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INSTRUCTIVO DE OPERACIÓN, CENTROS DE SERVICIO Y PÓLIZA
DE GARANTÍA. ADVERTENCIA: LEASE ESTE INSTRUCTIVO
ANTES DE USAR EL PRODUCTO.

INSTRUCTION MANUAL
GUIDE D'UTILISATION
MANUAL DE INSTRUCCIONES

DEWALT®

DW160V
3/8" (10mm) VSR Right Angle Drill
Perceuse à angle droit VSR 10 mm (3/8 po)
Taladro de ángulo recto de 3/8" (10 mm) VSR

DEWALT Industrial Tool Co., 701 Joppa Road, Baltimore, MD 21286
(JUL05) Form No. 631467-01 DW160V Copyright © 2005 DEWALT
The following are trademarks for one or more DEWALT power tools: the yellow and black color scheme; the “D” shaped air intake grill; the array of pyramids on the handgrip; the kit box configuration; and the array of lozenge-shaped humps on the surface of the tool.

IF YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT THIS OR ANY DEWALT TOOL, CALL US TOLL FREE AT: 1-800-4-DEWALT (1-800-433-9258)

⚠ **WARNING:** To reduce the risk of injury, user must read instruction manual.

General Safety Rules

⚠ **WARNING!** Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

1) WORK AREA SAFETY

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control

2) ELECTRICAL SAFETY

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock. Replace or repair damaged cords. Make sure your extension cord is in good condition. Use only 3-wire extension cords that have 3-prong grounding-type plugs and 3-pole receptacles that accept the tool's plug.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

Minimum Gage for Cord Sets						
Volts	Total Length of Cord in Feet					
120V	0-25		26-50	51-100	101-150	
240V	0-50		51-100	101-200	201-300	
Ampere Rating						
More Than		Not more Than		AWG		
0	-	6	18	16	16	14
6	-	10	18	16	14	12

3) PERSONAL SAFETY

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Avoid accidental starting. Ensure the switch is in the off-position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts. Air vents often cover moving parts and should also be avoided.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust-related hazards.

4) POWER TOOL USE AND CARE

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

5) SERVICE

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

Additional Specific Safety Rules for Right Angle Drills

- **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.
- **Wear ANSI Z.87.1 safety goggles or other eye protection.** Hammering and drilling operations cause chips to fly. Flying particles can cause permanent eye damage.
- ⚠ **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:
 - lead from lead-based paints,
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber (CCA).

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

- **Avoid prolonged contact with dust from power sanding, sawing, grinding, drilling, and other construction activities. Wear protective clothing and wash exposed areas with soap and water.** Allowing dust to get into your mouth, eyes, or lay on the skin may promote absorption of harmful chemicals.

⚠ **WARNING:** Use of this tool can generate and/or disburse dust, which may cause serious and permanent respiratory or other injury. Always use NIOSH/OSHA approved respiratory protection appropriate for the dust exposure. Direct particles away from face and body.

- The label on your tool may include the following symbols. The symbols and their definitions are as follows:

V	volts	A	amperes
Hz	hertz	W	watts
min.....	minutes	~	alternating current
====	direct current	n ₀	no load speed
□	Class II Construction	⊕	earthing terminal
⚠	safety alert symbol	.../min.....	revolutions per minute

SAVE THESE INSTRUCTIONS

Motor

Be sure your power supply agrees with nameplate marking. 120 volts AC means your tool may be operated only with alternating current and never with direct current. Voltage decrease of more than 10% will cause loss of power and overheating. All tools are factory tested; if this tool does not operate, check the power supply.

Components

- A. Paddle
- B. Forward/reverse switch
- C. Chuck guard
- D. Chuck

Variable Speed Switch (Fig. 1)

To turn the tool on, squeeze the paddle (A) that runs the length of the tool, as shown in Figure 1. To turn the tool off, release the paddle.

A variable speed paddle switch permits speed control—the farther the switch is depressed, the higher the speed of the drill.

NOTE: Continuous use in variable speed range is not recommended. It may damage the switch and should be avoided.

Forward/Reverse Switch (Fig. 1, 2)

Release paddle (A) and allow the tool to come to a complete stop. Slide the forward/reverse switch (B) to the opposite position.

NOTE: Do not reverse direction of tool while the motor is running.

Chuck (Fig. 3)

⚠ **CAUTION:** Turn off and unplug the tool before making any adjustments or removing or installing attachments or accessories.

Open chuck jaws by aligning hole (E) in chuck (D) with an opening (F) in the chuck guard (C). Insert the chuck key (G) through the opening and into the chuck. Insert shank of bit about 3/4" (19mm) into chuck. It's important to tighten chuck with all three holes (E). To release bit, turn chuck key (G) counterclockwise in just one of the holes.

