

*Arcair*®

Gouging Torches  
& Accessories Catalog

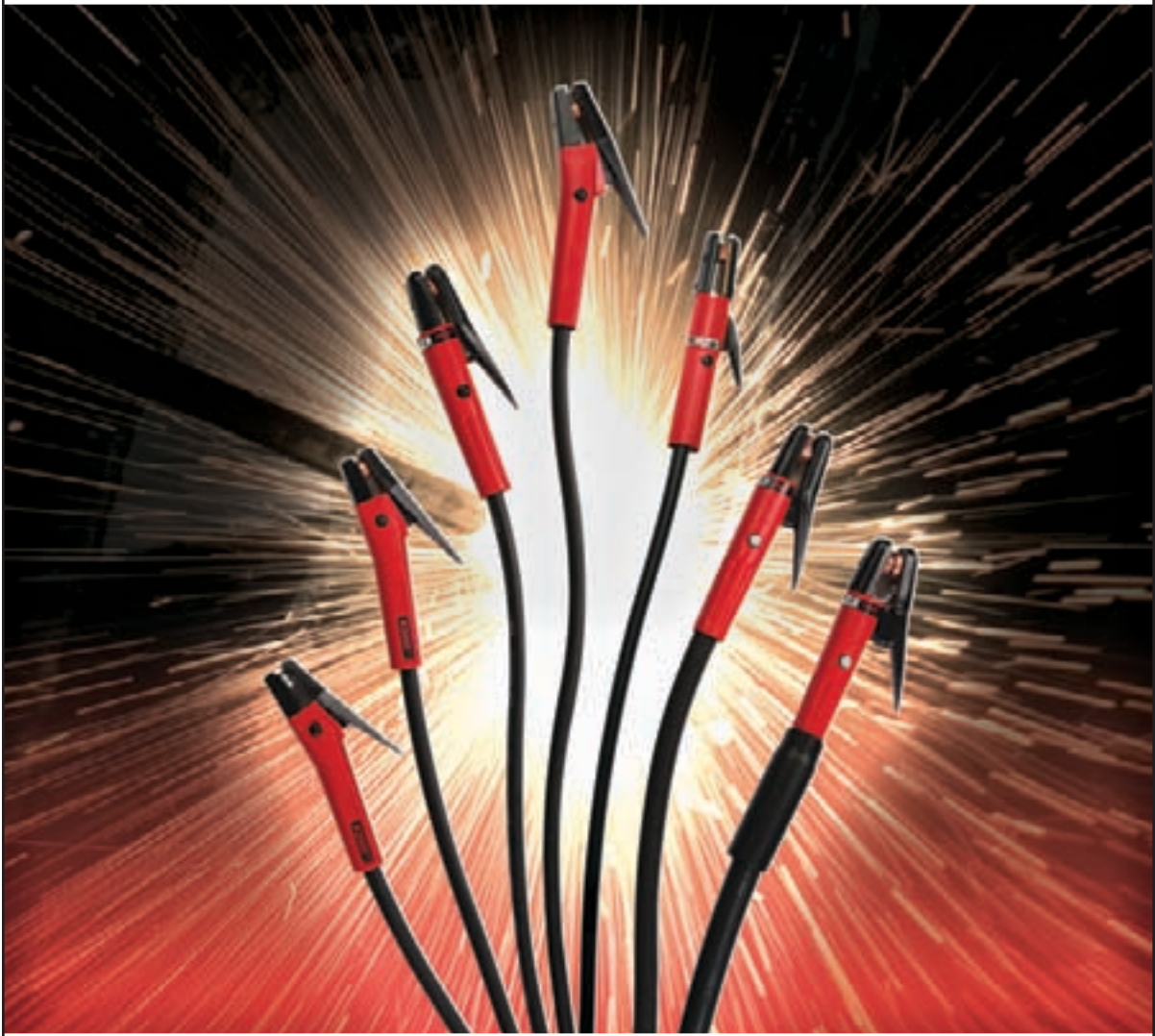


THE FIRST NAME IN ARC GOUGING

[thermadyne.com/arcair](http://thermadyne.com/arcair)

*Arcair*

# **ARCAIR LINE OF PERFORMANCE-PROVEN MANUAL TORCHES**



## **ARCAIR ADVANTAGE**

- Excellent performance with high productivity & low downtime
- Superior durability with long lasting torches
- Exceptional ease of use with operator appeal

## **MONEY SAVING AIR CARBON-ARC METAL REMOVAL PROCESS**

- Invented by Arcair
- Saves up to 75% over grinding, chipping and flame cutting

**THE NAME YOU THINK OF WHEN YOU THINK OF METAL REMOVAL**

**Manual Gouging Torches . . . . . 4-21**

**Automatic Gouging Torch. . . . . 22-27**

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**Warranty . . . . . 55**

# Manual Gouging Torches



## FEATURES & BENEFITS

### Improved Torch Air Flow

- More efficient use of air supply.
- Improved metal removal.

### New Four Barrel Air Nozzle

- Optimizes air flow to the arc. Efficiently cleans slag from groove edge.

### Optimized Air Flow to Control Noise

- Allows usage in areas where noise cannot exceed 115 decibels. Able to use torch at lower air pressure and flow to obtain acceptable grooves.

### Air Assist Positive Air Shut-Off

- Minimizes air supply unit cycling on and off.
- Allows torch usage when air supply is marginal.

### Improved Cable Electrical Conduction

- Improves cable service life. Decreases heat build up in cable and torch.

### Superior Outer Cable Cover

- Durable cover for improved cable life in a harsh environment. Resists breakdown due to exposure to heat produced by gouging.

### Insulated Connection Boot & Hook-Up Kit

- Makes for easy torch hook-up. Virtually eliminates the possibility of arcing when contacting electrically hot parts.



**Angle-Arc®**  
Gouging Torches



**K-Series**  
Gouging Torches

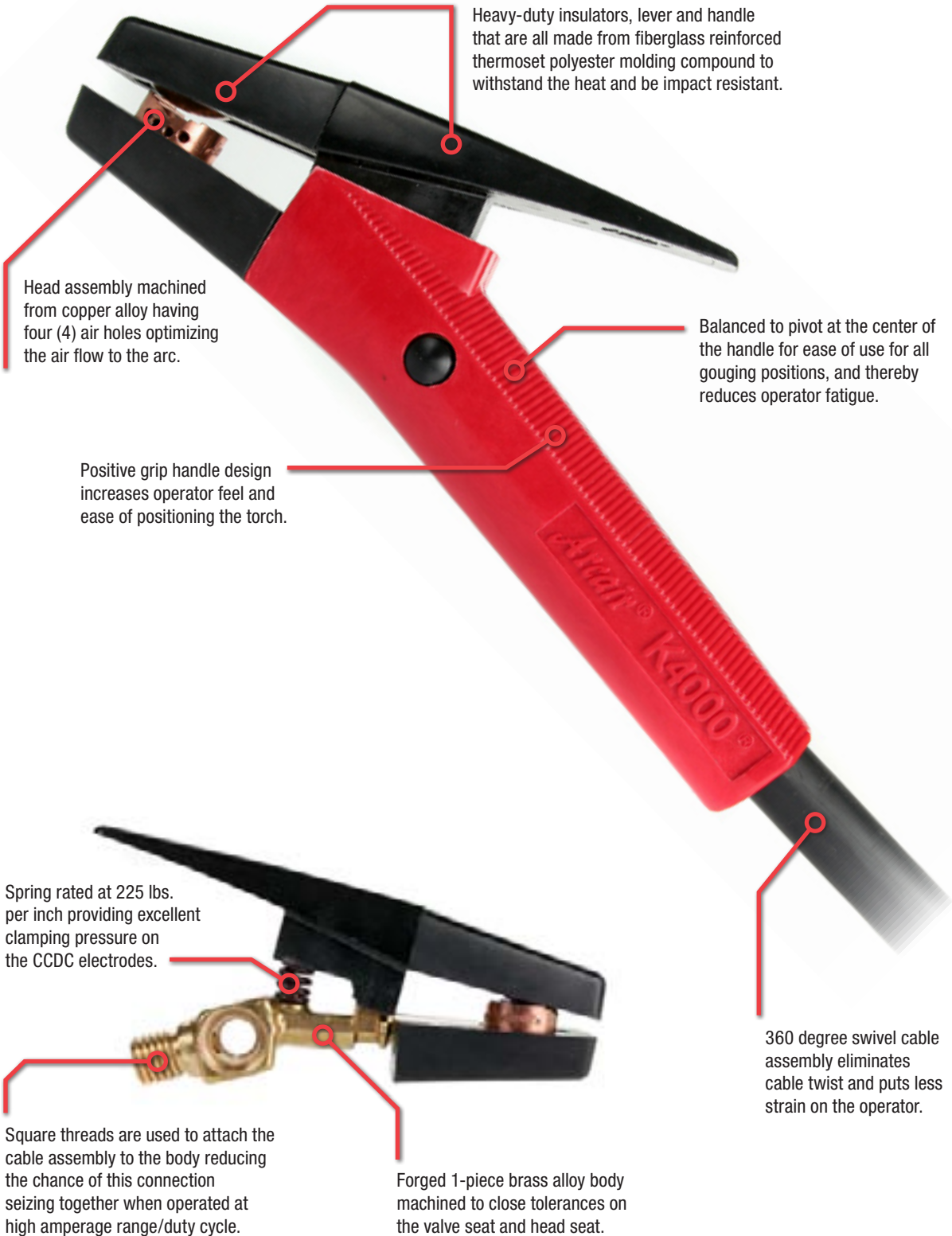


**Tri-Arc®**  
Gouging Torches





## K4000® ANGLE-ARC® MANUAL GOUGING TORCH



Heavy-duty insulators, lever and handle that are all made from fiberglass reinforced thermoset polyester molding compound to withstand the heat and be impact resistant.

Head assembly machined from copper alloy having four (4) air holes optimizing the air flow to the arc.

Balanced to pivot at the center of the handle for ease of use for all gouging positions, and thereby reduces operator fatigue.

Positive grip handle design increases operator feel and ease of positioning the torch.

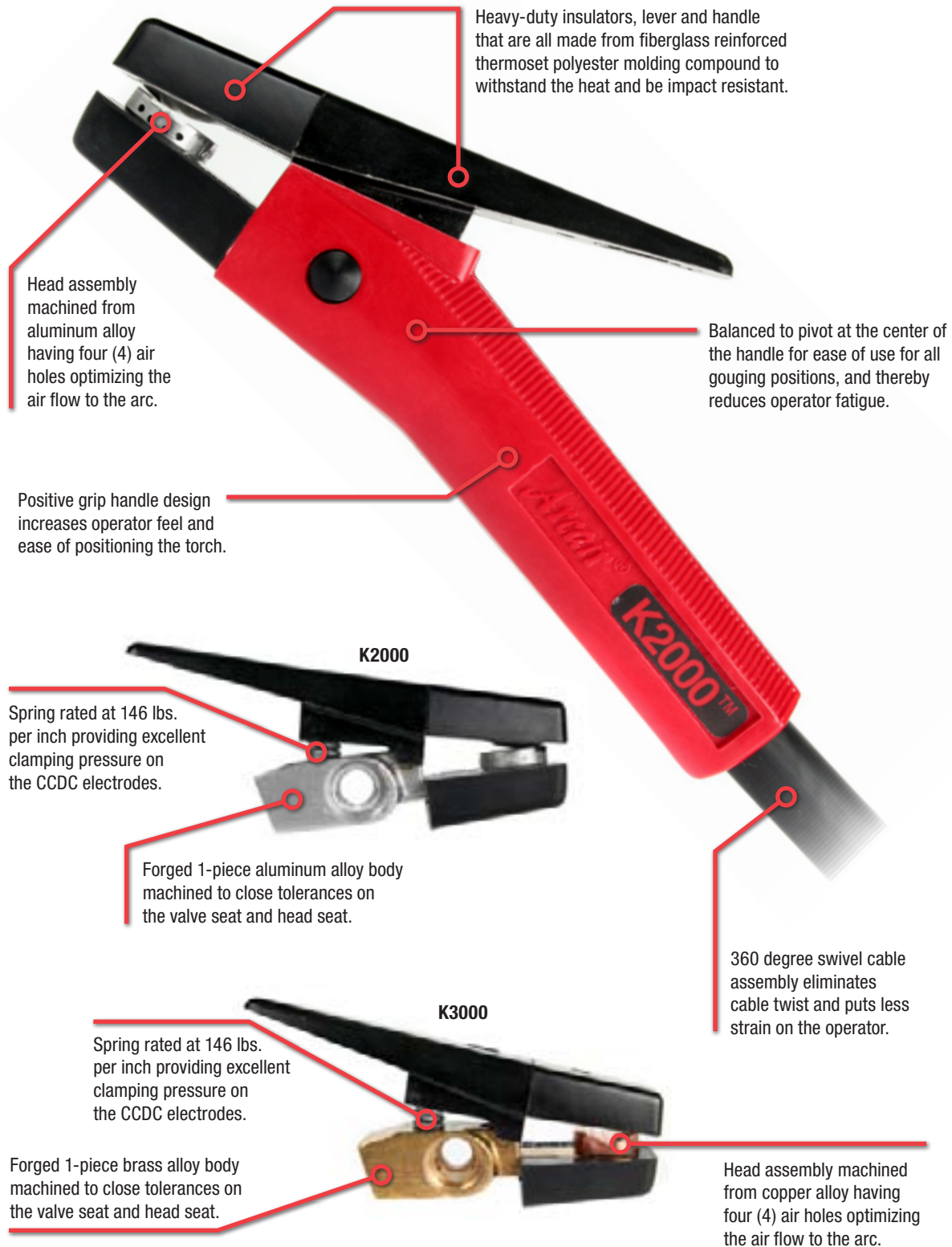
Spring rated at 225 lbs. per inch providing excellent clamping pressure on the CCDC electrodes.

Square threads are used to attach the cable assembly to the body reducing the chance of this connection seizing together when operated at high amperage range/duty cycle.

Forged 1-piece brass alloy body machined to close tolerances on the valve seat and head seat.

360 degree swivel cable assembly eliminates cable twist and puts less strain on the operator.

# K2000™ & K3000™ ANGLE-ARC® MANUAL GOUGING TORCH



Heavy-duty insulators, lever and handle that are all made from fiberglass reinforced thermoset polyester molding compound to withstand the heat and be impact resistant.

Head assembly machined from aluminum alloy having four (4) air holes optimizing the air flow to the arc.

Balanced to pivot at the center of the handle for ease of use for all gouging positions, and thereby reduces operator fatigue.

Positive grip handle design increases operator feel and ease of positioning the torch.

K2000

Spring rated at 146 lbs. per inch providing excellent clamping pressure on the CCDC electrodes.

Forged 1-piece aluminum alloy body machined to close tolerances on the valve seat and head seat.

360 degree swivel cable assembly eliminates cable twist and puts less strain on the operator.

K3000

Spring rated at 146 lbs. per inch providing excellent clamping pressure on the CCDC electrodes.

Forged 1-piece brass alloy body machined to close tolerances on the valve seat and head seat.

Head assembly machined from copper alloy having four (4) air holes optimizing the air flow to the arc.

## ANGLE-ARC® MANUAL GOUGING TORCHES

### FEATURES & BENEFITS

- Natural 15° torch angle**
  - greater operator comfort
- Durable front insulators**
  - high impact and heat resistant protecting the torch metal parts
- 360° Swivel cable**
  - less cable twist
  - less strain on operator
- Positive grip handle**
  - greater operator feel and ease in positioning the torch
- Reduced weight**
  - optimum cable and torch weight to minimize fatigue
- High quality cable hose**
  - best quality cable hose offers high heat and abrasion resistance
  - non conductive



K4000

### ANGLE-ARC® MANUAL GOUGING TORCHES

	Torch Only	Torch w/7ft. (2.1M) 360° Swivel Cable	Torch w/7ft. (2.1M) 360° Swivel Cable & Insulated Hook-Up Kit	Torch w/10ft. (3M) 360° Swivel Cable	Torch w/10ft. (3M) 360° Swivel Cable & Insulated Hook-Up Kit
K2000	01-046-001	61-046-006	61-046-002	61-046-007	61-046-003
K3000	01-065-001	61-065-006	61-065-002	61-065-007	61-065-003
K4000	01-082-002	61-082-008	61-082-006	61-082-009	61-082-007

Torch Model	Electrode Size (In./mm)	Air Requirements				Typical Application
		P.S.I.	KG/CM <sup>2</sup>	CFM	L/Min.	
K2000™	1/8" - 1/4" Round (3.2mm - 6.4mm) 3/8" Flat (9.5mm)	40	2.8	8	227	<b>Light Duty</b> - Small shops, body shops, farm, light maintenance, and where air supply is limited
K3000™	5/32" - 3/8" Round (4.0mm - 9.5mm) 5/8" Flat (15.9mm)	80	5.6	22	624	<b>Medium Duty</b> - General repair and maintenance jobs in areas as mining, construction, and all types of metal fabrication
K4000®	5/32" - 1/2" Round (4.0mm - 12.7mm) 5/8" Flat (15.9mm)	80	5.6	25	708	<b>Heavy Duty</b> - Heavy metal removal applications such as weld preparations in pressure vessel shops and shipyards

