



MAKE WORK
LIFE EASIER

SET-UP AND MAINTENANCE GUIDE

Auto Air-Cooled Series

INTELLIGENT
TORCH SOLUTIONS

ARC M AUTO AIR-COOLED SERIES

Contents

Auto Air-Cooled Series

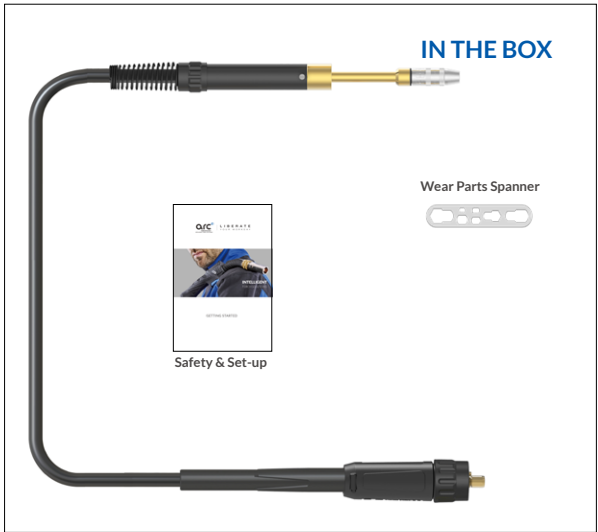
M3A	
In the Box and Technical Data	2
Front-End Wear Part Options	3
M6A	
In the Box and Technical Data	4
Front-End Wear Part Options	5
Liner Options	6
Hard Wire Liner Set-Up	8
Soft Wire/Combi-Liner Set-up	12

M3A High Performance Air-Cooled



MAKE WORK
LIFE EASIER

The Arc M3A Auto torch is ideal in 1.0mm and 1.2mm medium duty low-tech automatic applications.



TECHNICAL SPECIFICATIONS

IEC/EN 60974-7

M3A

Cooling Method	Air-Cooled		Max. Load
Rating:	CO ₂	300A	10.5KW
	Mixed Gas M21	270A	8.9KW
Duty Cycle	60%		
Wire Size	0.9-1.2mm		

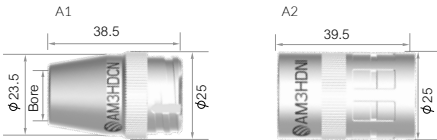
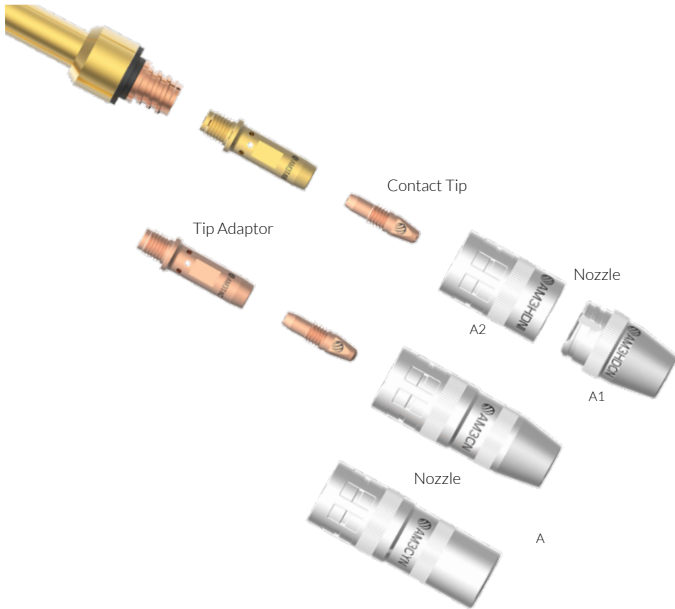
© All Trademarks are the property of their respective owners and usage is for cross reference only

M3A SET-UP GUIDE



MAKE WORK
LIFE EASIER

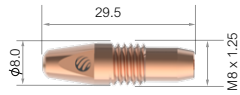
M3A Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •



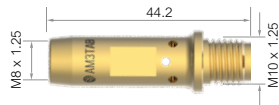
A1	AM3HDTN	12mm	3mm	Copper
•	AM3HDCN	14mm	3mm	Copper
	AM3HDCYN	19mm	3mm	Copper
A2	• AM3HDNI			Copper



