

# Tregaskiss® Hercules™

## Robotic MIG Gun

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**MIG (GMAW)**  
**Robotic Welding**

### Quick Specs

#### Duty Cycle Rating

100%: 600 amp with Mixed Gases  
Ratings are based on tests that comply with IEC 60974-7 standards

#### Processes

MIG (GMAW) Welding

#### Applications

High Deposition Robotic Welding  
Long Welds  
Flat or Horizontal Welding Position

#### Robots

ABB®, Motoman®,  
FANUC®, KUKA®,  
Panasonic®,

The Tregaskiss® Hercules™ Robotic MIG Gun is a key component of the Hercules system, an **innovative single-arc solution that increases deposition rates by 30% or more without sacrificing weld quality or aesthetics.**

Like other Tregaskiss products, the **Hercules Robotic Gun is designed to maximize performance, longevity, accuracy, and ease of maintenance.**

#### Maximized Performance

- The system provides maximized electrical conductivity and optimized filler metal delivery to the weld puddle
- Lightweight, durable cable jacket protects the unicable, power cable and coolant lines from wear

#### Long Life

- Water-cooled module delivers superior cooling to the front-end consumables

#### Accuracy

- Keyway system accurately aligns the neck to the mounting arm for repeatability
- Neck checking fixture available to assess and maintain Tool Center Point (TCP)

#### Ease of Maintenance

- Compatible with Tregaskiss reamers for automated spatter removal from front-end consumables
- Automatic shut-off valves prevent water leakage during neck and cooling module replacement
- Replacement parts are quickly and easily serviced

Durable, lightweight cable cover

Wire brake and air blast come standard

Keyway system positions neck in arm for accurate alignment and repeatability

Automatic water shut-off valves prevent leakage

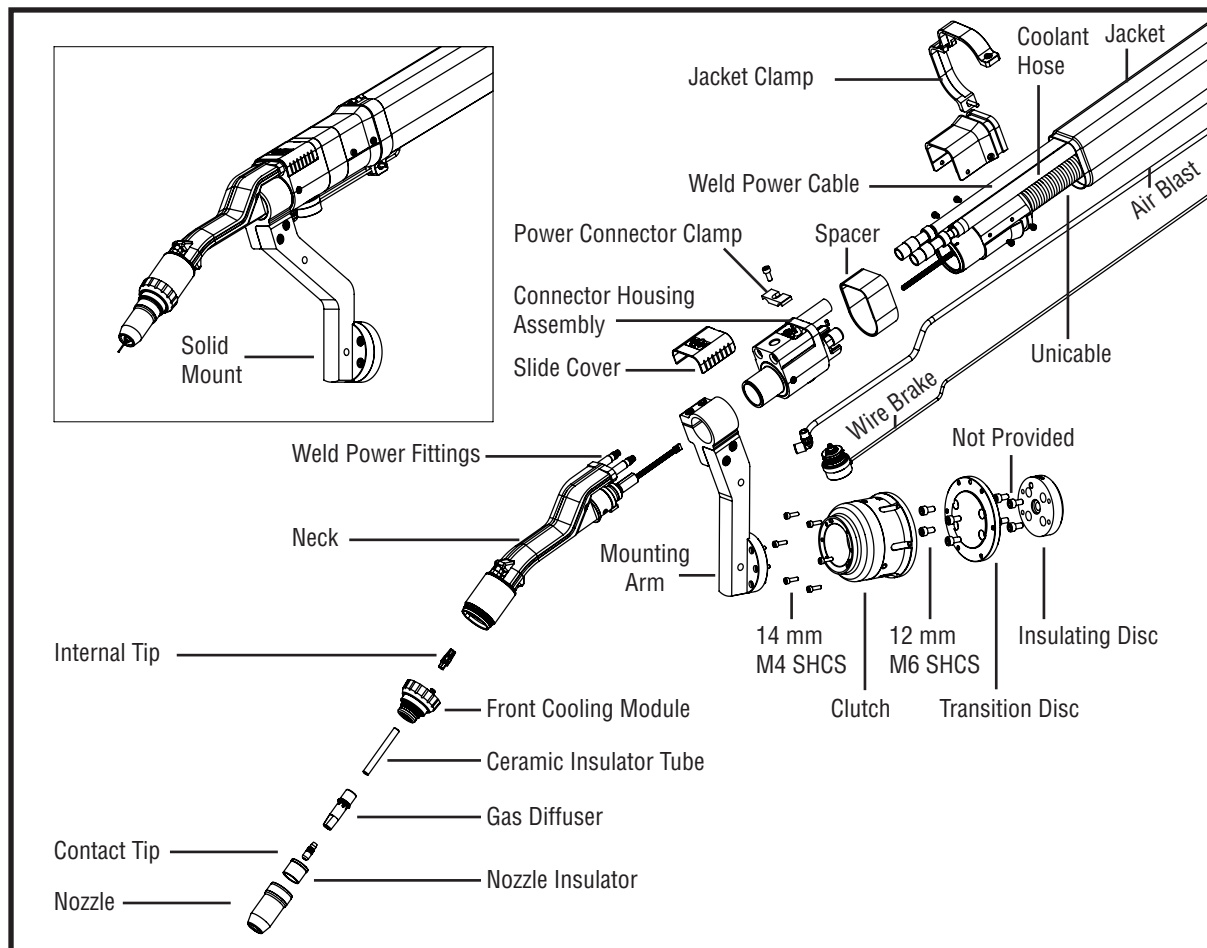
Water-cooled module for front-end consumables



