

**BRIEF DISCRIPTION OF ELECTRONIC TAXI/AUTOMETER**  
**MODEL : SANSUI - 786**

The Digital Taxi/Autometer is a transparent and tamper-proof. The meter functions with two independent variables i.e. - distance traveled by the commuter and waiting time. The dependent parameter is fare to be paid by the commuter as per Govt. fixed tariff.

**A) DISTANCE MODE:** When the meter is flagged down or in hired position, it shows certain minimum fare for 1km.(as per Pune tariff), 1.6km (as per Mumbai tariff), and 2km. for auto and 4km. for radio-taxi, respectively in Bangalore. Thereafter the meter shows the fare for every 1/10km. distance, in advance as per the approved Govt. tariff. For Pune, the initial drop Rs.6/km. and the subsequent money drops for every 100m. distance traveled i.e. 0.1 km.=Rs.0.40 i.e., therefore the distance tariff - Rs. 4/km. That is the moment when 1.0 km. crosses, the meter shows Rs.6.40 and subsequently over 0.1km. - advance drop of Rs. 0.40 jump would occur in the meter.

**B) TIME TARIFF:** The commuter has to pay waiting time fare according to the approved tariff. In Pune, the time tariff = 2min. 30sec., one money drop occurs in the meter. Therefore, time tariff = Rs. 9.60/hr.

**C) CHANGE OVER SPEED:**

Change over speed =  $\frac{\text{time tariff}}{\text{distance tariff Rs.4/km.}} = \frac{\text{Rs. 9.60/hr.}}{40\text{m/min.}} = 40\text{m/min.}$

If the vehicle moves below the changeover speed, i.e. 40 m/min., then the time mode still activates showing the fare to waiting time i.e. over 2.5 min., one money drop will occur. If the vehicle moves greter than the changeover speed, the meter would go into the distance mode. Therefore, the changeover speed parameter is a creterion for the meter to decide, whether the meter will go into time mode or distance mode, which are independent variables.

The meter is transparent in the sense; it has 6/5 displays (9999.80) for indication of fare in rupees and paise, 4 displays for indicating distance (999.9) in km. and 4 displays for indicating waiting time, and one digit to show display status.

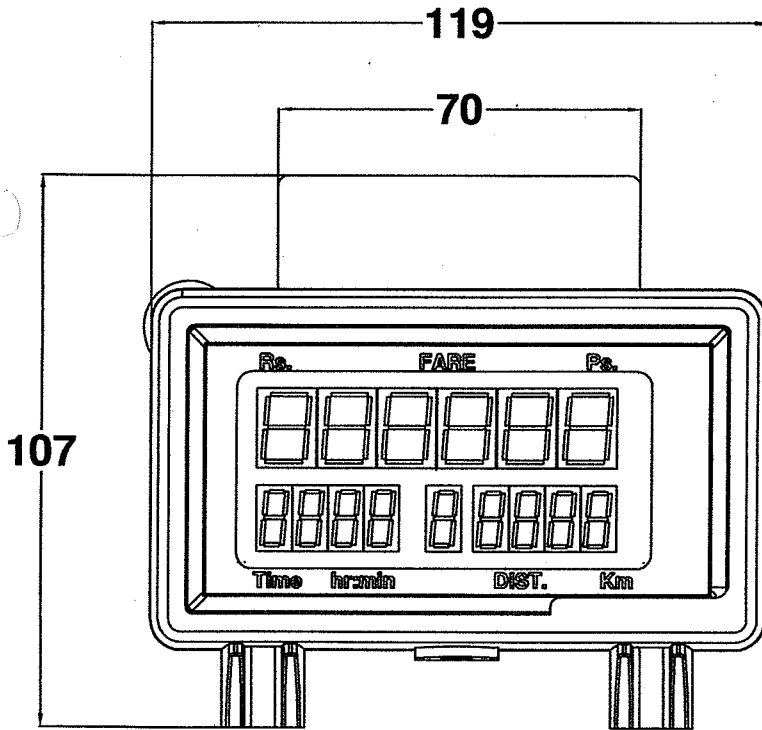
**D) WAITING TIME:** 4 digits for waiting time i.e. hours, minutes and real time clock of 4 digits in hours and minutes. The keys provided are of "VACANT", "HIRED", "STOP", and "TARIFF".

In case of Electronic Faremeter, ' k ' factor = No. of pulses per km.

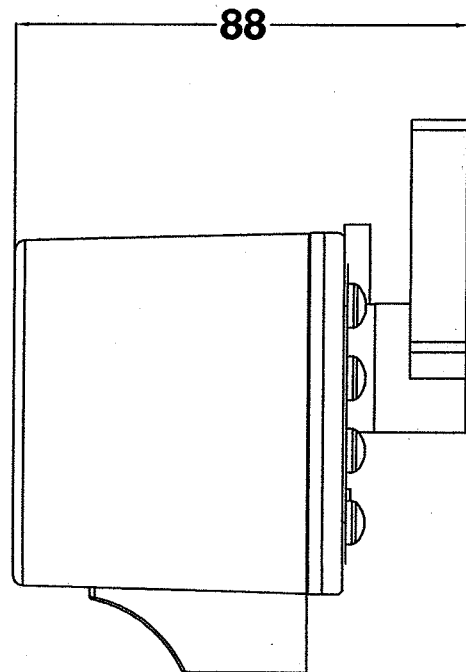
If ' k ' = 700 pulses/km.  
 700 pulses = 1000 m. = Rs. 4.00  
 70 pulses = 100 m. = Rs. 0.40 = 2.5 min. (150sec.)

Night tariff (2200hrs. to 0600hrs.) is 1.5 times or 1.25 times according to the approved over-night charges. The meter is automatically changes the fare structure, as per approved tariff.

PHYSICAL DIMENSIONS OF THE TAXI/AUTOMETER :

