

User manual Cutting Guide Jr

Documentation created by STA Solutions AS for SafetyTools Allmet AS.

Content

| | |
|--|----|
| 1. Function/document description..... | 2 |
| Version control | 3 |
| 2. Important safety information..... | 3 |
| 3. Special Connditions | 7 |
| 4. Equipment Overview | 9 |
| 5. Operation manual / Procedure | 10 |
| Preparation..... | 10 |
| Assembly of Cutting Guide Jr..... | 11 |
| Setting up the Cutting guide Jr for cutting | 13 |
| Setting up the Cutting guide with possibility for drop | 14 |
| Operating the cutting guide Jr..... | 14 |
| After using the Cutting Guide..... | 16 |
| 6. Maintenance plan..... | 16 |
| 7. Water control box | 17 |
| Cutting Disk Mounting..... | 20 |
| Setting the Water control Box for use..... | 24 |
| 8. Warnings..... | 25 |



Keep this manual in a safe, accessible place at all times

Keep this instruction manual for future reference. Additional safety information may be available from the authorized agent in your country. Consult them when necessary. Do not remove or allow any labels to become obscure.

1. Function/document description

This document is an instruction for operating of SafetyTools Cutting Guide Jr – A-0320.

Version control

| Rev | Changes | Date | User |
|-----|---|----------|------|
| 1.0 | Document created | 12.04.13 | AH |
| 1.1 | Separate air supply wcb and operator suitcase | 18.07.13 | AH |
| 1.2 | Pressure and force down table removed. Separate table attached. | 30.10.13 | AH |
| 1.3 | Some smaller changes for ATEX certification. | 10.12.13 | AH |

2. Important safety information



Read these instructions fully before use. Failure to do this may result in serious injury. The user of this equipment must be competent in its use. The user must ensure that the equipment is selected, installed and used in accordance with regulations and is checked fully before use. The equipment must only be used for its intended purpose and be maintained regularly.

Safety is a primary consideration when using Safety Tools equipment. The tools should be used in the correct way with a good understanding of how to use the tools safely. The tools together with attachments and accessories should only be used for the purpose for which they are designed. Safety devices and accessories supplied should be used appropriately. Do not use outside the design intent unless first agreeing upon such use with the manufacturer and/or authorized agent. Read and fully understand all the instructions before attempting to install, use, service or maintain the equipment. Training is available through Safety Tools Allmet and the authorized agent in your region. Training from Safety Tools Allmet and/or the Authorized agent in your region is required prior to using Safety Tools Cutting & Weld Seam Removal tools. Training is also required for Cutting guide Jr.



WARNING

To reduce the risk of injury, before using or servicing tool, read and understand the following information. The features and descriptions of our products are subject to change without prior notice.

This product is designed for cutting & removing material using abrasives. The abrasives are very hard and solid (9.7+ Rockwell scale). No other use permitted - for professional use only.

Before servicing of the pneumatic tool, the supply of compressed air must be disconnected or shut off.

Training is required before using Safety Tools Cutting Equipment. Safety Tools Allmet offers training at our office in Norway and offsite. Training is also available through the Authorized Agent in your region.

***See water control box information on page 17 of this Manual.**



Disposal

When disposing of components, lubricants, etc ... ensure that the relevant safety procedures are carried out



Air Pressure

Check hose size and air pressure. The air pressure at the tool inlet with the grinder running shall not exceed the maximum operating pressure of 7 bars or lower if other specified. The tool is designed for a working pressure of 6.3 bar (90 psig). The compressed air must be clean and dry. The installation of a filter is recommended. For maximum efficiency and performance, comply with the specification of the air hose (antistatic, earthed hose). Avoid the risk of whipping hose – regularly check hose, hose fitting and clamp conditions.

Always use the correct and clean air hose and fittings and check that they are all in good condition and are properly installed. Do not use damaged, frayed or deteriorated hose end fittings. Replace them when necessary. Always store hoses properly. A hose failure can cause injury. The air hose may come off and whip. Use only earthed hosing in ATEX zones. See DNV report. Air should be supplied at a constant pressure of 6.3 Bar at the tool with the trigger fully depressed. In-Line lubricators and air filters are not required unless it is known that plant air supply is likely to be contaminated. It is recommended that oil is added to the tool after prolonged use. See maintenance information.



Water Pressure

Check hose size and water pressure. The water pressure shall not exceed the maximum operating pressure of 2.5 bar. The tool is designed for a optimum working pressure of 2.3 bar. The water must be clean. The installation of a filter is recommended. For maximum efficiency and performance, comply with the specification of the hose (antistatic, earthed hose). Avoid the risk of whipping hose – regularly check hose, hose fitting and clamp conditions.

Always use a clean water hose and fittings and check that they are all in good condition and are properly installed. Do not use damaged, frayed or deteriorated hose end fittings. Replace them when necessary. Always store hoses properly. A hose failure can cause injury. The hose may come off and whip. Use only earthed hosing in ATEX zones. See DNV report. Water should be supplied at a pressure greater than 4 Bar for maximum efficiency.



Cutting Temperatures

Safety Tools Allmet Explosive test were performed using a robotic system. It is not possible using non-machanical systems to reach high heat levels when the tools are used under human conditions. The average temprature range when using Safety Tools Cutting equipment is 25°C - 45°C. It is not possible to exceed 100°C (T4) when using Safety Tools Cutting equipment under normal human conditions. See DNV ATEX Certificate.

Safety Tools Ex Grinding Equipment is suitable for use in ambient temperatures Greater than -20°C to 40°C (see Special conditions for safe use on Page 7).

- Air supply must be dry & clean.
- Water Supply should be clean (filter recommended) and above 4 bar.



Types of Steel Tested

Safety Tools Allmet performed test on the 6 different materials, three different steel qualities and two different titanium qualities below.

