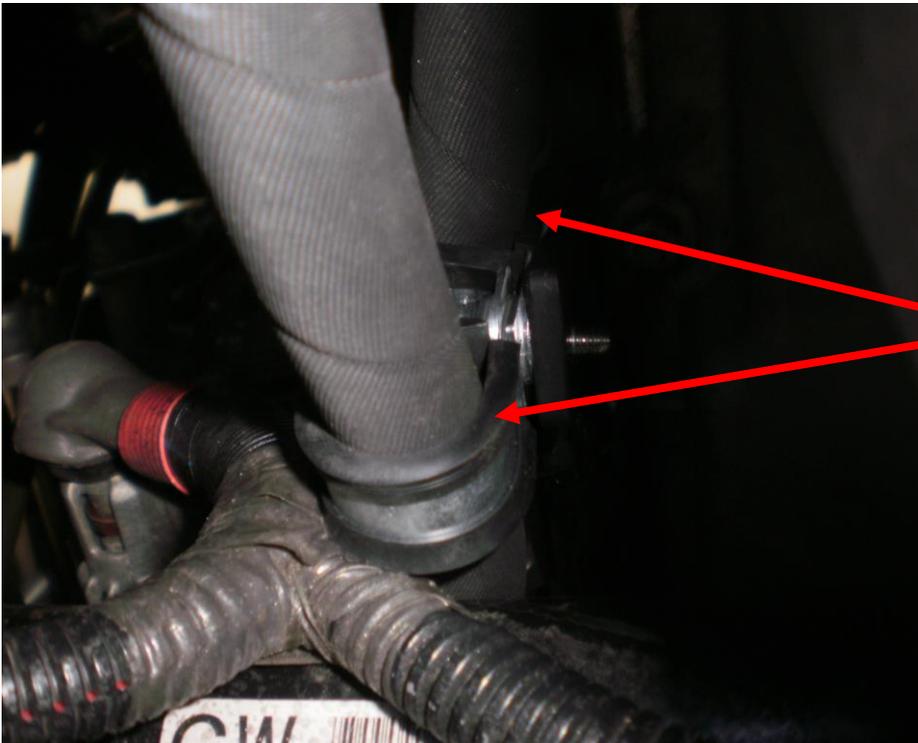
10.

Mount the hose 'P' clamp plate to the engine block as per photos below. Fit the hose 'P' clamps to the hoses, slide up into position and secure the two to the plate with the screw provided. Note there are more than one versions of the sump and in some cases the plate can simply be fitted across the sump lugs to retain the hoses, see images below.

**Version 1.**

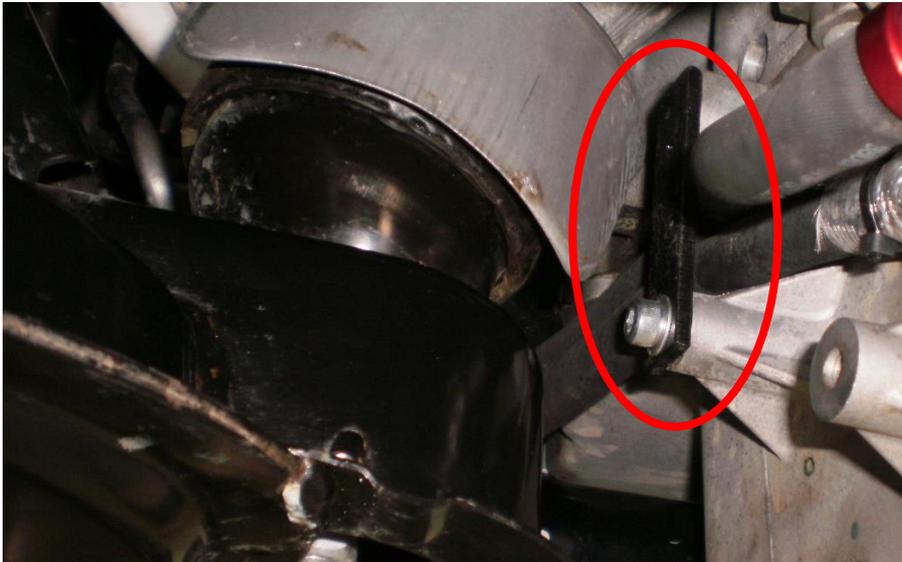


Fit the bracket first to lug on engine block.



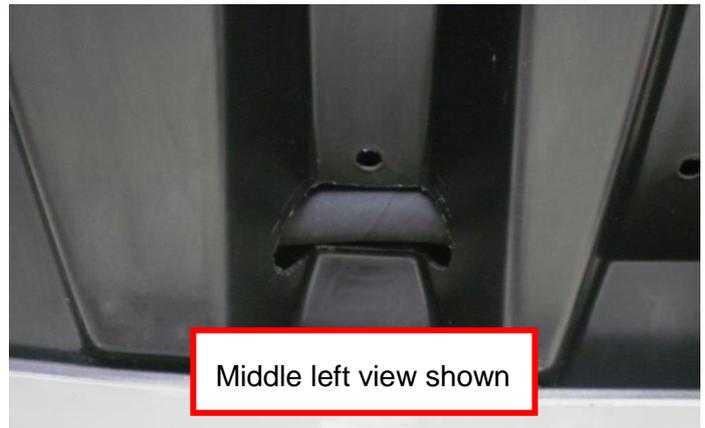
'P' Clamps fitted to hoses and screwed to plate to secure hoses to side of engine.

Version 2, no 'P' clamps required.



Hoses fed through in between the sump lugs and plate fitted across the lugs to retain the hoses in their correct position.

11. Fit the under tray back into position and mark out the area that the hoses are touching. Notch the ribs out 30 mm deep by 30 mm wide in two places. This can best be seen by the images below. Note this is not required for the GTS and R8 models as they use a different under tray.



12. Ensure all hose connections are tight and then start the engine. Thoroughly check all connection points for possible leaks and along the hose route to ensure no damage has occurred to the hoses during the install.

Fit the front bumper back in place and check the engine oil level. Start the engine and run it up to normal operating temperature. Once again check all connection points for leaks.

