



FreedomDrive™ Push-Pull v1.5

MIG/MAG EN 60 974-7

Operating Instructions



Operating Instructions

© The manufacturer reserves the right, at any time and without prior notice, to make such changes and amendments to these Operating Instructions which may become necessary due to misprints, inaccuracies or improvements to the product. Such changes will however be incorporated into subsequent editions of the Instructions. All trademarks mentioned in the operating instructions are the property of their respective owners.

| | | | | | |
|----------|---|----------|----------|---|-----------|
| 1 | Designated Use | 3 | 4.8 | Setting the shielding gas | 14 |
| | | | 4.9 | Feeding the wire | 15 |
| 2 | Technical Data | 3 | 5 | Operating elements | 16 |
| 2.1 | Abbreviations | 4 | 5.1 | 2-cycle function of the trigger | 16 |
| 2.2 | Nameplate | 4 | 5.2 | Wire feed speed knob in FreedomDrive (option) | 16 |
| 3 | Safety Instructions | 5 | 5.3 | Wire feed speed knob in MIG gun handle (option) | 17 |
| 3.1 | Classification | 5 | 5.4 | Range selector switch (option) | 17 |
| 3.2 | Emergency information | 5 | 6 | Putting into operation | 18 |
| 4 | Putting into operation | 6 | 7 | Putting out of operation | 19 |
| 4.1 | Equipping the MIG gun neck ABIMIG AT | 6 | 8 | Maintenance and cleaning | 19 |
| 4.2 | Equipping the MIG gun neck ABIMIG WT | 6 | 8.1 | Replacing the drive rolls | 20 |
| 4.3 | Installing the optional neck liner in the MIG gun neck (A/C option) | 7 | 8.2 | Cleaning the wire conduit | 20 |
| 4.4 | Installing the rear cable liner | 8 | 8.3 | MIG gun neck | 21 |
| 4.5 | Installing the front cable liner | 11 | 9 | Troubleshooting | 22 |
| 4.6 | Connecting the cable assembly | 12 | | | |
| 4.7 | Connecting the FreedomDrive control lead | 14 | | | |

1 Designated Use

The FreedomDrive hand-held welding MIG guns are used for welding of standard wire electrodes. They conform to EN 60 974-7 and are not considered devices having their own functions. Arc welding can only be carried out in connection with a welding power supply. These operating instructions only describe FreedomDrive welding MIG guns. FreedomDrive welding MIG guns may only be operating using original **ABICOR BINZEL** spare parts.

2 Technical Data

| | |
|---------------------------------------|---------------------|
| Ambient temperature of welding | - 10 °C to + 40 °C |
| Transport and storage | - 25 °C to + 55 °C |
| Relative humidity | up to 90 % at 20 °C |
| Control device rating | 1 A AC / 250 V AC |

Tab. 1 General Data

| | |
|--|------------------------------------|
| Type of voltage | DC direct voltage |
| Polarity of the electrode | Usually positive |
| Wire types | Commercially available round wires |
| Type of use | Manual |
| Voltage rating | 113 V peak value |
| Protection type of the machine-side connections | IP2X, IP3X (EN 60 529) |
| Shielding gas (DIN EN 439) | CO ₂ and mixed gas M21 |

Tab. 2 General MIG gun data according to EN 60 974-7

| Type | Type of cooling | Load* | | Duty Cycle | Wire ø | Gas flow rate | Cooling data | | | |
|------------------------------|-----------------|-----------------|-----|------------|---------|---------------|-----------------|-----------|--------------------|--------------------|
| | | CO ₂ | M21 | | | | Flow temp. max. | Flow min. | Flow Pressure min. | Flow Pressure max. |
| ABIMIG | | A | A | % | mm | l/m | °C | l/min | bar | bar |
| AT355 | Air | 340 | 320 | 60 | 0.8-1.6 | 10-20 | | | | |
| WT440 WT540 | Liquid | 500 | 450 | 100 | 0.8-1.6 | 10-20 | 50 | 0.9 | 1.5 | 3.5 |

Tab. 3 Product-specific MIG gun data as laid out in EN 60974-7

* For pulse welding reduce rating by 35%

| | |
|--------------------------------|---------------------------------|
| Standard length | 20 and 30 feet |
| Cooling unit power | min. 1200 W |
| Control lead | Multi-wire w/circular connector |
| Weight/meter | approx. 0.7 kg |
| Machine-side connection | Euro or Direct |

Tab. 4 Cable assembly

| Size | Groove |
|-------------------------------------|----------|
| .030" / .035" (0.8 / 0.9 mm) | U |
| 0.47" / .062" (1.2 / 1.6 mm) | U |
| .030" / .062" (0.8 / 1.6 mm) | Knurled* |

Tab. 5 Wire feed rolls

*Must use in conjunction with one U-groove drive roll

2.1 Abbreviations

| | |
|-----------------------|---|
| MIG | Metal Inert Gas |
| MAG | Metal Active Gas |
| MAC | Maximum allowable concentration of harmful substances at the workplace |
| Voltage rating | Classification of the insulation resistance, voltage strength and protection type |
| FreedomDrive | Hand-held Push-Pull welding MIG gun with integrated drive and screwable interfaces between assist drive, cable assembly and MIG gun neck with replaceable tip adapter |

Tab. 6 Abbreviations

2.2 Nameplate

The welding MIG gun system FreedomDrive is identified by a sticker on the handle side housing. When making any inquiries, please remember the following information.