- Stainless Steel Grade 316
- Steel ST52
- Titanium
- ASTM B265 Titanium
- Austenitic Stainless Steel 6MO



Maintenance

To obtain maximum efficiency from the pneumatic tool, preserve its features and avoid repeated repairs, a routine inspection and repair program are recommended at least every 1000 hours, the intervals between the various inspections depending on the amount of exertion on the power tool.

Safety Tools ATEX certified Air Tools must be properly maintained and tested by competent and trained personnel. At any sign of malfunction or unusual behaviour, the tool should be taken out of service for examination and repair. If repairs are necessary contact the authorized agent in your country. It is recommended to dismantle air tools for overhauling and cleaning after 500 hours of operation or once every six months.

- Before cleaning the tool for use make sure that it has been correctly assembled. With all fasteners tightened.
- Check the rotation frequency of the tool without an attached disk. After each maintenance or service.
- If you are uncertain about the correct way to service a tool contact the authorized agent in your region.
- Only trained people should service and maintain Safety Tools equipment.

***See water control box information on page 17 of this manual for maintenance of the water control box.**

***See Cutting Guide Jr maintenance plan on page 16 in this manual for maintenance plan on the guide.**



Check the free speed of the tool at regular intervals and after each operation or maintenance task. Remove the disk to check the speed. The maximum allowed speed shown on the tool must not be exceeded and the vibration level must not be excessive.

Motor speeds

These cold grinding tools are designed for use with the following motors:

| Motor type | RPM | Max air pressure | Air hose diameter |
|----------------------------------|------|------------------|-------------------|
| (A-0105) Fuji FCD-10X-52 special | 1000 | 6,3 Bar | 9.5mm (3/8 inch) |
| | | | |



Noise

The operator must wear ear protection when the noise level at his position exceeds 83dB or 85 dB. It is recommended that the operator wears the ear protector even if the noise level is less than 83dB or 85 dB. Noise regulations might vary in different regions or companies. Check with local authorities

Noise levels while grinding with Safety Tools Cutting Guide Jr.

- See attached noise report.



Vibration Analysis HAV

There is no vibration from the cutting guide to the operator when using SafetyTools Cutting Guide Jr.



Posture

Safety Tools are generally used as a hand-held unit. It is recommended that it is used whilst standing on a firm surface. It may be used in other positions but it is important that the operator is in a secure position and has a firm grip and footing. Refer to risk analysis for further guidance.

Safety Tools Allmet also has Robotic Systems and Automated Tool Guides. Contact Safety Tools Allmet or the Authorized Agent in your Region for more information.

Protective Equipment



Always wear necessary protective equipment when using this equipment. Safety goggles or face shield, gloves and hearing protection are required. Ensure all clothing is close fitting to prevent becoming snagged in moving parts.

| | |
|-------------------------------------|------------------|
| Safety Goggles / face shield | Mandatory |
| Hearing Protection | Mandatory |
| Safety Gloves | Mandatory |
| Safety Hat | Mandatory |
| Respiratory Protection | Optional |

3. Special Connditions

Projectile Hazards for misuse

- Always wear impact-resistant eye and face protection when involved with or near the operation, repair or maintenance of the tool or changing accessories on the tool.
- Be sure all others in the area are wearing impact-resistant eye and face protection.
- Even small projectiles can injure eyes and cause blindness.
- Use barriers to protect others from wheel fragments and grinding sparks.
- Daily measure the air tool speed with a tachometer to make sure it is not greater than the RPM marked on the grinding accessory.
- This Tool and its accessories must not be modified in any way.

Entanglement Hazards for misuse

- Keep away from rotating drive spindle and abrasive. Rotation may continue for several seconds after the throttle has been released. Do not lay the tool down until rotation has stopped.
- Do not wear jewelry or loose clothing.
- Choking can occur if neckwear is not kept away from tool and accessories.
- Scalping can occur if hair is not kept away from tool and accessories.
- When operating remotely controlled cutting equipment always use barring around the tool.
- The tool has several moving parts. Always stay clear the tool when connected to air.
- The tool might start unannounced.

Mounting Hazards for misuse

- Always shut off air supply, relieve hose of air pressure and disconnect tool from air supply when changing accessories.
- Always shut off water supply, relieve hose of water pressure and disconnect tool from water supply when changing accessories.
- Use only recommended sizes and types of abrasives.
- Do not use files or disks that are cracked.
- Correct mounting is necessary to prevent injury.
- Safety Tools Air Tools are specially designed to work only with Safety Tools Cutting Disks. Only Use Safety Tools Air Tools and Accessories as they are designed. Do not use with other Accessories and or Air Tools.

Operating Hazards for misuse

- Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
- Ensure that the work piece is properly supported.
- Maintain a balanced body position and secure footing.
- Avoid contact with rotating spindle and accessory to prevent cutting of hands and other body parts. Wear protective equipment listed.
- Do not use if vibration becomes excessive: check the accessory for damage or incorrect mounting.
- There is a risk of electrostatic discharge if used on plastic and other non-conductive materials.

Workplace Hazards for misuse

- Slip/Trip/Fall is a major cause of serious injury or death. Be aware of excess hose left on the walking or work surface.
- High sound levels can cause permanent hearing loss. Use hearing protection as recommended by your employer or occupational health and safety regulations.
- Repetitive work motions, awkward positions and exposure to vibration can be harmful to hands and arms. If numbness, tingling, pain or whitening of the skin occurs, stop using tool and consult a physician.

Air Supply and Connection Hazards for misuse

- Air under pressure can cause severe injury.
- Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
- Never direct air at yourself or anyone else.
- Whipping hoses can cause serious injury. Always check for damaged or loose hoses and fittings.
- Whenever universal twist couplings are used, lock pins must be installed.
- Do not exceed maximum air pressure of 6.3 bar/90 psig or as stated on tool nameplate.
- Check and maintain air hoses regularly.
- Use only Earthed/Anti-Static Hoses (2mm Maximum thickness on coatings) See DNV information.
- Make sure the air supply is clean and dry.
- The ambient temperature for safe use must be greater than 0°C.

