



"MIG"

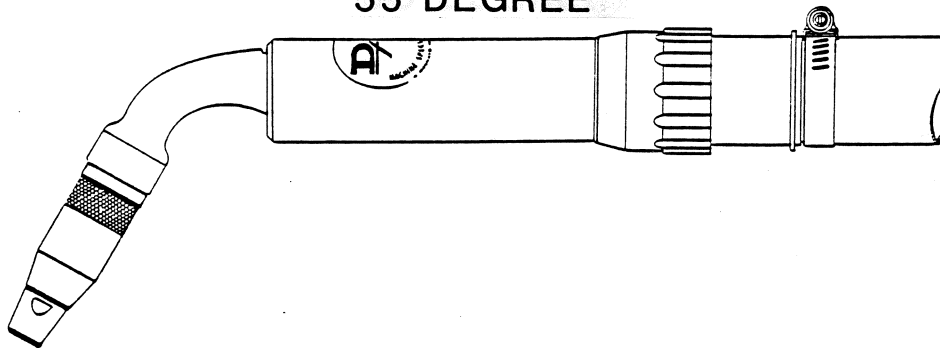
WELDING PRODUCTS

INSTRUCTION MANUAL
374 CCW/CTW - 55 Degree
Water Cooled Curved Guns
OCTOBER 1987
SUPERSEDES DECEMBER 1986
D/F PATENTS

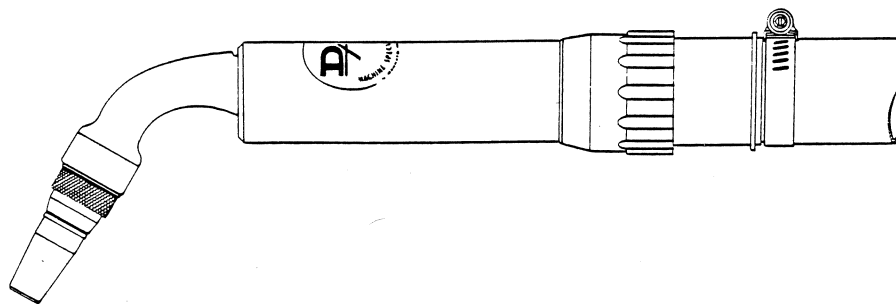
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REMOTE MOUNT --- DOCKING SPOOL ®

**WATER COOLED CURVED GUN
MODELS-CTW (Threaded TIP)
MODELS-CCW (Slip-in Tip)
55 DEGREE**



**WATER COOLED CURVED GUN
MODELS-CTW (Threaded TIP)
55 DEGREE**



INSTRUCTIONS and PARTS

INTRODUCTION

This manual covers Remote Mounted Water Cooled Curved Guns (dry nozzle type) for Mechanized or Robotic "MIG" Welding. The curved guns accommodate a wire diameter range of .030"-1/16" hard wires and .035"-1/16" cored wires.

The equipment consists of four (4) basic components: a utility station, an intermediate utilities combination assembly, a Docking Spool[®] and a water cooled curved gun. The Docking Spool[®] is the principle component in this welding equipment arrangement. It accepts the utilities at the top end of the spool and provides a means of accepting the curved gun assembly at the lower end. In addition, several other features important to a welding system are provided. Incorporated in the water chamber of the Docking Spool[®] are check valves which provide a means of retaining the residual water in the lines when the curved gun is removed from the Docking Spool[®]. Also, a Posit Ring[®] is provided to allow positive location at the mounting bracket to achieve dimensional stability.

These 55 degree water cooled curved guns are illustrated herein with four (4) nozzle body configurations. The curved gun assemblies are designated by Models. Two (2) Models are illustrated in the parts breakdown list. The Model CCW Water Cooled Curved Gun has a current capability of 350 amperes in argon shielding. It accommodates a 2 1/2" current tip fastened by a collet action nut. The wire diameter with hard wire is .030"-1/16" and cored wire .035"-1/16" diameter.

The Model CTW Water Cooled Curved Gun has a current capacity range thru 450 amperes. Gun ratings of any Models are still contingent on the combination of current tip and shielding gas to be used. The Model CTW employs a threaded current tip and accommodates .030"-1/16" hard wire and .035"-1/16" cored wire.

Model conversion may be simply made by applying the proper tip adapter.

On pages 9 to 12 are illustrated the complete equipment assemblies. There are several arrangements available that permit selection to be made to fit application requirements.

First, page 10 illustrates a standard arrangement with an optional utility station. A cable/water hose power coupling may also be desired in place of the utilities station.

Secondly, is shown a complete assembly which incorporates a D/F, patented connector (utilities station) arrangement which will accommodate the utilities brought from the source of supply.

IMPORTANT

Make certain the cooling water supply is at least the flow rate of 2 quarts per minute at 50 psi (80 psi maximum). Gun ratings are affected by shielding gases used, arc time, cooling time and inlet water temperature. Water outlet temperature should not exceed 120 °F.

To obtain maximum performance with this water cooled equipment a water circulator of the heat exchanger type with a heat displacement of 30,000 BTU's at 72 °F should be used.

SAFETY

Welding is not particularly hazardous when certain safety practices are followed. Anyone using this equipment should be thoroughly trained in safe welding practices. For more information refer to the following standards in these latest revisions and comply as applicable.

1. ANSI Standard Z49.1 Safety In Welding & Cutting
Obtainable from the American Welding Society,
2501 N.W. 7th Street
Miami, Florida 33125
2. ANSI Standard Z49.2 Fire Prevention In the Use of
Cutting & Welding Processes
Obtainable from the American National Standards
Institute
1430 Broadway
New York, NY 10018

DISASSEMBLY

To disassemble the water cooled curved gun, proceed as follows:

1. Prior to removing the curved gun from the Docking Spool[®] make certain that the power source and wire feeder are turned off. Unscrew nut 10 which will allow the gun assembly to be removed.
2. Remove the four (4) machine screws 7 which fasten the transfer spool 8 to inner body. With the transfer spool 8 removed, nut 10 may be removed. By removing flat head body screw 15 the body tube 11 may be pulled off the inner body 14.
3. If the collet adapter 17 or threaded adapter 19 are to be replaced, proceed as follows:
 - a. Unscrew the nozzle body. If the insulator threads off with the nozzle body it may be necessary to grip the edge of the insulator 20 and turn it out. Do not apply excessive pressure to the insulator.
 - b. NOTE: Nozzle body insulator threads can be reconditioned by rechasing with rear thread chaser tap.
4. Remove the adapter by using two (2) 5/8" wrenches - one to hold jam nut and the other to unscrew the adapter.
5. The Model CTW curved gun which utilizes a knurled nut to accommodate the gas nozzles may be disassembled by:
 - a. Removing the gas nozzle and current tip.
 - b. The adapter 19 may be removed by unscrewing with a open end wrench.
 - c. With adapter removed the centering disc 18, knurled nut 17 and washer 16 may be removed.

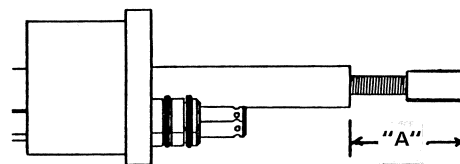
ASSEMBLY

1. To reassemble the forward end of the curved gun, reference 3, 4 and 5 as outlined in disassembly.
2. The body tube 11 may now be applied by placing it over the rear spool of the inner body and pushing it forward until the flat head screw 15 may be applied.
3. Place nut 10 on the body tube. The water transfer spool 8 may be applied. Make certain at this point that the "O" rings are in position in the counterbores provided in the rear spool of the inner body. Slide the transfer spool down over the center tube and apply the four (4) machine screws. Distribute the fastening pressure evenly.
4. To complete the gun assembly at this point examine the transfer "O" rings. Make replacement if necessary. Lubricate "O" rings with a silicone spray.

SPARE PARTS

It is recommended that the spare parts in TABLE I be on hand to assure minimum downtime.

ITEM	CODE NO.	Minimum Quantity
Tip Adapter Nut	To Be Selected	1
Body Liner	To Be Selected	2
Current Tip	To Be Selected	10
Gas Nozzle	To Be Selected	5
Nozzle Insulator	To Be Selected	5
Insulating Washer	40080	2
Centering Washer	40082	2
Insulator	13163	2
"O" Ring	13921	6
"O" Ring	13920	12

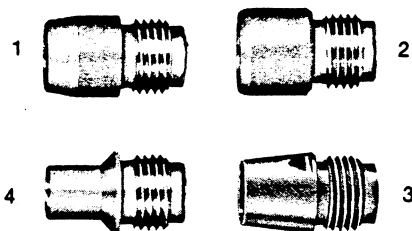


FITTING BODY LINERS (Ref. 16)

All body liners are furnished with longer than adequate length to accommodate the different length Water Cooled Nozzles. It is therefore necessary to fit the body liner for the specific tip and inner body adapter being used. The appropriate body liner should be inserted into the inner body until the liner trap bottoms out in the center tube. The tip may now be applied which will force the body liner back. After the tip is fastened a measurement of Dimension "A" plus 11/16" is the amount that the body liner shall be cut. The body liner is now at the proper length and may be reinserted into the inner body.

