

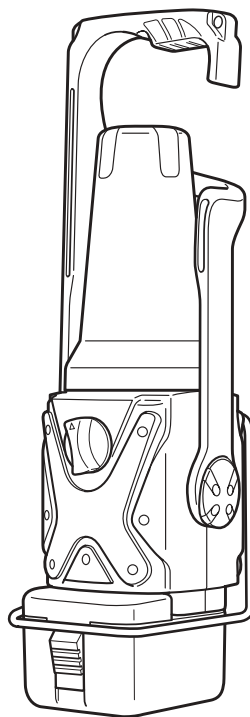
MODEL

**UB 12DL**

# Hitachi Power Tools

## **CORDLESS LANTERN UB 12DL**

**TECHNICAL DATA  
AND  
SERVICE MANUAL**



LIST No. G813

Jul. 2004

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

Symbol Utilized	Competitor	
	Company Name	Model Name
C	MAKITA	ML122
P	Panasonic	EZ3791



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## 1. PRODUCT NAME

Hitachi Cordless Lantern, Model UB 12DL

## 2. MARKETING OBJECTIVE

The Model UB 12DL is a fluorescent lantern that works on Hitachi EB 9/FEB 9 series and EB 12/FEB 12 series batteries.

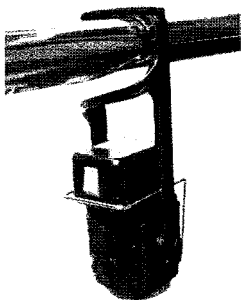
## 3. APPLICATIONS

For construction work, outdoor use, etc.

## 4. SELLING POINTS

### Rotary hooked handle

It can be hung on a single pipe up to 50 mm (2 inches) in diameter, and locked in eight positions in increments of 45°. It is also possible to lock the lantern upside down.



### Holes for attaching a strap

The handle has holes to attach a user's strap.

### Stand

The stand ensures stable operation even if a conventional vertical battery is used.

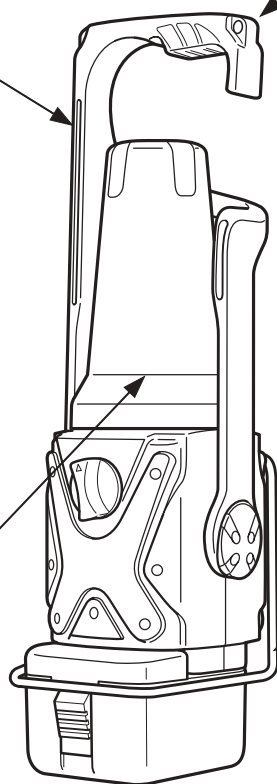


### LED small light

Usable for 150 hours as an all-night light (when using a 3-Ah battery).

### Automatic LED switching function

It automatically switches lighting from fluorescent lamp to LED when the battery is nearly discharged.



## **4-1. Selling Point Descriptions**

### **4-1-1. Rotary hooked handle**

The Model UB 12DL has a rotary hooked handle. It can be locked in eight positions in increments of 45° (0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°). The hooked handle can be hung on a pipe up to 50 mm (2 inches) in diameter.

\* Note When hanging the Model UB 12DL on a pipe 30 mm (1-3/16 inches) or more in diameter, turn the handle to any position other than the 0° position and then hang it on the pipe. It is impossible to hang the Model UB 12DL on a pipe 30 mm (1-3/16 inches) or more in diameter when the handle is in the 0° position because the lamp cover contacts such a pipe in the 0° position.

### **4-1-2. Stand**

The stand ensures stable operation even if an unstable conventional vertical battery is used.

### **4-1-3. Holes for attaching a strap**

There are two holes for attaching a user's strap at both sides of the upper portion of the handle.

### **4-1-4. LED small light**

The Model UB 12DL has a white LED that can be operated for about 150 hours when using a fully charged 3-Ah battery. The LED can be lit for a long time because it consumes low power while it has high directivity. The Model UB 12DL is convenient as an all-night light if so bright light is not required.

\* The LED will be dim if the battery is nearly discharged. When using a Ni-MH battery, it may adversely affect the battery such as decrease in the charging capacity and the service life because the Ni-MH battery may be over-discharged. It is recommended to turn off the switch immediately and charge the Ni-MH battery.

### **4-1-5. Automatic LED switching function**

The Model UB 12DL automatically switches lighting from fluorescent lamp to LED when the battery voltage is decreased to about 8.5 V to prevent from being extinguished suddenly.

