

NICHIYU

TROUBLESHOOTING MANUAL

FBT13P,15P,18P,20PN - 75 Series

ELECTRIC LIFT TRUCK TROUBLESHOOTING MANUAL 75 SERIES

FBT13P
FBT15P
FBT18P
FBT20PN

NICHIYU

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INTRODUCTION

- ▶ Most accident happens due to the disregard of basic safety rules or precautions. In order to prevent accidents from happening, the factors responsible for accidents must be avoided beforehand.

For this reason, please read this manual and fully understand the precautions for safety and the proper procedures and directions for inspection and maintenance before starting operation.



Performing maintenance and repair without adequate knowledge may cause inadvertent accidents.



- ▶ It is not possible to cover all the possible cases of accidents in this "TROUBLESHOOTING MANUAL". Therefore, attention should be given to precautions other than the ones mentioned in this "TROUBLESHOOTING MANUAL". Especially, when repair and maintenance work which are not covered in this "TROUBLESHOOTING MANUAL" are carried out, always work under the direction of an instructor who understands the matter.

■ Using this "TROUBLESHOOTING MANUAL"

This manual has information about the layout and names of main components, procedures for disassembly, assembly, inspection, adjustment, maintenance, and hints for troubleshooting which are in effect mainly for the model FBT-13P~20PN-75 .

Since the parts used in this machine are subject to change for the sake of better quality, performance enhancement and safety, some portions of the contents and illustrations of this "TROUBLESHOOTING MANUAL" may not be identical.

Directions with  and  marks are very important, and shall be followed.

	DANGER	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. You shall observe this instruction.
	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. You shall observe this instruction.
	CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. You shall observe this instruction.
	NOTE	Indicates suggestions, tips and hints related to the safety of a operator and maintain of truck.

1. Personnel this "TROUBLESHOOTING MANUAL" is aimed at:

This "TROUBLESHOOTING MANUAL" is directed at personnel who possess sufficient knowledge and technical expertise. If you do not understand any of the contents of this "TROUBLESHOOTING MANUAL", perform operation under the guidance of personnel who does.

2. Conditions of a facility

The work conditions described in the "TROUBLESHOOTING MANUAL" are written on the assumption that the work is performed at a standard work facilities and tools for the maintenance of NICHYU ELECTRIC LIFT TRUCKS are available.

For safe and reliable maintenance, the work should be performed at a shop which is equivalent to these described in this "TROUBLESHOOTING MANUAL" with following all instructions strictly.

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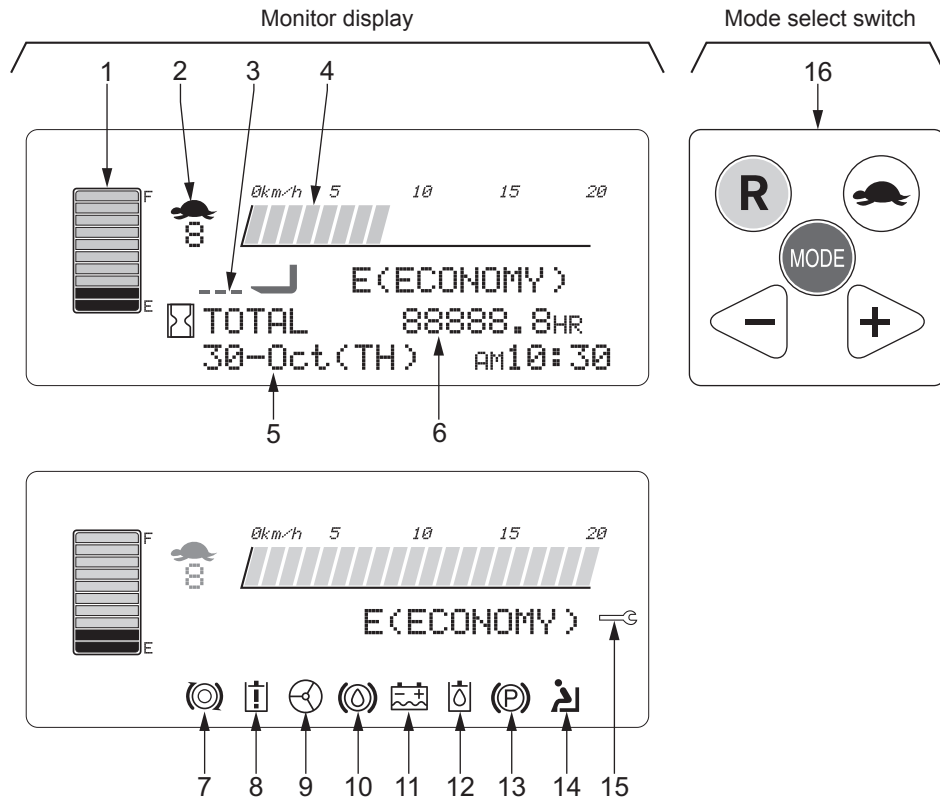
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1. Adjustment of SICOS-AC