GAS NOZZLE – TABLE II

REF.	CODE NO.	TYPE		O.D.	I.D.
1	10362	Copper	Tapered	15/16"	5/8"
2	10340	Copper	Straight	1"	3/4"
3	10359	Copper	Tapered	15/16"	5/8"
4	10374	Copper	Straight	5/8"	7/16"



WIRE CASINGS/LINERS

Two (2) types of wire casings are available - a flexible type which accepts replaceable wire liners accommodating wire diameters from .030" thru 1/16" and a single piece type sized for various wire diameters. The single piece type is a stiffer type casing and must be used for wire diameters of 5/64" thru 1/8". The 1/8" casings will accommodate replaceable liners when a rigid casing is desired. It is recommended that the replaceable liner type wire casings be considered since the most cost savings can be realized by the replacement of the liner only.

All liners are furnished with adequate length and must be fit. Insert the liner at the feeder adapter fitting until it abuts the Machine Barrel or Gun mounted to the Docking Spool™, a measurement may now be taken of the extending end from the feeder adapter. To allow the liner trap to bottom in casing fitting cut 11/16" shorter than the measured amount. Remove the liner and cut off. Liner may now be reinserted in the casing, replace wire inlet and apply to wire feed.

CURRENT TIP – TABLE III

CURRENT TIPS – 7/16" DIAMETER THREADED



	WIRE SIZE	WIRE TYPE	CODE NO.
(Tip provides 1/8" set back)	.035"	Hard	15116
	.045"	Hard	15117
	.052"	Hard	15121
	1/16"	Hard	15118
	5/64"	Hard	15119
	3/32"	Hard	15120
(Tip provides 3/8" set back)	.045"	Cored	15106
	1/16"	Cored	15107
	5/64"	Cored	15108
	3/32"	Cored	15109
	7/64"	Cored	15110
	1/8"	Cored	15111
(Tip provides 1/8" set back)	3/64"	Aluminum	15126
	1/16"	Aluminum	15125
	3/32"	Aluminum	15124
	1/8"	Aluminum	15123

CURRENT TIPS – 5/16" DIAMETER THREADED



	WIRE SIZE	WIRE TYPE	CODE NO.
(Tip provides 1/8" set back)	.030"	Hard	10850
	.035"	Hard	10756
	.045"	Hard	10757
	.052"	Hard	10841
	1/16"	Hard	10759
	5/64"	Hard	10761
	3/32"	Hard	10763
(Tip provides 3/8" set back)	.035"	Cored	10852
	.045"	Cored	10750
	.052"	Cored	10853
	1/16"	Cored	10751
	5/64"	Cored	10752
	3/32"	Cored	10753
	7/64"	Cored	10754

CURRENT TIP – 2 1/2" SLIP-IN



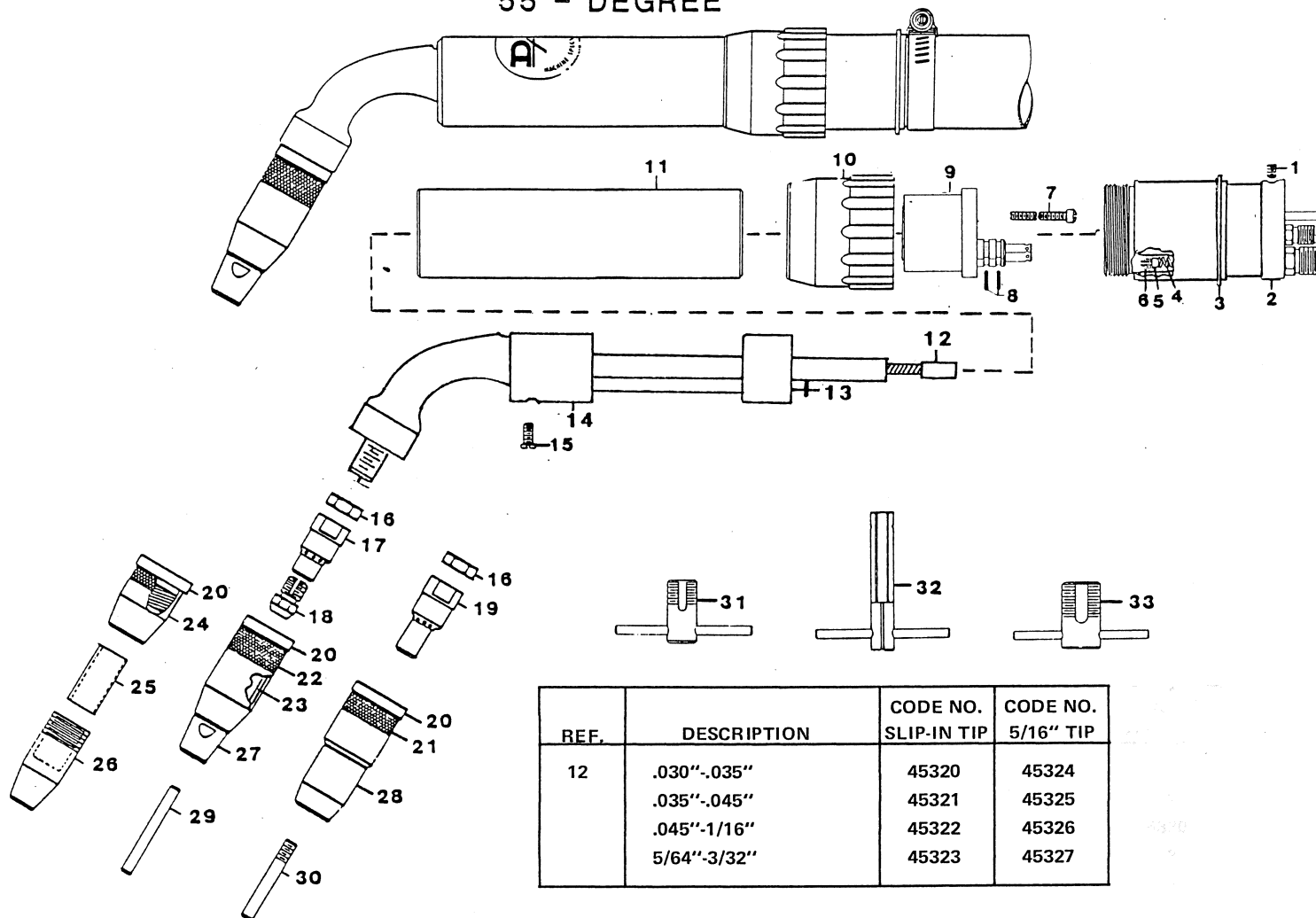
	WIRE SIZE	WIRE TYPE	CODE NO.
	.030"	Hard	10794
	.035"	Hard	10795
	.045"	Hard	10796
	.052"	Hard	10840
	1/16"	Hard	10797
	5/64"	Cored	10844
	3/32"	Cored	10845

REMOTE MOUNT DOCKING SPOOL®

WATER COOLED CURVED GUN MODELS-CTW (Threaded TIP)

MODELS-CCW (Slip-in Tip)

