



Installation Guide

2.0L Bi-Turbo Charge Air Intercooler

Ford PX3 Ranger (MY19 onwards)



Important Information

Installing the charge air intercooler indicates your acceptance of the responsibility and liability associated with the fitment and use of this product. Please ensure the owner and drivers of the vehicle are aware of their responsibilities and liabilities as indicated below.

Thank you for purchasing this charge air intercooler which has been designed and made with pride. The owner and drivers of the enhanced vehicle must be aware that fitment may affect:

- The vehicle's factory warranty.
- Insurance cover and associated liabilities.
- Compatibility with emission and roadworthy certification.

It is the owner's/driver's responsibility to accept any consequences and liabilities of using non genuine enhancements and any subsequent effect it may have. Harrop Engineering shall not be liable and shall be 'Held Harmless' for any direct and/or indirect/consequential losses, costs, damages, expenses, injuries or liabilities whatsoever incurred by the owner/driver of the vehicle or other parties arising from this installation and/or its operation.

Warranty.

This charge air intercooler is covered by a limited warranty for a period of 36 months from the date of purchase, subject to the following:

- Installation must be completed by a qualified motor mechanic or technician who has undertaken appropriate training.
- The vehicle has been driven in accordance with the conditions specified by the vehicle manufacturer's normal use of operation, driving care and vehicle service program.
- The vehicle has not been used for competitive racing.

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 charge air intercooler 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 charge air intercooler, you acknowledge that all conditions pertaining to this product and its operation have been read, understood and accepted

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For 65 years Harrop Engineering has been at the forefront of designing, developing and manufacturing precision performance components. Today our innovative and logical approach is applied to low volume automotive OEMs and the performance aftermarket through a dedicated team of 65 staff. Core performance products include Superchargers, Engine Components, Brakes, Differentials and we are also the exclusive Australian Distributor for Forgeline Motorsport Wheels.

Harrop are also the preferred supplier of Eaton Supercharger and Traction Control technology including dual branded product designed and manufactured in-house. There are currently over 4,000 components in our portfolio and this is growing daily as we continually develop more Harrop Performance Products. Our high profile car manufacturing customers have included Holden, HSV, FPV, Ford, Roush, Toyota, TRD and Lotus. We also supply to race teams from categories including F1, NASCAR and V8 Supercars and an extensive range of drag, circuit and off-road competitors. Just as importantly, a large portion of our customers are performance enthusiasts and weekend warriors who are highly passionate about their ride. Please take a moment to review the following pages and learn why Harrop is the first choice in Superchargers.

Thank you for choosing Harrop and enjoy your Harrop Enhanced ride.

- Team **HARROP**



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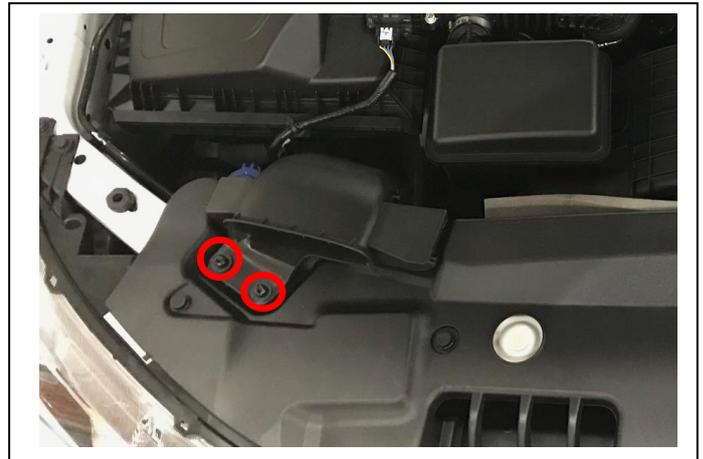
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REMOVAL OF FRONT BAR (NOTE for Raptor vehicles it is possible to do the installation without having to remove the front bar. All instructions on page two (P2) and top of page five (P5) are to be skipped for Raptor.

Remove the 2 screws from the cold air inlet duct and lift the duct out of the air box.