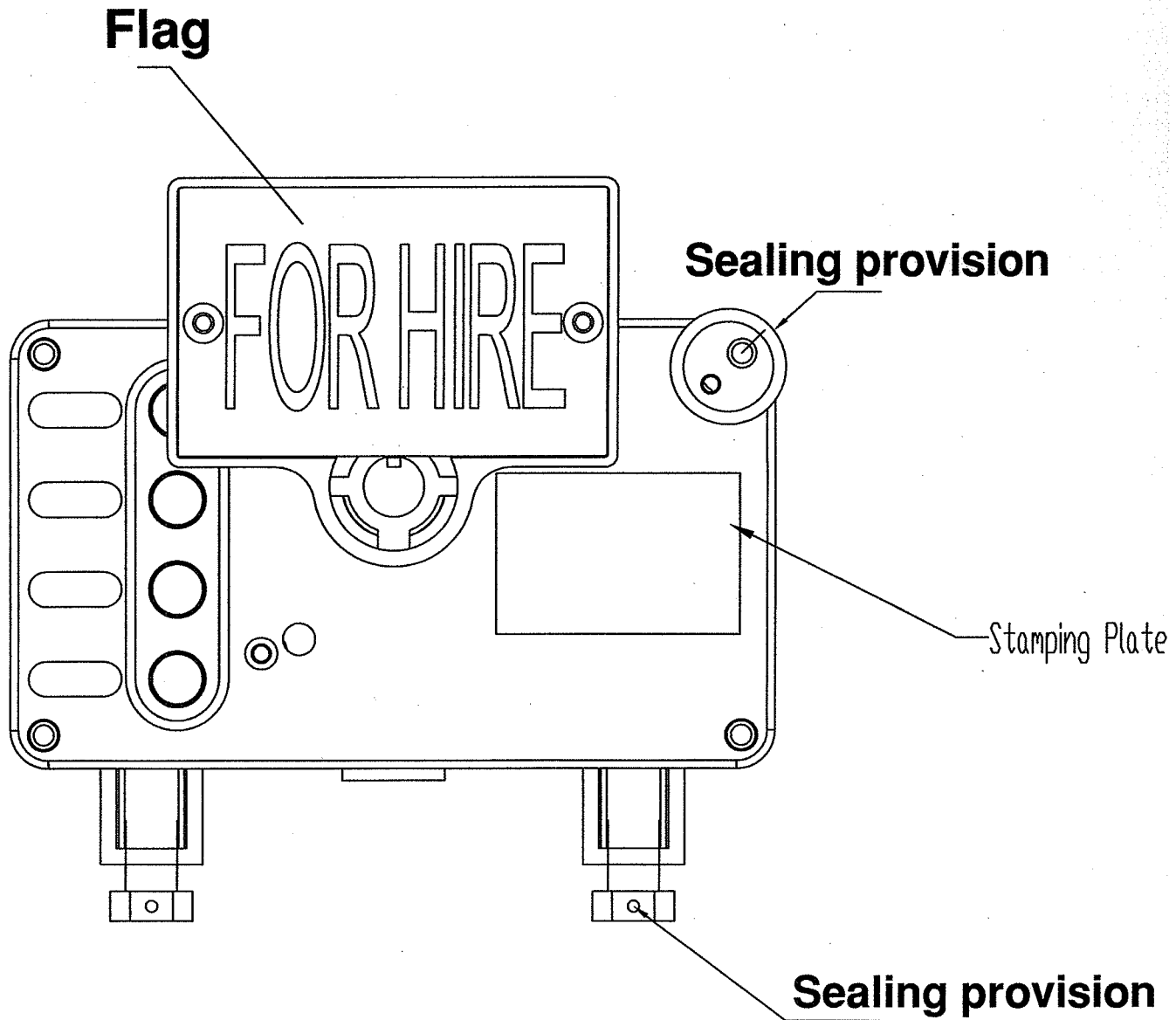


FRONT VIEW



SIDE VIEW

**PHYSICAL DIMENSIONS OF THE TAXI/AUTOMETER :**  
**SKETCH AND SECTIONWISE DRAWING**



BACK VIEW

**SKETCH AND SECTIONWISE DRAWING**

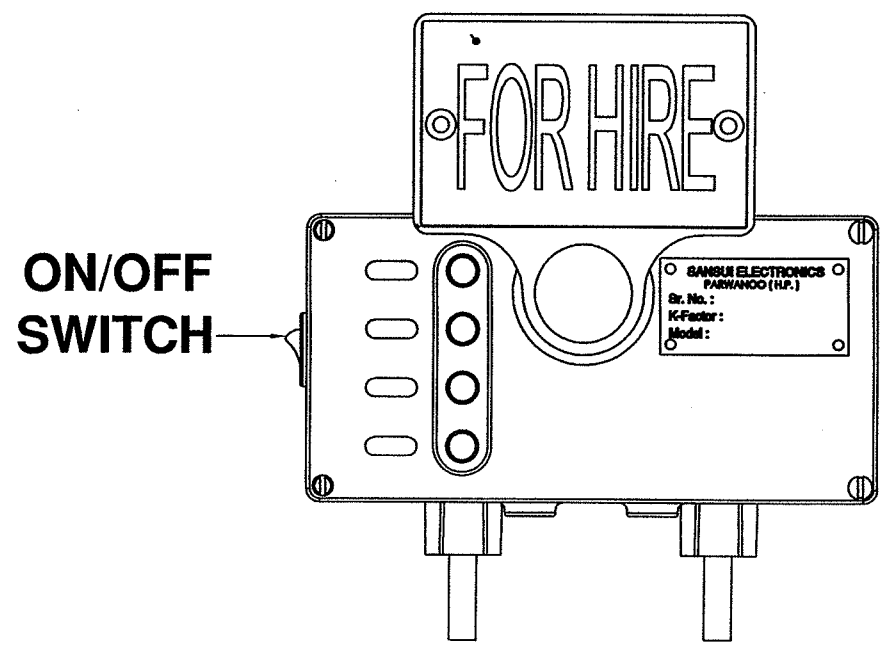
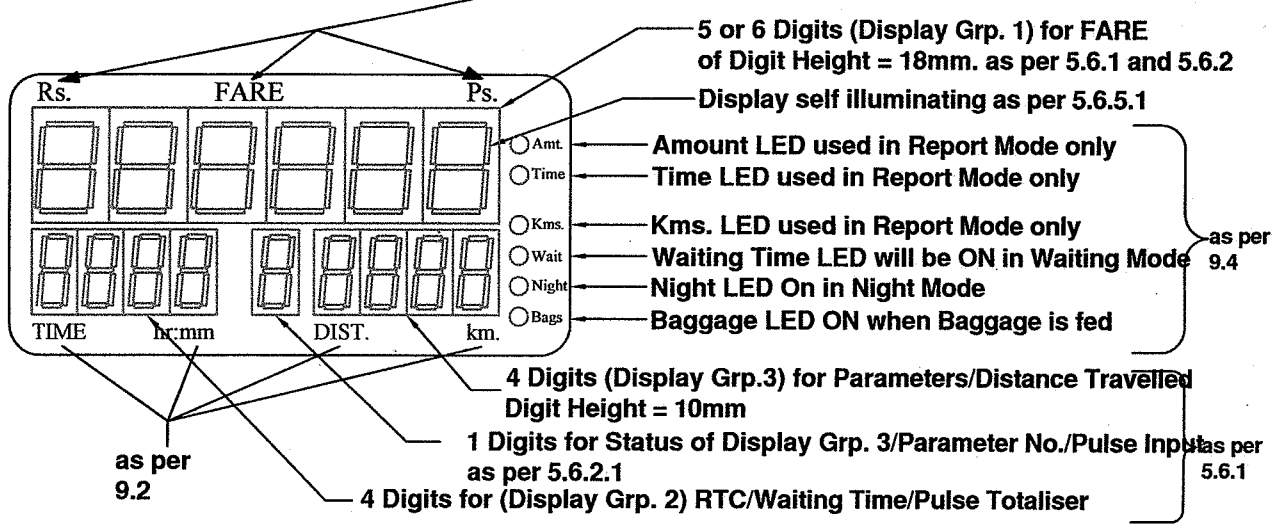
**DISPLAY PANEL OF FAREMETER:**