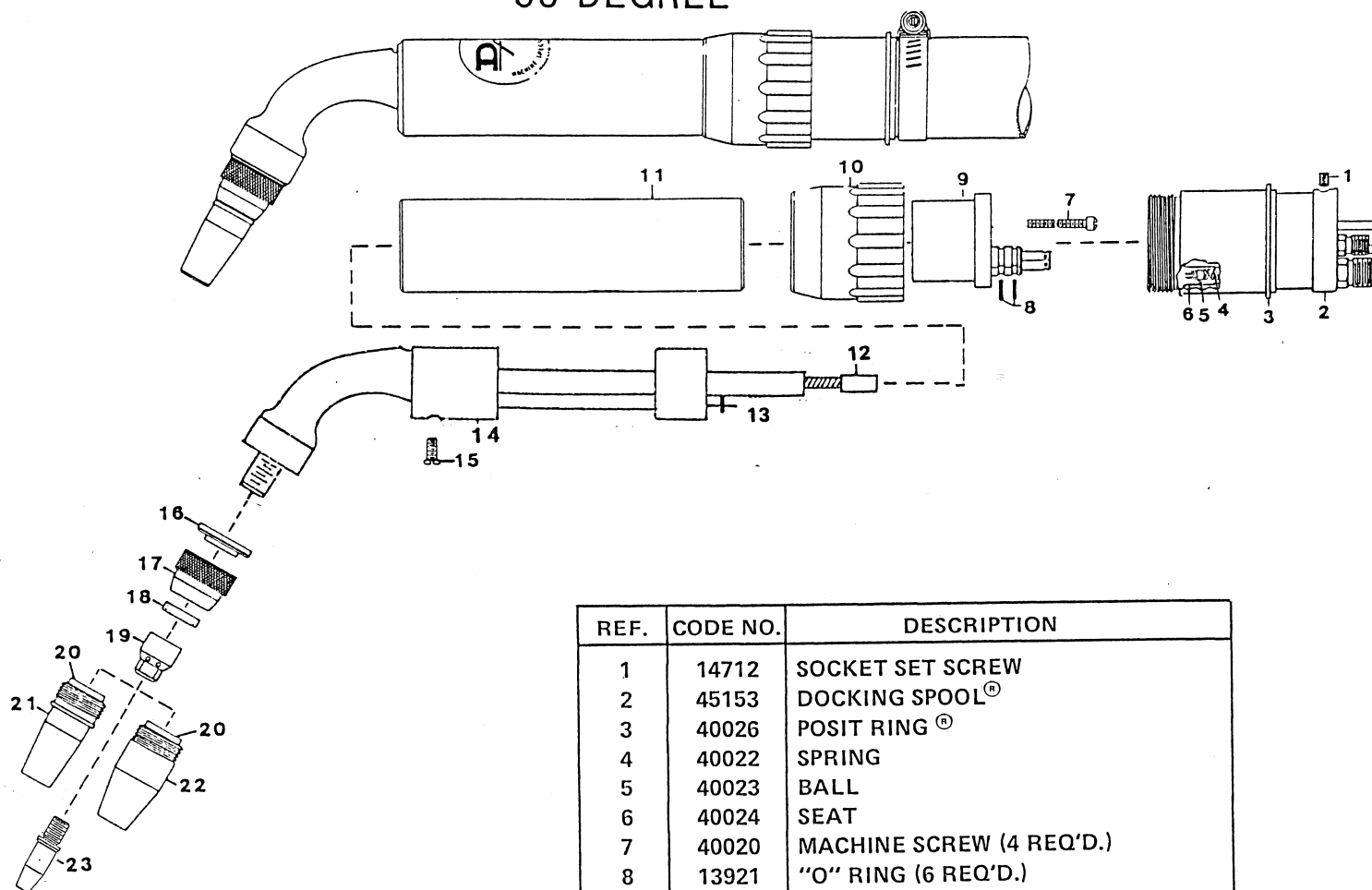
55 - DEGREE



REF.	DESCRIPTION	CODE NO. SLIP-IN TIP	CODE NO. 5/16" TIP
12	.030"-.035"	45320	45324
	.035"-.045"	45321	45325
	.045"-1/16"	45322	45326
	5/64"-3/32"	45323	45327

REF.	CODE NO.	DESCRIPTION	REF.	CODE NO.	DESCRIPTION
1	14712	SOCKET SET SCREW	21	13177	NOZZLE BODY - WITH INSULATOR
2	45153	DOCKING SPOOL®		13198	NOZZLE BODY - LESS INSULATOR
3	40026	POSIT RING®	22	13176	NOZZLE BODY - WITH INSULATOR
4	40022	SPRING		13197	NOZZLE BODY - LESS INSULATOR
5	40023	BALL	23	16605	INTERNAL INSULATOR
6	40024	SEAT	24	16383	NOZZLE BODY - WITH INSULATOR
7	40020	MACHINE SCREW (4 REQ'D.)		16384	NOZZLE BODY - LESS INSULATOR
8	13921	"O" RING (6 REQ'D.)	25	16426	INSULATOR - GAS NOZZLE
9	40027	TRANSFER SPOOL	26	16379	GAS NOZZLE - .540" I.D.
10	40002	NUT		16380	GAS NOZZLE - .625" I.D.
11	40014	BODY TUBE	27		GAS NOZZLE - SEE TABLE II
12		BODY LINER - SEE CHART ABOVE	28	10379	GAS NOZZLE - SEE TABLE II
13	13920	"O" RING (3 REQ'D.)	29		CURRENT TIP - SEE TABLE III
14	40032	INNER BODY	30		CURRENT TIP - SEE TABLE III
15	12610	FLAT HEAD SCREW	31	14610	NOZZLE THREAD CHASER TAP - FRONT
16	16202	JAM NUT	32	12111	WRENCH
17	13205	ADAPTER - COLLET NUT	33	14612	NOZZLE THREAD CHASER TAP - REAR
18	11950	COLLET NUT			
19	13207	ADAPTER - THREADED TIP			
20	13163	INSULATOR			

REMOTE MOUNT DOCKING SPOOL®
 WATER COOLED CURVED GUN
 MODELS-CTW (Threaded TIP)
 55 DEGREE



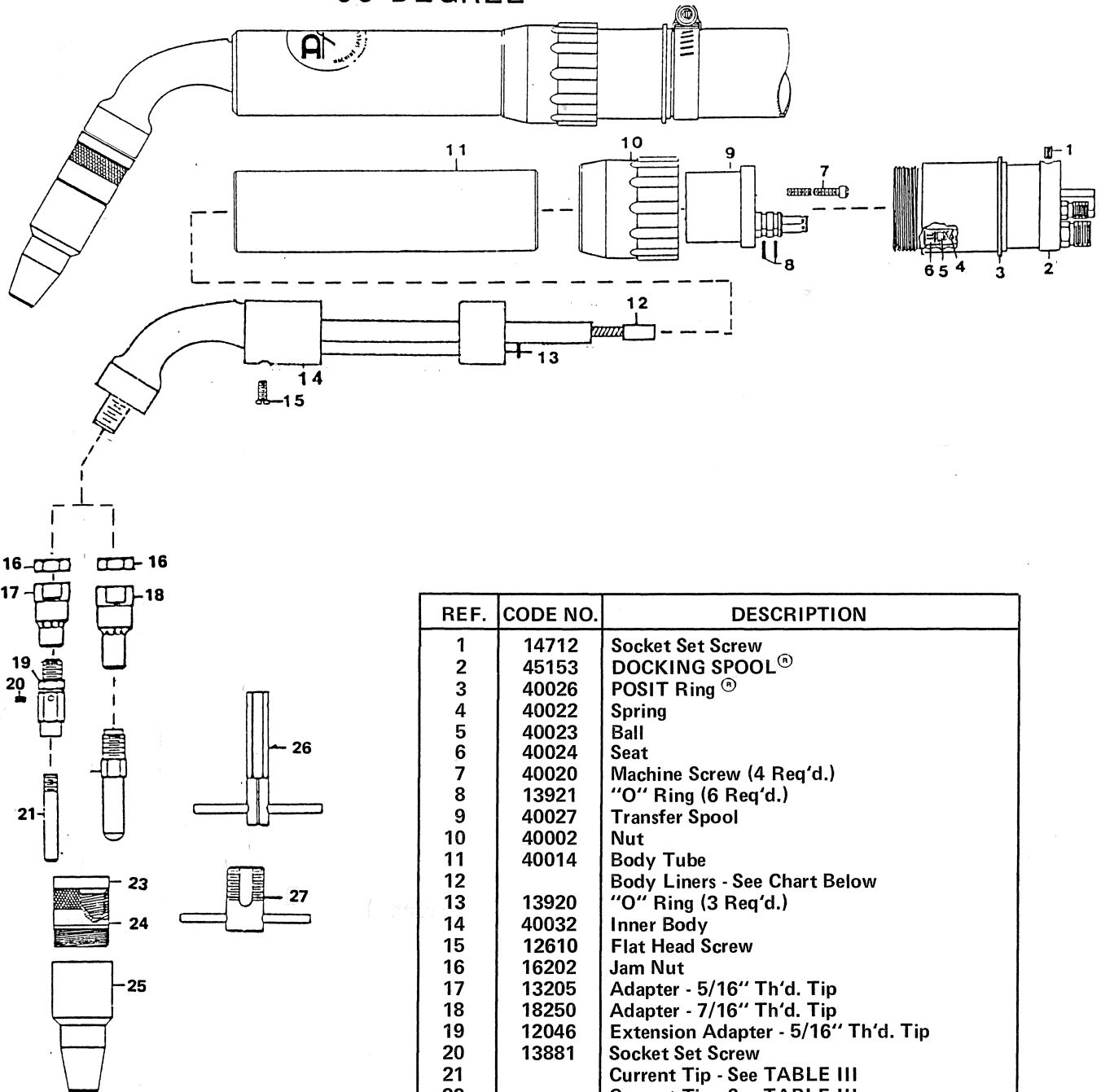
REF.	CODE NO.	DESCRIPTION
1	14712	SOCKET SET SCREW
2	45153	DOCKING SPOOL®
3	40026	POSIT RING®
4	40022	SPRING
5	40023	BALL
6	40024	SEAT
7	40020	MACHINE SCREW (4 REQ'D.)
8	13921	"O" RING (6 REQ'D.)
9	40027	TRANSFER SPOOL
10	40002	NUT
11	40014	BODY TUBE
12	45300	BODY LINER .030"-.035"
	45301	BODY LINER .035"-.045"
13	13920	"O" RING (3 REQ'D.)
14	40032	INNER BODY
15	12610	FLAT HEAD SCREW
16	40080	INSULATING WASHER
17	40081	NUT - NOZZLE
18	40082	CENTERING WASHER
19	40083	ADAPTER
20	40084	INSULATION TUBE - GAS NOZZLE
21	40085	GAS NOZZLE - 7/16" I.D.
22	40079	GAS NOZZLE - 19/32" I.D. Copper
23	10909	CURRENT TIP .030"
	10910	CURRENT TIP .035"
	10911	CURRENT TIP .045"
	10912	CURRENT TIP .052"