Water Supply and Connection Hazards for misuse

- Water under pressure can cause severe injury.
- Always shut off water supply, drain hose of air pressure and disconnect tool from water supply when not in use, before changing accessories or when making repairs.
- Never direct water at yourself or anyone else.
- Whipping hoses can cause serious injury. Always check for damaged or loose hoses and fittings.
- Whenever universal twist couplings are used, lock pins must be installed.
- Do not exceed maximum water pressure of 10 bar from water supply
- Check and maintain water hoses regularly.
- Make sure the water supply is clean and whiteout chemicals.
- The ambient temperature for safe use must be greater than 0° Celsius. Water may freeze on temperature close to 0° Celsius. Make sure water dos not freeze before use.

Special Conditions for safe use

- The air tool must be earthed by a supply air hose. The air hose used must also be of anti-static type or satisfy the requirements of clause 7.4.4 of EN 13463-1.
- Maximum air supply pressure is 6,3 Bar.
- The cutting disk WC-502 shall only be used with an air tool with max 1000RPM and can only be used against the following listed materials; stainless steel Grade 316, Steel ST52, Titanium, ASTM B265 Titanium and Austenitic stainless steel 6MO.
- The air tool must only be supplied from the water and pressurized air controller of type STA water control box.
- Water cannot be used as cooling medium at temperatures below 0°C.
- For temperatures below 0°C an isopropanol/ethanol water mixture with 50% water can be used as cooling medium.

4. Equipment Overview

Cutting Guide Jr:

- 1 off side w/ magnet and air engine
- 1 off Side w/magnet
- 2 off Guiding rods
- 1 off spindle
- Cutting wagon/cylinder wagon.
- Hose bundle

Operating suitcase:

- Operator panel inside.

Cutting Solution:

- Fuji Grinder
- Water Control Box
- Cutting disk.

5. Operation manual / Procedure

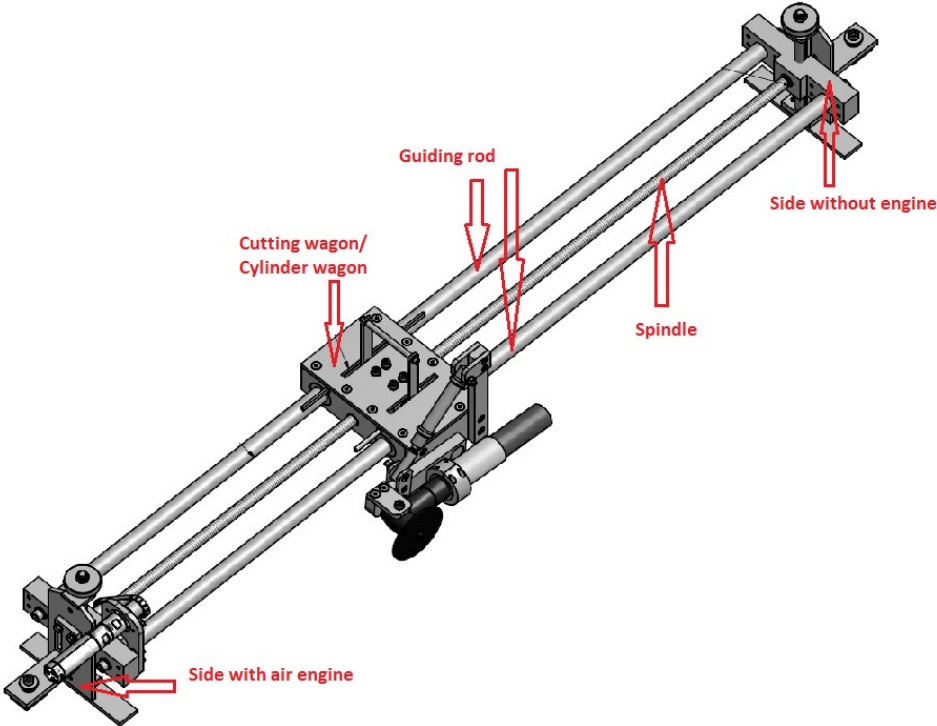
Preparation

- Make sure that the work station and the surroundings are safe and clear of any oil, grease etc.
- Make sure that there is sufficient space for the cutting tool and the task to be carried out.
- Provide for the best access for air hoses.
- Provide for the best access for water hoses.
- Verify that the working pressure is 6,3 bar for the rotating Air engines.
- Verify that the water pressure supply to the control box is above 4 bar.
- Use the correct lifting technique. Do not ever use the hose as a lifting handle.
- Adopt a good stance and avoid overreaching
- Make sure that air hoses are fitted with whip checks.
- Make sure that water hoses are fitted with whip checks.
- The operator must use the correct grinding tool for the task at hand.
- Install the rotating file or disk. (Do not exert unnecessary force during this work)
- Make sure that the equipment has the required marking in accordance with the ATEX. / DNV certificate.
- Do not modify the tool without first contacting Safety Tools Allmet
- Do not use the tool until you are completely familiar with its operation.
- The tool is to be earthed. Use an antistatic hose with a steel wire. Se DNV certificate for more information
- Do not use the equipment if it emits unusual sounds, or if it vibrates or the speed varies.
- Do not touch a rotating file ore disk during operations, as this may lead to injury.
- If you have long hair or wear loose garments, be careful so as to avoid your hair or garment being caught in the equipment. Make sure hair and garments is not near the rotating parts.
- Make sure that the grinding/cutting tool is fitted with safety START \STOP
- Verify that the air hose has been installed in accordance with current regulations. This applies to all connections.
- Inspect the hoses visually to ensure that they do not leak air.
- Test the machine by using the tool for approx. 30 seconds to make sure that everything has been correctly installed.
- Before using review Water Control Box information on Page 17- of this manual
- Do not use the cutting tool if there are any damages to the tool, the guide or the operating device.
- Stop the tool and disconnect air and water if in doubt.
- When unattended, always disconnect air and water.

Rev 1.3

Assembly of Cutting Guide Jr.