A	AM3TN	12mm	2.25mm	Copper
	AM3CN	14mm <td>2.25mm <td>Copper</td> </td>	2.25mm <td>Copper</td>	Copper
	AM3CYN	19mm <td>2.25mm <td>Copper</td> </td>	2.25mm <td>Copper</td>	Copper



Standard Series				
	AM5CT09	M8*29.5	0.9 - 0.035	CuCrZr
	AM5CT10	M8*29.5	1.0 - 0.040	CuCrZr
•	AM5CT12	M8*29.5	1.2 - 0.045	CuCrZr
A Series				
	AM5CT10A	M8*29.5	1.0 - 0.040	CuCrZr
	AM5CT12A	M8*29.5	1.2 - 0.045	CuCrZr
	AM2CT10A	M8*29.5	1.0 - 0.040	Copper
	AM2CT12A	M8*29.5	1.2 - 0.045	Copper



	AM3TAC	CuCrZr
•	AM3TAB	Brass

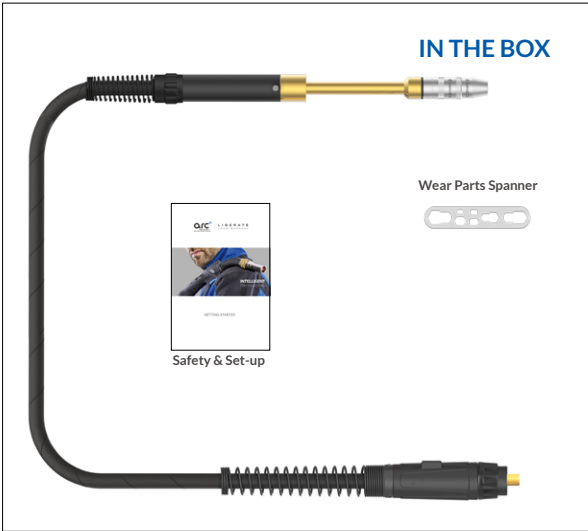
• Denotes torch package standard wear part set-up

M6A High Performance Air-Cooled



MAKE WORK
LIFE EASIER

The Arc M6A Auto torch is perfect for 1.2mm Air-Cooled high duty and pulse MIG, low-tech automatic applications.



TECHNICAL SPECIFICATIONS

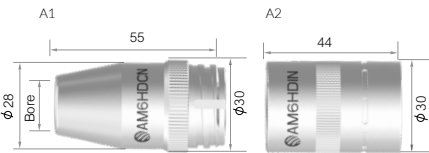
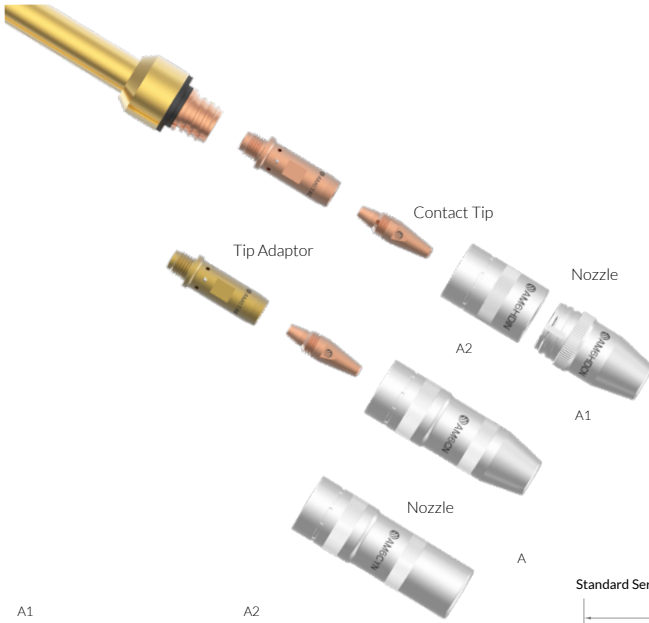
IEC/EN 60974-7

M6A

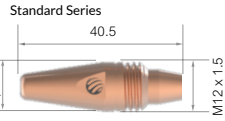
Cooling Method		Air-Cooled	Max. Load
Rating:	CO ₂	430A	17.6KW
	Mixed Gas M21	400A	14.8KW
Duty Cycle		60%	
Wire Size		0.9-2.0mm	