Chuck Key Holder (Fig. 4)

⚠ **CAUTION:** Turn off and unplug the tool before making any adjustments or removing or installing attachments or accessories.

- 1. Push double-hole end of chuck key holder (H) through slot in other end of holder.
- 2. Slip loop over electric plug and draw loop tight around cord.
- 3. Push ends of chuck key handle through two holes in end of holder.

Drilling

⚠ **CAUTION:** Turn off and unplug the tool before making any adjustments or removing or installing attachments or accessories.

- 1. Use sharp drill bits only.
 - For WOOD, use twist drill bits, spade bits, power auger bits, or hole saws.
 - For METAL, use high speed steel twist drill bits or hole saws.
 - For MASONRY, such as brick, cement, cinder block, etc., use carbide-tipped bits
- 2. Be sure the material to be drilled is anchored or clamped firmly. If drilling thin material, use a “back-up” block to prevent damage to the material.

- Always apply pressure in a straight line with the bit. Use enough pressure to keep the drill bit biting, but do not push hard enough to stall the motor or deflect the bit.
- Hold tool firmly to control the twisting action of the drill.
- IF DRILL STALLS**, it is usually because it is being overloaded. **RELEASE TRIGGER IMMEDIATELY**, remove drill bit from work, and determine cause of stalling. **DO NOT CLICK TRIGGER OFF AND ON IN AN ATTEMPT TO START A STALLED DRILL – THIS CAN DAMAGE THE DRILL.**
- To minimize stalling on breaking through the material, reduce pressure on drill and ease the bit through the last fractional part of the hole.
- Keep the motor running when pulling the bit back out of a drilled hole. This will help prevent jamming.
- For optimum control and comfort, the drill may be grasped in one of the following illustrated manners: Around the neck of the drill using one or two fingers to operate the paddle switch as in Figure 5, in an inverted position with the heel of the hand pushing on the head of the drill and one or two fingers on the paddle switch as in Figure 6, or holding the head of the drill with one hand and operating the paddle switch with the other hand, holding the back end of the drill as in Figure 7.

Drilling in Wood

Holes in wood can be made with the same twist drills used for metal. These bits may overheat unless pulled out frequently to clear chips from the flutes. For larger holes, use spade bits, power auger bits, or hole saws. Work that is likely to splinter should be backed up with a block of wood.

Drilling in Metal

Use a cutting lubricant when drilling metals. The exceptions are cast iron and brass which should be drilled dry. The cutting lubricants that work best are sulphurized cutting oil or lard oil; bacon grease will also serve the purpose.

Drilling in Masonry

Use carbide tipped masonry bits at low speeds. Keep even force on the drill but not so much that you crack the brittle materials. A smooth, even flow of dust indicates the proper drilling rate.

MAINTENANCE

⚠ CAUTION: With the motor running, blow dirt and dust out of all air vents with dry air at least once a week. Wear safety glasses when performing this. Exterior plastic parts may be cleaned with a damp cloth and mild detergent. Although these parts are highly solvent resistant, **NEVER** use solvents.

If replacement of the power cord is necessary, the tool should be taken to a DEWALT factory service center, a DEWALT authorized service center or other qualified service personnel in order to avoid a safety hazard. To locate an authorized service center, please contact DEWALT Industrial Tool Co., 701 East Joppa Road, Baltimore, MD 21286, call 1-800-4-DEWALT (1-800-433-9258) or visit our website www.dewalt.com.

Accessories

Recommended accessories for use with your tool are available at extra cost from your local dealer or authorized service center. If you need assistance in locating any accessory, please contact DEWALT Industrial Tool Co., 701 East Joppa Road, Baltimore, MD 21286, call 1-800-4-DEWALT (1-800-433-9258) or visit our website www.dewalt.com.

⚠ CAUTION: The use of any other accessory not recommended for use with this tool could be hazardous.

⚠ CAUTION: Turn off and unplug the tool before making any adjustments or removing or installing attachments or accessories.

For safety in use, the following accessories should be used only in sizes up to the maximums shown in the table below.

MAXIMUM RECOMMENDED CAPACITIES		
Chuck Size	3/8" (9.5mm)	
Drill Speed (RPM)	1200	
Twist bits in metal	3/8" (9.5mm)	
Flat boring bits in wood	1-1/4" (31.7mm)	
Carbide tipped bits in masonry	9/16" (14.2 mm)	
Hole saws in wood or metal	1-1/4" (31.7mm)	

⚠ CAUTION: Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury. Accessory ratings must always be above tool speed as shown on tool nameplate.

Wire wheel brushes	4" (101.6mm) diameter maximum
Wire cup brushes	3" (76.2mm) diameter maximum
Buffing wheels	3" (76.2mm) diameter maximum
Rubber backing pads	4-5/8" (117.4mm) diameter maximum

ROUND-SHANK MASONRY BITS

These bits are carbide-tipped for top performance and extra long life in most masonry drilling applications.

