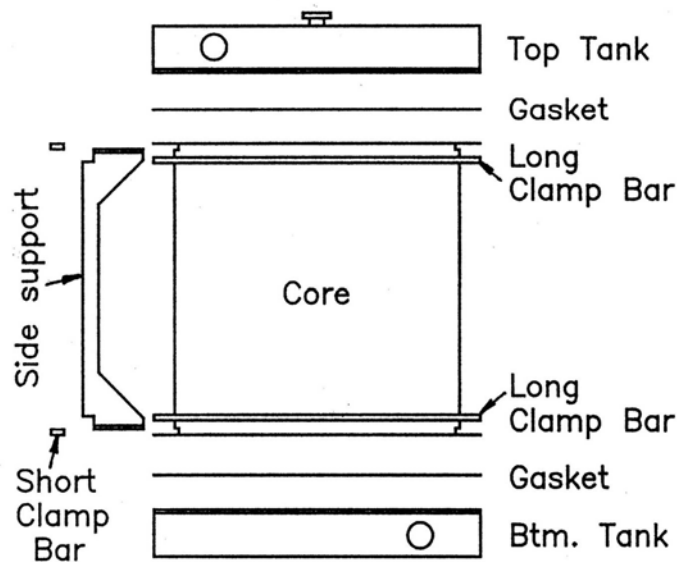


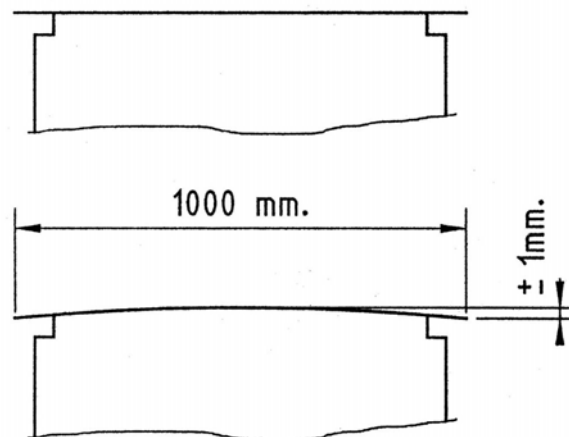
# Assembly Instructions for Bolt On Radiators



- Prior to assembly
- Check part number for correct core.
  - Check there's no transit damage.



1. Check core header plates to ensure plates are flat and free of solder dimples.  
A bow tolerance of 1.0mm in 1.0 metre is acceptable.

