Austin Healey 100, 100-Six & 3000 | BN1 - BJ8

CHT142T Expansion Tank

Thank you for buying this CapeSport product, which has been designed to enhance the enjoyment of your Austin Healey.

PLEASE READ THESE INSTRUCTIONS BEFORE YOU COMMENCE THE INSTALLATION OF THIS PRODUCT.

IN THE INTERESTS OF HEALTH AND SAFETY IF YOU HAVE ANY RESERVATIONS CONCERNING THE EQUIPMENT OR EXPERTISE REQUIRED TO INSTALL THIS PRODUCT PLEASE CONSULT A QUALIFIED CLASSIC CAR SPECIALIST.

IMPORTANT-DANGER OF SCALDING!!

DO NOT REMOVE ANY PART OF THE COOLANT SYSTEM UNTIL THE VEHICLE IS COMPLETELY COOLED DOWN-IF THE RADIATOR CAP IS LOOSENED BEFORE THE SYSTEM HAS COMPLETELY COOLED DOWN TO REDUCE TO PRESSURE IN THE SYSTEM AND TO ALLOW THE COOLSANT TO COOL THERE IS A DANGER THAT HIGH PRESSURE HOT STEAM WILL BE RELEASED THAT CAN CAUSE BURNS TO SKIN AND ALSO POSSIBLY DAMAGE SURROUNDING PAINTWORK/COMPONENTS.

Tools Required:

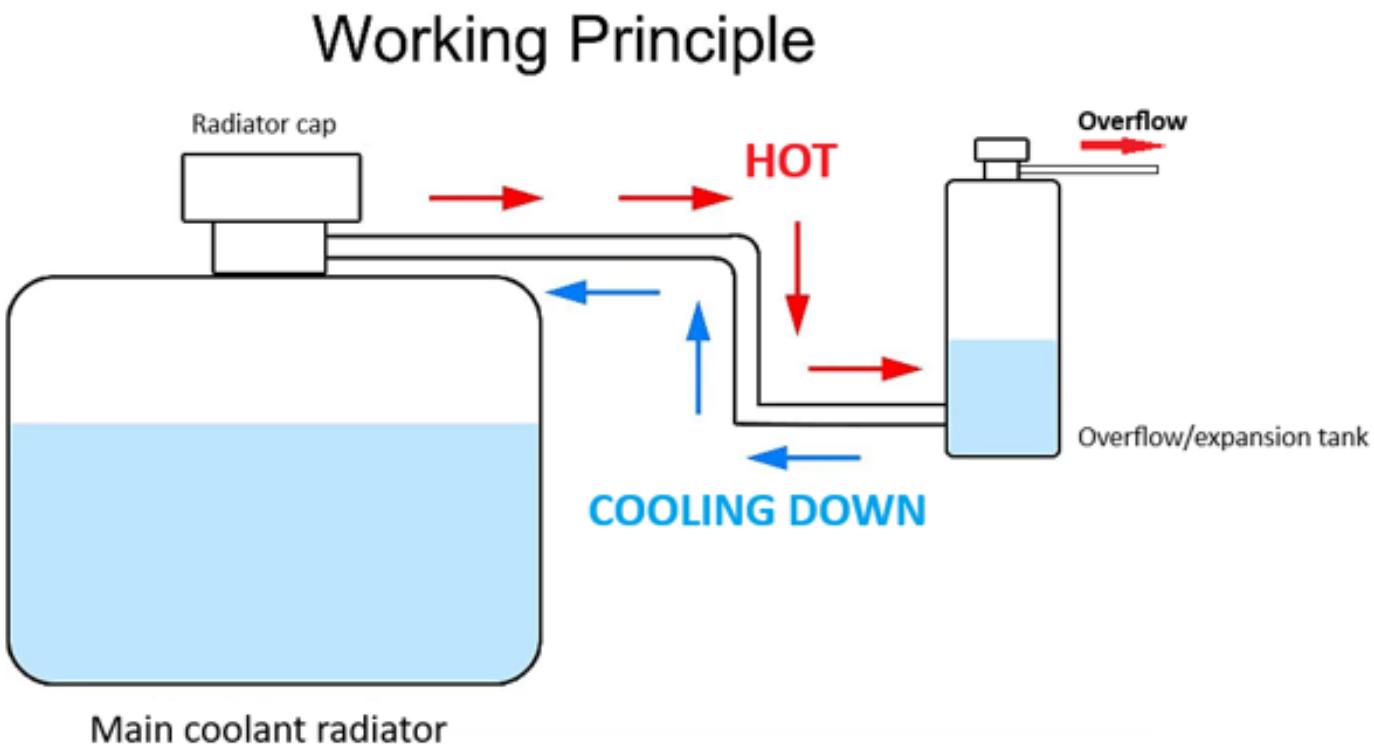
- Disposable PVC gloves
- Rags or paper towel
- Phillips/Posidrive screw drivers
- Imperial wrenches/socket set
- Cutters/scissors suitable for rubber
- Masking tape-for marking drill points
- Drill
- Drill bit ¼" (6mm)
- Centre punch
- Sharpie type marker pen
- Heat gun
- Good quality heat shrink tubing

