



ArcBoss

Operator's Manual

Portable Semi-Automatic Welding Manipulators



One-Year Limited Warranty

Manufacturer defects in materials and workmanship under normal use and proper operation

Warranty Coverage

ArcBoss equipment is covered by a one-year limited warranty against defects in materials and workmanship from the date of delivery. This warranty applies to commercial and industrial equipment sold for business use.

Original Purchaser / Non-Transferable

This warranty applies only to the original purchaser and is not transferable unless approved in writing by ArcBoss.

Proper Use Requirement

This warranty applies only when the equipment is used under normal operating conditions, properly maintained, and operated in accordance with its intended purpose. Customer is responsible for proper installation, setup, operation, training, maintenance, and compliance with applicable workplace safety requirements, electrical requirements, and welding procedures.

Repair or Replacement

During the warranty period, ArcBoss will repair or replace, at its discretion, any component found by ArcBoss to be defective due to manufacturing defects, material defects, or workmanship defects. The repair or replacement of defective components is the customer's sole and exclusive remedy under this limited warranty.

Exclusions

This warranty does not cover damage, failure, or performance issues caused by misuse, abuse, improper operation, improper installation, lack of maintenance, accident, customer modification, unauthorized repair, alteration, disassembly, tampering, improper storage, improper electrical supply, environmental exposure, or use of the equipment outside its intended application. This warranty does not cover normal wear items, consumables, cosmetic damage, or routine maintenance items unless ArcBoss determines the failure was caused by a manufacturing defect.

Unauthorized Work or Alterations

Customers should not modify, disassemble, alter, or attempt repairs on ArcBoss equipment without prior written approval from ArcBoss. Any unauthorized modification, repair, disassembly, alteration, or tampering may void this warranty. No equipment or component should be returned to ArcBoss without prior authorization.

Limits of Responsibility

ArcBoss's responsibility under this warranty is limited to the repair or replacement of defective components. Unless specifically approved in writing by ArcBoss, this warranty does not cover shipping, freight, packaging, removal, installation, third-party labor, travel expenses, lost production time, downtime, lost profits, delay, incidental damages, consequential damages, special damages, indirect damages, punitive damages, or damage to other equipment.

Disclaimer of Other Warranties

EXCEPT AS EXPRESSLY PROVIDED IN THIS LIMITED WARRANTY, ARCBOS DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE MAXIMUM EXTENT PERMITTED BY LAW.

Jurisdictional Limitations

Some jurisdictions do not allow certain limitations on implied warranties or exclusions of certain damages, so some of the above limitations may not apply where prohibited by law.

Warranty Claims

Warranty claims must be submitted to ArcBoss with a description of the issue, equipment model, serial number if available, date of purchase or delivery, and supporting photos or video when applicable. ArcBoss reserves the right to determine whether a claim is covered under this warranty after review or inspection of the reported issue.

Issued By: ArcBoss

Warranty Period: One year from date of delivery

This warranty statement is intended to summarize ArcBoss warranty coverage. Any exceptions, approvals, or special warranty terms must be provided in writing by ArcBoss.



Electrical Connection & Oscillator Homing

Use clean wall power and home the oscillator before startup.

IMPORTANT - USE PROPER WALL POWER

Connect the ArcBoss unit to a properly grounded 120-volt wall outlet.

Do not plug the ArcBoss unit into the auxiliary power outlet of a welding power supply. For reliable operation, use a clean, stable wall-power connection.

Recommended Electrical Connection

- Use a 14/3, three-conductor grounded extension cord or heavier.
- Use a high-quality shop cord that is in good condition and suitable for the work area.
- Use the shortest practical cord and avoid connecting multiple extension cords together.
- Make sure the grounding prong is intact and the plug is fully seated.
- Keep the cord away from spatter, heat, sharp edges, standing water, moving equipment, and traffic.

Before connecting the unit

Inspect the cord, plug, grounding prong, and receptacle. Do not use damaged cords, defeated grounds, or improvised repairs. Disconnect wall power before opening the control enclosure.

Homing the Oscillator Before Startup



- 1 Before turning the unit on, manually slide the gun post toward the "A" in the ArcBoss logo.
- 2 Continue moving the post until it reaches the solid mechanical stop.
- 3 Move the post back away from the stop approximately 1/8 inch.
- 4 Power the unit on for operation.
- 5 Perform this homing procedure before startup or whenever the unit is disconnected and relocated in the shop.



