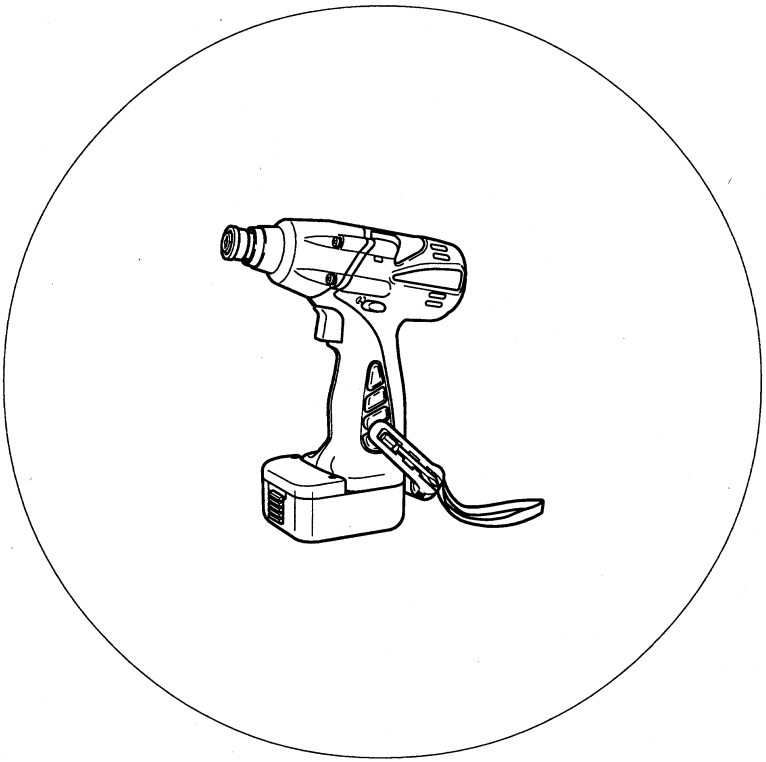
HITACHI

日立牌充电式冲击起子机
Cordless Impact Driver

WH 12DAF

使用说明书
Handling Instructions



使用前务请详加阅读
Read through carefully and understand these instructions before use.

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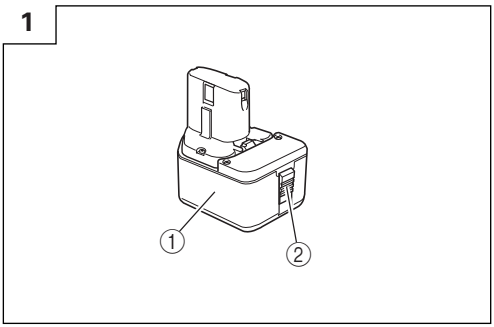

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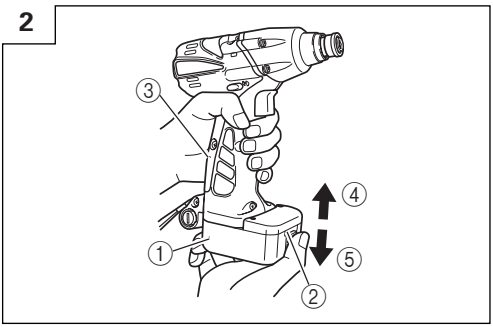

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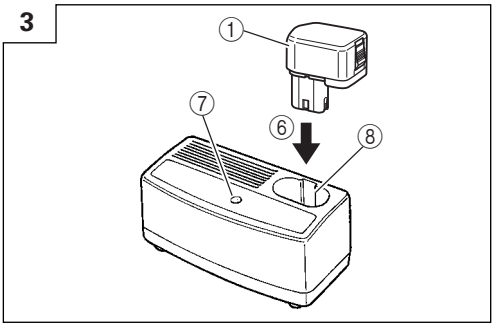

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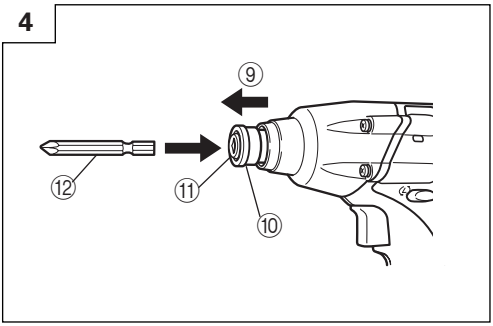

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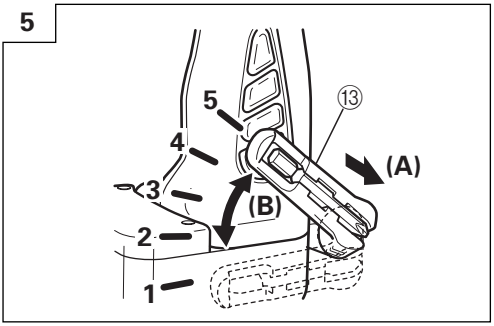

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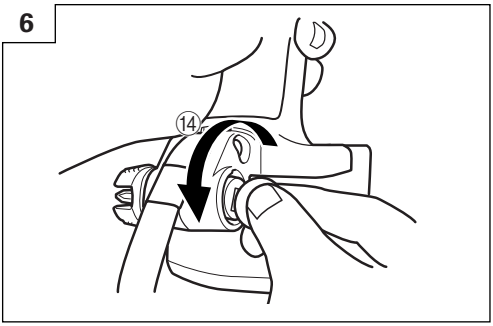

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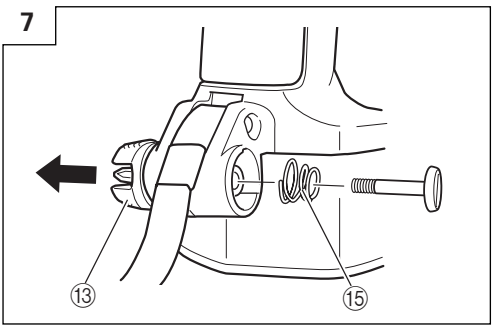