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## System Components



## Know Your Features

### What's the difference between clutch and solid mount?

A clutch mount is designed to trigger an emergency stop to minimize damage in the event of a robotic collision, whereas a solid mount is not equipped with this functionality. Although many of today's robots are equipped with independent collision detection software and may not require this functionality in a robotic MIG gun, this option is sometimes selected during gun configuration as an additional safeguard.

### Wire Brake

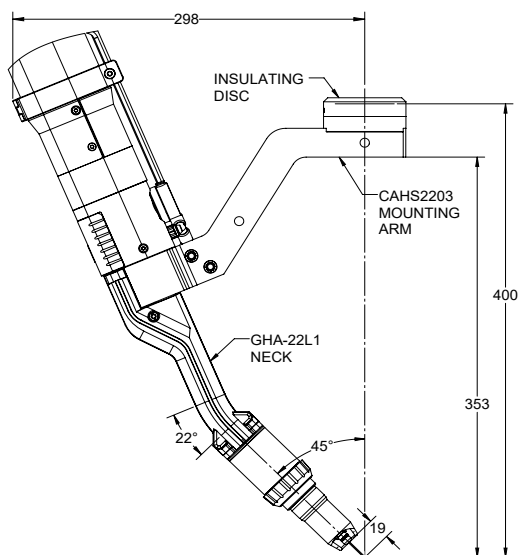
Standard on the Tregaskiss Hercules robotic MIG gun, wire brake holds wire to a consistent stick out (CTWD) to allow a repeatable tool center point (TCP) for touch sensing / seam tracking while the torch articulates. **40-60 psi maximum air supply is required** for proper operation. Wire brake requires the use of a jump liner.

### Air Blast

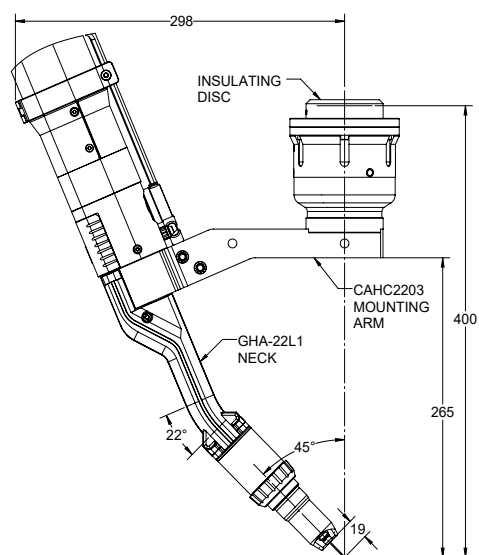
Air blast comes standard on Tregaskiss Hercules robotic MIG guns and utilizes compressed shop air to clear loose debris from front-end consumables, thereby reducing the frequency of nozzle cleaning. **80-100 psi maximum air supply is required** for proper operation.

