

INSTRUCTION MANUAL

PNEUMATIC DIE GRINDER

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

AIR SONIC Model L-25B, L-35C, AL-55 PROFESSIONAL TOOL



L-25B



L-35C



AL-55

Specifications

Model		L-25B	L-35C	AL-55
Maximum Operating Pressure	MPa	0.6		
Air Consumption (No Load)	m ³ /min	0.4	0.35	0.17
Rated Speed (No Load)	min ⁻¹	27000	35500	56500
Size of Collet Chuck	mm	6	6	3
Mass (Weight)	kg	0.6	0.45	0.25
Sound Pressure Level	dB (A)	76	76	71
Sound Power Level	dB (A)	87	87	82
Vibration Level [Uncertainty K]	m/s ² [m/s ²]	7.2 [4.6]	3.1 [0.8]	2.0 [1.1]
Thread Size of Air Inlet		Rc1/4	Rc1/4	G1/4

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.

Original Instructions

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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 à votre fournisseur de manuel instruction en langue locale.
- **Spanish** : Por favor, contacte con su distribuidor para el manual de instrucciones en español.
- **Portuguese** : Por favor pessa ao seo agente ou distribuidor o manual de instrucces ih linguagem 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 på svenska.
- **Danish** : Venligst henvend Dem til den danske distributør for instructions manualer.
- **Polish** : Proszę pytać swojego dealera lub dystrybutora o instrukcje obsługi w języku lokalnym.
- **中文** : 請向當地供應商或經銷商詢問中文使用說明書

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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 use.



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.



WARNING:

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



CAUTION:

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 “**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.

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.

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.

GENERAL: TOOLS

WARNING

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.**

Remember, regular glasses are not safety glasses. The lenses are only shock resistant, which will not give you sufficient eye protection you may need in your working environment.

- **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.

- **Always wear suitable protective gloves.**

- **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 tool to rain.

Do not use 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.

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 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 accident. 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

WARNING

- **Use appropriate air pressure.**

Excessively high air pressure will increase the tool 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.

CAUTION

- **Handle tool carefully.**

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

- **Handle air 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

The word "attachment" in the sentences below refers to mounted wheels and rotary burrs.

WARNING

- **Do not use an attachment with rated revolution speed (the number of revolutions marked on the package) less than the actual revolution speed of the Die Grinder.**

- **Inspect an attachment for chips or cracks prior to mounting.**

Do not use an attachment that is chipped or cracked or otherwise damaged. Do not use an attachment that has been soaked in water or any other liquid.

- **Make certain the diameter of the attachment mandrel suits the chuck.**

Fasten the attachment securely. Use a genuine chuck sleeve.

- **After mounting a new attachment, hold the Die Grinder under a steel workbench or inside a casting and run it for at least one minute.**

Make certain no one is within over the rotating surface. If the attachment is defective, improperly mounted or the wrong size and speed, this is the time it will usually fail.

- **Air pressure at the Die Grinder inlet with the Die Grinder running must not exceed 0.6 Mpa (6 kgf/cm², 85 psig, 6 bar)**

- **When starting a cold Mounted Wheel, apply it to the work slowly until the Mounted Wheel gradually warms up.**

Make smooth contact with the work and avoid any bumping action or excessive pressure

- **After a Die Grinder repaired and is issued for use, check the free speed with no attachment mounted using a tachometer to make certain its actual speed at 0.6 MPa (6 kgf/cm²) does not exceed rated speed stamped or printed on the name plate.**

Die Grinders in use on the job must be similarly checked at least once each shift. When checking, the Adjust Valve of the tool should be set for maximum speed position.

- **Wear protective glasses and a dustproof mask**
Operation generates chips and dust particles, etc. which may cause eye and/or respiratory injury: Always use PPE (Personal Protective Equipment) for eye and respiratory protection.

- **Do not put any inflammable liquid or use the grinding/sanding tool in a potentially explosive atmosphere as there is a possibility of sparks when grinding which could cause a fire/explosion.**

- **When you replace or adjust the cutting tool or parts, be sure to detach the tool from the air hose.**

- **Never touch the moving parts while in operation.**

1. USAGE

L-25 Die Grinder is for grinding workpieces using a mounted wheel.