1-1. Explanation of the monitor display

1-1-1. Indicator panel



1. Battery discharge indicator
2. Slow speed mode monitor (Turtle mark)
3. Fork horizontal indicator (Option)
4. Travel speed meter
5. Calendar and clock
6. Hour meter
7. Safety monitor for traction circuit
8. Safety monitor for hydraulic circuit
9. Safety monitor for power steering circuit
10. Safety monitor for brake fluid
11. Safety monitor for battery electrolyte level (Option with GS battery)
12. Safety monitor for hydraulic oil level (Option)
13. Safety monitor for parking brake
14. Safety monitor for interlock when operator leaves
15. Service (spanner) mark
16. Mode select button

215T0101E

NOTE

Icons of 7 to 12 and 15, shown in the illustration are displayed for the explanation. It is not actual indication. They are displayed when abnormalities are occurred.

1-1-2. Indication of display

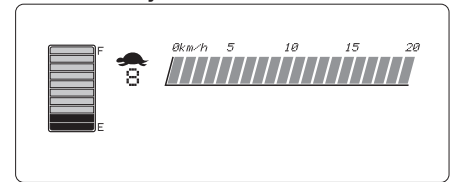
Turn on the key switch.

The self-diagnosis function checks the control system and display "MONITORING OK" when no problems are found. Icons of "Read operator's manual" and "Fasten seat belt" are flashed three times for warning to the operator.

Then, the normal screen is displayed.

If any abnormalities are detected, the error message is displayed. If the message is too long or some abnormalities are occurred at the same time, they are scrolled from right to left alternatively.

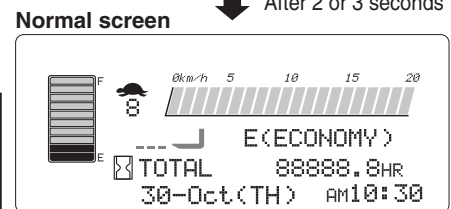
When the key switch is turned on.



↓ After 0.5 seconds



↓ After 2 or 3 seconds



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If traveling or hydraulic operation is done while system checking for the first 2 or 3 seconds after turning on the key switch, the normal screen is displayed immediately.

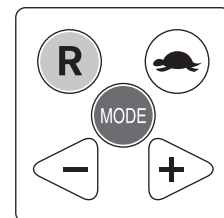


Contact to your local Nichiyu dealer if the error message is displayed.

Mode setting buttons



If travel/hydraulic operation is done while the mode setting, the display is returned to the normal screen.



121T188

Mode setting screen by one touch operation

Push button.
(Release within 3 seconds.)



Mode select screen

- Slow speed mode setting
- Travel mode setting
- Hour meter / odometer selection
- Display mode setting
- Coast mode setting

Refer to the page 9
●●● "Various kinds of mode selection".

Push button
(For more than 3 seconds.)



Date / time setting screen
For setting of date and time.

Refer the page 13
●●● "[7] How to set the date and time".

Push or .