An overview of the cutting guide main parts:



Transport the cutting guide jr. to the location for cutting in the transport crate. Carefully take all parts and carry them in position for assembly. See picture 1.



Picture 1

Picture 2

Start by threading the cutting wagon onto the two guiding rods. Then thread the “chain guard” onto the spindle before threading it into the clutch on the cutting wagon (picture 2). The spindle has one side with a sprocket. This side has to be on the side where the air engine is attached. The cutting wagon has to be mounted the correct way. See overview drawing and picture 1 and 3.

Rev 1.3

Always set the clutch in “release” before threading the spindle.

Attach both of the side plates with magnets to the guiding rods and the spindle as shown in picture 1. Fasten the guard and adjust the chain in such a way that the chain is not too loose and not touching the guard. See picture 4



Picture 3

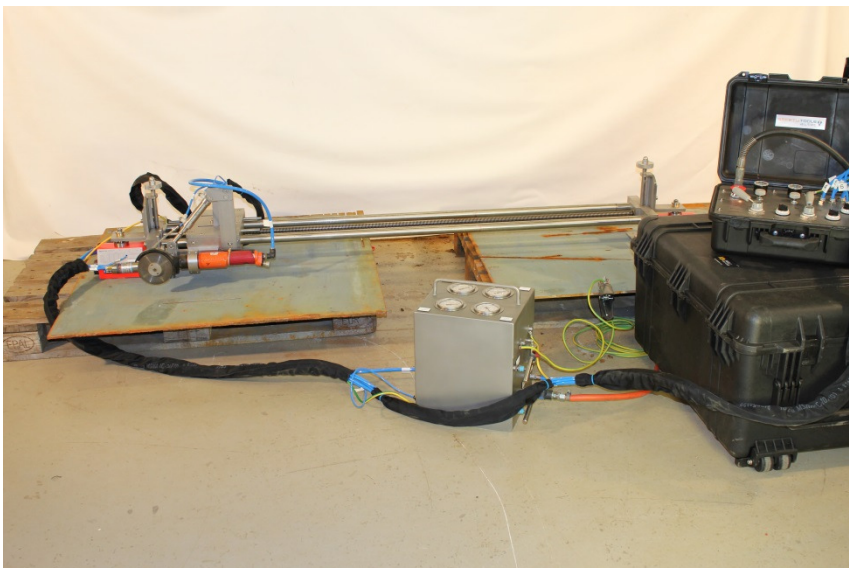


Picture 4

When the cutting guide is ready, mount the SafetyTool Fuji Angle grinder (A-0105) onto the cutting wagon. Make sure it is attached correctly and is properly fastened.

Place the Operator suitcase and the water control box in range of the cutting guide and connect all hoses according to markings. Make sure all connections are properly connected and that there are no bends on any hoses. Make sure there is no possibility of entanglement by any moving parts.

Make sure that all the grounding cables are attached and that the system is grounded into a clean and paint free surface so that the entire system is grounded.



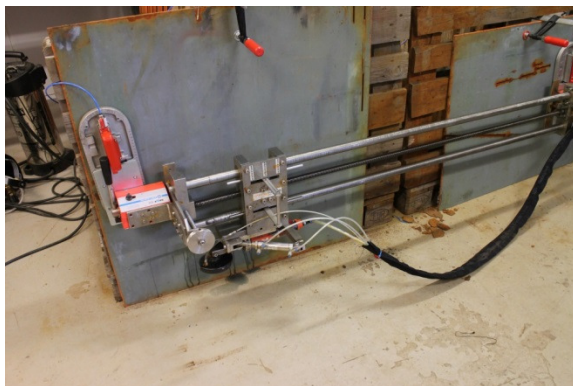
Picture 5

Setting up the Cutting guide Jr for cutting

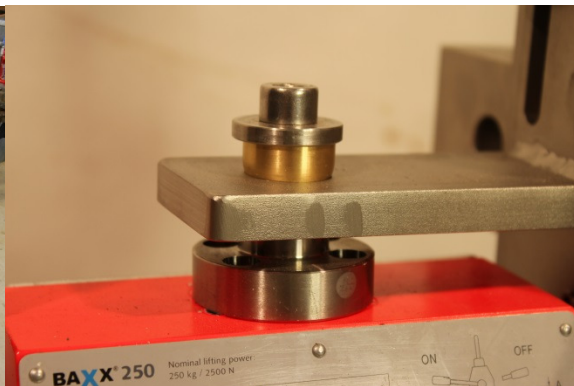
- Make sure all maintenance procedures have been followed.
- Make sure that the gears on the spindle and the air engine is aligned and that the chain is tight and fastened properly.
- Check for damages, debris and other defects on the guide.
- Check that the guide is stable on the surface and that there is no danger of collision with any tools, hoses or any obstacles.
- Set up barriers and warning around the cutting area.
- Follow country/area/company rules regarding work permits and notification regulations.

Make sure the cutting guide is aligned with the cutting area and adjust the height by turning the height adjustment screws on both sides of the cutting guide. Make sure that the guide is parallel with the surface it is going to cut. Also the height adjustment screws can be used to set the max cutting depth by adjusting it as high as the cylinder can push the grinder down.

The guide can be fastened with magnets, vacuum (option) or by clamping it. It can also be used sideways. Do not lift without proper fastening with safety. The magnets can be adjusted to compensate uneven surface. Use the fastening screw on top of the magnet to loosen the magnet and adjust. See picture 7.