L-35, AL-55 Die Grinder is for grinding workpieces using a mounted wheel or a rotary burr.

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.

L-25B

Package Contents	Qty	Check
DIE GRINDER L-25B	1set	
Single Ended Spanner 14	1	
Mounted Wheel No.2	1	
Mounted Wheel No.3	1	
Chuck Pin	1	
Bushing R1/4xNPT1/4	1	
Instruction Manual	1	
Declaration of Conformity	1	
Caution for Use	1	

L-35C

Package Contents	Qty	Check
DIE GRINDER L-35C	1set	
Single Ended Spanner 14	1	
Mounted Wheel 13x13x6x38	1	
Bushing R1/4xNPT1/4	1	
Instruction Manual	1	
Declaration of Conformity	1	
Caution for Use	1	

AL-55

Package Contents	Qty	Check
DIE GRINDER AL-55	1set	
Spanner 7x9	1	
Mounted Wheel 5x13x3	1	
Bushing R1/4xNPT1/4	1	
Instruction Manual	1	
Declaration of Conformity	1	
Caution for Use	1	

3. AIR SUPPLY

3-1. Air Pressure

Adjust air pressure with the air regulator to the appropriate level for the pneumatic tool used.

Air pressure that is too low will stop the tool from operating at full capacity.

Air pressure that is too high may cause damage to the tool.

3-2. Air Line (Fig.1)

Use a 9.5 mm (3/8") I.D. connecting hose between the compressor and the tool.

Drained water, etc., if flown into the tool, could cause tool failure. Install an air filter between the compressor and the tool.

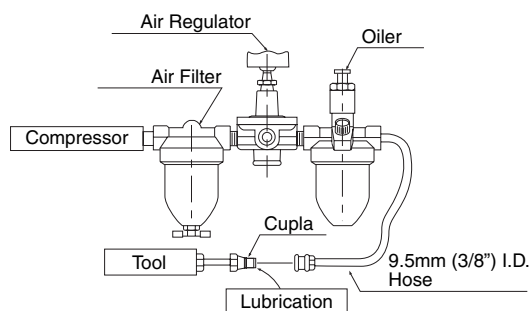


Fig.1

3-3. Lubrication

Install an oiler between the compressor and the tool.

Use the machine oil ISO VG-10. Failure to lubricate as required may result in damage to the tool. Use of oil that is too thick will reduce the performance of the tool.

4. ATTACHMENTS

WARNING

Do not use any attachment for which the operating speed is lower than the actual free speed of the grinder.

The attachment mandrel shall be inserted to the full depth of the gripping jaws of the grinder chuck.

4-1. Selecting Attachments

The maximum speed of an attachment is determined by the factors listed below. Use attachments which have a strength exceeding the speed of this tool.

- (1) Shape and size of the attachment
- (2) Size of the mandrel
- (3) Overhang of the mandrel
- (4) Wheel specification

4-2. Mounted Wheel attachment

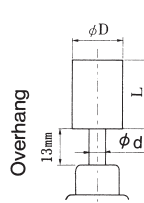
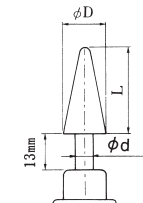
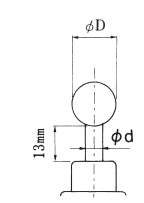
WARNING

Be sure to dress the grinding face of the Mounted Wheel before using it.

Refer to the table below when selecting Mounted Wheels. When an unmarked Mounted Wheel is to be used, refer to the manufacturer of the wheel and select one which is safe.

For 6.0 mm or 3.0 mm mandrels with 13 mm max overhang

(mm)

			
L-25	D max=19 L max=25 d=6.0	D max=16 L max=32 d=6.0	D max=16 d=6.0
L-35	D max=16 L max=19 d=6.0	D max=13 L max=19 d=6.0	D max=10 d=6.0
AL-55	D max=6 L max=10 d=3.0	D max=5 L max=13 d=3.0	D =6 d=3.0

4-3. Rotary Burr attachment

- Squeeze the Rotary Burr lightly against the face to be ground and feed the Rotary Burr in the right-to-left direction.
- Using a double-cut Rotary Burr is recommended.
- Insert the Rotary Burr as deep as possible and fastened.
- **For L-25, L-35**
Use the blade section not more than 10 mm in diameter.
- **For AL-55**
Use the blade section not more than 6.4 mm in diameter and 13 mm or less in length and the shaft 30 mm or less in length.