# Gun Configurations

## 22° Standard Configurations



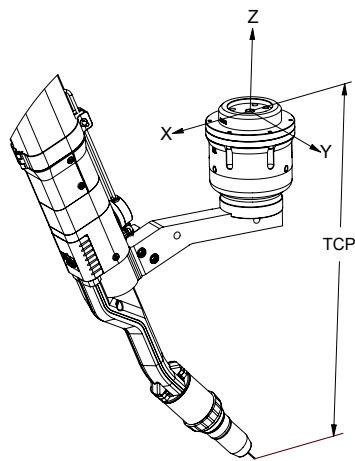
Solid Mount  
400 mm (15.75") TCP,  
Neck GHA-22L1



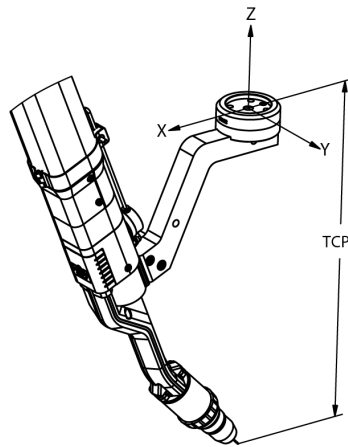
Clutch Mount  
400 mm (15.75") TCP\*,  
Neck GHA-22L1

*\* Mounting to a through-arm robot (using a 59DT-xxx transition disc) will impact TCP*

## Center of Mass Information



Clutch Mount



Solid Mount

### Standard Configurations - Clutch Mount

22 Degree	X	Y	Z	Weight
400 mm TCP (Neck Part # GHA-22L1)	161.48 mm	-.83 mm	-43.51 mm	5.55 kg

### Standard Configurations - Solid Mount

22 Degree	X	Y	Z	Weight
400 mm TCP (Neck Part # GHA-22L1)	182.85 mm	-.90 mm	-73.27 mm	4.48 kg

## Consumable Options

### Hercules™ Nozzles

Part Number	Description
<b>N-H58T1-10</b>	5/8" bore, flush tip, tapered; qty. 10 (for use with CAHC2201 and CAHS2201 mounting arms)
<b>N-H58T3-10*</b>	5/8" bore, flush tip, tapered (long), qty. 10 (for use with CAHC2203 and CAHS2203 mounting arms)

\*For MIG guns manufactured after May 2024

### Hercules Contact Tips

Part Number	Description
<b>T-H052CA-10</b>	for 0.052" (1.3 mm) wire, copper; qty. 10
<b>T-H116CA-10</b>	for 1/16" (1.6 mm) wire, copper; qty. 10

### Hercules Teach Tips

Part Number	Description
<b>T-H19TT</b>	Teach tip for 0.748" (19 mm) CTWD, qty. 1

## Consumable Options (Continued)

### Hercules Internal Tips

Part Number	Description
<b>T-H052WB-10</b>	Internal tip for 0.052" (1.3 mm) wire; qty. 10
<b>T-H116WB-10</b>	Internal tip for 1/16" (1.6 mm) wire; qty. 10

### Hercules Gas Diffusers

Part Number	Description
<b>D-HTL-05</b>	Gas diffuser; qty. 5 (for use with CAHC2201 and CAHS2201 mounting arms)
<b>D-HTL2-5*</b>	Gas diffuser (long); qty. 5 (for use with CAHC2203 and CAHS2203 mounting arms)

### Hercules Nozzle Insulators

Part Number	Description
<b>P-HA16-10</b>	Nozzle insulator, Hercules; qty. 10

### Hercules Ceramic Insulator Tubes

Part Number	Description
<b>P-HA18-10</b>	Ceramic insulator tube, Hercules; qty. 10 (for use with CAHC2201 and CAHS2201 mounting arms)
<b>P-HA22-10*</b>	Ceramic insulator tube (long), Hercules; qty. 10 (for use with CAHC2203 and CAHS2203 mounting arms)

\* For MIG guns manufactured after May 2024

### Tregaskiss® Conventional Liners

Part Number	Description
<b>415-116-6</b>	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 6' (1.8 m)
<b>415-116-10</b>	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 10' (3.05 m)
<b>415-116-15</b>	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 15' (5.0 m)