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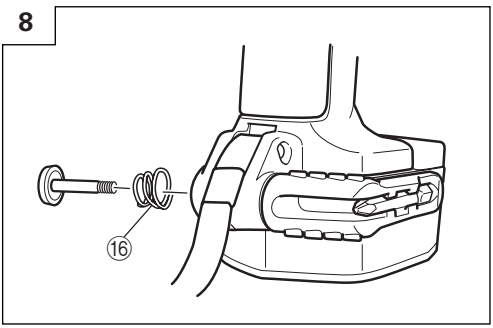

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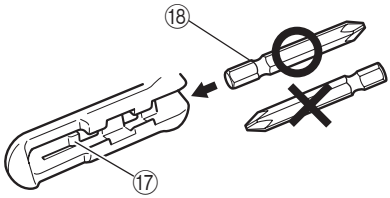

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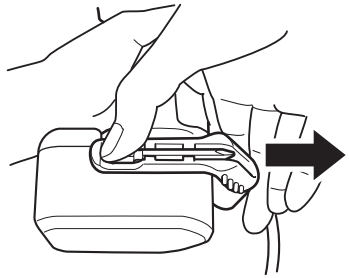

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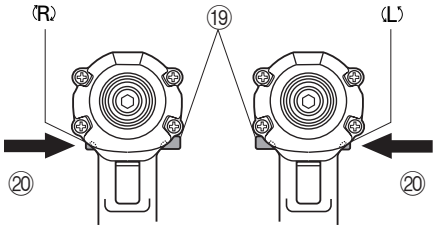


①	12V 充电式电池	12 V Rechargeable battery
②	插销	Latch
③	把手	Handle
④	插入	Insert
⑤	拉出	Pull out
⑥	插入	Insert
⑦	指示灯	Pilot lamp
⑧	充电式电池连接孔	Hole for connecting the rechargeable battery
⑨	移动	Movement
⑩	导套	Guide sleeve
⑪	铁砧中的六角孔	Hexagonal hole in the anvil
⑫	起子钻头	Driver bit
⑬	挂钩	Hook
⑭	旋松	Loosen
⑮	弹簧	Spring
⑯	较大直径朝外	Larger diameter faces away
⑰	突出部分	Protruded section
⑱	槽	Groove
⑲	按钮	Push button
⑳	按	Push

作业上的一般注意事项

1. 工作场所应打扫干净，清理妥当。杂乱无章将导致事故。
2. 避免危险的环境，请勿让电动工具与充电器淋到雨，不可在潮湿地方使用电动工具和充电器，工作地点要保持明亮。
   请勿在易燃或爆炸性物质附近使用电动工具和充电器。
   不可在存放易燃液体或气体的地方使用电动工具和充电器。
3. 在无监督的情况下小孩或体弱者不适宜使用此电动工具。应监督小孩不要让其玩耍电动工具。所有访客均须保持安全距离。
4. 保存现未使用的工具和充电器。未使用电动工具和充电器时，须将它们存放在干燥处、高处或能上锁处，以防止小孩和体弱者取到。请将电动工具和充电器存放在温度低于 40℃ 地方。
5. 不得使劲用力推压。电动工具需按设计条件才能有效而安全地工作。绝不可勉强。
6. 妥选使用工具。不可用小型工具或附件去干重活。
7. 服装要穿戴齐整。衣服或服饰不可松驰，以免卷入活动部件内。在室外工作时，最好戴橡胶手套，穿上鞋袜。
8. 使用电动工具时，大部分需要戴安全眼镜。如果作业中灰尘多，还要戴上面具或防尘口罩。
9. 塞绳不可滥用。充电器切勿拿着塞绳搬动或从插座中拔出。不可让塞绳受热、沾油或碰到锐利的菱角。
10. 作业以安全第一为原则。工件要用夹具或台钳卡紧。这样做，比用手按压更为可靠，也能够让双手专心操作。
11. 作业时脚步要站稳，身体姿势要保持平衡。
12. 电动工具要小心保养。刀具要经常保持锋利、清洁，以确保性能与安全。请按照润滑剂和所变更的附件说明进行。
13. 充电器不用时或维修检查时，务请将充电器的插头从插座中拔出。
14. 拆下卡盘扳手和扳手。打开开关之前，总要先检查扳手是否从工具上卸下。
15. 谨防不慎打开开关。搬运钻机时，请勿将手指搁在开关上。
16. 请勿使用未经指定的充电器以免发生危险。
17. 只能使用日立指定的更换零件。
18. 不得使用电动工具去进行规定以外的其它作业。
19. 为了防止人体受伤，只能使用本说明书或日立牌产品目录中所指定的附件。
20. 只能请授权的服务店来修理本工具。对于因非授权者的修理或因错误使用了本工具而造成的工具损伤或人体伤害，本制造公司概不负责。
21. 为了保证设计的完整性，电动工具和充电器的盖罩和螺钉类不可随便拆除。
22. 务请在铭牌上规定的电压下使用充电器。
23. 除非电线插头已从电源插座拆下，绝不可接触转动部分或附件。
24. 使用前务请充电。
25. 请勿使用未经指定的电池。请勿将未经指定的普通干电池、充电式电池或汽车蓄电池连接于电动工具上。
26. 请勿使用含有升压器的变压器。
27. 请勿用引擎发电机或直流电源装置对电池进行充电。
28. 务请在室内进行充电。充电时，充电器和电池会稍微变热，因此，不要在直射阳光处充电，而应在湿度低、通风好的阴凉处进行充电。
29. 在高处作业时，要注意下面的动静。作业前，应先确认下面无人。
30. 进行授权服务时，请使用本说明书中的组装分解图。
31. 如果电源线破损，必须由厂家或其维修代理店或具有同等资格的技术人员更换，以避免发生危险。

