WORCESTER MT10RF Mechanical Timer Instruction Manual

Contents

WORCESTER MT10RF Mechanical Timer

Product Information: Product Name: Radio Frequency Controlled Single Channel Mechanical Timer and Room

Thermostat with Receiver Model Number: MT10RF / Mechanical RF Thermostat Compatibility: Compatible with Greenstar I, Si, CDi, and Highflow CDi Combination Boilers Manufacturer: Worcester Product Usage Instructions: Installation & Commissioning: Fitting the Receiver: – Follow the instructions provided in the user manual to properly fit the receiver. Pre-Commissioned Transmitter & Receiver Location: Ensure that the transmitter and receiver are placed in a suitable location as specified in the user manual. Transmitter Radio Link Set Up: Follow the steps provided in the user manual to set up the radio link between the transmitter and receiver.

Transmitter
Clearance & Fixing: – Ensure proper clearance and fixing of the transmitter as per the instructions in the user manual. Servicing & Spares: Transmitter/Receiver Maintenance & Spares: Refer to the user manual for instructions on the maintenance
and replacement of transmitter/receiver components. Symbols and Safety Precautions: Explanation of Symbols: The user manual contains symbols that provide important information and safety instructions. Pay attention to these symbols throughout the manual.

Warning Symbols: Electrical hazards are identified by a lightning symbol surrounded by a warning triangle. Take appropriate precautions when dealing with electrical components. – Additional Symbols: – Various symbols are used to indicate steps in an action sequence, references to related parts/documents, and list entries. Refer to Table 1 in the manual for a detailed explanation of these symbols. 4. Manual Information: – General: – Read the instructions provided in the user manual before starting the installation or usage of the product. – Abbreviations: – The user manual includes abbreviations such as CH (Central Heating), DHW (Domestic Hot Water), and RF (Radio Frequency). Familiarize yourself with these abbreviations for better understanding of the instructions. **Note**: These instructions are applicable only for Worcester product models mentioned on the front cover of the manual. Do not use these instructions with any other make or model of appliance.

SYMBOLS AND SAFETY PRECAUTIONS
EXPLANATION OF SYMBOLS
WARNING SYMBOLS
Safety instructions in this document are framed and identified by a warning triangle which is printed on a grey background. Electrical hazards are identified by a lightning symbol surrounded by a warning triangle.

- Signal words indicate the seriousness of the hazard in terms of the consequences of not following the safety instructions.
- NOTICE indicates possible damage to property or equipment, but where there is no risk of personal injury.
- CAUTION indicates possible personal injury.
- WARNING indicates possible severe personal injury.
- DANGER indicates a possible risk to life.

IMPORTANT INFORMATION
Notes contain important information in cases where there is no risk of personal injury or material losses and are identified by the symbol shown on the left. They are bordered by horizontal lines above and below the
text.

ADDITIONAL SYMBOLS

Symbol	Meaning
B	a step in an action sequence
e	a reference to a related party in the document or to other related documents
•	a list entry
–	a list entry (second level)

MANUAL INFORMATION

GENERAL

Please read these instructions before starting. THESE INSTRUCTIONS ARE APPLICABLE TO THE WORCESTER PRODUCT MODELS STATED ON THE FRONT COVER OF THIS MANUAL ONLY AND MUST NOT BE USED WITH ANY OTHER MAKE OR MODEL OF APPLIANCE. THESE INSTRUCTIONS APPLY IN THE UK ONLY AND SHOULD BE FOLLOWED EXCEPT FOR ANY STATUTORY OBLIGATION. IF YOU ARE IN ANY DOUBT CONTACT THE WORCESTER TECHNICAL SUPPORT HELPLINE. THIS ACCESSORY MUST BE FITTED BY A COMPETENT PERSON. FAILURE TO COMPLY COULD LEAD TO PROSECUTION. LEAVE THESE INSTRUCTIONS WITH THE USER OR AT THE APPLIANCE.