M6A SET-UP GUIDE

M6A Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •



	A1			
A1	AM6HDTN	13mm	3.5mm	Copper
•	AM6HDCN	15mm	3.5mm	Copper
	AM6HDCYN	23mm	3.5mm	Copper
A2	• AM6HDNI			Copper

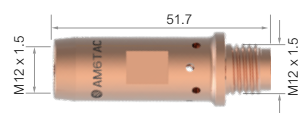


Standard Series			
AM6CT09	M12*40.5	0.9-0.035	CuCrZr
AM6CT10	M12*40.5	1.0-0.040	CuCrZr
• AM6CT12	M12*40.5	1.2-0.045	CuCrZr
AM6CT14	M12*40.5	1.4-0.055	CuCrZr
AM6CT16	M12*40.5	1.6-0.063	CuCrZr
AM6CT20	M12*40.5	2.0-0.080	CuCrZr



A				
AM6TN	13mm	2.5mm	Copper	
AM6CN	15mm	2.5mm	Copper	
AM6CYN	21mm	2.5mm	Copper	

A Series			
AM6CT10A	M12*40.5	1.0-0.040	CuCrZr
AM6CT12A	M12*40.5	1.2-0.045	CuCrZr
AM6CT16A	M12*40.5	1.6-0.063	CuCrZr
AM6CT20A	M12*40.5	2.0-0.080	CuCrZr
AMC6CT10A	M12*40.5	1.0-0.040	Copper
AMC6CT12A	M12*40.5	1.2-0.045	Copper



AM6TAB	Brass
• AM6TAC	CuCrZr

• Denotes torch package standard wear part set-up

LINER OPTIONS



MAKE WORK
LIFE EASIER

Liners

Filler Metal

Steel Liner Recommended for: Fe, Fe-MC/FC. Light and medium duty applications

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AM1535-20	Steel Liner x 2mt	Moulded Nipple	0.6-0.9	●	●
AM1535-30	Steel Liner x 3mt	Moulded Nipple	0.6-0.9	●	●
AM1535-40	Steel Liner x 4mt	Moulded Nipple	0.6-0.9	●	●
AM1535-50	Steel Liner x 5mt	Moulded Nipple	0.6-0.9	●	●
AM2524-20	Steel Liner x 2mt	Moulded Nipple	1.0-1.2	●	●
AM2524-30	Steel Liner x 3mt	Moulded Nipple	1.0-1.2	●	●
AM2524-40	Steel Liner x 4mt	Moulded Nipple	1.0-1.2	●	●
AM2524-50	Steel Liner x 5mt	Moulded Nipple	1.0-1.2	●	●

Filler Metal Fe, Fe-MC/FC

Steel Liner Recommended for: Light and medium duty applications

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AM6SL-1012-20	Steel Liner x 2mt	Standard Series	1.0-1.2	●	●
AM6SL-1012-30	Steel Liner x 3mt	Standard Series	1.0-1.2	●	●
AM6SL-1012-40	Steel Liner x 4mt	Standard Series	1.0-1.2	●	●
AM6SL-1012-50	Steel Liner x 5mt	Standard Series	1.0-1.2	●	●
AM6SL-16-20	Steel Liner x 2mt	Standard Series	1.6	●	●
AM6SL-16-30	Steel Liner x 3mt	Standard Series	1.6	●	●
AM6SL-16-40	Steel Liner x 4mt	Standard Series	1.6	●	●
AM6SL-16-50	Steel Liner x 5mt	Standard Series	1.6	●	●
AM6SL-20-20	Steel Liner x 2mt	Standard Series	2.0	●	●
AM6SL-20-30	Steel Liner x 3mt	Standard Series	2.0	●	●
AM6SL-20-40	Steel Liner x 4mt	Standard Series	2.0	●	●
AM6SL-20-50	Steel Liner x 5mt	Standard Series	2.0	●	●

Filler Metal ss, ss-MC/FC

Stainless Steel Liner Recommended for: Heavy Duty Fe. High amperages and heavy deposition welding

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AM6SSTL-1012-20	Stainless Steel Liner x 2mt	Standard Series	1.0-1.2	●	●
AM6SSTL-1012-30	Stainless Steel Liner x 3mt	Standard Series	1.0-1.2	●	●
AM6SSTL-1012-40	Stainless Steel Liner x 4mt	Standard Series	1.0-1.2	●	●
AM6SSTL-1012-50	Stainless Steel Liner x 5mt	Standard Series	1.0-1.2	●	●
AM6SSTL-16-20	Stainless Steel Liner x 2mt	A Series	1.6	●	●
AM6SSTL-16-30	Stainless Steel Liner x 3mt	A Series	1.6	●	●
AM6SSTL-16-40	Stainless Steel Liner x 4mt	A Series	1.6	●	●
AM6SSTL-16-50	Stainless Steel Liner x 5mt	A Series	1.6	●	●

Welding with Soft Wires

For welding with Aluminum wires use a Combi-liner.
Optimum installation is achieved when using the Combi-liner set-up kit.

