

AIR-COOLED

250 AMP

350 AMP

450 AMP

Tweco®

SPRAY MASTER™

MIG GUN

English
Français
Español



SAFETY AND OPERATING INSTRUCTIONS

Revision: B

Issue Date: July 20, 2009

Manual No: 89200009

SECTION 3: MIG GUN SPECIFICATIONS

3.01 MIG GUN CLASSIFICATION

Process	MIG/MAG welding
Method of Guidance	Manually guided
Voltage Class for Welding and Control Circuits	L (up to 113 V peak)
Type of Cooling	Air or cooling gas
Type of Shielding Gas	All types

3.02 DUTY CYCLES

Duty Cycle	MIG Gun Model (AMP)		
	250	350	450
10%	320	435	570
35%	290	390	520
60%	250	350	450
100%	195	240	351

The above duty cycles were established by testing under the following parameters:

Parameter	MIG	MAG
Electrode	Aluminum 3% to 5% Magnesium	Mild (low carbon) Steel
Type of Voltage	D.C.	D.C.
Shielding Gas	Argon	Argon/CO ₂ Mixed Gas (80/20, 75/25)
Gas Flow Rate	30 CFH (14.2 l/m)	30 CFH (14.2 l/m)
Weld Material	AlMg3 to AlMg5	Mild (low carbon) Steel
Gun Cable Length	10 ft. (3 m)	15 ft. (5 m)
Electrode Polarity	Positive	Positive

Wire Diameter

Electrode Size		
250 amp = .045" (1,2mm)	350 amp = .045" (1,2mm)	450 amp = 1/16" (1,6mm)

3.03 MIG GUN PART NUMBER IDENTIFICATION

NOTE

Tweco MIG guns, as a general rule, have a specific nomenclature incorporated within each part number to help determine the wire size of each MIG gun.

Example Part Number:

350 AMP, 15 foot (5 M) cable

MS3153545

Spray Master .035"-.045" Wire Capacity
(0,9mm - 1,2mm)

SECTION 4: MIG GUN INSTALLATION

NOTE

Be certain that the end user (welder, operator, or helper) reads and understands these instructions. Be certain that the welder also reads Section 2 "Safety Precautions."



Electric shock can cause injury or death.

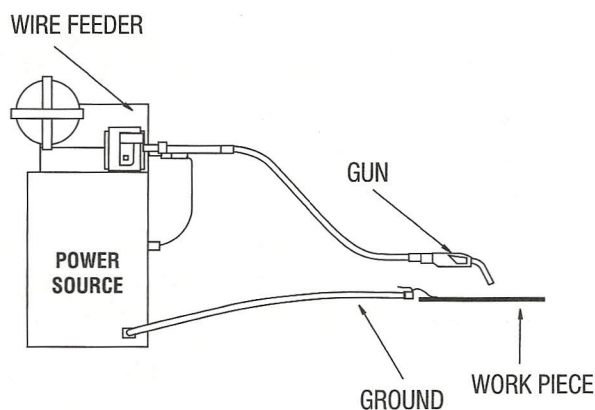


Figure 1: Standard MIG Gun Installation

4.01 DIRECT PLUG MIG GUN INSTALLATION

Direct plug MIG guns install by directly inserting the rear connector plug into the feeder wire guide outlet (see figure 2) and tightening the plug retaining screw. All models of MIG guns, except the Euro-Kwik guns, require a control wire assembly to attach the MIG gun trigger leads to the feeder. The control wire assemblies plug into the rear connector case of the MIG gun, and into the control wire receptacle on the feeder. Euro-Kwik connections are installed by inserting the gun connection into the feeder receptacle, aligning the conduit plug first, then the gas plug. Push until all fittings are seated, then tighten the nut hand tight as shown in figure 3.

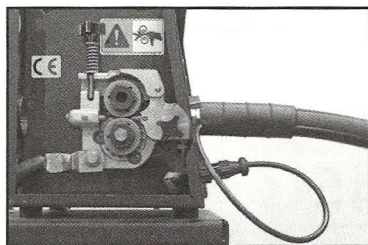


Figure 2

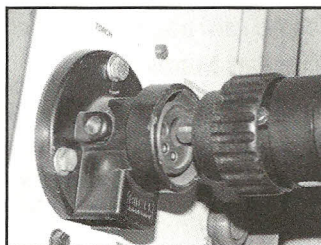


Figure 3

4.02 TWECO® MIG-KWIK CONNECTION AND ADAPTER KIT INSTALLATION

Installation of a Tweco MIG gun with a Tweco connector plug, may require an adapter kit. Choose the correct adapter kit for your wire feeder from the Adapter Kit Listing. To install, follow the instructions furnished with the adapter kit. Figure 4 shows the general adapter kit installation.