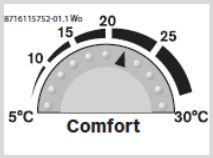
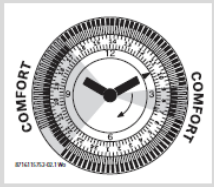
ABBREVIATIONS

CH	Central Heating
DHW	Domestic Hot Water
RF	Radio Frequency
LED	Light Emitting Diode
PCB	Printed Circuit Board
m	metre
IP	Ingress Protection
V	Volts
mA	milli Amps
ms	milli seconds
°C	degrees Centigrade

MECHANICAL TIMER SYMBOLS

	Constant Comfort temperature
	Constant Economy temperature
	Automatically switches between Comfort and Economy according to the positions of the tappets. Inside edge =Comfort Outside edge = Economy

CONTROLS OVERVIEW

	COMFORT: Higher temperature when dwelling is occupied and heating is required
	COMFORT: Move tappets to inside edge of clock for desired period
	ECONOMY: Lower temperature when dwelling is unoccupied or at night, when heating is not required, back ground heat will be provided if set point is reached.
	ECONOMY: Move tappets to outside edge of clock for desired period.

PRODUCT INFORMATION
STANDARD PACKAGE

- Receiver for the Greenstar i, Si, CDi and
- Highflow CDi combination boilers.
- Transmitter
- Screws (x2)
- Wall Plugs (x2)
- Instructions
- Batteries (x2)

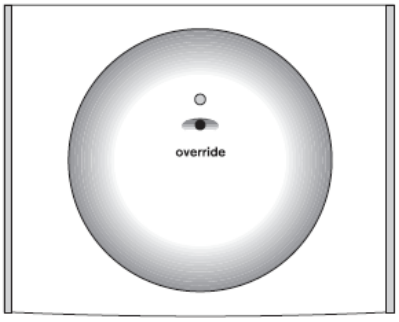


Fig. 1 Item A Receiver

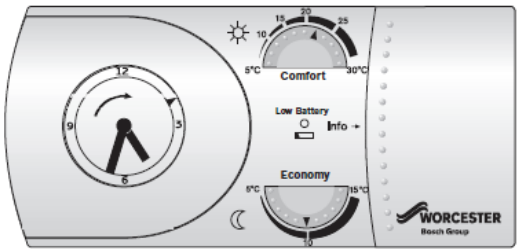


Fig. 2 Item B Transmitter

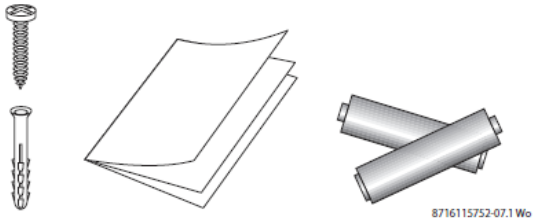


Fig. 3 Items C, D, E & F

SPECIFICATIONS

TRANSMITTER

- Single channel, radio frequency central heating timer.
- Mechanical timer with a built-in RF transmitter.
- Comfort Temperature dial.
- Economy Temperature dial.
- Built-in battery housing.
- Two AA alkaline LR6 batteries.
- LED Battery status indicator.
- Maximum signal range of approximately 30 meters (this may vary according to the building‘s construction).

RECEIVER

RF Receiver module with LED receiver status indicator and set up/manual override button. Pre-wired with PCB connector.

TECHNICAL DATA

Description	Units	Transmitter	Receiver
Dimensions	mm	H158 x W75 x D36.5	
Operating voltage	V	2 x AA/LR6 Batteries	24V d.c.
Ambient Operating Temperature	°C	-5 to +45	-5 to +45
Class of protection	—	II	II
Degree of protection	IP	20	20
Accuracy	sec/day	±2.5 @ 25°C	—
Battery life	years	1 approx.	—
Shortest switching period	minutes	15	—
Temperature regulation range	°C	+5 to +30	—
Regulator	—	Electronic	—
Transistor switching capacity	mA	—	5mA @ 24V d.c.
Switching contact	—	—	Open collector

RELATED STANDARDS

- BS EN60730-1:2001 + A2:2008
- BS EN60730-2-7:1992
- Electro Magnetic Compatibility (EMC) and
- Radio Spectrum Matters (ERM); Short Range
- Devices (SRD) ETSI EN 300 220-1

EC DIRECTIVES

- European Union Law Directive (2000/84/EC)
- Low Voltage Directive (2006/95/EC)
- Electro Magnetic Compatibility Directive (2004/108/EC)
- CE Marking Directive (93/68/EEC)

INSTALLATION & COMMISSIONING
DANGER:

- 24V & 230V: Do not touch electrical components or circuits.
- Isolate the mains electricity supply before starting any work and observe all relevant safety precautions.
- Follow electrostatic discharge precautions. Do not touch the PCB.

