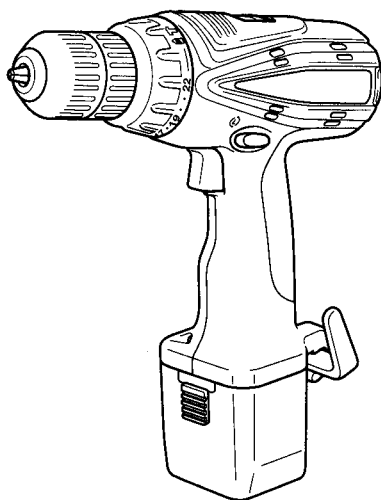


HITACHI

CORDLESS IMPACT DRILL AKKU-SCHLAGBOHRMASCHINE PERCEUSE À PERCUSSION À BATTERIE TRAPANO A PERCUSSIONE A BATTERIA SNOERLOZE KLOPBOORMACHINE TALADRO DE PERCUSIÓN A BATERÍA

Variable speed

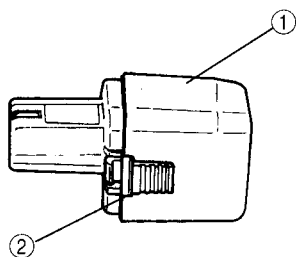
DV 12DV



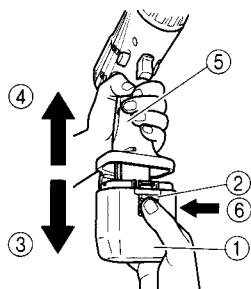
Read through carefully and understand these instructions before use.
Diese Anleitung vor Benutzung des Werkzeugs sorgfältig durchlesen und verstehen.
Lire soigneusement et bien assimiler ces instructions avant usage.
Prima dell'uso leggere attentamente e comprendere queste istruzioni.
Deze gebruiksaanwijzing s.v.p. voor gebruik zorgvuldig doorlezen.
Leer cuidadosamente y comprender estas instrucciones antes del uso.

Handling instructions
Bedienungsanleitung
Mode d'emploi
Istruzioni per l'uso
Gebruiksaanwijzing
Instrucciones de manejo

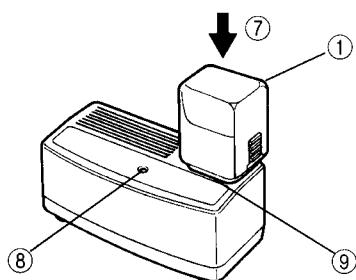
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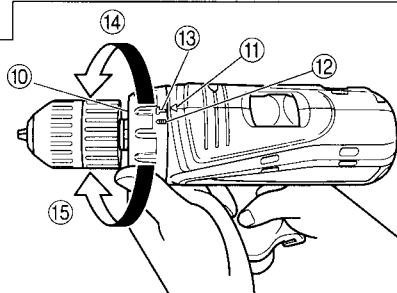
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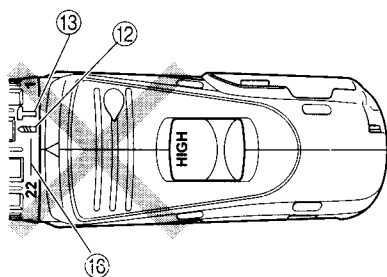
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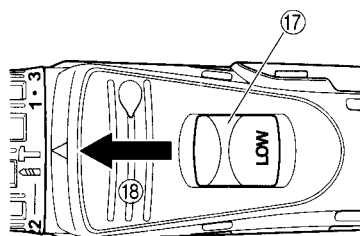
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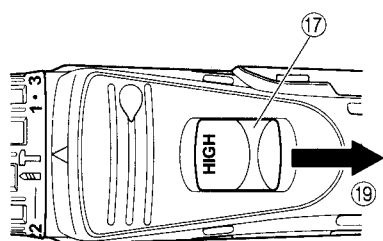
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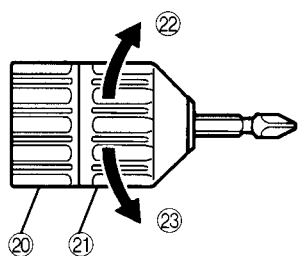
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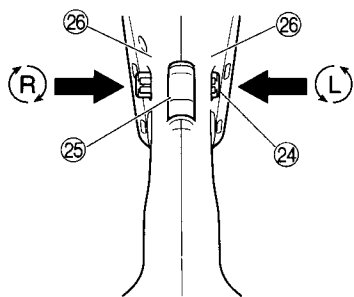
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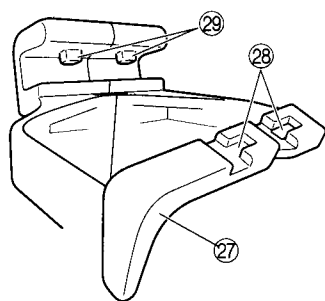
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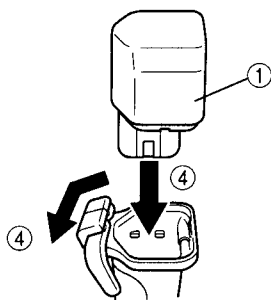
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11



