

## Gas Safety Devices and Controls

| Flame Supervision Device or F.S.Ds |                    | Purpose: To avoid unlit gas entering the appliance |                                                                                                                           |  |
|------------------------------------|--------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1                                  | Thermoelectric FSD | Recognise                                          | Because it has a push button and thermocouple                                                                             |                                                                                     |
|                                    |                    | Found                                              | In every type of gas appliance                                                                                            |                                                                                     |
|                                    |                    | Test                                               | <ol style="list-style-type: none"> <li>1. Light pilot and establish</li> <li>2. Turn gas off time until click.</li> </ol> |                                                                                     |

|   |                                         |           |                                                                                                                                                                                                                                       |                                                                                      |
|---|-----------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 2 | Liquid Expansion or Vapour Pressure FSD | Recognise | Small probe directly on oven burner, lights on <b>Low Flame</b>                                                                                                                                                                       |  |
|   |                                         | Found     | Mainly in Cookers                                                                                                                                                                                                                     |                                                                                      |
|   |                                         | Test      | <ol style="list-style-type: none"> <li>1. Light burner (should light on low flame) after approx 30secs rising to high flame.</li> <li>2. Turn appliance gas tap off, wait 90 secs and re-light (should light on low flame)</li> </ol> |                                                                                      |

|   |                         |           |                                                                                                                                                                                                                                          |                                                                                       |
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| 3 | Flame Rectification FSD | Recognise | Ignition starts automatically to light the pilot or main burner.                                                                                                                                                                         |  |
|   |                         | Found     | On all modern appliances                                                                                                                                                                                                                 |                                                                                       |
|   |                         | Test      | <ol style="list-style-type: none"> <li>1. Turn appliance on, make sure flame lights and establishes.</li> <li>2. Keep the demand on the appliance and turn the gas off. The appliance should go to lock out or keep sparking.</li> </ol> |                                                                                       |

### FSD Shutdown Times:

- \* Boilers 60 seconds
- \* Warm Air Heaters 60 seconds
- \* Cookers 90 seconds (oven)  
60 seconds (other)
- \* Water Heaters 90 seconds
- \* Decorative Gas Fires 120 seconds
- \* Other Gas Fires 180 seconds

**\*\*Manufacturers instructions may state different from the times above\*\***

| Thermostats |                                                      |           | Purpose: To control Heat                                                                                                                                                                                   |                                                                                     |
|-------------|------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 4           | Mechanical Thermostat.<br>Liquid or Vapour Expansion | Recognise | Dial with numbers indicated                                                                                                                                                                                |  |
|             |                                                      | Found     | Mostly on cooker ovens                                                                                                                                                                                     |                                                                                     |
|             |                                                      | Test      | <ol style="list-style-type: none"> <li>1. Turn oven on and heat up for 15 mins.</li> <li>2. Turn control to lowest setting or as instructed by manufacturer, flame should drop to by-pass rate.</li> </ol> |                                                                                     |

|   |                     |           |                                                                                                               |                                                                                      |
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| 5 | Electric Thermostat | Recognise | Dial with numbers indicated                                                                                   |  |
|   |                     | Found     | Boilers etc                                                                                                   |                                                                                      |
|   |                     | Test      | Heat up appliance. Thermostat should turn off appliance solenoid when a predetermined temperature is reached. |                                                                                      |

|   |          |         |                                                                                                                                     |                                                                                       |
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| 6 | Solenoid | Purpose | An electrically operated device                                                                                                     |  |
|   |          | Found   | Boilers etc                                                                                                                         |                                                                                       |
|   |          | Test    | <ol style="list-style-type: none"> <li>1. Turn electricity on, valve opens</li> <li>2. Turn electricity off valve closes</li> </ol> |                                                                                       |

|   |                                |         |                                                                                    |                                                                                       |
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| 7 | Multi-functional control valve | Purpose | A collection of controls on one unit                                               |  |
|   |                                | Found   | Boilers etc                                                                        |                                                                                       |
|   |                                | Test    | If the FSD, Regulator and solenoid work then the multi-function control is working |                                                                                       |

