

Myson Velaire oil boiler 40/50, 50/70, 70/90

Please note: This is my edit of a small amount of the text from the original manual. I am not an 'expert', merely an amateur who has learned by experience. I think that it is all correct and have had no feedback about errors, but you use this at your own risk. I use it.

Feedback. Please let me have additional useful information about the boiler and its servicing. If you need the full manual I can supply it on CD for £5 including postage. Send me your postal address and I'll send you my Paypal email address.

Good luck!

MAINTENANCE

To ensure trouble-free heating, it is most important that the boiler and burner are correctly serviced. This is best carried out by entering into a Service Contract with the Installer or Fuel Distributor.

Conditions of operation will vary, but with normal usage the following is strongly advised :-

At the end of Winter

- 1 Clean the flueways and all the inside surfaces of the boiler.

At the end of Winter (on boilers used for central heating only)

- 1 Switch off main switch
- 2 Close all stop valves in the oil supply pipes
- 3 Clean flue and chimney
- 4 Clean all boiler-internal surfaces

At the end of Summer

A thorough check over, as outlined below 'A Sequence for Service' should be carried out.

A Sequence for Service

This may prove helpful to those concerned, and if followed will most certainly ensure that the boiler gives satisfaction at all times.

1 Efficiency Test

Take the following readings :-

Smoke number

CO₂

Temperature of flue gas

SWITCH OFF ELECTRICITY SUPPLY AT MAIN ISOLATING SWITCH TO THE BOILER

This is often neglected and failure to switch off could result in injury and/or damage to equipment.

2 Carefully remove photocell

Remove all soot particles and clean photo-cell eye.

3 Check control box

- 1 Remove all dust and dirt with a soft brush.
- 2 Check contacts and clean if necessary
- 3 Check terminals.
- 4 Replace and set in start position.

4 Close stop valve in fuel supply line

This is to enable the filter and fuel pump to be serviced.

5 De-sludge the fuel tanks

There should be a sludge valve fitted to the tank.

6 Replace the cartridge in main filter

If the paper micronic cartridge has been in service for more than one heating season, a replacement should be fitted.

Ensure that the filter bowl is thoroughly cleaned out before replacement.

7 Remove the burner unit

Slacken the two retaining screws on the top and 2 o'clock.

Unplug all wires.

Pull out the burner unit with a gentle rocking action.

8 Clean the boiler

This is required as follows if the boiler was not cleaned at the end of the heating season:-

Remove all the top casing from the boiler, then take off the front top insulated cover.

Remove the retarders and clean the soot and any hard deposits from the boiler surface.

9 Gaskets

It is advisable to replace all gaskets which have been disturbed unless it is certain that they are in excellent condition.

10 Check all thermostats

Test all thermostats to ensure that they are working correctly. Remove all dust with a soft brush and make sure that accessible contacts are clean.

Service the Electro oil burner

11 Clean combustion head

- 1 Switch off electricity
- 2 Undo the screws and remove the aluminium end plate (Inter Burners).
- 3 Withdraw photoresistor
- 4 Undo union nut
- 5 Withdraw oil pipe assembly sufficiently to unclip ignition leads then withdraw fully.
- 6 Clean ignition electrodes and flame stabiliser.
- 7 Wipe other parts clean.

The nozzle should not normally require attention at this interval, but any carbon on the outside may be wiped off (use a clean rag or tissue soaked in petrol). Great care must be taken not to touch the orifice itself or wipe anything across it.

8 Re-assemble in reverse order.

9 Switch on burner and check flame visually.

12 Check combustion

Check CO₂ and smoke

If necessary, make adjustments as under.

13 Check operation of safety control

- 1 Run burner for a few minutes.
- 2 Remove photoresistor and cover it to prevent exposure to light.
- 3 After about 15 seconds the burner should stop and the neon 'lockout' light should glow.
- 4 Replace photoresistor.
- 5 Wait two minutes then press the red button when the burner should start up normally.

EVERY TWELVE MONTHS

Carry out service above plus:

14 Replace atomising nozzle

- 1 Remove oil pipe assembly.
- 2 Unscrew nozzle from its holder with a correctly fitting box spanner to avoid damage to hexagon.
- 3 Re-assemble oil pipe into the burner.

15 Clean burner thoroughly

Remove burner from appliance and thoroughly clean all parts to remove any dust, fluff or deposits. To clean the air impeller it may be necessary to undo the motor retaining bolts and withdraw the motor and impeller as a unit. When re-assembling make sure that the coupling engages properly.