FITTING THE RECEIVER
Switch off the boiler at the electrical supply. Remove the boiler outer casing and control panel fascia to gain access to the heatronic control panel.

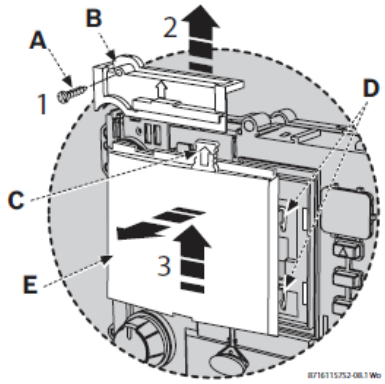


Fig. 4 Removing the blanking plate

1. Release securing screw [A].
2. Pull cover panel [B] upwards to remove.
3. Grip the tab [C], pull upwards to disengage clips [D], and pull forward to remove the blanking plate [E] or existing programmer. Align connector pins [F] into receptors [G] in the circuit board and push fully home.
4. Feed the ribbon cable [G] into recess [H]. Align receiver module [J] and locate clips [D], push into slots then downwards to secure using grip tab [C].
5. Locate the cover panel [B] and secure it with a screw [A].

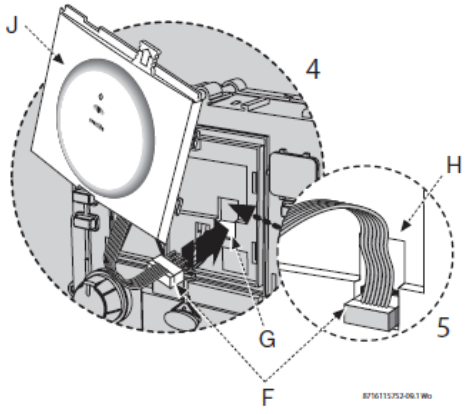


Fig. 5 Fitting the receiver

6. Replace the fascia cover and outer casing before switching on the electricity supply.
7. Switch the boiler on when completed

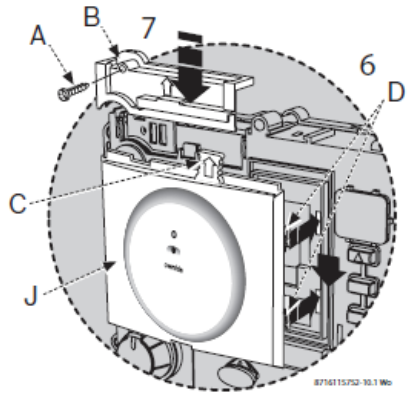


Fig. 6 Securing the receiver

PRE-COMMISSIONED TRANSMITTER & RECEIVER LOCATION

The MT10RF Mechanical Thermostat and Receivers are pre-commissioned (paired) at the factory.

- Fit and connect the Receiver in the boiler control panel, see page 7.
- Locate a flat-bladed screwdriver into the slots in the base plate [B] as shown, and twist to release the Transmitter [A] from the base plate [B]. Switch the electrical power to the boiler.

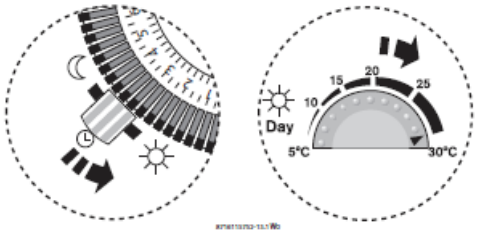


Fig. 9 Functional checks

- Fit the batteries correctly into the battery compartment [F] of the Transmitter [A].
- The Transmitter and Receiver will communicate immediately. The boiler‘s receiver LED will briefly flash twice when a signal is received.