REMOTE MOUNT DOCKING SPOOL[®]

WATER COOLED CURVED GUN

MODELS-CTW (Threaded TIP)

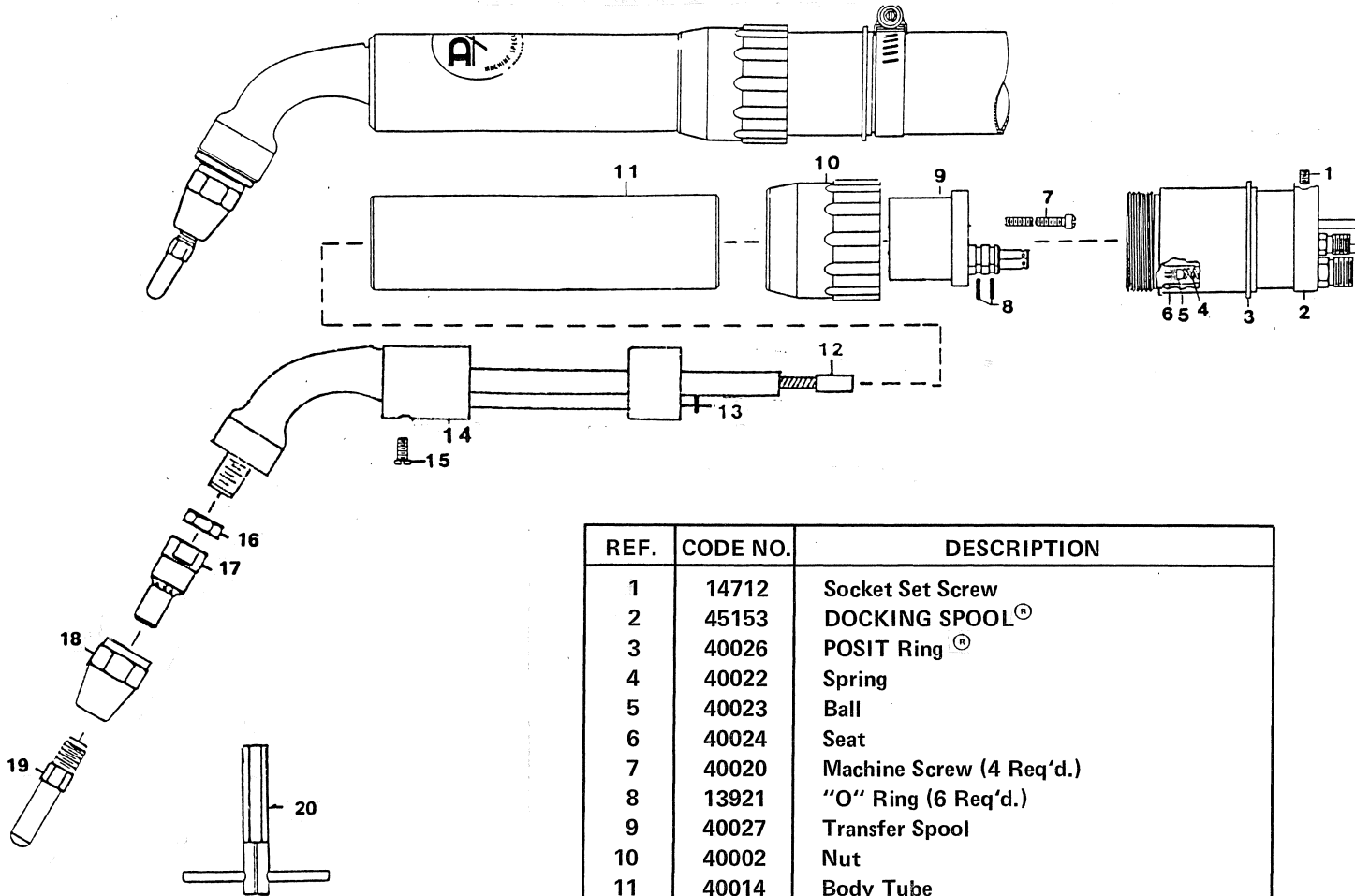
55 DEGREE



REF.	DESCRIPTION	CODE NO. 5/16" TIP	CODE NO. 7/16" TIP
12	.030"-.035"	45324	
	.035"-.045"	45325	45329
	.045"-1/16"	45326	45330
	5/64"-3/32"	45327	45331

REF.	CODE NO.	DESCRIPTION
1	14712	Socket Set Screw
2	45153	DOCKING SPOOL [®]
3	40026	POSIT Ring [®]
4	40022	Spring
5	40023	Ball
6	40024	Seat
7	40020	Machine Screw (4 Req'd.)
8	13921	"O" Ring (6 Req'd.)
9	40027	Transfer Spool
10	40002	Nut
11	40014	Body Tube
12		Body Liners - See Chart Below
13	13920	"O" Ring (3 Req'd.)
14	40032	Inner Body
15	12610	Flat Head Screw
16	16202	Jam Nut
17	13205	Adapter - 5/16" Th'd. Tip
18	18250	Adapter - 7/16" Th'd. Tip
19	12046	Extension Adapter - 5/16" Th'd. Tip
20	13881	Socket Set Screw
21		Current Tip - See TABLE III
22		Current Tip - See TABLE III
23	13163	Insulator
24	13175	Nozzle Body (With Insulator)
	13196	Nozzle Body (Less Insulator)
25	10368	Gas Nozzle - 3/4" I.D.
26	12111	Wrench
27	14612	Nozzle Body Thread Chaser Tap (Rear)

REMOTE MOUNT DOCKING SPOOL®
WATER COOLED CURVED GUN
MODELS-CTW (Threaded TIP)
55 DEGREE - GASLESS



REF.	CODE NO.	DESCRIPTION
1	14712	Socket Set Screw
2	45153	DOCKING SPOOL®
3	40026	POSIT Ring®
4	40022	Spring
5	40023	Ball
6	40024	Seat
7	40020	Machine Screw (4 Req'd.)
8	13921	"O" Ring (6 Req'd.)
9	40027	Transfer Spool
10	40002	Nut
11	40014	Body Tube
12	45361	Body Liner .035\"-.045"
	45362	Body Liner .045\"-1/16"
	45363	Body Liner 5/64\"-3/32"
	45364	Body Liner 7/64"
13	13920	"O" Ring (3 Req'd.)
14	40032	Inner Body
15	12610	Flat Head Screw
16	16202	Jam Nut
17	18250	Adapter - 7/16\" Th'd. Tip
18	16815	Nut
19		Current Tip - See TABLE III
20	12111	Wrench