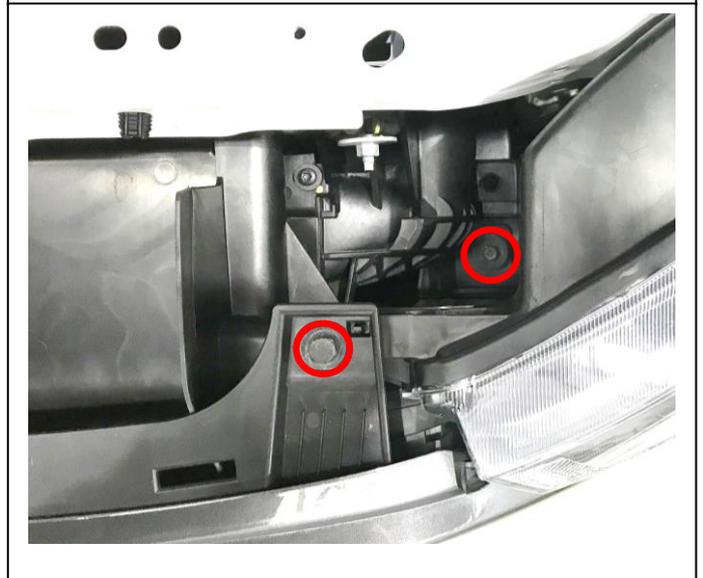
Remove the 5 scrivets shown. Once these have been removed lift the rear part of the modesty panel enough so that you can place your hand under neath it to assist in dislodging the clipped area along the front of the grill.



To assist in getting your hand down to release the spring clips that lock the charge air intercooler hoses to the intercooler on the left hand side, it is advisable to unscrew this module so that it can be pushed aside.



Unscrew the upper grill screw on each side. Now unscrew and remove the intermediate mounting screw just inboard of the head lamp.



Undo and remove the lower screws that hold the front cover bar on the underneath side. Repeat this for both sides of the vehicle.



Undo and remove the vertical screw that joins the front bar cover to the fender.



Undo and remove the 3 screws that secure the flare to the front bar cover. The wheel liner should now be free to move out from between the flare and the front bar cover.



The side of the bar cover now needs to be popped out of the clips securing it to the fender and under the head lamp. Gently pull the bar cover away from the fender outward. The bar cover can now be removed so that access to disconnecting the driving lights and the bar cover harness on the LH side can be completed and bar cover placed aside.



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With the grill and bar cover off the vehicle we now need to remove both the side air seals the and the top air seal. (There are 3 fixing points for the side seals)

Remove the upper by unscrewing the screw on each side on top of the intercooler tanks.

The lower as indicated in side view, for Raptor vehicles this can be accessed through the front bar with an extension bar.

The scrivet in the middle, remove all of these and place seal aside. (Note the LH seal has the ambient air temp sensor attached to it, this needs to be popped out of the seal for removal).

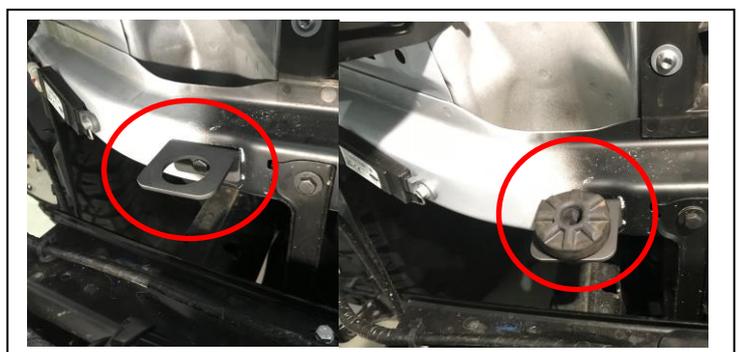
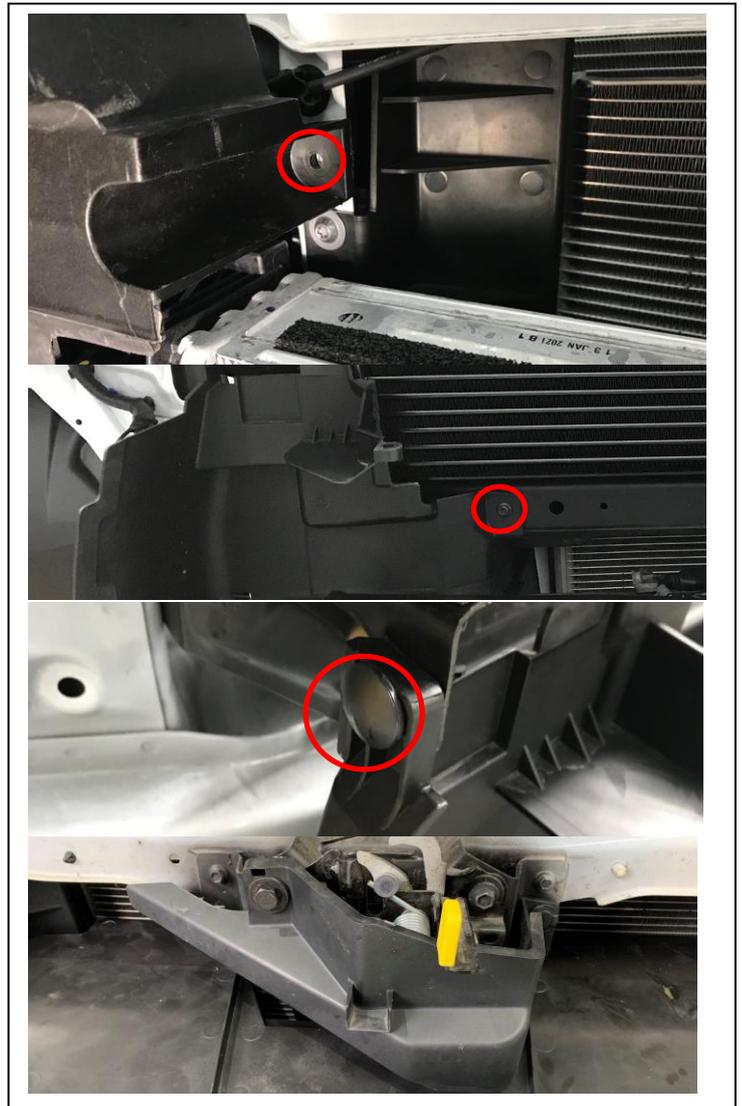
It is also good to remove the hood catch cover, this will make it easier to lift the intercooler in and out.