5. MOUNTING AND REMOVING MOUNTED WHEELS AND ROTARY BURRS

WARNING

Be sure to turn off the air supply and disconnect the air hose.

5-1. For L-25 (Fig.2)

● Mounting

After inserting the Chuck Pin in the Lock Ring, insert the mandrel of the Mounted Wheel in the Chuck and secure it by turning the Chuck Nut with the Spanner 14 in a clockwise direction. The Chuck Pin serves to prevent rotation at this time.

● Removal

Turn the Chuck Nut in a counterclockwise direction with the Spanner 14 and withdraw the mandrel from the chuck.

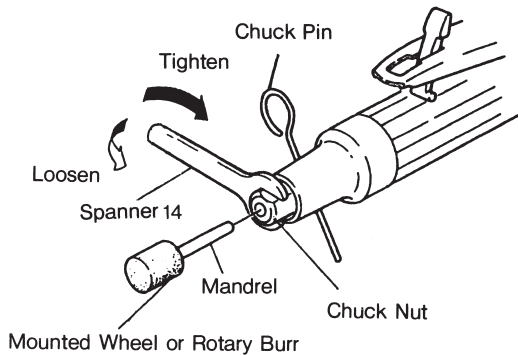


Fig. 2

5-2. For L-35 (Fig.3)

● Mounting

Hold the body of the chuck with a Spanner 14 and insert the Rotary Burr mandrel. Secure the Rotary Burr by turning the Chuck Nut with another Spanner 14 in a clockwise direction.

● Removal

Turn the Chuck Nut in a counterclockwise direction with the Spanner 14 and withdraw the mandrel from the chuck.

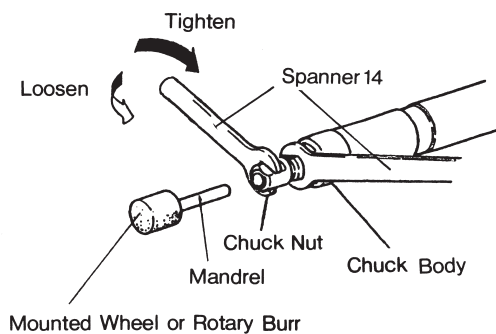


Fig. 3

5-3. For AL-55 (Fig.4)

● Mounting

Insert a Spanner 7×9 into the groove in the end of Body and insert the mandrel into the chuck. Secure the it by turning the Chuck Nut with Spanner 7×9 in a clockwise direction.

● Removal

Turn the Chuck Nut in a counterclockwise direction with the Spanner 7×9 and withdraw the mandrel from the chuck.

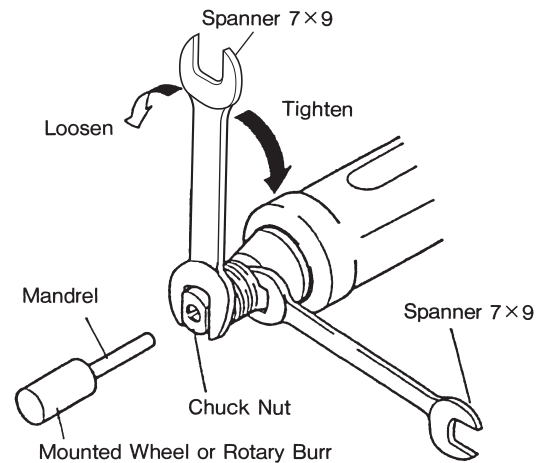


Fig. 4

6. HOW TO OPERATE THE TOOL

⚠ WARNING

Always wear eye protection during operations.

Start the equipment. Then squeeze the equipment lightly against the workpiece and move AIR SONIC in the direction of the arrow, as shown in Fig. 5.