## SWIVEL CABLE ASSEMBLY OPTIONS

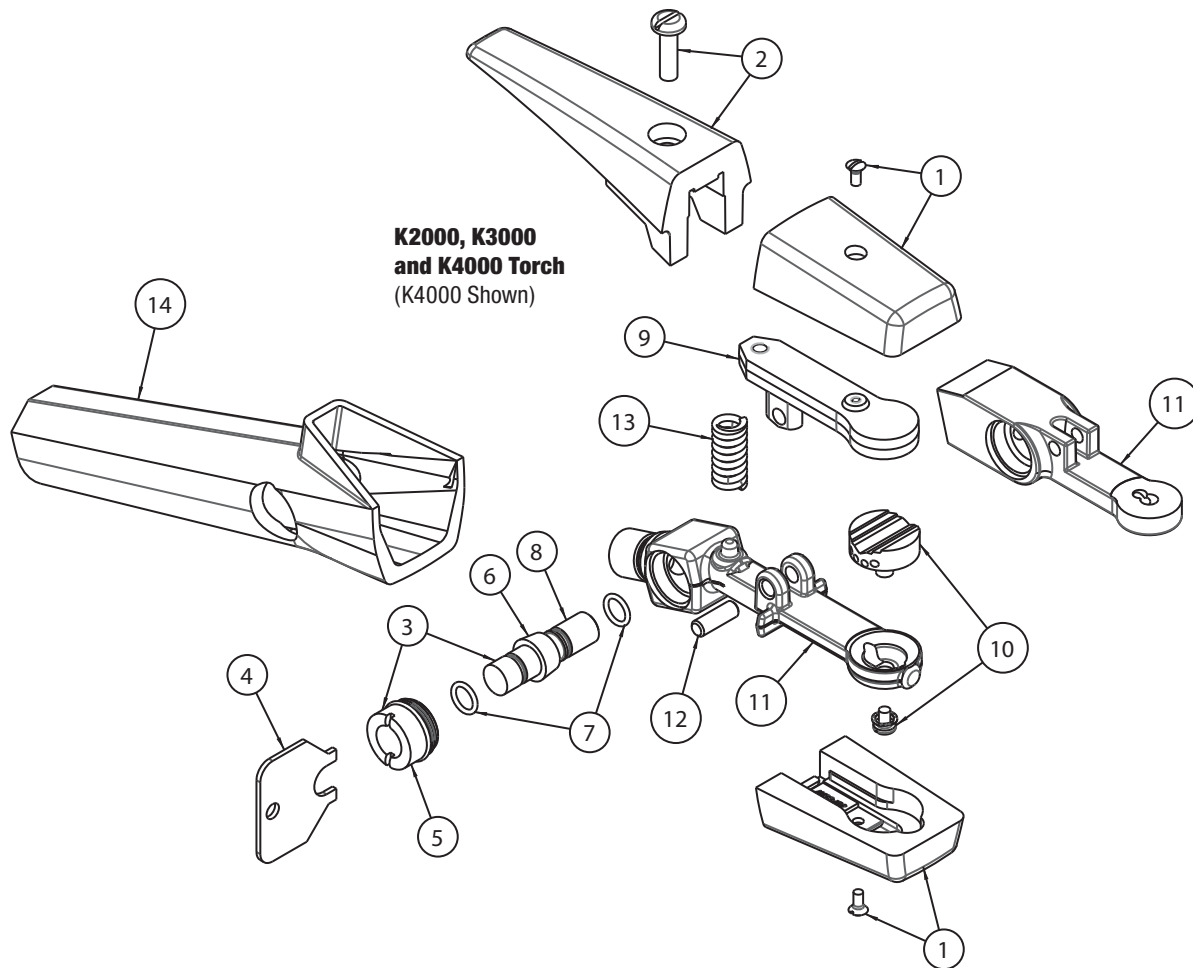
### SWIVEL CABLE ASSEMBLIES

Description	K2000 K3000	K4000
7ft. (2.1M) 360° Swivel Cable Assembly	70-088-107	70-084-207
10ft. (3M) 360° Swivel Cable Assembly	70-088-110	70-084-210





## K2000, K3000, & K4000 TORCH REPLACEMENT PARTS



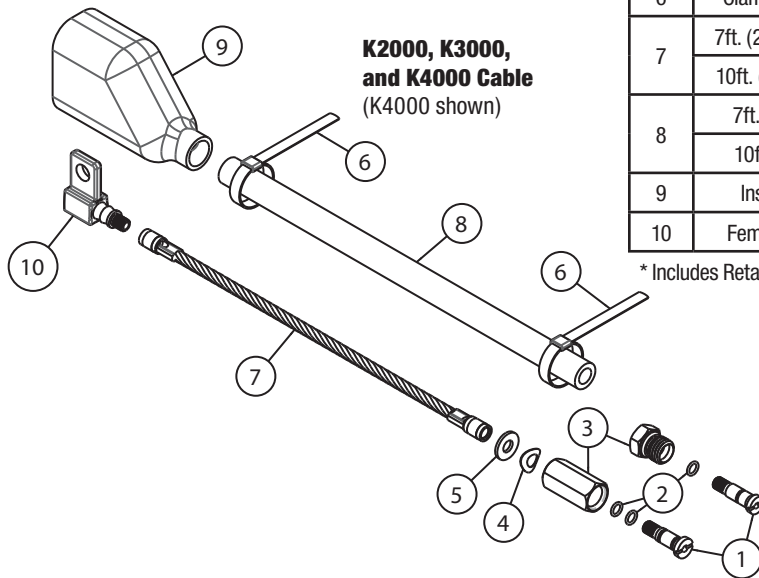
TORCH REPLACEMENT PARTS LIST				
Item	Description	K2000	K3000	K4000
1	Insulators & Screws	94-433-193	94-433-193	94-433-183
2	Lever & Screw	94-476-080	94-476-080	94-476-066
3	Valve Bonnet	94-104-016	94-104-016	94-104-016
4	Bonnet Wrench	94-960-001	94-960-001	94-960-001
5	Bonnet Only	94-104-012	94-104-012	94-104-012
6	Spool & O-Rings	94-801-011	94-801-011	94-801-011
7	O-Ring	94-710-036	94-710-036	94-710-036
8	Spool Only	94-801-010	94-801-010	94-801-010
9	Upper Arm	94-048-119	94-048-120	94-048-088
10	Head & Screw	94-378-364	94-378-366	94-378-368
11	Torch Body	94-103-233	94-103-232	94-103-206
12	Hinge Pin	94-632-100	94-632-101	94-632-094
13	Spring	94-800-191	94-800-191	94-800-077
14	Handle	94-370-179	94-370-179	94-370-163

# Manual Gouging Torches

## K2000, K3000, & K4000 SWIVEL CABLE REPLACEMENT PARTS

### CABLE REPLACEMENT PARTS LIST

Item	Description	K2000 & K3000	K4000
	7ft. (2.1M) Swivel Cable	70-088-107	70-084-207
	10ft. (3M) Swivel Cable	70-088-110	70-084-210
1	Retainer Screw	94-695-054	94-170-182 *
2	O-Ring	94-710-027	
3	Connector	94-170-178	
4	Spring Washer	94-940-104	94-940-104
5	Flat Washer	94-940-103	94-940-103
6	Clamp (2 Required)	98-167-010	98-167-010
7	7ft. (2.1M) Conductor	96-130-314	96-130-263
	10ft. (3M) Conductor	96-130-315	96-130-261
8	7ft. (2.1M) Cover	94-171-273	94-171-273
	10ft. (3M) Cover	94-171-274	94-171-274
9	Insulating Boot	94-105-014	94-105-014
10	Female Connector	94-170-150	94-170-150



**K2000, K3000, and K4000 Cable**  
(K4000 shown)

\* Includes Retainer Screw, O-Ring, and Connector

## POWER & AIR HOOK-UP KIT

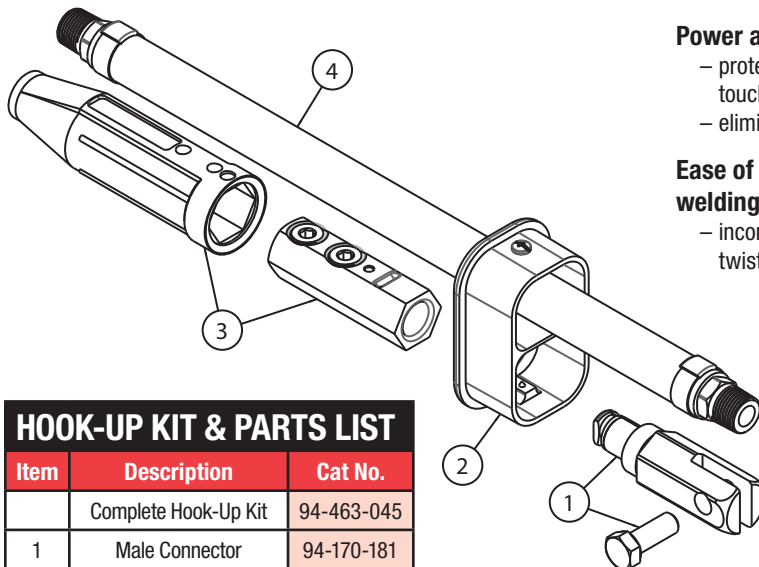
### FEATURES & BENEFITS

#### Power and air connection fully enclosed

- protects the electrical connection from touching the work when in operation
- eliminates the need to insulate with electrical tape

#### Ease of connecting the torch and cable to a welding power supply

- incorporates a Tweco Product manual twist lock connector (female)



### HOOK-UP KIT & PARTS LIST

Item	Description	Cat No.
	Complete Hook-Up Kit	94-463-045
1	Male Connector	94-170-181
2	Cable Boot Cap	94-105-026
3	4-WPC-R Connector	4WPC-R
4	Pigtail Air Supply Hose	94-396-205



## #1 FOR A REASON

With 35 years of experience across all levels of the welding and cutting industries, Tom Wermert still has the same devotion for work as he did at age 20. "I just love the industry and what I do," he says.

As Product Line Manager for Thermadyne® Welding Products, Tom insists the products go through rigorous testing to ensure only the highest quality product makes it to the market. "Our customers expect the best performance and the most dependable welding and cutting products, and it's my job to see that they get it."

As a former lab employee, testing new welding products and processes, Wermert understands what it takes to make professional-grade tools. "Take the Arcair® Angle-Arc® K4000® Manual Gouging Torch for example," he says. "It didn't become the industry standard by accident."

The K4000 is used to scarf or remove defective welds and defective metal blemishes from castings or weldments. It's made for heavy-duty metal removal applications, ideal for weld preparations in fab shops and shipyards.

"Products like the K4000 are why Arcair remains the number one name in air carbon arc manual torches," he says.

### TOM WERMERT

Product Line Manager, Welding Products  
Thermadyne Industries

*Tom carries the torch – will you?*

**THERMADYNE**, A GLOBAL CUTTING AND WELDING LEADER, joins the American Welding Society in encouraging individuals to practice the art, craftsmanship and professions of welding, metalworking and fabrication. Victor, Thermal Dynamics, Thermal Arc, Arcair, Tweco, Stody, Cigweld and TurboTorch are among the Thermadyne family of brands that you can count on for safety, reliability and quality.

Arcair®

[www.thermadyne.com](http://www.thermadyne.com)



**American Welding Society**  
Sustaining Company Member

## STRAIGHT HANDLE MANUAL GOUGING TORCHES

### FEATURES & BENEFITS

#### Reliable torch design

- Market leader for over 40+ years
- Greater operator comfort

#### Accepts a wide range of CCDC gouging electrodes

- 5/32" through 3/8" round
- 3/8" & 5/8" Flat

#### Durable front insulators

- High impact and heat resistant protecting the torch metal parts

#### Swivel Cable

- Less cable twist
- Less strain on the operator



**K-3**  
Medium Duty



**K-5**  
Extra Heavy Duty

### K-SERIES STRAIGHT HANDLE MANUAL GOUGING TORCHES

	Torch Only	Torch w/7ft. (2.1M) 360° Swivel Cable	Torch w/7ft. 360° Swivel Cable & Insulated Hook-Up Kit	Torch w/10ft. (3M) 360° Swivel Cable	Torch w/10ft. (3M) 360° Swivel Cable & Insulated Hook-Up Kit
K-3	01-064-003	61-064-016	61-064-012	61-064-017	61-064-013
K-5	01-104-003	61-104-007		61-104-008	

Torch Model	Electrode Size (In./mm)	Air Requirements				Typical Application
		P.S.I.	KG/CM <sup>2</sup>	CFM	L/Min.	
K-3	5/32" - 3/8" Round (4.0mm - 9.5mm) 5/8" Flat (15.9mm)	80	5.6	22	624	<b>Medium Duty</b> - General repair and maintenance jobs in areas as mining, construction and all types of metal fabrication
K-5	5/32" - 5/8" Round (4.0mm - 15.9mm) 5/8" Flat (15.9mm)	80	5.6	30	850	<b>Extra Heavy Duty</b> - Heavy metal removal applications such as weld preparations in pressure vessel shops, shipyards and defect removal in foundries.

## SWIVEL CABLE ASSEMBLY OPTIONS

### SWIVEL CABLE ASSEMBLIES

Description	K-3	K-5
7ft. (2.1M) 360° Swivel Cable Assembly	70-088-907	70-128-507
10ft. (3M) 360° Swivel Cable Assembly	70-088-910	70-128-510

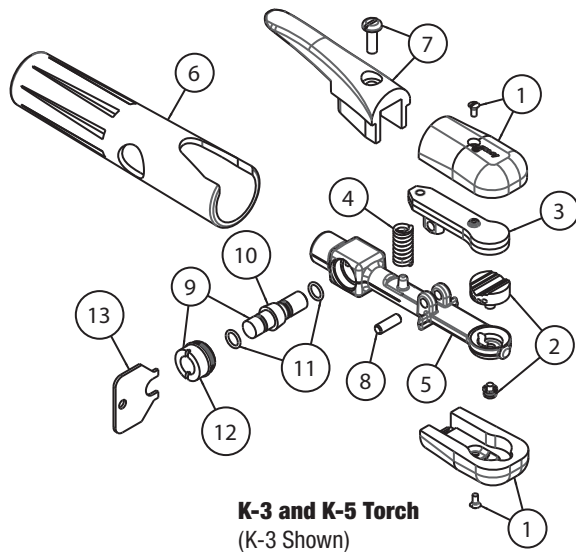


**K-3 Swivel Cable**



**K-5 Swivel Cable**

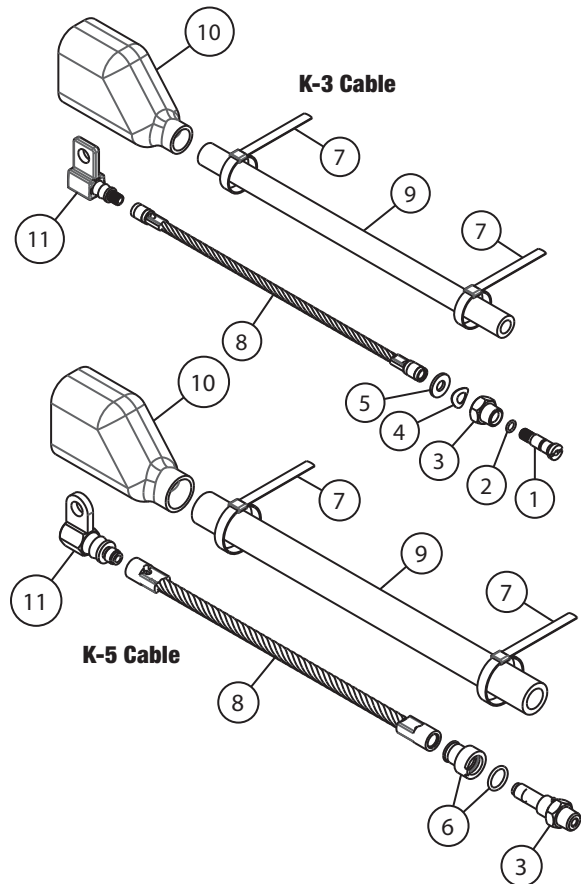
## K-3 & K-5 TORCH REPLACEMENT PARTS



### TORCH REPLACEMENT PARTS LIST

Item	Description	K3	K5
	Complete Torch	01-064-003	01-104-003
1	Insulators & Screws	94-433-118	94-433-118
2	Head & Screw	94-378-368	94-378-370
3	Upper Arm	94-048-087	94-048-088
4	Spring	94-800-077	94-800-077
5	Torch Body	94-103-114	94-103-114
6	Handle	94-370-079	94-370-079
7	Lever & Screw	94-476-034	94-476-034
8	Hinge Pin	94-632-094	94-632-094
9	Valve Bonnet Assembly	94-104-016	94-104-023
10	Spool & O-Rings	94-801-011	94-801-021
11	O-Ring	94-710-036	94-710-036
12	Valve Bonnet	94-104-012	94-104-012
13	Bonnet Wrench	94-960-001	94-960-001

## K-3 & K-5 SWIVEL CABLE REPLACEMENT PARTS



### CABLE REPLACEMENT PARTS LIST

Item	Description	K3	K5
	7ft. (2.1M) Cable	70-088-907	70-128-507
	10ft. (3M) Cable	70-088-910	70-128-510
1	Retainer Screw	94-695-054	
2	O-Ring	94-710-027	
3	Male Connector	94-170-180	94-170-105
4	Spring Washer	94-940-104	
5	Brass Washer	94-940-103	
6	Swivel Sleeve		94-784-051
7	Clamp (2 Required)	98-167-010	98-167-012
8	7ft. (2.1M) Conductor	96-130-314	96-130-061
	10ft. (3M) Conductor	96-130-315	
9	7ft. (2.1M) Cover	94-171-273	94-171-004
	10ft. (3M) Cover	94-171-274	
10	Insulating Boot	94-105-014	94-105-017
11	Female Connector	94-170-150	94-170-087

**Note:** Refer to page 10 for Power & Air Hook-Up Kit ordering information.

## H-SERIES STRAIGHT HANDLE MANUAL GOUGING TORCH

### FEATURES & BENEFITS

#### Reliable torch design

- first introduced in 1957
- market demand for this series remain strong today

#### Accepts a wide range of CCDC gouging electrodes

- 5/32" through 3/8" round

#### Body Design

- machined brass alloy body
- forged copper alloy upper arm

#### Durable front insulators

- High impact and heat resistant protecting the torch metal parts

#### Swivel Cable

- Less cable twist
- Less strain on the operator



### H-SERIES STRAIGHT HANDLE MANUAL GOUGING TORCH

	Torch Only	Torch w/7ft. (2.1M) 360° Swivel Cable	Torch w/7ft. (2.1M) Standard Cable (No Swivel)
H-3	01-062-000	61-062-016	61-062-014

Torch Model	Electrode Size (In./mm)	Air Requirements				Typical Application
		P.S.I.	KG/CM <sup>2</sup>	CFM	L/Min.	
H-3	5/32" - 3/8" Round (4.0mm - 9.5mm) 5/8" Flat (15.9mm)	80	5.6	22	624	<b>Medium Duty</b> - General repair and maintenance jobs in areas as mining, construction and all types of metal fabrication