BIT DIAMETER	USABLE DRILLING DEPTH	SHANK DIAMETER
3/16" (3.8mm)	1-1/2" (38.1mm)	3/16" (3.8mm)
1/4" (6.3mm)	2" (50.8mm)	1/4" (6.3mm)
5/16" (3.1mm)	2-1/4" (57.1mm)	1/4" (6.3mm)
3/8" (9.5mm)	2-1/2" (63.5mm)	1/4" (6.3mm)
1/2" (12.7mm)	2-1/2" (63.5mm)	1/4" (6.3mm)
9/16" (14.2mm)	4-1/4" (107.9mm)	1/4" (6.3mm)

HIGH-SPEED HOLE SAWS (use with mandrels)

SAW OUTSIDE DIAMETERS	FOR CONDUIT SIZES	FOR PIPE TAP SIZES
5/8" (15.8mm)	Built in mandrel	no separate mandrel
3/4" (19mm)	3/8" (9.5mm)	
7/8" (22.2mm)	1/2" (12.7mm)	
1-5/16" (33.3mm)		3/4" (19mm)
1" (25.4mm)		
1-1/16" (26.9mm)		
1-1/8" (28.5mm)	3/4" (19mm)	
1-3/16" (30.1mm)		1" (25.4mm)

Repairs

This product is not user serviceable. There are no user serviceable parts inside this tool. Servicing at an authorized service center is required to avoid damage to the tool.

To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustments should be performed by a DEWALT factory service center, a DEWALT authorized service center or other qualified service personnel. Always use identical replacement parts.