FUNCTIONAL CHECK

- Move the manual switch on the Transmitter to the constant comfort position.
- Rotate the Comfort temperature dial to 30 °C.
- If the room temperature is less than 30 °C, then within 10 to 30 seconds of making the adjustments detailed above, the LED on the receiver will briefly flash twice while detecting the transmitter signal and then remain on. The boiler will fire.
- If the operation is successful, rotate the comfort dial to your desired room temperature.
- Move the manual switch on the Transmitter to the Automatic position.
- Programme the Transmitter to the end user‘s requirements, see page 12.
- If the operation is not successful, follow the
- The transmitter radio link is set up on page 10.

TRANSMITTER LOCATION

Position the Transmitter [A] as close to the main living area as possible on an inside wall. Mount approximately 1.5m (5‘) above the floor within the maximum range of the boiler‘s Receiver.
Keep the Transmitter away from:

- light and heat sources
- enclosures and curtains
- direct draughts, including fans, air vents, windows, and doors
- damp and condensation

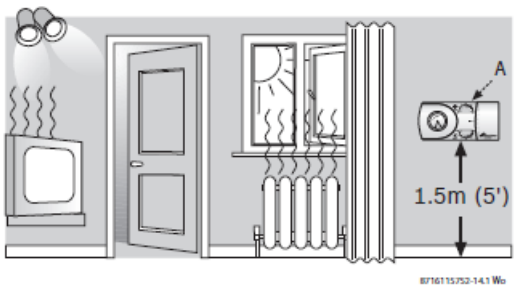


Fig. 10 Transmitter location

TRANSMITTER RADIO LINK SET UP

The procedure will only have to be followed if problems have been experienced with the pre-commissioned procedure or if: replacing equipment already installed, recommissioning existing equipment

REMOVE THE TRANSMITTER FROM THE BASE PLATE

Locate a flat-bladed screwdriver into the slots in the base plate [B] as shown. Twist to release the Transmitter [A] from the base plate [B]

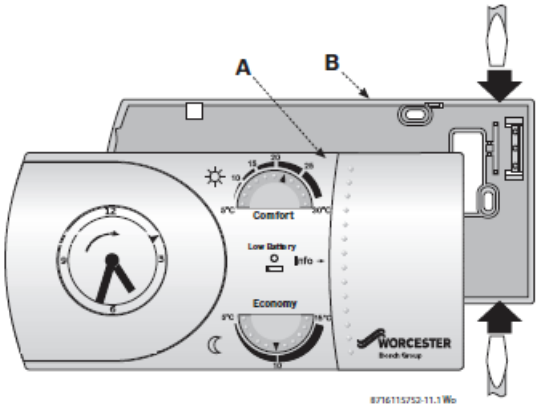


Fig. 11 Removing the transmitter

ESTABLISH A RADIO LINK

Press and hold button [C] down on the Receiver for approximately five seconds to enter the setup mode with the LED [D] on continuously. The Receiver is now ready to accept a setup signal from the Transmitter for up to two minutes.

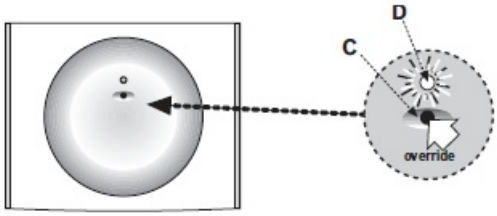


Fig. 12 Establish a radio link

- Fit the batteries correctly into the battery compartment [F].
- Open the sliding panel to press and release the reset button (see Fig 33)

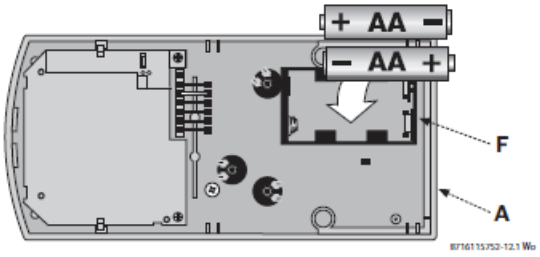


Fig. 13 Fitting batteries

- The transmitter sends a set-up signal to the
- Receiver. Set-up signals are sent for three minutes after pressing and releasing reset.