● Standard wear part range ● Torch package standard wear part set-up

LINER OPTIONS



MAKE WORK
LIFE EASIER

Liners

Filler Metal $AlMg$

Al - Combi Liner Recommended for: Air-Cooled torches, Can be used for SS-MC/FC wires

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AM1564-20	Combi-Liner x 2mt	A Series	0.8-1.2	●	●
AM1564-30	Combi-Liner x 3mt	A Series	0.8-1.2	●	●
AM1564-40	Combi-Liner x 4mt	A Series	0.8-1.2	●	●
AM1564-50	Combi-Liner x 5mt	A Series	0.8-1.2	●	●

Filler Metal $AlMg$

Al - Combi Liner Recommended for: Liquid-Cooled torches and frequent /repetitive arc starts

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AM6CL-1012-20	Combi-Liner x 2mt	A Series	1.0-1.2	●	●
AM6CL-1012-30	Combi-Liner x 3mt	A Series	1.0-1.2	●	●
AM6CL-1012-40	Combi-Liner x 4mt	A Series	1.0-1.2	●	●
AM6CL-1012-50	Combi-Liner x 5mt	A Series	1.0-1.2	●	●
AM6CL-1620-20	Combi-Liner x 2mt	A Series	1.6	●	●
AM6CL-1620-30	Combi-Liner x 3mt	A Series	1.6	●	●
AM6CL-1620-40	Combi-Liner x 4mt	A Series	1.6	●	●
AM6CL-1620-50	Combi-Liner x 5mt	A Series	1.6	●	●

Part No.	Description	Contact Tip	Wire Size mm	M3A	M6A
AMOSW_LINER-T	Soft Wire / Combi-Liner Set-up Kit			●	●

Welding with Soft Wires

For welding with Aluminum wires use a Combi-liner.

Optimum installation is achieved when using the Combi-liner set-up kit.

● Standard wear part range ● Torch package standard wear part set-up

HARD WIRE LINER SET-UP

Fe, Fe-MC/FC



MAKE WORK
LIFE EASIER

Preparing the Torch and Fitting the Liner

Prepare the Torch

Step 1

Lay the torch out flat and straight

- Remove the nozzle.
- Remove the contact tip and tip adaptor.
- Remove the liner retaining nut, twist and pull out the old liner if necessary.

Important:

Liners should not be fitted if the torch is bent or coiled



Install the New Liner

Step 2

- Feed in the new liner in short strokes of 20cm per time. (Figure 1)
- Twist the handle if the liner sticks when feeding the liner through the swan neck. (Figure 2)
- Continue to feed until the liner nipple is inside gun plug body.
- Fit liner nut. The torque is about 2.5N·m. (Figure 3)

Important:

Do not use a kinked liner



Figure 1



Figure 2



Figure 3



HARD WIRE LINER SET-UP

Fe, Fe-MC/FC



MAKE WORK
LIFE EASIER

Install the New Liner, Cont.

Step 3

- Cut the excess liner so the liner stick out is: M3 - 14mm , M6 - 19mm from the front end of the swan neck.
- Replace the tip adaptor and measure the gap from the tip adaptor to the front of the swan neck thread (Figure 1).
- Remove excess liner material.
- Remove all sharp burrs with a file or grinder.

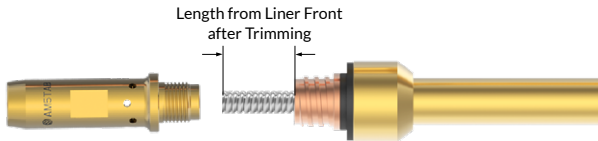
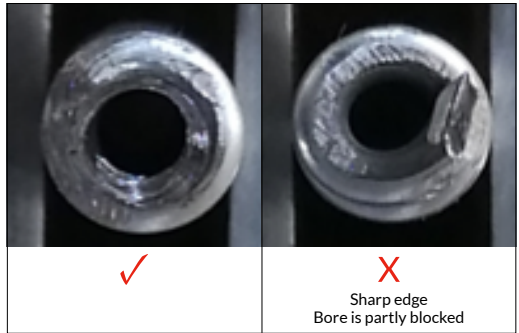
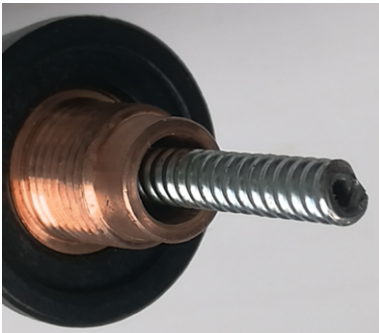


Figure 1



Important:

The inner bore of the liner must be totally cylindrical and burr free.

Remove any external overhanging material prior to fitting the tip adaptor.

HARD WIRE LINER SET-UP

Fe, Fe-MC/FC

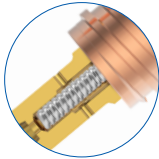


MAKE WORK
LIFE EASIER

Install the New Liner, Cont.

Step 4

- Refit the tip adaptor.
- The liner front-end sits inside the tip adaptor as shown in Figure A.



Detail A



Figure A

Important:

The liner should always remain under slight compression within the torch.

HARD WIRE LINER SET-UP

Fe, Fe-MC/FC



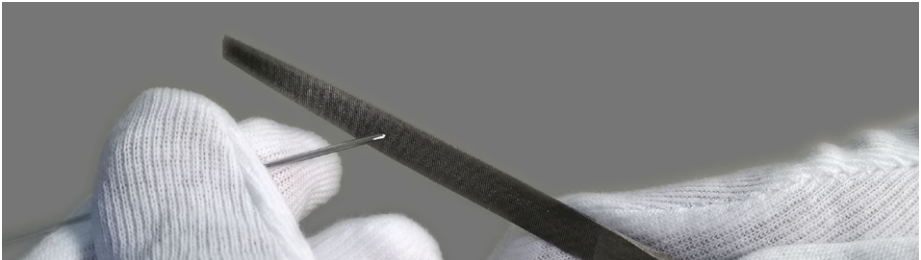
MAKE WORK
LIFE EASIER

Feeding Wire Through the Torch

Preparing the Wire

Step 1

- Inch the wire out through the machine by 15-20cm. Using a file remove all sharp burrs from the leading edge of the filler metal.
- Feed the wire directly into the torch liner, carefully pulling the torch towards the machine if necessary.
- Mount the torch to the machine or feed unit

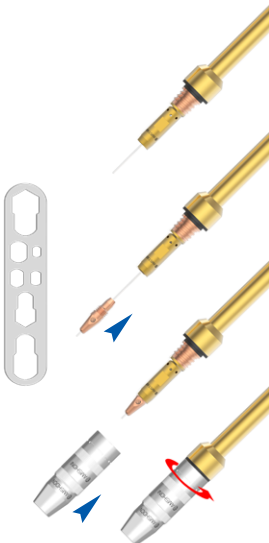


Feeding the Wire Through the Torch

Step 2

- Slowly inch the wire through the torch until it appears at the end of the tip adaptor.
- Feed the wire through the tip being careful not to scratch the bore.
- Tighten the contact tip and refit the nozzle.

You are ready to weld!



SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC



MAKE WORK
LIFE EASIER

The correct fitting of your soft wire liner is essential.



Please Note:

The Arc Combi Liner systems have been developed to pick up the filler metal directly at the drive rolls and deliver it directly to the contact tip.

The outside dimension of the liner is 5.0mm and is the same dimension as the inside of the brass wire guide tube fitted to the machine/feed unit.

It may be necessary to remove any old wire guides used to support smaller OD liners prior to fitting the soft wire liner.

SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC



MAKE WORK
LIFE EASIER

Preparing the Torch and Fitting the Liner

Prepare the Torch

Lay the torch out flat and straight

- Remove the nozzle.
- Remove the contact tip.
- Remove the liner retaining nut, twist and pull out the old liner if necessary.

Important:

Liners should not be fitted if the torch is bent or coiled.