|   |                        |         |                                                                                                                                             |                                                                                     |
|---|------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 8 | Safety Shut Off Device | Purpose | To turn off the burners, when the hotplate lid is closed                                                                                    |  |
|   |                        | Found   | Cookers                                                                                                                                     |                                                                                     |
|   |                        | Test    | <ol style="list-style-type: none"> <li>1. Turn on the gas to the hotplates</li> <li>2. Lower lid and gas should be extinguished.</li> </ol> |                                                                                     |

|   |         |         |                                                                                                                                                         |                                                                                     |
|---|---------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 9 | Gas Tap | Purpose | To control the flow of gas safely                                                                                                                       |  |
|   |         | Found   | Cookers, Fires etc                                                                                                                                      |                                                                                     |
|   |         | Test    | <ol style="list-style-type: none"> <li>1. Tap operates correctly reducing the flow of gas from high to low</li> <li>2. Tap operates smoothly</li> </ol> |                                                                                     |

|    |                                             |         |                                                                                                                               |                                                                                       |
|----|---------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 10 | Atmosphere Sensing Device (oxy pilot) (vsd) | Purpose | To close down the open flued appliance automatically, if the appliance and flue operate incorrectly                           |  |
|    |                                             | Found   | All open flued appliances after 1998                                                                                          |                                                                                       |
|    |                                             | Test    | <ol style="list-style-type: none"> <li>1. Light pilot, and establish</li> <li>2. Turn gas off and time for a click</li> </ol> |                                                                                       |

|    |                                      |         |                                                                                                     |                                                                                       |
|----|--------------------------------------|---------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 11 | Thermocouple Interrupter (ttb) (smd) | Purpose | To close down the open flued appliance automatically, if the appliance and flue operate incorrectly |  |
|    |                                      | Found   | On water heaters, Flued water heaters is usually a overheat safety device. Flueless use a TTb.      |                                                                                       |
|    |                                      | Test    | Visually inspect wiring to thermocouple (no links) and check FSD                                    |                                                                                       |

|    |           |         |                                                                                                                                            |                                                                                       |
|----|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 12 | Regulator | Purpose | Adjuster screw to alter appliance burner pressure                                                                                          |  |
|    |           | Found   | Boilers etc                                                                                                                                |                                                                                       |
|    |           | Test    | <ol style="list-style-type: none"> <li>1. Attach manometer to test point 2</li> <li>2. Adjust regulator screw to alter pressure</li> </ol> |                                                                                       |

|    |               |         |                                                                                                                                                                                                                                                                        |                                                                                     |
|----|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 13 | Zero Governor | Purpose | To compensate for the negative pressure caused by the fan, on the gas valve( this could allow more gas into the burner than intended)                                                                                                                                  |  |
|    |               | Found   | New fan flued room sealed appliances                                                                                                                                                                                                                                   |                                                                                     |
|    |               | Test    | <ol style="list-style-type: none"> <li>1. Attach manometer to burner pressure test point. Turn appliance on when the fan comes on a negative pressure will read on manometer, when appliance operational the reading should be as close to zero as possible</li> </ol> |                                                                                     |

|    |                                  |         |                                                                                                                                    |                                                                                      |
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| 14 | Medium to low pressure Regulator | Purpose | To lower incoming gas pressure from up to 2bar to 21mbar                                                                           |  |
|    |                                  | Found   | Above the meter control valve, fitted with a reset handle                                                                          |                                                                                      |
|    |                                  | Test    | <ol style="list-style-type: none"> <li>1. Make sure working pressure is 21mbar, make sure the regulator does not let-by</li> </ol> |                                                                                      |

|    |                 |         |                                                                                                                                             |                                                                                       |
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| 15 | Meter Regulator | Purpose | To lower the incoming pressure from up to 75mbar to 21mbar.                                                                                 |  |
|    |                 | Found   | On the inlet to a primary gas meter                                                                                                         |                                                                                       |
|    |                 | Test    | <ol style="list-style-type: none"> <li>1. Make sure working pressure is 21mbar</li> <li>2. If outside tolerance contact supplier</li> </ol> |                                                                                       |