- Certificate of conformity, production stamp on the MIG gun, for example WT440, information on sticker.

3 Safety Instruction Please observe the attached safety instructions.

3.1 Classification

The warning signs used in the operating instructions are divided into four different levels and are shown prior to specific work steps. Arranged in descending order of importance, they have the following meaning:

A DANGER

Describes imminent threatening danger. If not avoided, it will result in fatal or extremely critical injuries.

A WARNING

Describes a potentially dangerous situation. If not avoided, it may result in serious injuries

A CAUTION

Describes a potentially harmful situation. If not avoided, it may result in slight or minor injuries.

Note

Describes the risk of impairing work results or the risk that the work may result in material damage to the equipment.

3.2 Emergency information

In case of emergency, immediately interrupt the following supplies:

- Electricity, compressed gas

Further measures can be found in the "Power supply" operating instructions or in the documentation of further peripheral devices.

4 Putting into operation

⚠ DANGER**Risk of injury due to unexpected start-up.**

For the entire duration of maintenance, servicing, dismantling and repair work, the following instructions must be adhered to:

- Switch off the power supply.
- Close off the compressed gas supply.
- Pull the mains plug.

4.1 Equipping the MIG gun neck ABIMIG AT

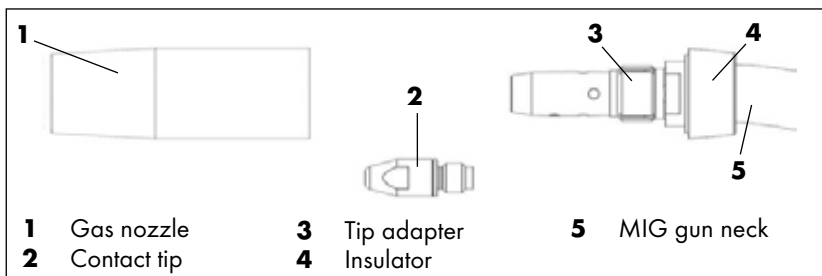


Fig. 1 Equipping the ABIMIG AT MIG gun neck

- 1 Screw, tip holder (3) and contact tip (2) onto the gun neck (5). The insulator (4) protects otherwise exposed areas.
- 2 Screw the gas nozzle (1) onto the tip holder (3).

4.2 Equipping the MIG gun neck ABIMIG WT

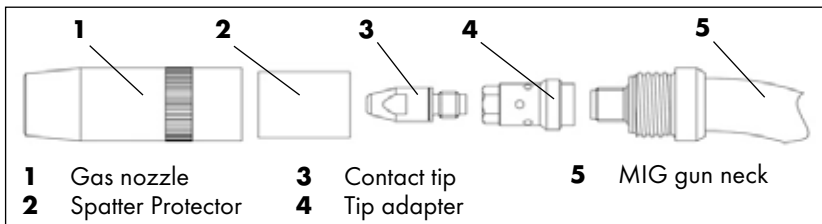


Fig. 2 Equipping the ABIMIG WT MIG gun neck

- 1 Screw the replaceable tip adapter (4) onto the gun neck (5) and tighten the tip adaptor (4) using the supplied wrench
- 2 Screw the contact tip (3) into the tip adaptor (4)
- 3 Tighten the contact tip (3) with the supplied wrench
- 4 Insert the spatter protector (2) into the gas nozzle (1) from the back prior to screwing the gas nozzle (1) onto the gun neck (5)

4.3 Installing the optional neck liner in the air-cooled MIG gun neck

The neck liners must be cut to length, according to the neck. Please be sure to order the correct neck liner in order to avoid feeding issues

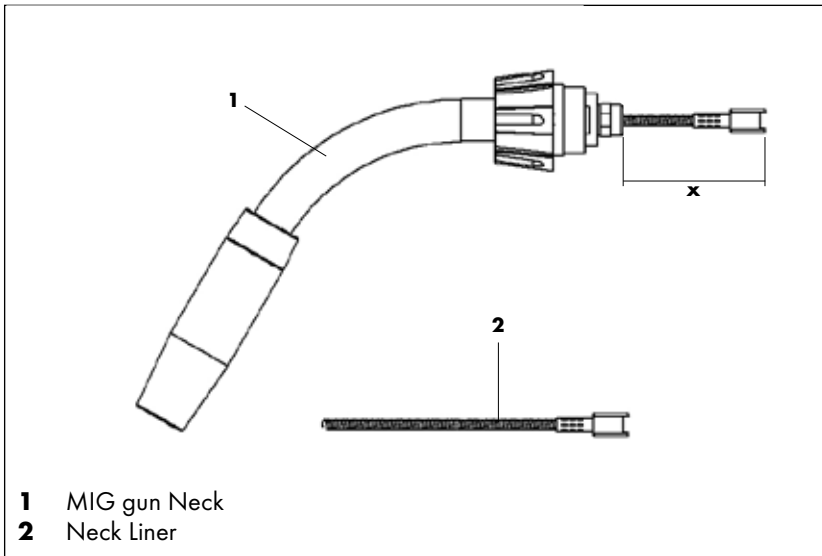


Fig. 3 MIG gun neck liner (optional)

