



**Setup Procedures
for the Miller Electric
Auto Access 300/450 Power Supply
With FANUC R-J3iB V6.22 or higher ArcTool software**



FANUC ArcTool Setup Procedure for the Miller Axxess 300/450 Power Supply

This procedure gives the recommended setup parameters for the FANUC R-J3iB controller with V6.22 or higher ArcTool software when it is connected to the Miller Axxess 300/450 Power Supply. While some of these parameters may need to be changed on a case by case basis, FANUC and Miller believe that these are the optimal settings for a standard configuration.

Software Loading – This section allows the user to select the type of welding equipment and welding process being used. For the Axxess 300/450, select a general purpose MIG machine, which is controlled by voltage and wire feed speed. For additional information refer to the Weld Equipment Setup section in the FANUC ArcTool Setup and Operations Manual.

1. After loading the core ArcTool software, the correct welding equipment must be selected. You will see a screen similar to the following.

```
ARCTOOL SETUP          CONTROLLED START MENUS
                                     1/3
1 F number          F00000
  Equipment:        1
2 Manufacturer:     General Purpose
3 Model:           MIG (Volts, WFS)

Press FCIN then START (COLD) when done
[TYPE]                                HELP
```

If the software is already loaded, this screen can be reached by performing a control start.

2. Move the cursor to the Manufacturer entry and press Choice. Select 2, General Purpose.
3. Move the cursor to the Model entry and press Choice. You will see a screen similar to the following.

```
General Purpose weld controller models:

1 MIG (Volts, WFS)
2 MIG (Volts, Amps)
3 TIG (Amps)
4 TIG (Amps, WFS)

Select model (0 to Exit):
```

4. Select 1, MIG (Volts, WFS).
5. Go to System Variables and set \$AWEPCR.\$PRG_SEL_ENA = TRUE

6. When you are finished, press FCTN.
7. Select START (COLD). The controller will perform a cold start. When it is finished, the UTILITIES Hints screen is displayed.

Weld System and Equipment Setup Menus – The setup menus configure the robot to match the functionality of the Axxess 300/450. Refer to the weld system setup and weld equipment setup sections of the FANUC ArcTool Setup and Operations Manual for more information about each of the variables.

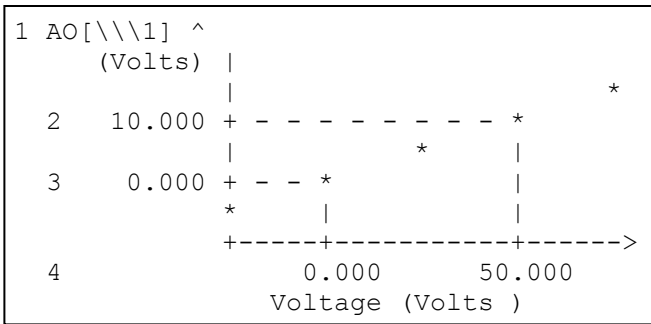
SETUP Weld System		JOINT	50 %
			1/18
NAME	VALUE	UNITS	
Monitoring Functions			
1 Arc loss:	ENABLED		
2 Gas shortage:	DISABLED		
3 Wire shortage:	DISABLED		
4 Wire stick:	ENABLED		
5 Power supply failure:	ENABLED		
6 Coolant shortage:	DISABLED		
Weld Restart Function			
7 Return to path:	ENABLED		
8 Overlap distance:	0	mm	
9 Return to path speed:	200	mm/s	
Scratch Start Function			
10 Scratch start:	ENABLED		
11 Distance:	5	mm	
12 Return to start speed:	12	mm/s	
Weld Speed Function			
13 Default speed:	40		
14 Default unit:	IPM		
Other Functions			
15 On-The-Fly:	ENABLED		
16 Weld from teach pendant:	ENABLED		
17 Rumin:	ENABLED		
18 Wire burnback/retract:	DISABLED		
[TYPE]	ENABLED	DISABLED	

1. Press MENUS.
2. Select SETUP.
3. Press F1, [TYPE].
4. Select Weld System. Set each variable to the value shown below.
5. Press F1, [TYPE].
6. Select Weld Equip. Set each variable to the value shown below.

SETUP Weld Equip		JOINT	50 %
			1/12
Welder: General Purpose MIG (Volts, WFS)			
Process:	MIG		
Process control:	VLT+WFS		
Feeder: General Purpose			
1 Wire feed speed units:	IPM		
2 WIRE+ WIRE- speed:	200	IPM	
3 Feed forward/backward:	ENABLED		
4 Wire stick reset:	DISABLED		
5 Wire stick reset tries:	1		
Timing			
6 Arc start error time:	2.00	sec	
7 Arc detect time:	.06	sec	
8 Arc loss error time:	.25	sec	
9 Gas detect time:	.05	sec	
10 Gas purge time:	0.35	sec	
11 Gas preflow time:	0.00	sec	
12 Gas postflow time:	0.20	sec	
[TYPE]	[CHOICE]	HELP	>