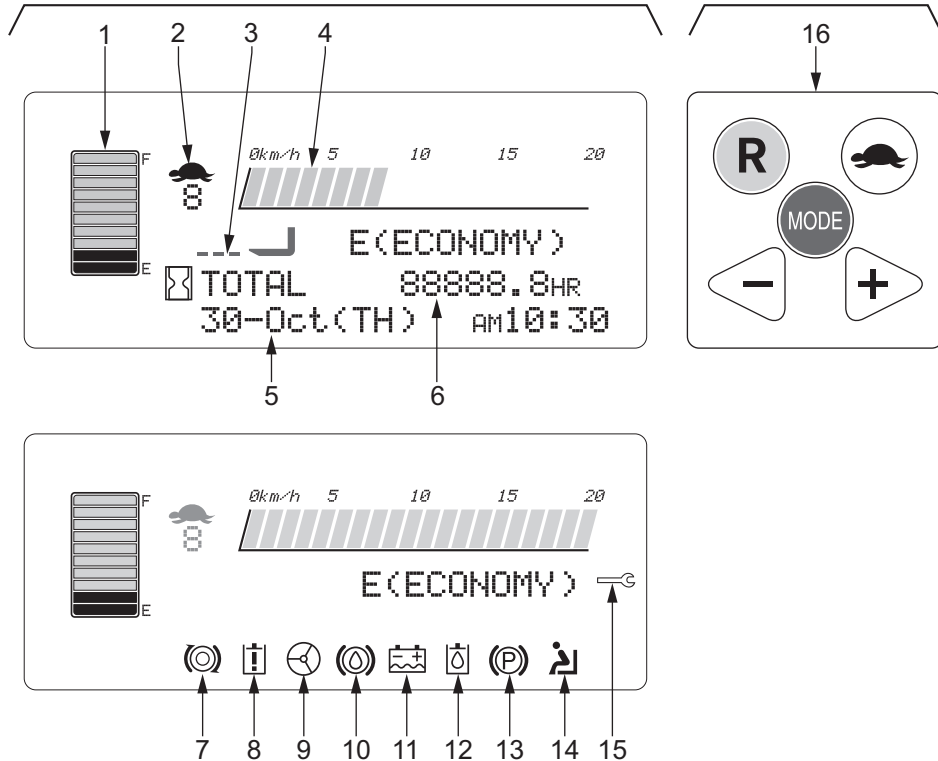
Hour meter screen

- Three different hour meters of traction, hydraulic and the total hour can be selected.

Refer the page 5
●●● "6. Date and time".

1-1-3. Function of display

This forklift truck has the self-diagnosis function.



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NOTE

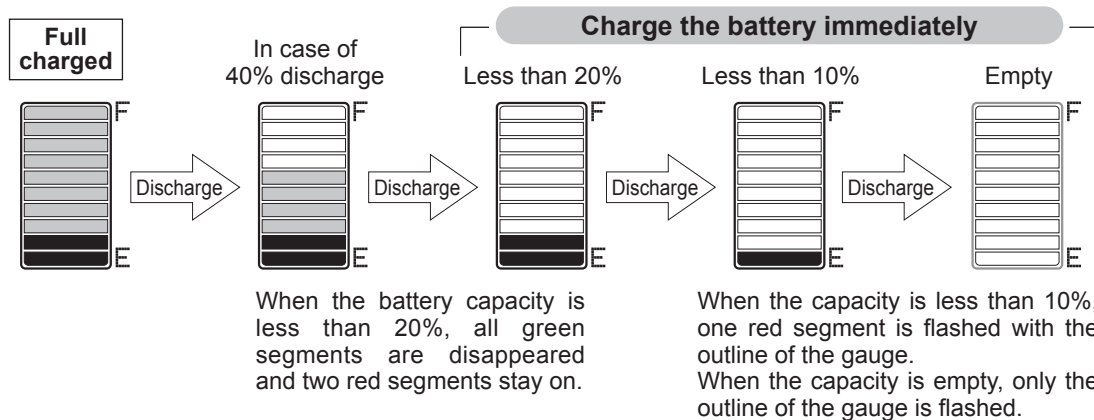
Icons of 7 to 12 and 15, shown in the illustration are displayed for the explanation. It is not actual indication. They are displayed when abnormalities are occurred.

1. Battery discharge indicator

The battery discharge indicator shows the discharged status of the battery.

CAUTION

Do not over-discharge.
The battery life can be shortened by over-discharging.
Charge the battery as soon as possible when all green segments are disappeared.

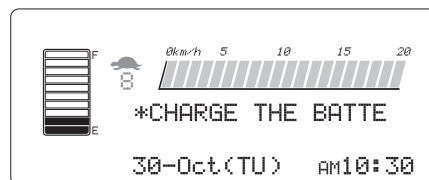


121T190E

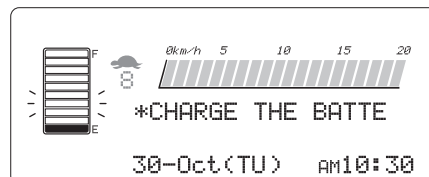
●Lift interrupt (Option)

When all green segments are disappeared and two red segments are lit, the lift speed is reduced by half. At the same time, "*CHARGE THE BATTERY*" message appears on the screen.

When the truck is continued to use, only one red segment is started to flash and the lift function is interrupted.



Two red segments are lit.

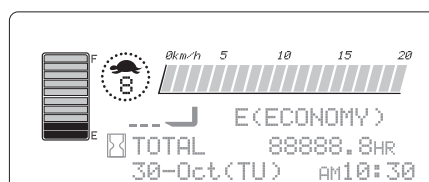


One red segment is started to flash and lift function is interrupted.

121T191E

2. Slow speed mode monitor (Turtle mark)

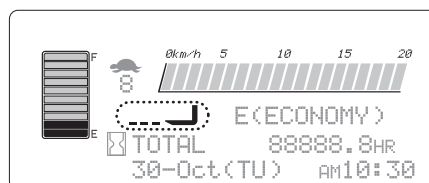
When the turtle button is pushed, the turtle mark is indicated on the screen with the preset speed.