When the radio link has been established the LED will briefly flash twice and extinguish. This link remains even in

the event of a power loss. However, if a radio link has not been established, repeat the set-up procedure: as the batteries are already fitted in the Transmitter, simply press and release the reset button to re-initiate continuous transmission of the set-up signal for three minutes.

NOTICE
All relevant safety precautions must be undertaken. Protective clothing, footwear, gloves, and safety goggles must be worn as appropriate

TRANSMITTER CLEARANCES
See the diagram above for the minimum area (shown in mm) required for operation.

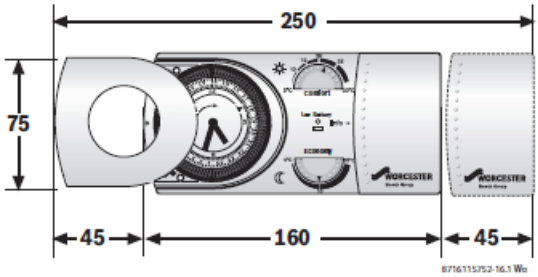


Fig. 14 Transmitter clearances

TRANSMITTER FITTING
CAUTION
Ensure that there are no pipes, electrical cables, or other hazards before drilling

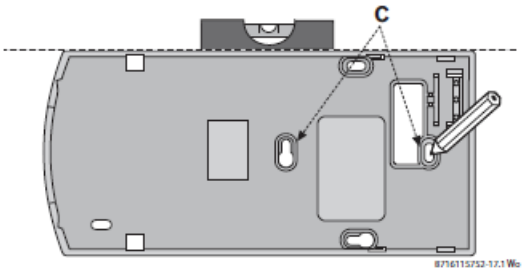


Fig. 15 Transmitter fitting

- Hold base plate [B] level to mark securing points [C] and remove the base plate.
- Drill holes, where marked, 30mm deep using a 6mm diameter drill bit. Push one wall plug [D] into each hole.

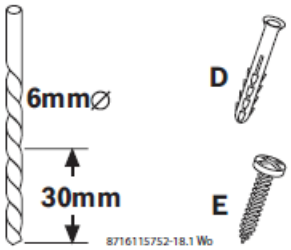


Fig. 16 Fitting hardware

- Reposition the base plate [B], check the level and secure it with screws [E].
- Align the outer edge and internal lugs of the
- Transmitter to the base plate [B] and push to secure.

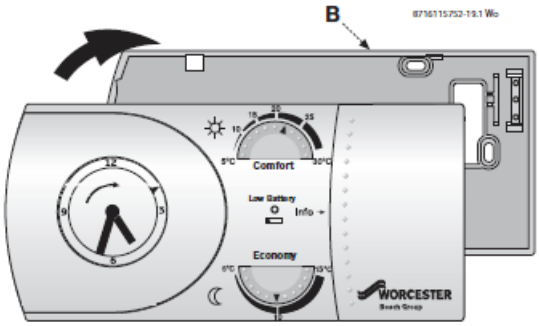


Fig. 17 Fitting the transmitter

USER INSTRUCTIONS TRANSMITTER CONTROLS
INFORMATION
Slide open panel [A] to reveal details of setting
Comfort and Economy [B].

SETTING THE 24-HOUR CLOCK
The unit may be damaged if you rotate the outer ring anticlockwise.

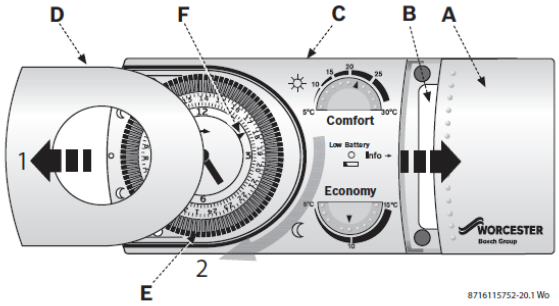


Fig. 18 Transmitter features

1. Slide cover [D] of the Transmitter [C].
2. Rotate the outer ring [E] in the direction of the arrow (clockwise) until the clock hands and the 24-hour pointer [F] display the correct time.