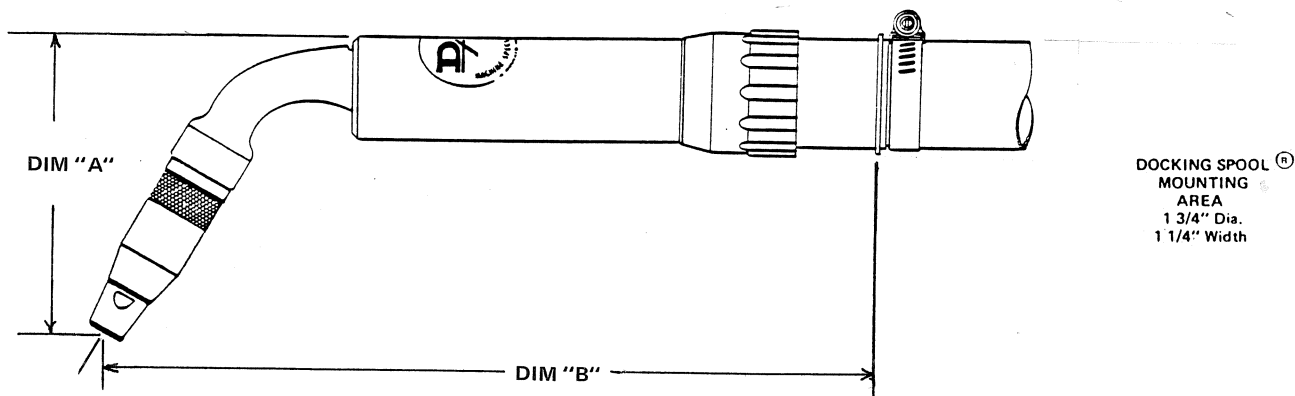
ORDERING INFORMATION: TO OBTAIN COMPLETE ASSEMBLIES - REFERENCE PAGES 9 & 10 FOR STANDARD ASSEMBLIES OR PAGES 11 & 12 FOR ASSEMBLIES WITH CONNECTOR.

NOTE: Add Footage to Code Number for Length Desired.

Example: Require Standard Model CCW - Nozzle Body 13197 with 8 Ft. Utilities – Code No. 40326-8

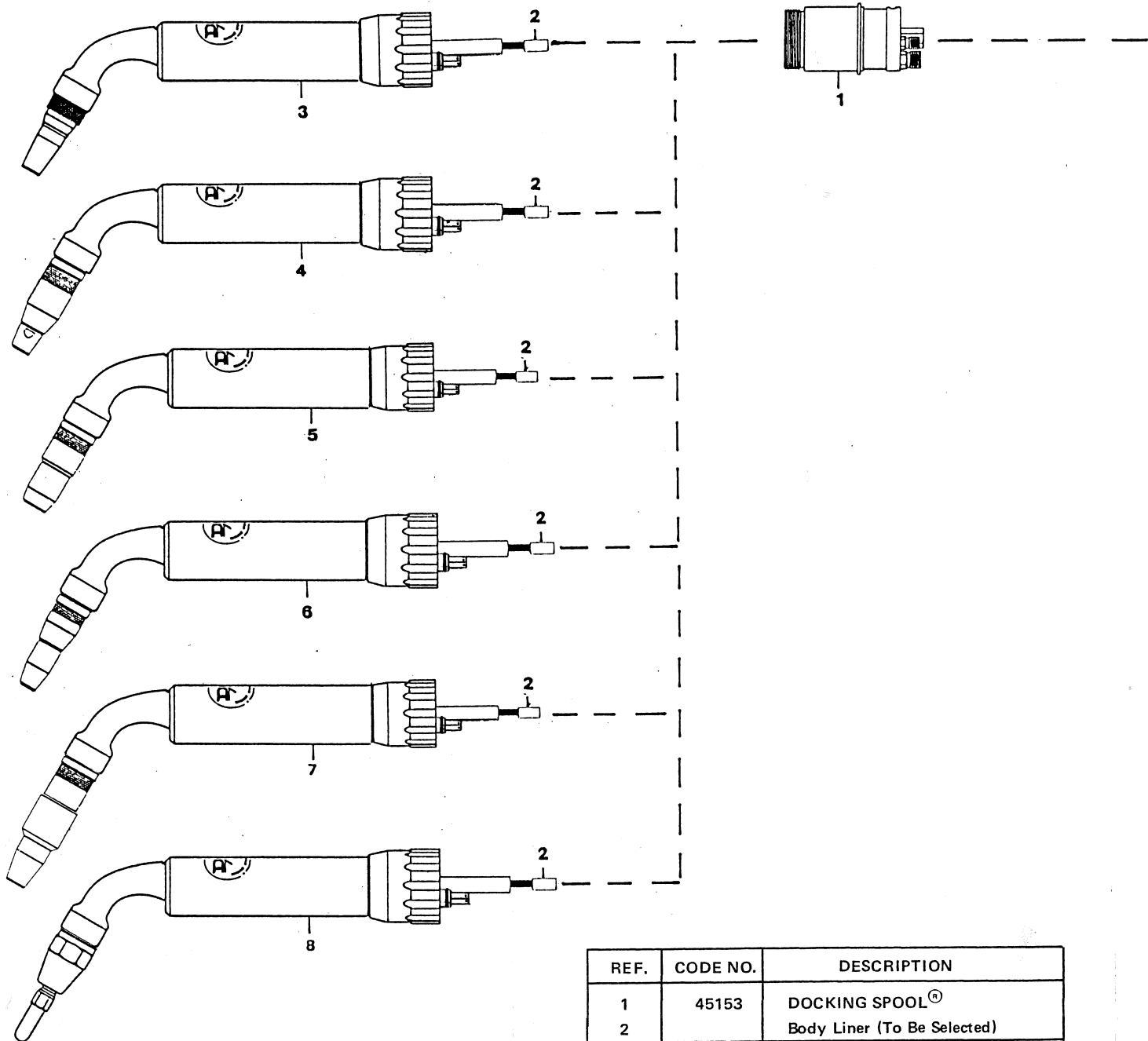
Advise Wire Diameter and Feeder Manufacturer

Nozzle Arrangement - Ref. Pages 9 & 11	Complete Standard Assemblies Consists of Gun Assembly, Docking Spool [®] and Utility Combination		Complete Assembly with Connector Consists of Gun Assembly, Docking Spool [®] , Utilities Combination and Connector	
	Model CCW	Model CTW	Model CCW	Model CTW
Ref. 3 Mini		40332		40337
Ref. 4 Nozzle Body – 13197	40326	40333	40322	40338
Ref. 5 Nozzle Body – 13198	40327	40334	40323	40339
Ref. 6 Nozzle Body – 16384	40328	40335	40324	40340
Ref. 7 Nozzle Body – 13196	40329	40336	40325	40341
Ref. 8 Gasless		40330		40331



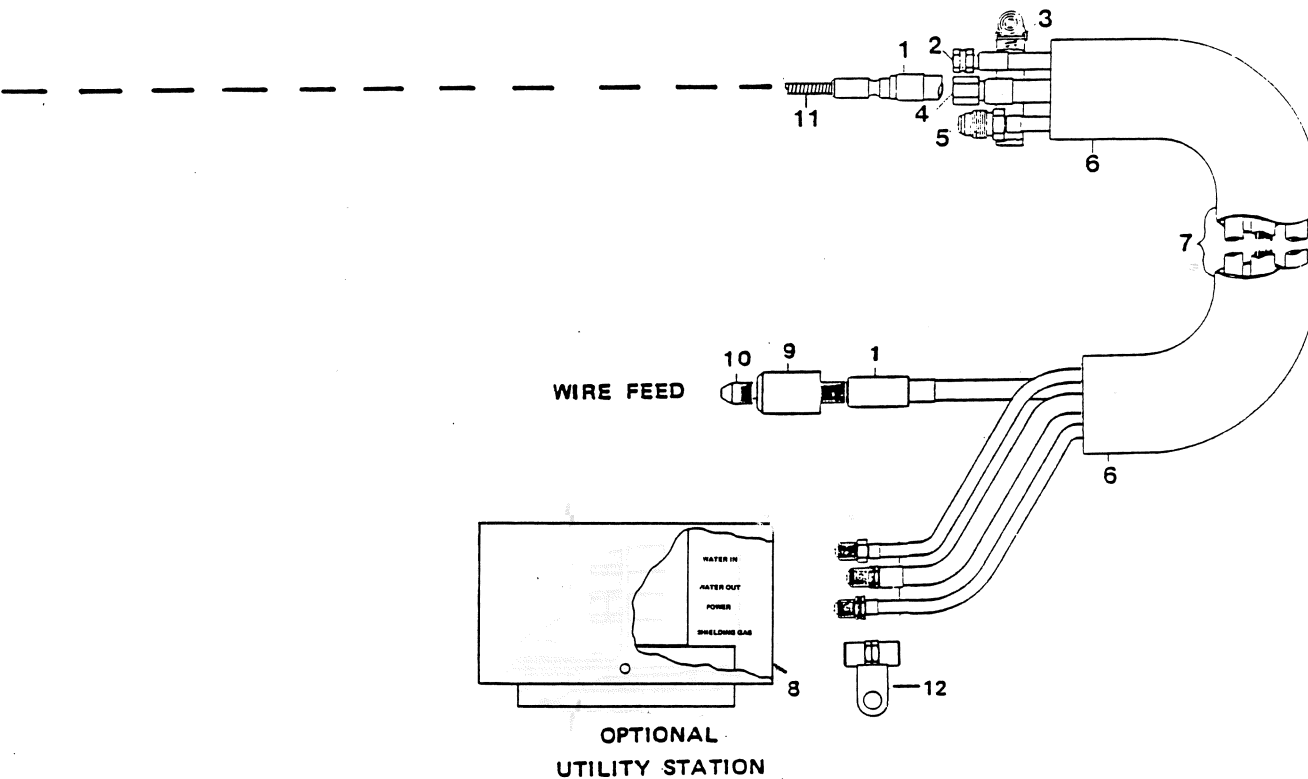
FRONT END	DIM A	DIM B
MINI	4.152"	8.739"
13197 NOZZLE BODY	4.890"	9.804"
13198 NOZZLE BODY	4.890"	9.793"
16384 NOZZLE BODY	4.890"	9.811"
13196 NOZZLE BODY	5.657"	10.342"
Gasless	4.930"	9.298"