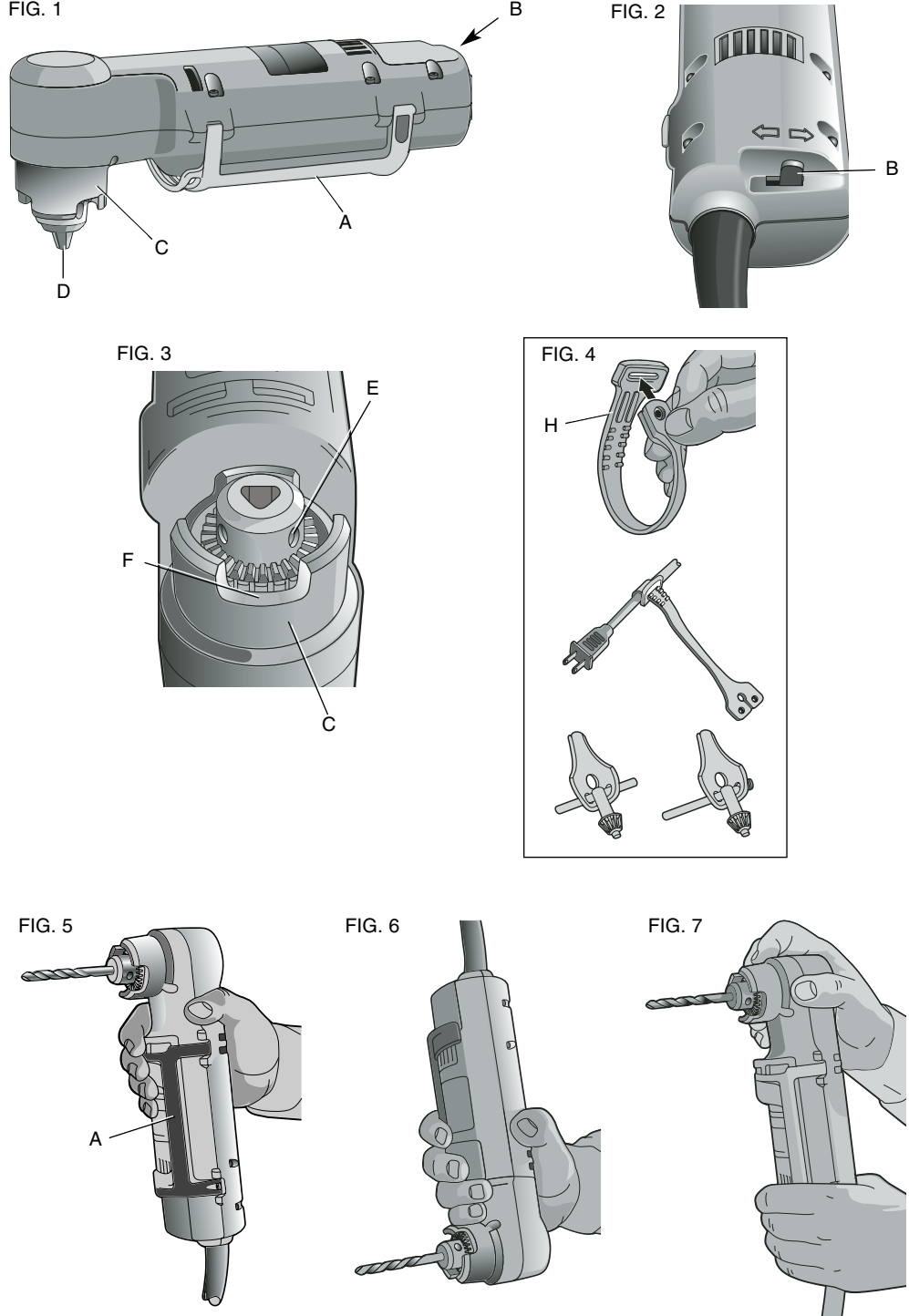
Three Year Limited Warranty

DEWALT will repair, without charge, any defects due to faulty materials or workmanship for three years from the date of purchase. This warranty does not cover part failure due to normal wear or tool abuse. For further detail of warranty coverage and warranty repair information, visit www.dewalt.com or call 1-800-4-DEWALT (1-800-433-9258). This warranty does not apply to accessories or damage caused where repairs have been made or attempted by others. This warranty gives you specific legal rights and you may have other rights which vary in certain states or provinces.

In addition to the warranty, DEWALT tools are covered by our:

1 YEAR FREE SERVICE

DEWALT will maintain the tool and replace worn parts caused by normal use, for free, any time during the first year after purchase.



90 DAY MONEY BACK GUARANTEE

If you are not completely satisfied with the performance of your DEWALT Power Tool, Laser, or Nailer for any reason, you can return it within 90 days from the date of purchase with a receipt for a full refund – no questions asked.

RECONDITIONED PRODUCT: Reconditioned product is covered under the 1 Year Free Service Warranty. The 90 Day Money Back Guarantee and the Three Year Limited Warranty do not apply to reconditioned product.

FREE WARNING LABEL REPLACEMENT: If your warning labels become illegible or are missing, call 1-800-4-DEWALT for a free replacement.



POUR TOUT RENSEIGNEMENT SUPPLÉMENTAIRE SUR CET OUTIL OU TOUT AUTRE OUTIL DEWALT, COMPOSER SANS FRAIS LE NUMÉRO :

1-800-4-DEWALT (1-800-433-9258)

⚠ AVERTISSEMENT : Afin de réduire le risque de blessures, l'utilisateur doit lire le mode d'emploi.

Règles de sécurité – Généralités

⚠ AVERTISSEMENT : Lire toutes ces directives. Tout manquement aux directives suivantes pose des risques de choc électrique, d'incendie et/ou de blessure grave. Le terme « outil électrique » dans tous les avertissements ci-après se rapporte à votre outil électrique à alimentation sur secteur (avec fil) ou par piles (sans fil).

CONSERVER CES DIRECTIVES

1) SÉCURITÉ - AIRE DE TRAVAIL

- Maintenir l'aire de travail propre et bien éclairée.** Les lieux encombrés ou sombres sont propices aux accidents.
- Ne pas faire fonctionner un outil électrique dans une atmosphère explosive, en présence par exemple de poussières, gaz ou liquides inflammables.** Les outils électriques peuvent engendrer des étincelles qui pourraient enflammer toute émanation ou poussière ambiante.
- Tenir les enfants, ou toute autre personne, éloignés pendant l'utilisation d'un outil électrique.** Toute distraction pourrait vous faire perdre la maîtrise de ce dernier.

2) SÉCURITÉ – ÉLECTRICITÉ

- La fiche électrique de l'outil doit correspondre à la prise murale. Ne jamais modifier la fiche en aucune façon. Ne jamais utiliser de fiche d'adaptation avec un outil électrique mis à la terre.** L'utilisation de fiches d'origine et de prises appropriées réduira les risques de choc électrique.
- Éviter tout contact corporel avec des éléments mis à la terre comme tuyaux, radiateurs, cuisinières ou réfrigérateurs.** Les risques de choc électrique augmentent lorsque le corps est mis à la terre.
- Ne pas exposer les outils électriques à la pluie ou à l'humidité.** Toute pénétration d'un outil électrique par un liquide augmente les risques de choc électrique.
- Ne pas utiliser le cordon de façon abusive. Ne jamais utiliser le cordon pour transporter, tirer ou débrancher un outil électrique. Protéger le cordon de la chaleur, de l'huile et de tout bord tranchant ou pièce mobile.** Les cordons endommagés ou emmêlés augmentent les risques de choc électrique. Remplacer ou faire réparer tout cordon endommagé. S'assurer que la rallonge est en bon état. N'utiliser que des rallonges trifilaires munies de fiches tripolaires et des prises tripolaires acceptant la fiche de l'outil.