充电式冲击起子机使用上的注意事项

1. 本工具为手提式工具，用于旋紧和旋松螺丝。请不要用于其它作业。
2. 如长时间进行作业，请使用耳塞。
3. 单手操作非常危险。操作时请用双手握紧电动工具。
4. 安装好起子机的钻头以后，请轻轻地将钻头往外拉确认钻头是否松驰。如钻头安装得不妥当，在使用时钻头可能会松驰而引起危险。
5. 请使用与螺丝相配的钻头。
6. 用本冲击起子机旋紧螺丝时，如冲击起子机与螺丝之间的位置不成直线，则会损坏螺丝头，同时起子机的旋转力也不能被妥善地传给螺丝。所以，旋紧螺丝时，请使起子机与螺丝成一直线。
7. 务请在 0～40℃ 的温度下进行充电。温度低于 0℃ 将会导致充电过度，极其危险。电池不能在高于 40℃ 的温度下充电。最适合于充电的温度是 20～25℃。

8. 一次充电完成后，请将充电器搁置 15 分钟以上，然后再进行下一次充电。
   请勿连续给两节以上的电池充电。
9. 勿让杂质进入充电式电池连结口内。
10. 切勿拆卸充电式电池与充电器。
11. 切勿使充电式电池短路。
    使电池短路将会造成很大的电流和过热，从而烧坏电池。
12. 请勿将电池丢入火中。
    电池受热将会爆炸。
13. 请勿将异物插入充电器的通风口。
    若将金属异物或易燃物插入通风口的话，将会引起触电事故或使充电器受损。
14. 充电后电池寿命太短不够使用时，请尽快将电池送往经销店。请勿将用过的电池乱丢。
15. 请勿使用耗竭了的电池，否则会损坏充电器。

型 式

WH12DAF： 带充电器和塑料盒

规 格

电动工具

型式	WH12DAF
无负荷速率	0-2200 转／分
能力	M4 - M8（小螺丝） M4 - M12（普通螺丝） M4 - M10（高张力螺栓）
旋紧转矩	最大 88 N•m {900 kgf•cm} 在 20°C 充足电后，旋螺 M12 高张力螺栓（硬度区分为 12.9）时，旋螺时间为 3 秒。
充电式电池	EB1214L：镍镉电池，12 V（1.4 安培，10 节电池）
重量	1.6 kg

充电器

型式	UC12SD
充电时间	EB1214L：约 60 分（20°C 时）
充电电压	12V
重量	1.4kg

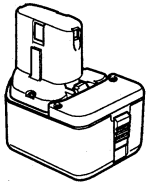
标准附件

1. 充电器（UC12SD） 1
2. 塑料盒 1

标准附件可能不预先通告而已予更改。

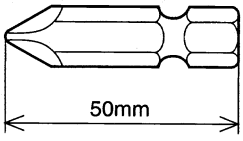
选购附件（分开销售）

1. 电池（EB1214L）



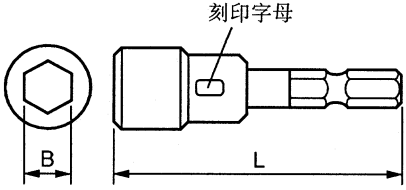
2. 十字槽头螺丝刀头

钻头号码	编码
号2	992671
号3	992672

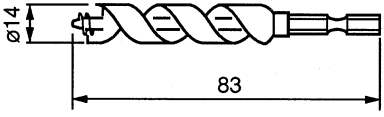


3. **六角孔座**

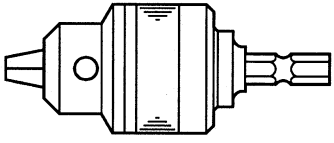
零件名	刻印字母	L	B	编码
4mm 六角套筒	7	65	7	992689
5mm 六角套筒	8	65	8	996177
6mm 六角套筒	10	65	10	985329
5/16" 六角套筒	12	65	12	996178
8mm 六角套筒	13	65	13	996179
10mm 六角套筒（小型）	14	65	14	996180
10mm 六角套筒	16	65	16	996181
10mm 六角套筒	17	65	17	996182
1/2" 六角长套筒	21	166	21	996197



4. **用于木料的钻头：编码 959183**



5. **钻头夹盘转接器套件：编码 321823**
请使用市面有售的钻头。



选购附件可能不预先通告而已予更改。

用 途

○ 用于旋紧和拆除小螺丝、小螺栓等。

电池的拆卸／安装法

1. **电池的拆卸法**
请先紧抓住把手、然后再推压电池插销以拆下电池（参照**图 1** 和 **图 2**）。

注意
切勿使电池短路。

2. **电池的安装法**
插入电池时请注意极性（参照**图 2**）。

充 电

在使用此冲击起子机之前，请先按下述方法给电池充电。

1. **将电池插入充电器。**
按正确的电极方向插入电池直至其接触到充电器底部。（请参照**图 1** 和**图 2**）

注意
UC12SD 型为专用充电器。此充电器无法给非指定的电池充电。虽能将非指定的电池插入充电器内且指示灯可能会点亮，但要提请您特别注意，切勿给非指定的电池充电，因为这不仅无法给这种电池充电，而且还会导致充电器发生故障。

2. **将充电器的电源线插头插入插座。**
接好电源线后便开始充电（此时指示灯亮起）。

注意
如果指示灯不亮，则请从插座上拔出电源线插头并检查电池的安装情况。

在约 20℃ 的温度下约需 1 小时便可完全充电。指示灯熄灭表示电池已经充好。
如果温度或电源电压偏低，电池充电时间则会延长。
如果充电已超过两个小时而指示灯仍不熄灭，则应停止充电并与您的日立授权维修中心联系。

注意
作业停止后，如电池（因晒太阳等原因）而变热，充电指示灯会不亮。这时，应先让电池冷却然后再充电。

3. 将充电器电源线从交流电插座中拔出。
4. 抓住充电器，将电池拉出。

注
充电结束后，请从充电器中取出电池并妥善存放。

关于新电池的放电等

当新电池的内部化学物质和长期未使用的电池无

活性时，在第一次和第二次使用时其放电能力可能较差。这是暂时现象，给这种电池充电 2-3 次后便可令其恢复放电所需的正常时间。

延长电池使用寿命的方法

(1) 在电池电力完全耗尽之后再充电。
感到电动工具的电力变弱时，请停止使用并给电池充电。如果您连续使用电动工具并耗尽电力，该电池可能会损坏，其使用寿命将会缩短。