## SWIVEL CABLE ASSEMBLY OPTIONS

### SWIVEL CABLE ASSEMBLIES

Description	Part No.
7ft. (2.1M) Standard Cable Assembly (No Swivel)	70-083-907
7ft. (2.1M) 360° Swivel Cable Assembly	70-088-907

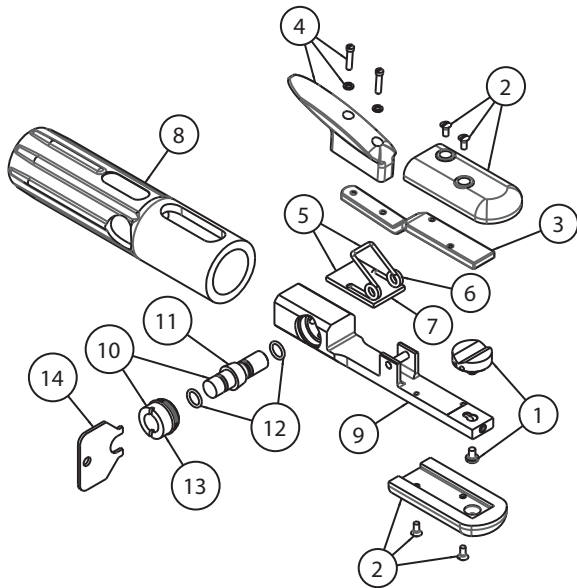
Part No. 70-083-907



Part No. 70-088-907

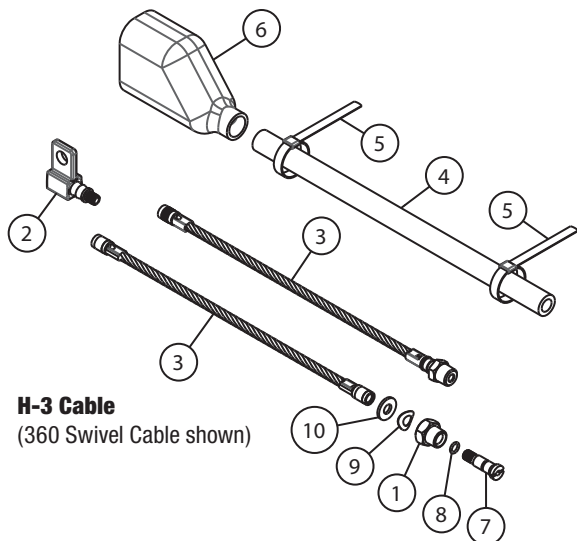


## H-3 TORCH REPLACEMENT PARTS



TORCH REPLACEMENT PARTS LIST		
Item	Description	Part No.
	Torch Only	01-062-000
1	Head & Screw	94-378-007
2	Insulator & Screws	94-433-024
3	Upper Arm	94-048-017
4	Lever Assembly	94-476-003
5	Spring & Insulator Assembly	94-800-013
6	Spring	94-800-014
7	Spring Insulator	94-433-017
8	Handle	94-370-008
9	Body Assembly	94-103-200
10	Valve Spool & Bonnet Assembly	94-104-016
11	Spool & O-Rings	94-801-010
12	O-Ring (2 Required)	94-710-036
13	Bonnet	94-104-012
14	Bonnet Wrench	94-960-001

## H-3 CABLE REPLACEMENT PARTS



CABLE REPLACEMENT PARTS LIST		
Item	Description	Part No.
<b>Standard Concentric Cable Assembly - 7ft. (2.1M)</b>		70-083-907
1	Male Connector	94-170-160
2	Female Connector	94-170-150
3	7ft. (2.1M) Conductor	96-130-247
4	7ft. (2.1M) Cover	94-171-273
5	Clamp (2 Required)	98-167-010
6	Insulating Boot	94-105-014
<b>360° Swivel Cable - 7ft. (2.1M)</b>		70-088-907
1	Male Connector	94-170-168
2	Female Connector	94-170-150
3	7ft. (2.1M) Conductor	96-130-264
4	7ft. (2.1M) Cover	94-171-273
5	Clamp (2 Required)	98-167-010
6	Insulating Boot	94-105-014
7	Retainer Screw	94-695-054
8	O-Ring	94-710-027
9	Spring Washer	94-940-104
10	Flat Washer	94-940-103

**Note:** Refer to page 10 for Power & Air Hook-Up Kit ordering information.

## TRI-ARC® FOUNDRY GOUGING TORCHES

### FEATURES & BENEFITS

#### Three torches in one

- designed for foundry applications, defect removal, general purpose applications, and padwashing by just changing head assemblies

#### High impact, heat resistant insulators

- provides protection for the torch metal parts

#### Forged body

- provides cooler operation, improved air flow and greater current ratings

#### Powerful insulated coil spring and high strength upper arm

- insures positive electrode contact at all angles

#### Better balance

- streamline design and high strength fluted handles reduce operator fatigue

#### Easy cable installation

- no need to disassemble the torch, just slide the sleeve from the rear of the handle



Torch Model	Electrode Size (In./mm)	Air Requirements				Typical Application
		P.S.I.	KG/CM <sup>2</sup>	CFM	L/Min.	
Tri-Arc®	5/16" - 1" Round (8.0mm - 25.4mm)	80	5.6	33	934	Foundry - General foundry work, pad washing, defect, nails, sprue and interior work

### APPLICATION

#### Defect Removal Heads

- for removal of defects and fin removal application
- accepts electrode diameters – 3/8" (9.5mm) through 3/4" (19.05mm)

#### General Purpose Cleaning Heads

- for removal of defects, fin removal, padwashing, and piercing applications
- four head assemblies to accept electrode diameters 1/2" (12.7mm) through 1" (25.4mm)

#### Padwashing Heads

- for padwashing applications only
- heads are fixed on a 35 degree work angle (use degree symbol)
- four head assemblies to accept electrode diameters 1/2" (12.7mm) through 3/4" (19.5mm)





## TRI-ARC® FOUNDRY GOUGING TORCHES



Heavy-duty insulators, lever and handle that are all made from fiberglass reinforced thermoset polyester molding compound to withstand the heat and be impact resistant.

Switchable head assemblies machined from copper alloy designed for foundry applications - DEFECT REMOVAL - GENERAL PURPOSE - PADWASHING.

Torch comes with or without an air valve/spool.

Rugged and durable cable assemblies offered for applications requiring 1600 to 2400 amps.

Air-cooled and water-cooled cable assemblies are available.

Spring rated at 163 lbs. per inch providing excellent clamping pressure on the CCDC electrodes.

Forged 2-piece braced copper alloy body machined to close tolerances on the valve seat and head seat.

Compressed air flows through the body and upper arm increasing the metal removal capabilities on this torch.

## TRI-ARC® FOUNDRY GOUGING TORCHES



TRI-ARC® FOUNDRY GOUGING TORCHES					
Defect Removal Heads		Padwashing Heads		General Purpose Cleaning Heads	
<b>No Heads in Torch</b>		<b>1/2" (12.7mm) Electrodes</b>		<b>1/2" (12.7mm) Electrodes</b>	
Torch Only	02-991-411	Torch Only	02-991-413	Torch Only	02-991-416
Torch & 7ft. (2.1M) Cable	62-991-417	Torch & 7ft. (2.1M) Cable	62-991-419	Torch & 7ft. (2.1M) Cable	62-991-422
		Replacement Heads	94-378-286	Replacement Heads	94-378-267
		<b>5/8" (15.9mm) Electrodes</b>		<b>5/8" (15.9mm) Electrodes</b>	
		Torch Only	02-991-414	Torch Only	02-991-417
		Torch & 7ft. (2.1M) Cable	62-991-420	Torch & 7ft. (2.1M) Cable	62-991-423
		Replacement Heads	94-378-289	Replacement Heads	94-378-270
<b>5/16" (7.9mm) 3/4" (19.5mm) Electrodes</b>		<b>3/4" (19.5mm) Electrodes</b>		<b>3/4" (19.5mm) Electrodes</b>	
Torch Only	02-991-425	Torch Only	02-991-415	Torch Only	02-991-418
Torch & 7ft. (2.1M) Cable	62-991-435	Torch & 7ft. (2.1M) Cable	62-991-421	Torch & 7ft. (2.1M) Cable	62-991-424
Replacement Heads	94-378-298	Replacement Heads	94-378-283	Replacement Heads	94-378-273
				<b>1" (25.4mm) Electrodes</b>	
				Torch Only	02-991-424
				Replacement Heads	94-378-343
<b>No Heads In Torch - No Valve</b>				<b>5/8" (15.9mm) Electrodes</b>	
Torch Only	02-991-426			Torch Only	02-991-428
				<b>3/4" (19.5mm) Electrodes</b>	
				Torch Only	02-991-429

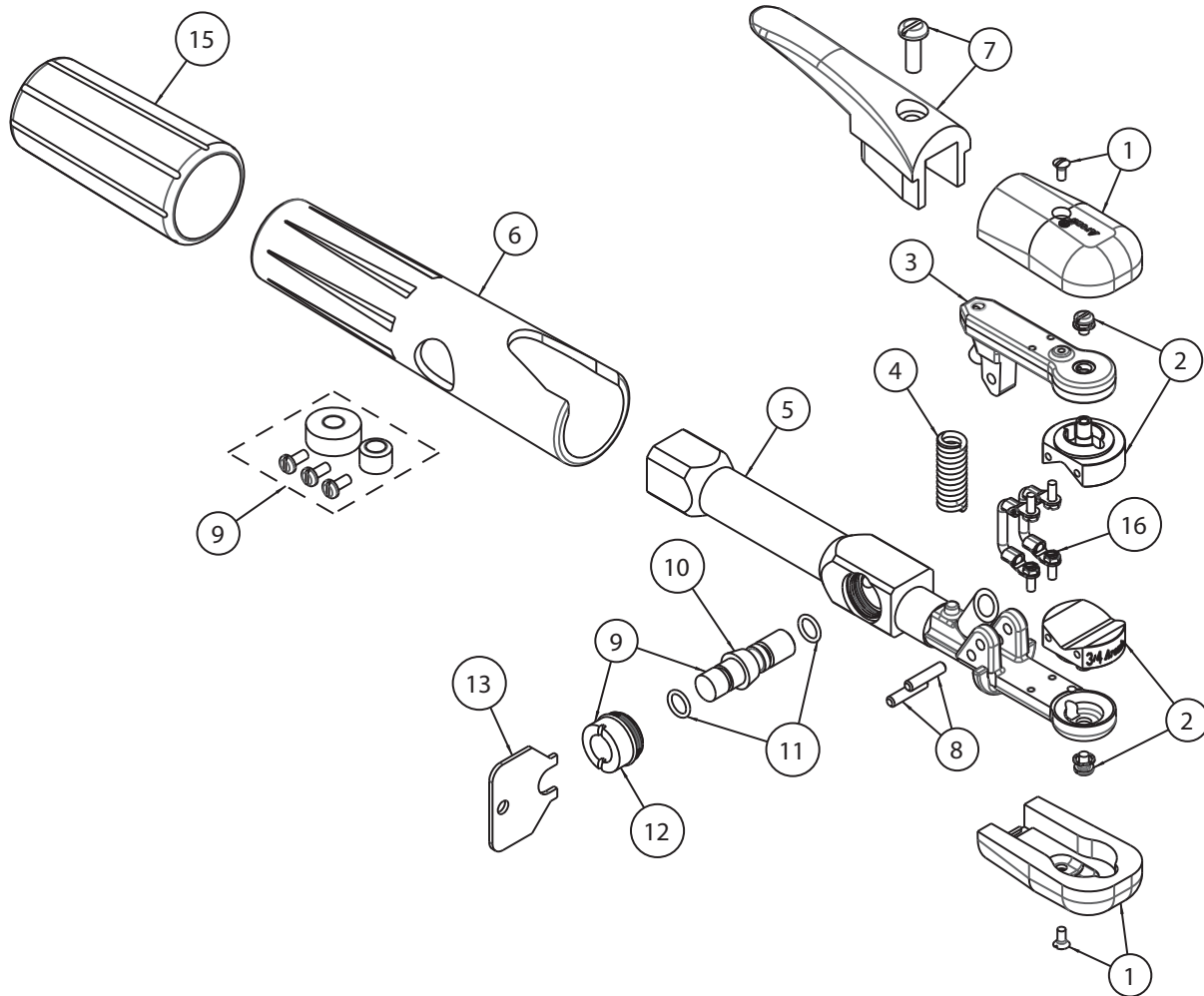
Note: The cable assembly that comes standard on the assemblies is Part No. 74-143-607, 7ft. (2.1M) long and rated for 1600 amperes maximum.

## SWIVEL CABLE ASSEMBLY OPTIONS

SWIVEL CABLE ASSEMBLIES		
Description	7ft. (2.1M)	10ft. (3M)
Std. Duty - 340° Swivel Cable Assembly	74-143-607	74-143-610
E-H-D 340° Swivel Cable Assembly	74-161-907	
Water-Cooled Cable Assembly - Non-Swivel	74-085-207	74-085-210



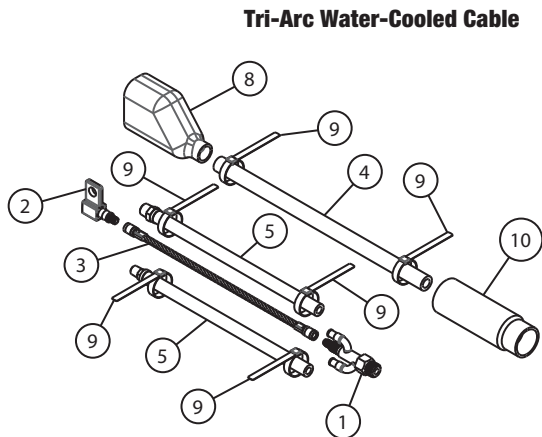
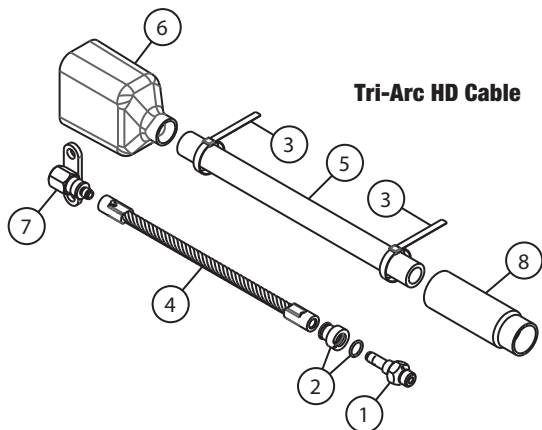
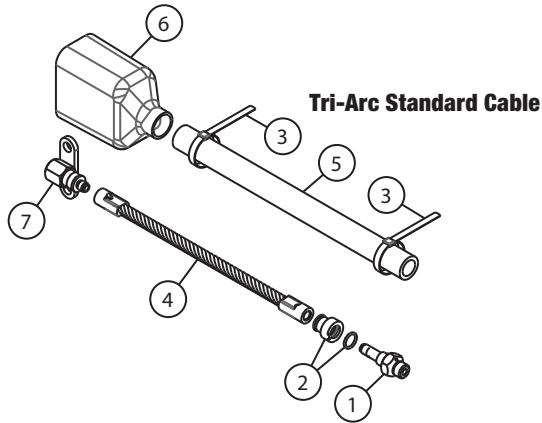
**TRI-ARC TORCH REPLACEMENT PARTS**



TORCH REPLACEMENT PARTS LIST		
Item	Description	Part No.
	Torch Only	02-991-411
1	Insulators & Screws	94-433-118
2	Head (Upper/Lower) & Screws	
	Defect Removal	94-378-298
	General Purpose – 1/2" (12.7mm)	94-378-267
	General Purpose – 5/8" (15.9mm)	94-378-270
	General Purpose – 3/4" (19.5mm)	94-378-273
	General Purpose – 1" (25.4mm)	94-378-344
	Padwashing – 1/2" (12.7mm)	94-378-286
	Padwashing – 5/8" (15.9mm)	94-378-289
	Padwashing – 3/4" (19.5mm)	94-378-283
3	Upper Arm	94-048-110
4	Spring	94-800-088

TORCH REPLACEMENT PARTS LIST		
Item	Description	Part No.
5	Torch Body	94-103-221
	Torch Body without Valve	94-103-237
6	Handle	94-370-079
7	Lever & Screw	94-476-034
8	Hinge Pin	94-632-063
9	Valve & Bonnet	94-104-023
	No Valve Button Kit	94-123-017
10	Spool & O-Rings	94-801-021
11	O-Ring	94-710-036
12	Valve Bonnet	94-104-012
13	Bonnet Wrench	94-960-001
15	Insulating Sleeve	94-784-045
16	Jumper (2 Required)	96-458-018

## TRI-ARC SWIVEL CABLE REPLACEMENT PARTS



### CABLE ASSEMBLY REPLACEMENT PARTS LIST

#### 340° Concentric Cable Assembly - Standard

Item	Description	Part No.
	7ft. (2.1M) Cable	74-143-607
	10ft. (3M) Cable	74-143-610
1	Male Connector	94-170-169
2	Swivel Sleeve	94-784-050
3	Clamp (2 Required)	98-167-010
4	7ft. (2.1M) Cable Conductor	96-130-063
	10ft. (3M) Cable Conductor	96-130-126
5	7ft. (2.1M) Cable Hose Cover	94-171-006
	10ft. (3M) Cable Hose Cover	94-171-140
6	Insulating Boot	94-105-007
7	Female Connector	94-170-095

### CABLE ASSEMBLY REPLACEMENT PARTS LIST

#### Extra Heavy-Duty Cable Assembly

Item	Description	Part No.
	7ft. (2.1M) Cable Assembly	74-161-907
1	Male Connector	94-170-176
2	Swivel Sleeve	94-784-078
3	Clamp (2 Required)	98-167-012
4	7ft. (2.1M) Cable Conductor Assembly	96-130-286
5	7ft. (2.1M) Cable Hose Cover	94-171-284
6	Insulating Boot	94-105-028
7	Female Connector	94-170-174
8	Insulating Sleeve	94-105-029

### CABLE ASSEMBLY REPLACEMENT PARTS LIST

#### Water-Cooled Cable Assembly

Item	Description	Part No.
	7ft. (2.1M) Cable Assembly	74-085-207
	10ft. (3M) Cable Assembly	74-085-210
1	Male Connector	94-170-171
2	Female Connector	94-170-150
3	7ft. (2.1M) Conductor	96-130-309
	10ft. (3M) Conductor	96-130-310
4	7ft. (2.1M) Cable Cover	94-171-273
	10ft. (3M) Cable Cover	94-171-274
5	7ft. (2.1M) Low Pressure Hose	94-171-298
	10ft. (3M) Low Pressure Hose	94-171-299
8	Insulating Boot	94-105-014
9	Clamp (6 Required)	98-167-010
10	Insulating Sleeve	94-105-029

**RECOMMENDED NUMBER AND SIZE OF WELDING LEADS FOR VARIOUS CURRENTS (1,2) AND LENGTHS (3,4)**

Current	25ft. (7M)		50ft. (15M)		100ft. (30M)		150ft. (46M)		200ft. (61M)		250ft. (76M)	
Amps	No.	Size	No.	Size	No.	Size	No.	Size	No.	Size	No.	Size
100	1	4	1	3	1	2	1	1/0	1	2/0	1	4/0
200	1	3	1	2	1	1/0	1	3/0	1	3/0	3	3/0
300	1	2	1	2	1	3/0	2	2/0	2	4/0	4	4/0
400	1	2	1	1/0	1	4/0	2	4/0	3	4/0	5	4/0
500	1	1	1	2/0	2	2/0	2	4/0	4	4/0		
600	1	1	1	3/0	2	3/0	2	4/0	5	4/0		
800	1	1/0	2	2/0	2	4/0	4	4/0				
1000	1	2/0	1	4/0	3	3/0	5	4/0				
1200	1	3/0	2	4/0	3	4/0						
1400	1	4/0	2	4/0	4	3/0						
1600(5)	2	3/0	4	3/0	4	4/0						
1800	2	4/0	4	4/0								
2000(6)	3	4/0	5	4/0								

1. Recommendations are based on 4V, DC drop per 100 ft.
2. For AC use next heavier size.
3. The length given is one half the sum of the electrode and ground leads.
4. Inadequate grounding causes cable overheating; at least 1 in.<sup>2</sup> (645mm<sup>2</sup>) of contact per 1000 amps.
5. Over 1600 amps, a heavy-duty, air-cooled swivel cable should be used.
6. Over 2000 amps, a heavy-duty, water-cooled cable should be used.