2-INCH TRAVEL SPEED CALIBRATION CHART

Convert a timed 2-inch movement into inches per minute (IPM).



SETUP: 2-INCH TEST

Make two marks with a soapstone or Sharpie on the OD of your part, 2 inches from one another. Using your welding gun positioned close to those two marks as an indicator, you can stick out some wire and make it a little easier to see. Measure the time in seconds that it takes to travel from mark to mark.



QUICK CALCULATION

$$\text{IPM} = 120 / \text{SECONDS}$$

$$\text{Seconds} = 120 / \text{IPM}$$

The constant 120 is for a 2-inch test.

Measured time: _____ sec

Calculated speed: _____ IPM

2-INCH TRAVEL TIME REFERENCE

Seconds shown to 2 decimals

IPM	TIME FOR 2 IN. (SEC)	IPM	TIME FOR 2 IN. (SEC)	IPM	TIME FOR 2 IN. (SEC)	IPM	TIME FOR 2 IN. (SEC)	IPM	TIME FOR 2 IN. (SEC)
5.00	24.00	9.25	12.97	13.25	9.06	17.25	6.96	21.25	5.65
5.25	22.86	9.50	12.63	13.50	8.89	17.50	6.86	21.50	5.58
5.50	21.82	9.75	12.31	13.75	8.73	17.75	6.76	21.75	5.52
5.75	20.87	10.00	12.00	14.00	8.57	18.00	6.67	22.00	5.45
6.00	20.00	10.25	11.71	14.25	8.42	18.25	6.58	22.25	5.39
6.25	19.20	10.50	11.43	14.50	8.28	18.50	6.49	22.50	5.33
6.50	18.46	10.75	11.16	14.75	8.14	18.75	6.40	22.75	5.27
6.75	17.78	11.00	10.91	15.00	8.00	19.00	6.32	23.00	5.22
7.00	17.14	11.25	10.67	15.25	7.87	19.25	6.23	23.25	5.16
7.25	16.55	11.50	10.43	15.50	7.74	19.50	6.15	23.50	5.11
7.50	16.00	11.75	10.21	15.75	7.62	19.75	6.08	23.75	5.05
7.75	15.48	12.00	10.00	16.00	7.50	20.00	6.00	24.00	5.00
8.00	15.00	12.25	9.80	16.25	7.38	20.25	5.93	24.25	4.95
8.25	14.55	12.50	9.60	16.50	7.27	20.50	5.85	24.50	4.90
8.50	14.12	12.75	9.41	16.75	7.16	20.75	5.78	24.75	4.85
8.75	13.71	13.00	9.23	17.00	7.06	21.00	5.71	25.00	4.80
9.00	13.33								



OSCILLATOR STARTING SETTINGS

Reference settings for 4", 8", and 12" Schedule 40 pipe.

Starting points only. Verify settings and follow your qualified procedures, customer requirements, and equipment setup.



1 ROOT PASS SETTINGS

SETTING	4" Sch 40	8" Sch 40	12" Sch 40
Osc Speed Setting	70	70	70
Osc Width Setting	13	13	13
Osc Pause Setting	12	12	12
Pinwheel I.P.M.	5.25	5.812	5.625
Welder Volts	20V	20V	20V
Welder Amps	160A	150A	150A

2 FILL PASS SETTINGS

SETTING	4" Sch 40	8" Sch 40	12" Sch 40
Osc Speed Setting	70	72.5	69
Osc Width Setting	20	20	20
Osc Pause Setting	0	0	0
Pinwheel I.P.M.	7.687	10.5	11.812
Welder Volts	28V	29V	29V
Welder Amps	150A	215A	230A

3 CAP PASS SETTINGS

SETTING	4" Sch 40	8" Sch 40	12" Sch 40
Osc Speed Setting	70	62	67.5
Osc Width Setting	20	20	20
Osc Pause Setting	0	0	0
Pinwheel I.P.M.	7.687	9.187	6
Welder Volts	28V	28V	28V
Welder Amps	150A	150A	150A

TRAVEL SPEED REMINDER

IPM = 120 / SECONDS

Seconds = 120 / IPM

Use the same reference point
and average 2-3 timed passes.



SERVICE AND FIELD-REPLACEABLE PARTS

Factory-supported modular service designed to get ArcBoss units back into operation quickly.