- 1** Unscrew the gun neck (**1**) from the gun handle.
- 2** Insert the gun neck liner (**2**) into the gun neck until the end stops at the contact tip.
- 3** Measure the length of the neck liner protruding from the neck inlet ("x"). Subtract 1 mm (1 coil) from the measurement ("x"), then remove the neck liner and trim off the calculated amount from the front end.
- 4** Deburr the trimmed end of the neck liner
- 5** Insert the neck liner into the neck.
Note: When cut correctly, the neck liner should be flush with the tail inlet of the neck when pressed inward
- 6** Screw the gun neck (**1**) into the neck seat of the gun handle.

4.4 Installing the steel rear cable liner

To be used for steel wires.

Note

- New unused liners have to be shortened to the actual length of the cable assembly.

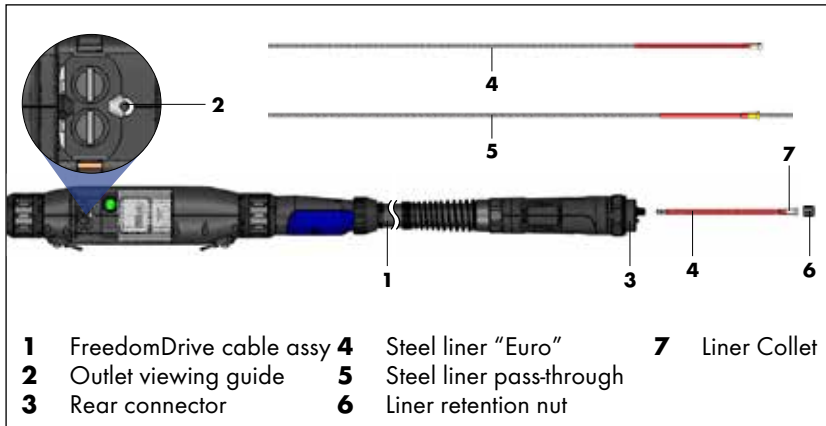


Fig. 4 Steel Rear Cable Liner

Installing Steel Rear Cable Liner:

1. Lay the MIG gun out straight and remove liner retention nut **(6)** from rear connector, then insert the liner **(4)** bare end first, all the way into gun until it stops. You should see the liner through the hole in the outlet viewing guide **(2)**, which will help you to make sure liner is fully installed.

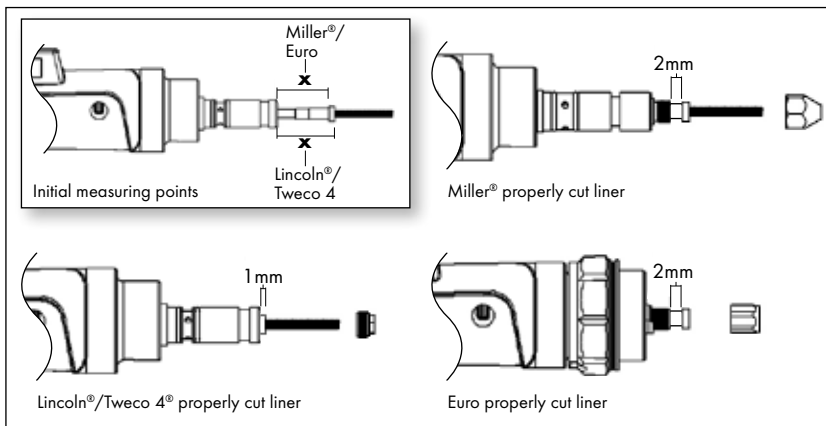


Fig. 5 Properly Cut Liners

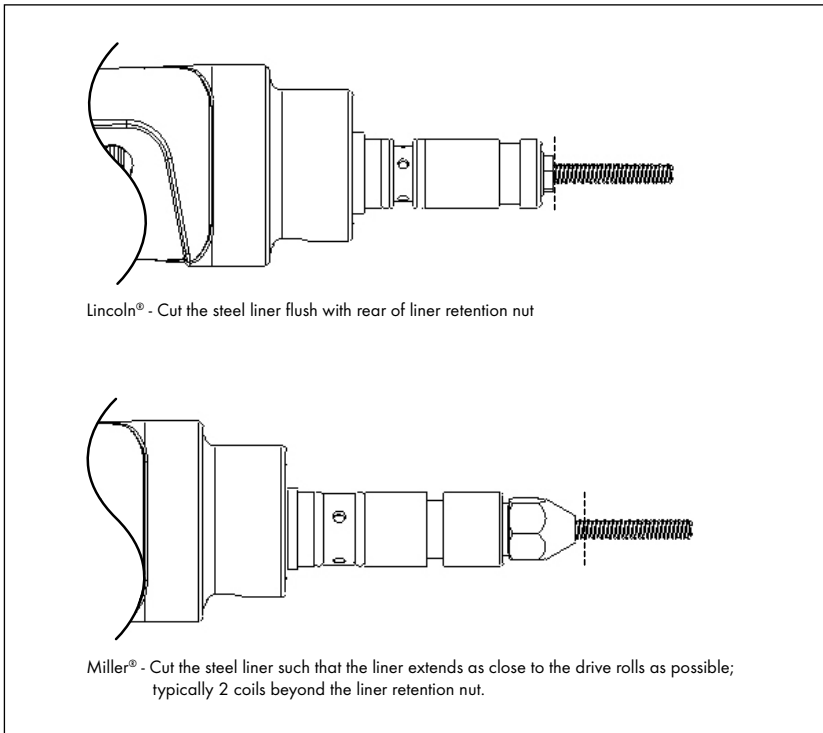


Fig. 6

4.4 Installing the steel rear cable liner (cont.)

To be used for steel wires.