**ANNEXURE - IV**

**SPECIFICATIONS:**

Total No. of Display Digits = 15

as per 9.3 all



**BACK VIEW**

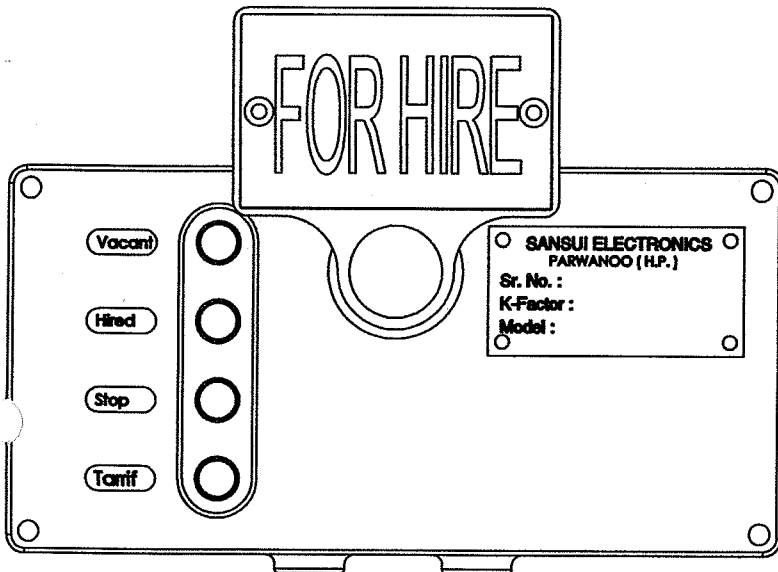
**ANNEXURE - V**

**METHOD OF OPERATION OF THE TAXI/AUTOMETER MODEL SANSUI - 786 :**

**Position of the flag in different modes of Rickshaw / Taxi meter**

**1. For Hire Mode**

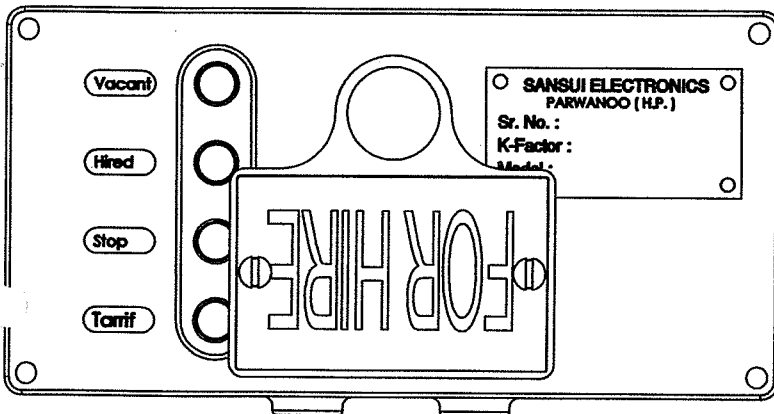
When the rickshaw / Taxi is vacant, the flag should be in "Vertical Up" position. In this position of the flag the meter will indicate "For Hire" as shown in figure 1



**Fig. 1**

**2. Hire Mode**

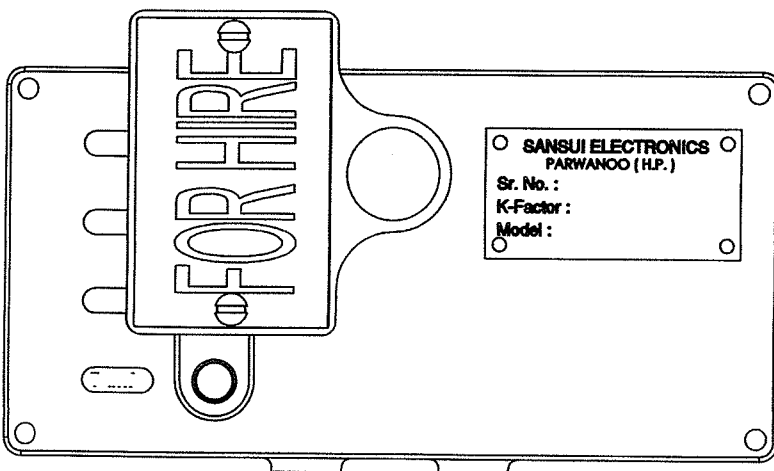
When the commuter sits in Rickshaw / Taxi, to start the meter the flag should be rotated counter clock wise to "Vertical Down" position as shown in Fig. 2 Here Distance travelled OR Waiting time will get engaged depending on the changeover speed.



**Fig. 2**

**3. Stop Mode**

For "Stop Mode" the flag should be rotated counter clock wise direction to horizontal position as shown in Fig. 3. In this mode the clock will be off but distance will be on and so there will not be any increment in fare as long as the Rickshaw/Taxi is stand still.



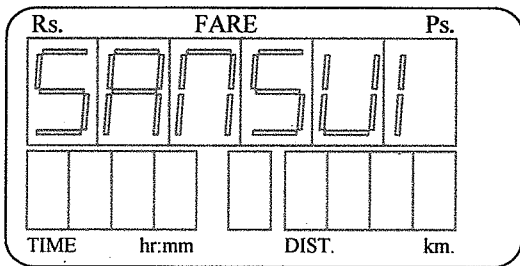
**Fig 3**

**POWER ON CONDITIONS OF THE FAREMETER:**

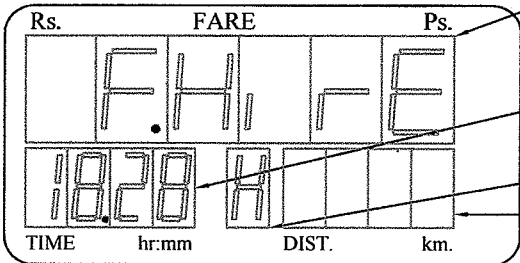
- A) When the faremeter is properly connected to its own matching sensor assembly.
- B) When the faremeter is not properly connected to the sensor assembly or some fault has occurred in the sensor assembly or some spurious external unauthorised sensor assembly is connected or is tampered.

**CONDITION A :**

On power ON if the meter is properly connected to its own sensor input coming from the engine drive, meter will first display SANSUI in Display Group 1 for a few seconds before coming to FOR HIRE Mode



Display Group 1: "F.HirE" is continuously displayed indicating vehicle is ready to be hired



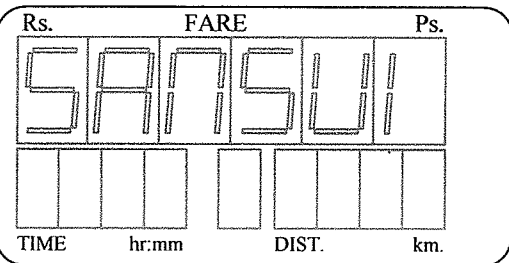
Display Group 2: This will show Real Time Clock

Status Display: It will display "H"

Display Group 3: This will be blank

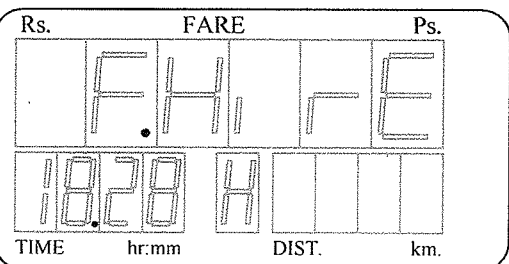
**CONDITION B :**

If the Sensor wire is not connected properly to the meter then SANSUI will blink thrice in Display Group 1 and then after few seconds Display Group 1 will continuously blink showing "F. HirE" and Display Group 2 will show "RTC" and Status Display will show "H", continuously with constant Buzzer sound



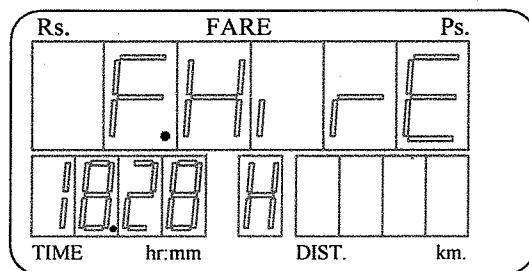
Display Group 1: This will show flashing "sansui" twice before going to the below shown display condition

Continuously Blinking with Buzzer sound



Initially when the rickshaw is vacant the flag will be in top position and meter will be in For Hire mode. When a commuter hires the rickshaw, the driver rotates the flag to bottom position counterclockwise. In this position of the flag the meter is turned to Hired mode and it starts displaying fare according to respective tariff. On reaching the commuter's destination the driver will rotate the flag counterclockwise to 90 degrees and the meter will turn to stop mode. In this mode there will not be any increment in fare as long as the rickshaw remains standstill. After the commuter pays off the driver, he will again rotate the flag counterclockwise to top position and the meter will again go into For Hire mode.