Unscrew the upper charge air intercooler mounting screws. Disconnect the hoses from the intercooler by spreading the wire spring clips away from the hose releasing it from the locking groove enabling the hoses to be pulled of the spigots.

INTERCOOLER INSTALLATION

Remove the charge air intercooler and place a side. Remove the lower mounts of the charge air intercooler and replace these with the new ones supplied. Insert the rubber grommet from the old mounts into the new mounts.

Remove the old upper grommets from the original charge air intercooler and fit these to the Harrop charge air intercooler.



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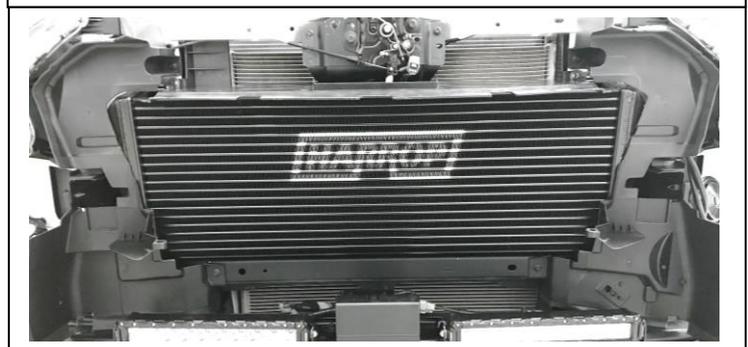
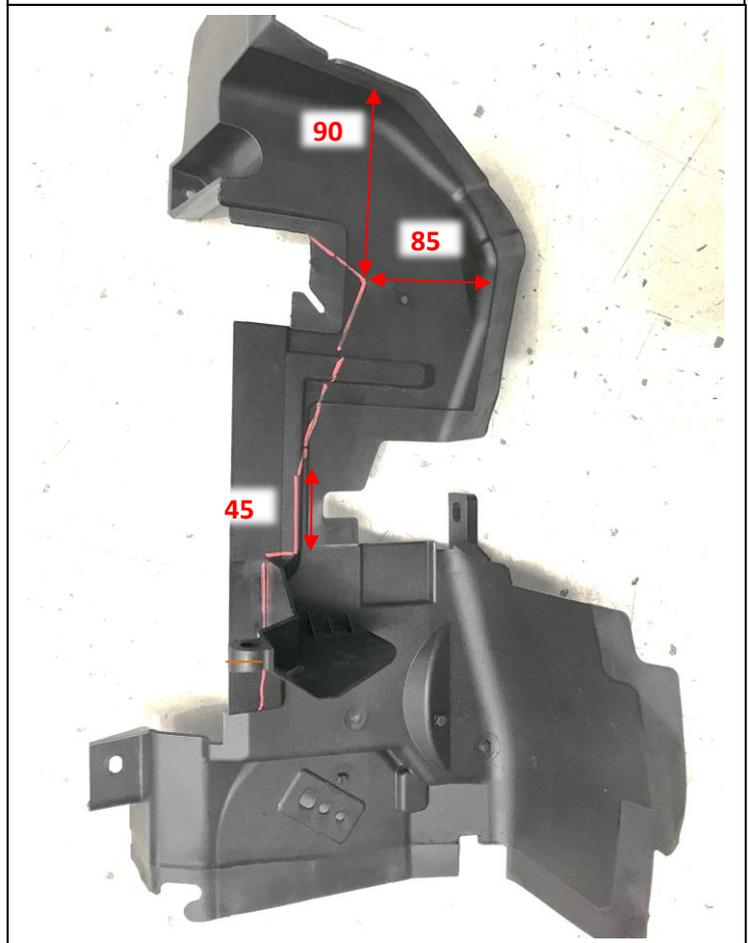
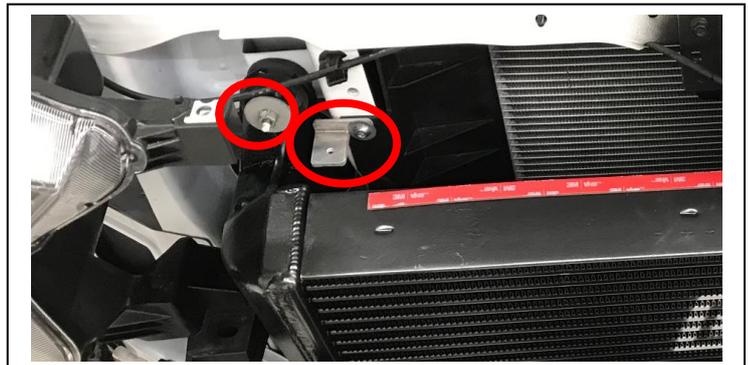
Install the Harrop charge air intercooler to the vehicle and tighten the upper mounting nuts. Caution should be taken on Raptor install to not damage the intercooler face on the front bar screws protruding towards the back of the car.