Picture 6 (always make use drop safety)



Picture 7

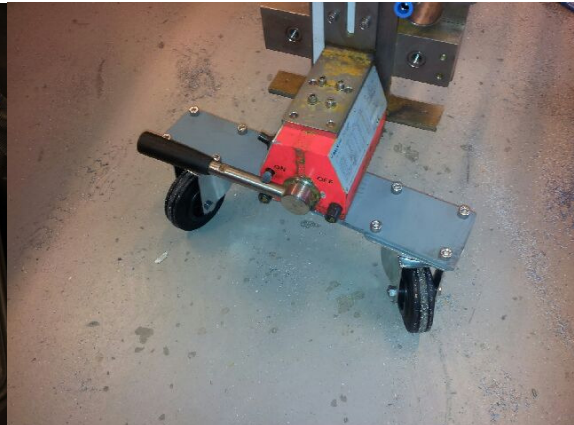
Before connecting air and water to the system, make sure that the Operator Suitcase has been set in start position. See picture 8

Start position of Operator Suitcase:

- Emergency Stop → Not engaged
- Cylinder Arm → Lock
- Cylinder pressure → High or Low
- Cutting/Cylinder wagon → Stop
- Cutting Engine → Off
- Vacuum → Off (If applicable)



Picture 8



Picture 9

Connect water and air to the water control box and air to the Operator suitcase.

For moving of the guide when assembled use the wheels shown in picture 9.

For optimal performance; use separate air supply to the operator suitcase and the operator suitcase. If separate hoses are not possible, try using a 1inch hose for supply then split it to the water control box and the operator suitcase.

Setting up the Cutting guide with possibility for drop

Whenever the cutting guide is used where there is possibility of drops larger than 5cm the guide has to be attached with proper fastening to prevent drops.

Operating the cutting guide Jr.

When all precautions and instructions in "Setting up the Cutting Guide Jr for cutting" have been followed the guide is ready for cutting.

The Cutting guide Jr is operated by STA Solution Operating Suitcase. The different instruments/levelers in the suitcase operate/indicates different functions on the cutting tool.

Functions of the Operator Suitcase:

- Emergency Stop → shuts of air to the entire system (Except vacuum).
- Cylinder Arm → This controls the cylinder that controls up and down of the Fuji Grinder. It has a "lock" middle position for more manual control of the grinder. Can be used for the final cut. (Contact SafetyTools for more information)
- Cylinder pressure → you can set 2 different pressures on the regulators. The switch allows the operator to quickly switch between two pressures.
- High / Low Pressure. The two regulators can be adjusted separately to different pressures and therefor controlling the force the cylinder pressure the Fuji angle grinder down (depends on material, thickness and where in the cutting process you are, contact SafetyTools if you have any questions. Always regulate the pressure so that the cutting machine is running without stops or reduced speed. The Grinder will break if forced.

Rev 1.3

- Pressure and force down:
 - o The force down varies slightly from product to product. Please see own table for min/max pressure force on your Cutting guide. Every cutting guide has a table for pressure.
- Cylinder wagon/cutting wagon → this controls the air engine that drives the cutting wagon. You can go forward, stop or backwards.
- Cutting Engine → this turns the Fuji angle grinder on or off.
- Vacuum → This is an option on the cutting guide. If applicable it turns on/off the vacuum attachment device.
- Air inlet → this is for air inlet.
- All air quick connectors are marked with similar marking on the hose bundle.

In operation:

Use the length of the Hose bundle to get the Operator Suitcase 3m away from the Cutting Guide Jr for noise reduction.

Set the cutting wagon in start position and engage the clutch. The starting position is where you want your cut to start.

Set wanted pressure on the regulators. Standard startup settings is High=0,24MPa and Low=0,16MPa.

Start the grinder by turning “grinder” to on. (Read water control box setup page 17 for water control box setup). When the grinder is working properly set the cylinder to “down”. When the cylinder is going down and the grinding disc is engaging start the Cylinder/cutting wagon. The system should now work. If the system does not work, press the Emergency stop and start fault finding.

When the desired length of cutting is reached switch the cylinder to “up” and use the clutch on the cutting wagon to pull the wagon back to start position. Then switch the cylinder to “down” and engage the clutch again. Repeat this until the desired depth is reached or until the plate is cut trough.

For setting the machine to cut a predetermined depth, use the height adjustment on both side plates to adjust it up and down. Adjust the guide so that the cutting disk is just above the surface when the cylinder is all the way down. Then screw down both adjustment screws the wanted cutting depth.

On some materials the final mm can make the cutting disk “jam” itself and you will hear that the Fuji grinder stats struggling or even stop. This is not good for the machine and it will break. Use the “high/low” switch and switch it to low when you hear/see the machine start going slower. The “lock” position on the cylinder can also be used for the final break trough.

Always adjust the pressure so that the cutting machine runs smoothly. (It will break if misused)
Do not leave the machine unattended while in operation.

After using the Cutting Guide

After using the cutting guide, be sure to unplug the air and water inlet.

Use water/air to clean the machine and make sure you don't have cut debris on the machine. Don't use any chemicals on the guide.

Follow maintenance plan.

6. Maintenance plan

| Part | Action | Daily | Weekly | Monthly |
|-------------------------------|---|-------|--------|---------|
| Fuji Air motors | Add a drop of oil in the grinder | X | | |
| Fuji Air motor | Clean with water. Make sure there is no debris on the motor. | X | | |
| Pneumatic switches | Each time the machine is to be used the condition of the switches has to be checked. | X | | |
| Chain/Gears | Check for damages and debris. Check that the gears or chain are not bent. Clean and oil if necessary. | X | X | |
| Guidance | Check for damages and debris before use. Clean and lubricate when necessary or after 12hours use. | X | X | |
| Axel | Check for damages and debris before use. Check daily and lubricate if necessary. Clean and lubricate after 8 hours use. | X | X | |
| Operator suitcase | Check that the suitcase isn't damaged. | | X | X |
| Water control box and grinder | See own maintenance manual for grinder and Water Control Box. | X | X | |
| Magnets | Make sure that the magnets are not damaged. Clean for debris. | X | X | |
| Vacuum foot | If applicable, make sure there is no damage to the "vacuum" surface. Keep it clean | X | | |
| Antistatic Guard | The Guard between the Water control box, the guide and the Operator suitcase is antistatic. Make sure this is not damaged. Change if damaged. | X | | |
| Cylinder | Make sure there are no damages to the Cylinder. Clean for debris. | X | | |
| Brass bearings | Check brass bearings and change if damaged or worn out. The wagon has 6 brass bearings and each Side plate has 1 each. | | X | |