**1. VACANT MODE: (FREE or FOR HIRE mode as per 5.5.4)**



After having shown SANSUI for few seconds on power ON the meter will go into FOR HIRE (VACANT) Mode or after, the display will show following items

Display Group 1: It will show as "F.HirE"  
as per 5.5.4(a) & 5.4.1

Display Group 2: It will show the Real Time Clock  
as per 5.5.4(b)

Status Display : It will show "H" as per 5.6.4 & 5.3

Display Group 3: It will be Blank as 5.5.4(b) & 5.5.4(c)

Night LED : ON if it is night shift

Bags LED : OFF - as per 5.5.4(d)

**2. HIRED MODE :** (Working position as per 5.5.5 and 5)

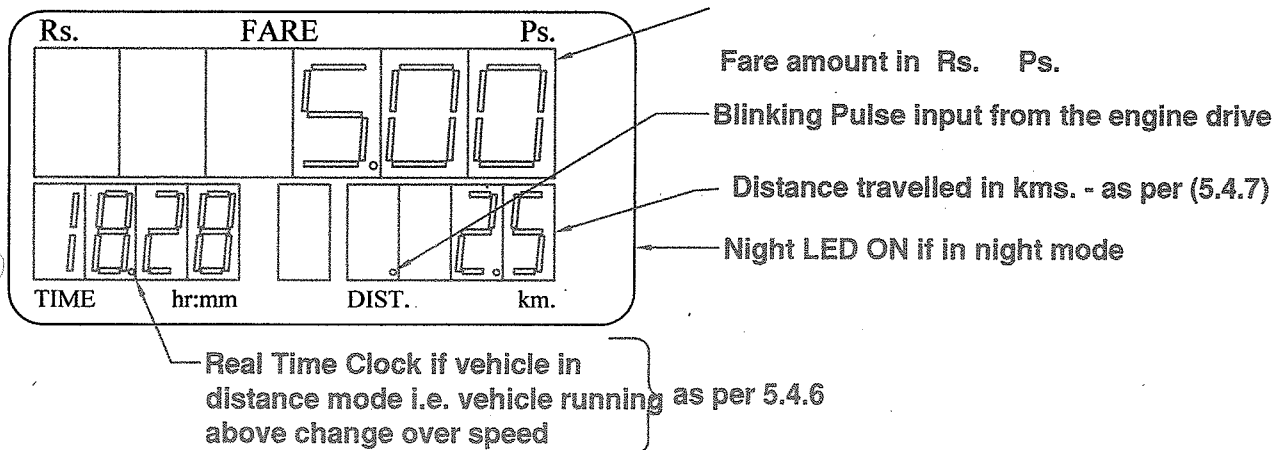
When the Auto is hired by the commuter the driver rotates Flag to Vertical Down position i.e. HIRED mode .

Display Group 1: It will show fare as XXXX.XX corresponding to initial distance and initial time - as (5.6.3) & (5.4.1)

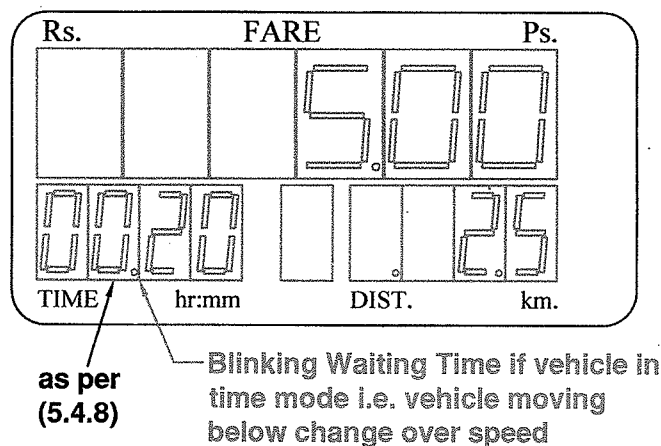
Display Group 2: a) It will show the Real Time Clock if the vehicle is running at a speed above the change over speed.

b) Display Grp. 2 will show distance travelled in HIRED mode - as 5.5.5

**a) Distance Mode :** - as per 5.4.2(a) and 5.4.7



**b) Time Mode :** - as per 5.4.2(b) and 5.4.8



When the Auto is running at a speed below the change over speed in hired mode then the fare switches to time tariff i.e. time mode.

In this mode Display is seen as follows:

Display Group 1: It will show fare as XXXX.XX - as 5.4.1

Display Group 2: It will show blinking waiting time in time mode.

Status Display : It will be Blank - as (5.6.4) and 5.3

Display Group 3: The decimal point in the first digit in this group will blink for each pulse input and the last three digits will show distance travelled as XXX.X kms.

Night LED : ON if it is night shift

**Next position of the Flag :**

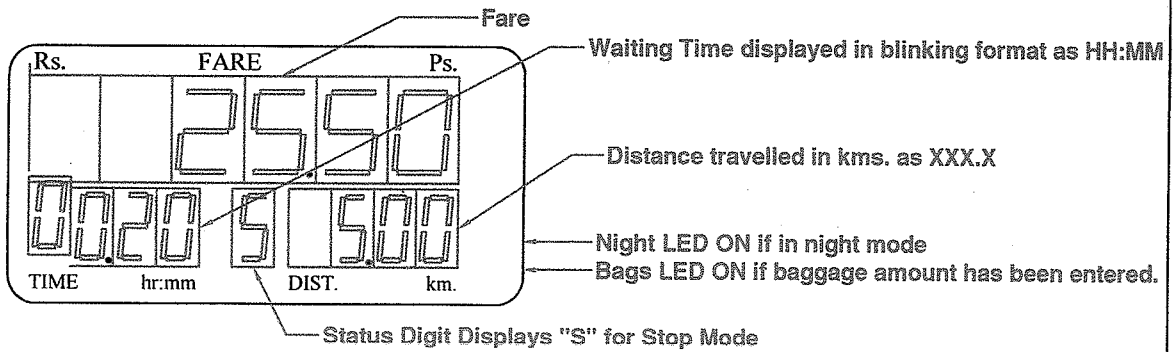
1.STOP Position: Rotate flag to horizontal right position to go to stop mode i.e. when the destination of the commuter is reached. as per (5.5.7) & (5.5.2) as 5.5.8(a)

Since this is Hired mode i.e Flag in Vertical down position Flag cannot be rotated clockwise i.e. to For Hire mode or Vacant mode. as per 5.5.8(a)



**3. STOP MODE :** - as per 5.5.6 (To Pay Position)

When the commuter reaches his destination the vehicle stops and the driver rotates flag to horizontal right position i.e. STOP mode.



When the meter is in STOP mode , following is shown on the display

Display Group 1: It will show fare as XXXX.XX - as per (5.5.6) & (5.4.1)

Display Group 2: It will show the waiting time in blinking mode as HH:MM

Status Display : It will display "S" indicating stop mode. - as per (5.6.4) and 5.3

Display Group 3: This will show distance travelled as XXX.X kms.