## 5. SPECIFICATION

### 5-1. Specification Comparisons with Similar Products

Maker • Model		HITACHI UB 12DL	C	P
Working voltage	V	12/9.6	12/9.6	12
Brightness/ Measuring distance	lx	12 V: 380/ 15-3/4 inch 9.6 V: 330/ 15-3/4 inch	12 V: 380/ 15-3/4 inch 9.6 V: 330/ 15-3/4 inch	Intense: 200/ 21-21/32 inch (400/ 15-3/4 inch) Standard: 100/ 21-21/32 inch
Continuous operating time (when using a 3-Ah battery)	h	Fluorescent lamp: 3.6 LED: 150	3.2	Intense: 3.0 Standard: 4.5 Miniature lamp: 21
Specification of fluorescent lamp	–	(CFL9W or equivalent)	CFL13W	FPL9EX-N
Applicable batteries and interchangeability	–	Ni-Cd/Ni-MH All flat/vertical batteries	No interchangeability between the plug-in type and the slide- in type batteries. Specifically designed batteries are provided.	Ni-Cd/Ni-MH batteries
Automatic LED switching function	–	○	×	×
Weight	g (lbs)	400 (0.9)	350 (0.8)	500 (1.1)
Dimensions	mm (inch)	299 x 97 x 98 (11-25/32 x 3-13/16 x 4-7/8)	347 x 97 x 94 (13-21/32 x 3-13/16 x 3-22/32)	238 x 139 x 117 (9-1/8 x 5-15/32 x 4-19/32)

### 5-2. Specification Descriptions

#### 5-2-1. Brightness

The brightness depends on the ambient temperature. The light may be dim if the ambient temperature is extremely low.

#### 5-2-2. Continuous operating time

Continuous operating time means the continuous lighting time when using a fully charged battery. It varies in accordance with the frequency of use, battery capacity and other factors. Accordingly, the continuous operating time values in the above table are intended for reference purposes only.

When using the EB 9M or EB 12M battery in the Model UB 12DL, the remaining power indicator cannot show the correct status. This is an unavoidable phenomenon caused by the characteristics of the circuit incorporated in the EB 9M and EB 12M batteries, and is not a failure of the battery. There is no problem in using the EB 9M and EB 12M batteries except that the remaining power is not shown correctly. The remaining power indicator is restored by recharging the battery until the pilot lamp on the charger shows complete charging.

When using a Ni-MH battery:

If the Model UB 12DL is left for a long time with the switch turned on, it may adversely affect the Ni-MH battery such as decrease in the charging capacity and the service life because the Ni-MH battery may be over-discharged. Always turn the switch off when not in use.

### **5-2-3. Specification of fluorescent lamp**

The Model UB 12DL is equipped with a natural (EX-D), compact fluorescent lamp equivalent to FPL 9W. Use the fluorescent lamp specifically designed for the Model UB 12DL (code number 323339, model FPL9 EX-D).

### **5-2-4. Automatic LED switching function**

A fluorescent lamp extinguishes suddenly if the battery voltage becomes low. To prevent this, the Model UB 12DL automatically switches lighting from fluorescent lamp to LED when the battery voltage is decreased to about 8.5 V.

\* The LED will be dim if the battery voltage becomes lower. When using a Ni-MH battery, it may adversely affect the battery such as decrease in the charging capacity and the service life because the Ni-MH battery may be over-discharged. It is recommended to turn off the switch immediately and charge the Ni-MH battery.

## 6. PRECAUTIONS IN SALES PROMOTION (SAFETY INSTRUCTIONS)

In the interest of promoting the safest and most efficient use of the Model UB 12DL Cordless Lantern by all of our customers, it is very important that at the time of sale the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the precautions.

### ○Handling Instructions

**(1) Do not touch the fluorescent lamp while it is lighting or immediately after turning off to avoid burns.**

The fluorescent lamp is very hot while it is lighting or immediately after turning off. Wait until the fluorescent lamp has cooled down before replacing the fluorescent lamp.

**(2) To prevent personal injury due to accidental falling, secure the Model UB 12DL with a band when hanging at a high place.**

If there is a danger that the Model UB 12DL may fall from a high place, secure the handle and the pipe with a band tightly. Personal injury may occur if the Model UB 12DL falls from a high place.

**(3) Always turn the switch off before replacing the fluorescent lamp or when not in use.**

Otherwise, the service life of the fluorescent lamp may be shortened and short circuit may be caused.