Strong push against the workpiece will not improve working efficiency. Such strong push may cause damage to the Mounted Wheel and the Rotary Burr.

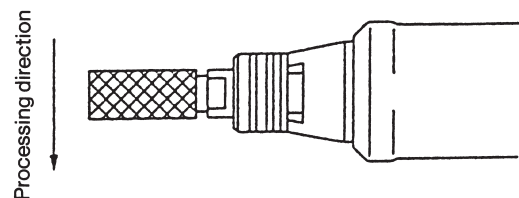


Fig. 5

6-1. Start and Stop

● For L-25, L-35 (Fig.6)

To start: Release the Lock Lever and grasp the Throttle Lever.

To stop: Release the Throttle Lever.

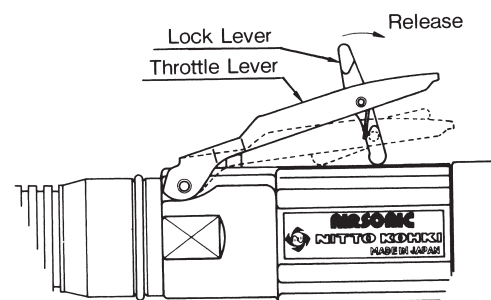


Fig. 6

- **For AL-55 (Fig.7)**

To start: Turn the Valve clockwise and match [▲] to [■] on the Housing.

To stop: Turn the Valve counterclockwise and match [▲] to [●] on the Housing.

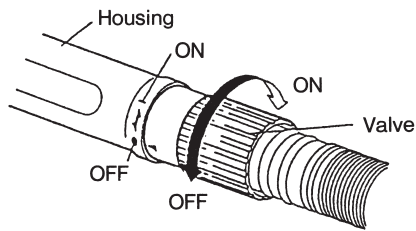


Fig. 7

6-2. Adjust Valve (Fig.8)

WARNING

Be sure to keep hands clear of moving parts.

- **For L-25, L-35**

The desired speed between maximum and minimum speed is obtainable by turning the groove of valve in a clockwise or counterclockwise direction with screwdriver.

- **Maximum speed**

Position the groove of Adjust Valve horizontal to main body.

- **Minimum speed**

Position the groove of Adjust Valve vertical to main body.

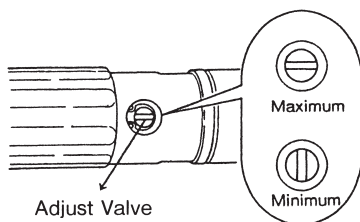


Fig. 8

- **For AL-55**

The motor speed can be adjusted in the range from 0 to the maximum speed by adjusting the opening of the valve.

Adjust the motor speed according to the purpose of use. (Fig. 7)

7. THREAD SIZE OF HOSE FITTING

The product comes with a metal fitting with R (metric) thread. Connect the Bushing R thread x NPT thread included as standard accessories, if you would like to have American NPT thread instead.

8. STORAGE

CAUTION

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.

9. 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.

10. OPTIONAL PARTS

L-25B

Part No.	Description	Qty
TA9A277	Mounted Wheel No.1	5 pcs
TA9A278	Mounted Wheel No.2	5 pcs
TA9A279	Mounted Wheel No.3	5 pcs
TA9A280	Mounted Wheel No.4	5 pcs
TA9A281	Mounted Wheel No.5	5 pcs
TA9A282	Mounted Wheel No.6	5 pcs
TA9A283	Mounted Wheel No.7	5 pcs
TA9A284	Mounted Wheel No.8	5 pcs

L-35C

Part No.	Description	Qty
TP10594	Rotary Bar No.1	1
TP10595	Rotary Bar No.2	1
TP10596	Rotary Bar No.3	1
TP10597	Rotary Bar No.4	1
TP10598	Rotary Bar No.5	1
TP10599	Rotary Bar No.6	1
TP10600	Rotary Bar No.7	1
TP10601	Rotary Bar No.8	1

AL-55

Part No.	Description	Qty
TB00137	Mounted Wheel 5×13×3	10 pcs



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