What are the benefits of fitting this kit?

The coolant system on older vehicles like the Austin Healey's did not have an expansion tank as part of the coolant system, the expansion tank has 2 main advantages, the first one is an environmental one and the second and main advantage is a more efficient cooling system.

The environmental impact when not using an expansion tank is that if there is reason for the coolant to boil over due to pressure then it is expelled to the ground via the overflow hose fitted to the radiator filler neck-coolant is toxic and sweet smelling so can attract wildlife and pets to a spillage and they may then ingest the liquid which will poison the animal, the job of the expansion tank is to retain any coolant overflow from the main radiator.

The advantage of installing the expansion tank is to reduce the need to top up the coolant through losses due to expansion and release of coolant to the environment, this kit transfers any overflow to the expansion tank and it us then returned to the radiator during the cooling of the engine through the overflow spigot on the radiator neck.



KIT CONTENTS

Aluminium expansion tank

Bracket

Spacers (2)

Screws (4)

Washers (4)

Nuts (4)

Rubber hose

Hose clips (4)

Cap-zero pressure

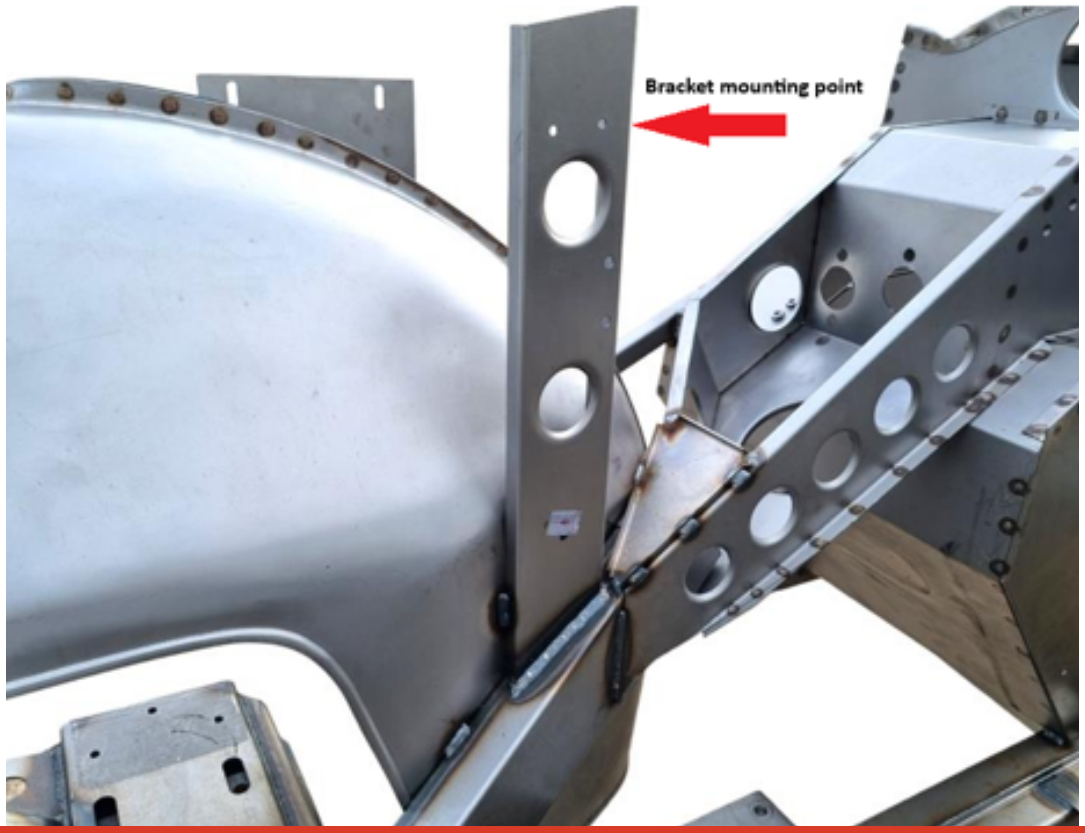
Radiator cap- 7lbs