7. Water control box

WATER CONTROL BOX



| Prod.nr. | Δ (kg) |
|----------|--------|
| A-0310 | 16 |

FUJI ANGLE GRINDER



| Prod.nr. | Speed | Prod. name | Δ (g) | Air inlet |
|----------|----------|------------|-------|-----------|
| A-0105 | 1000 rpm | FCD-10X-52 | 2400 | 1/4" NPT |

Cutting Disk



| Prod.nr. | Δ (g) | Dim |
|----------|-------|--------------|
| A-0502 | 652 | Ø 110 x 5 mm |

The Water Control Box is used to regulate the flow of air and water. There are internal regulators & filters that help to keep a consistent flow. Settings must be adjusted prior to each use. On top there are 4 gauges: The water control box is integrated in the right side of the robot.

Water Inlet, Water Adjust, Air Inlet & Air Adjust.

Training is required prior to using through Safety Tools or the authorized agent in your region.

The Fuji Angle Grinder A-0105 has special guards that are attached to for both the Cutting & Weld Seam Disks. When used with the Cutting Disk there are also two special chucks that are used to hold the disk firmly in place. This Angle grinder is the same machine we use with our Grinding Disk for Paint.

The Cutting Disk is 5mm thick and gives a very clean cut. It works more like a milling tool than a cutting tool. The special design of the cutting teeth and the hardness along with the slow rotation speed our air tool allow it to cut through very dense steel.

*Cutting Disks can be re-surfaced 3 to 4 times for 1/3 of the disk price.

GUARD FOR CUTTING SYSTEM


| Prod.nr. | ΣΣ (g) | Dim |
|----------|--------|----------|
| A-0073 | 162 | ∅-125 mm |

NOZZLE WITH CONNECTOR


| Prod.nr. | ΣΣ (g) | Dim |
|----------|--------|-------------|
| A-0079 | 20 | M6 - 0.6 MM |

The Guard for Cutting System attaches to the Fuji Angle Grinder (A-0105) with a Phillips head screwdriver. In the corner there is a hole where the Water Nozzle Connector (A-0079) is attached.

Water Nozzle with Connector is the water supply line incorporated into the hose system. It should be screwed into the Guard before it is attached to the water supply hose.

CUTTING DISK CHUCK Back piece



| Prod.nr. | ⚖️ (g) | Dim |
|----------|--------|------------|
| A-0077a | 56 | 42 x 10 mm |

There are two Cutting Disk Chucks. The Back Piece should be placed back view towards the Air Tool. The two sprockets should face outward towards the Cutting Disk.

CUTTING DISK CHUCK Front piece



| Prod.nr. | ⚖️ (g) | Dim |
|----------|--------|------------|
| A-0077b | 60 | 42 x 10 mm |

The Front Piece of the Cutting Disk Chuck is attached after the Cutting Disk. The back view should be faced towards the Cutting Disk. Use the Chuck Key to tighten.

CHUCK KEY



| Prod.nr. | ⚖️ (g) | Dim |
|----------|--------|-------------|
| A-0206 | 226 | 200 X 30 mm |

The Chuck Key is used to tighten the front piece of the Cutting Chuck. Insert the two sprockets into the front piece of the Cutting Disk Chuck and turn clockwise to tighten and counterclockwise to loosen. Use the Allen Key in unison with force applied in the opposite direction when putting on and taking off.

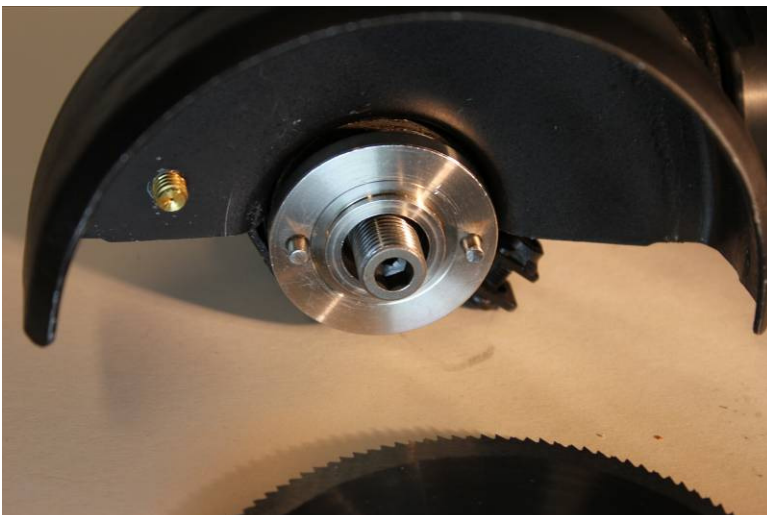
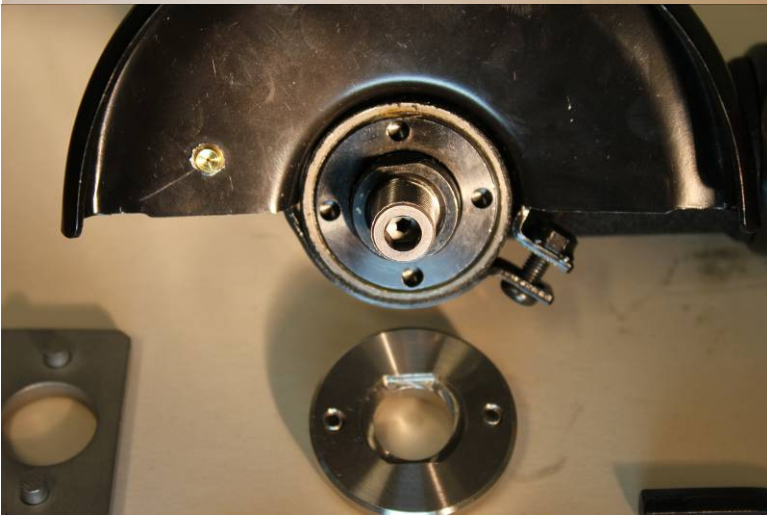
ALLAN KEY 6mm



| Prod.nr. | ⚖️ (g) | Dim |
|----------|--------|-----------|
| A-0207 | 30 | 6 x 95 mm |

6mm Allen Key is used to in unison with the Chuck Key force should be applied in the opposite direction when (counterclockwise) putting on and (clockwise) when taking off the Cutting Disk Chuck (front piece).