### Hercules Jump Liners

Part Number	Description
<b>P-HA17</b>	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire

## Components

### Necks

Part Number	Description
<b>GHA-22L1</b>	Neck, 22 degree, medium length

### Cable Assemblies

Part Number	Description	Part Number	Description
<b>C030-HA01</b>	Cable assembly, wire brake, 3.0 ft	<b>C070-HA01</b>	Cable assembly, wire brake, 7.0 ft
<b>C035-HA01</b>	Cable assembly, wire brake, 3.5 ft	<b>C075-HA01</b>	Cable assembly, wire brake, 7.5 ft
<b>C040-HA01</b>	Cable assembly, wire brake, 4.0 ft	<b>C080-HA01</b>	Cable assembly, wire brake, 8.0 ft
<b>C045-HA01</b>	Cable assembly, wire brake, 4.5 ft	<b>C085-HA01</b>	Cable assembly, wire brake, 8.5 ft
<b>C050-HA01</b>	Cable assembly, wire brake, 5.0 ft	<b>C090-HA01</b>	Cable assembly, wire brake, 9.0 ft
<b>C055-HA01</b>	Cable assembly, wire brake, 5.5 ft	<b>C095-HA01</b>	Cable assembly, wire brake, 9.5 ft
<b>C060-HA01</b>	Cable assembly, wire brake, 6.0 ft	<b>C100-HA01</b>	Cable assembly, wire brake, 10.0 ft
<b>C065-HA01</b>	Cable assembly, wire brake, 6.5 ft	<b>C110-HA01</b>	Cable assembly, wire brake, 11.0 ft

## Components (Continued)

### Coolant Return Hoses (NOTE: Hose length should be 1.5' longer than the cable assembly)

Part Number	Description	Part Number	Description
<b>P-HA09-045</b>	Hose, 4.5 ft; for 3.0 ft cable assembly	<b>P-HA09-085</b>	Hose, 8.5 ft; for 7.0 ft cable assembly
<b>P-HA09-050</b>	Hose, 5.0 ft; for 3.5 ft cable assembly	<b>P-HA09-090</b>	Hose, 9.0 ft; for 7.5 ft cable assembly
<b>P-HA09-055</b>	Hose, 5.5 ft; for 4.0 ft cable assembly	<b>P-HA09-095</b>	Hose, 9.5 ft; for 8.0 ft cable assembly
<b>P-HA09-060</b>	Hose, 6.0 ft; for 4.5 ft cable assembly	<b>P-HA09-100</b>	Hose, 10.0 ft; for 8.5 ft cable assembly
<b>P-HA09-065</b>	Hose, 6.5 ft; for 5.0 ft cable assembly	<b>P-HA09-105</b>	Hose, 10.5 ft; for 9.0 ft cable assembly
<b>P-HA09-070</b>	Hose, 7.0 ft; for 5.5 ft cable assembly	<b>P-HA09-110</b>	Hose, 11.0 ft; for 9.5 ft cable assembly
<b>P-HA09-075</b>	Hose, 7.5 ft; for 6.0 ft cable assembly	<b>P-HA09-115</b>	Hose, 11.5 ft; for 10.0 ft cable assembly
<b>P-HA09-080</b>	Hose, 8.0 ft; for 6.5 ft cable assembly	<b>P-HA09-125</b>	Hose, 12.5 ft; for 11.0 ft cable assembly

### Weld Power Cables (NOTE: Power cable length should be 1.5' longer than the cable assembly)

Part Number	Description	Part Number	Description
<b>P-HA10-045</b>	Power cable, 4.5 ft; for 3.0 ft cable assembly	<b>P-HA10-085</b>	Power cable, 8.5 ft; for 7.0 ft cable assembly
<b>P-HA10-050</b>	Power cable, 5.0 ft; for 3.5 ft cable assembly	<b>P-HA10-090</b>	Power cable, 9.0 ft; for 7.5 ft cable assembly
<b>P-HA10-055</b>	Power cable, 5.5 ft; for 4.0 ft cable assembly	<b>P-HA10-095</b>	Power cable, 9.5 ft; for 8.0 ft cable assembly
<b>P-HA10-060</b>	Power cable, 6.0 ft; for 4.5 ft cable assembly	<b>P-HA10-100</b>	Power cable, 10.0 ft; for 8.5 ft cable assembly
<b>P-HA10-065</b>	Power cable, 6.5 ft; for 5.0 ft cable assembly	<b>P-HA10-105</b>	Power cable, 10.5 ft; for 9.0 ft cable assembly
<b>P-HA10-070</b>	Power cable, 7.0 ft; for 5.5 ft cable assembly	<b>P-HA10-110</b>	Power cable, 11.0 ft; for 9.5 ft cable assembly
<b>P-HA10-075</b>	Power cable, 7.5 ft; for 6.0 ft cable assembly	<b>P-HA10-115</b>	Power cable, 11.5 ft; for 10.0 ft cable assembly
<b>P-HA10-080</b>	Power cable, 8.0 ft; for 6.5 ft cable assembly	<b>P-HA10-125</b>	Power cable, 12.5 ft; for 11.0 ft cable assembly

### Jackets

Part Number	Description	Part Number	Description
<b>P-HA13-030</b>	Jacket; for 3.0 ft cable assembly	<b>P-HA13-070</b>	Jacket; for 7.0 ft cable assembly
<b>P-HA13-035</b>	Jacket; for 3.5 ft cable assembly	<b>P-HA13-075</b>	Jacket; for 7.5 ft cable assembly
<b>P-HA13-040</b>	Jacket; for 4.0 ft cable assembly	<b>P-HA13-080</b>	Jacket; for 8.0 ft cable assembly
<b>P-HA13-045</b>	Jacket; for 4.5 ft cable assembly	<b>P-HA13-085</b>	Jacket; for 8.5 ft cable assembly
<b>P-HA13-050</b>	Jacket; for 5.0 ft cable assembly	<b>P-HA13-090</b>	Jacket; for 9.0 ft cable assembly
<b>P-HA13-055</b>	Jacket; for 5.5 ft cable assembly	<b>P-HA13-095</b>	Jacket; for 9.5 ft cable assembly
<b>P-HA13-060</b>	Jacket; for 6.0 ft cable assembly	<b>P-HA13-100</b>	Jacket; for 10.0 ft cable assembly
<b>P-HA13-065</b>	Jacket; for 6.5 ft cable assembly	<b>P-HA13-110</b>	Jacket; for 11.0 ft cable assembly

### Unicables

Part Number	Description	Part Number	Description	Part Number	Description
<b>P-HA20-030</b>	Unicable, 3.0 ft	<b>P-HA20-060</b>	Unicable, 6.0 ft	<b>P-HA20-085</b>	Unicable, 8.5 ft
<b>P-HA20-035</b>	Unicable, 3.5 ft	<b>P-HA20-065</b>	Unicable, 6.5 ft	<b>P-HA20-090</b>	Unicable, 9.0 ft
<b>P-HA20-040</b>	Unicable, 4.0 ft	<b>P-HA20-070</b>	Unicable, 7.0 ft	<b>P-HA20-095</b>	Unicable, 9.5 ft
<b>P-HA20-045</b>	Unicable, 4.5 ft	<b>P-HA20-075</b>	Unicable, 7.5 ft	<b>P-HA20-100</b>	Unicable, 10.0 ft
<b>P-HA20-050</b>	Unicable, 5.0 ft	<b>P-HA20-080</b>	Unicable, 8.0 ft	<b>P-HA20-110</b>	Unicable, 11.0 ft
<b>P-HA20-055</b>	Unicable, 5.5 ft				

### Front Cooling Module

Part Number	Description
<b>P-HA02</b>	Front cooling module, Hercules
<b>P-HA02-8</b>	Front cooling module insulator, Hercules
<b>P-HA02-10-2</b>	Buna-N square o-ring; 2.5mm wide, 18mm O.D., 13mm I.D.; qty.2
<b>P-HA02-12-2</b>	Viton o-ring; 1.5mm wide, 24mm O.D., 21mm I.D.; qty. 2
<b>P-HA02-11-10</b>	#008 Viton o-ring for cooling module and neck fittings; qty. 10
<b>P-HA03-3-2</b>	Viton o-ring; 2mm wide, 36mm O.D., 32mm I.D.; qty. 2

## Components (Continued)

### Slide Cover

Part Number	Description
<b>P-HA11</b>	Slide cover, Hercules

### Jacket Clamp

Part Number	Description
<b>P-HA12</b>	Jacket clamp, Hercules

### Air Blast Kit

Part Number	Description
<b>508-A</b>	Air blast kit

### Neck Cover Kit

Part Number	Description
<b>GHA-22L1C</b>	Neck Cover Kit, Hercules

### Wire Brake Kit

Part Number	Description
<b>WB-599-116</b>	Wire brake kit for 0.052"-1/16" wire

## Mounting Options

### Insulating/Transition Discs

#### For ABB® Robots

<b>59D02</b>	IRB6, IRB140, 1400, 1500, 1600, 2000, 4000, M97A IRB2400L
<b>59D04</b>	IRB2400-10, IRB2400-16, IRB2600, IRB440L, IRB4600-20/2.5
<b>59DT-011</b>	IRB1600ID (kit includes transition disc and 59D02 insulating disc)

#### For FANUC® Robots

<b>59D02</b>	100, 100i, 120iB, S-6, M710-20L
<b>59D05</b>	ArcMate 50iB, 50iC
<b>59DT-003</b>	100iC, 100iC-12, 100iC-6L, 100iC-7L, 100iC-8L, 120iC, 120iC-10L, 120iC-12L, M710iC-12L (kit includes transition disc and 59D01 insulating disc)
<b>59DT-010</b>	100iD, 100iD-10L (kit includes transition disc and 59D01 insulating disc)

#### For Panasonic® Robots

<b>59D03</b>	VR-008A, VR-006A, VR-005C, VR-005LII, AW-010A, AW-8010, AW-005A, AW-005C, AW-005CL, AW-006A, VR-006AL, TL-1800, TL-2000, TA-1600, TA-1800, TA-2000
<b>59DT-005</b>	TM Series (kit includes transition disc and 59D02 insulating disc)

#### For KUKA® Robots

<b>59D02</b>	KR5 arc, KR6, KR6-2, KR6 arc, KR6 KS, KR16 L6, KR16 L6 arc, KR16 LS KS
<b>59D05</b>	KR5 R1400, KR6 R700 sixx, KR6 R900 sixx, KR10 R900 sixx, KR10 R1100 sixx, KR6 R1820, KR8 R1620, KR10 R1420 KR16, KR16-2, KR16 S, KR16 KS, KR30 L16-2
<b>59D06</b>	KR30, KR60, KR60 L45, KR60 L30 (kit includes transition disc and 59D02 insulating disc)
<b>59DT-012</b>	KR16 HW (kit includes transition disc and 59D02 insulating disc)

#### For Yaskawa® Motoman® Robots

<b>59D02</b>	K6A, K10S, SK6, SK16, SK16X, HP6, HP50-20, MH50-20, MH6, SSF2000, UP6, UP20
<b>59D05</b>	K35, HP3, HP3C, HP3JC, MH5, MH5L, SV3
<b>59D07</b>	MH5, MH5L
<b>59DT-001</b>	MH50 (kit includes transition disc and 59D02 insulating disc)
<b>59DT-002</b>	EA Series (kit includes transition disc and 59D03 insulating disc)
<b>59DT-008</b>	MA1440, AR1440, MH12, MA2010, AR2010, MA3120, MH4, AR1730 (kit includes transition disc and 59D01 insulating disc)

### Gun Mounts

Part Number	Description
<b>TCA1</b>	Robotic safety clutch

### Mounting Arms; Refer to **Gun Configurations** for dimensional information

Part Number	Description
<b>CAHC2203*</b>	Mounting arm for 22 degree neck, clutch mount; 400 mm TCP (for long consumables)
<b>CAHS2203*</b>	Mounting arm for 22 degree neck, solid mount; 400 mm TCP (for long consumables)

\*For MIG guns manufactured after May 2024



## Power Pins

### Power Pins and Guide Caps

Part Number	Description
<b>214-1</b>	Miller® Power Pin

Part Number	Description
<b>214-116</b>	Miller® Power Pin Guide Cap

## Peripherals & Accessories



### TOUGH GUN TT4 Reamer Power Through Weld Spatter for Increased Uptime and Weld Quality

TOUGH on spatter and operates reliably in the harshest welding environments. Automating spatter removal will help extend the life of your robotic MIG guns and consumables, benefitting both your bottom line and your production uptime and throughput.

visit [iregaskiss.com/robotic-nozzle-cleaning-stations](http://iregaskiss.com/robotic-nozzle-cleaning-stations) for ordering information.