(2) 避免在高温下充电。
充电式电池在使用后会迅速变热。如果这种电池在使用后立即充电，其内部的化学物质会劣化，电池寿命将缩短。请将电池搁置片刻待其变凉后再充电。

作业之前

1. 工作环境的准备和检查
请确认工作环境确实附加注意事项中所规定的所有条件。

2. 电池的检查
请确认电池是否装紧了。如电池稍有松驰，则电池可能会掉出来而引起事故。

3. 钻头的安装
请务必要按照下列顺序安装起子机的钻头（**图 4**）。

(1) 拉出导套。
(2) 将钻头插入铁砧中的六角孔。
(3) 松开导套，导筒便会回到其原来位置。

注意：
如导筒不回到其原来位置，则说明钻头没有安装好。

使用方法

1. 使用挂钩
可将挂钩安装在左侧或右侧，并可在 0℃ 和 80℃ 之间分 5 级调节角度。

(1) 操作挂钩
(a) 按箭头方向（A）朝身边拉出挂钩，并按箭头方向（B）转动。（**图 5**）
(b) 可分 5 级调节角度（0°，20°，40°，60°，80°）。
请将挂钩调节到操作所需的位置。

(2) 切换挂钩位置。

注意：
不完整地安装挂钩可能会在使用时导致伤害。
(a) 紧紧抓住主机并用槽头螺丝刀或硬币取下螺钉。（**图 6**）
(b) 取下挂钩和弹簧。（**图 7**）
(c) 将挂钩和弹簧安装在另一侧并用螺钉固定。（**图 8**）

注：
请注意弹簧的方向。请按较大直径朝外的方向安装弹簧。（**图 8**）

(3) 使用钻头架
○ 安装钻头
按**图 9** 所示方向从侧面滑动钻头，然后将其稳稳插入直至钻头上的槽锁定于挂钩的突出部分。
○ 取下钻头
紧紧抓住主机并用拇指拿住顶端取出钻头。（**图 10**）

注意：
○ 如**图 9** 所示，若将钻头的方向装反，或使用带有未妥善存放的钻头的起子机时，钻头则可能会从挂钩上松脱而导致伤害。
○ 仅可使用日立牌 OPTIONAL ACCESSORIES 十字形起子机钻头（钻头编号 2，代码号 992671，钻头编号 3，代码号 992672）。请勿使用其他钻头，因为它们可能会松脱。

2. 检查旋转方向
按下按钮的 R 侧，钻头便以顺时针方向（从背面观看时）旋转。
按下按钮的 L 侧，钻头则以你时针方向旋转。（请参照**图 11**）（机身上有 L (L) 和 R (R) 标志）

注意
在冲击起子机运转期间，无法切换按钮。要切换按钮时，先停止冲击起子机运转，然后再设定按钮。

3. 开关操作

○ 按启动开关时，电动工具开始转动。松开启动开关，电动工具则停止转动。

○ 可通过改变拉动启动开关的量来控制其转速。轻拉启动开关，转速较低；用力拉动，则转速加快。

4. 螺丝的旋紧和旋松

请安装与螺丝相配的钻头。请先将钻头插进螺丝头的槽中，然后再旋紧螺丝。

请勿用过大的力按住冲击起子机，只要不使钻头不离开螺丝头即可。

注意：

冲击时间过长时，会将螺丝旋得太紧以致会损坏螺丝和钻头尖。

用本冲击起子机旋紧螺丝时，如冲击起子机与螺丝之间的位置不成直线，则会损坏螺丝头，同时起子机的旋转力也不能被妥善地传给螺丝。所以，旋紧螺丝时，请使起子机与螺丝成一直线。