**Manual Welding/Gouging Products & Accessories**

Tweco offers a complete line of ground clamps, cable connectors, and cable lugs for your welding application. Refer to Tweco full line catalog Form No. 64-2103 for more detail on the products shown



***AUTOMATIC AIR CARBON-ARC  
VS.  
MANUAL AIR CARBON-ARC***



**FIVE TIMES MORE GOUGE. TEN TIMES LESS GRIND.**

## ARCAIR-MATIC N6000 GOUGING SYSTEM

### FEATURES & BENEFITS

**Provides the highest possible level of control, uniformity and productivity**

- groove depths maintained to a tolerance of +/-0.025" (0.635mm)
- machine like groove obtained
- low heat input into the base material

**Powered by either constant current (variable voltage) or constant voltage (variable amperage)**

- easily changed within the control panel to meet the customers power supply
- setting is easily identified on the face of the panel

**Remote control pendant**

- puts instant "start/stop" control of the process in the hand of the operator
- eliminates the need to be close by the control panel of the system

**Flexibility of orientation of the air stream on the torch head**

- no limitations to the orientation of air stream. Just loosen the molded lock nut to adjust to the position needed and retighten
- nozzle design reduces air turbulence and improves air flow providing greater metal removal efficiency

**Travel delay function**

- assures desired depth at the beginning of the gouge, eliminating a sloped groove at the start

**System protection shutdown circuit**

- no-current detect and low voltage functions trigger automatic shutdown preventing damage to the system

120 VAC 60 Hz & 220 VAC 50Hz Models available



Control Panel



Contactors



Torch Head

### ARCAIR-MATIC N6000 GOUGING SYSTEM

Description	Part No.
Arcair-Matic N6000 Gouging System – 120 VAC	65-991-013
Arcair-Matic N6000 Gouging System – 220 VAC	65-991-014

Note: System includes Automatic Control Panel, Contactor Unit, Torch Head, Compressed Air Regulator, pertinent fasteners, clamps, and hardware. Refer to pages 25 for additional support cable assemblies required to complete the system.

## ARCAIR-MATIC N6000 GOUGING SYSTEM

### AUTOMATIC CONTROL PANEL

Description	Part No.
Automatic Control Panel - 120 VAC	72-008-014
Automatic Control Panel - 220 VAC	72-008-018

**Note:** Controller requires appropriate line voltage from the Contactor Unit for instrument operation and relay control signals.

**Specifications:** Width: 11-5/8" (29.53cm)  
 Height: 12" (20.32cm)  
 Depth: 7-1/2" (19.05cm)  
 Weight: 12lb. (5.45kg)



**Control Panel**

### AUTOMATIC CONTACTOR UNIT

Description	Part No.
Automatic Contactor Unit – 120 VAC	72-008-019
Automatic Contactor Unit – 220 VAC	72-008-017

The contactor unit contains a single 1,600 amp contactor that supplies current to the torch head of the gouging system.

**Specifications:** Width: 13-1/4" (33.66cm)  
 Height: 12" (30.48cm)  
 Depth: 10-1/2" (26.67cm)  
 Weight: 35.75 lbs. (16.23kg)



**Contactor**

### AUTOMATIC TORCH HEAD

Description	Part No.
Automatic Torch Head	05-124-000

Accepts CCDC Jointed Electrodes diameters 5/16", 3/8", 1/2", 5/8", and 3/4"

**Specifications:** Width: 9-1/2" (24.13cm)  
 Height: 8-1/2" (21.59cm)  
 Depth: 8-1/2" (21.59cm)  
 Weight: 9.75 lbs.



**Torch Head**



## ARCAIR-MATIC N6000 GOUGING SYSTEM

### CABLE ASSEMBLIES

Other components required to make the Arcair-Matic N6000 system complete are noted below and must be ordered along with the standard package. Different cable assemblies are available to meet the application needs refer to the options available below.

POWER CABLES (MINIMUM 2 REQUIRED)		
Part No.	Description	Application
96-130-254	4ft. (1.22M) Length	Connects the Contactor Unit to the Torch Head supplying DC weld current
96-130-256	15ft. (5M) Length	
96-130-300	25ft. (7.62M) Length	



REMOTE PENDANT		
Part No.	Description	Application
96-620-001	10ft. (3M) Length	Allows remote start/stop function of the gouging system
96-620-003	25ft. (7.62M) Length	
96-620-002	50ft. (15.24M) Length	



INTERCONNECT CABLE ASSEMBLY		
Part No.	Description	Application
96-170-049	14" (35.56cm) Length	Connects the Control Panel to the Contactor Unit
96-170-055	30" (76.2cm) Length	
96-170-057	7ft. (2.13M) Length	
96-170-051	15ft. (5M) Length	
96-170-052	25ft. (7.62M) Length	
96-170-053	50ft. (15.24M) Length	
96-170-054	100ft. (30.48M) Length	



MOTOR CABLE ASSEMBLY		
Part No.	Description	Application
96-130-257	3ft. (0.91M) Length	Connects the Torch Head to the Control Panel
96-130-253	12ft. (3.68M) Length	
96-130-303	15ft. (5M) Length	
96-130-282	25ft. (7.62M) Length	
96-130-274	50ft. (15.24M) Length	



AIR HOSE ASSEMBLY		
Part No.	Description	Application
94-396-051	4ft. (1.22M) Length	Supplies compressed air from the Contactor Unit to the Torch Head
94-396-049	15ft. (5M) Length	
94-396-048	25ft. (7.62M) Length	



## ARCAIR-MATIC N6000 GOUGING SYSTEM



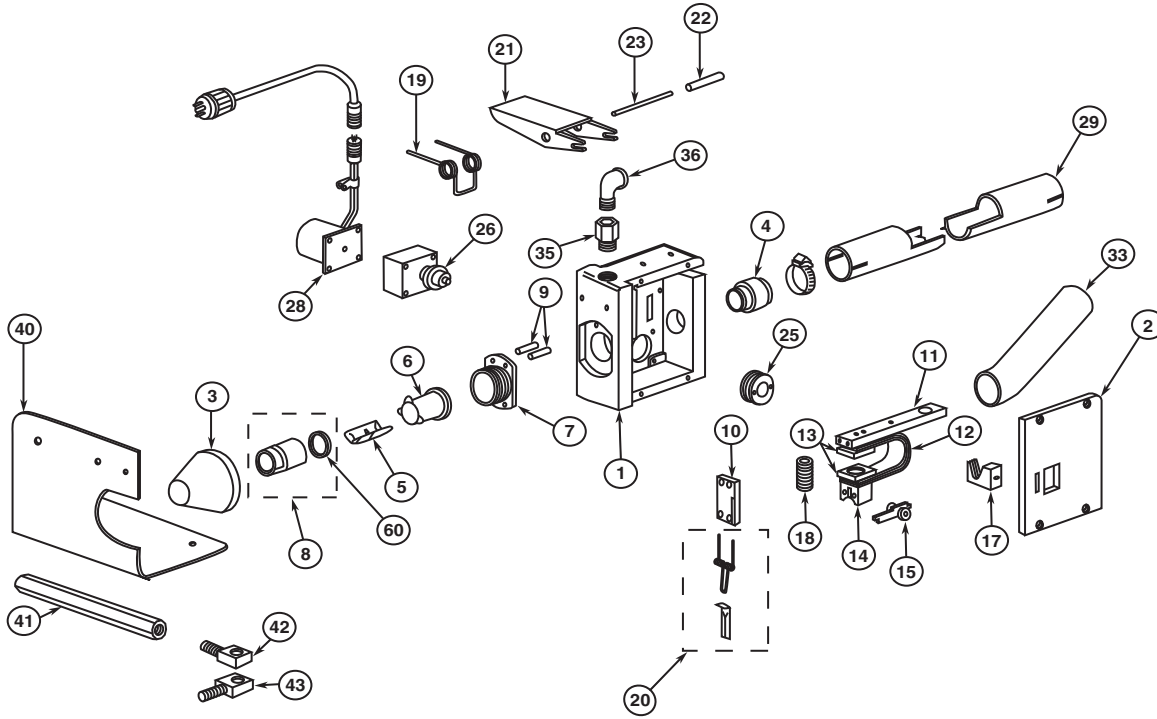
### AUTOMATIC CONTROL PANEL REPLACEMENT PARTS LIST

Description	Part No.
120 Volt 60 Hz Automatic Controller	72-008-014
220 Volt 50 Hz Automatic Controller	72-008-018
Circuit Board Assembly	96-162-760
"Remote" Connector	96-169-328
"Interconnect Cable" Connector	96-169-329
Capacitor	96-131-010
Resistor	96-696-029
"Electrode Jog" Switch	96-834-333
"Control Power" Switch	96-834-330
Transformer	96-881-084
Front Panel Screws (#10-32 x 3/8")	97-152-072
Travel Delay Potentiometer	96-645-174
Arc Level Potentiometer	96-834-044
Arc Level Dial	94-225-024
"Stop" Switch	96-834-331
"Start" Switch	96-834-332
"Travel" Switch	96-834-334
Volt Meter	96-508-042
Ampere Meter	96-508-043
Plastic Cover Assembly	94-171-270
Jumper Connector Assembly	96-169-352

### AUTOMATIC CONTACTOR UNIT REPLACEMENT PARTS LIST

Description	Part No.
120 Volt 60 Hz 1600 Amp Contactor	72-008-019
220 Volt 50 Hz 1600 Amp Contactor	72-008-017
Contactor	96-171-009
Fan	96-290-009
Air Solenoid Valve	96-921-004
Connector	96-169-328
Circuit Breaker	96-110-006
Time Delay Relay	96-697-064

**AUTOMATIC TORCH HEAD REPLACEMENT PARTS**



**AUTOMATIC TORCH HEAD REPLACEMENT PARTS LIST**

Item No.	Description	Part No.	Item No.	Description	Part No.
	N6000 Torch Head	05-124-000	18	Shoe Spring	94-800-184
1	Torch Housing	94-395-105	19	Lever Spring	94-800-183
2	Cover	94-171-278	20	Nozzle Spring	94-800-182
3	Molded Lock Nut	94-565-092	21	Lever	94-476-067
4	Electrode Tube Adapter	94-013-098	22	Lever Tube	94-893-192
5	Vee Block	94-096-132	23	Lever Hinge Pin	94-632-097
6	Nozzle Sleeve	94-784-075	25	Drive Wheel	94-949-051
7	Air Plenum	94-636-001	26	Insulator	94-433-184
8	Air Nozzle w/Insulator	94-556-071	28	Drive Motor & Gear Housing	96-524-099
9	Interconnect Bar	96-070-030	29	Electrode Holder Tube	94-893-082
10	Interconnect Jumper	96-458-021	33	Cable Boot	94-105-016
	Shoe & Buss Bar	96-774-096	35	Adapter	94-013-097
11	Buss Bar	96-070-029	36	Brass Street Elbow	94-306-151
12	Tinned Flat Copper Braid	96-458-025	37	Guide Block	94-096-133
13	Jumper Clamp	96-168-028	40	Shield	94-777-105
14	Shoe	96-774-095	41	Mounting Beam	94-079-013
15	Wheel Assembly	94-949-053	42	Mounting Bracket	94-111-189
	Beam & Pin	94-079-008	43	Threaded Mounting Bracket	94-111-190
	Wheel (2 Required)	94-949-052	60	Nozzle Insulator	94-433-189

## ARCAIR® TRAVEL SYSTEMS

Ideal for any automated applications in metal fabrication operations where gouging, welding and cutting represents a large portion of your work schedule. And that applies to almost all metals, including stainless, carbon, manganese, and chrome-moly steels.

### OUT OF POSITION WORK

Arcair Climber® tractor carries your gouging torch head down a vertical seam, across a horizontal one, overhead, and of course the flat. And it does so at speeds ranging all the way up to 100 ipm (inches per minute). Ideal for carrying GMAW MIG guns, plasma, and flame cutting torches.

**Specifications:** 15-1/4" (38.74cm) Length; 11-1/2" (29.21cm) wide; 7" (17.78cm) high. Weight: 16.25 lbs.

**Weight Capacity:** Flat Position: 100 lbs. (45.5kg)  
 Horizontal Position: 75 lbs. (34.1kg)  
 Vertical Position: 30 lbs. (13.6kg)  
 Overhead Position: 75 lbs. (34.1kg)



ARCAIR® TRAVEL SYSTEMS	
Part No.	Description
71-023-136	(120 VAC, 60Hz) Arcair Climber Only
71-023-137	(220 VAC, 50Hz) Arcair Climber Only
71-023-138	(120 VAC, 60Hz) Arcair Climber Package
71-023-139	(220 VAC, 50Hz) Arcair Climber Package

Package includes Climber tractor, track assembly (1 each - 10ft. (3M)Long), Magnetic Assemblies (5 each), Horizontal Rack Bar Positioner, Vertical Rack Bar Positioner, Cable Hose Clamp Assembly, and N6000 Control Panel Mounting Plate Assembly.

### ACCESSORIES

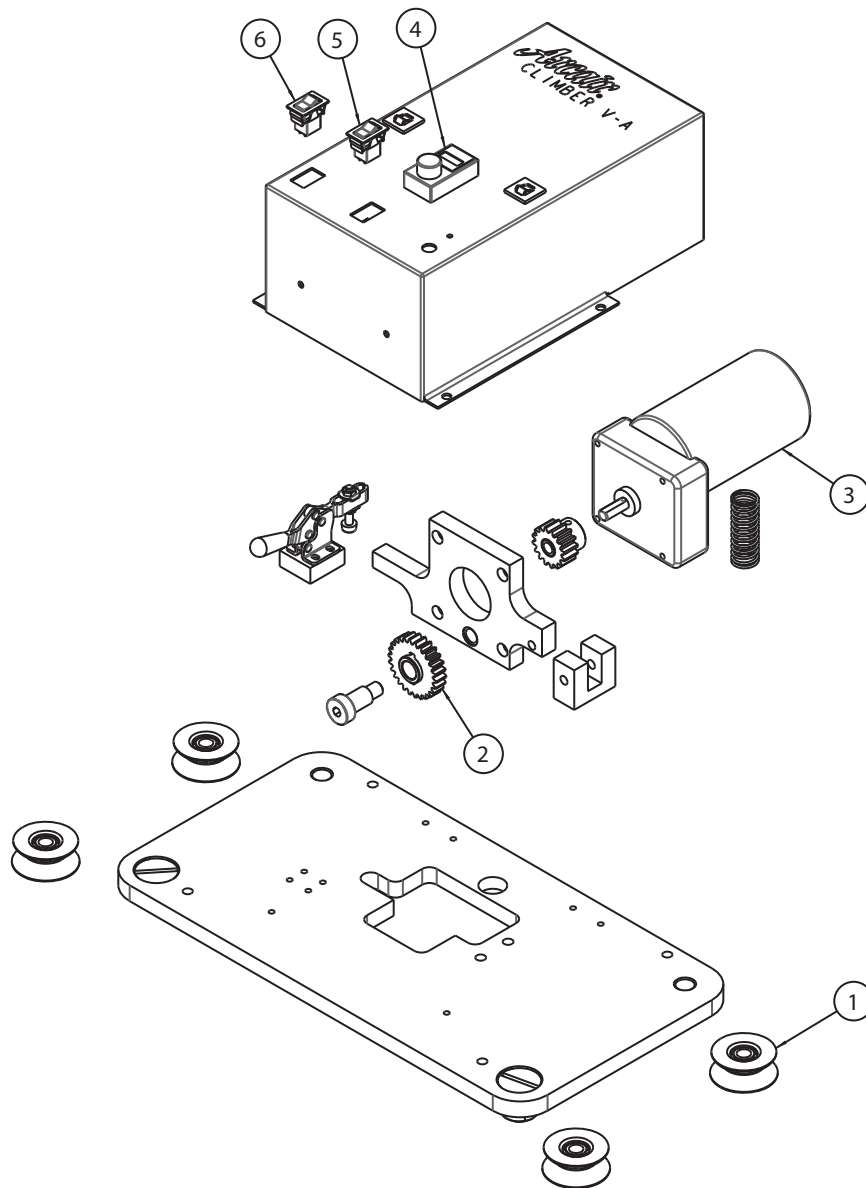
CLIMBER TRACK	
Part No.	Description
71-099-003	Aluminum Track Section 3ft. (91cm) Long
71-099-002	Aluminum Track Section 6ft. (1.83M) Long
71-099-001	Aluminum Track Section 10ft. (3M) Long



MAGNETIC AND SUPPORT BAR ASSEMBLY	
Part No.	Description
71-099-004	Magnet and Support Bar Assembly



## ARCAIR CLIMBER REPLACEMENT PARTS



### CLIMBER V-A REPLACEMENT PARTS LIST

Item	Description	Part No.
	Climber V-A (120 VAC, 60 Hz)	71-023-136
	Climber V-A (220 VAC, 50 Hz)	71-023-137
1	Wheel Assembly (4 Required)	95-949-029
2	Idler Gear	95-338-181
3	Motor	96-524-093
4	Speed Dial	94-225-024
5	Forward/Reverse Switch	96-834-343
6	On/Off Switch	96-834-342

## ARCAIR® TRAVEL SYSTEMS

Ideal for any automated applications in metal fabrication operations where gouging, welding and cutting represents a large portion of your work schedule. And that applies to almost all metals, including stainless, carbon, manganese, and chrome-moly steels.



### FLAT PLATE WORK

Arcair Titan Machine Carriage is designed for low maintenance and high performance in straight line operation such as automated air-carbon arc gouging, cutting or welding operations. Available in speed ranges from either 6 – 80 i.p.m. (15.2 – 203.2cm/min)

**Specifications:** Length: 24" (61cm)  
 Width: 21" (53.3cm)  
 Height: 5-7/8" (14.9cm)  
 Weight: 61 lbs (27.7kg)

**Weight Capacity:** Flat Position: 300 lbs. (136.1kg)

**Mounting Area:** 254 Sq. inches (1,639sq.cm)



ARCAIR TITAN® MACHINE CARRIAGE	
Part No.	Description
71-022-501	Titan Machine Carriage - 6-80 ipm (120VAC, 60Hz)
71-022-700	Titan Machine Carriage - 6-80 ipm With Arcair-Matic N6000 Gouging System, Track and Magnets
71-022-701	Titan Machine Carriage - 6-80 ipm With Arcair-Matic N6000 Gouging System and Outrigger Kit

**Note:** Outrigger kit is a specifically designed to travel along a web plate on a fabricated bridge girder used for railroad and highway bridges

### ACCESSORIES

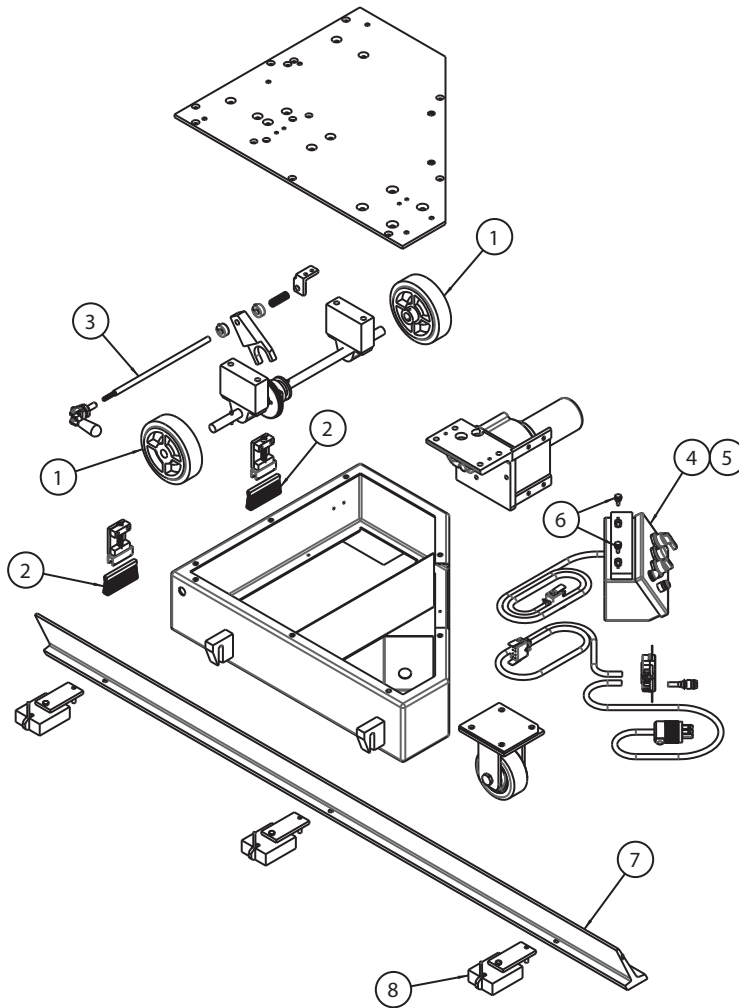


TRACK ASSEMBLY	
Part No.	Description
71-022-502	Track Section 10ft. (3M) Long

MAGNETIC AND SUPPORT BAR ASSEMBLY (3 EACH REQUIRED PER 10FT.)	
Part No.	Description
71-022-504	Magnet and Support Bar Assembly



**ARCAIR TITAN MACHINE CARRIAGE REPLACEMENT PARTS**



<b>TITAN MACHINE CARRIAGE REPLACEMENT PARTS LIST</b>		
<b>Item No.</b>	<b>Description</b>	<b>Part No.</b>
	Titan Machine Carriage 6-80 i.p.m. (120 VAC, 60 Hz)	71-022-501
1	Wheel Assembly (2 Required)	95-949-022
2	Brush (2 Required)	94-122-055
3	Actuating Rod	94-713-044
4	Control Box	96-174-060
5	Control Box Motor Control	96-174-061
6	Thumb Screw (2 Required)	97-001-035
7	Track Assembly	71-022-502
8	Magnet and Support Bar Assembly	71-022-504

## ARCAIR® HORIZONTAL & VERTICAL RACK BAR POSITIONERS

### FEATURES & BENEFITS

#### Ruggedness, Rigidity

- made from heavy gauge aluminum and brass to operate under severe operating conditions

#### Accuracy & ease of operation

- precision machined parts ensures accurate torch/tool positioning
- positioners do not need to be disassembled to reposition or remove

### HORIZONTAL RACK BAR POSITIONER

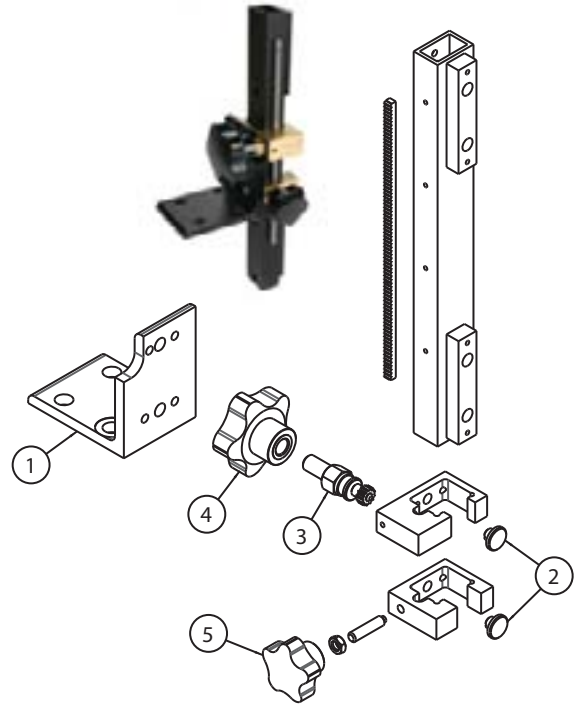
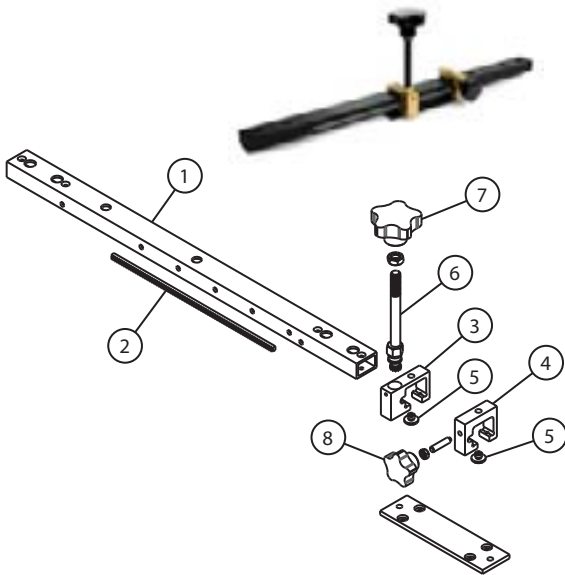
**Specifications:** Length: 26" (66.04cm)  
 Width: 4" (10.16cm)  
 Height: 9-5/8" (24.45cm)  
 Weight: 4.47lbs. (2.02kg)

### VERTICAL RACK BAR POSITIONER

**Specifications:** Width: 4-1/2" (11.43cm)  
 Height: 13-7/8" (35.24cm)  
 Deep: 6" (15.24cm)  
 Weight: 3.06lbs. (1.39kg)

HORIZONTAL RACK BAR POSITIONER	
Part No.	Description
71-099-073	Horizontal Rack Bar Assembly

VERTICAL RACK BAR POSITIONER	
Part No.	Description
71-099-074	Vertical Rack Bar Assembly



HORIZONTAL RACK BAR REPLACEMENT PARTS LIST		
Item	Description	Part No.
1	Horizontal Rack Bar	95-686-031
2	Gear Rack	95-686-033
3	Support Block w/Gear	94-096-136
4	Support Block	94-096-135
5	Adjustable Bearing Pad (2 Required)	95-085-130
6	Bushing and Gear Assembly	95-085-131
7	Locking Knob	94-465-110
8	Adjustment Knob	94-465-113

VERTICAL RACK BAR REPLACEMENT PARTS LIST		
Item	Description	Part No.
1	Angle Mounting Bracket	94-111-184
2	Adjustable Bearing Pad (2 Required)	95-085-130
3	Bushing and Gear Assembly	95-085-132
4	Adjustment Knob	94-465-112
5	Locking Knob	94-465-110



## GOUGING TECHNIQUES FOR SPECIFIC MATERIALS

### For carbon steel and low alloy steel, such as ASTM a514 and A517

Use DC electrodes with DCEP (electrode positive). AC electrodes with an AC transformer can be used, but for this application, AC is only half as efficient as DC.

### For stainless steel

Use DC electrodes with DCEP (electrode positive). AC electrodes with an AC transformer can be used, but for this application, AC is only half as efficient as DC.

### For cast iron including malleable and ductile iron (nodular)

Use 1/2" or larger diameter CCDC electrodes at the highest rated amperage. Use an angle of 70° off the workpiece and the depth of gouge should not exceed 1/2" per pass.

### For copper alloys (copper content 60% and under)

Use CCDC electrodes with DCEN (electrode negative) at the electrode's highest amperage rating.

### For aluminum bronze and aluminum nickel bronze (naval propeller alloy)

Use CCDC electrodes with DCEN (electrode negative) at the electrode's highest amperage rating.

### For nickel alloys (nickel content over 80% of mass)

Use CCAC electrodes with AC current.

### For nickel alloys (nickel content under 80% of mass)

Use CCDC electrodes with DCEP (electrode positive) at the electrode's highest amperage rating.

### For magnesium alloys

Use CCDC electrodes with DCEP (electrode positive) and prior to welding, wire brush the groove.

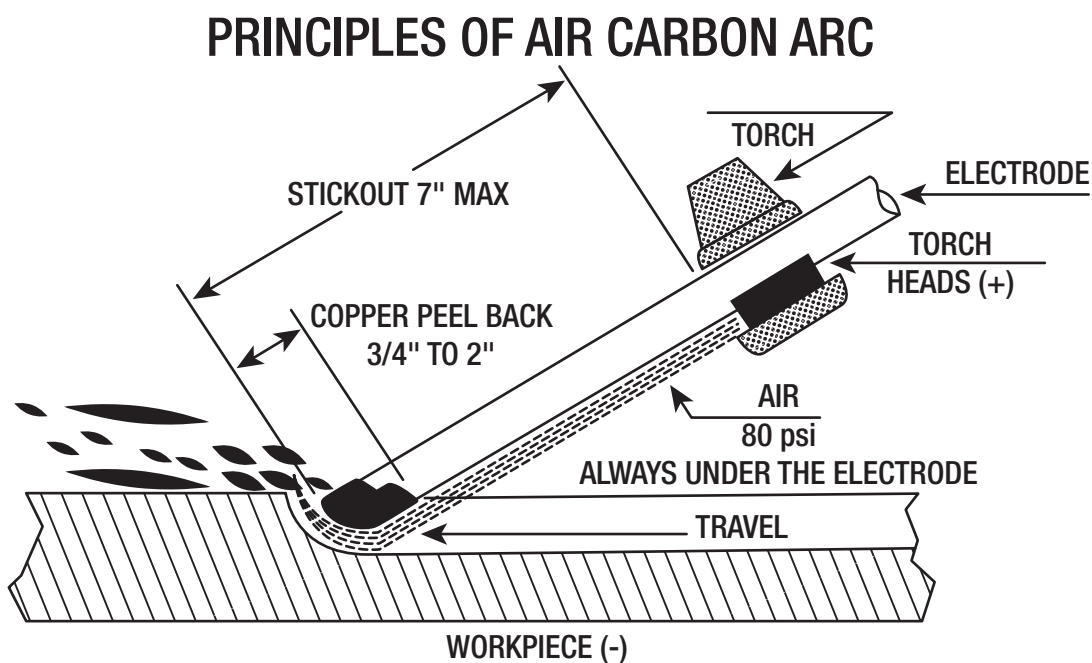
### For aluminum

Use CCDC electrodes with DCEP (electrode positive). You must brush with a stainless wire brush before welding. Electrode stick-out (length of electrode between torch and workpiece) should not exceed 3" (76.2mm).

### For titanium, zirconium, hafnium, and their alloys

Do not cut or gouge to prepare for welding or remelting unless you mechanically remove the surface layer from the cut/gouge surface.

**NOTE – If you preheat for welding, preheat for gouging**



## ARCAIR AIR CARBON-ARC ELECTRODES

### FEATURES & BENEFITS

#### Designed specifically for the air carbon-arc process

- contain a precise formulated blend of carbon and graphite
- produces the most efficient metal removal performance in today's market
- Superior metal removal rates, cool operation, and uniform diameters

#### Ideal for a broad range of applications

- creating u-grooves for weld joint
- removing old welds
- gouging out cracks
- cleaning and repairing castings
- removing hard surface material
- rough machining

### POINTED COPPERCLAD DC ELECTRODES

Part No.	Description	Application
22-023-003 *	1/8" (3.2mm) x 12" (30.5cm) CCDC Pointed	A standard, all purpose gouging electrode. Its controlled copper coating improves electrical conductivity (for more efficient, cooler operation) and helps maintain electrode diameter at the point of the arc.
22-983-003	5/32" (4.0mm) x 12" (30.5cm) CCDC Pointed	
22-033-003	3/16" (4.8mm) x 12" (30.5cm) CCDC Pointed	
22-043-003	1/4" (6.4mm) x 12" (30.5cm) CCDC Pointed	
22-053-003	5/16" (7.9mm) x 12" (30.5cm) CCDC Pointed	
22-063-003	3/8" (9.5mm) x 12" (30.5cm) CCDC Pointed	
22-082-003	1/2" (12.7mm) x 14" (35.6cm) CCDC Pointed	

**Note:** Standard 50 pieces per carton unless noted  
 \* 100 pieces per carton

### POINTED PLAIN DC ELECTRODES

Part No.	Description	Application
21-983-003	5/32" (4.0mm) x 12" (30.5cm) CCDC Pointed	General purpose electrodes without the copper plating to avoid any chance of copper contamination in the base material. Same high quality blend of carbon and graphite used in other electrodes.
21-033-003	3/16" (4.8mm) x 12" (30.5cm) CCDC Pointed	
21-043-003	1/4" (6.4mm) x 12" (30.5cm) CCDC Pointed	
21-053-003	5/16" (7.9mm) x 12" (30.5cm) CCDC Pointed	
21-063-003	3/8" (9.5mm) x 12" (30.5cm) CCDC Pointed	

**Note:** Electrodes will glow incandescent due to not having the copper plating and a penciling affect will take place along the outside diameter of the electrode. Standard 50 pieces per carton unless noted

### FLAT COPPERCLAD DC ELECTRODES

Part No.	Description	Application
35-099-003	3/8" (9.5mm) x 5/32" (4.0mm) x 12" (30.5cm) CCDC Flat	Specially designed for close tolerance metal removal and scarfing applications. Excellent for general gouging applications, removing weld crowns, repairing or making dies, removing temporary welded dogs, and scarfing billets.
35-033-003	5/8" (15.9mm) x 3/16" (4.8mm) x 12" (30.5cm) CCDC Flat	

**Note:** Standard 50 pieces per carton unless noted

HALF ROUND COPPERCLAD DC ELECTRODES		
Part No.	Description	Application
25-103-003	3/8" (9.5mm) x 5/32" (4.0mm) x 12" (30.5cm) CCDC Flat	Versatility of having both a round and flat electrode for the various gouging applications. Excellent for removing weld crowns, repairing or making dies, removing temporary welded dogs, and scarfing billets.

**Note:** Standard 50 pieces per carton unless noted

JOINTED JETRODS COPPERCLAD DC ELECTRODES		
Part No.	Description	Application
24-052-003	5/16" (7.9mm) x 14" (35.6cm) CCDC Jointed	Provides continuous electrode feed and increased savings, especially in production operations. Suited for both hand held foundry applications and or automated gouging systems.
24-062-003	3/8" (9.5mm) x 14" (35.6cm) CCDC Jointed	
24-064-003	3/8" (9.5mm) x 17" (43.2cm) CCDC Jointed	
24-082-003	1/2" (12.7mm) x 14" (30.5cm) CCDC Jointed	
24-084-003	1/2" (12.7mm) x 17" (43.2cm) CCDC Jointed	
24-104-003	5/8" (15.9mm) x 17" (43.2cm) CCDC Jointed	
24-124-003	3/4" (19.5mm) x 17" (43.2cm) CCDC Jointed	

**Note:** Standard 100 pieces per carton unless noted

POINTED COPPERCLAD AC ELECTRODES		
Part No.	Description	Application
20-033-003	3/16" (4.8mm) x 12" (30.5cm) CCAC Pointed	Designed for use with A.C. power supplies. Rare earth material is added to the electrodes to stabilize the arc and enhance the operating characteristics. 12" long
20-043-003	1/4" (6.4mm) x 12" (30.5cm) CCAC Pointed	
20-063-003	3/8" (9.5mm) x 12" (30.5cm) CCAC Pointed	

## WELDING CARBON PRODUCTS

Carbon Plates and Carbon Rods

### FEATURES & BENEFITS

**Wide range of applications to control the flow of weld metal**

- repair broken corners
- repair broken gears
- dams or molds for weld deposit

**Eliminates the need for many jigs and fixtures**

- substantial time and labor savings



CARBON PLATE	
Part No.	Description
48-043-012	1/4" (6.4mm) x 12" (30.5cm) x 12" (30.5cm)
48-063-012	3/8" (9.5mm) x 12" (30.5cm) x 12" (30.5cm)
48-083-012	1/2" (12.7mm) x 12" (30.5cm) x 12" (30.5cm)
48-123-012	3/4" (19.5mm) x 12" (30.5cm) x 12" (30.5cm)
48-163-012	1" (25.4mm) x 12" (30.5cm) x 12" (30.5cm)

CARBON ROD	
Part No.	Description
47-183-000	1-1/8" (28.6mm) x 12" (30.5cm)
47-203-000	1-1/4" (31.8mm) x 12" (30.5cm)
47-243-000	1-1/2" (38.1mm) x 12" (30.5cm)
47-323-000	2" (50.8mm) x 12" (30.5cm)

## INCHES OF GROOVE PER ELECTRODE

POINTED CCDC COPPERCLAD ELECTRODES						
Groove Depth	5/32" x 12" 4.0mm x 30.5cm	3/16" x 12" 4.8mm x 30.5cm	1/4" x 12" 6.5mm x 30.5cm	5/16" x 12" 8.0mm x 30.5cm	3/8" x 12" 9.5mm x 30.5cm	1/2" x 14" 4.0mm x 35.6cm
1/8" (3.2mm)	65" (165cm)	70" (178cm)	81" (206cm)	NR	NR	NR
5/32" (4.0mm)	57" (145cm)	65" (165cm)	70" (178cm)	81" (206cm)	NR	NR
3/16" (4.8mm)	NR	57" (145cm)	66" (168cm)	72" (183cm)	82" (208cm)	NR
1/4" (6.4mm)	NR	46" (117cm)	58" (147cm)	66" (168cm)	72" (183cm)	112" (285cm)
5/16" (8.0mm)	NR	20" (51cm) – 2P	46" (117cm)	58" (147cm)	59" (150cm)	100" (254cm)
3/8" (9.5mm)	NR	12" (30cm) – 2P	24" (61cm) – 2P	47" (119cm)	59" (150cm)	88" (224cm)
1/2" (12.7mm)	NR	NR	14" (36cm) – 2P	26" (66cm) – 2P	47" (119cm)	73" (185cm)
5/8" (15.9mm)	NR	NR	NR	16" (41cm) – 2P	26" (66cm) – 2P	57" (145cm)
3/4" (19.5mm)	NR	NR	NR	NR	16" (41cm) – 2P	43" (109cm)
7/8" (22.0mm)	NR	NR	NR	NR	NR	35" (89cm) – 2P
1" (25.4mm)	NR	NR	NR	NR	NR	28" (71cm) – 2P

**Note:** All figures derived from gouging mild steel under laboratory conditions. Field results may vary due to type of metal, power source, compressed air supply, operators experience and other parameters.

**NR** = Not Recommended **2P** = Two (2) Passes

JOINTED JET-ROD CCDC ELECTRODES			
Groove Depth	5/16" x 14" 8.0mm x 35.6cm	3/8" x 17" 9.5mm x 43.2cm	1/2" x 17" 12.7mm x 43.2cm
5/32" (4.0mm)	160" (406cm)	NR	NR
3/16" (4.8mm)	142" (361cm)	206" (523cm)	NR
1/4" (6.4mm)	125" (318cm)	172" (437cm)	260" (660cm)
5/16" (8.0mm)	112" (284cm)	150" (310cm)	188" (478cm)
3/8" (9.5mm)	84" (213cm)	136" (345cm)	157" (399cm)
1/2" (12.7mm)	72" (183cm) – 2P	103" (262cm)	140" (356cm)
5/8" (15.9mm)	48" (122cm) – 2P	75" (191cm) – 2P	102" (259cm)
3/4" (19.5mm)	NR	57" (145cm) – 2P	90" (229cm)
7/8" (22.0mm)	NR	NR	80" (203cm)
1" (25.4mm)	NR	NR	72" (183cm)

**Note:** All figures derived from gouging mild steel under laboratory conditions. Field results may vary due to type of metal, power source, compressed air supply, operators experience and other parameters.

**NR** = Not Recommended **2P** = Two (2) Passes

**Arcair®**  
**Professional**

**SLICE® FIRE AND RESCUE  
CUTTING SYSTEM**

LET **NOTHING** STAND IN YOUR WAY.

**YOUR ALL-PURPOSE TOOL FOR FAST  
ENTRY AND RESCUE. QUICKLY CUTS THROUGH**  
STEEL DOORS, FRAME WALLS, IRON BARS & GRATINGS, REBAR,  
METAL ROOFING, BRICK, CONCRETE, ALUMINUM & STAINLESS STEEL

FOR MORE INFORMATION, REFER TO PAGES 38 - 45 OF THIS CATALOG.

## SLICE® EXOTHERMIC CUTTING SYSTEM

### FEATURES & BENEFITS

#### Versatile - unlike any other cutting technology

- cuts right through hard-to-cut materials
  - mild, stainless steel and alloy steels
  - cast iron
  - aluminum, magnesium and other non ferrous metals
  - slag and refractory materials
  - pierces through concrete or brick

#### Fast cutting speeds

- no-preheat required
- cut sooner and finish every job faster

#### Comfortable and easy to use

- pistol grip style handle
- lightweight shield to protect the operator from heat and sparks
- lever operated oxygen control

#### Carry all convenience

- several portable SLICE packs to choose from
  - Utility Pack
  - Battery Pack
  - Industrial Pack
  - Cordless Striker Pack
  - Complete Pack



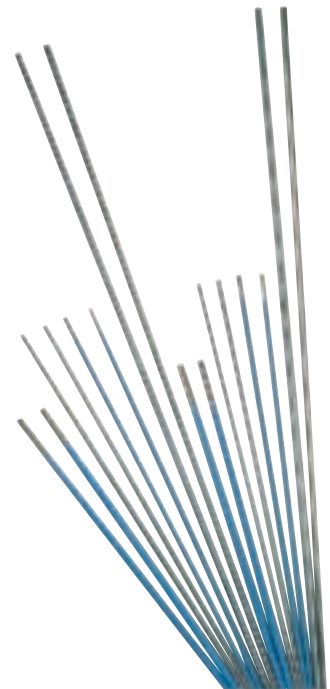
**WATCH A VIDEO of the Arcair SLICE Pack in ACTION at [www.ArcairSlice.com](http://www.ArcairSlice.com)**

## SLICE EXOTHERMIC CUTTING RODS

#### Specially designed cutting rod

- one piece patented construction maintains the balance necessary to sustain the exothermic reaction
- cutting rod sustains the burn without constant electrical power once ignited

	Uncoated Part No	Flux Coated Part No.
1/4" x 22" (6.4mm x 55.9cm) 25 each /carton	43-049-002	42-049-002
1/4" x 22" (6.4mm x 55.9cm) 100 each /carton	43-049-003	42-049-003
1/4" x 44" (6.4mm x 111.8cm) 25 each /carton	43-049-005	
3/8" x 18" (9.5mm x 45.7cm) 50 each / carton	43-049-007	42-049-005
3/8" x 36" (9.5mm x 91.4cm) 25 each / carton	43-049-009	



## SLICE® EXOTHERMIC CUTTING TORCH



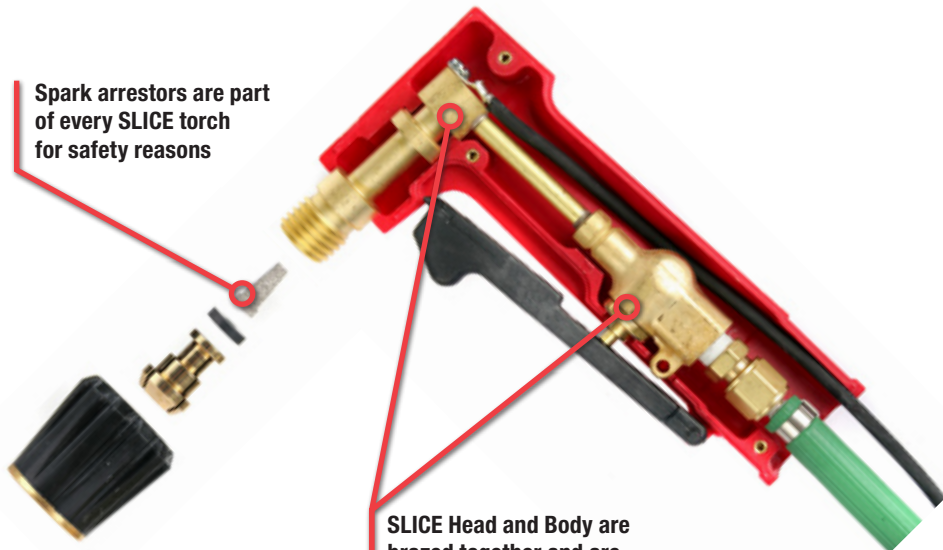
SLICE torch can use 1/4" & 3/8" diameter of cutting rods by simply changing the collet nut and collet chuck

Comfortable and easy to use pistol grip design handle

Lightweight shield to help protect the operator from heat and sparks

Easy to squeeze lever on the handle for easy oxygen control

Industrial grade oxygen hose 10ft. (3 M) length is standard



Spark arrestors are part of every SLICE torch for safety reasons

SLICE Head and Body are brazed together and are thoroughly cleaned to be oil free for use with oxygen

## ARCAIR SLICE® CUTTING SYSTEM

SLICE UTILITY PACK	Part No.
	63-991-026

### FEATURES & BENEFITS

#### Rugged tool box carrying case

- packed with the basic items needed to do a cutting job

#### Power connections (12 volt battery only)

- tong style battery clamps makes power connection quick and easy

#### Industrial oxygen hose connected to the torch

- industry standard “green” hose supplies the torch with oxygen
- standard fittings used to connect to oxygen regulators



Description	Part No.
Tool Box	94-134-049
SLICE Torch Assembly	03-003-001
SLICE Striker Assembly	72-012-002
Collet Extension Assembly – 6" (15.24cm)	94-168-023
Extension Shield	94-777-111
Clamp (Red)	96-168-035
Clamp (Black)	96-168-036
Coupling	

## ARCAIR SLICE® CUTTING SYSTEM

SLICE BATTERY PACK	Part No.
120 VAC/60Hz	63-991-003
220 VAC/50Hz	63-991-007

### FEATURES & BENEFITS

#### Rugged tool box carrying case

#### Power connections twist-lock style connection

- easy to connect to battery box assembly for both torch and striker
- color coded connectors

#### Industrial oxygen hose connected to the torch

- industry standard “green” hose supplies the torch with oxygen
- standard fittings used to connect to oxygen regulators
- color coded connections



Description	Part No.
Tool Box	94-134-047
SLICE Torch Assembly	03-003-006
SLICE Striker Assembly	72-012-002
Battery Box Assembly	96-076-021
Cutting Rod 1/4" x 22" (Qty. 25)	43-049-002
Collet Extension Assembly – 6" (15.24cm)	94-168-023
Extension Shield	94-777-111
Charging Cable – 120VAC/60Hz	96-130-297
Charging Cable – 220VAC/50Hz	96-130-296

Refer to pages 44 and 45 for complete detail on replacement parts list for the SLICE Torch and Striker assembly.



## ARCAIR SLICE® CUTTING SYSTEM

SLICE CORDLESS STRIKER PACK	Part No.
	63-991-032

### FEATURES & BENEFITS

**Rugged tool box carrying case**

- packed with the basic items

**Durable cordless striker**

- two small lead-acid batteries contained in the striker handle
- sufficient enough to ignite both 1/4" and 3/8" bare cutting rods

**Power connections twist-lock style connection**

- easy to connect to battery box assembly for both torch and striker
- color coded connectors

**Industrial oxygen hose connected to the torch**

- industry standard "green" hose supplies the torch with oxygen
- standard fittings used to connect to oxygen regulators



Description	Part No.
Tool Box	94-134-047
SLICE Torch Assembly	03-003-008
SLICE Striker Assembly	72-012-007
Recharging Unit	96-076-034
Igniter and Recharging Unit	96-076-030
Cutting Rod 1/4" x 22" (Qty. 25)	43-049-002
Collet Extension Assembly – 6" (15.24cm)	94-168-023
Extension Shield	94-777-111
Coupling	

## ARCAIR SLICE® CUTTING SYSTEM

SLICE INDUSTRIAL PACK	Part No.
	63-991-021

### FEATURES & BENEFITS

**Versatility for industrial type applications**

- industrial cart capable of carrying a 9" diameter oxygen cylinder
- packed with the basic items needed to do a cutting job
  - SLICE Torch Assembly – 10ft. leads
  - striker assembly
  - oxygen regulator
  - battery charger
  - cutting rod holder

**Industrial oxygen hose connected to the torch**

- industry standard "green" hose supplies the torch with oxygen
- standard fittings used to connect to oxygen regulators



Description	Part No.
Storage Case	
SLICE Torch Assembly	03-003-001
SLICE Striker Assembly	72-012-002
Battery Charger	96-156-003
Cutting Rod 1/4" x 22" (Qty. 25)	43-049-002
Collet Extension Assembly – 6" (15.24cm)	94-168-023
Extension Shield	94-777-111

Description	Part No.
Rod Holder	
Outfit Wrench – Hose Nut and Regulator Nut	
Outfit Wrench – Oxygen Hose Nut and Male Adapter	
Clamp Assembly (Red)	96-168-035
Clamp Assembly (Black)	96-168-036
12" Rubber Tie Down	

Refer to pages 44 and 45 for complete detail on replacement parts list for the SLICE Torch and Striker assembly.

## ARCAIR SLICE® CUTTING SYSTEM

SLICE COMPLETE PACK	Part. No.
120 VAC/60Hz	63-991-002
220 VAC/50Hz	63-991-005

### FEATURES & BENEFITS

#### Rugged aluminum carrying case

- packed with the basic items needed to do a cutting job

#### Self-contained cutting system

- lends itself well to the emergency type cutting situations where seconds count
- complete unit weighs 75 lbs. (34kg)
- storage compartment with hinged door for parts storage during transportation

#### Power connections twist-lock style connection

- easy to connect to battery box assembly for both torch and striker
- color coded connectors

#### Industrial oxygen hose connected to the torch

- industry standard “green” hose supplies the torch with oxygen
- standard fittings used to connect to oxygen regulators



Description	Part No.
Aluminum Case Assembly	94-134-034
SLICE Torch Assembly	03-003-006
SLICE Striker Assembly	72-012-002
Battery Box Assembly	96-076-021
Cutting Rod 1/4" x 22" (Qty. 25)	43-049-002
Collet Extension Assembly – 6" (15.24cm)	94-168-023
Extension Shield	94-777-111
Spacer	
10" Rubber Tie Down	
Oxygen Regulator	0799-1607
Oxygen Cylinder 55 Cu. Ft.	94-208-002
Charging Cable – 220VAC/50Hz	96-130-296
Charging Cable – 120VAC/60Hz	96-130-297
Outfit Wrench – Hose Nut and Regulator Nut	
Outfit Wrench – Oxygen Hose Nut and Male Adapter	

Refer to pages 44 and 45 for complete detail on replacement parts list for the SLICE Torch and Striker assembly.

## TIPS FOR USING SLICE EXOTHERMIC CUTTING EQUIPMENT

### TIPS FOR CUTTING

Cutting procedures will vary from job to job. Study the cutting rates chart for specific cutting speeds.

Normal cutting is done by using a drag technique. Once the rod is in contact with the piece to be cut, drag the rod in the direction of the cut. If the operator can't see the kerf, the speed of cut is too fast. If the rod is being used too rapidly the progress of the cut is too slow and the rod is being used without cutting. REMEMBER, the cutting rods consume as long as the oxygen is flowing. Maintain the proper travel speed at all times. NOTE: Use a sawing motion when material to be cut is thicker than 1-1/2 to 2 inches to ensure a complete melt through.

Use a smooth motion to complete the cut. Be careful not to hit nearby material with the rod when cutting in "close quarters." After completing the cut, release the oxygen control lever in the handle. THE CUTTING ROD WILL CONTINUE TO BURN AS LONG AS OXYGEN IS SUPPLIED. Hold the torch safely away from you until the rod cools.

### TIPS FOR PIERCING SURFACES

The SLICE Torch can be used to pierce solids. Special procedures must be used when piercing. *When piercing, use a collet extension (and shield). This extension adds life to the torch and hand shield, and greatly improves operator safety and comfort.* Always hold the torch at arm's length and wear plenty of protective clothing, eye and ear protection. Cutting rods can get stuck inside the pierced hole. If possible, remove the cutting rod from the hole before releasing the oxygen lever.

With any thermal cutting equipment blowback is most likely to occur when the user is piercing holes. Cutting rods may burn unevenly. Slowly swirl the cutting rod as it enters a pierced hole. Cutting rods may burn out on the sides. Correct the problem by removing the cutting rod from the pierce point, shut the oxygen off, and replace the cutting rod.