Night LED : ON if it is night shift

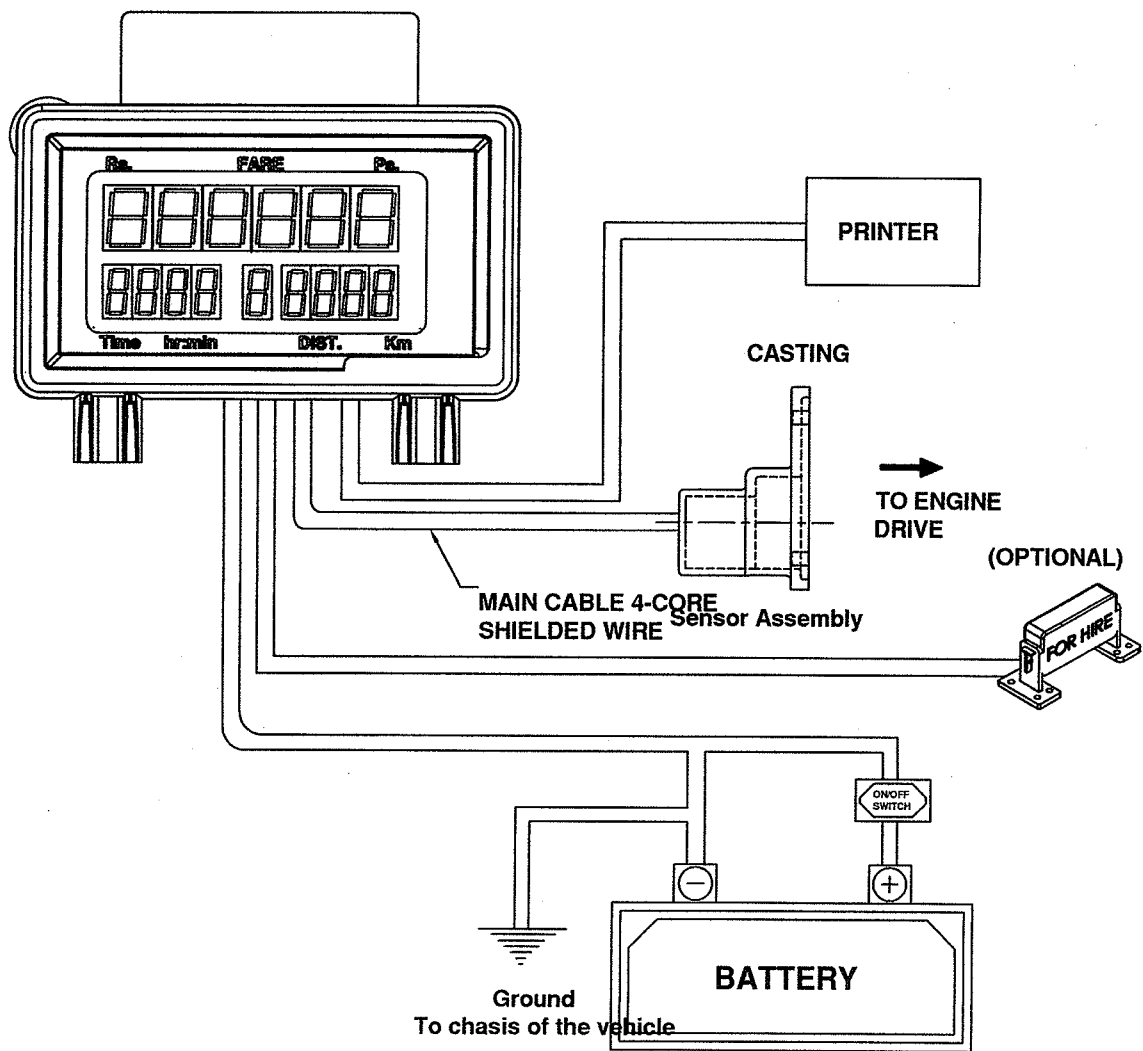
Bags LED : a) ON if Baggage amount is already entered and display would show only tariff amount.

b) Blinking if Display Group 1 shows Total amount including baggage.

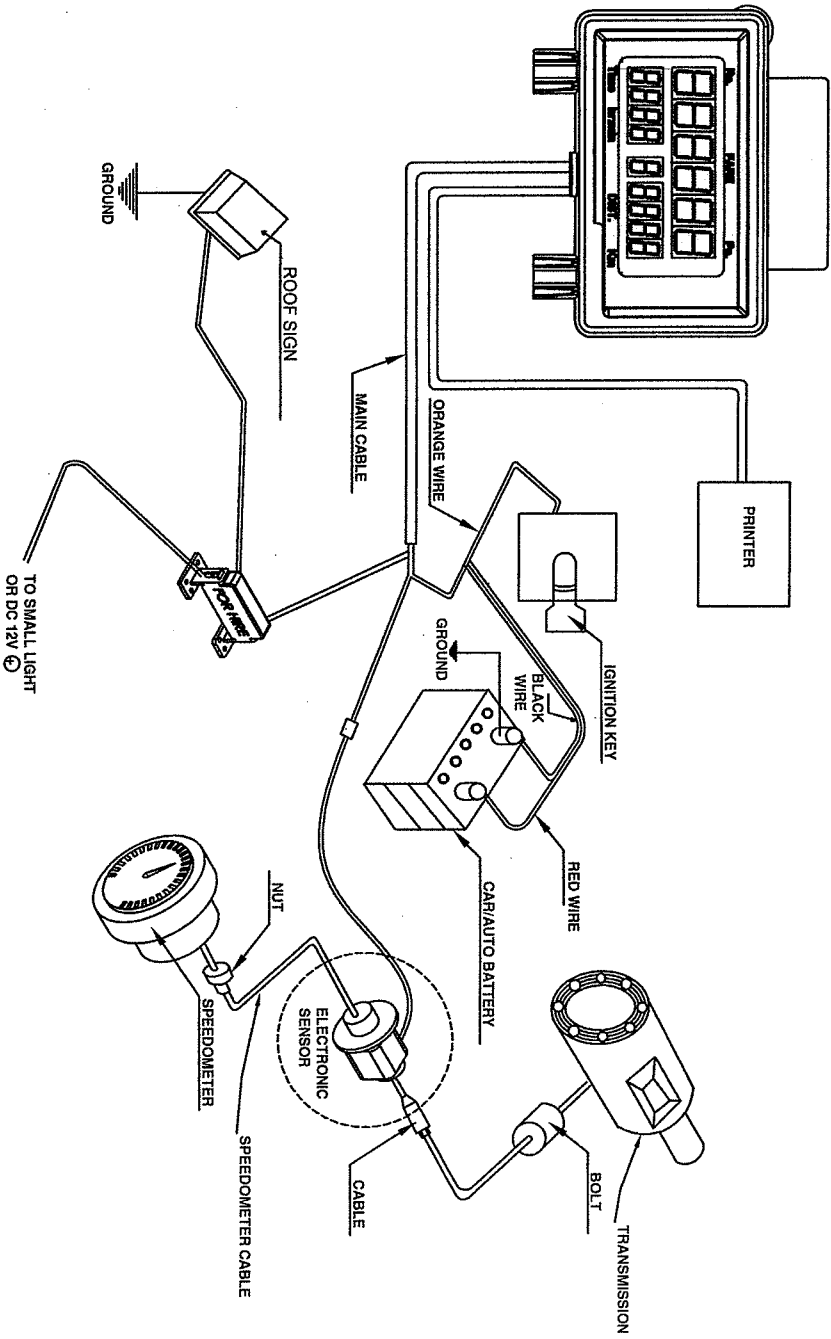
**Next Flag position after stop mode:**

1.VACANT OR FOR HIRE POSITION : To change to vacant mode indicating that the vehicle is ready to be hired. - as per 5.5.7 and 5.5.2 and 5.5.8(b).