ROBOTIC - 55 DEGREE
 REMOTE MOUNT - DOCKING SPOOL®
 WATER COOLED CURVED GUN
 MODELS-CTW (Threaded TIP)
 MODELS-CCW (Slip-in Tip)



REF.	CODE NO.	DESCRIPTION	
1	45153	DOCKING SPOOL®	
2		Body Liner (To Be Selected)	
REF.	MODEL CCW	MODEL CTW	DESCRIPTION
3		47550	MINI
4	47501	47551	With Noz. Body 13197
5	47502	47552	With Noz. Body 13198
6	47503	47553	With Noz. Body 16384
7		47548	With Noz. Body 13196
8		47547	Gasless - Model CTW-G

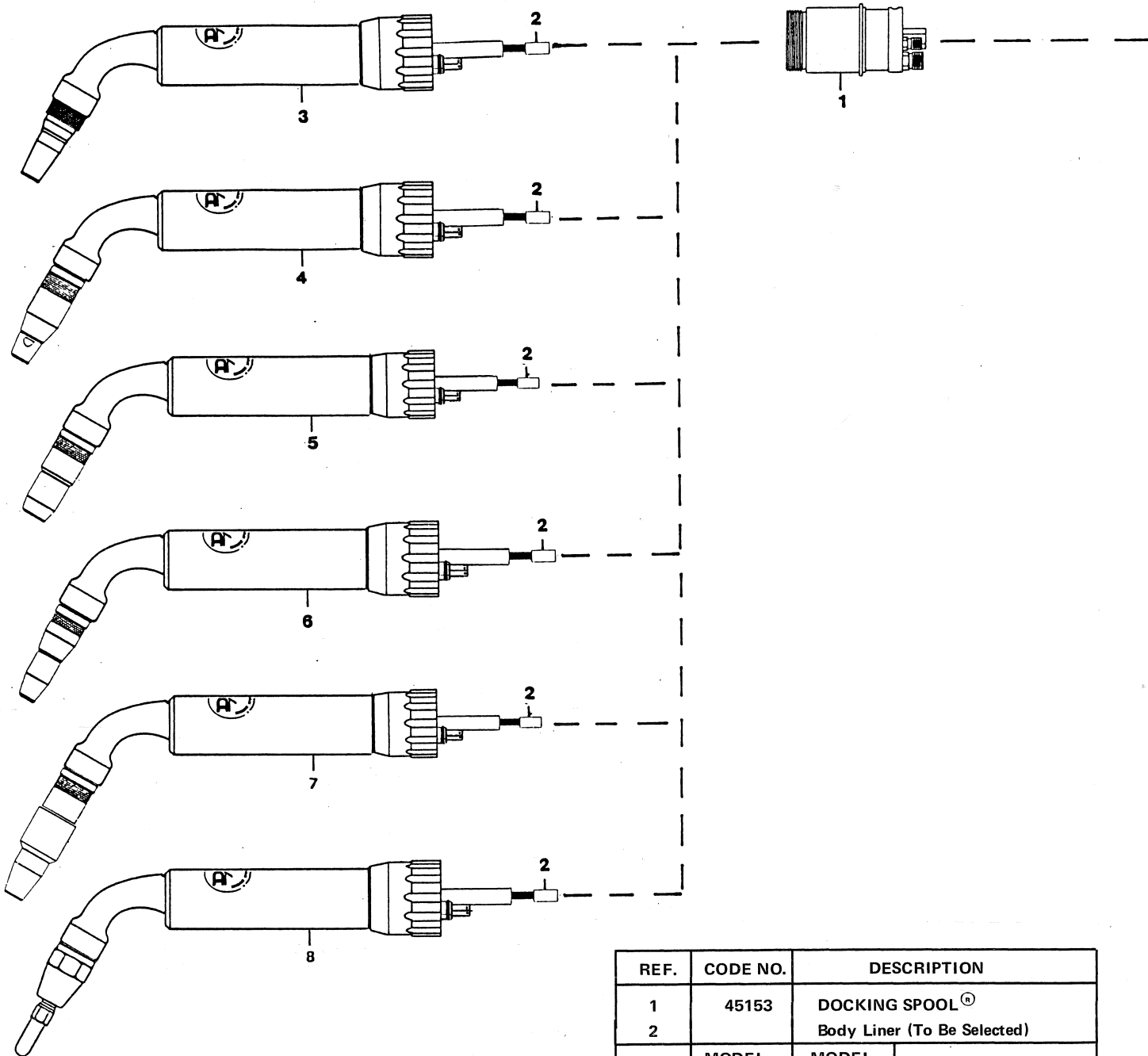
STANDARD ASSEMBLIES



REF.	CODE NO.	DESCRIPTION	REF.	CODE NO.	DESCRIPTION
1	46350	CASING .030"-.035" (REQUIRES Liner)	7	46624	5/64"-3/32"
	46370	CASING .035"-1/16" (REQUIRES Liner)		46625	7/64"-1/8"
	46420	CASING .035"-.045" SINGLE PIECE	8	45196	OPTIONAL UTILITY STATION
	46440	CASING .045"-1/16" SINGLE PIECE	9		FEEDER ADAPTER - SEE TABLE V
	46460	CASING 5/64"-3/32" SINGLE PIECE	10		INLET - SEE TABLE VI
	46480	CASING 7/64"-1/8" SINGLE PIECE	11	47020	LINER .030"-.035" Hard/Cored
	46500	CASING 1/8" AL. SINGLE PIECE		47021	LINER .035"-.045" Hard/Cored
2	46300	WATER IN HOSE ASSEMBLY		47022	LINER .045"-1/16" Hard/Cored
3	14803	CLAMP		47023	LINER 3/64" Soft
4	46320	WATER OUT HOSE & POWER CABLE ASSY.		47024	LINER 1/16" Soft
5	46260	GAS HOSE ASSEMBLY - STANDARD		47025	LINER 3/32" Soft
	46281	GAS HOSE ASSEMBLY - HIGH CAPACITY	12	14430	CABLE WATER HOSE POWER COUPLING
6	46630	CABLE/HOSE SHEATH			
7		UTILITY COMBINATION - CONSISTING OF			
		ITEMS 1, 2, 3, 4, 5, 6 & 11			
	46620	.030"-.035"			
	46621	.035"-1/16"			
	46622	.035"-.045"			
	46623	.045"-1/16"			

ORDERING INFORMATION: ADD FOOTAGE DIGIT TO ITEM CODE NUMBER FOR LENGTH REQUIRED
EXAMPLE - REQUIRE 8 FT. WATER IN HOSE ASSEMBLY - 46300-8

ROBOTIC - 55 DEGREE
 REMOTE MOUNT - DOCKING SPOOL®
 WATER COOLED CURVED GUN
 MODELS-CTW (Threaded TIP)
 MODELS-CCW (Slip-in Tip)