5. 可旋紧的螺钉数

有关一次充电可旋紧的螺钉数，请参照下表。

WH12DAF（EB1214L）

使用的螺钉	旋紧数
木（软木）螺钉 ø4 × 50	约 230
机械螺钉 M8 × 16	约 730

根据环境温度和电池特性的不同，这些值可能略有变化。

操作上的注意事项

1. 连续作业后须让电动工具休息片刻

在连续进行螺栓紧固作业后以及在更换电池后，请让电动工具暂停作业 15 分钟。如果在更换电池后立刻开始作业，马达和开关等的温度将会升高，结果导致烧毁。

注：

请勿触摸锤盒，因在连续作业后它会变得很热。

2. 关于转速控制开关的注意事项

此开关带有可无级改变转速的内置电路。因此，当轻拉启动开关（低速转动）并在连续旋紧螺丝中停止马达转动时，电路部分的元件可能会因过热而损坏。

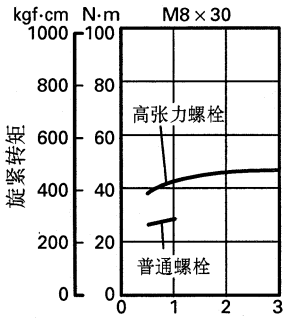
3. 旋紧转矩

在**图 12** 所示的不同条件下的螺栓的旋紧转矩（因螺丝尺寸而不同）示于**图 13**。请将该示例仅作为一般参考，因为旋紧转矩会根据旋紧条件的不同而变化。

注：

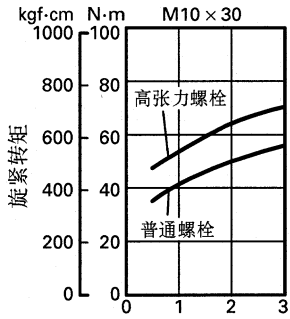
○ 如冲击时间较长的话，螺丝会被旋得太紧以致可能会损坏螺丝或钻头尖。

○ 旋紧螺丝时，如冲击起子机与螺丝之间的位置不成直线，则会损坏螺丝头，同时所规定的转矩也不能被妥善地传给螺丝。所以，旋紧螺丝时，请使起子机与螺丝成一直线。



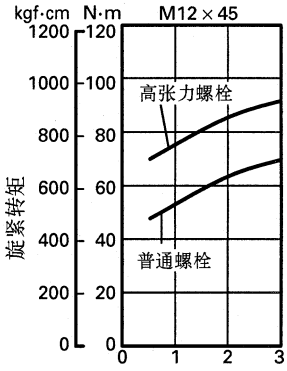
旋紧时间：秒

（钢板厚度 t=10mm）



旋紧时间：秒

（钢板厚度 t=10mm）



旋紧时间：秒

（钢板厚度 t=10mm）

图 12

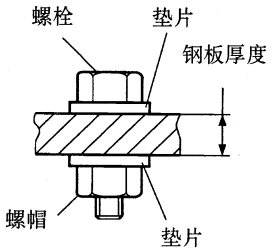


图 13

* 使用以下螺栓。
普通螺栓：张力级 4.8
高张力螺栓：张力级 12.9
（张力级的说明：
4－螺栓的屈服点：32 kgf/mm²
8－螺栓的拉力：40 kgf/mm²）

4. 使用适宜于螺丝的旋紧时间

根据螺丝的材料和尺寸以及所旋紧的材料等，其适宜的转矩有所不同，因此请使用适宜于该螺丝的旋紧时间。尤其是，如果对小于 M8 的螺丝使用过长的旋紧时间，则螺丝有损坏的危险。因此，请事先确认旋紧时间和旋紧转矩。

维护和检查

1. 检查起子机的钻头

继续使用已破损的钻头或钻头尖已磨损的钻头是非常危险的，因为钻头会滑脱。因此，请更换已破损的钻头或钻头尖已磨损的钻头。

2. 检查安装螺钉

要经常检查安装螺钉是否紧固妥善。若发现螺钉松了，应立即重新扭紧，否则会导致严重的事故。

3. 清理外部

冲击起子沾污时，用干软布或沾肥皂水的布擦拭。切勿使用氯溶液、汽油或稀释剂，以免塑胶部分溶化。

4. 收藏

冲击起子应收藏于温度低于 40℃ 而为小孩拿不到的地方。

5. 维修零部件一览表

A：项目号
B：代码号
C：使用数
D：备注

注意：

日立牌电动工具的维修、改造和检查须由经日立公司授权的维修中心进行。
当要求维修或其他保养服务时，若将此零部件一览表与电动工具一起呈交给经日立公司授权的维修中心，将有助于维修或保养工作。
在操作和维修电动工具时，必须遵守贵国制定的安全的有关规则和标准。

改造：

日立牌电动工具经常加以改善和改造以采用最新的先进技术。
因此，某些零部件（例如代码号和（或）设计）可能变更，恕不另行通知。

注：

为求改进，本手册所载规格可能不预先通告而已予更改。

GENERAL OPERATIONAL PRECAUTIONS

1. Keep work area clean. Cluttered areas and benches invite accidents.
2. Avoid dangerous environment. Don't expose power tools and charger to rain. Don't use power tools and charger in damp or wet locations. And keep work area well lit. Never use power tools and charger near flammable or explosive materials. Do not use tool and charger in presence of flammable liquids or gases.
3. The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance. All visitors should be kept safe distance from work area.
4. Store idle tools and charger. When not in use, tools and charger should be stored in dry, high or locked-up place-out of reach of the children and infirm persons. Store tools and charger in a place where the temperature is less than 40°C.
5. Don't force tool. It will do the job better and safer at the rate for which it was designed.
6. Use right tool. Don't force small tool or attachment to do the job of a heavy duty tool.
7. Wear proper apparel. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwears are recommended when working outdoor.
8. Use eye protection with most tools. Also use face or dust mask if cutting operation is dusty.
9. Don't abuse cord. Never carry charger by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
10. Secure work. Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. Don't overreach. Keep proper footing and balance at all times.
12. Maintain tools with care. Keep tools sharp at all times, and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
13. When the charger is not in use, or when being maintained and inspected, disconnect its power cord from the receptacle.
14. Remove chuck wrenches and wrenches. Form habit of checking to see that wrenches are removed from tool before turning it on.
15. Avoid accidental starting. Don't carry tool with finger on switch.
16. To avoid danger, always use only the specified charger.
17. Use only genuine HITACHI replacement parts.
18. Do not use power tools for applications other than those specified in the Handling Instructions.
19. To avoid personal injury, use only the accessories or attachment recommended in these handling instructions or in the HITACHI catalog.
20. Let only the authorized service center do the repairing. The Manufacturer will not be responsible for any damages or injuries caused by repair by the unauthorized persons or by mishandling of the tool.
21. To ensure the designed operational integrity of power tools and charger, do not remove installed covers or screws.
22. Always use the charger at the voltage specified on the nameplate.
23. Do not touch movable parts or accessories unless the power source has been disconnected.
24. Always charge the battery before use.
25. Never use a battery other than that specified. Do not connect a usual dry cell, a rechargeable battery other than that specified or a car battery to the power tool.
26. Do not use any transformer that has a booster.
27. Do not charge the battery from an engine electric generator or DC power supply.
28. Always charge indoors. Because the charger and battery heat slightly during charging, charge the battery in a place not exposed to direct sunlight; where the humidity is low and the ventilation is good.
29. Before starting to work in a high place, pay attention to the activities below to make sure there are no people below.
30. Use the exploded assembly drawing on this handling instructions only for authorized servicing.
31. If the supply cord is damaged, it must be replaced by the manufacture or its service agent or a similarly qualified person in order to avoid a hazard.