EVERY TWO YEARS

16 In addition to all service attention detailed above, clean oil filters.

If Crossland oil supply filter:

- 1 Turn off the oil supply from the tank.
- 2 Unscrew bowl retaining bolt, and lower bowl.
- 3 Remove paper element and replace with a new one of the correct type (Crossland No.439).
- 4 Re-assemble bowl.
- 5 Turn on oil.
- 6 Check that bowl is oil tight.
- 7 Bleed off any air through the bleed screws on top of the body.

17 Clean oil pump filter

- 1 Undo four socket screws which retain pump end cover.
- 2 Remove end cover carefully, avoiding damage to gasket.
- 3 Remove filter element and clean with paraffin.
- 4 Re-assemble element and end cover.

18 Replace burner unit in boiler

19 Check operation of Flame Failure Device

- 1 Remove the photo-cell from the burner.
- 2 Shield it from any external source of light (lockout should occur within 10 seconds).

20 Adjust Flame

- 1 Set burner to obtain a good CO₂ reading combined with a low smoke number, i.e. less than No.2.
- 2 To increase CO₂ decrease air supply by adjusting the air damper to a lower number on the adjustment scale. Normally No.5 is a satisfactory initial setting.

21 Before starting up

- 1 Make sure that there is fuel in the tank
- 2 See that the stop valves in the fuel supply line are open
- 3 Set the thermostat to the desired temperature
- 4 If fitted, check that the time switch and/or programmer is set to turn the burner on and off at the required time and is set to the correct time of day.

FAULT FINDING

IMPORTANT: Before handling any parts of the electrical circuit be sure that the MAIN SWITCH is in the 'off' position.

FAULT	CAUSE	REMEDY
1. Boiler will not start	No oil in tank	Refill tank
	Fuel valve shut	Open valve
	Fuse blown	Replace
	Failure in electrical supply	Rectify
	Thermostats set too low	Reset stats
	High limit stat has tripped	Reset
2. No ignition	Incorrect electrode setting	Adjust to correct setting
	Carbon formation at spark gap	Remove carbon, check adjustment of electrode. Inspect for air leaks.
	Electrode burned short	Re-adjust or replace
	Broken or cracked Insulator	Replace electrode
	Defective wiring	Usually detected by sparking or burning at the point of failure. Replace wire.
3 Slow Ignition	Fuel rate too low	Check oil pressure; clean nozzle; clean strainers at filter.
	Weak ignition spark	Check electrode adjustment; replace electrode or high tension wires if necessary. Make certain H.T. wires are securely attached. Check transformer and replace if necessary.
	Dirty or wrong grade of oil	If suspect, have sample gallon tested and advise supplier if necessary

4. Motor and Ignition will not start	Room stat and/or boiler set too low	Advance boiler thermostat
	Fuse blown	Replace fuse; if fuse blows again, inspect for short circuit.
	Dirty control contacts	Clean contacts in burner control box, using a hard-finish paper. Place between contacts, press together and draw paper through. Never use a file or sandpaper.
	Broken or loose wires	Locate and repair or replace wire.
	Defective controls	Repair or replace

5 Motor and ignition start but no oil is delivered	Fuel tank empty	Check to see if gauge is stuck and refill.
	Shut-off valve in fuel supply line is closed	Open valve
	Dirty strainers	Remove and clean all strainers, main filter and fuel pump filter.
	Dirty nozzle	Clean and replace, take care not to disturb electrodes.

6 Motor and ignition start, oil is delivered but no flame develops	Insufficient fuel flow	Check oil strainers and nozzle; clean if necessary; check pressure.
	Faulty ignition spark	Check electrode setting. Replace defective electrodes or H.T. wires. Test transformer and replace if necessary
	Excessive air	Adjust air shutter to give CO ₂ reading between 10% and 11%

7. Flame establishes but snuffs out, puffs, or is slow to stabilise during starting	Insufficient air supply	Adjust air shutter
	Oil rate too low	Adjust fuel pressure
	Bad draught condition	Clean boiler and flues

8. Pulsating fire		
i) Rapid pulsation	Too small a chimney	Check draught
	Too much air	Adjust air shutter
ii) Slow pulsation	Insufficient air supply	Adjust air shutter

9. Oil odours	Leaking fuel line joints	Break all leaking joints and re-make using a good pipe-jointing compound
10. Puffing and fumes during starting	Inadequate chimney conditions	Check that chimney is free from obstruction and that it is high enough to give good draught condition
	Kitchen exhaust fan	Make sure that there is an adequate air supply near to the burner and that the exhaust fan does not draw gases out of the boiler.