Installation:

Start by checking all the above components are in the kit-please notify us if anything is missing.

The kit is designed to fix to the RH shroud support in the engine bay, see **Fig 1**

Fig. 1:



When installing the tank make sure it does not sit too high so as not to stop the bonnet closing and not too low to make sure it does not interfere with the adjacent dynamo/alternator. The BJ8 models also have the horns mounted to the shroud support bracket-these horns will need to be attached to the expansion tank bracket.

If your shroud support bracket does not have any pre-drilled holes for the fasteners then you will have to drill holes in the shroud support, use masking tape on the shroud support bracket and using the bracket in the kit and your marker pen-**Fig2** shows the measurement from the top of the flanged circle cut out to the centre line of the holes-these holes need to be drilled ¼" (6mm)-**if your shroud bracket already has the holes they may need increasing to ¼" (6mm)**

Fig. 2:

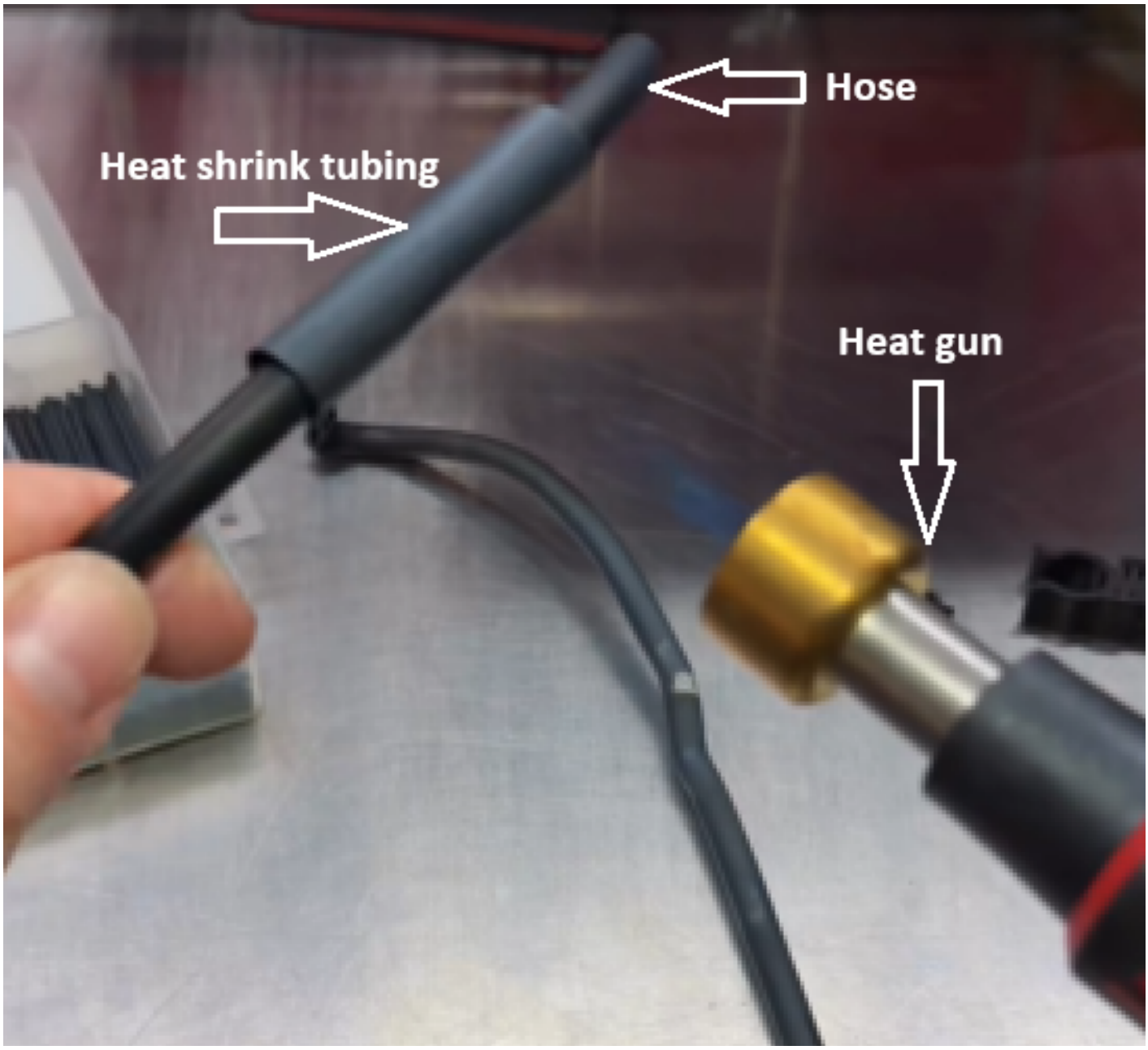
The steel bracket plate in the kit is fitted with the 'V' pointing downwards. Make sure you are happy with the position of the bracket before drilling any holes. Once the holes are drilled then proceed to fit the fixing screws and fully tighten these.