PRECAUTIONS FOR CORDLESS IMPACT DRIVER

1. This is portable tool for tightening and loosenig screws. Use it only for these operation.
2. Use the earplugs if using for a long time.
3. One-hand operation is extremely dangerous; hold the unit firmly with both hands when operating.
4. After installing the driver bit, pull lightly out the bit to make sure that it does not come loose. If the bit is not installed properly, it can come loose during use, which can be dangerous.
5. Use the bit that matches the screw.
6. Tightening a screw with the impact driver at an angle to that screw can damage the head of the screw and the proper force will not be transmitted to the screw. Tighten with this impact driver lined up straight with the screw.
7. Always charge the battery at a temperature of 0 – 40°C.
   A temperature of less than 0°C will result in over charging which is dangerous. The battery cannot be charged at a temperature greater than 40°C.
   The most suitable temperature for charging is that of 20 – 25°C.
8. When one charging is completed, leave the charger at least 15 minutes before the next charging of battery.
   Do not charge more than two batteries consecutively.
9. Do not allow foreign matter to enter the hole for connecting the rechargeable battery.
10. Never disassemble the rechargeable battery and charger.
11. Never short-circuit the rechargeable battery.
    Short-circuiting the battery will cause a great electric current and overheat. It results in burn or damage to the battery.
12. Do not dispose of the battery in fire.
    If the battery burnt, it may explode.

13. Do not insert object into the air ventilation slots of the charger.
    Inserting metal objects or inflammables into the charger air ventilation slots will result in electrical shock hazard or damaged charger.
14. Bring the battery to the shop from which it was purchased as soon as the post-charging battery life becomes too short for practical use. Do not dispose of the exhausted battery.
15. Using an exhausted battery wil damage the charger.

MODEL

WH12DAF: with charger and case

SPECIFICATIONS

POWER TOOL

Model	WH12DAF
No-load speed	0 – 2200 min^{-1} (/min)
Capacity	M4 – M8 (Small screw) M4 – M12 (Ordinary bolt) M4 – M10 (High tension bolt)
Tightening torque	Maximum 88 N·m {900 kgf·cm} Tightening is M12 high tension bolt (strength grade 12.9), when fully charged at 20°C temp. Tightening time: 3 sec.
Rechargeable battery	EB1214L: Ni-Cd battery, 12 V (1.4 Ah, 10 cells)
Weight	1.6 kg

CHARGER

Model	UC12SD
Charging time	EB1214L: Approx. 60 min. (at 20°C)
Charging voltage	12 V
Weight	1.4 kg

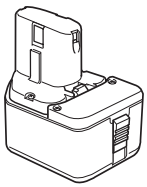
STANDARD ACCESSORIES

1. Charger (UC12SD) 1
2. Plastic case 1

Standard accessories are subject to change without notice.

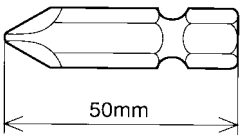
OPTIONAL ACCESSORIES (Sold separately)

1. Battery (EB1214L)



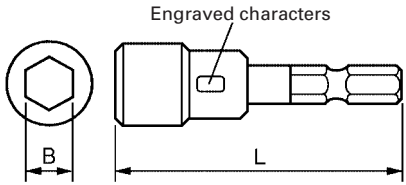
2. Plus driver bit

Bit No.	Code No.
No. 2	992671
No. 3	992672

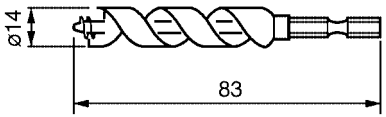


3. Hexagonal socket

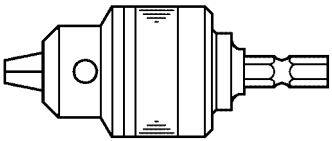
Part Name	Engraved characters	L	B	Code No.
4 mm Hexagonal socket	7	65	7	992689
5 mm Hexagonal socket	8	65	8	996177
6 mm Hexagonal socket	10	65	10	985329
5/16" Hexagonal socket	12	65	12	996178
8 mm Hexagonal socket	13	65	13	996179
10 mm Hexagonal socket (small type)	14	65	14	996180
10 mm Hexagonal socket	16	65	16	996181
10 mm Hexagonal socket	17	65	17	996182
1/2" Hexagonal long socket	21	166	21	996197



4. Wood working drill: Code No. 959183



5. Drill chuck adapter set: Code No. 321823
Use the drills available on the local market.



Optional accessories are subject to change without notice.

APPLICATION

○ Driving and removing of small screws, small bolts, etc.

BATTERY REMOVAL/INSTALLATION

1. Battery removal
Hold the handle tightly and push the battery latch to remove the battery. (**Figs. 1** and **2**)
CAUTION
Never short-circuit the battery.

2. Battery installation
Insert the battery while observing its polarities (see **Fig. 2**).

CHARGING

Before using the impact driver, charge the battery as follows.

1. Insert the battery into the charger.
Insert the battery firmly while observing its direction, until it contacts the bottom of the charger. (See **Figs. 1** and **2**)
CAUTION
The UC12SD model is the exclusively designed charger. This cannot charge batteries except the specified batteries. It is possible to insert the batteries other than the specified into the charger and it may light up the pilot lamps. However, you are requested to exercise utmost caution not to charge batteries other than specified ones because these can not only be charged but also such actions can result in the malfuntion of chargers.

2. Connect the charger power cord to the receptacle.
Connecting the power cord will turn on the charger (the pilot lamp lights up).
CAUTION
If the pilot lamp does not light up, pull out the power cord from the receptacle and check the battery mounting condition.
About 1 hour is required to fully charge the battery at a temperature of about 20°C. The pilot lamp goes off to indicate that the battery is fully charged.
The battery charging time becomes longer when a temperature is low or the voltage of the power source is too low.
When the pilot lamp does not go off even if more than two hours have elapsed after starting of the charging, stop the charging and contact your HITACHI AUTHORIZED SERVICE CENTER.
CAUTION
If the battery is heated due to direct sunlight, etc., just after operation, the charger pilot lamp may not light up. At that time, cool the battery first, then start charging.

3. Disconnect the charger power cord from the receptacle.

4. Hold the charger firmly and pull out the battery.

NOTE
After charging, pull out batteries from the charger first, and then keep the batteries properly.

Regarding electric discharge in case of new batteries, etc.

As the internal chemical substance of new batteries and batteries that have not been used for an extended period is not activated, the electric discharge might be low when using them the first and second time. This is a temporary phenomenon, and normal time required for recharging will be restored by recharging the batteries 2 – 3 times.

How to make the batteries perform longer.

