MR200 Taximeter User Guide.

Contents

1   Introduction

These instructions are intended to assist the used in the operations of the Cygnus Automotive MR 200 Taximeter once it has been suitably fitted to a vehicle and programmed with an appropriate tariff. They include a "Getting Started Quickly" section intended to allow the user to operate the basic functions of the meter without reading the more detailed description, which follows.

2 Getting Started Quickly

This section describes the basic functions of the meter. For a more detailed description, refer to Section 4.

2.1 Switching the Meter On

Press the **MODE** button once.

After performing a display test, the meter beeps and enters **FOR HIRE** mode, which is indicated, on the front panel.

The current rate (if applicable) is displayed on the **RATE** digit. To select another rate, press the **SELECT** button until the required rate is shown. The feature is dependent on the Tariff programmed. (See Section 4.6).

2.2 Entering Hired Mode (At the Start of the Journey)

Press the **MODE** button once.

The meter beeps and enters **HIRED** mode, which is indicated, on the front panel.

The metered fare is now calculating continuously. Any extras may be added to the fare by pressing the **EXTRAS** button until the required Extras amount is displayed. (See Section 4.6).

2.3 Entering Stopped Mode (At the End of the Journey)

Press the **MODE** button once.

The meter beeps and enters **STOPPED** mode. The mode is indicated on the front panel.

At this point the Fare and Extras may be added together by pressing the **TOTAL** button. By pressing the **TOTALS** button again (or in some areas, by releasing the button), the Fare and Extras amounts will separate. (See Section 4.8)

2.4   From Stopped to For Hire (Ready for Next Journey)

Press the **MODE** button once.

The meter beeps and enters **FOR HIRE** mode. (See Section 4.8).

Operation then proceeds as above.

2.5   Reading the Totals

Totals may be read by pressing the **TOTAL** button whilst in the **FOR HIRE** mode. Totals appear in the following sequence:

- Total Fare + Extras   1
- Total Fare   2
- Total Extras   3
- Total Trips   4
- Total Miles   5
- Total Paid Miles   6
- Total Unit Reconnections   7

Totals are described more completely in section 4.10.

2.6   Resetting the Totals

Totals may be reset by pressing the **TOTAL** and **REVERT** buttons together and holding for 2 seconds. Each set of totals is reset separately. See Section 4.10)

2.7   Switching the Meter Off

When in **FOR HIRE** mode, press the **REVERT** button twice.

The front panel of the meter is blank but will illuminate if the meter receives distance pulses (i.e.: the vehicle is moved). (See section 4.6, 4.4, 4.5)

3 Feature Description

The Cygnus MR200 Taximeter includes the following features, which may be accessed by the user if enabled by the particular tariff programmed.

The following is a list of Meter Features offered by the MR200. For detailed operating instructions, refer to Section 4.

3.1 Multiple Rate Capability

The meter may incorporate multiple rates. These can be accessed manually in both **FOR HIRE** and **HIRED** modes if allowed by the tariff. The meter can also be programmed to access different rate by automatic jumps as part of the tariff.

3.2 Revert from Stopped to Hired

To facilitate a stopped journey to be continued, the meter may be allowed to revert from the "Stopped" charging mode back to the "Hired" charging mode (if allowed by the tariff).

3.3 Totals

The meter maintains two sets of totals, which may be read back by the user via the display. These two sets of totals include the same set of information, and each set may be independently reset by the user. The second set of totals may optionally be set to be non-resettable.

Seven Items are recorded in each of the two sets:

- Total fare + extras collected so far
- Total fare collected so far
- Total extras collected so far
- Totals trips so far
- Total miles so far
- Total paid miles so far
- Total number of meter reconnections so far

3.4 Information Display

The following information is available to the user via the display:

- Meter Serial Number
- Current Tariff Code Number
- Meter Calibration (Pulses per Mile/Km)
- Meter Software Version Number
- Meter Type

In addition to these, a pulse-checking feature is provided in order to verify that the meter is correctly receiving pulses from the road distance transducer.

4 Detailed Operating Instructions

This section describes the operation of the Cygnus MR200 Taximeter.