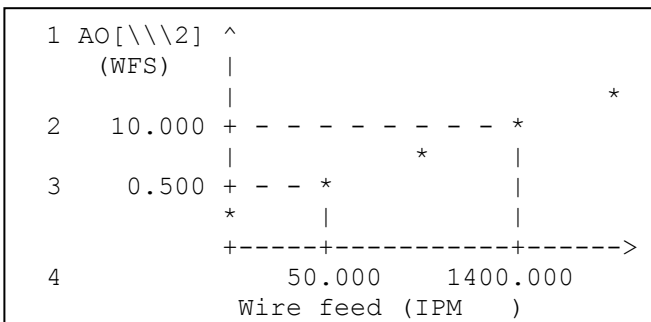
Analog Scaling – The analog signals which are sent between the Axxess 300/450 and the FANUC controller need to be configured to match the operating range of the Axxess 300/450. Refer to the Setting up Arc Welding I/O section of the FANUC ArcTool Setup and Operations Manual for more information about changing the scaling values.

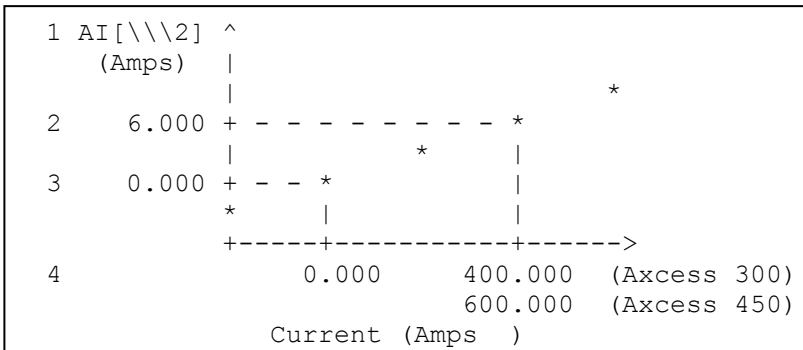
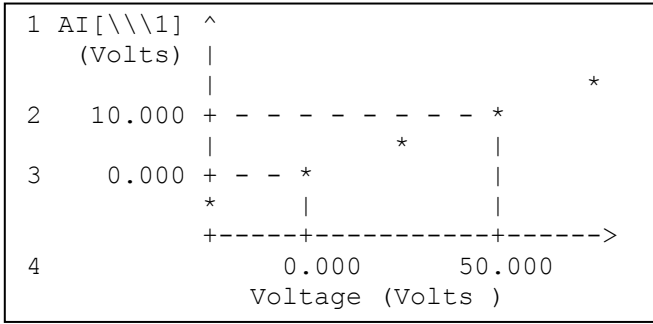
1. Press MENU.
2. Select I/O.
3. Press F1, [TYPE].
4. Select Weld.
5. Press F3, [I/O] until the welding outputs are showing.
6. Move the cursor Voltage AO[1].
7. Press NEXT
8. Press F3, [CONFIG]. You will see a screen similar to the following.



Note: For MIG voltage is direct, 25 = 25 volts output. For Pulse, 25 = mid point for trim.

9. Set the values to match the screen above. Press ENTER to save each value.
10. Press PREV.
11. Repeat sequence for AO[2], AI[1] and AI[2] using the screens below.





Auto Calibration

The Axxess power supply has a built in mode to synchronize the analog scaling between the robot and power supply. Perform the following procedure:

1. Turn on Power Supply while pressing and hold the Wire Inch/Amps Display Button until the display shows ROBT CAL
2. Create a weld in mid air program (clear of parts and fixtures). Teach an Arc Start point with any schedule (i.e. 20 or use direct entry -6.40 software). Next move a couple of inches and teach another point, set the speed for a 10 second move and change the schedule (i.e.21 or use direct entry -6.40 software) at this second point. Finally teach and Arc End point a couple of inches from the second point and also set this for a 10 second move.
3. Set the first weld schedule to 10 volts and 100 IPM, then set the second schedule to 44 volts and 1000 IPM.
4. Enable the ARC and Run the above program. The “Arc Established” light should be on during the entire time of the (2) 10 second welds.
5. The Display on the Power Supply will return to a normal state and the calibration is complete.

TorchMate or Touch Sense Setup using FANUC Wire Stick Circuit – The FANUC I/O interface contains a wire stick circuit, which can be used for

TorchMate or Touch Sensing. However, the Miller Interface adapter cable does not include the wire stick signals. Use the auxillary interface connector on the Axxess 300/450 for TorchMate or Touch Sensing (See Miller Manual). The user must use digital I/O to activate the Miller Touch Sensing Circuit and to receive the “Touch” signal.

TorchMate:

1. Press MENU.
2. Select SETUP.
3. Press F1, [TYPE]
4. Select TorchMate.
5. Set the value of the Input signal to DI[X*]
6. Set the value of the Output signal to DO[X*]
7. Set the remanding TorchMate variables as needed. Refer to the TorchMate Setup and Operations Manual for more information on these variables.

Touch Sensing:

1. Press MENU.
2. Select SETUP.
3. Press F1, [TYPE]
4. Select Touch I/O.
5. Set 'Sensor port type' = DI
6. Set 'Sensor port number' = X*
7. Set 'Circuit port type' = DO
8. Set ' Circuit port number' = X*

* User defined value

Reference Documents:

FANUC ArcTool Setup and Operations Manual: