

### **PNEUMATIC DEBURRING TOOL**

Please read this manual carefully before you attempt to use your tool so that you may use it properly and safely.

### BURR CUTTER PROFESSIONAL TOOL

Model BC-005



#### **Specifications**

Model		BC-005
Maximum Operating Pressure	MPa	0.6
Air Consumption (No Load)	m³/min	0.22
Maximum Power	W	72
Rated Speed (Maximum Free Speed)	min <sup>-1</sup>	420
Mass (Weight)	Kg	0.75
Sound Pressure Level	dB(A)	88.8
Sound Power Level	dB(A)	99.8
Vibration Level [Uncertainty K] (according to ISO20643)	m/s <sup>2</sup> [m/s <sup>2</sup> ]	4.2 [0.91]
Thread Size of Air Inlet		Rc1/8

Due to continuous product development/improvement the specifications and configurations in this document are subject to change without prior notice.



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Keep the manual handy – so you can use it whenever necessary.

**Orijinal Instructions** 

Thank you very much for your purchase of this Nitto Kohki products.

Before using your tool, please read this manual carefully so that you may use it properly to get the most out of it.

Please keep the manual handy - so you can use it whenever necessary.

· English	: Please ask your dealer or distributor for instruction manual in local language(s).
· German	: Bitte fragen Sie Ihren Händler nach eine Betriebsanleitung in Landessprache.
· French	: S'il vous plait, veuillez demandez á votre foumisseur de manuel instruction en langue locale.
· Spanish	: Por favor, cantacte con su distribuidor para el manual de instrucciones en español.
· Portuguese	: Por favor pessa ao seo agente ou distribuidor o manual de instrucces ih linguagen local.
· Italian	: Per Manuale Istruzioni in lingua locale Vi preghiamo di rivolgervi al rivenditore o distributore.
· Dutch	: Vraag uw handelaar om een nederladstalige gebruiksaanwijzing.
· Swedish	: Be er lokala Åtreförsäljare eller distributör om manualer pá svenska.
· Danish	: Venligst henvend Dem til den danske distributør for instructions manualer.
· Polish	: Prosze pytac swojego dealera lub dystrybutora o instrukcje obslugi w jezyku localnym.
·中文	<sup>:</sup> 請向當地供應商或経銷商詢問中 文使用説明書

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#### PICTOGRAM



Warning: It might be dangerous to operate the tool if the instructions supplied are not followed.

Using this tool improperly could result in serious injury. Read the instruction manual before using.



Always wear suitable eye protection.



Always wear suitable hearing protection.



Always wear respiratory protective equipment (PPE).

The following Safety notations are used throughout the manual to highlight safety precautions for the user and for the tool.



Indicates a potentially hazardous situation which, if not avoided by following the instructions given, could result in death or serious injury.

Indicates a potentially hazardous situation which, if not avoided by following the instructions given, could result in injury or material damage.

Please note, however, that failure to observe safety precautions under the "A Caution" category could result in a serious occurrence depending on the situation: please observe all safety precautions in the manual.

Caution: Important precautions for tool setup, operation and maintenance.

### IMPORTANT SAFETY INSTRUCTIONS

When using the tool, please observe the safety precautions below to prevent possible accident or injury.

# GENERAL: TOOLS

#### **TO OPERATORS**

• Wear proper clothing for the type of work being done.

Take care so that clothing, ties, hair, etc. will not become entangled with the moving parts. If items become entangled, it will cause the operator to be pulled towards the tool and lead to possible cause of accident or injury.

Always wear suitable eye protection.

Vision correction glasses are not safety glasses. Always wear appropriate safety glasses when doing your job.

- Always wear suitable hearing protection.
- Wear respiratory protective equipment (PPE). Wear respiratory protective equipment (PPE) when working in an environment where dust particles are generated in operation.
- Avoid working posture that is too stressful. Always ensure a firm footing and well balanced posture.
- Do not operate the tool if you are too tired.
- Never touch any moving parts of the tool when running.

#### ABOUT WORK AREA

- Keep the work area clean. Cluttered work areas (e.g. workbench) invite accidents.
- Carefully select the work area.

Do not expose the tool to rain.

Do not use the tool in a wet or soaked area. See that the work area is adequately illuminated.

- Never work near inflammable liquid or in a potentially explosive atmosphere.
- Keep children away from the work area. Keep children and unauthorized people away from the work area to avoid accident or injury.
- Some tools generate high noise levels. Check to be sure that the use of this tool conforms to all local noise regulations.

#### **BEFORE OPERATION**

#### • Inspect tool before use.

Before using, check that screws are securely tightened, that any protective cover or guard is securely in place, other parts are free from damage and that the tool runs as it should.

Check that moving parts are properly adjusted for positioning and tightened, that parts are free from damage and properly mounted, and that all other parts are in good condition for normal operation.

Should you find any damage to the protective cover or other part, replace it in accordance with the Operation Manual. If there are no instructions in the Manual, please contact the sales agent through which you have purchased your tool or an authorized dealer near you for repair.

Likewise, if a switch failure occurs, contact sales agent through which you have purchased your tool or an authorized dealer near you for repair.

Do not use the tool if it does not start or stop with the start/stop switch.

#### Securely mount cutter

An improperly mounted cutter may fly out, causing possible damage to the tool or injury to the operator.

- Always remove spanner, wrench, etc., once adjustment has been made with them.
- Use a tool appropriate for the application. Avoid heavy-duty application that is beyond the capacity of the tool.
- Do not use the tool for purposes other than what it is designed for.
- Do not abuse tool.

Use tool in accordance with the specifications: you'll get the most out of it while ensuring safety.

• Securely fasten workpiece in place.

Use a vice or clamp to securely fasten the workpiece in place. It is much safer this way than holding it in your hand, allowing you to operate the tool with both hands.

#### **ABOUT HANDLING**

#### • How to store tool.

When the tool is not used, store it in a dry area and out of reach of children.

#### • How to carry tool.

Do not touch the start switch while the tool is being carried.

• Do not leave the tool unattended while it is running.

Turn off the start switch and disconnect the tool from power source. Do not leave the work area until the tool comes to a complete stop.

#### MAINTENANCE/SERVICE

#### • Do not take apart or modify tool.

Disassembly or modification carried out without the supervision of a qualified or authorized service engineer could result in an accident or injury.

#### • Inspect cutting tool and accessories, etc.

Always check to see that cutting tool and accessories, etc. are in good operating condition without damage or deterioration before you mount them on the tool. Should you find any damage to an accessory or part, please contact sales agent through which you have purchased your tool or an authorized dealer near you for repair.

#### • Check parts for damage.

When you have found damage to accessory or other part, carefully check the damaged part to determine the extent of influence it has upon the functions of the tool – that is, determine whether it can still perform its normal functions.

Check to see that the linkage of the moving parts is OK, that all parts are OK without damage, that they are properly mounted, and that the tool functions normally. Should you find any damage to an accessory or part that may hamper proper functioning of the tool, please contact sales agent through which you have purchased your tool or an authorized dealer near you for repair.

• Have your tool repaired at an authorized Nitto Service Center.

For repair or parts replacement, please contact the sales agent through which you have purchased your tool or an authorized dealer near you.

#### • Use only Nitto genuine parts.

Use of improper parts may result in serious occurrence.

To obtain a Nitto genuine part, consult this Manual or contact the sales agent from which you have purchased your tool directly.

#### • Do not detach label or nameplate from tool.

When a label/nameplate gets damaged, worn or becomes missing, contact the sales agent through which you have purchased your tool or Nitto Kohki Co. Ltd, directly for a replacement.

#### DISPOSAL

• When a tool is taken permanently out of service, it is advised that the tool is disassembled, degreased and parts separated by material and recycled locally in the appropriate manner.

### GENERAL: PNEUMATIC TOOLS

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#### • Use appropriate air pressure.

Excessively high air pressure will increase the number of revolutions or strokes causing not only potential premature failure/breakage but could also lead to an unexpected accident or injury.

#### • Connect tool to air supply line.

There are various types of pipes running in a factory in addition to the pneumatic line (such as oxygen, nitrogen, gas and water). For this reason, always ensure that you are connecting to the pneumatic line.

#### Start tool properly.

Turn the start switch OFF before connecting to the air supply line.

• Always disconnect the tool from the air supply line before putting on/taking off any accessory and prior to carrying out any maintenance work.

#### • Avoid exposure to exhaust air.

Pneumatic tool exhaust air contains oil and contaminated moisture. Make sure the exhaust air is not directed towards your face or anyone else within the work area.

#### • Keep tool off electricity.

This pneumatic tool is not electrically insulated. To avoid a potential electric shock do not use where there is a possibility of coming into contact with live electricity.

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#### Handle tool carefully.

Abusive use of tool could invite failure or accident. Do not throw, drop or shock the tool.

• Handle connecting hose carefully. Do not carry the tool by the air hose. Do not pull the air hose to disconnect.

### INSTRUCTIONS FOR THIS TOOL

#### About Your Tool

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#### • Protect your body from the chips/filings.

Hot chips/filings may fly out from the work piece. Always wear safety glasses, dust mask, earplugs, gloves (except knitted gloves) and long-sleeved garment.

Keep your face well away from the work piece.

• This tool is a push start type.

Before starting operation, turn on the throttle lever to start the motor, and press the countersink against the workpiece to be machined.

- There are three types of available shank diameters. Do not use a countersink that does not fit any of the shank diameters.
- To ensure high-quality operation and safety, do not use a worn or damaged countersink.
- When the connection hose is disconnected from the tool, exercise care not to allow cutting chips and foreign substances to enter the tool through the air inlet port of the tool.

#### 1 USAGE

This tool is designed for deburring workpiece with countersink.

#### 2 CHECK THE CONTENTS OF THE PACKAGE

Check the contents and make sure that the tool does not have any damage which may have occurred during transportation. The contents should correspond to the list as follows. In case of damage/missing parts, please contact the sales agent from whom you purchased the tool.

Package Contents	Qty	check
BURR CUTTER BC-005	1set	
Chuck 10mm	1	
Chuck 8mm	1	
Chuck 6mm	1	
Hex. Socket Screw Key 2.5	1	
Hook	1	
Bushing R1/8×NPT1/4	1	
Instruction Manual	1	
Declaration of Conformity	1	

#### **3 NAME OF PARTS**



#### **4 AIR SUPPLY**

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• Draw off drainage before starting operation. If the drainage enters into the tool, it can freeze around the exhaust port of the tool and result in output power reduction.

#### 4-1. Air Pressure

Adjust air pressure to 0.6MPa (or 6 kgf/cm<sup>2</sup>) with the air regulator. Lower pressure may result in insufficient performance. Higher pressure may result in premature wornout of parts. It is important to maintain the proper pressure with pressure regulator on air line.

#### 4-2. Air Line (Fig.2)

Use a 9.5 mm (3/8") I.D. air hose between the compressor and the tool. Compressed air comes to be cooled down and its drain be separated, as soon as the air leaves the compressor. The drain, however, is condensed in the piping, and can enter into the tool mechanism, and may cause malfunction.

So, install an air filter and an oiler between the compressor and the tool.

#### 4-3. oiler

Install an oiler between the compressor and the tool. Use machine oil ISO VG-10 for lubrication and rust prevention. Negligence of the oil supply may cause damages on the tool. Lubricating the tool with high viscosity oil reduces the tool performance.

#### 4-4. Lubrication (Fig.2)

Before starting the tool, disconnect air hose from the tool and supply a few drops of machine oil ISO VG-10 to the air inlet port of the tool. Then reconnect and make idle running for a few seconds so that the oil should reach every part in the tool.



Fig.2

#### **5 HOW TO OPERATE THE TOOL**

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- Always wear safety glasses during operating the tool. Wear respiratory protection when working in an environment where dust particles are generated during operation.
- Make sure the Throttle Lever is in the OFF position before connecting the air supply hose to the tool.
- Always disconnect the air supply hose from the tool before putting on/taking off countersink or replacing parts.
- Never touch any moving parts of the tool when running.

#### 5-1. Dimensions of attachable countersink

The countersink that can be fitted into the chuck supplied with the tool comes in three shank diameters (Fig.3).(Table 1)





Table 1 Fitting table

Devile Mie	
Parts No.	d( <i>φ</i> mm)
Chuck 10mm	10
Chuck 8mm	8
Chuck 6mm	6

% Use a countersink for the goods on the market.

## 5-2. Start and Stop (Fig.4)

#### • This tool is a push start type.

- Check that a Throttle Lever is turned off and connecting the tool to the hose leading to air supply line.
- (2) Hold the tool, ① tilt the Lock Lever, and ② grasp the Throttle Lever to start.

% The countersink does not rotate in this state.

(3) ③ When the Throttle Lever is released, it will automatically turn off.



5-3. Attaching and detaching the Countersink

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- Always disconnect the air supply hose from the tool before adjusting the countersink.
- Do not fail to wear gloves when replacing the countersink.
- Allow the countersink adequate time to cool off after use as countersink can reach extreme temperatures.

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- Use a chuck matching the shank diameter.
- Exercise care not to allow cutting chips to enter the holder into which the countersink will be inserted. If there are cutting chips in the holder, thoroughly remove the cutting chips, and then mount the chuck.
- (1) Using the Allen key wrench supplied with the tool, loosen the three hexagon socket head screws of the chuck matching the shank diameter of the countersink used.
- (2) Insert the shank of the countersink all the way into the chuck, and securely tighten the three hexagon socket head screws. (Fig.5)
- (3) To detach the countersink, loosen the three hexagon socket head screws.



#### 5-4. Attaching and detaching the Chuck

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- Always disconnect the air supply hose from the tool before adjusting the chuck.
- Do not fail to wear gloves when replacing the chuck.
- Allow the countersink adequate time to cool off after use as indexable inserts can reach extreme temperatures.

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- Exercise care not to allow cutting chips to enter the holder into which the chuck will be inserted. If there are cutting chips in the holder, thoroughly remove the cutting chips, and then mount the chuck.
- (1) Insert the chuck into the chuck holder of the tool.
- (2) The chuck can be inserted all the way into the holder by turning and pushing it in with the sleeve kept down. (Fig.6)
- (3) The chuck will not be locked as long as the sleeve is kept down.
  - ※ Release the hold on the sleeve. It will return to the original state, and the chuck will be locked.
- (3) To remove the chuck, pull it out with the sleeve kept down.



Fig.6

# 5-5. Adjusting the Rotation Speed

• Never touch any moving parts of the tool when running.

When the dial is turned, the amount of airflow is changed to adjust the rotation speed.

When the dial is turned to the furthest counterclockwise position, the tool reaches the maximum rotation speed. Adjust the rotation speed according to the chamfering work. (Fig.7)

% The motor does not start to run when the dial is throttled.



# 5-6. How to use

#### • This tool is a push start type.

If the throttle lever is turned on with the countersink pressed against the workpiece or the countersink is suddenly pressed against the workpiece, it will lead to be broken.

With the workpiece fixed and the throttle lever turned on, insert the countersink into the hole in the worpiece, and slowly press it against the workpiece. (Fig.8)



5-7. Hanging the hook

Use a hook for hanging the tool.(Fig.9)



#### **6 STORAGE**

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### • When tool is not used, store it out of reach of children.

Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, residual moisture on the inside can cause rusting. Before storing, and after operation, oil the tool at the air inlet with machine oil ISO VG-10 and run it for a short time.

#### **7 ORDERING SERVICE PARTS**

- For further operational and handling information or for replacement of parts and components, contact the company from whom you purchased the tool or an authorized dealer.
- In ordering parts and components give each part number, part name and quantity required.
- Use only NITTO genuine parts.

#### **8 THREAD SIZE OF HOSE FITTING**

The product comes has air supply inlet of Rc(metric) thread. Connect the Bushing R thread×NPT thread included as standard accessories, if you would like to have American NPT thread instead.

#### 9 EXPLODED DIAGRAM : BC-005

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This diagram is for your reference only. Do not attempt to service or repair the Tool. Do not take the Tool apart. Contact an authorized Nitto dealer for all service and repair of the Tool. Improper service and repair can cause accidents and service injuries. Never attempt to modify the Tool. Never attempt service or repair the Tool yourself.



No.	PartsNo.	Parts Name	Qty
1	FQ00129	External Retaining Ring WR-20	1
2	TQ13910	Spring 0.7x20.9x21	1
3	TQ13909	Sleeve	1
4	TQ06710	External Retaining Ring ISTW-20	1
5	TQ05260	Oil Seal G20x26x4	1
6	TQ13894	Needle Bearing HK2016	1
7	TB09383	Housing Sub Ass'y	1set
8	(TQ14024)	Label Caution	1
9	TB09389	Clutch B Ass'y	1set
10	TP00518	Ball 1/8	3
11	TQ02096	Parallel Pin 5x16	1
12	TQ13907	Spring 0.5x4.1x15.5	1
13	TQ13904	Clutch A	1
14	TQ13903	Ball Bearing 6001LLU	1
15	TB09387	Spindle Sub Ass'y	1set
16	TQ06893	Parallel Key Both Ends Round 3X3X6	1
17	TB09385	Carrier Ass'y	1set
18	TB09384	Planetary Gear 15 Ass'y	3set
19	TQ13906	Ring Gear	1
20	TQ13905	Lock Plate	1
21	TQ13888	Rubber Sheet	1
22	TQ07225	Ball Bearing 695ZZ	1
23	TQ13345	End Plate B	1
24	TQ13889	Rotor	1
25	TB09122	Blade Ass'y(4pcs)	1set
26	TQ13346	Cylinder	1
27	TP04225	Spring Pin 2x4 AW	1
28	TQ13344	End Plate A	1
29	TP15408	Ball Bearing 626ZZ	1
30	TQ13887	Ring Plate	1
31	TQ13886	Rubber Packing	1
32	TB09379	Duster Housing Sub Ass'y	1set
33	(TQ13875)	Label Model	1