4.1 Meter Controls

The meter is controlled by five push buttons: SELECT, REVERT, TOTAL EXTRAS and MODE. The meter produces an audible "click" on each valid button press, together with other sounds indicating change of mode, change of rate and error conditions.

Information is displayed on seven-segment LED displays, together with illuminated text legends.
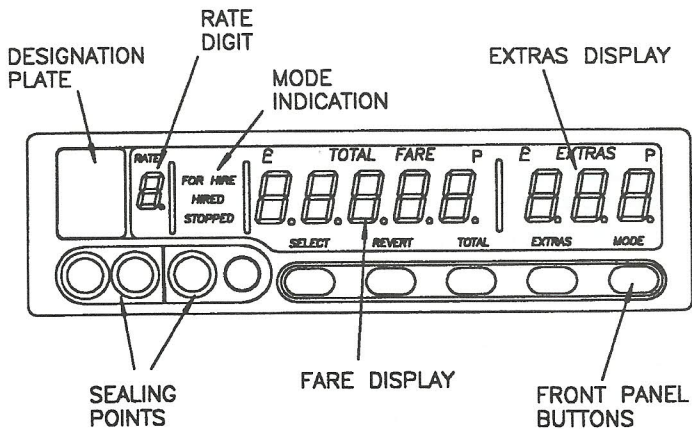
Figure 1 shows the layout of the meter.

Figure 1

4.2   Modes of Operations

The meter has five principal modes of operation:

MODE	DESCRIPTION
OFF	Meter is in idle condition
ON	Meter measures distance only (not displayed)
FOR HIRE	Meter is awaiting instruction to proceed to HIRED mode on commencement of a hiring. The vehicle's "For Hire" lamp may be driven if required.
HIRED	Meter used time and distance to determine the fare, which is displayed on the "Fare" display. Extras may be added if required.
STOPPED	Meter uses distance only to determine the fare which is displayed continuously (waiting time is not taken into account). Extras may be added if required.

In addition to the above, the meter includes an INFO mode for displaying configuration information and a TOTALS mode for displaying total information.

4.3   Power Up

It is intended that the meter be supplied with a continuous feed from the vehicle battery. This description shall commence from the point at which this power is first applied.

On power-up, the meter enters "ON" mode directly.   The display is clear except for a single illuminated red dot in the left-hand side. After 10 seconds, the meter times out into "OFF" mode. The following description starts in "OFF" mode.

If the meter beeps and displays the words "ProG Err", there is an internal error in the tariff store. Pressing the Mode button may remove this. If not, the meter should be returned to the dealer for reprogramming.
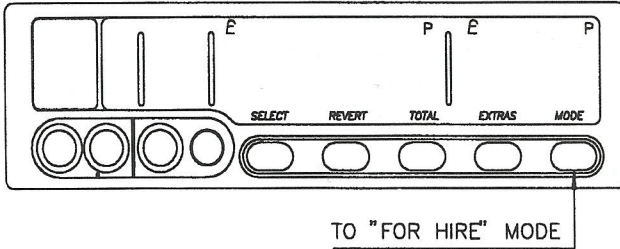
4.4 Button Functions in "OFF" Mode

Figure 2

In OFF mode, the meter's display is totally blank. The only active button is the "MODE" button which causes the meter to perform a display self test and then enter "FOR HIRE" mode.

The meter will also exit "OFF" mode and enter "ON" mode if vehicle distance pulses are received,

4.5   Button Function in "ON" Mode

RED DOT

TO "FOR HIRE" MODE

TO "TOTALS" MODE
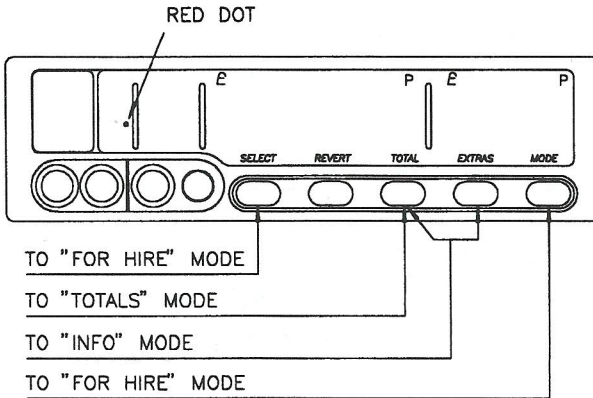
TO "INFO" MODE

TO "FOR HIRE" MODE

Figure 3

In ON mode, the meter measures distance from the incoming road distance pulses and updates the internally stored totals accordingly. In this mode a red dot is illuminated in the rate digit, and the legends above the five buttons are backlit for night use.