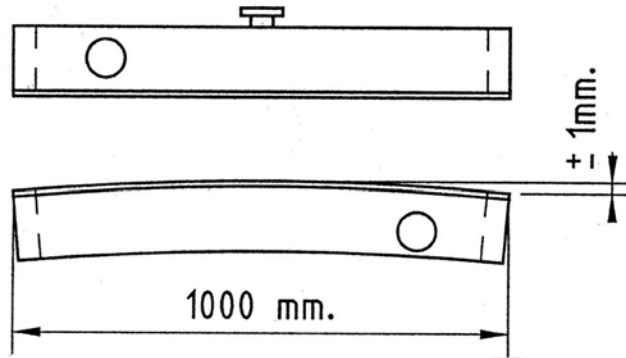


2. Check top and bottom tank mating services to ensure they are flat within a bow tolerance of 1.0mm in 1.0 metre.

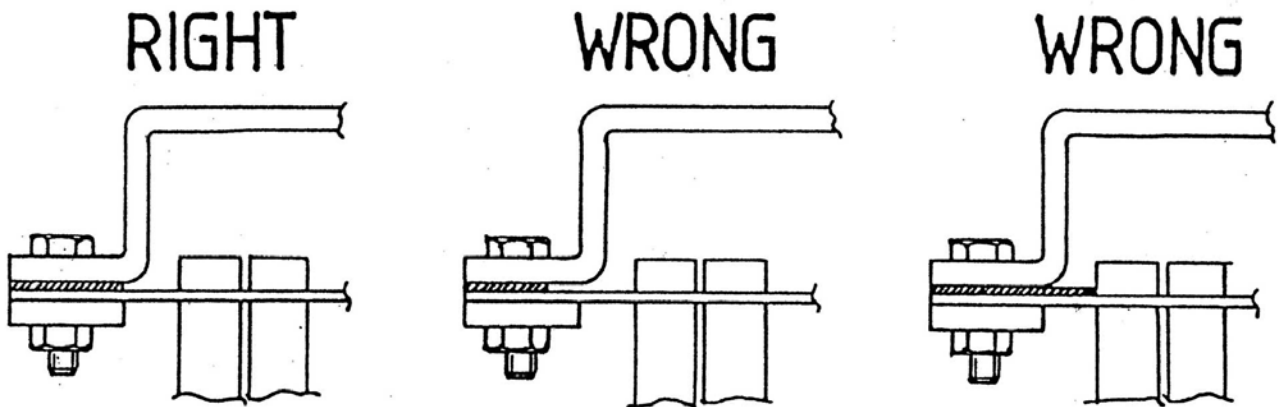
# Assembly Instructions for Bolt On Radiators



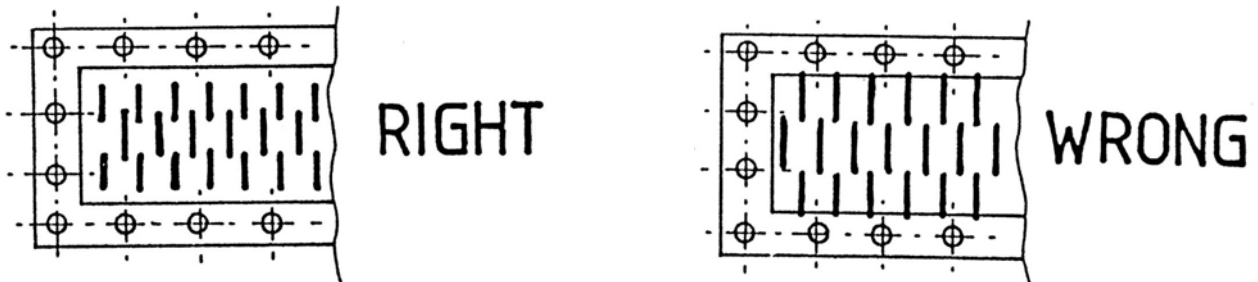
Ensure flange areas around bolt holes are free of distortion and flat - if not - rectify or replace tank.



3. Check gasket on tank face to ensure tanks do not interfere over gaskets.



4. Check gasket on core to ensure adequate clearance of tubes to gasket / tank area. Ensure side overhang exists.

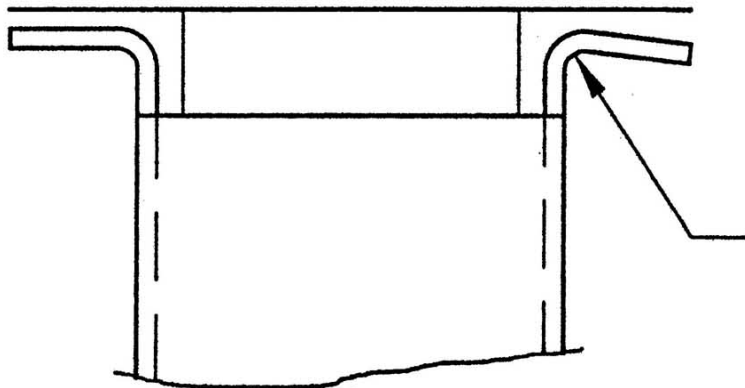


## Assembly Instructions for Bolt On Radiators



5. Check clamp plates are free of burrs - finish as required.

6. Check side support legs are square and flat, ensure no cracks exist.



This area prone to cracking if flanges are not square or level.

7. With the core vertical, place gasket on header plate, or in the case the "strip" type gasket sets, assemble onto header plate ensuring that dovetail joints are a snug fit. Place tank on gasket, offer up long clamp plate to header plate, fit bolts, nuts and washers. Ensure end holes are clear through gasket.