ArcBoss Service Philosophy

Sensitive electronic components, operator inputs, leads, modules, pendants, and the power supply are organized into field-replaceable assemblies. With ArcBoss factory support, the affected assembly can often be isolated and swapped without extensive on-site electrical repair.

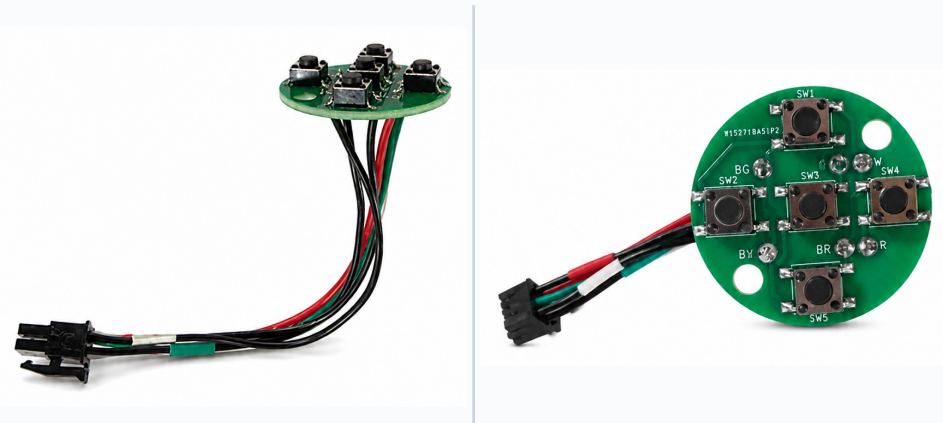
1 Powered Slide Control Cable

Complete control lead and D-pad handle assembly.



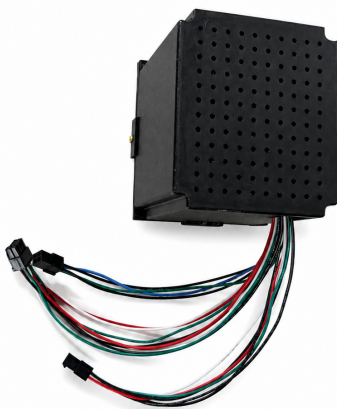
2 D-Pad Switch Set

Replaceable five-button switch board and wiring set.



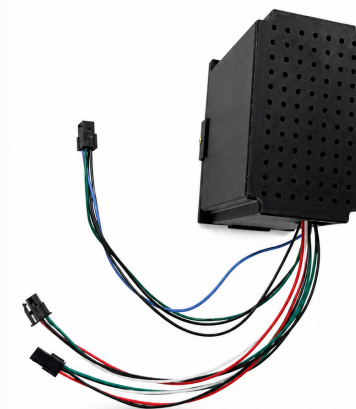
3 Powered Slide Module

Electronic control module for the two-axis powered slides.



4 Oscillate Module

Electronic control module for oscillator operation.





FIELD-REPLACEABLE ASSEMBLIES

Oscillator pendant controls and internal power-supply assembly.

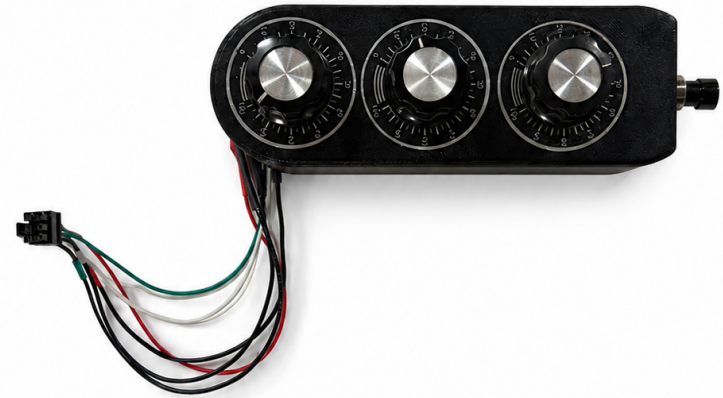
5 Top Hand Max Oscillate Pendant Box

Pendant control box used with the Top Hand Max oscillator.



6 Top Hand Oscillate Pendant Box

Pendant control box used with the standard Top Hand oscillator.



7 Power Supply

Internal power-supply assembly within the ArcBoss control system.