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3. Fork horizontal indicator (Option)

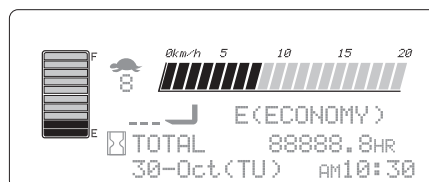
This mark is indicated when the fork is horizontal and possible to use the laser pointer.



121T193E

4. Speed meter

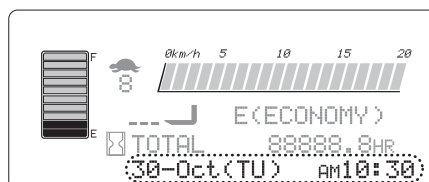
The traveling speed is displayed on the screen.



121T194E

5. Date and time (Calendar and clock)

The current date and time are displayed. If the MODE button is pushed for more than 3 seconds, the display is changed to the setting screen. Refer the page 13 for details.



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6. Hour meter

The hour meter shows the total hours of turning on the key switch.

(The actual operating hours can be displayed as option.)

It is useful to know the total operating hours for the daily job management or scheduling of the periodical inspection.

When pushing or button, each individual hours for travel, hydraulic and total are displayed for 5 seconds.

The normal screen and hour meter screen are changed by turn by pushing or button. After 5 seconds, the normal screen is displayed.

The odometer can be displayed in the normal screen instead of hour meter. Refer the meter mode setting section at the page 11.



The hour meter screen is returned to the normal screen even less than 5 seconds by operating traveling or hydraulic function.

The load weight gauge (option) or odometer can be displayed instead of the hour meter.

Refer the meter mode setting section at the page 11.

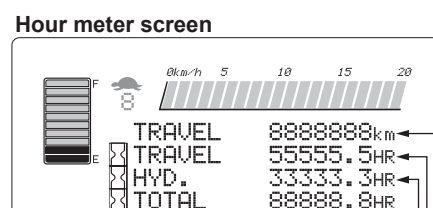
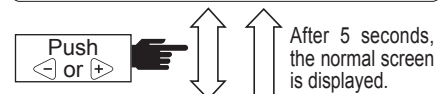
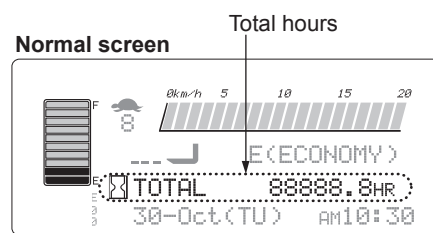
- When the screen displays the odometer, the word of “TRAVEL” is flashed while travelling.
- When the screen displays the load weight, the word of “LOAD” is displayed and flashed while operating hydraulic and for 5 seconds after operation. The displayed figure is changing during the flashing. Read the figure after stopping to flash to get the correct weight.

7. Safety monitor (for travel circuit)

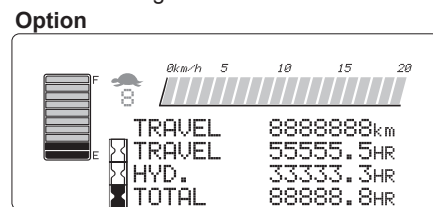
When fault is detected in the travel circuit, the travel icon flashes and the presumed defective part name is displayed.

8. Safety monitor (for hydraulic circuit)

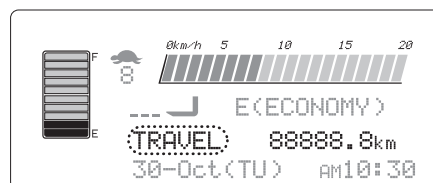
When fault is detected in the hydraulic circuit, the hydraulic icon flashes and the presumed defective part name is displayed.



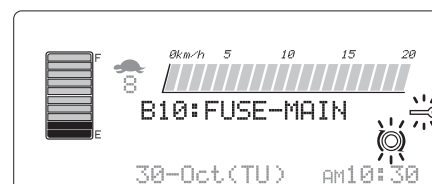
Total key-on hours
Total hydraulic hours
Total traveling hours
Total traveling distance



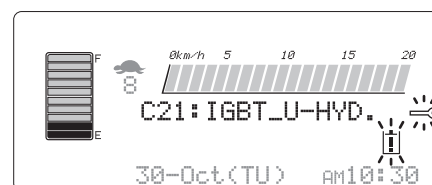
121T197E



121T198E



121T199E



121T200E