**NOTE!** If the tank flanges are distorted or are rust pitted, it may be necessary to use a sealant on the tank and header plate flanges when fitting compressed fibre gaskets, such as C6327 material. If these gaskets are the "strip" type, sealant will usually be required on the dovetail joints. Unless the tank flanges are in poor condition, or the gasket is damaged in some way, sealant should not normally be required (Except on dovetail joints of "strip" gaskets), and gaskets should be assembled dry to avoid 'slip' when tensioning bolts.

Recommended sealants are :-

- (a) ACL 'Hylomar' Gasket jointing compound

- (b) Loctite/Permatex Aviation 'Form-A-Gasket' liquid sealant.

Use sealants sparingly to reduce 'Gasket Slip' when tensioning bolts. Sealants are not required with SC92 Hypalon cork gaskets.

Tension bolts to finger tight at this stage.

8. Turn core over. Repeat (7) with top tank.

9. Slide side support between long clamp plates - check for fit - this should be a neat fit.

If loose, add shims to suit.

If tight, (that is, if side support will not fit under light pressure), check core height, check side support height and identify cause.

Note: Core tolerance is -0mm +2.0mm. Side support tolerance is -2.0mm +0mm.

During dipping of header plates, some movement is experienced in manufacture.

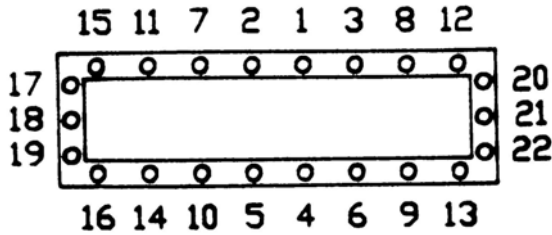
# Assembly Instructions for Bolt On Radiators



Therefore, tolerances are required for core height.

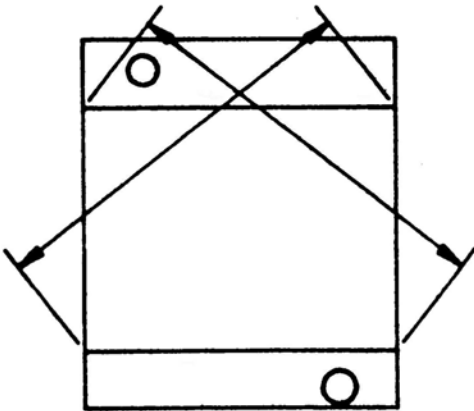
When satisfied with fitment of side supports, fit bolts and nuts to finger tight.

10. Fit short end clamp plates and bolts to finger tight.
11. Tension bolts starting at centre and working out, as follows. 8mm and 10mm bolts 22Nm (16 ft lbs)



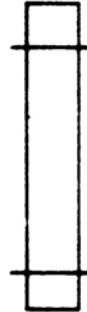
12. After tensioning check radiator for square.

Small units +/- 4mm  
Large units +/- 8mm



13. Check for twist.  
Visual check, sides must be parallel.

**RIGHT**



**WRONG**



14. Fit test plugs. Offer air on at low pressure, slowly building up to 15 PSIG (or other nominated test pressures).

- Check under water.
- Remove from water.
- Slowly release air.

15. Dry off
  - Remove test plugs
  - Assemble fan cowl etc.
  - Paint as required (but only light coat on the core)

**Remember:**

- \* Cores are tested at point of manufacture.
- \* Solder joints by themselves will not fail.
- \* The sheer strength of solder can be exceeded by bolt tensioning, causing early failure of the joint.

Most failures of the tube to header joint that occur after assembly are the result of improper handling or inattention to detail in assembly of the radiator.

**It is important**

- \* Tank faces must be flat.
  - Side supports must fit firm between clamp plates.

# *Assembly Instructions for Bolt On Radiators*



**For further information, contact Air Radiators.**  
**Ph: +61 3 5275 6644 Fax: +61 3 5275 3333 Email: mail@airrads.com.au**

Issue : 1

Date : 31/05/01

ECN :

Approval :

A handwritten signature in black ink, consisting of a series of loops and a long tail, positioned to the right of the 'Approval:' label.

**Uncontrolled Document** - This copy will not be automatically updated.