Fit the supplied air seal brackets at the top as per image on both sides using existing screws.

Trim the upper air seal both sides as per image of RH side, this will enable it to sit flat on top face of intercooler and stick to the double sided tape. Ensure the bottom face is clean from dirt, peel off the adhesive from the double sided tape, line up the rear mounting holes to the newly installed brackets and secure it with the existing screws. Press the top seal down onto the double sided tape.

Trim the side seals as per the images on the right, LH seal shown, RH is a mirror copy. Note the 90 and 85 sizes are taken from the forward facing walls of the seal and the 45 is taken from the edge of the forward facing bracket, do not cut off this bracket, trim along the side of it.

Once trimmed mount the seals back on to the vehicle remembering to clip the ambient temp sensor back in the LH seal.



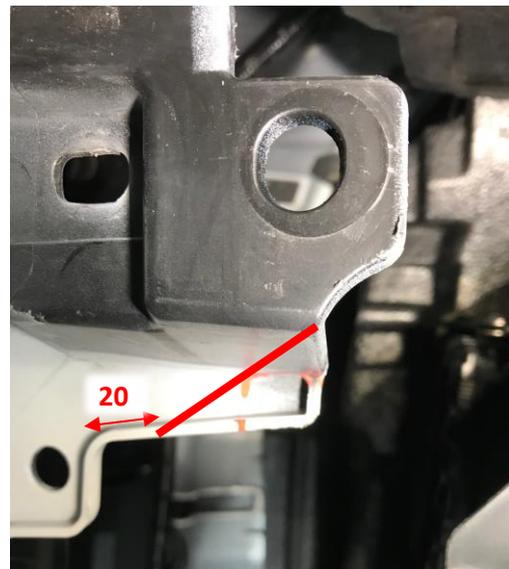
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Now prior to fitting the front bar cover back on we need to trim the centre mount to provide clearance for the larger charge air intercooler. Both sides require the same trimming.

Mark a line from the top corner to the bottom corner and trim this section off.



Now that the front bar cover has been trimmed, assemble the cover to the vehicle in reverse order. Note when snapping back the cover to the fender area ensure the cover is being fitted to the correct side of the tabs.

Connect the charge air intercooler hoses to the point where the spring clips snap into the grooves.

Refit the module on LH side

Fit upper modesty panel that covers the grill

Refit the cold air inlet tube.