SETTING HEATING TIMES
Using the 1 to 24-hour marks on the outer ring [G] move the tappets [H – each tappet represents 15 minutes]

- in for comfort settings
- out for economy setting

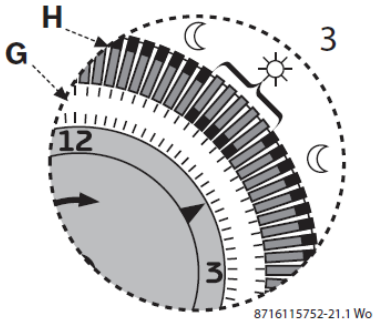


Fig. 19 Setting times

SETTING HEATING TEMPERATURES:

Rotate the dials [J] or [K] to set the desired room temperature:

- 5 – 30 °C for Comfort
- 5 – 15 °C for Economy

Typical Comfort and Economy Temperature settings are shown below

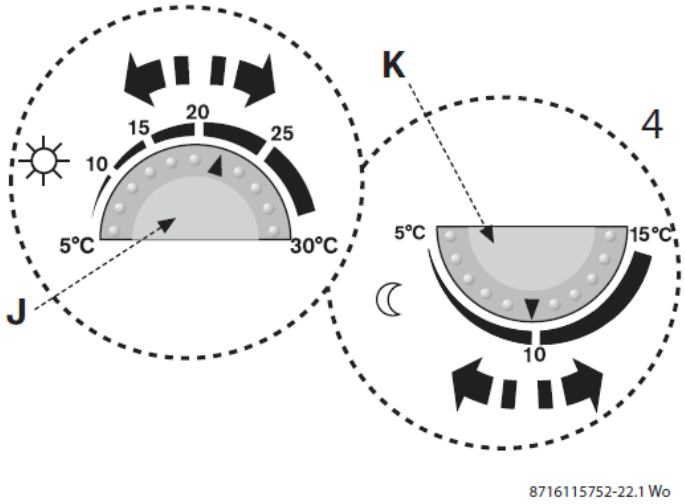


Fig. 20 Setting temperatures

SELECTING PROGRAMS

Move the selector switch [L] to set: Automatic, Comfort, or Economy. Automatic (switches between and uses both Comfort and Economy temperature settings according to the tappets). Constant Comfort (continuously on using Comfort temperature setting). Constant Economy (continuously using economy temperature setting). Replace cover [D] when finished.

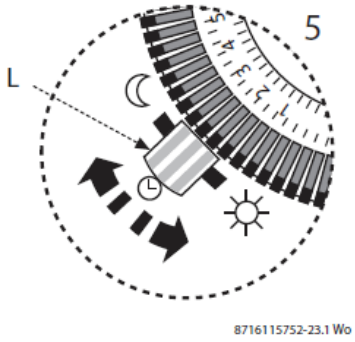


Fig. 21 Selecting programs

RECEIVER FUNCTIONS

LED [A] is continuously on when there is a demand for heating and continuously off when there is no demand for heating.

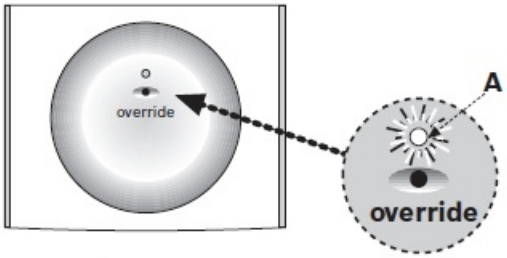


Fig. 22 Normal operation

SIGNAL RECEIVER

LED [A] flashes twice each time a signal is received from the transmitter.

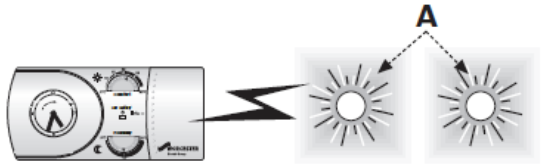


Fig. 23 Signal received

LOW BATTERY STATE

LED [A] flashes slowly, on for one second and off for one second. Replace the transmitter batteries as shown under the “Battery replacement” section and the receiver will revert back to normal operation.