2. While the MIG gun is laying out straight, measure the amount of liner protruding from the rear connector according to the correct measuring points as shown in Fig. 5 ("Initial measuring points"). Record this measured dimension as "x". Remove the liner and trim off the correct amount (dimension "x" -1mm or -2mm based on feeder connector type; Lincoln, Miller or Euro). Insert the liner back into the MIG gun and verify the correct 2mm gap or 1mm protrusion at the liner collet as shown in Fig. 5 for the various rear connection types.

3. Install the liner nut and tighten. The liner should now have a slight compression inside the cable to remain under tension as the cable is moved about the workspace.

4. For pass-through liners **(5)** which extend through the retention nuts, the liner should be cut flush with the retention nut on Lincoln and Hobart/Tweco direct rear connections. For Miller rear connections, the liner should protrude 2mm (2 coils) beyond the liner nut as shown in Fig. 6.

4.4 Installing the plastic cable liner

To be used for aluminum, copper, nickel, and stainless steel wires.

Note

- New unused liners have to be shortened to the actual length of the cable assembly.

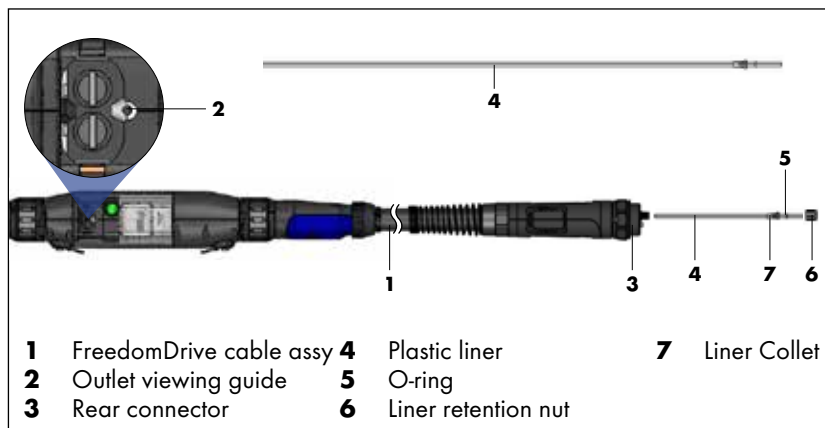


Fig. 7 Plastic Rear Cable Liner

Installing Plastic Rear Cable Liner:

1. Lay the MIG gun out straight remove retention nut **(6)** from rear connector, then insert the liner **(4)**, tapered end first, all the way into gun until it stops. You should see the liner through the hole in the inlet guide **(2)**, which will help you to make sure liner is fully installed.

2. While the gun is still laying out straight adjust the O-ring **(5)** and collet **(7)** so that they will fit into the rear connector when retention nut is installed. There should be a slight compression on the cable liner once installed.

3. Reinstall the retention nut **(6)** securely, then trim rest of liner **(4)** as close as possible to the feeder drive rolls or outlet guide.

Note: In case of Euro connection guns, liners smaller than 4.3mm OD should be fitted with the hollow brass support tube which is included with the Binzel Euro adaptor kits.

For Lincoln and Hobart/Tweco direct connect rear ends, the liner should be trimmed flush with the liner nut. For Miller direct connect rear ends, the liner should extend as close as possible to the drive rolls; which is typically 2mm beyond the liner retention nut. See Fig. 6.

4.5 Installing the front cable liner

Note

- New unused liners have to be shortened to the actual length of the cable assembly.

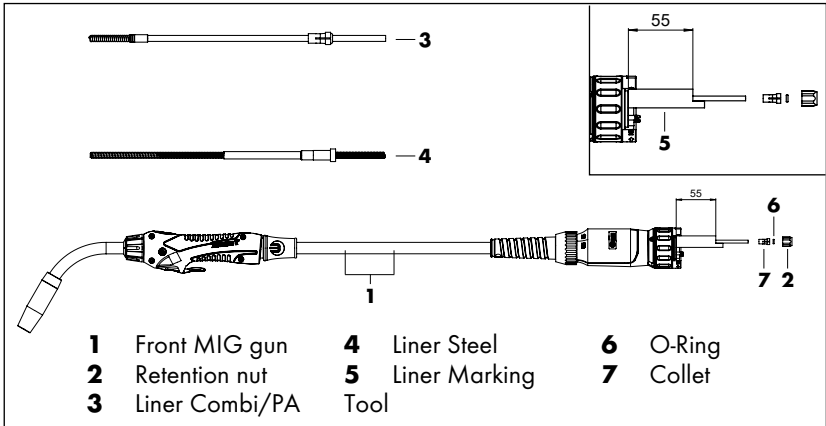


Fig. 8 Front Cable Liner

Installing Plastic Front Cable Liner:

Note: New MIG guns are supplied with a pre-cut liner. See below for proper cutting & installation of replacement liners

1. Lay MIG gun out straight and remove the retention nut (**2**) from the rear gun connector, then insert the liner (**3**), tapered end first, all the way into the gun until it seats inside the tip holder or inside the optional neck liner on air-cooled guns only. You should see the liner through the gas ports in the tip holder to ensure it is fully installed.
2. While the gun is still laying out straight, adjust the o-ring (**6**) and collet (**8**) so that they will fit into the rear connector when the retention nut is installed. There should be a slight compression on the cable liner once installed.
3. Reinstall the retention nut (**2**). Do not over tighten.
4. At the rear of the gun, the liner should be carefully trimmed at 50mm from the face of the rear connection block (see fig. 8). You can insert the liner marking tool (**5**) over the liner to assist in the marking of all liners and the cutting of plastic liners (see fig. 8).

4.5 Installing the front cable liner cont.

Installing Steel Front Cable Liner:

Note: New MIG guns are supplied with a pre-cut liner. See below for proper cutting & installation of replacement liners

1. Remove the contact tip, lay the MIG gun out straight and remove liner retention nut **(2)** from the rear connector. Insert the liner **(4)** from the rear, bare end first, all the way into gun until it stops with the collet body seated on the rear connector.
2. Reinstall the retention nut **(2)**. Do not over tighten.
3. At the front, cut the excess liner **(4)** flush with the end of the tip holder minus two coils. Reinstall the tip and nozzle.
4. At the rear gun, the liner should be carefully trimmed at 50mm from the face of the rear connection block (see fig. 8). You can insert the liner marking tool **(5)** over the liner to assist in the marking of the liner at the proper location.

4.6 Connecting the cable assemblies



Fig. 9 FreedomDrive to Cable Connections

The FreedomDrive unit is designed to pass through all operational functions; wire, gas, power, control, and water (water-cooled version only). The various pins and guides serve to align the mating surfaces during assembly.

Note: Do not mix water-cooled and air-cooled cables and FreedomDrive units.

Connecting to the Wire Feeder:

1. Insert the rear connector of the FreedomDrive cable into the receptacle at the wire feed unit and secure by means provided (typically a thumb screw for direct mount connections and a rotating nut for Euro connections) (see 4.7, Fig. 10)
2. Properly mount the connections for water supply/return (if required), and control lead (see 4.7, Fig. 10)

⚠ WARNING**Risk of burns**

Liquid-cooled welding MIG guns will become overheated if the coolant level is too low.

- Wear protective gloves.
- Check the coolant level at regular intervals.

Note

- Check the minimum coolant level of the cooling unit.
- Make sure that the coolant supply and return have been installed properly. Coolant supply = blue, Coolant return = red.
- Do not use any deionized or demineralized water as coolant or for tightness or flow tests.
This may impair the service life of your welding MIG gun.
- For liquid-cooled FreedomDrive welding MIG guns, we recommend using ABICOR BINZEL coolants.
- Each time the device is commissioned or after each cable assembly change, the cooling system must be purged of any air: Disconnect the coolant return hose from the re-circulating cooling unit and hold it over a collecting device. Close opening at the coolant return. Open it again by repeatedly and abruptly releasing it, until the coolant is flowing continuously and without air bubbles.

4.7 Connecting the FreedomDrive control lead



Fig. 10 Connecting the FreedomDrive Control Lead

Note: Connection varies by machine.

Connecting the FreedomDrive Control Lead:

1. Power source must be “off” and power cord disconnected from incoming power.
2. Connect the FreedomDrive MIG gun to the wire feeder.
3. Connect the control lead to the wire feeder or the Universal control box, depending on gun type.
4. Reconnect the power cord, turn on the machine and gas supply prior to welding.

4.8 Setting the Shielding Gas:

Note

- The type and quantity of the shielding gas depends on the welding task and the gas nozzle geometry.
- Make all shielding gas connections leak free.
- To prevent the shielding gas supply from becoming clogged by impurities, the cylinder valve must be opened briefly before connecting the cylinder. This will blow out any impurities that may be present

4.9 Feeding in the Wire

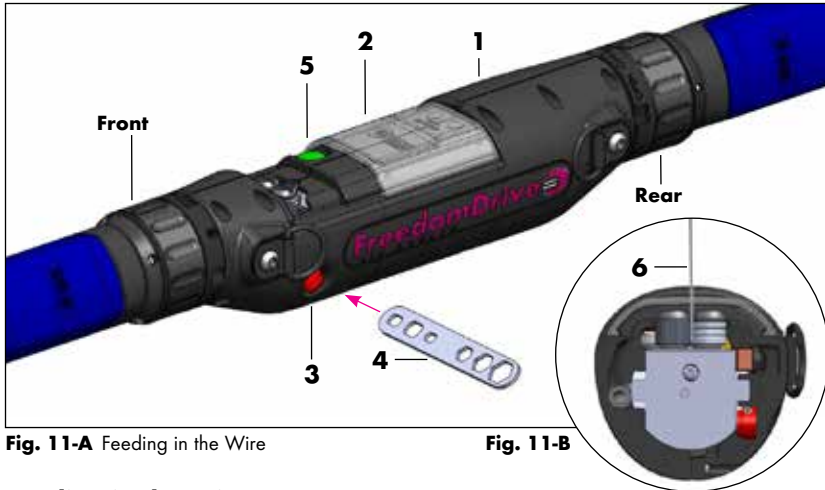


Fig. 11-A Feeding in the Wire

Fig. 11-B

Feeding in the Wire:

1. Install the wire into the wire feeder as specified by the wire feeder manufacturer.

2. Lay the MIG gun out as straight as possible. Open the access cover (2) on the FreedomDrive housing (1) by sliding it towards the rear of the housing.

3. Insert the curved end of the provided tip wrench (4) into the drive tension release knob (3) (see Fig. 11). Rotate the drive tension release knob (3) counter-clockwise $\sim 1/2$ turn from full clockwise position. Using a scrap piece of weld wire (6) as a feeler-gauge: insert the wire into the drive rolls and rotate the drive tension release knob (3) clockwise until a light resistance is felt on the wire (See Fig. 11-B).

4. Depress the incher button (5) located beneath the FreedomDrive access cover until the wire is visible at the drive rolls, and release the incher button quickly. It is not recommended to attempt feeding the wire into the inlet guide in front of the drive rolls until the drive rolls are closed.

Note: Feeding the wire slowly will help to avoid bird nesting of the wire

5. Rotate the drive tension knob (3) clockwise until it stops.

Note: Required contact pressure is automatically preset via internal spring tension.

6. Depress the incher button (5) or the MIG gun's handle trigger to continue feeding wire out of the gun.

7. Close the access window (2) on the FreedomDrive.

Note: Each time the wire is inserted into the rear cable, make sure that the wire end is free of burrs and sharp edges, which can damage the liner.

5 Operating Control Elements

Note

- As the MIG/MAG welding MIG guns are integrated into a welding system, the operating instructions of the welding components, such as the welding power supply, must be observed during operation.

5.1 2-Cycle Trigger and Incher Function

WARNING: The handle mounted trigger and FreedomDrive mounted wire inch buttons are connected. Both will command the FreedomDrive and wire feeder motors to power on, and weld current to travel through the welding wire.

2-Cycle Trigger and Incher Function:

1. Press the trigger in the handle or the incher button on the FreedomDrive, and keep it pressed to command the FreedomDrive motor and wire feeder motor on.
2. Release the trigger or incher button and the drive motors are stopped

5.2 Wire Feed Speed Knob in FreedomDrive (option based on MIG gun selection - see ordering chart)

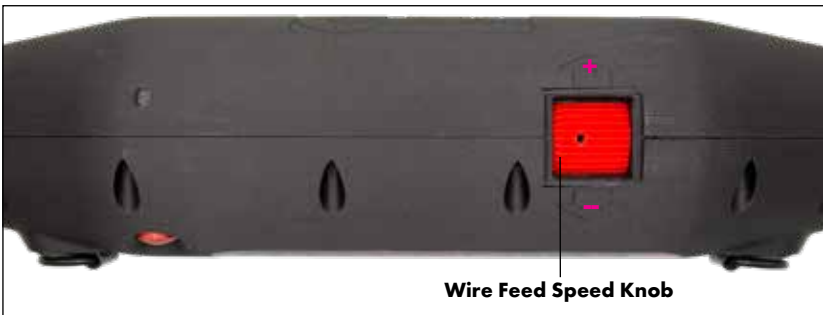


Fig. 12 Wire Feed Speed Knob in FreedomDrive

1. Rotate the wire feed speed knob in the direction of the (-) arrow to reduce wire feed speed. Rotate the knob in the direction of the (+) arrow to increase speed.

Note: Minimum and maximum speeds will vary by machine.

5.3 Wire Feed Speed Knob in MIG gun Handle (option based on MIG gun selection - see ordering chart)

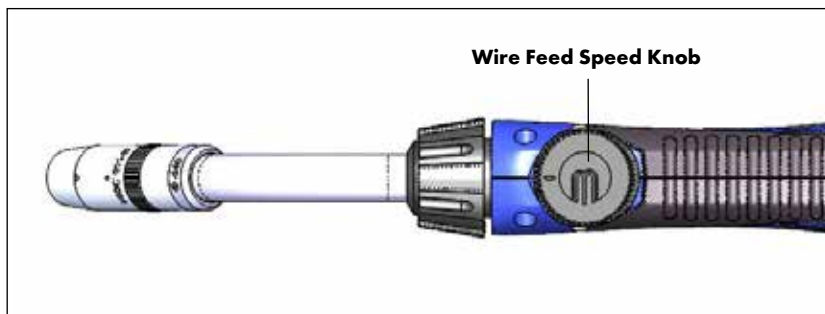


Fig. 13 Wire Feed Speed Knob in MIG gun Handle

1. Rotate the wire feed speed knob in the direction of the (-) indicator (counter-clockwise) to reduce wire feed speed. Rotate the knob in the direction of the (+) indicator (clockwise) to increase speed.