(1) Recharge the batteries before they become completely exhausted.
When you feel that the power of the tool becomes weaker, stop using the tool and recharge its battery. If you continue to use the tool and exhaust the electric current, the battery may be damaged and its life will become shorter.

(2) Avoid recharging at high temperatures.
A rechargeable battery will be hot immediately after use. If such a battery is recharged immediately after use, its internal chemical substance will deteriorate, and the battery life will be shortened. Leave the battery and recharge it after it has cooled for a while.

PRIOR TO OPERATION

1. **Preparing and checking the work environment**
Make sure that the work site meets all the conditions laid forth in the precautions.
2. **Checking the battery**
Make sure that the battery is installed firmly. If it is at all loose it could come off and cause an accident.
3. **Installing the bit**
Always follow the following procedure to install driver bit. (**Fig. 4**)

(1) Pull the guide sleeve forward.
(2) Insert the bit into the hexagonal hole in the anvil.
(3) Release the guide sleeve and it returns to its original position.

CAUTION
If the guide sleeve does not return to its original position, then the bit is not installed properly.

HOW TO USE

1. **Using the hook**
The hook can be installed on the right or left side and the angle can be adjusted in 5 steps between 0 and 80°.

(1) Operating the hook
(a) Pull out the hook toward you in the direction of arrow (A) and turn in the direction of arrow (B). (**Fig. 5**)
(b) The angle can be adjusted in 5 steps (0°, 20°, 40°, 60°, 80°).
Adjust the angle of the hook to the desired position for use.

(2) Switching the hook position

CAUTION:
Incomplete installation of the hook may result in bodily injury when used.
(a) Securely hold the main unit and remove the screw using a slotted head screwdriver or a coin. (**Fig. 6**)
(b) Remove the hook and spring. (**Fig. 7**)
(c) Install the hook and spring on the other side and securely fasten with screw. (**Fig. 8**)

NOTE:
Pay attention to the spring orientation. Install the spring with larger diameter away from you. (**Fig. 8**)

(3) Using the bit holder
○ Installing the bit
Slide the bit from the side in the direction of **Fig. 9**, and then insert firmly until the groove on the bit locks in the protruded section of the hook.
○ Removing the bit
Securely hold the main unit and pull out the bit by holding the tip with your thumb. (**Fig. 10**)

CAUTION:
○ The bit may come loose from the hook and cause bodily injury when reversing the direction of the bit as shown in **Fig. 9** or when using the driver with the bit stored incomplete.
○ Only Hitachi OPTIONAL ACCESSORIES plus driver bits (Bit No. 2; Code No. 992671, Bit No. 3; Code No. 992672) may be used. Do not use other bits since they may come loose.

2. **Check the rotational direction**
The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the push button.
The L-side of the push button is pushed to turn the bit counterclockwise. (See **Fig. 11**) (The Ⓛ and Ⓡ marks are provided on the body.)
CAUTION
The push button can not be switched while the impact driver is turning. To switch the push button, stop the impact driver, then set the push button.
3. **Switch operation**
○ When the trigger switch is depressed, the tool rotates. When the trigger is released, the tool stops.
○ The rotational speed can be controlled by varying the amount that the trigger switch is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.
4. **Tightening and loosening screws**
Install the bit that matches the screw, line up the bit in the grooves of the head of the screw, then tighten it.
Push the impact driver just enough to keep the bit fitting the head of the screw.
CAUTION
Applying the impact driver for too long tightens the screw too much and can break it.
Tightening a screw with the impact driver at an angle to that screw can damage the head of the screw and the proper force will not be transmitted to the screw. Tighten with this impact driver lined up straight with the screw.
5. **Number of screws tightenings possible**
Please refer to the table below for the number of screw tightened possible with one charge.

For WH12DAF (EB1214L)

Screw used	No. of tightenings
Wood screw ø4 × 50 (Soft wood)	Approx. 230
Machine screw M8 × 16	Approx. 730

These values may vary slightly, according to surrounding temperature and battery characteristics.

OPERATIONAL CAUTIONS

1. **Resting the unit after continuous work**
After use for continuous bolt-tightening work, rest the unit for 15 minutes or so when replacing the battery. The temperature of the motor, switch, etc., will rise if the work is started again immediately after battery replacement, eventually resulting in burnout.
NOTE:
Do not touch the hammer case, as it gets very hot during continuous work.
2. **Cautions on use of the speed control switch**
This switch has a built-in, electronic circuit which steplessly varies the rotation speed. Consequently, when the switch trigger is pulled only slightly (low speed rotation) and the motor is stopped while

continuously driving in screws, the components of the electronic circuit parts may overheat and be damaged.

3. **Tightening torque**
   Refer to **Fig. 12** for the tightening torque of bolts (according to size), under the conditions shown in **Fig. 13**. Please use this example as a general reference, as tightening torque will vary according to tightening conditions.

NOTE

○ If a long striking time is used, screws will be strongly tightened. This may cause the screw to break, or may damage the tip of the bit.

○ If the unit is held at an angle to the screw being tightened, the head of the screw may be damaged, or the specified torque may not be transmitted to the screw. Always keep the unit and the screw being tightened in a straight line.

4. **Use a tightening time suitable for the screw**
   The appropriate torque for a screw differs according to the material and size of the screw, and the material being screwed etc., so please use a tightening time suitable for the screw. In particular, if a long tightening time is used in the case of screws smaller than M8, there is a danger of the screw breaking, so please confirm the tightening time and the tightening torque beforehand.