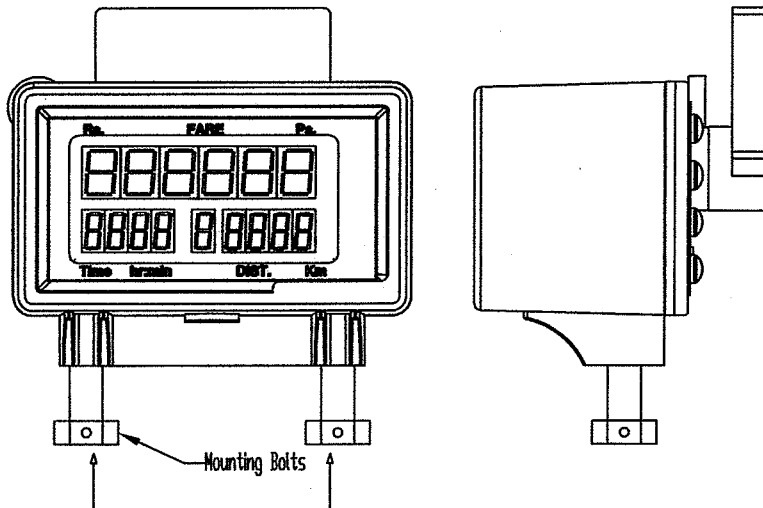
**GENERAL ARRANGEMENT, CONNECTION AND WIRING DIAGRAM:**



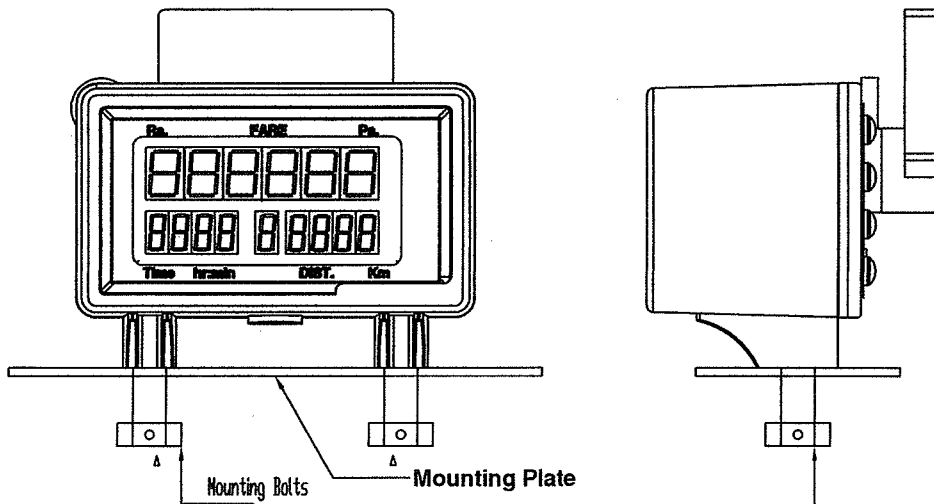
CONNECTION AND WIRING DIAGRAM OF TAXI/AUTO METER MODEL SANSUI-786



**DIAGRAM FOR MOUNTING OF FAREMETER ON THE AUTO-RICKSHAW :**



Insert the mounting bolts as shown



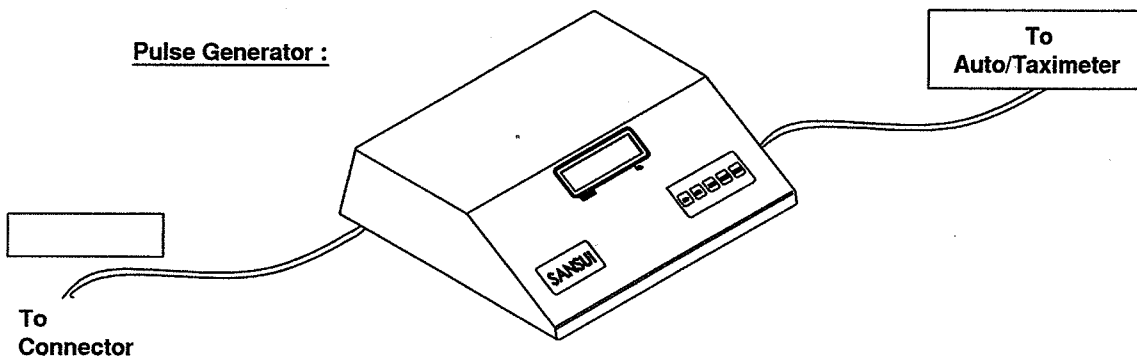
Tight the mounting bolts on the auto body

The digital Taxi/Auto Faremeter has to be subjected to the following tests:

**1. BENCH TEST :**

This is a test in which the actual road conditions are created in the laboratory by feeding No. of pulses equivalent to the ' k ' factor from the pulse generator, i. e. 700 pulses/km. The pulse generator feeds continuous pulses to the meter and the meter is in the distance mode tariff. When the Hired button is pressed it immediately indicates the initial drop. The subsequent money drop will occur after crossing the ' k ' factor. So the pulse generator feeds continuous pulses to the meter with variable frequencies, that is slow/medium and fast modes. At the time of observing the No. of pulses when the change of fare occurs, at that moment the frequency of the pulse generator is brought to the slow mode, so that we can identify the pulse at which the fare changes. The pulse generator has a 6V DC power supply/battery backup and feeds continuous pulses to the meter.

**SANSUI PULSE GENERATOR FOR TESTING OF FAREMETER:**



**OPERATION :**

Turn the pulse generator ON from the switch at the bottom.  
Press MC key for the unit to go to pulse generating mode.

**Time Test and Bench Test:**

Bench Test - as per 61.8

Time Test - as per (6.1.9.2) a & b

**OPTIONS:**

1. Set Presettable count
2. Increase Pulse Speed
3. Decrease Pulse Speed
4. Clear Pulse Counter
5. Intermitanat stopping of pulse
6. Single pulse.

**1.Set Presettable count:**

Press <ZERO> key to stop pulsing

Press <MR> key to enter preset count

Increase digit by <M+> key and display shift right by <ZERO> key

To set the value press <MODE> key

**2.Increase Pulse Speed:**

This can only be done in free running pulse mode.

Press <M+> key to increase speed.

Press <MC> key to decrease speed.

**4.Clear Pulse Counter:**

This can only be done in free running pulse mode.

**5.Intermitanat stopping of pulse:**

Press <ZERO> key to intermitantly start and stop pulses.

**6.Single pulse.:**

Single stepping of pulse is done by <MODE> key.

Press <MODE> key two times for a single pulse.

BRIEF WRITE-UP OF SEALING ARRANGEMENT OF ELECTRONIC  
AUTO/TAXI FAREMETER MODEL SANSUI-786

1. SEALING ARRANGEMENT FOR METER BODY

On the back side of the fare meter there is a provision to put two sealing screws which tighten the front and back of the meter body. After putting these screws, a steel wire to be put through the holes of these screws and to be sealed on a lead after verification and stamping as shown in the Diagram.