Cutting Disk Mounting



When attaching and removing the Cutting Disk (A-0502) to the A-0105 Ex Air Tool you will need the following accessories:

- 6mm Allen Key
- Cutting Disk Chuck – Back (A-0077a)
- Cutting Disk Chuck – Front (A-0077b)
- Chuck Key (A-0206)

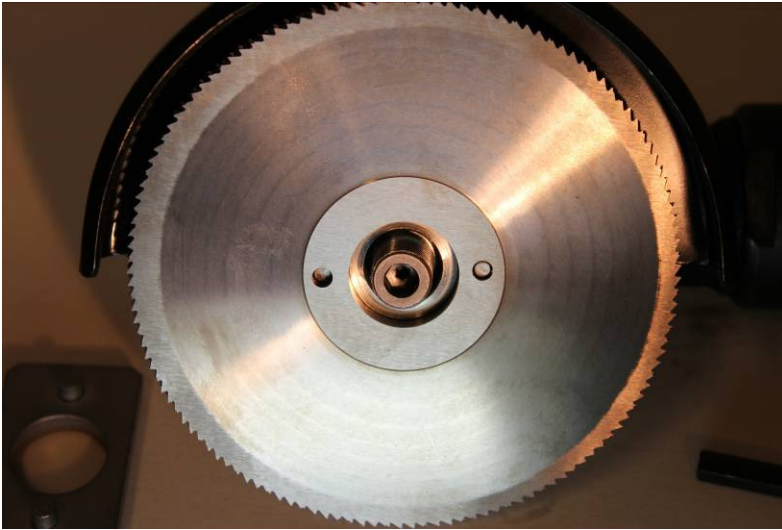
Step 1

Place Cutting Disk Chuck (A0077) back view first on to the (A-0105) Air Tool sprocket. Make sure it is fit into the notched bolt extending out of the tool.

Step 2

After the above step is completed the picture to the left is how your mounting should look. There are 2 sprockets that extend out of the front face of the (A0077a) Chuck.

At this stage you are ready to put on the Cutting Disk (A-0502). Line up Cutting Disk with two sprockets and insert the disk into sprockets.



Step 3

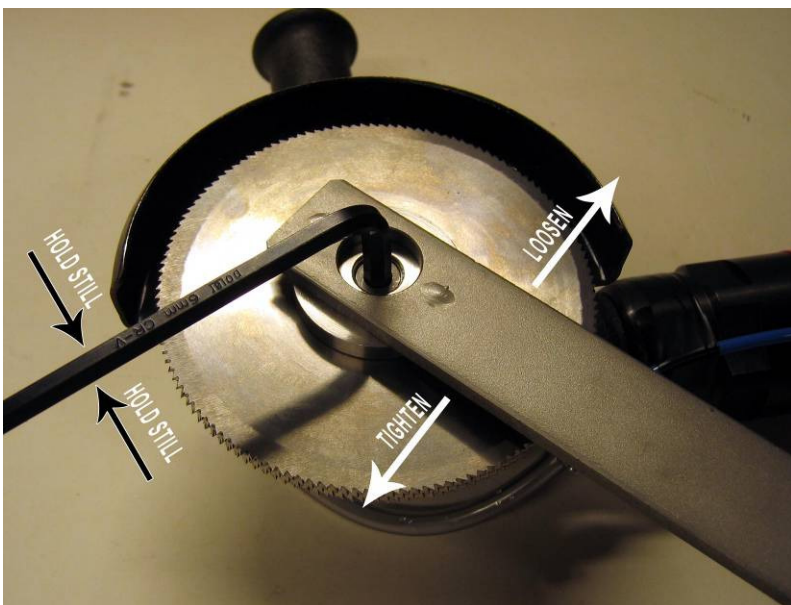
After the Cutting Disk (A-0502) is in place screw on Front Piece of the Cutting Chuck (A-0077b) back view facing the disk (see page 11). Screw on clockwise by hand until tight.

*Only Trained and Certified people should remove or attach the Weld Seam Disk to the Air



Step 4

After the Front Piece of the Cutting sprocket is hand tightened on, you are ready to complete the tightening using the Allen Key and the Chuck Key.



Step 5

To complete the tightening of the Cutting Disk use the Cutting Chuck Spanner and the 6mm Allen Key.

- Place the Cutting Chuck Spanner into the two holes of the front piece of the Cutting Chuck.
- Insert 6mm Allen Key as shown in the picture to the left and firmly hand turn Allen Key counter clockwise Turn the Cutting Chuck Key clockwise with a firm strong grip.



Adjustments & Inlets

On one side of the Water Control Box there is:

- Water Inlet Adjustment - controls water flow in
- Water Outlet Adjustment -regulates water flow
- Water Drain - Drains excess water
 - Use before and after set-up to drain water
- Water Inlet - Connect water into box
- Air Inlet - Connect water into box

*Only Trained and Certified people should remove or attach the Weld Seam Disk to the Air Tool.



Air & Water Outlets

On the opposite side of the Water Control Box there is the Air & Water outlet. This is where the hose's from the T4 Ex Air tool is connected. Connect the water before the air.

- Air Outlet – Air flows from Water Control Box to Air Tool
- Water Outlet – Water flows form Water Control Box to lubricate Cutting & Weld Seam Disk

*Only Trained and Certified people should remove or attach the Weld Seam Disk to the Air Tool.