	English	Deutsch	Français
①	Rechargeable battery	Akkumulator	Batterie rechargeable
②	Latch	Verriegelung	Taquet
③	Pull out	Herausziehen	Tirer vers l'extérieur
④	Insert	Einsätzen	Insérer
⑤	Handle	Handgriff	Poignée
⑥	Push	Drücken	Pousser
⑦	Insert	Einsetzen	Insérer
⑧	Pilot lamp	Kontrollampe	Lampe témoin
⑨	Hole for connecting the rechargeable battery	Anschlußloch für Akkumulator	Orifice de raccordement de la batterie rechargeable
⑩	Cap	Kappe	Capot
⑪	Triangle mark	Dreieckmarkierung	Repère triangulaire
⑫	Drill mark	Bohrmarkierung-Markierung	Repère de perçage
⑬	Hammer mark	Hammermarkierung-Markierung	Repère de percussion
⑭	Weak	Schwach	Faible
⑮	Strong	Stark	Fort
⑯	White line	Weiße Linie	Filet blanc
⑰	Shift knob	Schaltknopf	Bouton de décalage
⑱	Low speed	Kleine geschwindigkeit	Vitesse ralentie
⑲	High speed	Große geschwindigkeit	Vitesse élevée
⑳	Ring	Ring	Anneau
㉑	Sleeve	Manschette	Manchon
㉒	Tighten	Anziehen	Serrer
㉓	Loosen	Lösen	Desserrer
㉔	Selector button	Wahlknopf	Bouton de sélection
㉕	Trigger switch	Trigger	Déclencheur
㉖	Ⓜ and Ⓛ marks	Ⓜ und Ⓛ zeichen	Indices Ⓜ et Ⓛ
㉗	Hook	Haken	Crochet
㉘	Ditch	Nut	Encoche
㉙	Projection	Vorsprung	Saillie

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. Keep children away. 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 children. 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 footwear 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 AC outlet.
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 original 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. If the supply cord of this charger is damaged, the charger must be returned to the HITACHI authorized service center for the cord to be replaced. 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 battery has been removed.
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 good.
29. When working 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.

PRECAUTIONS FOR CORDLESS IMPACT DRILL

1. Always charge the battery at a temperature of 10 – 40°C. A temperature of less than 10°C will result in over charging which is dangerous. The battery cannot be charged at a temperature higher than 40°C. The most suitable temperature for charging is that of 20 – 25°C.
2. Do not use the charger continuously. When one charging is completed, leave the charger for about 15 minutes before the next charging of battery.
3. Do not charge the battery for more than 2 hour. The battery will be fully charged in about 1 hour and charging should be stopped when 1 hour has elapsed from commencement. Disconnect the charger power cord from the AC outlet.
4. Do not allow foreign matter to enter the hole for connecting the rechargeable battery.
5. Never disassemble the rechargeable battery and charger.
6. 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.
7. Do not dispose of the battery in fire. If the battery is burnt, it may explode.
8. When drilling into wall, floor or ceiling, check for buried electric power cable, etc.
9. 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.
10. Using an exhausted battery will damage the charger.
11. Do not insert foreign 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.
12. When mounting a bit into the keyless chuck, tighten the sleeve securely. If the sleeve is not tight, the bit may slip or come off, causing injury.

SPECIFICATIONS

POWER TOOL

Model			DV12DV
No-load speed (Low/High)			0 – 350/0 – 1250 min ⁻¹ (/min)
No-load impact rate (Low/High)			0 – 5250/0 – 18750 min ⁻¹ (/min)
Capacity	Drilling	Brick	10 mm
		Wood	18 mm
		Metal	Steel: 10 mm, Aluminum: 10 mm
	Driving	Machine screw	6 mm
		Wood screw	5.1 mm (diameter) × 32 mm (length) (Requires a pilot hole)
Rechargeable battery (FEB12S)			Ni-Cd battery, 12 V
Weight			1.9 kg

CHARGER

Model	UC12SD
Charging time	Approx. 1 hour (at 20°C)
Charging voltage	12 V
Weight	1.4 kg

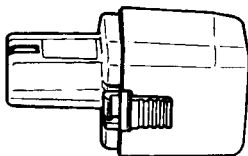
STANDARD ACCESSORIES

DV12DV	① Plus driver bit (No. 2 × 55L)	1
	② Charger (UC12SD)	1
	③ Plastic case	1
	④ Hook	1

Standard accessories are subject to change without notice.