#### Reamer Components

<b>RCT-01</b>	Cutter blade, 5/8" (15.9 mm) bore
<b>TR-2150</b>	4-sided v-block
<b>WC-400</b>	Wire cutter for TT4A (analog) and TT4E (Ethernet) Reamers

### TOUGH GARD® Multi-Feed System



Eliminate the need to frequently refill sprayer reservoirs with the TOUGH GARD Multi-Feed System from Tregaskiss. Feed up to 10 TOUGH GUN Reamer units from a single 5-gallon or 55-gallon drum of TOUGH GARD Anti-Spatter Liquid.

#### Multi-Feed Adapter and Multi-Feed System

<b>TT4-MF-100</b>	Multi-Feed Adapter
<b>TG-103-05-2</b>	for 5-Gallon pail (up to 2 nozzle cleaning stations)
<b>TG-103-05-10</b>	for 5-Gallon pail (up to 10 nozzle cleaning stations)
<b>TG-103-55-10</b>	for 55-Gallon drum (up to 10 nozzle cleaning stations)

#### TOUGH GARD Multi-Feed System Hose (sold separately)

<b>TG-103-100</b>	100' Multi-Feed Hose (UV Rated)
<b>TG-103-200</b>	200' Multi-Feed Hose (UV Rated)

### TOUGH GARD Anti-Spatter Liquid

This ready-to-use water-soluble, non-toxic product creates a sacrificial surface that reduces spatter adhesion. This prolongs the life of your consumables and minimizes downtime due to nozzle cleaning which can help reduce your operating and maintenance costs.



#### TOUGH GARD Anti-Spatter Liquid

<b>TG-101-05</b>	5 U.S. Gallon / 18.92 L
<b>TG-101-55</b>	55 U.S. Gallon / 208.3 L
<b>TG-101-01</b>	1 U.S. Gallon / 3.78 L
<b>TG-101-32SP</b>	25.36 fl. oz. / 750 mL (spray bottle)
<b>TG-101-14S</b>	14 fl. oz. / 414 mL

### Neck Checking Fixture

The Hercules Neck Checking Fixture allows you to verify and re-master your tool center point (TCP). In the event of a collision, this fixture can be used to realign the neck.



#### Neck Checking Fixture

<b>G-405CAH</b>	Neck Checking Fixture for Hercules necks
<b>G-GHA-7</b>	Pointer for Hercules neck checking fixture

**IMPORTANT NOTE:** Pointer part number G-405-7 is required when using G-405CAH neck checking fixture with standard Tregaskiss necks



# Ordering Information

## Step #1 - Hercules Robotic MIG Gun

Hercules Series				Neck	Options	Contact Tip	Cable Length	Nozzle	Control Cable	Wire Size	Power Pin
<b>H</b>	<b>C</b>	<b>1</b>	<b>0</b>	<b>A</b>	<b>1</b>	<b>0</b>	<b>A</b>	<b>C</b>	<b>0</b>	<b>W</b>	<b>M</b>
				A 22 degree			A 3.0'	C N-H58T3			M Miller®
							B 3.5'			W 0.052" (1.3 mm)	
							C 4.0'			Y 1/16" (1.6 mm)	
							D 4.5'				
							E 5.0'				
							F 5.5'				
							G 6.0'				
							H 6.5'				
							J 7.0'				
							K 7.5'				
							L 8.0'				
							M 8.5'				
							N 9.0'				
							P 9.5'				
							R 10.0'				
							S 11.0'				

## Step #2 - Insulating/Transition Discs

Select your insulating disc from page 6 and enter it here:

## Step #3 - Mounting Arms

Select your mounting arm from page 7 and enter it here:

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