If the Model UB 12DL is left for a long time with the switch turned on and the battery installed, the service life of the battery may also be shortened due to over-discharge.

**(4) Do not use the Model UB 12DL in the rain.**

The Model UB 12DL is not water-resistant and a failure may be caused if it gets wet.

**(5) Do not shock or disassemble the Model UB 12DL.**

Otherwise, inside soldering may fall off and the fluorescent lamp may be broken.

**(6) Do not allow the Model UB 12DL to contact gasoline, thinner, etc.**

The outer frame may be damaged by gasoline, thinner, etc. although it is made of strong synthetic resin.

**(7) Do not leave the Model UB 12DL in very hot locations exceeding 60° (140 F) such as the inside of a car in summer. Leaving the Model UB 12DL in such locations may cause a failure.**

**(8) Do not use any battery other than the specified batteries.**

The Model UB 12DL works on 9.6 V and 12 V batteries only. Do not use any other battery.

### Others

Store the Model UB 12DL in a dry place at temperature 40°C (104 F) or less. Remove the battery from the Model UB 12DL before storage.

## 7. REPLACEMENT OF LAMP, LAMP CAP AND LAMP COVER

Turn the switch off and remove the Battery [8] before replacement (Fig. 2).

### 7-1. Replacement of Lamp [3]

- (1) Remove the Lamp Cover [1] by tuning it counterclockwise in (C) direction (Fig. 3).
- (2) Remove the Lamp Cap [2] at the tip of the Lamp [3] and pull out the Lamp [3] (Fig. 1).
- (3) Securely insert the new Lamp [3] and reinstall the Lamp Cap [2] to the tip of the new Lamp [3] (Fig. 1).
- (4) Reinstall the Lamp Cover [1] by turning it clockwise in (D) direction without twisting the Lamp Cap [2]. If the Lamp Cap [2] is twisted, check whether the Lamp [3] is properly inserted or not again.

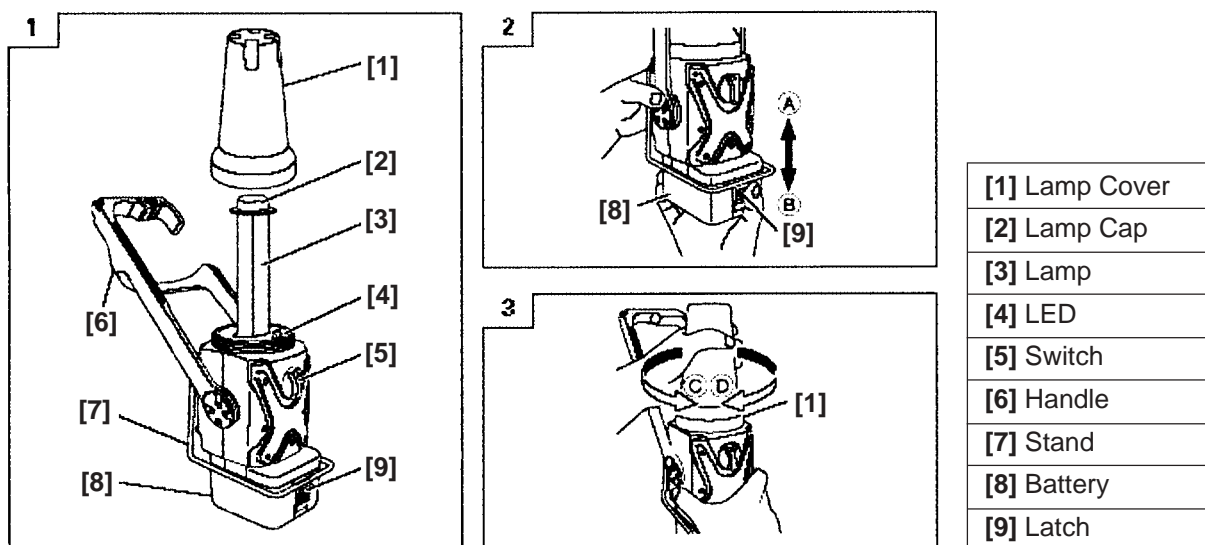
\* The Lamp Cap [2] is provided at the tip of the Lamp [3] to prevent breakage of the lamp in case of accidental drop of the Model UB 12DL. Be sure to reinstall the Lamp Cap [2] to the new Lamp [3].

### 7-2. Replacement of Lamp Cover [1]

- (1) Remove the Lamp Cover [1] by tuning it counterclockwise in (C) direction (Fig. 3).
- (2) Install the new Lamp Cover [1] by turning it clockwise in (D) direction without twisting the Lamp Cap [2].

### 7-3. Replacement of Lamp Cap [2]

- (1) Remove the Lamp Cover [1] by tuning it counterclockwise in (C) direction (Fig. 3).
- (2) Remove the Lamp Cap [2] at the tip of the Lamp [3] and install the new Lamp Cap [2] to the tip of the Lamp [3].
- (3) Install the new Lamp Cover [1] by turning it clockwise in (D) direction without twisting the Lamp Cap [2].



## 8. SPARE PARTS

The spare parts for the Model UB 12DL are as follows.

- (1) Lamp
- (2) Lamp cover
- (3) Lamp cap

9. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
UB 12DL		Work Flow						
		General Assembly						
		Main Body Lamp Lamp Cover Lamp Cap						

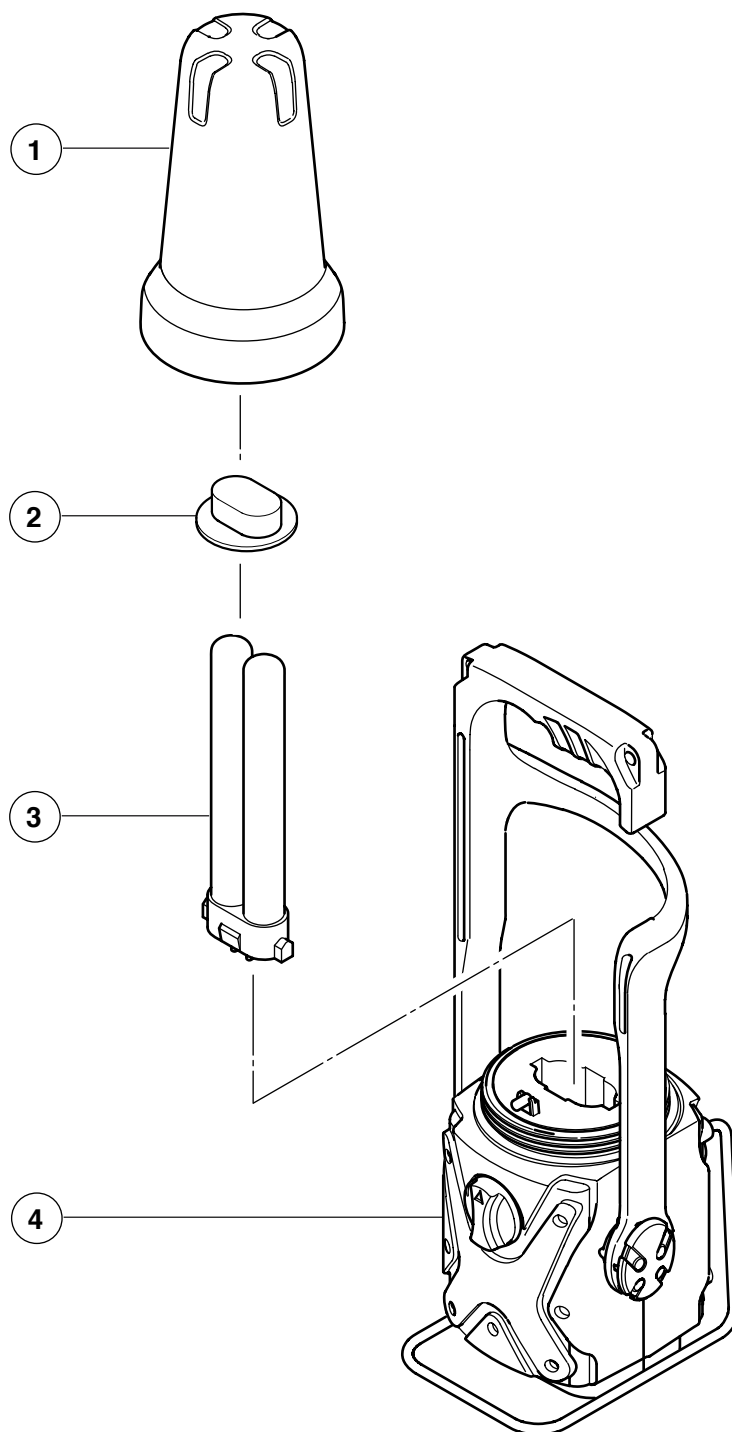
## ELECTRIC TOOL PARTS LIST

### ■ CORDLESS LANTERN

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Model UB 12DL

(E1)



## PARTS

UB 12DL

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