OPTIONAL ACCESSORIES(sold separately)

1. Battery (FEB12S)



2. Drill bit for brick Diameter, 6.5 mm, 8 mm, 9.5 mm, 10 mm

Optional accessories are subject to change without notice.

APPLICATIONS

- Drilling of brick and concrete block, etc.
- Driving and removing of machine screws, wood screws, tapping screws, etc.
- Drilling of various metals.
- Drilling of various woods.

BATTERY REMOVAL/INSTALLATION

1. Battery removal

Hold the handle tightly and push the battery latch to remove the battery (see **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 drill, charge the battery as follows.

1. Insert the battery in the charger.

Position the battery so that the nameplate faces toward the nameplate of the charger and press in the battery until it comes into contact with the bottom surface. (See **Figs. 1** and **3**.)

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 tight and pull out the battery.

PRIOR TO OPERATION

1. Setting up and checking the work environment

Check if the work environment is suitable by following the precautions.

HOW TO USE

1. Confirm the cap position (see Fig. 4)

The three modes of screwdriver, drill and impact drill can be switched by the position of the cap in this unit.

- (1) When using this unit as a screwdriver, line up the one of the numbers "1, 3, 5 ... 22" on the cap, or the white dots, with the triangle mark on the outer body.
- (2) When using this unit as a drill, align the cap drill mark "▲" with the triangle mark on the outer body.
- (3) When using this unit as an impact drill, align the cap hammer mark "T" with the triangle mark on the outer body.

CAUTIONS

- The cap cannot be set between the numerals "1, 3, 5 ... 22" or the white dots.
- Do not use with the cap numeral between "22" and the white line at the middle of the drill mark. Doing so may cause damage. (See Fig. 5)

2. Tightening torque adjustment

(1) Tightening torque

Tightening torque should correspond in its intensity to the screw diameter. When too strong torque is used, the screw head may be broken or be injured. Be sure to adjust the cap position according to the screw diameter.

(2) Tightening torque indication

The tightening torque differs depending on the type of screw and the material being tightened. The unit indicates the tightening torque with the numbers "1, 3, 5 ... 22" on the cap, and a white dots. The tightening torque at position "1" is the weakest and the torque is strongest at the highest number. (See Fig. 4)

(3) Adjusting the tightening torque

Rotate the cap and line up the numbers "1, 3, 5, ... 22" on the cap, or the white dots, with the triangle mark on the outer body. Adjust the cap in the weak or the strong torque direction according to the torque you need.

CAUTIONS

- The motor rotation may be locked to cease while the unit is used as drill. While operating the impact drill, take care not to lock the motor.
- Too long hammering may cause the screw broken due to excessive tightening.
- 3. **Rotation to Impact changeover (See Fig. 4)**
The "Rotation (Rotation only)" and "Impact (Impact + Rotation)" can be switched by aligning the drill mark "▲" or the hammer mark "T" with the triangle mark on the outer body.
- To make holes in the metal, wood or plastic, switch to "Rotation (Rotation only)".
- To make holes in bricks or concrete blocks, switch to "Impact (Impact + Rotation)".

CAUTION

If an operation which is normally performed at the "Rotation" setting is performed at "Impact" setting, the effect of making holes does not only increase but it may also damage the bit or other parts.

4. Change rotation speed

Operate the shift knob to change the rotational speed. Move the shift knob in the direction of the arrow (see Figs. 6 and 7).

When the shift knob is set to "LOW", the drill rotates at a low speed. When set to "HIGH", the drill rotates at a high speed.

CAUTION

- When changing the rotational speed with the shift knob, confirm that the switch is off. Changing the speed while the motor is rotating will damage the gears.
- When setting the shift knob to "HIGH" (high speed) and the position of the cap is "17" or "22", it may happen that the clutch does not engaged and that the motor is locked. In such a case, please set the shift knob to "LOW" (low speed).
- If the motor is locked, immediately turn the power off. If the motor is locked for a while, the motor or battery may be burnt.
- 5. **The scope and suggestions for uses**
The usable scope for various types of work based on the mechanical structure of this unit is shown in Table.1.

Table 1

Work		Suggestions
Drilling	Brick	Use for drilling purpose.
	Wood	
	Steel	
	Aluminum	
Driving	Machine screw	Use the bit and socket matching the screw diameter.
	Wood screw	Use after drilling a pilot hole.