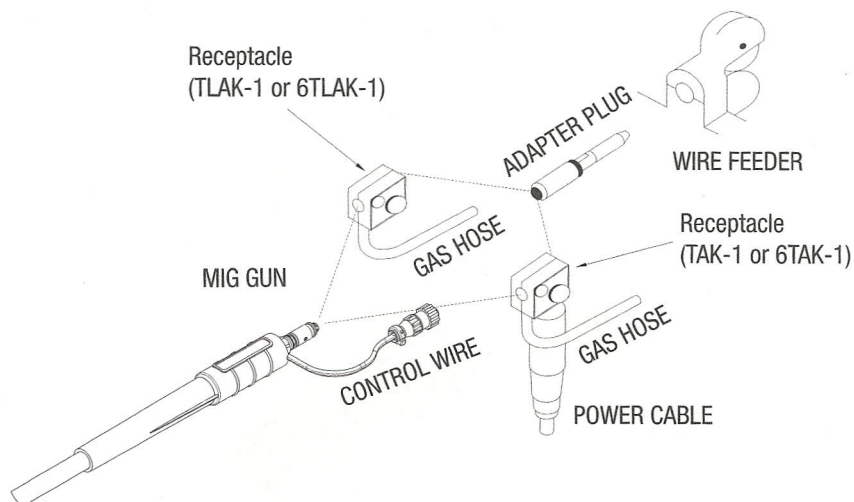


Figure 4

1. Screw adapter plug into the receptacle and tighten.
2. Insert the adapter plug and receptacle into the wire feeder wire guideout. Tighten the wire guide attachment screw.
3. If needed, attach a proper sized welding cable from the welding power source to the receptacle power connection.
4. Attach a gas hose to the receptacle and to the feeder gas solenoid.

NOTE

When using an adapter kit, the gas must be attached to the receptacle to provide gas to the MIG gun. If the feeder gas supply is attached to the feeder wire guideout block, it must be rerouted to the receptacle.

5. Insert the MIG gun rear connection plug into the receptacle and tighten the attachment screw.
6. Attach the control wire plug assembly to the wire feeder MIG gun control circuit. Then plug the flat double female plug into the MIG gun.

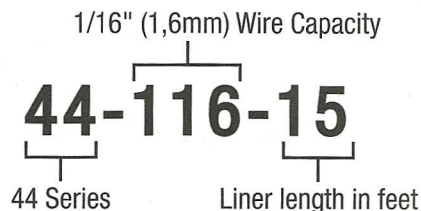
The gun should now be installed and ready to feed wire as recommended by the feeder manufacturer.

SECTION 7: WIRE CONDUIT REPLACEMENT

7.01 CONDUIT IDENTIFICATION

The procedure for removal and installation of a wire conduit is similar for all Tweco MIG guns. Conduits may be identified by the type of conduit stop and the part number marking on each conduit stop.

Example Part Number:



7.02 CONDUIT REMOVAL

1. Lay the MIG gun out on a table or on the floor in a straight line. Make sure the gun is fully extended and all twists in the cable are removed.
2. Remove the nozzle and loosen the conduit set screw in the front of the gun. This is usually located in the diffuser, or at the front of the handle. Then loosen the conduit set screw in the rear connector plug.

NOTE

On Miller® Direct Plug MIG guns, remove the nipple on the end of the connector plug. On Euro-Kwik connections, remove the conduit retaining cap.

3. Remove the diffuser and contact tip.
4. Grip the conduit stop and remove the conduit with a twisting motion. On Miller® Direct Plug MIG guns, twisting the rear of the gun approximately one revolution clockwise will raise the conduit stop out of the connector plug recess.

7.03 CONDUIT INSTALLATION

1. Uncoil the conduit and lay it in a straight line. Insert the conduit into the rear connector plug. Push the conduit into the gun with short strokes. If the conduit hangs up, twist the conduit counterclockwise or gently whip the cable while applying pressure to the conduit.
2. The conduit liner will need to be cut to length. This can be done by cutting the conduit to match the one removed or inserting the new liner through the MIG gun and trimming the conduit extending from the conductor tube to the appropriate length noted in the following chart.
3. When the conduit is completely in the gun, tighten the rear conduit set screw. On Miller® guns, reinstall the nipple. On Euro-Kwik guns, reinstall the conduit retaining cap.

Conduit Cut Lengths		
250 amp = 1.125" (28,6 mm)	350 amp = 1.25" (28,6 mm)	450 amp = 0.5" (12,7 mm)

SAFETY AND OPERATING INSTRUCTIONS

4. File the cut conduit end to remove burrs because they could interfere with wire feeding or catch on the diffuser.
5. Replace the diffuser and contact tip and tighten the nozzle.

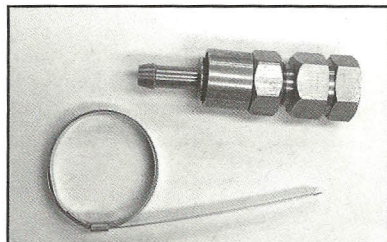
The MIG gun is now ready to be reinstalled on the feeder.