Gauges

- There are 4 gauges on top of the Water Control Box
- Water Inlet - 4 Bar minimum
- Water Adjust 2.2 – 2.5 Bars
- Use water adjustments valves on side to set
- Air Inlet - 7.3 Bar Optimal
- Air Outlet – 6.3 Bar Maximum

*Only Trained and Certified people should operate the Water Control Box.



Water Gauges

The Water pressure into the box needs to be:

- 4 Bar minimum
- 10 Bar maximum

The Water Adjust Gauges need to be adjusted between 2.2 to 2.5 for the Air Tool to operate. If the water pressure goes below 2 bars the tool will automatically shut off. If the water pressure goes above 3 bars the tool will automatically shut off.



Air Gauges

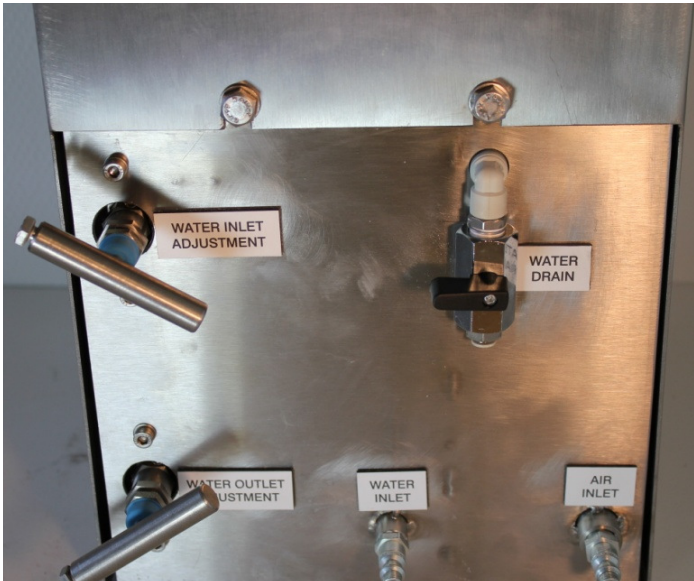
- Air Inlet (7.3 Bars Optimal)
- Air Adjust (6.3 Bars Maximum)

*The Oil Refill is also on the top of the box

*Only Trained and Certified people should operate Safety Tools Allmet Water Control Box.

Setting the Water control Box for use

*Only trained and certified people should operate Safety Tools Allmet Water Control Box.



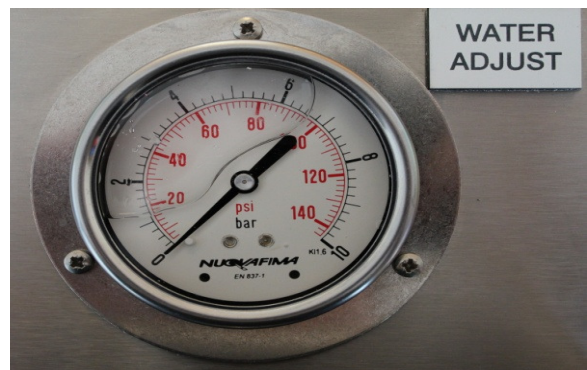
Step 1

- Make sure Water Drain valve is closed.
- Turn Water Inlet Adjustment valve clockwise until closed
- Turn Water Outlet Adjustment valve clockwise until closed
- Attach Air & Water hoses to Inlets
- Attach air and water hose from Air tool to water outlet and air outlet of the control box.
- Turn **Water Outlet** & **Water Inlet** valves Adjustments approximately 1/16th of a turn counter clockwise (open).



Step 2

- Hold Air Tool Trigger on and check flow of water flowing from the Water Nozzle to the Disk. It should be a light spray. Adjust water outlet adjustment valve to desired water flow.
- Continue to hold the trigger on the Air Tool and gently adjust the Water Inlet Adjustment valve so that the Water Adjustment Gauge is set between 2.2 - 2.5 Bars.
- Release Air Tool Trigger and wait for Water Adjust Gauge to drop to Zero.



8. Warnings

Warning statements describe conditions which may lead to personal injuries including fatal injuries if the tool is not used properly and the warnings are not fully followed.

Caution statements describe conditions which may lead to equipment damage.

- Warning:** Do not use this tool until you are completely familiar with the safe operation of the tool, all accessories and safety devices. Improper use can lead to severe injury. This Manual defines proper use of this equipment. Before using this tool for any other use, please consult the manufacturer. Please consult your dealer if you do not understand any part of this manual or operating procedure for this tool
- Warning:** Always shut off and disconnect the tool from the energy source when not in use or left unattended for any time. The air in the tool and supply hose should be discharged prior to disconnecting from the energy source.
- Warning:** Do not lay the tool down until all rotating parts have come to a complete stop.
- Warning:** The tool should be earthed via proper connection to a certified air hose.
- Warning:** All air hose connections should be secured using "whip-check" restraining devices
- Warning:** Do not exceed the maximum air pressure.
- Warning:** Always use safety goggles with this tool. Ordinary safety spectacles are not suitable. Full face shields may also be used.
- Warning:** Use gloves at all times when using this tool. Gloves should be suitable for the task
- Warning:** Adding unsuitable accessories can create hazards. Use accessories or attachments only in accordance with the operating instructions.
- Warning:** Do not wear loose clothing whilst operating this tool. Neckties, rings, bracelets or other jewellery may get caught in the tool and should be removed or covered. Good non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- Warning:** Keep a good footing and balance at all times. Don't overreach. A rotating wheel can catch an article of clothing and cause personal injury.
- Warning:** Secure work. Use clamps if necessary to secure the work piece.

Rev 1.3

Warning: Only use this tool in well-lit and ventilated areas. If necessary, wear respiratory Protection from dust created from the use of this tool

Warning: Do not fit any damaged accessories to this tool. Only use accessories in good condition free from visible cracks.

Caution: Use the correct tool. Don't force tool or attachment to execute a task for which it is not intended