To pierce follow these steps:

- Strike cutting rod on striker.
- Hold torch at arm's length.
- Keep the cutting rod at a 90° angle (perpendicular) to the pierce point.
- Slowly push cutting rod in at pierce point until you're at proper depth or until you've achieved burn through.

The pierce procedure is also used to cut concrete. By piercing a series of holes where a user wants to cut concrete, the concrete becomes easier to fracture. This helps reduce the time it would take to actually cut the concrete.

### OXYGEN USAGE

This cutting process uses standard industrial grade oxygen to support the exothermic reaction and to remove the molten metal. All SLICE equipment uses standard oxygen fittings. The most commonly recommended operating pressure is 80 psi. Applications such as cutting material sections 3" and thicker might require higher operating pressures. Pressures as low as 40 psi have been used to perform operations such as washing off rivet heads and scarfing out small cracks for repair.

The oxygen consumption rate for the SLICE cutting rods at 80 psi is 7 to 7.5 cfm for the 1/4" diameter cutting rods and 11 to 12 cfm for the 3/8" diameter cutting rods. This rate will vary if a different operating pressure is used.

### ROD BURNTIME

Listed are the approximate burntimes for the various SLICE rod diameters and lengths:

- 1/4" X 22" ----- 40 - 45 seconds
- 1/4" X 44" ----- 80 - 90 seconds
- 3/8" X 18" ----- 30 - 35 seconds
- 3/8" X 36" ----- 60 - 70 seconds

### APPLICATION DATA

The best techniques for the SLICE equipment will change from job to job. The enclosed charts present the results of extensive testing of the SLICE Torch. Four things contribute to good cutting -

- 1) Electrical current.
- 2) Type of material being cut.
- 3) Environmental conditions.
- 4) Experience of the operator(s).

These data result from studies of the first two (2) items in this list. Since data were collected in a LABORATORY, actual results obtained will vary because of changes in the environment. Too, these tests were conducted by highly experienced users. The way in which you use the SLICE Torch will also cause your results to vary.

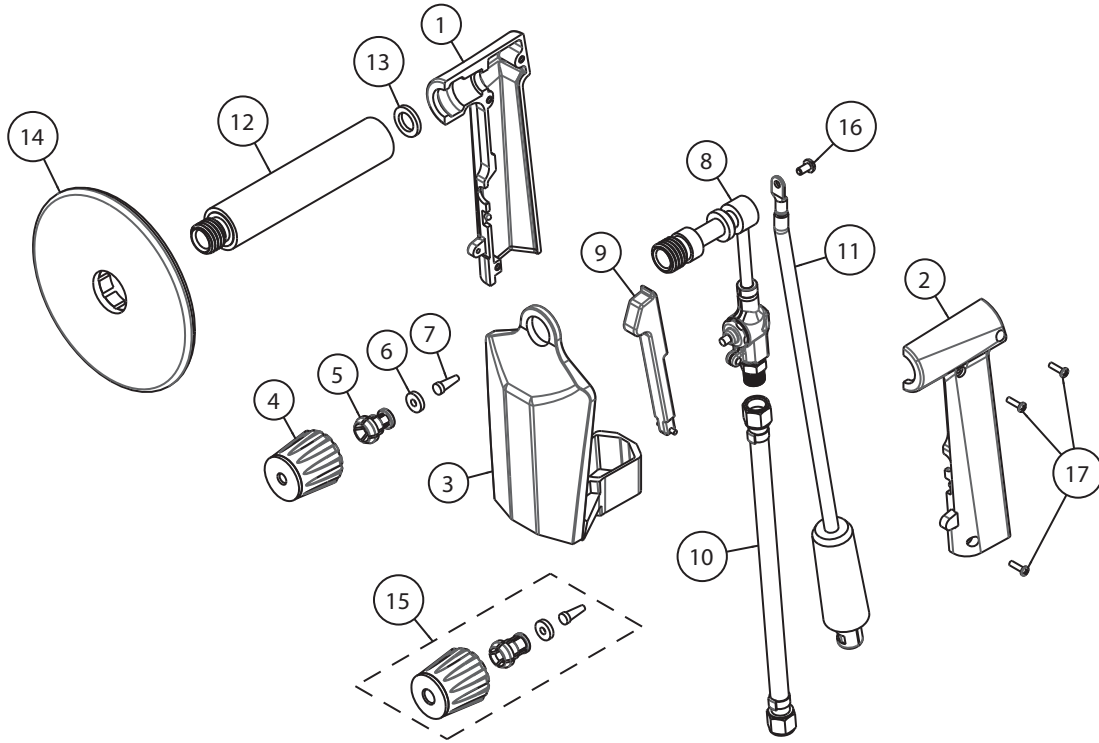
In any application, some adjustments in operating conditions are necessary. The charts are presented only as a guideline. Results will vary. You can approximate these results by using the data presented as a starting point, then adjusting for your job.

Here is a sample of some cutting rates that can be obtained using the SLICE Equipment. Cutting rates in this chart were obtained using 80 PSI oxygen pressure, battery ignition (no power cutting) and 1/4" x 22" cutting rods. These cutting rates will vary when using different rods, when cutting with power or using a different oxygen pressure. This chart does not represent all materials SLICE will cut nor all thicknesses used in fabrication. When cutting composite materials or metals not listed, locate the listed type that most closely matches the metal to be cut. This information is only meant as a reference to the efficiency and versatility that a user can realize using the SLICE Equipment.

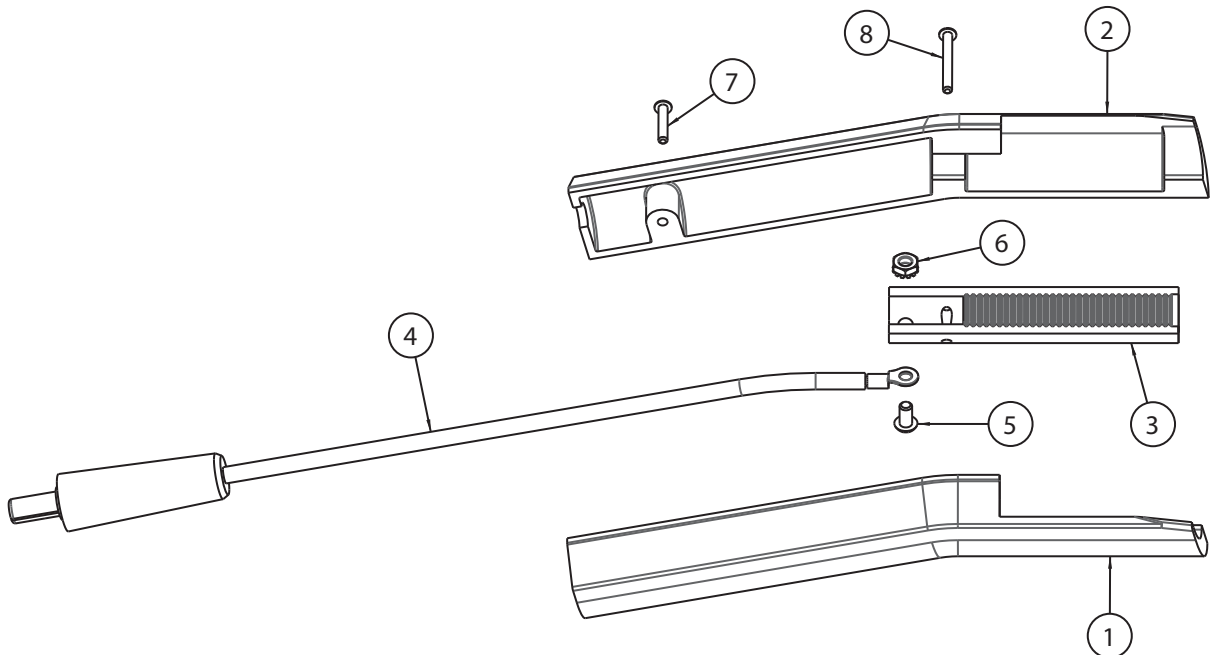
CUTTING RATES						
MATERIAL BEING CUT	THICKNESS		CUT/IN ROD		CUT SPEED	
	IN.	CM	IN.	CM	IN/MIN	CM/MIN
CARBON STEEL	1/8	.318	2.25	5.7	72	183
	1/4	.635	1.50	3.8	52	132
	3/8	.953	1.38	3.5	42	106
	1/2	1.27	1.25	3.2	35	89
	3/4	1.91				
STAINLESS STEEL	1/8	.318	2.00	5.1	65	165
	1/4	.635	1.13	2.9	36	91
ALUMINUM	1/4	.635	1.75	4.4	58	147
	3/8	.953	1.25	3.2	38	97
	3/4	1.91	0.75	1.9	23	58

This data is the result of averaging lab tests. The actual results will vary.

## SLICE TORCH REPLACEMENT PARTS



## SLICE STRIKER REPLACEMENT PARTS



<b>SLICE TORCH REPLACEMENT PARTS LIST</b>		
<b>Item No.</b>	<b>Description</b>	<b>Part No.</b>
1	Handle - Rightt Half	94-370-166
2	Handle - Left Half	94-370-167
3	Shield	94-777-109
4	1/4" Collet Nut Assembly	94-168-022
	3/8" Collet Nut Assembly	94-168-024
5	1/4" Collet Chuck	94-158-048
	3/8" Collet Chuck	94-158-045
6	Washer	94-940-109
7	Flashback Arrestor	94-305-009
8	Head/Body Assembly	94-378-338
9	Lever Assembly	94-476-082
10	Oxygen Hose - 10ft. (3M)	94-396-193
11	Cable Assembly for SLICE Torch Part No. 03-003-000	96-130-279
	Cable Assembly (Utility & Industrial Pack)	96-130-276
	Cable Assembly (Battery & Complete Pack)	96-130-319
	Cable Assembly (Cordless Pack)	96-130-324
12	Extension - 6" (15.24cm)	94-168-023
13	Washer	94-940-108
14	Extension Shield	94-777-111
15	3/8" Conversion Kit	94-463-032
16	10-32 Pan Head Screw	
17	6-32 x 9/16" Pan Head Screw	

<b>SLICE STRIKER REPLACEMENT PARTS LIST</b>		
<b>Item No.</b>	<b>Description</b>	<b>Part No.</b>
1	Handle - Right Half	94-370-168
2	Handle - Left Half	94-370-169
3	Striker Bar	96-070-031
4	Cable Assembly	96-130-320
5	#10-32 x 3/8" Pan Head Screw	
6	#10-32 Hex Nut	
7	#6-32 x 1-1/14" Pan Head Screw	
8	#6-32 x 3/4" Pan Head Screw	

## ARCAIR UNDERWATER CUTTING PRODUCTS

SEA TORCH "COMBINATION TORCH"	Part No.
5/16" (7.9mm) Cutting Collet	14-050-124
3/8" (9.5mm) Cutting Collet	14-050-126

**Specification:** Equipped with 10ft. (3M) Power Cable  
 Length: 8-3/4" (22.2cm)  
 Weight: 4.5 lbs. (2.04kg) with cable

### FEATURES & BENEFITS

#### One piece body construction

- fully insulated electrically for safety in normal operation
- prohibits oxygen leakage in the torch body
- bright orange for high visibility to the diver

#### Combination torch

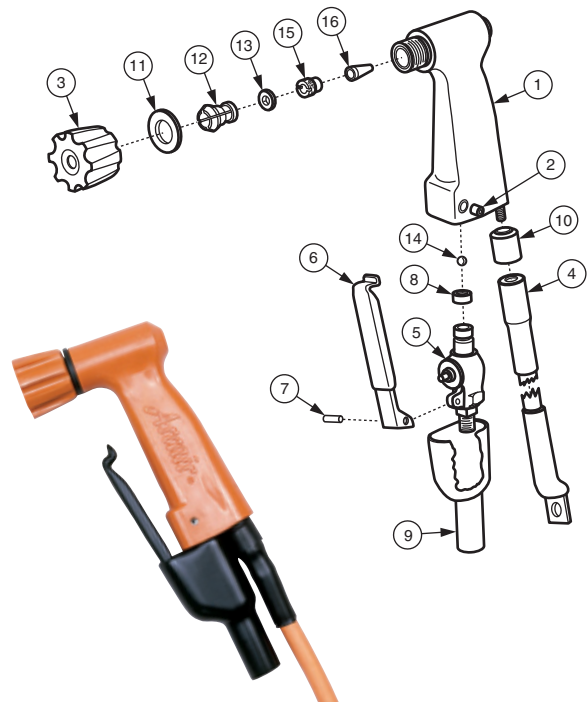
- torch can be used for oxygen-arc cutting
- underwater welding

#### Tapered collet body

- brings the bare surface of an electrode into contact for the entire length of the collet
- solid grip and increased contact area decreases the risk of arcing between the collet and electrode

#### Equipped with a spark arrestor

- spark arrestor located behind the collet for safe operation
- ball check valve in the torch handle gives additional protection



Item	Description	Part No.
1	Sea Torch Handle	94-370-157
2	Set Screw	97-373-001
3	Molded Collet Ring	94-168-018
4	Cable Assembly	96-130-234
5	Oxygen Valve	94-921-057
6	Valve Lever	94-476-061
7	Lever Hinge	94-632-108
8	Washer	94-940-098
9	Boot	94-105-013
10	Cable Tip Insulator	94-433-177
11	Washer	94-940-097
12	1/8" (3.2mm) Welding Collet Chuck	94-158-047
	5/32" (4.0mm) Welding Collet Chuck	94-158-042
	3/16" (4.8mm) Welding Collet Chuck	94-158-044
	5/16" (7.9mm) Cutting Collet Chuck	94-158-043
	3/8" (9.5mm) Cutting Collet Chuck	94-158-045
	5/16" (7.9mm) Cutting Stubby Collet Chuck	94-158-051
	3/8" (9.5mm) Cutting Stubby Collet Chuck	94-158-050

Item	Description	Part No.
13	Collet Washer	94-940-099
	Stubby Collet Washer	94-940-114
14	Ball Check Valve	94-071-003
15	Stubby Blowback Retainer	94-695-065
	Standard Blowback Retainer	94-695-037
16	Spark Arrestor	94-305-009

## UNDERWATER CUTTING ELECTRODES

### FEATURES & BENEFITS

#### Oxygen-Arc and Exothermic Cutting Electrodes

- oxygen-arc cutting electrodes requires current to be present during the cutting process
- exothermic cutting electrodes only require current to ignite the electrode and once ignited the rod will continue to burn as long as there is oxygen flowing

#### Water-proof coating

- all cutting electrodes are coated with a water-proof coating

### SEA-CUT® I CUTTING ELECTRODES "OXYGEN-ARC PROCESS" (50 PER CARTON)

Diameter	Length	Part No.
5/16" (7.9mm) - .113" ID (2.9mm)	14" (45.7cm)	42-059-007



### TUFF-COTE® CUTTING ELECTRODES FLUX COATED "OXYGEN-ARC PROCESS" (50 PER CARTON)

Diameter	Length	Part No.
5/16" (7.9mm) - .113" ID (2.9mm)	14" (45.7cm)	42-059-008



### SEA-JET® CUTTING ELECTRODES "EXOTHERMIC PROCESS" (50 PER CARTON)

Diameter	Length	Part No.
3/8" (9.5mm)	18" (45.7cm)	42-066-006



### SEA-DRAGON™ CUTTING ELECTRODES "EXOTHERMIC PROCESS" (50 PER CARTON)

Diameter	Length	Part No.
3/8" (9.5mm)	18" (45.7cm)	42-075-005



## UNDERWATER WELDING PRODUCTS

Description	Part No.
SEA-STINGER II TORCH	14-050-128

**Specification:** Equipped with 10ft. (3M) Power Cable  
 Length: 6" (15.24cm)  
 Weight: 3.65 lbs. (1.66kg) with cable



### FEATURES & BENEFITS

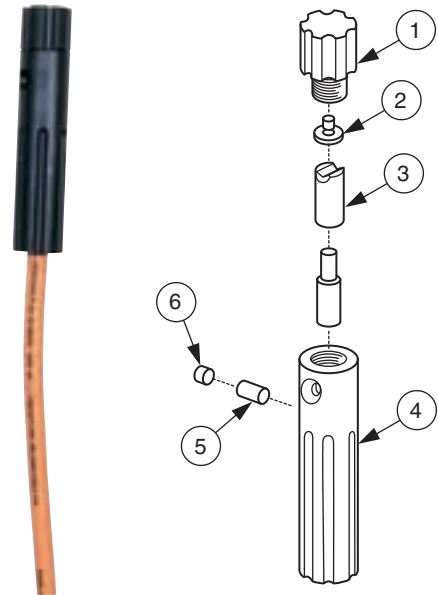
#### Lightweight and durable

- proven design that gives the diver-welder an easy to use electrode holder
- repairable replaceable cable and internal parts extend its service life

#### Accepts several different diameter of welding electrodes

- 1/8" (3.2mm), 5/32" (4.0mm) and 3/16" (4.8mm) welding electrodes

Item	Description	Part No.
1	Head	94-378-351
2	Cap	94-131-067
3	Body	94-103-228
4	Handle	94-370-175
5	Plug	94-638-086
6	Set Screw	97-373-006



## SEA-WELD® WELDING ELECTRODES

### FEATURES & BENEFITS

#### Excellent bead contour

- all position, flux coated SMAW electrode

#### Fillet welds are flat with good base metal wetting

- helps keep undercut to a minimum

#### Easy slag removal

- keeps chipping and grinding to a minimum
- lower risk of slag inclusions

#### Produced welds which pass bend and x-ray requirements

- as defined by the AWS D3.6 specification for underwater welding



Electrode Size	Part No.	Current Amperes	Burn Off Time (SEC)
1/8" (3.2mm) x 14" (35.6cm)	42-024-002	150 - 180	40 - 46
5/32" (4.0mm) x 14" (35.6cm)	42-984-004	170 - 210	44 - 56
3/16" (3.2mm) x 14" (35.6cm)	42-034-007	190 - 230	59 - 66

Note: Burn off time based on 12" (305mm)



## UNDERWATER GOUGING PRODUCTS

Description	Part No.
ARCWATER II TORCH	14-050-127

**Specification:** Equipped with 10ft. (3M) Power Cable  
 Length: 9-3/4" (22.2cm)  
 Weight: 5.5 lbs. (2.5kg) with cable