7.04 REPAIR OF CABLEHOZ®

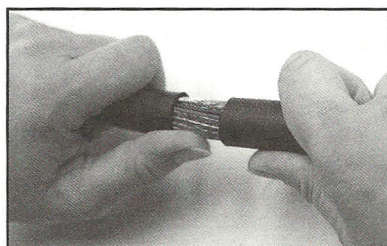
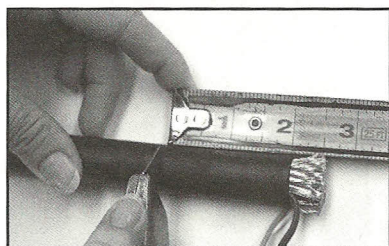
A. Back-End Repair

1. Disassemble the rear case to expose the rear connector assembly and pull the assembly away from the rear case.
2. Cut the cablehoz to remove the damaged area.

3. Use replacement connector assembly, Part No. MS172-RK (Stock No. 2060-2134) on 250 Amp Spray Master MIG Guns and MS174-RK (Stock No. 2060-2135) on 350 & 450 Amp Spray Master MIG Guns.



4. Measure back 2-1/2" (63,5mm) from the end of the cablehoz and cut away the outer jacket of the cable, being careful not to cut the copper strands and or lead wires.



5. Pull the copper strands and lead wires away from the inner core tube that's exposed and cut away leaving approximately 1/4" (6,35mm) past the end of the end of the cablehoz.



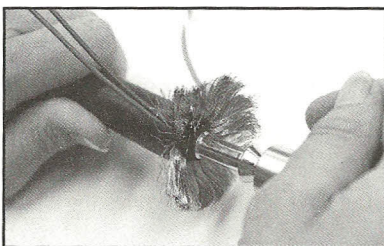
6. Cut the copper strands to a length of 3/4" (19,05mm) while leaving the wire leads intact.



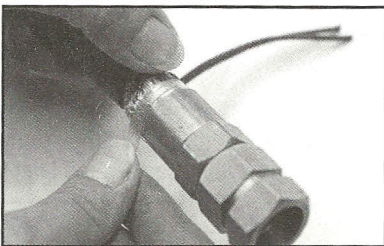
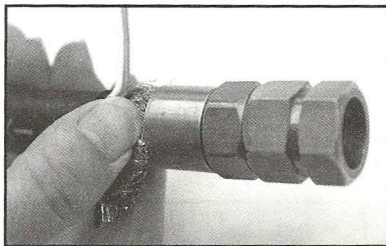
SAFETY AND OPERATING INSTRUCTIONS

7. Thread the pressure nut onto the replacement rear connector until it bottoms out and then slide the sleeve over the connector. Note: Make sure that the end with the bevel on the inside diameter goes on first allowing the opposite end with a $\frac{3}{4}$ " (19,05mm) to be facing the cablehoz when assembled.

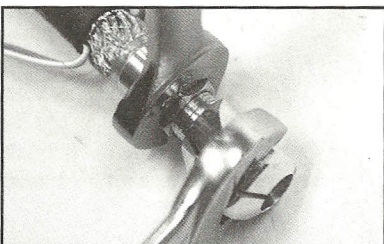
8. Insert the replacement connector into the inner core tube of the cablehoz. It's recommended to use a small amount of lubricant to help the connector to slide into the tube. The core tube should bottom out against the shoulder, approximately $15/16$ " (23,8mm) onto the connector.



9. Push the copper strands underneath the sleeve. It's recommended that a $1/8$ " glass filament tape be wrapped around the exposed copper to keep the copper strands together.



10. Begin to turn the pressure nut counter-clockwise which will force the copper strands & sleeve against the machined taper on the connector.



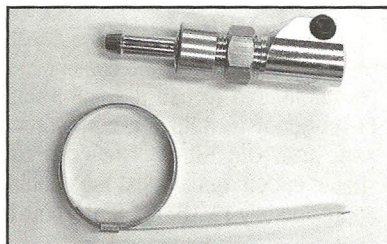
11. Torque the pressure nut to 250 inch pounds (+/-50 inch pounds).
12. Connect lead wires accordingly.
13. Reassemble the rear case.

B. Front-End Repair

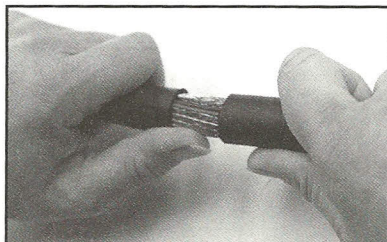
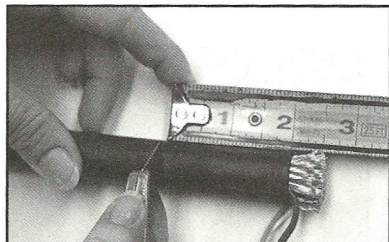
1. Disassemble the rear case to expose the rear connector assembly and pull the assembly away from the rear case.
2. Cut the cablehoz to remove the damaged area.

SAFETY AND OPERATING INSTRUCTIONS

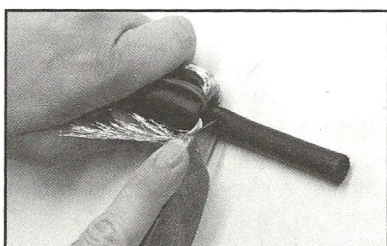
3. Use replacement connector assembly, Part No. MS102-RK (Stock No. 2060-2132) on 250 Amp Spray Master MIG Guns and MS104-RK (Stock No. 2060-2133) on 350 & 450 Amp Spray Master MIG Guns.



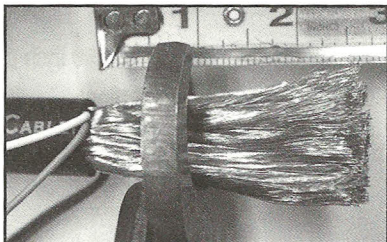
4. Measure back 2-1/2" (63,5mm) from the end of the cable and cut away the outer jacket of the cable, being careful not to cut the copper strands and or lead wires.



5. Pull the copper strands and lead wires away from the inner core tube that's exposed and cut away leaving approximately 1/4" (6,35mm) past the end of the cable.



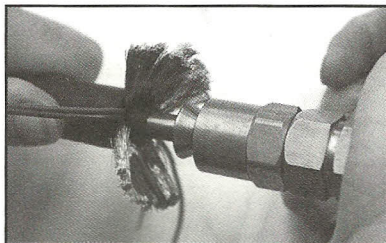
6. Cut the copper strands to a length of 3/4" (19,05mm) while leaving the wire leads intact.



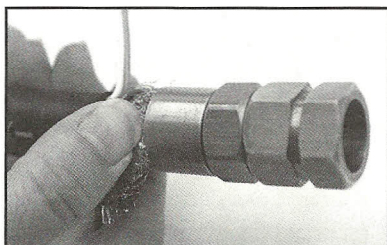
7. Thread the pressure nut onto the replacement rear connector until it bottoms out and then slide the sleeve over the connector. Note: Make sure that the end with the bevel on the inside diameter goes on first allowing the opposite end with a 3/4" (19,05mm) to be facing the cable when assembled.

SAFETY AND OPERATING INSTRUCTIONS

8. Insert the replacement connector into the inner core tube of the cablehoz. It's recommended to use a small amount of lubricant to help the connector to slide into the tube. The core tube should bottom out against the shoulder, approximately 15/16" (23,8mm) onto the connector.



9. Push the copper strands underneath the sleeve. It's recommended that a 1/8" glass filament tape be wrapped around the exposed copper to keep the copper strands together.



10. Begin to turn the pressure nut counter-clockwise which will force the copper strands & sleeve against the machined taper on the connector.



11. Torque the pressure nut to 250 inch pounds (+/-50 inch pounds).
12. Connect lead wires accordingly.
13. Re-assemble the front end back into the handle halves.

SECTION 8: MAINTENANCE AND TROUBLESHOOTING

Contact tips and nozzles should be cleaned frequently. Spatter buildup may cause bridging between nozzle and tip. This could cause electrical shorting between the nozzle and work piece as well as poor or improper gas flow. Regularly inspect the conductor tube, handle, cable, and other parts of the MIG Gun for abrasion, cuts, or undue wear. Replace or repair any parts found deficient.

Problem	Possible Cause	Corrective Action
Wire feed inconsistent or not smooth	<ol style="list-style-type: none"> 1. Loose contact tip or diffuser. 2. Excessively worn contact tip. 3. Spatter buildup on end of contact tip. 4. Sharp bends or kinks in conduit. 5. Dirty or plugged conduit. 6. Conduit pulled back from diffuser. 7. Machine improperly adjusted. 	<ol style="list-style-type: none"> 1. Tighten contact tip and diffuser plier tight. 2. Replace contact tip. 3. Clean or replace contact tip. 4. Straighten or replace conduit. 5. Replace conduit. 6. Reposition conduit and tighten front set screw. 7. Reset machine per machine and wire manufacturers' recommendations.
MIG Gun is running hot	<ol style="list-style-type: none"> 1. Loose contact tip or diffuser. 2. Loose power connections. 3. Loose or undersize ground cable or ground clamp. 4. Operating gun above recommended amperage rating. 	<ol style="list-style-type: none"> 1. Tighten contact tip and diffuser plier tight. 2. Inspect complete gun for loose connections and repair. 3. Tighten or replace as required. 4. Readjust machine to correct setting for size of gun being used.
Porous weld	<ol style="list-style-type: none"> 1. Poor or improper gas flow. 2. Dirty or contaminated wire. 3. Base metal contaminated. 	<ol style="list-style-type: none"> 1. Check gas flow out of gun nozzle. Check for leaks or restrictions in gas hoses and connections. 2. Change wire. 3. Replace base metal.

SECTION 9: CONSUMABLES

9.01 NOZZLES

250 AMP

Nozzle Style	Bore Size		
	3/8" (9,5 mm)	1/2" (12,7 mm)	5/8" (15,9 mm)
Standard, Slip-On 1/8" Tip Recess	HD22-37 1220-1305	HD22-50 1220-1306	HD22-62 1220-1307
Optional, Slip-On Tip Flush	HD22-37F 1220-1310	HD22-50F 1220-1311	HD22-62F 1220-1312

Furnished standard with 1/2" (12,7 mm) bore nozzle, HD22-50. Fits Diffuser HD52-11 (1520-1130). Interchangeable front end by changing diffusers.

350 AMP

Nozzle Style	Bore Size			
	3/8" (9,5 mm)	1/2" (12,7 mm)	5/8" (15,9 mm)	3/4" (19,1 mm)
Standard, CT 1/8" Tip Recess	EL22CT-37 1260-1625	EL22CT-50 1260-1626	EL22CT-62 1260-1627	EL22CT-75 1260-1628
Optional, CT Tip Flush	N/A	EL22CT-50F 1260-1636	EL22CT-62F 1260-1637	N/A
Optional, CT Tip Protruded		EL22CT-50P 1260-1691	EL22CT-62P 1260-1692	N/A
Optional, CT Heavy Duty		N/A	EL22CT-62H 1260-1629	N/A

Furnished standard with 5/8" (15,9 mm) bore nozzle, EL22CT-62. Fits diffuser EL52CT-16 (1560-1107). Interchangeable front end by changing diffusers or conductor tubes.

450 AMP

Nozzle Style	Bore Size		
	3/8" (9,5 mm)	1/2" (12,7 mm)	5/8" (15,9 mm)
Standard, Slip-On 1/8" Tip Recess	HD24L-50 1240-1200	HD24L-62 1240-1201	HD24L-75 1240-1202
Optional, Slip-On Tip Flush	HD24L-50F 1240-1204	HD24L-62F 1240-1205	HD24L-75F 1240-1206
Optional, Slip-On 1/8" Tip Recess Heavy Duty	HD24-50 1240-1240	HD24-62 1240-1241	HD24-75 1240-1242
Optional, Slip-On Tip Flush Heavy Duty		HD24-62F 1240-1236	HD24-75F 1240-1237

Furnished standard with 5/8" (15,9 mm) bore nozzle, HD24L-62. Fits diffuser HD54-16 (1540-1136). Interchangeable front end by changing diffusers or conductor tubes. May use consumables from Tweco standard #4 gun or Tweco Eliminator (by changing MS64-60 conductor tube).

9.02 CONTACT TIPS

Wire Size in (mm)	Tip I.D. in (mm)	250 AMP		350 AMP / 450 AMP	
		Part No.	Stock No.	Part No.	Stock No.
.023" (0,6mm)	.031" (0,79mm)	11-23	1110-1100	N/A	
.030" (0,8mm)	.038" (0,97mm)	11H-30	1110-1201		
.035" (0,9mm)	.044" (1,12mm)	11H-35	1110-1202	16S-35	1160-1102
.040" (1,0mm)	.048" (1,22mm)	11H-40	1110-1203	16S-40	1160-1103
.045" (1,2mm)	.054" (1,37mm)	11H-45	1110-1204	16S-45	1160-1104
.052" (1,3mm)	.064" (1,65mm)	N/A		16S-52	1160-1105
1/16" (1,6mm)	.073" (1,85mm)			16S-116	1160-1106
5/64" (2,0mm)	.090" (2,29mm)			16S-564	1160-1109
3/64" (1,2mm) AL	.059" (1,50mm)	11AH-364	1110-1213	16AS-364	1160-1113
1/16" (1,6mm) AL	.082" (2,08mm)	N/A		16AS-116	1160-1114

9.03 CONDUIT

250 AMP

Wire Size in (mm)	Part No.	Stock No.	Type
.023" (0,6mm)	42-23-15	1420-1103	Steel
.030" - .035" (0,8mm - 0,9mm)	42-3035-15	1420-1113	
.040" - .045" (1,0mm - 1,2mm)	42-4045-15	1420-1123	
.035" - 3/64" (0,9mm - 1,2mm)	42N-3545-15	1420-1003	Aluminum

350 AND 450 AMP

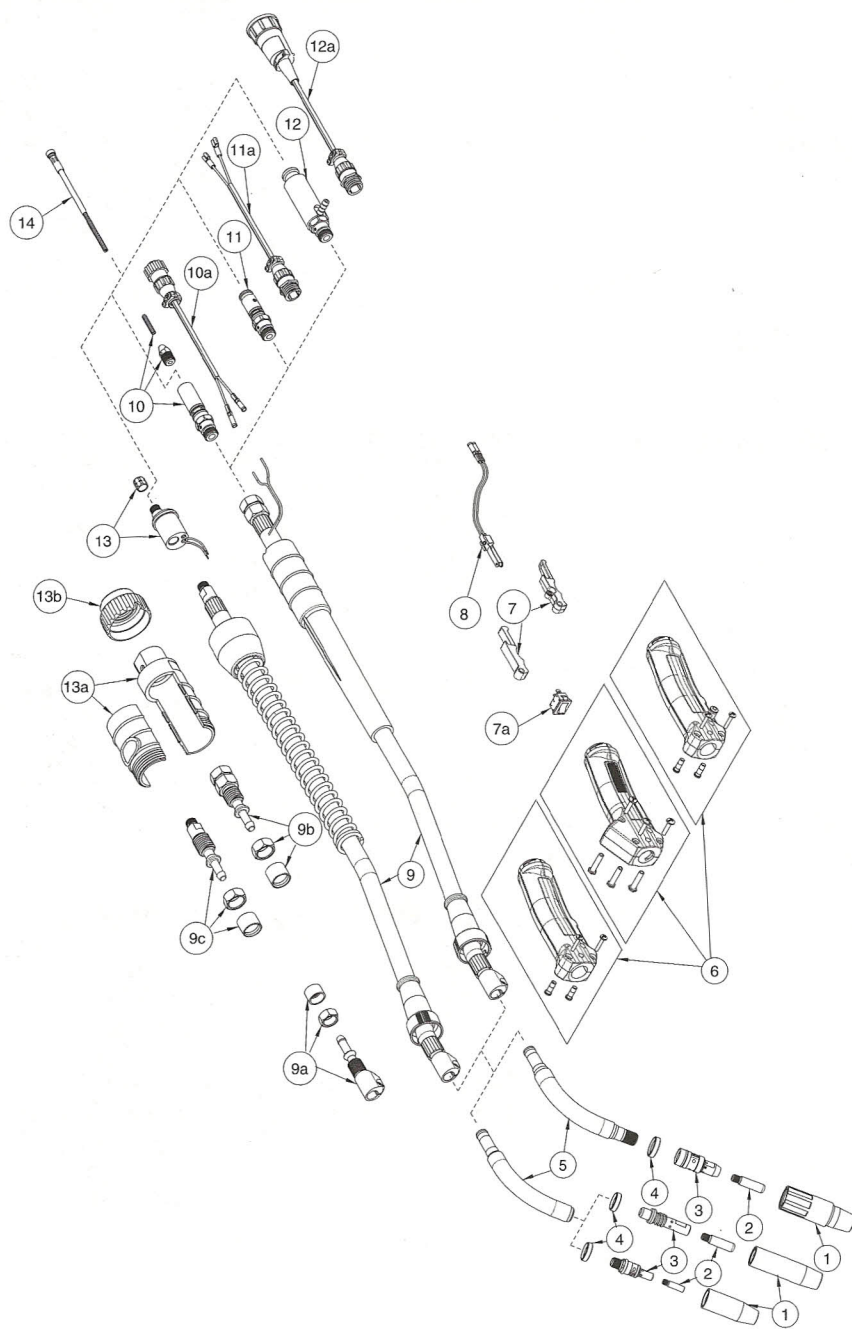
Wire Size in (mm)	Part No.	Stock No.	Type
.035" - .045" (0,9 mm- 1,2mm)	44-3545-15	1440-1103	Steel
.052" - 1/16" (1,3mm - 1,6mm)	44-116-15	1440-1113	
5/64" (2,0mm)	44-564-15	1440-1123	
.030" - 3/64" (0,8mm - 1,2mm)	44N-3545-15	1440-1003	Aluminum

9.04 CONDUCTOR TUBES

	250 AMP	350 AMP	450 AMP
Rigid Style	MS63-60S / 1630-1196	MS63-60 / 1630-1189	MS64H-60 / 1640-1319
	MS63-45S / 1630-1195	MS63-45 / 1630-1188	MS64H-45 / 1640-1318
		MS63-180 / 1630-1187	MS64H-180 / 1640-1314
Rigid Style*			MS64-60 / 1640-1340
			MS64-45 / 1640-1341
Knucklehead™ (Flexible)	MS62SFLX3-60 / 1620-1341	MS63SFLX3-60 / 1630-1197	MS64SFLX3-60 / 1640-1307
	MS62SFLX4-80 / 1620-1342	MS63SFLX4-80 / 1630-1198	MS64SFLX4-80 / 1640-1308
			MS64SFLX3-60LR / 1640-1309
			MS64SFLX4-80LR / 1640-1310

*For use with Eliminator® Style Consumables

SECTION 10: REPLACEMENT PARTS



SAFETY AND OPERATING INSTRUCTIONS

Item No.	250 AMP	350 AMP	450 AMP	Description
1	--	--	--	Nozzles – Refer to Section 9
2	--	--	--	Contact Tips – Refer to Section 9
3	HD52-11 1520-1130	EL52CT-16 1560-1107	MS54-16W 1540-1127	Gas Diffuser
4	63J-3 1630-1121	63J-3 1630-1121	66J-3 1660-1836	Insulator
5	--	--	--	Conductor Tube – Refer to Section 9
6	MS84 2060-2130	MS84 2060-2130	MS84 2060-2130	Handle – Standard Spray Master
	N/A	MS84-DSRS 2060-2128	MS84-DSRS 2060-2128	Handle – Dual Schedule (Rocker Switch)
	MS84-LC 2060-2127	MS84-LC 2060-2127	MS84-LC 2060-2127	Handle – Locking Trigger
7	ELC94 2060-2647	ELC94 2060-2647	ELC94 2060-2647	Trigger– Standard & Dual Schedule
	MS94-LC 2060-2693	MS94-LC 2060-2693	MS94-LC 2060-2693	Trigger – Locking
7b	N/A	MS94-RSW 2060-2694	MS94-RSW 2060-2694	Dual Schedule Rocker Switch
8	ELC94-BL 2060-2671	ELC94-BL 2060-2671	ELC94-BL 2060-2671	Trigger Blade Assembly
9	N/A	MS310 1730-2035	N/A	Cablehoz® Assembly - 10 ft (3 m)
	MS212 1720-2116	MS312 1730-2036	MS412 1740-2116	Cablehoz Assembly - 12 ft (4 m)
	MS215 1720-2117	MS315 1730-2037	MS415 1740-2117	Cablehoz Assembly - 15 ft (5 m)
	MS225 1720-2118	MS325 1730-2038	MS425 1740-2118	Cablehoz Assembly - 25 ft (8 m)
	MS212X 1720-2107	N/A	MS412X 1740-2122	Cablehoz Assembly, Euro-Kwik - 12 ft (4 m)
	MS215X 1720-2108	N/A	MS415X 1740-2123	Cablehoz Assembly, Euro-Kwik - 15 ft (5 m)
	MS225X 1720-2109	N/A	N/A	Cablehoz Assembly, Euro-Kwik - 25 ft (8 m)
9a	MS102-RK 2060-2132	MS104-RK 2060-2133	MS104-RK 2060-2133	Cablehoz Front Mechanical Connector Replacement Kit
9b	MS172-RK 2060-2134	MS174-RK 2060-2135	MS174-RK 2060-2135	Cablehoz Rear Mechanical Connector Replacement Kit
9c	172X-M 2020-2181	174X-M 2040-2181	174X-M 2040-2181	Cablehoz Rear Mechanical Connector Replacement Kit For Euro-Style
10a	350-174MH 2035-2111	350-174MH 2035-2111	350-174MH 2035-2111	Miller® Rear Connector
10b	WM-354M 2030-2075	WM-354M 2030-2075	WM-354M 2030-2075	Miller Control Wire & Plug
NS	N/A	194DS 2040-2195	194DS 2040-2195	Miller Dual Schedule Control Wire & Plug
11a	350-174H 2035-2110	350-174H 2035-2110	350-174H 2035-2110	Tweco Rear Connector
11b	MS354-TAJ 2060-2139	MS354-TAJ 2060-2139	MS354-TAJ 2060-2139	Tweco Control Wire
NS	MS-354DS-TJ 2060-2138	MS-354DS-TJ 2060-2138	MS-354DS-TJ 2060-2138	Tweco Dual Schedule Control Wire & Plug
12a	350-174LH 2035-2112	350-174LH 2035-2112	350-174LH 2035-2112	Lincoln® Rear Connector
12b	MS-354DS-LJ 2060-2137	MS-354DS-LJ 2060-2137	MS-354DS-LJ 2060-2137	Lincoln Control Wire & Plug
13	174EX-1 2040-2276	174EX-1 2040-2276	174EX-1 2040-2276	Euro-Kwik Connection Assy
13a	174X-2 2040-2177	174X-2 2040-2177	174X-2 2040-2177	Euro-Kwik Nut
13b	X6RC 2060-2006	X6RC 2060-2006	X6RC 2060-2006	Euro-Kwik Connector Case
14	--	--	--	Conduit – Refer to Section 9

NS = Not Shown

89200009

10-25

Replacement Parts

SECTION 11: STATEMENT OF WARRANTY

11.01 WARRANTY SCHEDULE

The warranty is effective below for the time stated in the Warranty Schedule beginning on the date that the authorized distributor delivers the products to the purchaser. THERMADYNE® reserves the right to request documented evidence of date of purchase.

Engine Driven Welders	Parts / Labor
Scout®, Raider®, Explorer™	
Original Main Power Stators and Inductors	3 years / 3 years
Original Main Power Rectifiers, Control P.C. Boards	3 years / 3 years
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Power Switch Semi-Conductors	1 year / 1 year
Engines and Associated Components are NOT Warranted by Thermal Arc®, Although Most are Warranted by the Engine Manufacturer. SEE THE ENGINE MANUFACTURERS' WARRANTY FOR DETAILS.	See the Engine Manufacturers' Warranty for Details
GMAW/FCAW (MIG) Welding Equipment	
Fabricator® 131, 181, 190, 210, 251, 281; Fabstar® 4030; PowerMaster® 320SP, 350, 350P, 400SP, 500SP, 500, 500P; Excel-Arc® 6045; Wire Feeders: Ultrafeed®, Porta-feed®	Parts / Labor
Original Main Power Transformer and Inductor	5 years / 3 years
Original Main Power Rectifiers, Control P.C. Boards, Power Switch Semi-Conductors	3 years / 3 years
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Electric Motors	1 year / 1 year
GTAW (TIG) & Multi-process Inverter Welding Equipment	
160TS, 300TS, 400TS, 185AC/DC, 200AC/DC, 300AC/DC, 400GTSW, 400MST, 300MST, 400MSTP	Parts / Labor
Original Main Power Magnetics	5 years / 3 years
Original Main Power Rectifiers, Control P.C. Boards, Power Switch Semi-Conductors	3 years / 3 years
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Electric Motors	1 year / 1 year
Plasma Welding Equipment	
Ultima® 150	Parts / Labor
Original Main Power Magnetics	5 years / 3 years
Original Main Power Rectifiers, Control P.C. Boards, Power Switch Semi-Conductors	3 years / 3 years
Welding Console, Weld Controller, Weld Timer	3 years / 3 years
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Electric Motors, Coolant Recirculators	1 year / 1 year
SMAW (Stick) Welding Equipment	
Dragster™ 85	Parts / Labor
Original Main Power Magnetics	1 year / 1 year
Original Main Power Rectifiers, Control P.C. Boards	1 year / 1 year
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Power Switch Semi-Conductors	1 year / 1 year
160S, 300S, 400S	Parts / Labor
Original Main Power Magnetics	5 years / 3 years
Original Main Power Rectifiers, Control P.C. Boards	3 years / 3 years
All Other Original Circuits and Components Including, but not Limited to, Relays, Switches, Contactors, Solenoids, Fans, Power Switch Semi-Conductors	1 year / 1 year

SAFETY AND OPERATING INSTRUCTIONS

General Arc Equipment	Parts / Labor
Water Recirculators	1 year / 1 year
Plasma Welding Torches	180 days / 180 days
Gas Regulators (Supplied with Power Sources)	180 days / NA
MIG and TIG Torches (Supplied with Power Sources)	90 days / NA
Replacement Repair Parts	90 days / NA
MIG, TIG and Plasma Welding Torch Consumable Items	NA / NA
Gas Welding and Cutting Equipment	Parts / Labor
Victor® Professional	5 years / NA
Oxygen Conservers	2 years / NA
Aluminum Cylinders	Lifetime / NA
Cutting Machine Motors	1 year / NA
HP&I Brass Regulators/Manifolds	2 years / NA
HP&I Stainless Regulators/Manifolds	1 year / NA
HP&I Corrosive Gas Regulators/Manifolds	90 days / NA
TurboTorch®	3 years / NA
CutSkill®	2 years / NA
Steel Cylinders	1 year / NA
Victor Medical	6 years / NA
Victor VSP	2 years / NA
Firepower® MIG Welders	5-2-1 years / NA
Transformers	5 years / NA
Parts Used in Rental Applications	1 year from date sold by seller to authorized distributor
MIG Torches and Arc Accessories	Parts / Labor
Arcair® N6000	90 days / NA
Spool and Pull Guns	90 days / NA
Robotic Deflection Mounts	90 days / NA
QRM-100 Anti-Spatter Applicator	90 days / NA
TC and TCV Water Coolers	1 year / NA
TSC-96 Smoke Collector	1 year / NA
ESG-1, EPG-CR2 Control Boxes for Spool & Pull Guns	1 year / NA
QRC-2000 Nozzle Cleaning Stations	1 year / 1 year
QRC-3000 UltraSonic Cleaning Stations	2 years / 2 years
All other products 30 days from date purchaser purchases from seller.	30 days / NA
Plasma Cutting Systems	Parts / Labor
Automated Plasma	2 years / 1 year
CutMaster™	3 years / 3 years
PakMaster® XL PLUS	3 years / 1 year
Drag-Gun®	1 year / 1 year
Drag-Gun Plus	2 years / 1 year
Torches	1 year / 1 year
Consoles, Control Equipment, Heat Exchangers and Accessory Equipment	1 year / 1 year

U.S. Customer Care:

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