6. How to select tightening power and rotational speed

Table 2

Use		Cap Position	Rotating speed selection (Position of the shift knob)	
			LOW (Low speed)	HIGH (High speed)
Driving	Machine screw	1 — 22	For 4 mm or smaller diameter screw.	For 6 mm or smaller diameter screw.
	Wood screw	1 — 	For 5.1 mm or smaller nominal diameter screw.	For 3.8 mm or smaller nominal diameter screw.
Drilling	Brick		---	For drilling with a carbide tipped drill bit.
	Wood		For 18 mm or smaller diameters.	For 18 mm or smaller diameters.
	Metal		For drilling with a metal working drill bit	---

CAUTION

- The selection examples shown in **Table 2** should be considered as general standard. As different types of tightening screws and different materials to be tightened are used in actual works proper adjustments are naturally necessary.
- When using the impact drill with a machine screw at HIGH (high speed), a screw may damage or a bit may loose due to the tightening torque is too strong. Use the impact drill at LOW (low speed) when using a machine screw.

7. Mounting and dismounting of the bit.

- (1) Mounting the bit
After inserting a driver bit, etc. into the keyless drill chuck, firmly grasp the ring and tighten the sleeve by turning it toward the right (in the clockwise direction as viewed from the front). (See **Fig. 8**)
- If the sleeve becomes loose during operation, tighten it further. The tightening force becomes stronger when the sleeve is tightened additionally.
- (2) Dismounting the bit
Firmly grasp the ring and loosen the sleeve by turning it toward the left (in the counter-clockwise direction as viewed from the front). (See **Fig. 8**)

CAUTION:

- When it is no longer possible to loosen the sleeve, use a vise or similar instrument to secure the bit. Set the clutch mode between 1 and 11 and then turn the sleeve to the loose side (left side) while operating the clutch. It should be easy now to loosen the sleeve.

NOTE

- There is a plus driver bit on side of the main unit. The bit can be removed by pulling it forward. After using the bit, make sure to firmly attach it to the main body again.

8. Confirm that the battery is mounted correctly.

9. Check the rotational direction

- The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the selector button. The L-side of the selector button is pushed to turn the bit counterclockwise. (See **Fig. 9**). (The (L) and (R) marks are provided on the body.)

CAUTION:

- Always use this unit with clockwise rotation, when using it as an impact drill.

10. Switch operation

- When the trigger switch is depressed, the tool rotates. When the trigger is released, the tool stops.
- The rotational speed of the drill can be controlled by varying the amount that the trigger is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.

NOTE

- A buzzing noise is produced when the motor is about to rotate; This is only a noise, not a machine failure.

11. For drilling into brick

- Excessive pressing force never increases drilling speed. It will not only damage the drill tip or reduce working efficiency, but could also shorten the service life of drill bit. Operate the impact drill within 10-15 kg pressing force while drilling into brick.

12. Using the hook

- The provided hook is so designed that it can be installed and removed on either right or left by one touch.

- Use it correctly as occasion demands.

(1) Installing the hook

- To begin with, remove the battery from the tool. Subsequently, insert the hook so that the grooves at 2 locations of the hook and the 2 protrusions of the hook installing part of the tool come together, check and confirm that the hook is securely fixed, and then install the battery. (See **Figs. 10 and 11**)

(2) Removing the hook

- Remove the hook following the order of installation in reverse.

CAUTION

- Fix the hook securely before use. Any use with imperfect installation of the hook as is can result in injuries.
- When you use the hook, be absolutely sure that it is in a state where the battery is installed. If you use it in a state where the battery is removed, the hook can come off or drop and result in injuries.
- When you carry it hanging on a waist belt, do not install it on the drill chuck, but you can do so on the driver bit. If drills and the like with a sharp point are installed, injuries can result.

MAINTENANCE AND INSPECTION

1. Inspecting the tool

Since use of a dull tool will degrade efficiency and cause possible motor malfunction, sharpen or replace the tool as soon as abrasion is noted.

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 could result in serious hazard.

3. Cleaning on the outside

When the impact drill is stained, wipe with a soft dry cloth or a cloth moistened with soapy water. Do not use chloric solvents, gasoline or paint thinner, for they melt plastics.

4. Storage

Store the impact drill 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 research and development, the specifications herein are subject to change without prior notice.

IMPORTANT

Correct connection of the plug

The wires of the mains lead are coloured in accordance with the following code:

Blue: -Neutral
Brown: -Live

As the colours of the wires in the mains lead of this tool may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire coloured blue must be connected to the terminal marked with the letter N or coloured black.
The wire coloured brown must be connected to the terminal marked with the letter L or coloured red.
Neither core must be connected to the earth terminal.

NOTE

This requirement is provided according to BRITISH STANDARD 2769: 1984.

Therefore, the letter code and colour code may not be applicable to other markets except United Kingdom.

Information concerning airborne noise and vibration

The measured values were determined according to EN50144.

The typical A-weighted sound pressure level: 91 dB(A).

The typical A-weighted sound power level: 104 dB (A)

Wear ear protection.

The typical weighted root mean square acceleration value: 8.1m/s²