Next step is to attach the expansion tank to the bracket, the round spacers fit between the steel bracket plate and the mounting lugs on the tank to allow clearance for the screw heads, with the tank installed fully tighten the screws that hold the tank to the plate bracket.

Rubber hose neat installation tip:

When fitting the rubber hose, you can form nice pre-formed curves to make the hose follow the shape of the routing and to help reinforce/support the hose.

Before you cut your rubber hose first attach it to the spigot on the side of the tank and plan it's route to the spigot on the radiator filler neck spigot, using some masking tape you can then mark where you want to have bends in the hose, once you have marked these areas with the tape then take a piece of the correct size heat shrink tubing and remove the tape and put the heat shrink tubing in the area, using the heat gun gently heat the shrink tubing until it shrinks onto the hose and proceed to bend the hose to the desired angle, whilst still holding the hose at it's desired bend angle remove away from the heat and continue to hold whilst it completely cools, the hose will be formed into the desired angle. **See below images:**



Heat shrink fully shrunk:

Forming bend:

With the desired bend formed move the hose away from the heat source and hold the hose in the desire position until fully cooled.

The rubber hose in the kit will require cutting to length, attach one end of the rubber hose to the spigot that is on the side of the tank and work out a safe route to the spigot on the radiator filler neck-avoid the hose being squashed by the bonnet or interfering with any other components- use cable ties to secure it to any panel work but not too tight as to squash the hose, once you are happy with the route you have chosen proceed the cut the hose and fit the hose clips to either end to secure it in position on the spigots.

The remaining hose attaches to the spigot on the tank filler neck, and this is then routed downwards to exit below the chassis rail, again make sure it does not interfere with any other components/systems like steering/suspension/brakes etc-secure the hose with cable ties.

Once the tank and hoses are fully fitted then fit the zero pressure radiator cap in the kit to the main radiator and the new 7lb radiator cap to the expansion tank, make sure the main radiator is fully topped up, with both caps fully secured then proceed to run the car to temperature and check for leaks.

Notes:

It is important that the coolant levels are monitored in the first few journeys after the tank system has been installed, the coolant system will find its own level with some coolant remaining in the expansion tank, in extreme cases pressure may force coolant to be expelled from the tank via the overflow hose.

Fitting this kit will not 'cure' any overheating or above normal running temperatures-these issues will be caused by an inefficient cooling system with either a partially block radiator core and/or a build-up of silt or corrosion within the system leading to blocked or restricted water ways, overheating can also be caused by incorrect ignition timing-poor or incorrect oil grade being used.

If you are in any doubt, then please contact us for guidance.