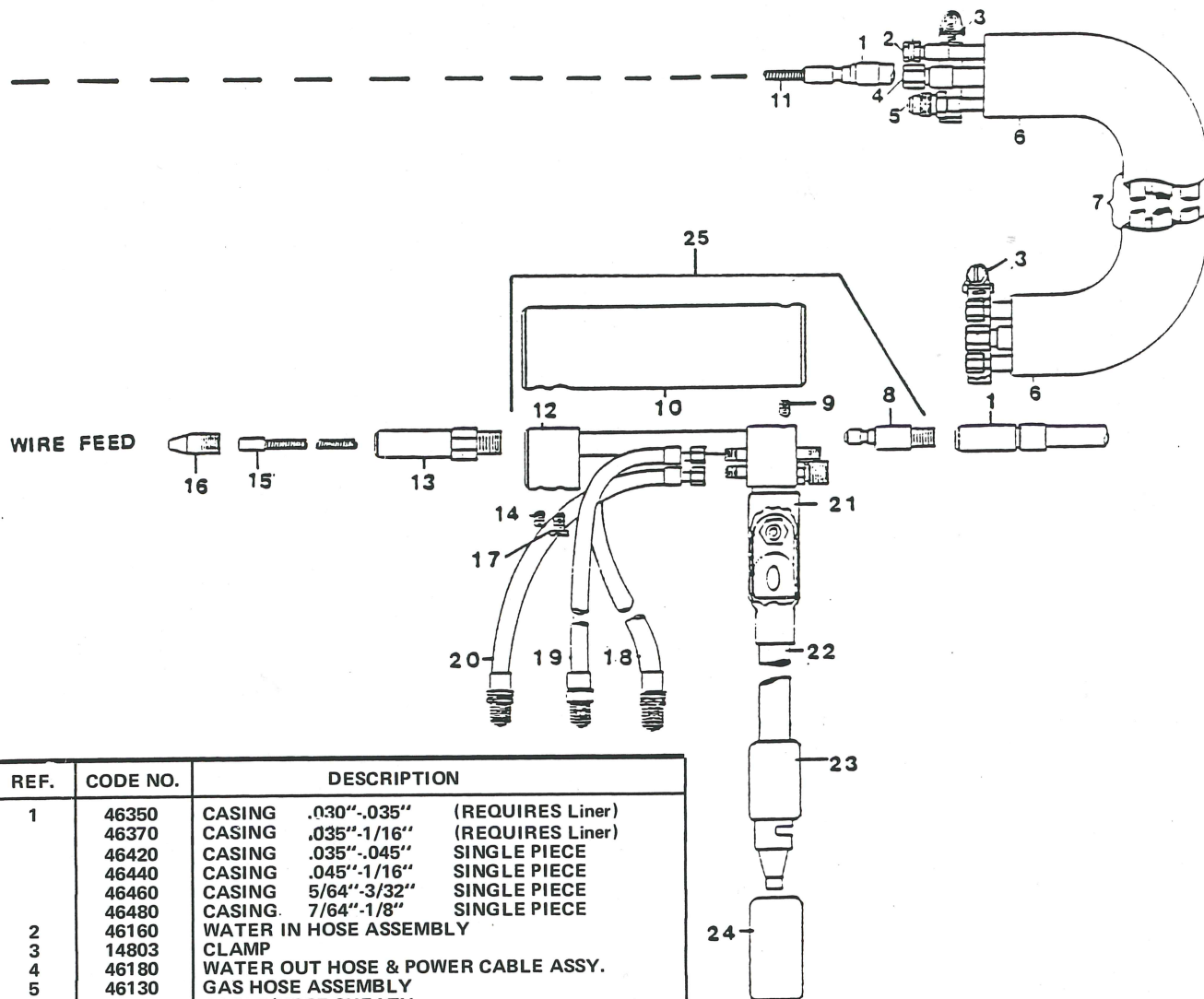


REF.	CODE NO.	DESCRIPTION	
1	45153	DOCKING SPOOL®	
2		Body Liner (To Be Selected)	
REF.	MODEL CCW	MODEL CTW	DESCRIPTION
3		47550	MINI
4	47501	47551	With Noz. Body 13197
5	47502	47552	With Noz. Body 13198
6	47503	47553	With Noz. Body 16384
7		47548	With Noz. Body 13196
8		47547	Gasless - Model CTW-G

CONNECTOR

HOSES-CASING-CABLE

ASSEMBLIES



REF.	CODE NO.	DESCRIPTION
1	46350	CASING .030"-.035" (REQUIRES Liner)
	46370	CASING .035"-1/16" (REQUIRES Liner)
	46420	CASING .035"-.045" SINGLE PIECE
	46440	CASING .045"-1/16" SINGLE PIECE
	46460	CASING 5/64"-3/32" SINGLE PIECE
	46480	CASING 7/64"-1/8" SINGLE PIECE
2	46160	WATER IN HOSE ASSEMBLY
3	14803	CLAMP
4	46180	WATER OUT HOSE & POWER CABLE ASSY.
5	46130	GAS HOSE ASSEMBLY
6	46631	CABLE/HOSE SHEATH
7		UTILITY COMBINATION - CONSISTING OF
		ITEMS 1, 2, 3, 4, 5, 6 & 11
	46640	.030"-.035" (REQUIRES Liner)
	46641	.035"-1/16" (REQUIRES Liner)
	46642	.035"-.045" SINGLE PIECE
	46643	.045"-1/16" SINGLE PIECE
	46644	5/64"-3/32" SINGLE PIECE
	46645	7/64"-1/8" SINGLE PIECE
8	15953	ADAPTER - CASING .030"-1/16"
	15954	ADAPTER - CASING 5/64"-7/64"
9	14714	SOCKET SET SCREW
10	12874	CONNECTOR BODY TUBE
11	47020	LINER .030"-.035" Hard/Cored
	47021	LINER .035"-.045" Hard/Cored
	47022	LINER .045"-1/16" Hard/Cored
	47023	LINER 3/64" Aluminum
	47024	LINER 1/16" Aluminum
	47025	LINER 3/32" Aluminum
12	12983	CONNECTOR INNER BODY
13		FEEDER ADAPTER - SEE TABLE V
14	14714	SOCKET SET SCREW
15		LINER REQUIRED WITH SINGLE PIECE CASING

REF.	CODE NO.	DESCRIPTION
15	18240	LINER .030"-.035"
	14225	LINER .035"-.045"
	14226	LINER .045"-1/16"
	16212	LINER 5/64"-7/64"
16		INLETS - SEE TABLE VI
17	12610	FLAT HEAD SCREW
18	18370	CONNECTOR WATER IN HOSE ASSY. 2 Ft.
19	18377	CONNECTOR GAS HOSE ASSEMBLY 2 Ft.
20	18370	CONNECTOR WATER OUT HOSE ASSY. 2 Ft.
21	18239	HEAT SHRINK
22	18258	POWER CABLE ASSEMBLY - 4/0 2 Ft.
		(With Male Connector)
23	18256	CONNECTOR - Male
24	18257	CONNECTOR - Female
25		CONNECTOR ASSEMBLY - CONSISTING OF
		ITEMS 8, 9, 10, 12, 14, 15, 17, 18, 19, 20, 21,
		22, 23 & 24 - SPECIFY SIZE WIRE
	40060	.030"-1/16"
	40061	5/64"-7/64"

ORDERING INFORMATION: ADD FOOTAGE DIGIT TO ITEM CODE NUMBER FOR LENGTH REQUIRED
 EXAMPLE - REQUIRE 8 FT. WATER IN HOSE ASSEMBLY - 46160-8

FEEDER ADAPTER – TABLE V

Manufacturer	Models	Wire Diameter	Remote Adapter		
			Hard or Al	Cored	*Stub Liner
Aireco	AHF-T	.030"-.035" Hard	13031		16166
	AHF-N	.045"-1/16" Hard	13031		16167
	AHF-R1	3/64" Soft	13031		16654
	AFH-U1	1/16" Soft	13013		16655
	AHF-V1	3/32" Soft	13031		16656
	AHF-V6	5/64"-3/32" Cored		13029	16168
	AHF-NP	7/64" Cored		13029	16169
	AHF-N6				
Compak-O-Matic	480, 120, 125	.035"-.045" Hard	13486		16690
		.045"-1/16" Hard	13486		16691
		3/64" Soft	13486		16694
		1/16" Soft	13486		16695
		3/32" Soft	13486		16696
		5/64"-3/32" Cored		16612	16692
		7/64" Cored		16612	16693
	10, 25, 103-B 500		13481		
	No. 75	.035" Hard	13482		
		.045" Hard	13488		
		1/16" Hard	13489		
		3/64"-1/16"-3/32" Al	13490		
		5/64"-3/32" Cored	13491		
		7/64" Cored	13492		
Hobart	All Models	.030"-.035" Hard	13067		16665
		.035"-.045" Hard	13067		16666
		.045"-1/16" Hard	13067		16667
		3/64" Soft	13067		16670
		1/16" Soft	13067		16671
		3/32" Soft	13067		16672
		(5/64"-7/64") Cored		16087	16668
Lincoln	LN-7 LN-8	.035"-.045" Hard	13110		16698
		.045"-1/16" Hard	13110		16699
		3/64" thru 3/32" Al	13111		
		5/64"-3/32" Cored		13112	16700
	LN-9 No Lug	.035"-.045" Hard	16581		16711
		.045"-1/16" Hard	16581		16712
Water Cooled Guns		5/64"-3/32" Cored		16582	16713
		7/64" Cored		16582	16714
Air Cooled Guns	LN-9 Adapter with Lug	.035"-.045" Hard	16373		16703
		.045"-1/16" Hard	16373		16704
		5/64"-3/32" Cored		16527	16705
		7/64" Cored		16527	16705