### FEATURES & BENEFITS

#### Designed for underwater gouging operations

- similar to gouging above water with the exception of using a high velocity of pressurized water in place of compressed air
- uses sea water at 90 psi (6.32kg/cm<sup>2</sup> or 620 kPa) over the pressure at the depth of use
- minimum water flow rate of 3.5 gallons (13.25 liters) per minute required

#### Oxygen free

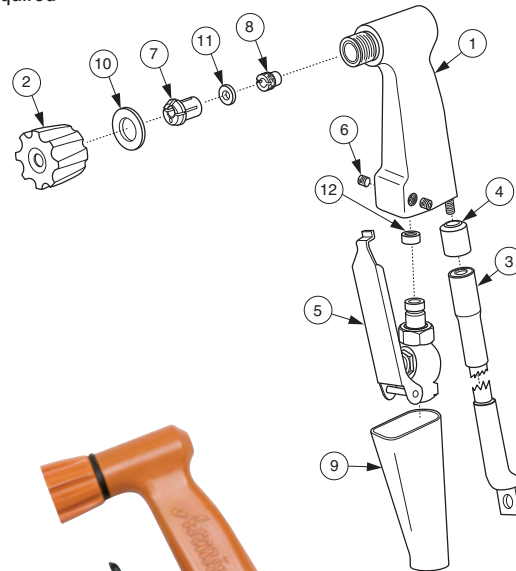
- eliminates the risk of hydrogen gas pockets explosions

#### Easy to use

- handle can be used left or right handed divers
- used out-of position

#### Converts into a welding torch easily

- simply change out the collet to accept welding electrodes



Item	Description	Part No.
1	Torch Handle	94-370-174
2	Molded Collet Ring Assembly	94-168-018
3	Cable Assembly	96-130-234
4	Cable Tip Insulator	94-433-177
5	Valve & Lever Assembly	94-921-063
6	Set Screw (2 Required)	97-373-001
7	Collet Chuck	94-158-049
8	Blow Back Retainer	94-695-037
9	Boot	94-105-021
10	Washer	94-940-097
11	Washer	94-940-105
12	Washer	94-940-098

### ARCWATER® GOUGING ELECTRODES (50 PER CARTON)

Diameter	Amperage	Length	Part No.
5/16" (7.9mm)	350 - 450	9" (22.9cm)	42-059-006



## ARCAIR METALWORKING CHEMICALS

### PROTEX® ORIGINAL

Description	Part No.
1 Gallon (3.8L) Pail – (case of 4)	53-011-000
5 Gallon (19L) Pail	53-015-000
55 Gallon (208L) Drum	53-018-000

#### FEATURES AND BENEFITS

**First choice for big jobs in welding, cutting, or gouging**

- reduces spatter and protects from slag spoiling clean edges
- protects the parent metal, fixtures, large weldments and jigs from spatter and slag
- use it during heat treating to protect surfaces from scale

**Environmentally safe**

- non-toxic and non-flammable



### PROTEX EXTRA ANTI-SPATTER

Description	Part No.
7 oz (207 ml) Bottle – (case of 12)	53-007-500
24 oz (710 ml) Bottle – (case of 12)	53-024-500
1 Gallon (3.8L) Pail – (case of 4)	53-014-500
5 Gallon (19L) Pail	53-015-500
55 Gallon (208L) Drum	53-018-500

#### FEATURES AND BENEFITS

**Reduces spatter adhesion to parent metal**

- spray or brush onto the parent metal and you are ready to weld in less than one minute

**Environmentally safe**

- non-toxic and non-flammable



### PROTEX PLUS ANTI-SPATTER

Description	Part No.
16 oz. (473ml) Can – (case of 12)	57-021-106

#### FEATURES AND BENEFITS

**Reduces spatter adhesion to parent metal**

- spray onto the parent metal to reduce spatter or slag from adhering

**Environmentally safe**

- an aerosol anti-spatter
- contains no chlorinated solvents, fluorocarbons, silicones



## PROTEX ALCLEAN®

Description	Part No.
1 Quart (946 ml) Container – (case of 12)	57-021-200
1 Gallon (3.8L) Pail – (case of 4)	57-014-000



### FEATURES AND BENEFITS

**Removes oxides, dirt and grime from aluminum plate, castings and joint areas prior to welding**

- spray or brush on large areas
- smaller parts can be dipped into an Alclean bath

**Note:** May turn 2000 series aluminum black

## PROTEX CLEAR ANTI-SPATTER

Description	Part No.
1 Gallon (3.8L) Pail – (case of 4)	53-014-201
5 Gallon (19L) Pail	53-015-201
55 Gallon (208L) Drum	53-018-201



### FEATURES AND BENEFITS

**Protects surfaces from spatter, slag, and scale**

- dries clear and provides a tough finish
- spray or brush onto the surface

**Protects against rust**

- latex base anti-spatter compound that coats the surface and can be left on for lasting protection
- remove with industrial solvent or an ammonia solution

## PROTEX TIP DIP ANTI-SPATTER GEL

Description	Part No.
16 oz. (473ml) Jar – (case of 12)	57-021-105



### FEATURES AND BENEFITS

**Protects spatter build up on GMAW nozzles and contact tips**

- high heat resistance to minimize spatter build-up

**Note:** Allow nozzles to cool below red heat before dipping (ignition may occur above 1000°F)

**Environmentally safe**

- non-toxic

## PROTEX ZINC RICH COLD GALVANIZING

Description	Part No.
16 oz. (473ml) Can – (case of 12)	57-031-002



### FEATURES AND BENEFITS

**Corrosion protection**

- its zinc content “sacrifices” itself to any metal higher (nobler) than zinc in the chemistry’s periodic table such as steel
- forms a chemical bond to the parent metal

## ARCAIR CUTSKILL® GOUGING TORCHES

### CS3000 CUTSKILL GOUGING TORCH

#### Specifications

- Accepts Pointed Carbons – 1/8" (3.2mm) to 3/8" (9.5mm)
- Accepts Flat Carbons – 3/8" (9.5mm) and 5/8" (15.9mm)
- Maximum Amperage – 600 Amps
- Compressed Air – 80 psi (5.6kg/cm<sup>2</sup>)
- Compressed Air Flow Rate – 21 cfm (0.23m<sup>3</sup>/min)
- Torch and Cable Weight: 5.4 lbs (2.4kg)



### CSK4000 CUTSKILL GOUGING TORCH

#### Specifications

- Accepts Pointed Carbons – 5/32" (4mm) to 1/2" (12.7mm)
- Accepts Flat Carbons – 3/8" (9.5mm) and 5/8" (15.9mm)
- Maximum Amperage – 1000 Amps
- Compressed Air – 80 psi (5.6kg/cm<sup>2</sup>)
- Compressed Air Flow Rate – 28 cfm (0.79m<sup>3</sup>/min)
- Torch and Cable Weight: 5.4 lbs (2.4kg)



#### FEATURES & BENEFITS

##### Natural 15° torch angle

- greater operator comfort

##### Durable front insulators

- High impact and heat resistant protecting the torch metal parts

##### 360° Swivel cable

- less cable twist
- less strain on operator

##### Positive grip handle

- greater operator feel and ease in positioning the torch

##### Reduced weight

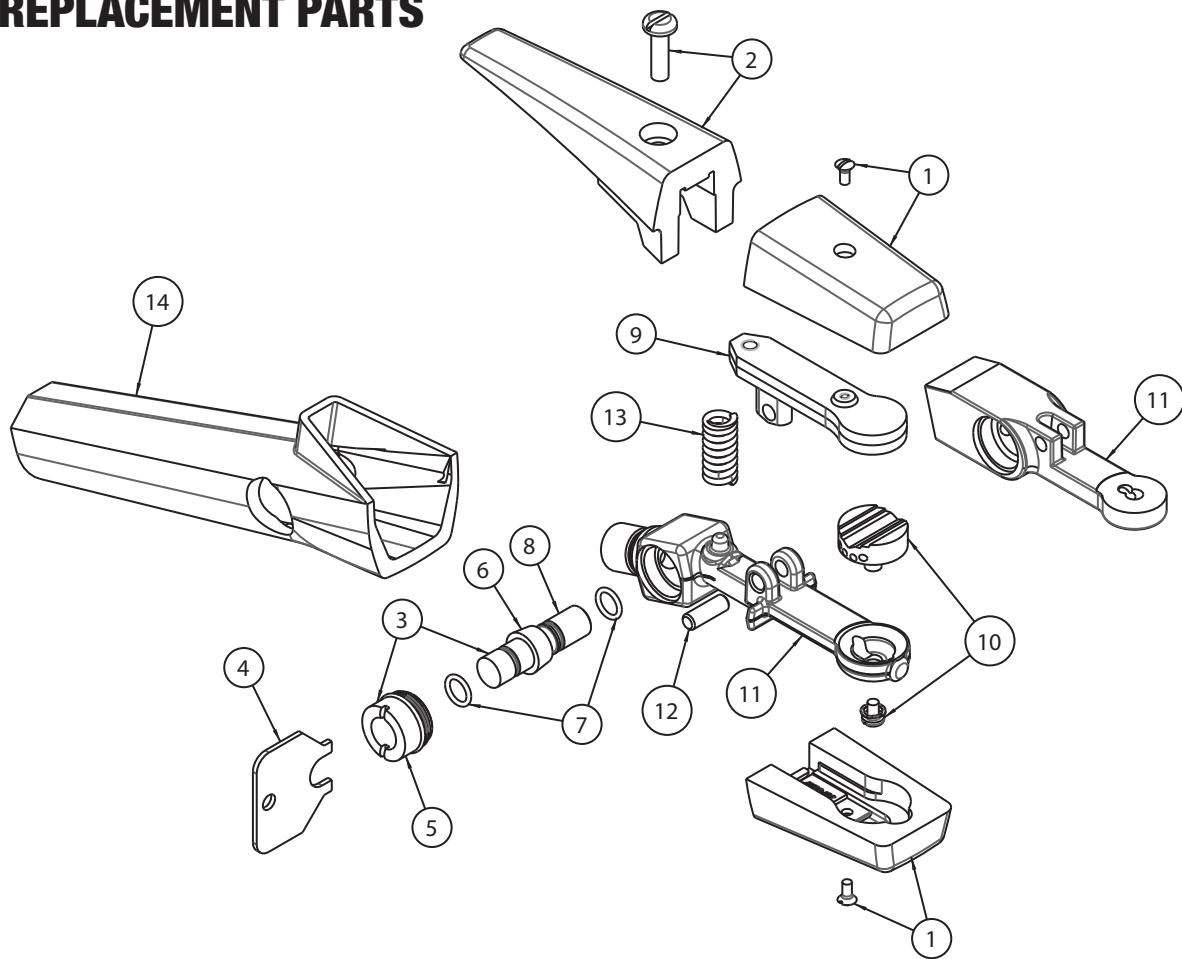
- optimum cable and torch weight to minimize fatigue

##### High quality cable hose

- best quality cable hose offers high heat and abrasion resistance
- non conductive

	Torch Only	Torch & 7ft. (2.1M) Cable Assembly	Torch & 10ft. (3M) Cable Assembly	Cable Assembly	10ft. (3M) Cable Assembly
CS3000	01-066-000	61-066-007	61-066-010	70-066-007	70-066-010
CSK4000	01-088-000	61-088-007	61-088-010	70-088-007	70-088-010

## CS3000 & CSK4000 CUTSKILL GOUGING TORCH REPLACEMENT PARTS



### TORCH REPLACEMENT PARTS LIST

Item	Description	CS3000	CSK4000
1	Insulators & Screws	94-433-193CS	94-433-183CSK
2	Lever & Screw	94-476-080CS	94-476-066CSK
3	Valve Bonnet & Spool	94-104-016	94-104-016
4	Bonnet Wrench	94-960-001	94-960-001
5	Valve Bonnet Only	94-104-012	94-104-012
6	Spool & O-Rings	94-801-011	94-801-011
7	O-Ring (2 Required)	94-710-036	94-710-036
8	Spool Only	94-801-010	94-801-010
9	Upper Arm	94-048-120	94-048-088
10	Head & Screw	94-378-366CS	94-378-368
11	Torch Body	94-103-232	94-103-206
12	Hinge Pin	94-632-101	94-632-094
13	Spring	94-800-191	94-800-077
14	Handle	94-370-192	94-370-163CSK

## ARCAIR CUTSKILL® AIR CARBON-ARC ELECTRODES

### POINTED COPPERCLAD DC ELECTRODES

A standard, all purpose gouging electrode. Its controlled copper coating improves electrical conductivity (for more efficient, cooler operation) and helps maintain electrode diameter at the point of the arc.

Description	Part No.
1/8" (3.2mm) x 12" (30.5cm) CCDC Pointed	22-023-003C *
5/32" (4.0mm) x 12" (30.5cm) CCDC Pointed	22-983-003C
3/16" (4.8mm) x 12" (30.5cm) CCDC Pointed	22-033-003C
1/4" (6.4mm) x 12" (30.5cm) CCDC Pointed	22-043-003C
5/16" (7.9mm) x 12" (30.5cm) CCDC Pointed	22-053-003C
3/8" (9.5mm) x 12" (30.5cm) CCDC Pointed	22-063-003C
1/2" (12.7mm) x 14" (35.6cm) CCDC Pointed	22-082-003C

**Note:** Standard 50 pieces per carton unless noted  
 \* 100 pieces per carton

### HOLLOW POINTED COPPERCLAD DC ELECTRODES

General purpose electrodes having the same high quality blend of carbon and graphite used in other electrodes, but with a hole down the center of the electrode.

Description	Part No.
3/16" (4.8mm) x 12" (30.5cm) CCDC Pointed	22-033-003HC
1/4" (6.4mm) x 12" (30.5cm) CCDC Pointed	22-043-003HC
5/16" (7.9mm) x 12" (30.5cm) CCDC Pointed	22-053-003HC
3/8" (9.5mm) x 12" (30.5cm) CCDC Pointed	22-063-003HC
1/2" (12.7mm) x 14" (35.6cm) CCDC Pointed	22-082-003HC

**Note:** Standard 50 pieces per carton

### JOINTED COPPERCLAD DC ELECTRODES

Provides continuous electrode feed for greatly increased savings, especially in production operations.

Description	Part No.
3/8" (9.5mm) x 17" (43.2cm) CCDC Jointed	24-064-003 C
1/2" (12.7mm) x 17" (43.2cm) CCDC Jointed	24-084-003 C
5/8" (15.9mm) x 17" (43.2cm) CCDC Jointed	24-104-003 C
3/4" (19.5mm) x 17" (43.2cm) CCDC Jointed	24-124-003 C
1" (25.4mm) x 17" (43.2cm) CCDC Jointed	24-164-003C *

**Note:** Standard 100 pieces per carton unless noted  
 \* - 25 pieces per carton

# STATEMENT OF WARRANTY

(as of March 15, 2009)

**LIMITED WARRANTY:** THERMADYNE warrants that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the THERMADYNE products as stated below, THERMADYNE shall, upon written notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with THERMADYNE's specifications, instructions, recommendations and recognized standard industry practice, and not been subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at THERMADYNE's sole option, of any components or parts of the product determined by THERMADYNE to be defective.

**THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**LIMITATION OF LIABILITY:** THERMADYNE shall not under any circumstances be liable for special, indirect or consequential damages, such as, but not limited to, damage or loss of purchased or replacement goods, business interruption or loss of profit, or claims of customers of distributor (hereinafter the "Purchaser") for service interruption. The remedies of the Purchaser set forth herein are exclusive and the liability of THERMADYNE with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by THERMADYNE whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based.

**THIS WARRANTY BECOMES INVALID IF REPLACEMENT PARTS OR ACCESSORIES ARE USED WHICH MAY IMPAIR THE SAFETY OR PERFORMANCE OF ANY THERMADYNE PRODUCT.**

**THIS WARRANTY IS INVALID IF THE PRODUCT IS SOLD BY NON-AUTHORIZED PERSONS.**

This warranty is effective for the time stated in the Warranty Schedule beginning on the date that the authorized distributor delivers the products to the Purchaser.

Warranty repairs or replacement claims under this limited warranty must be submitted by an authorized THERMADYNE repair facility within thirty (30) days of the repair. No transportation costs of any kind will be paid under this warranty. Transportation charges to send products to an authorized warranty repair facility shall be the responsibility of the Purchaser. All returned goods shall be at the Purchaser's risk and expense. This warranty supersedes all previous THERMADYNE warranties.

**ISO 9001  
REGISTERED FIRM**

The Quality System of  
Thermadyne at our  
Denton, Roanoke and  
Hermosillo locations  
is registered to meet the  
requirements of ISO 9001



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**WORLD HEADQUARTERS:** 16052 Swingley Ridge Road, Suite 300 • St. Louis, Missouri 63017 U.S.A.

**THE AMERICAS**

Denton, TX USA  
U.S. Customer Care  
Ph: 1-800-426-1888 (tollfree)  
Fax: 1-800-535-0557 (tollfree)  
International Customer Care  
Ph: 1-940-381-1212  
Fax: 1-940-483-8178

Miami, FL USA  
Sales Office, Latin America  
Ph: 1-954-727-8371  
Fax: 1-954-727-8376

Oakville, Ontario, Canada  
Canada Customer Care  
Ph: 1-905-827-4515  
Fax: 1-800-588-1714 (tollfree)

**EUROPE**

Chorley, United Kingdom  
Customer Care  
Ph: +44 1257-261755  
Fax: +44 1257-224800

Milan, Italy  
Customer Care  
Ph: +39 0236546801  
Fax: +39 0236546840

**ASIA/PACIFIC**

Cikarang, Indonesia  
Customer Care  
Ph: 6221-8990-6095  
Fax: 6221-893-6067

Rawang, Malaysia  
Customer Care  
Ph: +603 6092-2988  
Fax: +603 6092-1085

Melbourne, Australia  
Australia Customer Care  
Ph: 1300-654-674 (tollfree)  
Ph: 61-3-9474-2988  
Fax: 61-3-9474-7391

International  
Ph: 61-3-9474-7508  
Fax: 61-3-9474-7488

Shanghai, China  
Sales Office  
Ph: +86 21-64072626  
Fax: +86 21-64483032

Singapore  
Sales Office  
Ph: +65 6832-8066  
Fax: +65 6763-5812