

# TOUGH LOCK® Consumables

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**MIG (GMAW) Welding Consumables**

Quick Specs	Applications	Series Components	Compatible With	Wire Size
	Automotive Fabrication Manufacturing	Retaining Heads Contact Tips Nozzles	TOUGH GUN® Robotic MIG Guns TOUGH GUN® Automatic MIG Guns Bernard® BTB Semi-Automatic MIG Guns Bernard TGX® Semi-Automatic MIG Guns Bernard Clean Air™ Fume Extraction Guns	0.023" to 1/8" (0.6 to 3.2 mm)

## TOUGH LOCK® Consumable Series

can help to reduce your consumable costs and related downtime.

**TOUGH LOCK Retaining Heads,** when mated with TOUGH LOCK Contact Tips, minimize contact tip temperature due to increased surface contact.

**TOUGH LOCK Contact Tips** are manufactured from high-quality, high-conductivity copper using a mandrel-drawn process that controls tip tolerances.

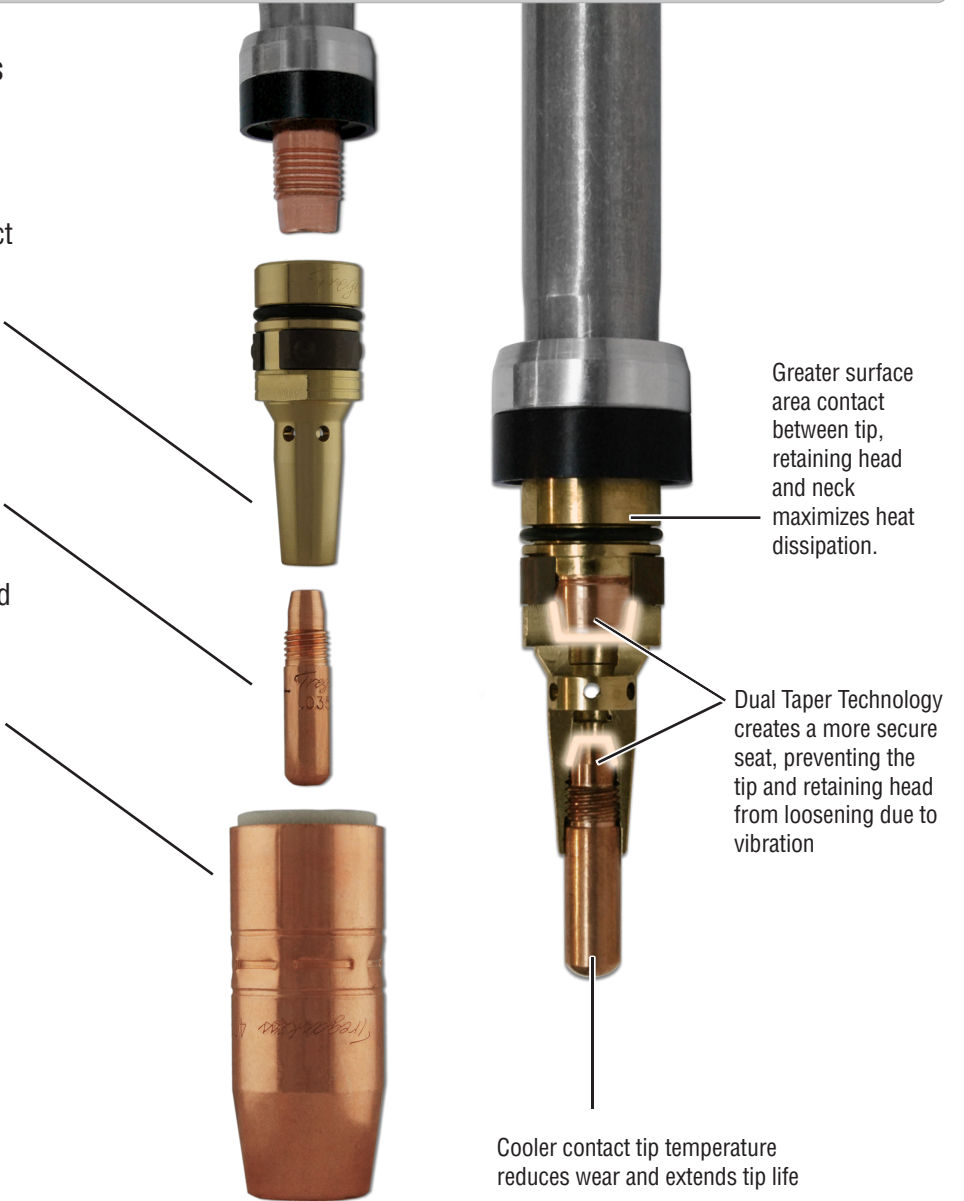
**Tregaskiss® Nozzles** Engineered to be extremely durable and long-lasting. Made of hard-drawn copper or brass, the smooth surface finish and rounded edges minimize weld spatter build-up.



**Dual Taper Technology** keeps consumables running cooler



Locking feature prevents tip and retaining head from loosening due to vibration

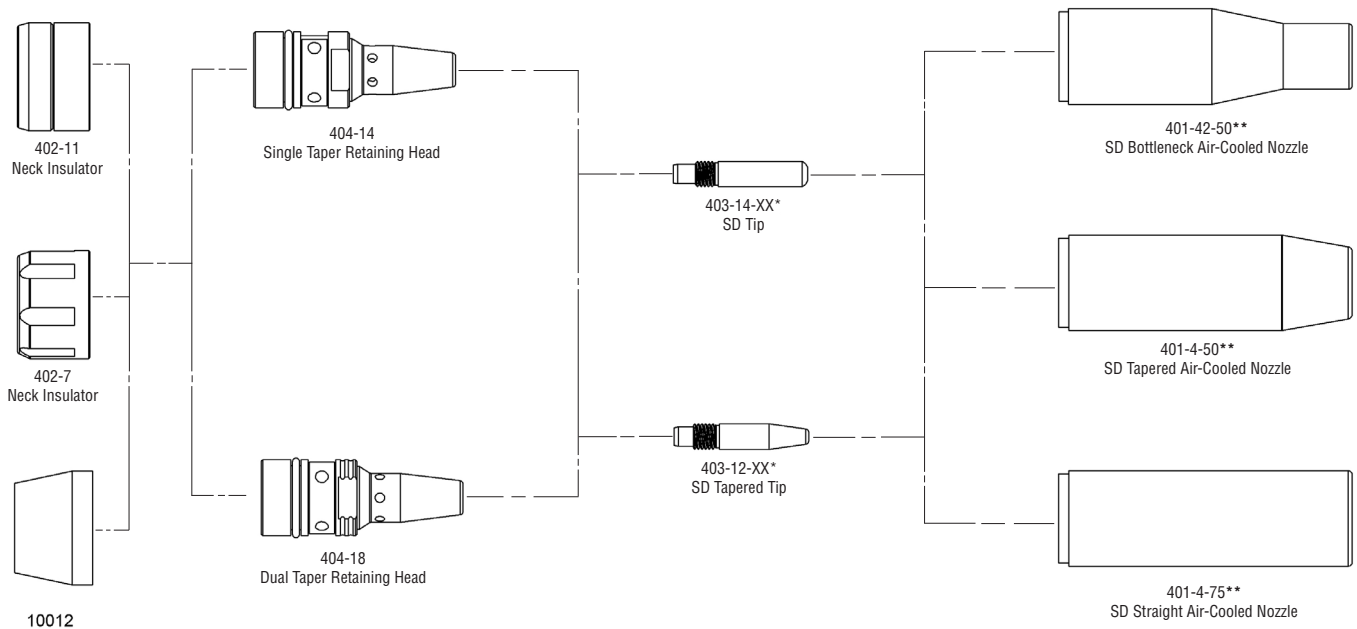


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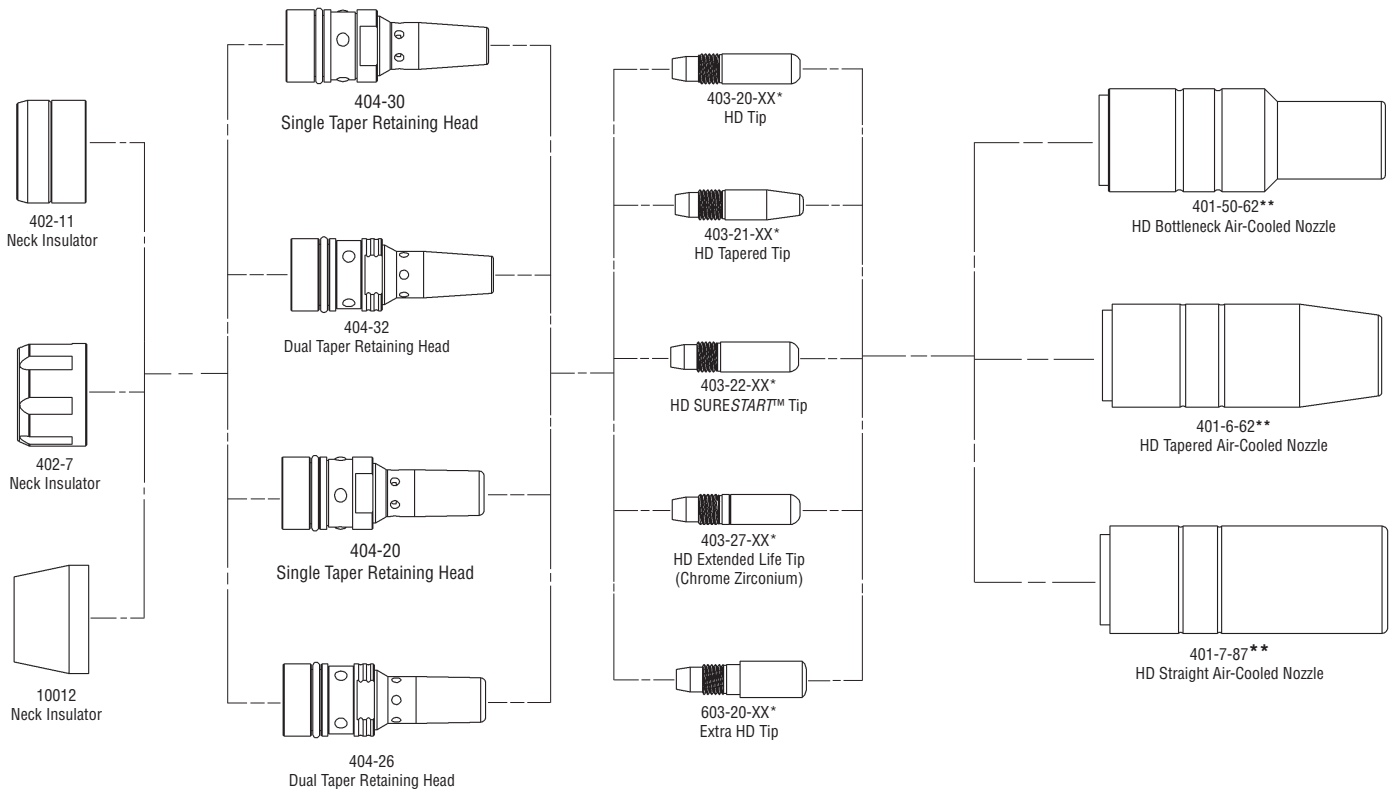
# TOUGH LOCK® Consumable Series

## Standard Duty (SD) TOUGH LOCK Series



\* XX = wire size, see Contact Tip information starting on page 3

## Heavy Duty (HD) TOUGH LOCK Series



\* XX = wire size, see Contact Tip information starting on page 3

\*\*Additional nozzles are available with various stickouts, see pages 4 & 5 for options

# Retaining Heads/Diffusers

## Retaining Heads/Diffusers - For Robotic Applications

Part Number	Description	Qty	Duty	Nozzle Type	Material	Platform	Notes
404-14-25	Retaining Head	25	SD	Slip-On	Brass	A/C	Single taper SD retaining head
404-18*	Dual Taper Retaining Head	100	SD	Slip-On	Brass	A/C	Dual taper SD retaining head
404-22*	Retaining Head	100	HD	Slip-On	Brass	A/C	Single taper, set screw for liner retention
404-23-25	Retaining Head	25	HD	Slip-On	Brass	A/C	Single taper, no gas holes. Gasless Flux-Core
404-30*	Retaining Head	100	HD	Slip-On	Brass	A/C	Single taper robotic retaining head
404-32*	Dual Taper Retaining Head	100	HD	Slip-On	Brass	A/C	Standard robotic dual taper retaining head
404-36-25	Retaining Head	25	HD	Slip-On	Copper	A/C	Single taper robotic retaining head
404-52-25	Dual Taper Retaining Head	25	HD	Thread-On	Brass	A/C	Standard thread on robotic retaining head
404-71	Diffuser	25	HD	Thread-On	Copper	W/C	Diffuser for 600 amp TOUGH GUN Robotic Water-Cooled MIG Gun

## Retaining Heads/Diffusers - For Semi-Automatic Applications

Part Number	Description	Qty	Duty	Nozzle Type	Material	Platform	Notes
154-14	Retaining Head	25	SD	Slip-On	Brass	A/C	Single Taper SD retaining head used on 18 amp TGX Guns
404-14-25	Retaining Head	25	SD	Slip-On	Brass	A/C	Single taper SD retaining head
404-20*	Retaining Head	100	HD	Slip-On	Brass	A/C	Single taper HD retaining head
404-26*	Dual Taper Retaining Head	100	HD	Slip-On	Brass	A/C	Standard dual taper retaining head
404-38-25	Diffuser	25	HD	Thread-On	Copper	W/C	Used on 62 & 64 series guns with 601 series nozzles & 601-5-75-3 ceramic insulator
404-44*	Retaining Head	100	HD	Slip-On	Brass	A/C	Bernard legacy neck conversion retaining head
404-53-25	Dual Taper Retaining Head	25	HD	Thread-On	Brass	A/C	Standard thread on semi-automatic retaining head

\* Other quantities available, contact Customer Service for more information.  
 Note: Air-Cooled (A/C) and Water-Cooled (W/C)

# TOUGH LOCK® Contact Tips

## Standard Duty (SD) Tips

0.250" Outside Diameter (O.D.)		Qty
403-14-23-25	for 0.023" (0.6 mm)	25
403-14-30*	for 0.030" (0.8 mm)	100
403-14-35*	for 0.035" (0.9 mm)	100
403-14-1.0*	for 0.040" (1.0 mm)	100

## SD Tapered Tips (0.250" O.D.)

403-12-30-25	for 0.030" (0.8 mm)	25
403-12-35-25	for 0.035" (0.9 mm)	25
403-12-45-25	for 0.045" (1.2 mm)	25
403-12-52-25	for 0.052" (1.4 mm)	25

## Extended Life Tips (0.310" O.D.) (Chrome Zirconium)

403-27-30*	for 0.030" (0.8 mm)	100
403-27-35*	for 0.035" (0.9 mm)	100
403-27-1.0*	for 0.040" (1.0 mm)	100
403-27-45*	for 0.045" (1.2 mm)	100
403-27-364*	for 3/64" (1.2 mm)	100
403-27-52*	for 0.052" (1.3mm)	100

## Heavy Duty (HD) Tips (0.310" O.D.)

Qty	
403-20-30*	for 0.030" (0.8 mm) 100
403-20-35*	for 0.035" (0.9 mm) 100
403-20-1.0*	for 0.040" (1.0 mm) 100
403-20-45*	for 0.045" (1.2 mm) 100
403-20-364*	for 3/64" (1.2 mm) 100
403-20-52*	for 0.052" (1.3 mm) 100
403-20-1.4*	for 0.055" (1.4 mm) 100
403-20-116*	for 1/16" (1.6 mm) 100
403-20-1.8*	for 0.070" (1.8 mm) 100
403-20-78*	for 0.078" (2.0 mm) 100
403-20-564*	for 5/64" (2.0 mm) 100
403-20-332*	for 3/32" (2.4 mm) 100

## HD Tapered Tips (0.310" O.D.)

403-21-30*	for 0.030" (0.8 mm)	100
403-21-35*	for 0.035" (0.9 mm)	100
403-21-1.0*	for 0.040" (1.0 mm)	100
403-21-45*	for 0.045" (1.2 mm)	100
403-21-52*	for 0.052" (1.3 mm)	100
403-21-116*	for 1/16" (1.6 mm)	100

## Extra Heavy Duty Tips (0.375" O.D.)

Qty	
603-20-1.0-25	for 0.040" (1.0 mm) 25
603-20-45-25	for 0.045" (1.2 mm) 25
603-20-364-25	for 3/64" (1.2 mm) 25
603-20-52-25	for 0.052" (1.3 mm) 25
603-20-1.4-25	for 0.055" (1.4 mm) 25
603-20-116-25	for 1/16" (1.6 mm) 25
603-20-564-25	for 5/64" (2.0 mm) 25
603-20-332-25	for 3/32" (2.4 mm) 25
603-20-764-25	for 7/64" (2.8 mm) 25
603-20-18-25	for 1/8" (3.2 mm) 25

## TOUGH LOCK Teach Tips (0.310" O.D.) (for robotic programming)

403-20-01	Adjustable Teach Tip	1
403-20-05	Teach Tip, 1/2"	1
403-20-062	Teach Tip, 5/8"	1
403-20-075	Teach Tip, 3/4"	1
403-20-10mm	Teach Tip, 10 mm	1
403-20-15mm	Teach Tip, 15 mm	1

## TOUGH LOCK Tip Tool

450-18	Tip Tool	1
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NOTE: Torque to 30 in.-lbs. (3.5 Nm)

\*Other quantities available, contact Customer Service for more information.

# Nozzles

## Tregaskiss Nozzles feature:

- High-temperature resistant fiberglass insulators electrically insulate the nozzle from the diffuser
- Heavy duty crimp holds all three layers together
- Available in slip-on and thread-on styles



Bottleneck



Straight



Taper

## Light Duty Air-Cooled Nozzles (Slip-On)

For use with TOUGH LOCK® Diffuser 154-14

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty
151-1-38	3/8"	1/8" Recess	Taper	Brass	0.813"	2.13"	10
151-1-50	1/2"	1/8" Recess	Taper	Brass	0.813"	2.13"	10
151-50	1/2"	Flush	Taper	Brass	0.813"	2.00"	10

## Nozzles (Continued)

### Standard Duty (SD) Air-Cooled Nozzles (Slip-On)

For use with TOUGH LOCK® Diffuser 404-32 (Robotic) or 404-26 (Semi-Automatic)

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
401-40-38	3/8"	1/16" Recess	Taper	Brass	0.978"	2.81"	10	---
401-42-50**	1/2"	1/8" Recess	Bottleneck*	Brass	0.938"	2.88"	10	RCT-04
401-4-38	3/8"	Flush	Taper	Copper	0.938"	2.74"	10	---
401-44-50	1/2"	1/4" Stick-out	Bottleneck*	Brass	0.938"	2.50"	10	RCT-04
401-44-62	5/8"	1/4" Stick-out	Taper	Copper	0.938"	2.51"	10	RCT-01
401-4-50**	1/2"	1/8" Recess	Taper	Copper	0.938"	2.88"	10	RCT-04
401-4-62**	5/8"	1/8" Recess	Taper	Copper	0.938"	2.88"	10	RCT-01
401-4-75	3/4"	1/8" Recess	Straight	Copper	0.938"	2.88"	10	RC-12
401-48-50	1/2"	1/8" Stick-out	Bottleneck*	Brass	0.938"	2.63"	10	RCT-04
401-8-62	5/8"	1/8" Stick-out	Taper	Copper	0.938"	2.63"	10	RCT-01

\*Straight bore; ideal for reaming

\*\*Available in quantities of 2 by adding -02 to the end of the Part Number ie. 401-42-50-02

### Standard Duty Air-Cooled Nozzles (Thread-On)

For use with TOUGH LOCK® Diffuser 404-52 (Robotic) or 404-53 (Semi-Automatic)

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
401-18-62	5/8"	1/8" Stick-out	Taper	Copper	0.938"	2.63"	10	RCT-01
401-42-38	3/8"	1/8" Recess	Taper	Copper	0.938"	2.88"	10	---
401-43-62	5/8"	1/8" Recess	Taper	Copper	0.938"	2.88"	10	RCT-01
401-47-51	1/2"	1/8" Recess	Taper	Copper	0.938"	2.88"	10	RCT-04
401-48-50C	1/2"	1/8" Stick-out	Taper	Copper	0.938"	2.63"	10	RCT-04

### Heavy Duty (HD) Air-Cooled Nozzles (Slip-On)

For use with TOUGH LOCK® Diffuser 404-32 (Robotic) or 404-26 (Semi-Automatic)

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
401-48-62	5/8"	Flush	Bottleneck*	Copper	1.062"	2.76"	10	RCT-01
401-49-62	5/8"	1/8" Stick-out	Bottleneck*	Copper	1.062"	2.63"	10	RCT-01
401-50-62	5/8"	5 mm Recess	Bottleneck*	Copper	1.062"	2.95"	10	RCT-01
401-51-62	5/8"	Flush	Bottleneck*	Brass	1.062"	2.76"	10	RCT-01
401-5-62**	5/8"	1/4" Recess	Taper	Copper	1.062"	3.00"	10	RCT-01
401-5-75	3/4"	1/4" Recess	Taper	Copper	1.062"	3.00"	10	RC-12
401-6-50	1/2"	1/8" Recess	Taper	Copper	1.062"	2.88"	10	RCT-04
401-6-62**	5/8"	1/8" Recess	Taper	Copper	1.062"	2.88"	10	RCT-01
401-6-75	3/4"	1/8" Recess	Taper	Copper	1.062"	2.88"	10	RC-12
401-71-62	5/8"	1/8" Recess	Taper*	Brass	1.106"	2.88"	10	RCT-01
401-72-62	5/8"	1/8" Recess	Taper	Brass	1.062"	2.88"	10	RCT-01
401-7-62	5/8"	1/4" Recess	Taper	Brass	1.106"	3.00"	10	RCT-01
401-7-75	3/4"	1/8" Recess	Taper	Brass	1.106"	2.88"	10	RC-12
401-7-87	7/8"	1/4" Recess	Straight	Brass	1.106"	3.00"	10	RC-12***
401-81-62	5/8"	1/8" Stick-out	Taper	Copper	1.062"	2.63"	10	RCT-01
401-87-56	9/16"	1/8" Recess	Taper	Brass	1.062"	2.88"	10	RCT-04***
401-87-62	5/8"	1/8" Stick-out	Taper	Brass	1.062"	2.63"	10	RCT-01
401-88-62	5/8"	Flush	Taper	Brass	1.062"	2.76"	10	RCT-01
401-91-62	5/8"	1/8" Stick-out	Taper*	Brass	1.106"	2.63"	10	RCT-01

\*Straight bore; ideal for reaming

\*\*Available in quantities of 2 by adding -02 to the end of the Part Number ie. 401-50-62-02

\*\*\*May not clean spatter ring inside nozzle bore

## Nozzles (Continued)

### Heavy Duty Air-Cooled Nozzles (Thread-On)

For use with TOUGH LOCK Diffuser 404-52 (Robotic) or 404-53 (Semi-Automatic)

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
401-14-62	5/8"	1/8" Recess	Taper	Copper	1.062"	2.88"	10	RCT-01
401-20-62	5/8"	1/8" Stick-out	Taper	Copper	1.062"	2.63"	10	RCT-01
401-41-62	5/8"	1/8" Stick-out	Taper	Brass	1.062"	2.63"	10	RCT-01
401-53-62	5/8"	1/8" Stick-out	Bottleneck	Copper	1.062"	2.63"	10	RCT-01

### Heavy Duty Water-Cooled Nozzles

For use with 600 amp T-Gun™ Water-Cooled and TOUGH GUN Automatic Water-Cooled MIG Guns

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
601-5-62	5/8"	1/4" Recess	Taper	Nickel-Plated Bronze	1.225"	3.13"	10	RCT-01
601-6-62	5/8"	1/8" Recess	Taper	Nickel-Plated Bronze	1.225"	3.00"	10	RCT-01
601-5-75	3/4"	1/4" Recess	Taper	Nickel-Plated Bronze	1.225"	3.13"	10	RC-12
601-6-75	3/4"	1/8" Recess	Taper	Nickel-Plated Bronze	1.225"	3.00"	10	RC-12

Use 601-5-75-3 insulator for all 601 Series Nozzles

Use 404-38 diffuser for all 601 Series Nozzles

### Heavy Duty Nozzles for TOUGH GUN Robotic Water-Cooled MIG Guns

Part Number	Bore	Tip Placement	Type	Material	O.D.	Length	Qty	Reamer Cutter Blade
650-6-62	5/8"	1/8" Recess	Taper	Chrome	1.062"	3.60"	2	RCT-01
650-6-75	3/4"	1/8" Recess	Taper	Chrome	1.062"	3.60"	2	RC-12

Use 404-32 Diffuser for all 650 Series Nozzles

## TOUGH LOCK Conversion Series

Add our TOUGH LOCK Consumables, durable nozzles and neck insulators / adaptors to your Bernard®, Binzel®, Lincoln® and Tweco® style MIG Guns. Find your MIG gun make and model on the left, then follow the chart to the right for parts needed to upgrade.

**\*NOTE:** The 404-20 TOUGH LOCK Retaining Head will fit on most necks with an external 9/16"-18 thread regardless of angle.

Gun Manufacturer	Gun Model	Gun Neck	TOUGH LOCK Heavy Duty Retaining Head	Neck Insulator	Adaptor
Bernard™	Q-Gun™ Series	Legacy Neck	404-44	4423R	N/A
Binzel®	ALPHA 4	---	404-46	402-11	N/A
Lincoln®	Magnum® 300	KP1929 / KP1928 / KP1941	404-20*	4423R	N/A
	Magnum® 400	KP1929 / KP1928 / KP1941	404-20*	4423R	N/A
Tweco®	Tweco #3	63J-60	404-20*	4423R	N/A
	Tweco #4	64J-60	404-20*	4423R	N/A
	Spray Master™ 350	MS63-60	404-20*	4423R	N/A
	Spray Master™ 450	MS64H-60	404-20*	4423R	N/A
	WeldSkill® 400	64A-60	404-20*	4423R	N/A
	MINI-MIG	---	N/A	402-19	404-64

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