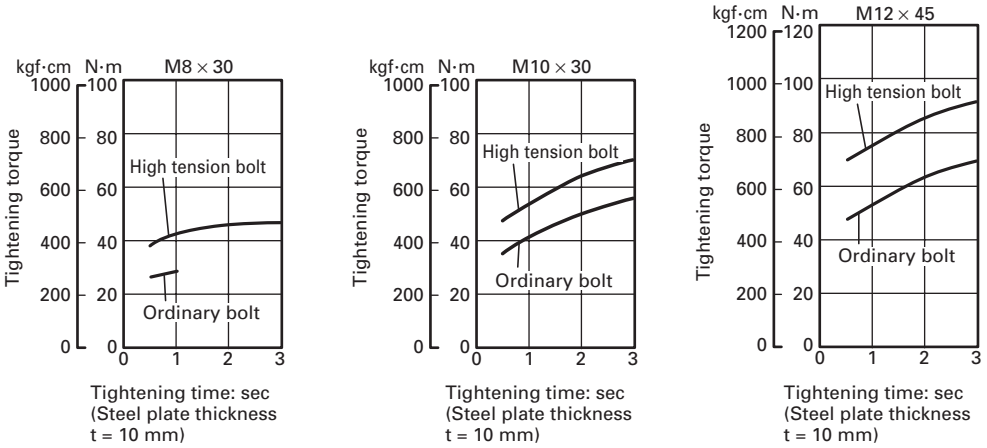
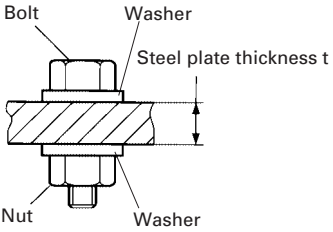


Fig. 12



*The following bolt is used.
Ordinary bolt: Strength grade 4.8
High tensile bolt: Strength grade 12.9

(Explanation of strength grade:
4 — Yield point of bolt: 32 kgf/mm²
8 — Pulling strength of bolt: 40 kgf/mm²)

Fig. 13

MAINTENANCE AND INSPECTION

1. **Inspecting the driver bit**
   Using a broken bit or one with a worn out tip is dangerous because the bit can slip. Replace it.
2. **Inspecting the mounting screws**
   Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so may result in serious hazard.
3. **Cleaning of the outside**
   When the impact driver is stained, wipe with a soft dry cloth or a cloth moistened with soapy water. Do not use chloric solvents, gasoline or paint thinner, as they melt plastics.
4. **Storage**
   Store the impact driver in a place in which the temperature is less than 40°C, and out of reach of children.
5. **Service parts list**
   A: Item No.
   B: Code No.
   C: No. Used
   D: Remarks

CAUTION

Repair, modification and inspection of Hitachi Power Tools must be carried out by an Hitachi Authorized Service Center.

This Parts List will be helpful if presented with the tool to the Hitachi Authorized Service Center when requesting repair or other maintenance.

In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.

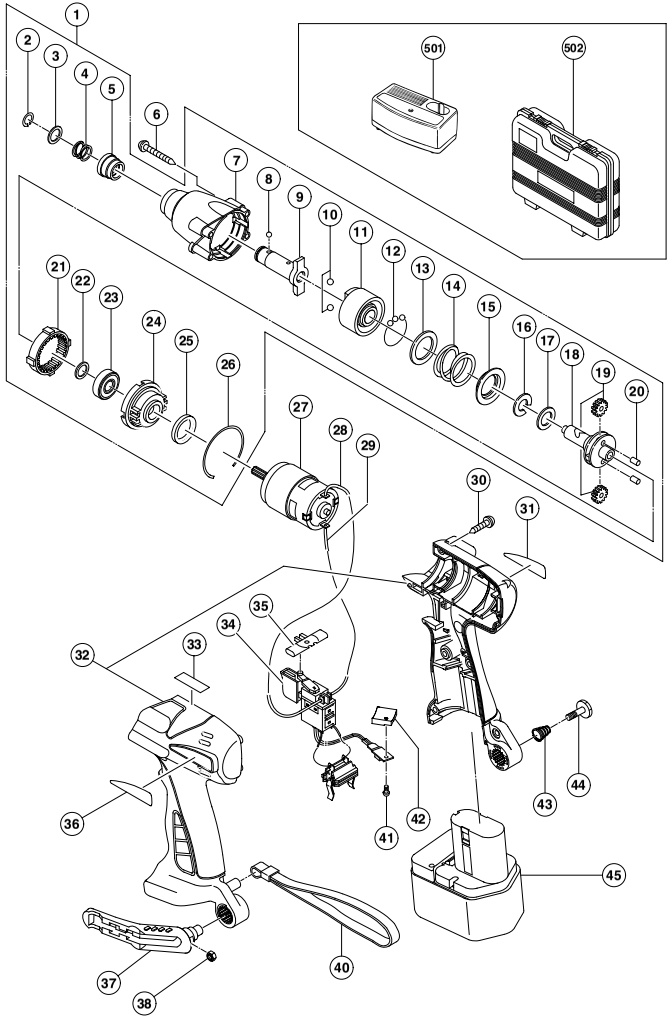
MODIFICATIONS

Hitachi Power Tools are constantly being improved and modified to incorporate the latest technological advancements.

Accordingly, some parts (i.e. code numbers and/or design) may be changed without prior notice.

NOTE

Due to HITACHI's continuing program of reserch and development, the specifications herein are subject to change without prior notice.



A	B	C	D
1	321-914	1	“2-5, 7-26”
2	315-984	1	
3	315-983	1	
4	320-409	1	
5	321-885	1	
6	306-305	4	D4×35
7	321-881	1	
8	319-535	1	D3.5
9	321-915	1	
10	959-154	2	D5.556
11	321-886	1	
12	————	28	D3
13	315-978	1	
14	316-170	1	
15	316-172	1	
16	316-171	1	
17	321-888	1	
18	321-889	1	
19	321-882	2	
20	321-883	2	
21	321-891	1	
22	321-890	1	
23	600-1VV	1	6001VVCMPS2L
24	321-892	1	
25	321-894	1	
26	321-893	1	
27	321-874	1	
28	321-876	1	
29	321-877	1	
30	301-653	7	D4×20
31	————	1	
32	321-913	1	
33	————	1	
34	321-917	1	

A	B	C	D
35	321-871	1	
36	————	1	
37	320-287	1	“38”
38	320-288	1	M5
40	318-349	1	
41	320-777	1	M3×4
42	320-776	1	
43	319-926	1	
44	319-927	1	M5
45	320-608	1	EB1214L
501	————	1	UC12SD
502	321-916	1	

Hitachi Koki Co., Ltd.

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