2. SEALING ARRANGEMENT FOR METER WITH RICKSHAW BODY

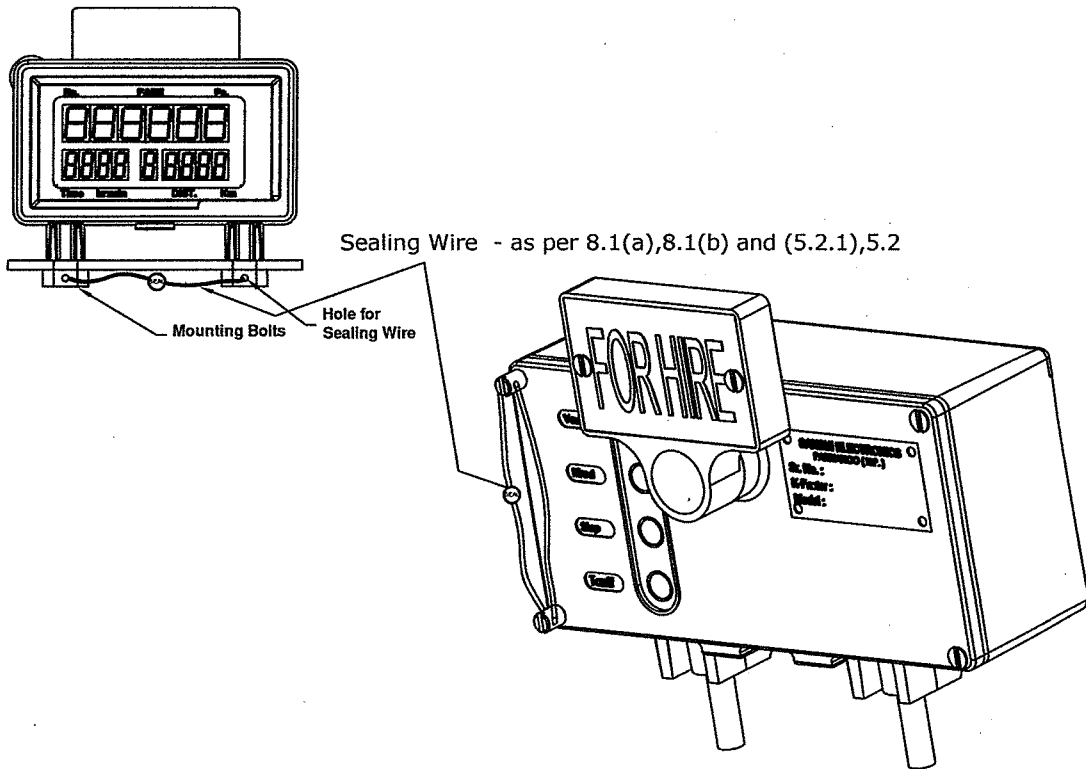
On the bottom side of the back cover of fare meter there are two mounting bolts which is fitted on the body of the rickshaw with the help of nuts. These mounting bolts having holes in which a steel wire to be put and sealed with the help of sealing cap on both ends.

3. SEALING ARRANGEMENT FOR SENSOR BODY

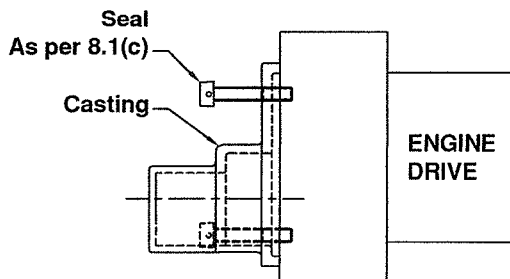
The sensor body cover having three wholes which is covering the sensor when it fitted with the gear box. A steel wire can be put across the two holes of the sealing screws which fixes the sensor cover and be sealed with the help of sealing caps.

**SEALING ARRANGEMENT FOR TAXI/AUTOMETER  
(TO AVOID FRAUDULANT USE AND TAMPERING):**

This following diagram shows the sealing arrangement made in the Taxi/Autometer. This is important part of the meter to avoid fraudulent use of the faremeter. In this arrangement the two corners of the faremeter is properly sealed.



**Engine Seal Details:**

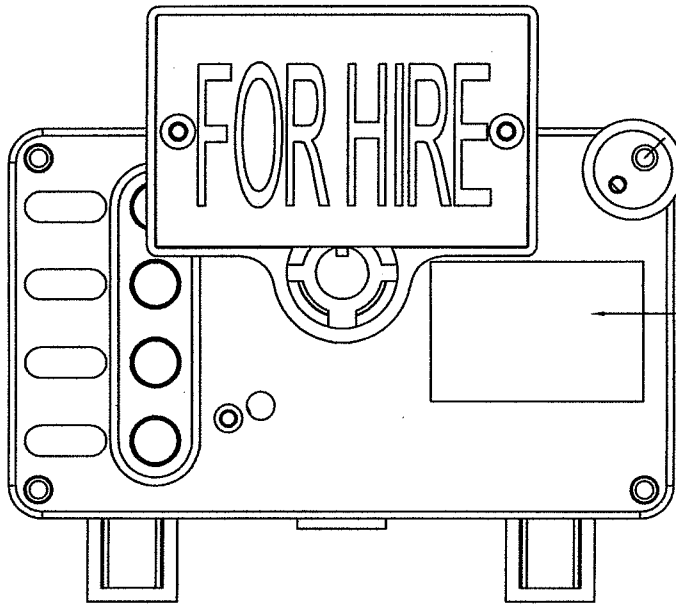


24



SANSUI AUTO/TAXI METER MODEL NO. SANSUI-786

DIAGRAM SHOWING PLACE FOR FIXING STAMPING PLATE  
AND MANDATORY DECLARATION :