Note: The handle mounted wire feed speed knob functions in conjunction with the range selector switch, see section 5.4.

5.4 FreedomDrive Wire Feed Speed Range Selector Switch (option based on MIG gun selection - see ordering chart)

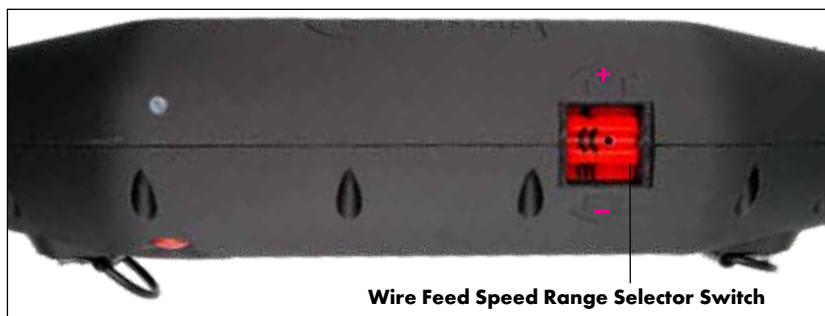


Fig. 14 FreedomDrive Wire Feed Speed Range Selector Switch

1. The wire feed speed range selector switch is only available on MIG guns with handle mounted wire feed speed knobs. The range selector on the FreedomDrive is necessary to allow fine adjustments to wire feed speed.

2. Turn the knob in the direction of the (-) arrow to decrease the wire feed speed range. Turn the knob in the direction of the (+) arrow to increase the wire feed speed range. There are three ranges available as indicated by the dashed lines on the knob. The number of dashed lines centered in the knob opening indicate the selected range setting.

- 1 Dash = Lowest WFS range
- 2 Dashes = Medium WFS range
- 3 Dashes = Highest WFS range

6 Putting into Operation

1. Open the shielding gas cylinder.
2. Switch on the power supply
3. Set the welding parameters.
4. Start welding.

Note

- Liquid-cooled hose assemblies will start leaking if the return coolant temperature is exceeded. Make sure not to exceed a return coolant temperature of 60° C.

7 Putting out operation

Note

- Liquid-cooled hose assemblies will start leaking if overheated. This is why the cooling unit should continue running for approx. 5 min. after welding.

1. Stop welding.
2. Wait until the shielding gas flow has subsided and then switch off the power supply.
3. Close the valve of the shielding gas cylinder.

8 Maintenance and cleaning

DANGER

Risk of injury due to unexpected start-up.

For the entire duration of maintenance, servicing, dismantling and repair work, the following instructions must be adhered to:

- Switch off the power supply.
- Close off the compressed gas supply.
- Pull the mains plug.

DANGER

Electric shock

Dangerous voltage due to defective cables.

- Switch off the power supply.
- Check all live cables and connections for proper installation.
- Replace any damaged, deformed or worn parts.

Note

- Maintenance and cleaning work may only be carried out by qualified and trained specialists.
- Check coolant hoses, seals and connections for damage and tightness and replace them, if necessary.
- Always wear your personal protective clothing when performing maintenance and cleaning work.

8.1 Replacing the drive rolls

⇒ Fig. 11 Feeding in the wire on page 15.

Note

- Make sure that the drive rolls comply with the diameter of the inserted wire electrode.

1. Open the access cover **(2)** and unscrew the two slotted drive roll thumb screws.
2. Rotate the tension knob **(3)** counter-clockwise to spread open the drive rolls.
3. Pull up on the drive rolls to remove them. If necessary, a pair of needle nose pliers can be used.
4. Replace the drive rolls and secure them on the motor shaft using the slotted thumb screws. The drive rolls are designed for two different wire sizes and are stamped with the wire sizes on each end. The correct wire size stamp should be facing up when properly installed.

Note: The knurled drive roll is unmarked and is suitable for all wire sizes when used in conjunction with an appropriately sized grooved roll. The knurled drive roll should always be installed on the side furthest away from the tension release knob.

5. Rotate the tension knob **(3)** clockwise until it stops and close the access cover **(2)**.

8.2 Cleaning the wire conduit

1. Unscrew both front and rear cable assemblies from the FreedomDrive and wire feeder, and bring them into a stretched position.

⇒ See Fig. 7 on page 10.

2. Unscrew the retention nut **(7)** and pull out the liner **(4)**

WARNING

Risk of injury

Serious injuries caused by parts swirling around.

- When cleaning the wire guide with compressed air, wear suitable protective clothing, in particular safety goggles.

3. Clean the cable assembly **(1)**, internally from both sides with compressed air.
4. Slide a new liner **(4)** into rear connector **(3)** and secure it with the retention nut **(7)**.

⇒ See section 4.4

5. Connect cable assembly to the wire feed unit.

8.3 MIG gun neck

1. Remove gas nozzle.
2. Remove welding spatter and spray gas nozzle with ABICOR BINZEL anti-spatter agent or ceramic spray.
3. Check wear parts for visible damage and replace them, if required.
4. Replace the cable or neck liner (optional on air-cooled) when worn or soiled.
5. Clean the neck interface and grease O-rings with silicone-free sealing grease.