Step 1

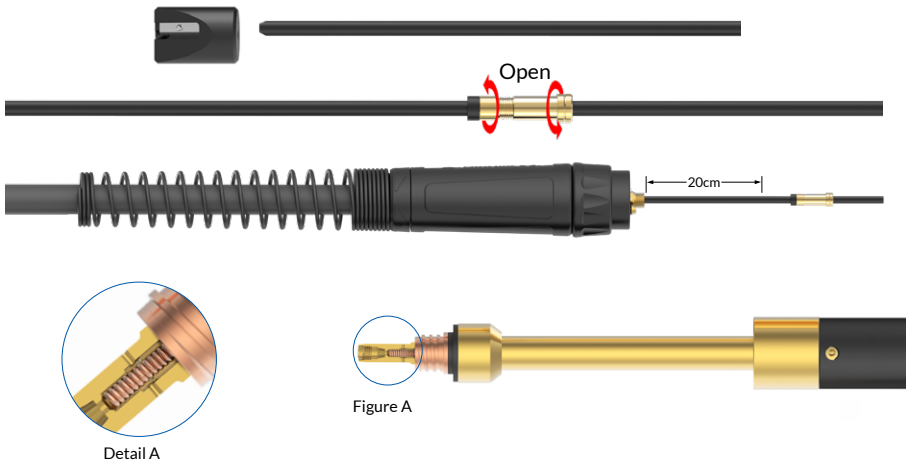
Install the New Liner

- Open the liner collet by twisting the two halves.
- Feed in the new combi-liner in short strokes of 20cm per time.
- Twist the handle if the liner sticks when feeding the liner through the swan neck.
- Continue to feed the combi-liner, the liner front-end sits inside the tip adaptor as shown in Figure A.

Important:

Do not use a kinked liner

Step 2



SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC



MAKE WORK
LIFE EASIER

Install the New Liner, Cont.

Step 3

- Ensure the liner is under slight compression within the torch conduit and the front nipple can be seen through the tip adaptor holes. Mark the position at the rear of the liner nipple (Figure 1).
- Retract the liner back slightly and position the collet by tightening it to the liner at the marked position (Figure 2).
- Reposition and tighten the liner retaining nut (Figure 3).

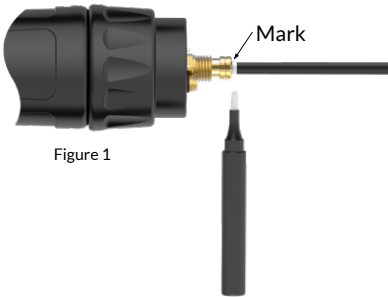


Figure 1

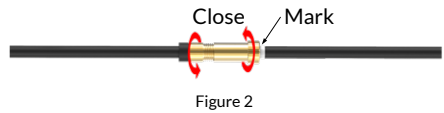


Figure 2

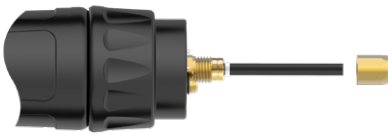


Figure 3

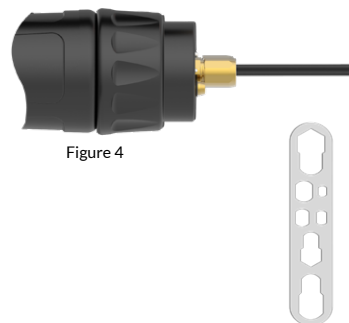


Figure 4

SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC



MAKE WORK
LIFE EASIER

Preparing the Machine to Fit the Torch

Measuring the Distance to the Drive Rolls

Step 1

- Remove the old wire guide from the machine / wire feed unit if necessary.
- Insert the liner measuring jig supplied into the machine Euro socket as shown.



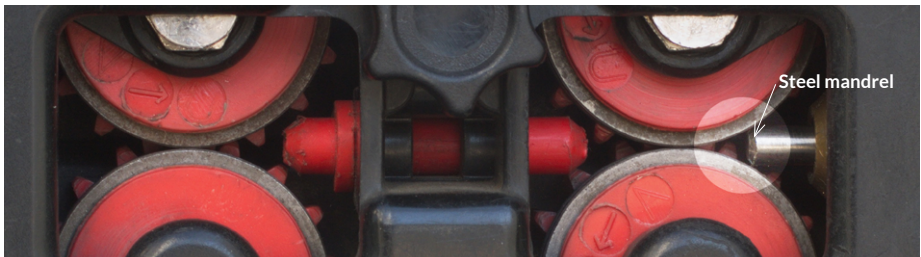
- Ensure there is no gap between the shoulder of the plastic gauge and the machine Euro socket.