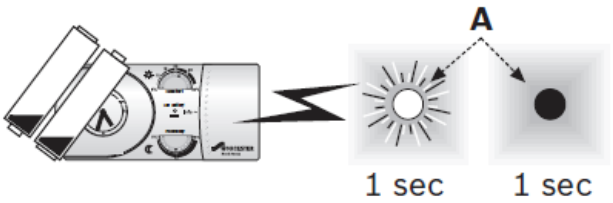


Fig. 24 Low battery state

EMERGENCY MODE

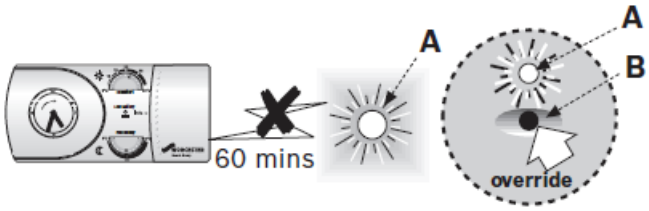


Fig. 25 Emergency mode

If a signal is not received for 60 minutes LED [A] continues to flash rapidly and the central heating is switched off. Press button [B] and release for manual override and to switch the central heating on.
Press again to switch the central heating off. Once a signal is received from the transmitter the receiver and heating will revert back to normal operation.

BATTERY REPLACEMENT

The MT10RF Transmitter includes a battery status indicator [A].

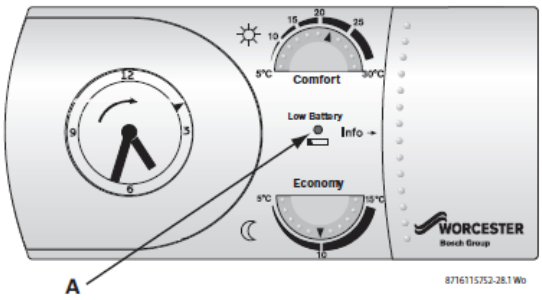


Fig. 26 Battery status indicator

LED Indicator	Transmitter & mechanical timer o peration	Battery condition	Replace batteries
OFF	Running	Full	NO
Flashing yellow	Running	Low	YES
Flashing red	Not running	Empty	YES
OFF	Not running	Empty	YES

NOTICE:
Do not use rechargeable batteries

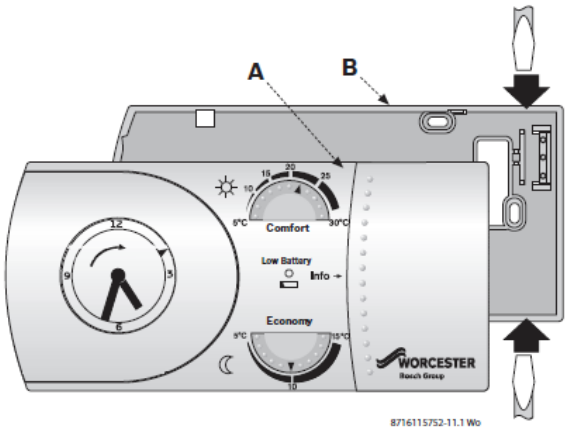


Fig. 27 Removing Transmitter from the base

CAUTION
Do not touch the electrical circuits inside the transmitter

TO REPLACE THE BATTERIES:
Locate a flat-bladed screwdriver into the slots in the transmitter base plate [B]. Twist to lift the transmitter [A] away from the base plate [B].

- Remove existing batteries and dispose of in an environmentally friendly manner.

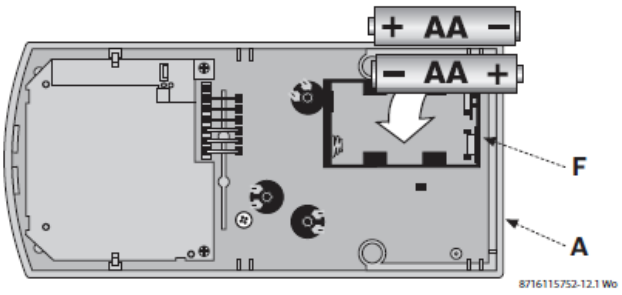


Fig. 28 Fitting batteries

- Replace batteries with the same type and ensure that the batteries are correctly oriented in the battery compartment [F] of the transmitter [A].
- Align the outer edge and internal lugs of the transmitter to the base plate [B] and push fit to secure.