9 Troubleshooting

| Note | | |
|---|--|---|
| <ul style="list-style-type: none"> If the measures described below are not successful, please consult your dealer or the manufacturer. Please also consult the operating instructions for the welding components, such as power supply. | | |
| Fault | Cause | Solution |
| MIG gun neck or handle gets too hot | <ul style="list-style-type: none"> Contact tip/tip adapter not tighten Power connections loose on the MIG gun or the work-piece Coolant flow too low Pulse welding derates the MIG gun by 35% Duty-cycle or amperage exceeded | <ul style="list-style-type: none"> Check and tighten Check and tighten Check cooling system, increase coolant flow Change parameters reduce duty-cycle and/or switch to water-cooled Change parameters reduce duty-cycle and/or switch to water-cooled |
| No trigger function | <ul style="list-style-type: none"> Control lead interrupted/defective Flow control valve in the re-circulating cooling unit was triggered | <ul style="list-style-type: none"> Check/repair Check coolant level and top off, if necessary. Check for pinched coolant lines. |
| Wire burn-back in the contact tip | <ul style="list-style-type: none"> Wrong parameters set Contact tip worn out Wire burn-back function set incorrectly Trim setting incorrect | <ul style="list-style-type: none"> Check or correct setting Replace Correct Correct |
| Irregular wire feed | <ul style="list-style-type: none"> Liner clogged Drive rolls upside down Contact tip and wire diameter not matched Wrong contact pressure set on the wire feed unit | <ul style="list-style-type: none"> Clean both directions with compressed air or replace it, if necessary Check and correct, if necessary Replace contact tip Increase or reduce contact pressure |
| Arc between gas nozzle and work-piece | <ul style="list-style-type: none"> Spatter bridge between contact tip and gas nozzle | <ul style="list-style-type: none"> Clean and spray gas nozzle interior |
| Erratic arc | <ul style="list-style-type: none"> Contact tip not matched to the wire diameter or contact diameter enlarged Wrong welding parameters set Liners clogged, worn out, or incorrect selection | <ul style="list-style-type: none"> Check the contact tip and replace it, if necessary Correct welding parameters Replace liners |
| Porosity formation | <ul style="list-style-type: none"> Spatter build-up in the gas nozzle Insufficient or lack of gas coverage Air currents blowing shielding gas away Contaminated base metal | <ul style="list-style-type: none"> Clean gas nozzle Check gas cylinder contents and pressure setting Shield welding area with partitions Prepare/clean metal properly prior to welding |

Tab. 7 Troubleshooting



Danger

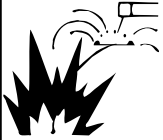
• Read and follow the manufacturer's instructions, employer's safety practices and Material Safety Data Sheets (MSDSs).

• Only qualified personnel should install, use or service this material and/or equipment.



ELECTRIC SHOCK can kill.

- Always wear dry insulating gloves.
- Do not touch live electrical parts.
- Always disconnect power source before hooking up or changing electrodes, nozzles and other parts.



WELDING SPARKS can cause fire or explosion.

- Do not weld near flammable material.
- Do not weld on closed containers.
- Remove combustibles from the work area and/or provide a fire watch.
- Avoid oily or greasy clothing as a spark may ignite them.



FUMES AND GASES can be hazardous to your health.

- Keep your head out of the fumes.
- Use enough ventilation or exhaust at the arc to keep fumes and gases from your breathing zone, and the general area.
- Fumes from welding and cutting can deplete air quality, causing injury or death. Always wear an air supplied respirator in confined areas or if breathing air is not safe.



ARC RAYS can injure eyes and burn skin.

- Always wear correct eye, ear and body protection.
- Always wear a welding helmet with the proper grade filter lens. Protect yourself and others from spatter arc flash rays by using protective screens, barriers and welding curtains.
- Always wear protective gloves and clothing to cover exposed skin. This will aid in the prevention of arc and spatter burns.



LOUD NOISE can damage hearing.

- Always wear protective hearing devices to ensure protection when noise levels exceed OSHA standards.

Do Not Remove This Label.

ID 123-4567CI

Alexander Binzel Corporation

650 Medimmune Court, Suite 110, Frederick, MD 21703
Tel:(301)846-4196 Fax:(301)846-4497 www.binzel-abicor.com

Read American National Standard Z49.1, "Safety in Welding, Cutting and Allied Processes" available from the American Welding Society, 8669 NW 36 St #130, Miami, FL 33166; OSHA Safety and Health Standards, available from U.S. Government Printing Office, Washington, DC 20402

BINZEL, S.A. DE C.V.
Municipio de Pabellon de Arteaga 102
Valle de Aguascalientes, 20358
San Francisco de los Romo, Ags.
MEXICO
Tel: +52(499) 9730133
Fax: +52(449) 9731388
Email: www.binzel.com.mx

Alexander Binzel Corporation
650 Medimmune Ct., Suite 110
Frederick, MD 21703-8619
Tel: 301.846.4196
Fax: 301.846.4497
Email: customerservice@abicorusa.com

www.binzel-abicor.com