Using the Liner Measuring Jig, Cont.

Step 2

- Gently push the steel mandrel until the front-end touches the wire feed rollers.
- Remove the Jig from the machine ensuring there is no movement between the plastic gauge and the mandrel.



SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC

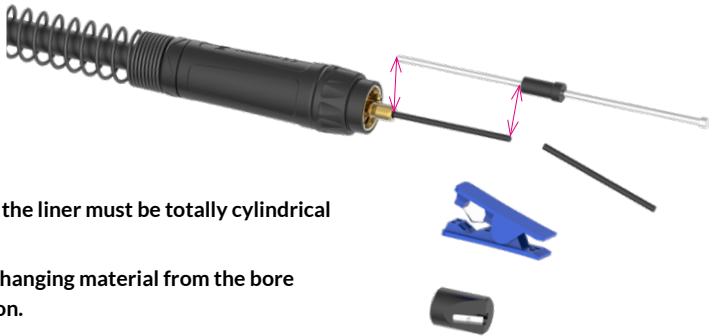


MAKE WORK
LIFE EASIER

Cutting and Trimming the Liner

Step 3

- Offer the liner to the Jig and mark the point at the face of the plastic gauge.
- Cut the liner with the liner cutter provided.
- Use the liner sharpener provided to sharpen the leading edge of the liner.
- The sharpener is preset to the correct angle.



Important

The inner bore of the liner must be totally cylindrical and burr free.

Remove any overhanging material from the bore prior to installation.

The Correct Set-up

Step 4

- Refit the torch to the machine and tighten the torch lock nut slowly, being mindful of the interface between the end of the liner and the drive rolls.
- The liner should now sit close to the drive rolls.



Important:

The back end of the liner should be close to the drive rolls without touching them.

SOFT WIRE/COMBI-LINER SET-UP

SS,SS-MC/FC

Feeding Wire Through the Torch



MAKE WORK
LIFE EASIER

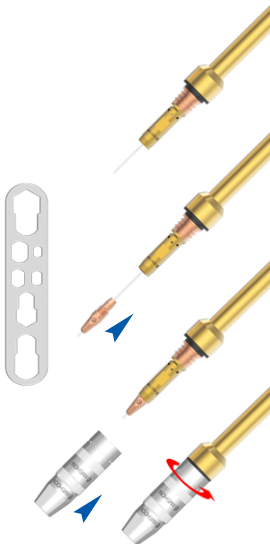
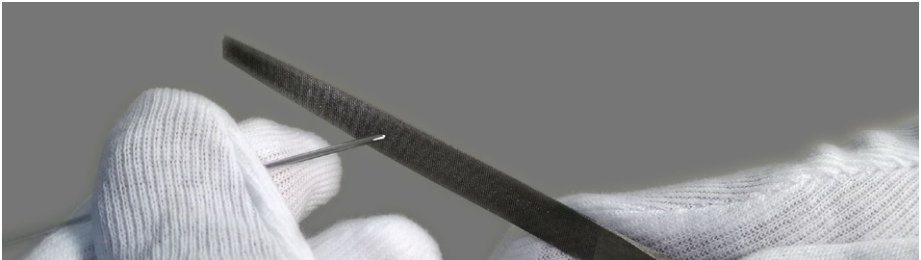
Important:

Remove the torch from the machine / feed unit

Step 1

Preparing the Wire

- Inch the wire out through the machine by 15-20cm. Using a file remove all sharp burrs from the leading edge of the filler metal.
- Feed the wire directly into the torch liner, carefully pulling the torch towards the machine if necessary.
- Mount the torch to the machine or feed unit.



Feeding the Wire Through the Torch

Step 2

- Slowly inch the wire through the torch until it appears at the end of the tip adaptor.
- Feed the wire through the tip being careful not to scratch the bore.
- Tighten the contact tip and refit the nozzle.

You are ready to weld!

ARC M HIGH PERFORMANCE SERIES

Make Work Life Easier

MPAXXX / 2025.04



| **MAKE WORK**
L I F E E A S I E R