N.B. If any fault is traceable to a faulty nozzle, it should be replaced with an equivalent new one. If this is not possible, and the only course of action is to attempt to clean the old one, great care should be exercised. Under no circumstances should metal objects be used, nor should the nozzle be dismantled. The nozzle may be washed in kerosene and blown out with an air line or foot pump.

SPARE PARTS LIST

ITEM	PART NO./MODEL	
	50/70	70/90
Standard Control Panel	2400/11536	2400/11537
Deluxe Control Panel	2400/11538	2400/11539
Boiler House Control Box	2400/10854	2400/10854
Inter 10 Burner	2400/11344	
Inter 11 Burner		2400/11345
Door Panel Assembly with Insulation	2400/11543	2400/11544
L/H Casing with Insulation	2400/11545	2400/11546
R/H Casing with Insulation	2400/11547	2400/11548
Top Casing with Insulation	2400/11549	2400/11550
Flue Dress Ring	2400/10944	2400/10945
Retarders	2400/10821	2400/10822
Boiler Thermostat C26	2200/8471	2200/8471
Limit Thermostat	2400/11403	2400/111403
Combustion Chamber Top Gasket	RM39112	RM39112
Front Cover Plate Insert	2400/11399	2400/11400
Front Cover Plate Base	2400/11394	2400/11395
M8 Smoke Box Nut	58176	58176
M8 Plain Washer	58727	58727
M8 x 50 Set Screws	99/0010/69	99/0010/69

ELECTRO-OIL BURNER PARTS

Transformer and HT Leads	20/0582/01	20/0582/01
Motor	20/0582/01	20/0581/01
Electrodes	20/0583/01	20/0583/01
Outer Oil Pipe	20/0584/01	20/0584/01
Inner Fuel Pipe Assembly	20/0585/01	20/0585/01
PL1 Blast Tube	20/0587/01	
PLC Blast Tube		20/0588/01
Fan	20/0589/01	20/0590/01
Danfoss MSLA Pump L/H Rotation	20/0591/01	20/0591/01

NB: Transformer and motor numbers are as shown in manual, but do not seem logical.

Cleaning the retarders (baffles)

These obstruct and slow the upward flow of the hot air inside the combustion chamber to improve the heat exchange.

You will need to use a vacuum cleaner to remove mess, some of which might be oily carbon. Wearing protective gloves is a good idea.

- 1 Remove the top cover of the case by pulling upwards firmly.
- 2 Remove the six nuts and washers from the top, front plate.
- 3 Pull the plate upwards. It might need to be levered with a screwdriver, depending on the gasket material.
- 4 If the gasket is in good condition take care not to damage it.
- 5 If the gasket is in poor condition, buy replacement material for when you re-assemble. It is usually ceramic fibre in a flat sheet that must be cut to size. I have used rolled up fibreglass insulation as a temporary gasket.
- 6 Looking down you will see the topmost of three steel retarder (baffle) plates.
- 7 Vacuum clean any mess you might see on it.
- 8 Poke your finger through the retarder plate hole and lift it out.
- 9 Repeat 7 and 8 for the other two plates.
- 10 Clean the plates thoroughly.
- 11 You can now see to the bottom of the chamber.
- 12 Scrape off any accumulated carbon and other mess from the sides.
- 13 Vacuum out all the mess from the chamber.
- 14 Replace the three retarder plates. They fit down onto projecting pegs.
- 15 If using a new gasket, clean up the two mating surfaces with a flat scraper. Fit the gasket and replace top plate, screwing down evenly all round.

Other data

SI units of power

(Required when buying a replacement circulation pump to ensure you get the correct size)

1000 BTU = 293 W

So power ratings in kW

40/50 12 - 15 kW

50/70 15 - 20 kW

70/90 20 - 26 kW

Burner components

Thanks to Andrew Rogers for the following data:

DC resistances for components that are working normally

Motor 29.5 Ω

Pump impeller 2.6 k Ω

Ignitor transformer 13.6 Ω

The obsolete T701B controller can be replaced with a Satronic TF830B controller.

Discussion with an oil boiler engineer: He said that the Riello burner unit is by far the best. He has replaced other makes with Riello and the performance has improved so much he did himself out of work! If you have a persistent fault maybe this is a good option.

In the end he replaced my burner with a ten-year-old ElectroOil B9 unit. The improvement is striking. His gas analyser shows an efficiency figure of 92.8%. If you can get hold of this burner it would make a good upgrade.

Feedback from Peter Lister, for which thanks. He had an intermittently running burner motor. It would be cured by a 'sharp tap'. It turned out to be a burned pin on the controller relay base. The fix is a new relay and base though the base might need the wiring altered.

Last edit: 9 December 2012