



(Researched and written by Chris Sanderson)

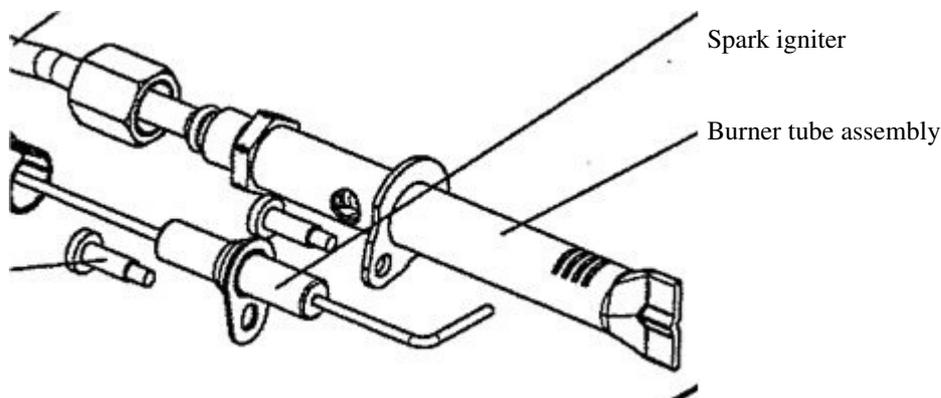
### 001 - Thetford Fridges.



From discussions around the rally field it is very obvious that many owners are having problems with their Thetford Fridges. These range from poor ignition, remaining alight once ignition has taken place and temperature stability/inadequate cooling. Whilst I cannot give an answer to all ills, the following information may be of help.

**a) Initial ignition** - Many owners have reported that on initial ignition and on subsequent ignition cycles, if the burner has cooled sufficiently, that the flame is very noisy, producing a sound similar to the effect of having air in the gas.. Information received would confirm that this is an anomaly of the Burner module, and not necessarily indicative of a fault, the noise lessening considerably once the burner has reached a higher operating temperature. A diagram of the burner and the igniting spark electrode is shown below. It will be noted that the burner consists of a tube into one end of which the jet and brass gas union is fitted. The other end of the tube has four small slots that form the burner face. Whilst it is difficult to fully understand the noisy flame issue - it is reasonable to assume that tolerances within the burner tube and its slots changing with temperature cause the effect by altering the flame shape and the noise it produces.

It is also known that the burner tube can rust and that this rusting could effect the burner slots causing poor flame performance. Also debris/foreign bodies (spiders etc) on the burner tube will have dramatic effect in also altering the flame. In some cases this has been made more obvious by the blackening of the top vent cover/caravan side due to soot created by a yellow flame.



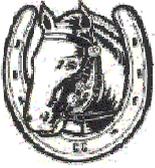
In certain situations a poor flame will not satisfy the heat/flame sensor device and momentary automatic re-ignition will occur. An already poor flame performance will be further aggravated due to the effects of wind direction on the caravan. Should a number of automatic re-ignition cycles occur in succession the result can be the fridge will “time-out” and show fault code 9 on the digital display.

#### **Things to try -**

Debris on burner - with the fridge switched off - use a bicycle pump with connector attached and blow vigorously into the gap where the jet/gas pipe enters the burner box assembly.

Check the burner /flue/exhaust position (see 1.2 below) as incorrectly positioned could add to aggravation by windy conditions.

Have the burner serviced - the final solution? This will basically result in the burner assembly/jet being cleaned. It may require the fridge to be partly or totally removed from its caravan housing to gain access. It might prove more cost effective to have the burner replaced (Thetford part no 623019) than cleaned if rust is evident on the burner tube.



## SUFFOLK CENTRE

### TIPS AND IDEAS



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**b) Exhaust flue position** - investigating my own fridge problems, I discovered that the plastic bug/fly screen fitted behind the top vent cover had been severely distorted by heat from the fridge flue/exhaust. Using the Thetford installation instructions found on the internet, I immediately realised that the flue had been fitted in the incorrect position inasmuch it was touching the bug screen.

An extract from the Thetford installation instructions follows which details how the flue should be positioned-

#### ***Installing the flue exhaust system***

*The exhaust tube [F] takes care of transporting the exhaust fumes and created heat outside the combustion area.*

*The outlet of the exhaust tube has to be close to the bottom-side of the vent . By rotating (see arrows) the exhaust tube and sliding it over the flue [G] you can adjust it so that the outlet of the exhaust is in the position as shown in the drawing below .*

- *It is important to always keep a distance of 5mm minimum from the vent!*
- *The outlet of the exhaust tube has to be close to the bottom-side of the vent.*
- *When positioned correctly, use the clamp to fix the exhaust tube to the flue of the refrigerator.*

Having now looked at several other ralliers' fridges and finding the exhaust flues poorly set, it appears that the caravan manufacturers are simply taking the fridges "out of the box" and fitting into the vans without checking and adjusting the exhaust position according to the Thetford recommendations.

Basically the chimney needs to be positioned approx 15mm from the bug screen (Thetford Customer Services recommendation) and as low as possible within the vent opening ensuring that the flue end still sits beneath the metal heat deflector part of the vent opening. Simply loosen the flue clamp bolt to make this adjustment. Setting the flue thus will ensure that its heat effects on the plastic bug screen are minimised and the gap between flue and metal heat deflector will be at its practical maximum. The effects of wind on the flue and in turn the burner will also be reduced by positioning it slightly away from the vent opening. I would therefore recommend that you check the position of your flue and adjust if required.

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**c) Water drain** - if you experience any signs of water on foodstuffs in the fridge whilst it is in operation, this could be caused by the drain hole under the cooler unit on the rear fridge wall being blocked or as in our case the water container sited adjacent to the burner module being overfull.

If similarly affected, check the drain hole is clear using a cotton bud and then check the water container. This is accessible by removing the external lower vent cover (slide two black clips inwards to unlock). A clear plastic tube passing through the rear wall of the fridge drains into a plastic container. In the end of the tube is a black plastic restrictor, the purpose of which I am unsure, check that this is not blocked. Finally remove excess water from the container by absorbing using a rag or paper towel.