No.	PartsNo.	Parts Name	Qty
34	TQ13885	Adjust Valve	1
35	TP11994	O-ring P-4	1
36	TP09422	O-ring P-3	1
37	TB08669	Lever Ass'y	1set
38	(TP13893)	SpringPin 3x22 AW	1
39	TQ14241	X-ring X009	2
40	TQ14485	Stopper Bolt	1
42	TQ13877	Filter	1
43	TP11241	O-ring P-7	1
45	TB09592	Dial Ass'y	1set
46	TP09417	SpringPin 2x18 AW	1
48	TQ14488	Stopper Nut	1
49	TA93070	Valve Stem Ass'y	1set
50	TP14601	Spring Sheet	1
51	TP14604	O-ring S-10	1
52	TP03695	Internal Retaining Ring C-12	1
53	TB09390	Chuck 10mm Ass'y	1set
54	(TQ0485)	Hex. Socket Set Screw 5x6	3
55	TQ14487	Seal Ring	1
56	TP06597	Hex. Socket Set Screw PT1/8	1
57	TQ14489	Packing	1

#### Accessories

No.	PartsNo.	Parts Name	Qty
44	TQ14335	Bushing R1/8xNPT1/4	1
	TB09391	Chuck 8mm Ass'y	1set
	(TQ00485)	Hex. Socket Set Screw 5x6	3
	TB09392	Chuck 6mm Ass'y	1set
	(TQ00485)	Hex. Socket Set Screw 5x6	3
	TP04305	Hex. Socket Screw Key 2.5	1
	TQ10969	Hook	1
	TQ14328	Instruction Manual	1



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	EC I	DECLARATION OF CONFORMITY	
	We hereby declare that the following our product conforms with the essential health and safety requirements of EU Directives.		
Prod	luct:	PNEUMATIC DEBURRING TOOL	
Mod	el:	BURR CUTTER : BC-005	
Seri	al No:	In the case of 6 digits serial number. X X X X X X Consecutive numbers (00001~99999) Last digit (0-9) of year (A.D.)	
		In the case of 7 digits serial number. X X X X X X X Consecutive numbers (00001~99999) Last two digits (00-99) of year (A.D.)	
Man	ufacturer:	NITTO KOHKI Co., Ltd. 2-9-4, Nakaikegami, Ohta-ku, Tokyo, 146-8555, Japan	
Auth	norised person to prepar	e the technical construction file(TCF) in the community:	
		Masatoshi Ogue	
		President	
		NITTO KOHKI EUROPE Co., Ltd.	
		Unit A5, Langham Park Industrial Estate, Maple Road, Castle Donington, Derbyshire DE74 2UT, U.K.	
		Tel:(44)-1332-653800 Fax:(44)-1332-987273	
The ab followi retainc Mac Sour	ng European standards ed at the above manufac hinery Directive :	2006/42/EC Machinery Directive /aluated for conformity with above directives using the . The technical construction file (TCF) for this product is :turer's location. EN ISO12100:2010, EN ISO11148-7:2012, others el: EN ISO15744:2008, EN ISO4871:1996 EN ISO20643:2008	
Sign	ature:		
Date	e/Place:	/Tokyo, Japan	
Nam	ne: <u>Katsunobu Kis</u>	hi	
Title	NITTO KOHK	<u>ger MACHINE TOOLS Business Div.</u> I Co., Ltd. gami, Ohta-ku, Tokyo, 146-8555, Japan	
Being	the responsible person a	appointed and employed the manufacturer.	