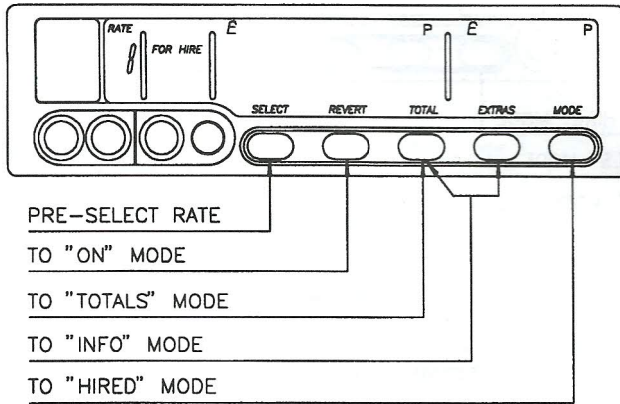| BUTTON	FUNCTION
SELECT	Pressing the select button causes the meter to perform self test and enter "FOR HIRE" mode (as mode button) - See Section 4.6
TOTAL	When pressed on its own, the total button causes the meter to enter "TOTALS" mode and totals may be viewed.
TOTAL/EXTRAS	When, pressed together, the total and extras buttons cause the meter to enter "INFO" mode and the information may then be viewed. The pulse check feature may then also be accessed - See Section 4.9.
MODE	Pressing the mode button causes the meter to perform a self-test and enter "FOR HIRE" MODE (as select button) See Section 4.6.

4.6   Button Functions in "FOR HIRE" Mode

Figure 4

In FOR HIRE mode, the meter drives the "FOR HIRE" light of the vehicle if enabled in the Tariff and also the pre-selection of the rate to be used if this feature is enabled.

Entry into FOR HIRE mode is accompanied by a characteristic two-tone sound. The mode is indicated by the illumination of the words "FOR HIRE" on the display.

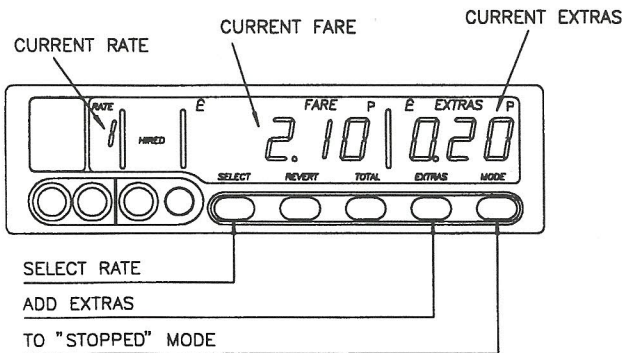| BUTTON	FUNCTION
SELECT	The SELECT button pre-selects between any multiple rates in the tariff. The current rate is indicated in the "RATE" digit on the display. This rate is incremented on each depression of the SELECT button. The rate selection is accompanied by a characteristic "Rate Change" sound.
REVERT	The REVERT button causes the meter to return to On mode - See Section 4.5.
TOTAL	When pressed on its own, the TOTAL button causes the meter to enter "TOTALS" mode and totals may then be viewed.
TOTAL/EXTRAS	When pressed together, the total and extras button cause the meter to enter "INFO" mode and the information may then be viewed. The pulse check feature may then also be accessed - See Section 4.9.
MODE	The mode button causes the meter to enter "HIRED" mode - See Section 4.7

4.7 Button Functions in "HIRED" Mode

Figure 5

11

In HIRED mode, the meter uses the time and road distance to determine the fare and indicates the fare value on the display. Extras may be added in this mode and the current extras value is also indicated on the display.

Entry into "HIRED" mode is accompanied by a characteristic two-tone sound and the mode is indicated by the illumination of the words "HIRED" on the display.

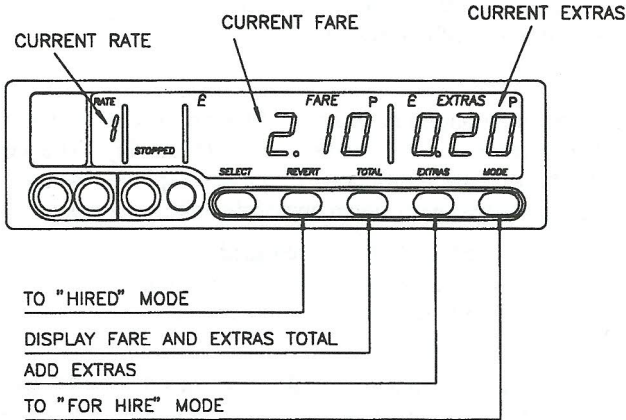| BUTTON	FUNCTION
SELECT	The SELECT button selects the current operating rate. If this option is allowed by the Tariff, the rate may be incremented while the journey is in progress. Pressing the button causes the rate digit to increment, accompanied by the rate change sound. The decimal point remains illuminated until the correct rate had been selected and is extinguished after delay of approx. 1.5 seconds. The operation of the new rate begins at the time that the decimal point is extinguished.
EXTRAS	Pressing the EXTRAS button causes the amount indicated in the extra display to be incremented by the amount decided by the tariff.
MODE	The MODE button causes the meter to enter "STOPPED" mode - See Section 4.8.

4.8 Button Functions in "STOPPED" Mode

Figure 6

In STOPPED mode, the meter uses road distance only (waiting time is not taken into account) to determine the fare and indicates the fare value on the display. Extras may also be added in this mode and the current extra value is also indicated on the display.

Entry into "STOPPED" mode is accompanied by a characteristic two-tone sound and the mode is indicated by the illumination of the words "STOPPED" on the display.

BUTTON	FUNCTION
REVERT	The REVERT button causes the meter to return to "HIRED" mode if allowed by the Tariff - See Section 4.7.
TOTAL	Display of fare+extras (see below)
EXTRAS	Pressing the EXTRAS button causes the amount indicated in the extras display to be incremented by the amount decided by the tariff.
MODE	The MODE button causes the meter to save its totals and return to the "FOR HIRE" mode - See Section 4.6.

The TOTAL Button in Stopped Mode

The TOTAL button causes the meter to display the total of fare + extras if enabled by the Tariff. Depending on the Tariff, the total may be displayed in one of two ways:

- Pressing the total button causes the FARE and EXTRAS values to be added together and indicated in the FARE display. The words "TOTAL FARE" are illuminated above the display. The total will separate into its two parts when one of the below are true:
    - The total button is released.
    - Road distance pulses are received.
    - A five-second time-out expires.

- Pressing the total button and releasing it causes the FARE and EXTRAS to be added together and indicated in the FARE display. The words "TOTAL FARE" are illuminated above the display. The total will separate into its two parts when one of the below are true:
    - The total button is pressed again.
    - There is a charge in the fare caused by road distance pulses.
    - Any of the other active buttons are pressed.
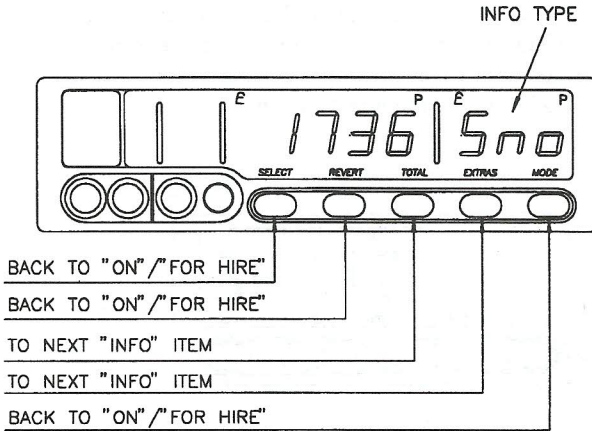
4.9   Buttons Functions in "INFO" Mode

Figure 7

Access to the info mode is described in sections 4.5 and 4.6.

In this mode, the meter displays various items of information. On entry into the mode, the display is as shown above, displaying the unit's serial number. Except when in Pulse Check Mode, the "INFO" mode will be exited automatically after a time-out of five seconds if no keys are pressed.

TOTAL or EXTRAS:

Pressing of the TOTALS or EXTRAS buttons causes the meter to step through the items of information in the order shown below:

- Serial Number   -   Sno
- Tariff Code   -   trF
- Calibration (Pulses per mile)   -   CAL
- Software Versions   -   vEr
- Meter Type   -   tyP
- Pulse Check   -   CHE

The last item, the pulse check allows the user to count road distance pulses. On entry into the mode, the meter displays a zero pulse count (See Diagram). The incoming pulses are then counted until stopped by the TOTAL button. The display is then frozen. Subsequent depressions of the TOTAL or EXTRAS buttons cause the meter to cycle back through the items shown above.
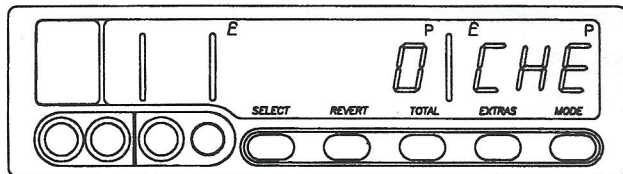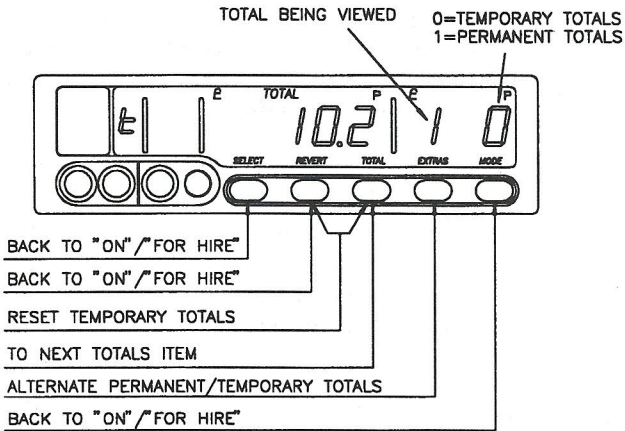

Figure 8

Any other button:

Pressing any other button causes the meter to return to "ON" or "FOR HIRE" mode, except when in Pulse Check Mode.

4.10 Button Functions in "TOTALS" Mode

TOTAL BEING VIEWED   0=TEMPORARY TOTALS
                          1=PERMANENT TOTALS

BACK TO "ON"/"FOR HIRE"

BACK TO "ON"/"FOR HIRE"

RESET TEMPORARY TOTALS

TO NEXT TOTALS ITEM

ALTERNATE PERMANENT/TEMPORARY TOTALS

BACK TO "ON"/"FOR HIRE"

Access to TOTALS Mode is described in Sections 4.5 and 4.6.

In TOTALS mode, the meter displays the current temporary and permanent totals on its display under control of the front panel buttons. On entry into the mode, the scratch Total fare + extras is displayed. The mode will be exited after a ten second time-out if no valid button is pressed.

BUTTON	FUNCTION
TOTAL	The TOTAL button selects the total being viewed. The total being viewed is indicated by the digit shown in the left-hand side of the Extras display. The bank of totals (bank 0 or bank 1) is indicated by the right hand digit. The total types are: • Total Fare + Extras 1 • Total Fare 2 • Total Extras 3 • Total Trips 4 • Total Miles 5 • Total Paid Miles 6 • Total Unit Reconnections 7
EXTRAS	The EXTRAS button causes the meter to alternate between the display of bank 0 and bank 1.
REVERT/TOTAL	Holding down the REVERT and TOTAL buttons together causes the word "rESEt" to be displayed in the fare window. If the buttons are held down for two seconds, the display will change to "00000" and the current total bank will be cleared to zero.
Any other Button	Pressing any other button causes the meter to return to "ON" or "FOR HIRE" mode.