Manufacturer	Models	Wire Diameter	Remote Adapter		
			Hard or Al	Cored	*Stub Liner
Linde	SWM31 SWM34 SWM37 SWM38 EH8	Casing to Feeder (Accepts Linde Outlet Guide)	13046		
		D/F Insert			
		.035"-.045" Hard	13047		
		.045"-1/16" Hard	13048		
		5/64"-3/32" Cored		13049	
		3/64"-1/16" Al	13050		
	SWM11 SWM113 SWM23 SWM25 EH35 EH10	.035"-.045" Hard	13043		16690
		.045"-1/16" Hard	13043		16691
		3/64" Soft	13043		16694
		1/16" Soft	13043		16695
		3/32" Soft	13043		16696
Miller	MHFC				
			13115		
	10A 30A	.030"-.035" Hard	13120		
		.035"-.045" Hard	13121		
		.045"-1/16" Hard	13122		
		5/64"-3/32" Cored		13123	
		3/64"-3/32" Al	13124		
Miller ("50" Series)	S-52A S-52E S-54E S-52D S-54D D-52D	.030"-.035" Hard	16557		16673
		.035"-.045" Hard	16557		16674
		.045"-1/16" Hard	16557		16675
		3/64" Soft	16557		16679
		1/16" Soft	16557		16680
		3/32" Soft	16557		16681
		5/64"-3/32" Cored		16559	16676
		7/64" Cored		16559	16677
Westinghouse	SA2/SA605 SA625 SA-505-C SA205/SA225	.035" Hard	13003		
		.045" Hard	13004		
		1/16" Hard	13005		
		3/64"-3/32" Cored	13006		
		5/64"-3/32" Cored		13007	
		7/64" Cored		13008	

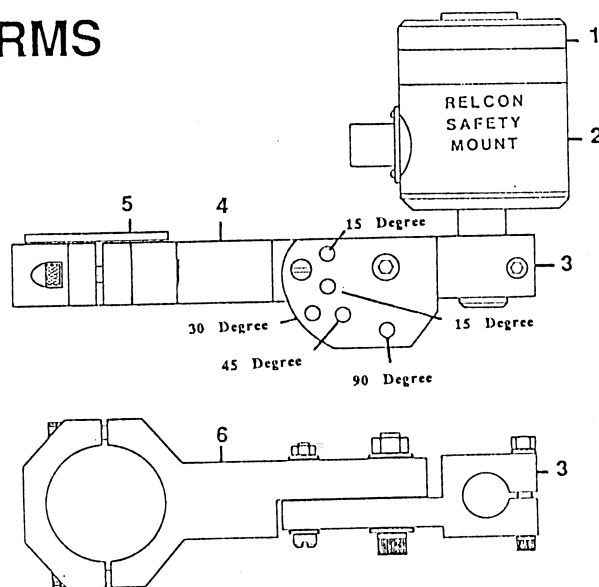
*Stub liners only required in feeder adapter when single piece casing is used.

INLET – TABLE VI

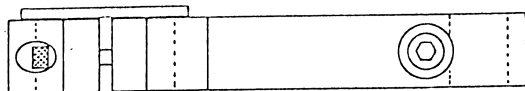
Wire Size	Steel Code No.	Brass Code No.	Nylon Code No.
.030"	13801	16417	
.035"	13803	16418	
.045"	13806	16419	
.052"	13844	16420	
1/16"	13809	16421	
5/64"	13812	16422	
3/32"	13814	16422	
7/64"	13816		
1/8"	13842		
3/64" Al.			13807
1/16" Al.			13810
3/32" Al.			13815

ROBOT SAFETY MOUNT and MOUNTING ARMS

Ref. Code No.	Description
1	Insulating Disc-Ref.Table-A
2	40519 Relcon Safety Mount-Medium Duty
	40520 Relcon Safety Mount-Heavy Duty
3	40540 Shaft Bracket
4	40562 Arm Assembly-COMplete 6"
	40563 Arm Assembly-COMplete 8"
	40564 Arm Assembly-COMplete 10"
5	40539 Bushing
6	40565 Arm-ONLY 6"
	40566 Arm-ONLY 8"
	40567 Arm ONLY 10"

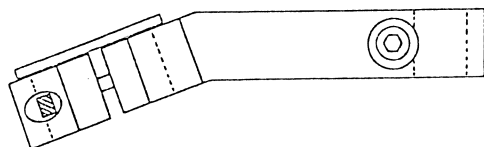


UNIVERSAL MOUNTING ARM



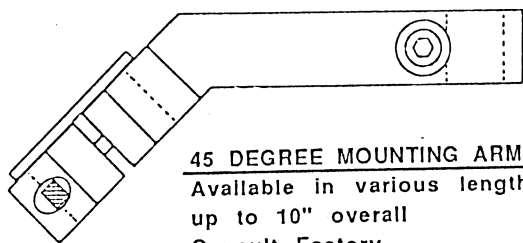
STRAIGHT MOUNTING ARMS

Available in various lengths
up to 10" overall
Consult Factory



10 DEGREE MOUNTING ARMS

Available in various lengths
up to 10" overall
Consult Factory



45 DEGREE MOUNTING ARMS

Available in various lengths
up to 10" overall
Consult Factory

EXTENSION ARMS

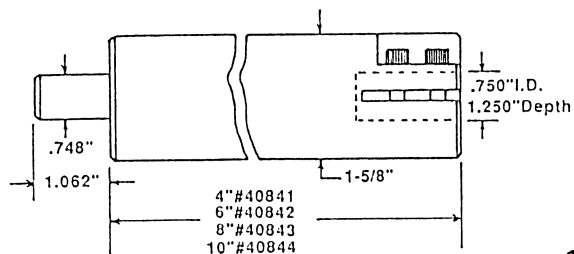
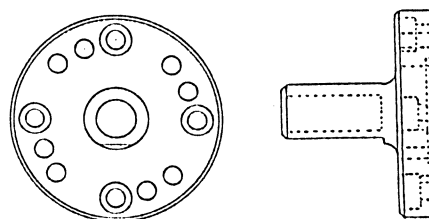


TABLE A -INSULATING DISCS

ROBOT MODEL		CODE NO.
CYBOTECH	H-80 Series	40507
	H-280 Series	40507
	WV-15	40507
	TH-8	40507
	GA-100(GANTRY)	40507
GMF	S100	40547
	S200	40547
	Arc Mate	40547
HITACHI	PW-10	40507
MILACRON	T3-726	40521
	T3-746	40522
	T3-776	40523
	T3-786	40524
	T3-566	40525
	T3-586	40526
	T3-735	40527
	T3-646	40546
MOTOMAN		40506
WESTINGHOUSE	Komatsu RWL-0005	40548
	Unimation 760	40549

FLANGED-POST MOUNT

Code No. 40589



WARRANTY

This Equipment is sold by D/F Machine Specialties, Incorporated, under the warranty set forth in the following paragraph. Such warranty is extended only to the buyer who purchases the equipment directly from D/F or its authorized distributor as new merchandise.

The gun and cable assemblies are warranted by D/F to be free from manufacturing defects for 90 days after delivery by D/F, provided that the equipment is properly operated under conditions of normal use and that regular periodic maintenance and service is performed. Expendable parts are not warrantied for any specific time. Expendable parts referred to herein would be the nozzles, current tips, spatter discs, insulators, casing liners and wire inlets. D/F's sole obligation under this warranty is limited to making replacement at its manufacturing facility for gun assemblies which are returned to it with transportation charges prepaid, and upon D/F's examination have been found to be so defective.

The foregoing warranty shall not apply if the gun assemblies have been repaired or altered by anyone other than a D/F representative or if the equipment has been subject to abuse, misuse, negligence or accident. There are no warranties which extended beyond the description of the gun assemblies in this manual.

The user of the gun assemblies shall have the sole responsibility for any malfunction which results from improper use or repair by anyone other than D/F.



MACHINE SPECIALTIES, INC.

1750 HOWARD DR., NO. MANKATO, MN 56001

"MIG" & "TIG" WELDING PRODUCTS

(507) 625-6200