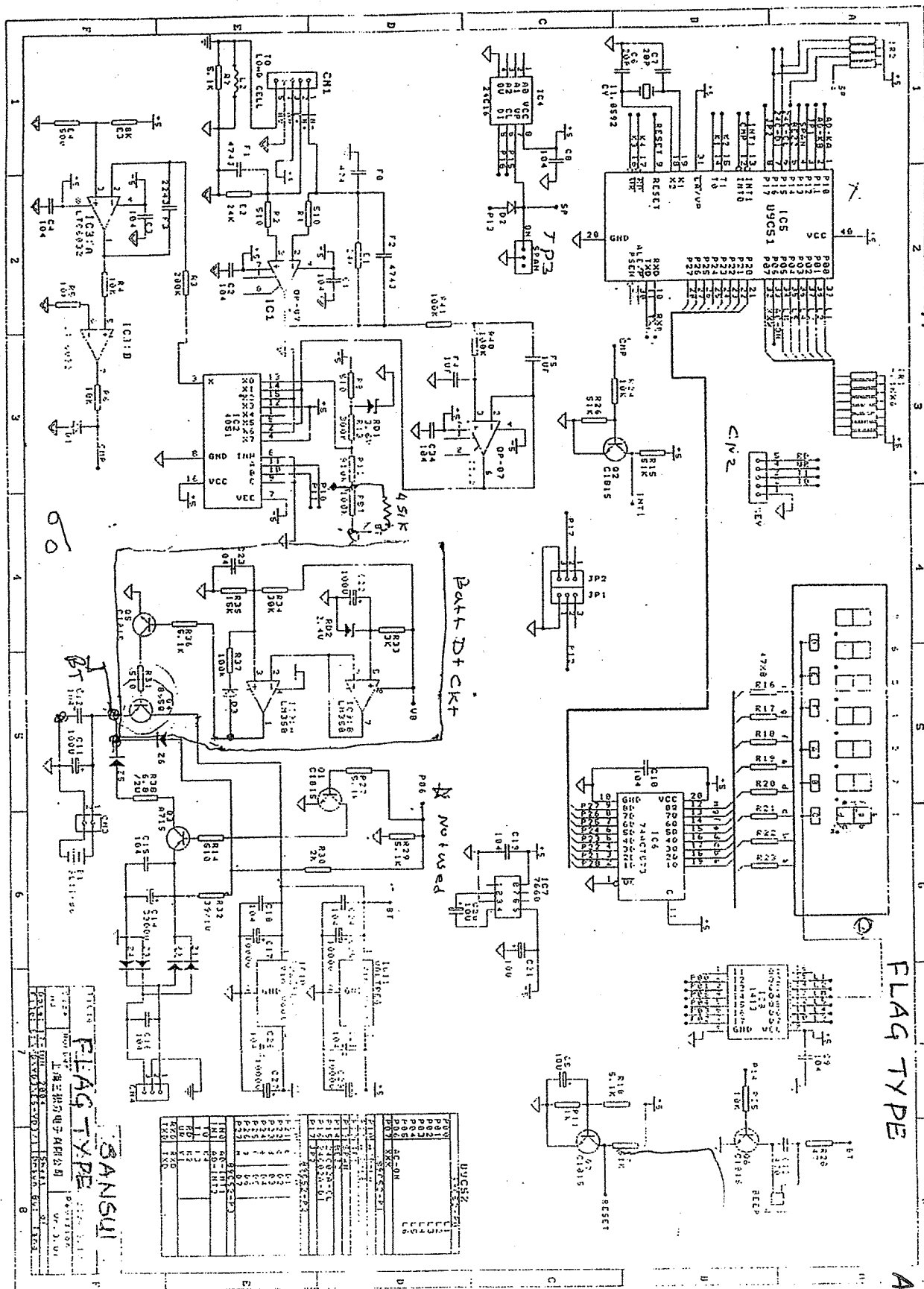


Place for fixing  
stamping plate  
and mandatory  
declaration

BACK VIEW

SANSUI ELECTRONICS

CIRCUIT DIAGRAM OF ELECTRONIC FARE METER MODEL: SANSUI - 786



FLAG TYPE

ANNEXURE - IX

FLAG TYPE  
SANSUI

U9C51	1	2	3	4	5	6	7	8
P00	1	2	3	4	5	6	7	8
P01	1	2	3	4	5	6	7	8
P02	1	2	3	4	5	6	7	8
P03	1	2	3	4	5	6	7	8
P04	1	2	3	4	5	6	7	8
P05	1	2	3	4	5	6	7	8
P06	1	2	3	4	5	6	7	8
P07	1	2	3	4	5	6	7	8
P08	1	2	3	4	5	6	7	8
P09	1	2	3	4	5	6	7	8
P10	1	2	3	4	5	6	7	8
P11	1	2	3	4	5	6	7	8
P12	1	2	3	4	5	6	7	8
P13	1	2	3	4	5	6	7	8
P14	1	2	3	4	5	6	7	8
P15	1	2	3	4	5	6	7	8
P16	1	2	3	4	5	6	7	8
P17	1	2	3	4	5	6	7	8
P18	1	2	3	4	5	6	7	8
P19	1	2	3	4	5	6	7	8
P20	1	2	3	4	5	6	7	8
P21	1	2	3	4	5	6	7	8
P22	1	2	3	4	5	6	7	8
P23	1	2	3	4	5	6	7	8
P24	1	2	3	4	5	6	7	8
P25	1	2	3	4	5	6	7	8
P26	1	2	3	4	5	6	7	8
P27	1	2	3	4	5	6	7	8
P28	1	2	3	4	5	6	7	8
P29	1	2	3	4	5	6	7	8
P30	1	2	3	4	5	6	7	8
P31	1	2	3	4	5	6	7	8
P32	1	2	3	4	5	6	7	8
P33	1	2	3	4	5	6	7	8
P34	1	2	3	4	5	6	7	8
P35	1	2	3	4	5	6	7	8
P36	1	2	3	4	5	6	7	8
P37	1	2	3	4	5	6	7	8
P38	1	2	3	4	5	6	7	8
P39	1	2	3	4	5	6	7	8
P40	1	2	3	4	5	6	7	8
P41	1	2	3	4	5	6	7	8
P42	1	2	3	4	5	6	7	8
P43	1	2	3	4	5	6	7	8
P44	1	2	3	4	5	6	7	8
P45	1	2	3	4	5	6	7	8
P46	1	2	3	4	5	6	7	8
P47	1	2	3	4	5	6	7	8
P48	1	2	3	4	5	6	7	8
P49	1	2	3	4	5	6	7	8
P50	1	2	3	4	5	6	7	8

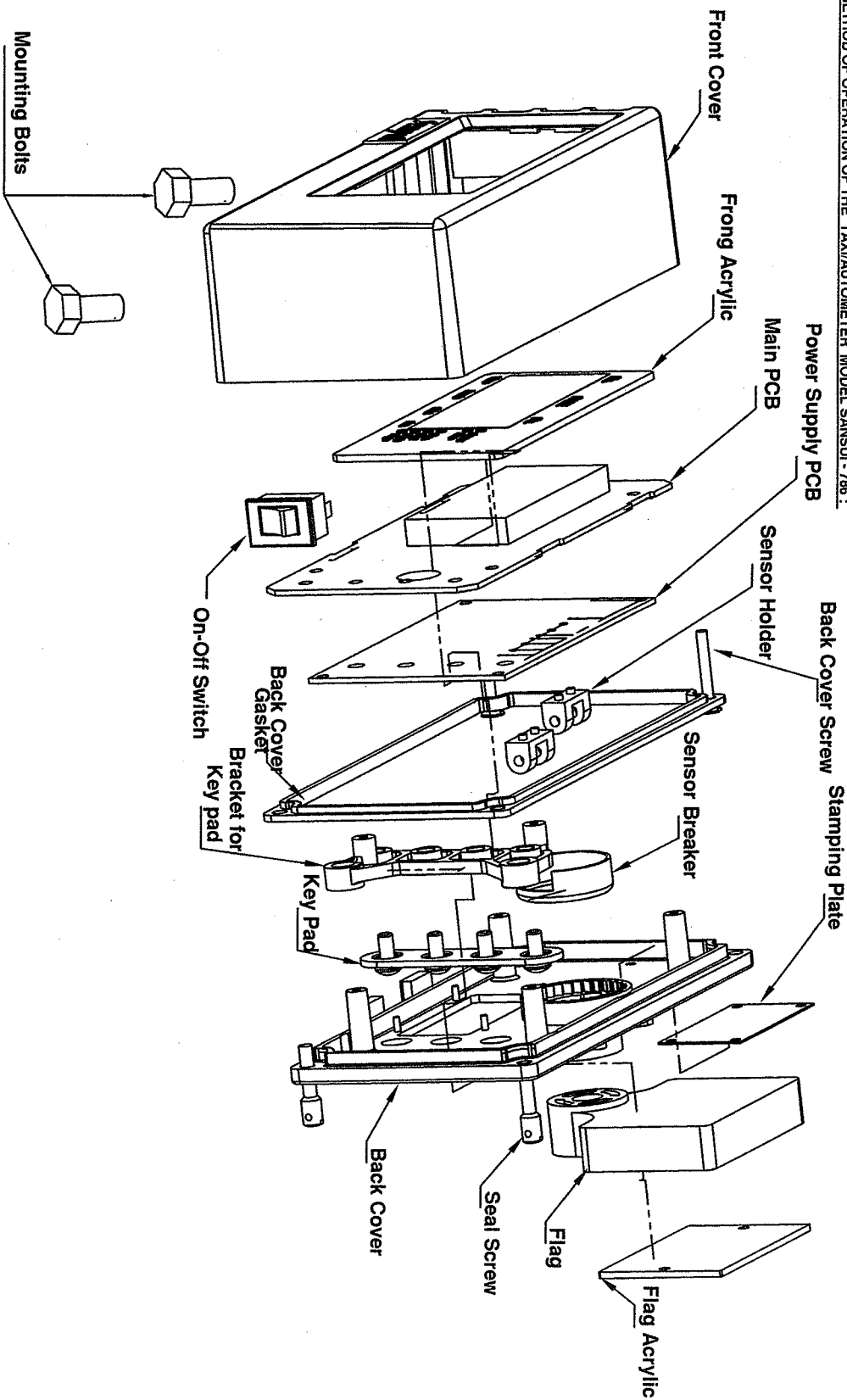
50801912  
15019

6.3c  
-15c4  
5.6

# EXPLODED VIEW OF RICKSHAW/TAXI METER

ANNEXURE - XI

METHOD OF OPERATION OF THE TAXI/AUTOMETER MODEL SANSUI - 786 :



**BLOCK DIAGRAM OF AUTO/TAXI METER:**