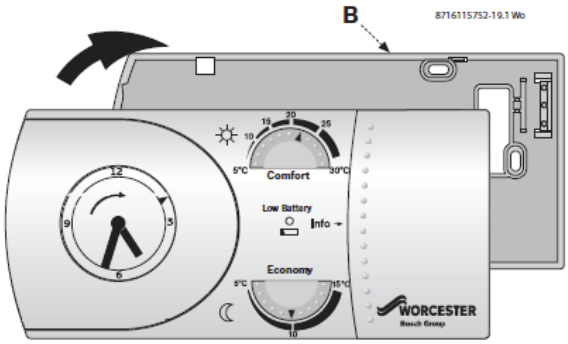


Fig. 29 Fitting transmitter

- Open the sliding panel, press and release the reset button [C] to start normal operation.

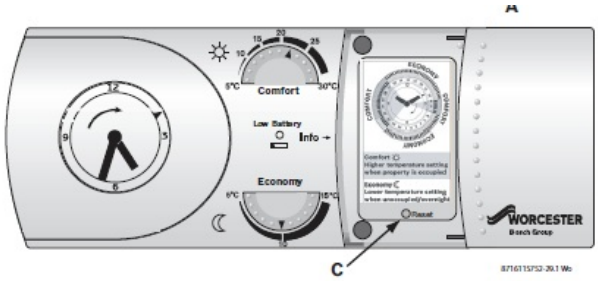


Fig. 30 Reset button

- The receiver will revert back to normal operation after the transmitter batteries are successfully replaced.

SERVICING & SPARES

TRANSMITTER/RECEIVER MAINTENANCE & SPARES TRANSMITTER MAINTENANCE Wipe the outer casing with a clean dry cloth, do not use polish or detergents. Do not touch any circuits inside the transmitter.

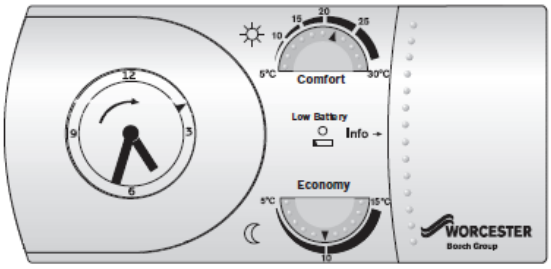


Fig. 31 Item A Transmitter

RECEIVER MAINTENANCE

The receiver unit [B] requires no maintenance and contains no serviceable components.

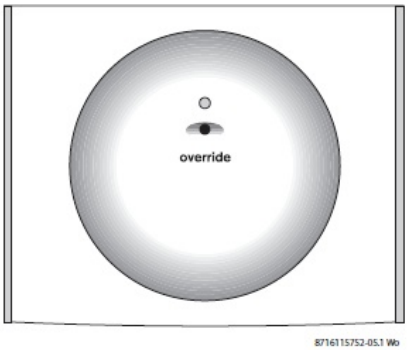


Fig. 32 Item B Receiver

SERVICING

- These units cannot be serviced.
- Should the existing unit fail to function correctly, check:
- the receiver times and program settings are correct
- the RF signal link is set up.
- the transmitter batteries are the correct type and fitted correctly.
- press reset button [C] on transmitter [A].M

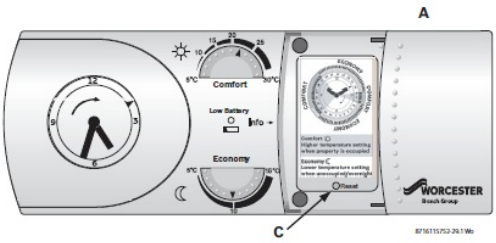


Fig. 33 Reset button

REPLACEMENT PARTS

Transmitter [A]: part number 8 716 106 191 0 Receiver [B] for the Greenstar I, Si, CDi and Highflow CDi combination boilers: part number 8 716 106 664 0

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www.worcester-bosch.co.uk

Documents / Resources

	**WORCESTER MT10RF Mechanical Timer** [pdf] Instruction Manual MT10RF Mechanical Timer, MT10RF, Mechanical Timer, Timer

References

- New Boilers | Worcester Bosch