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#### **MODEL 9-3500 IPB Notice and Revision History**

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The nature of the GTAW process creates some POTENTIAL HAZARDS. In accordance with international safety regulations the EXCLAMATION SYMBOL indicates that this equipment is considered HAZARDOUS. The LIGHTNING FLASH SYMBOL indicates that there are potential electrical hazards. The display of these symbols makes it the OPERATOR'S RESPONSIBILITY TO ENSURE THAT THEY HAVE BEEN MADE AWARE OF and shall observe the hazardous conditions.

WARNING: AMI factory training is essential for all Maintenance Technicians who operate AMI equipment. D service this equipment without proper AMI approved training.
WARNING: Keep hands and fingers clear from moving parts such as fans, gears, rotors, Wire Feed, Weld H Oscillation (OSC) and Arc Voltage Control (AVC) mechanisms
Weld Head AVC and Oscillator Slide Assemblies develop high forces and it is possible, by their nature of op any object or body part that may get into these areas. USE EXTREME CAUTION!
Electrical Shock Hazard: Always disconnect weld heads when servicing internal components or opening he access.

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REV	ECO #	CHANGE DESCRIPTION	DATE	BY
Α	4678	On 090117 Change Item 6 & 23	7 Mar 2008	SO
В	4779	Added rev D of 750015	26 May 2008	SO
С	5579	Added rev F of 750015 and Wiring Diagram	18 Jan 2010	СВ
D	5753	Deleted pg 4 of 8 from IPB 090117, removed cable parts from 090117, updated TOC	10/6/10	GB

## To be used for reference only

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Do not operate or	
l Head Travel, i.e.	
operation, to harm	
housing covers for	

APR
BF
BF
DC
DC

### **TABLE OF CONTENTS**

DATE EFFECTIVE: 29 July 1992

PRODUCT MODEL: 9-3500 MANUAL NUMBER: 730023

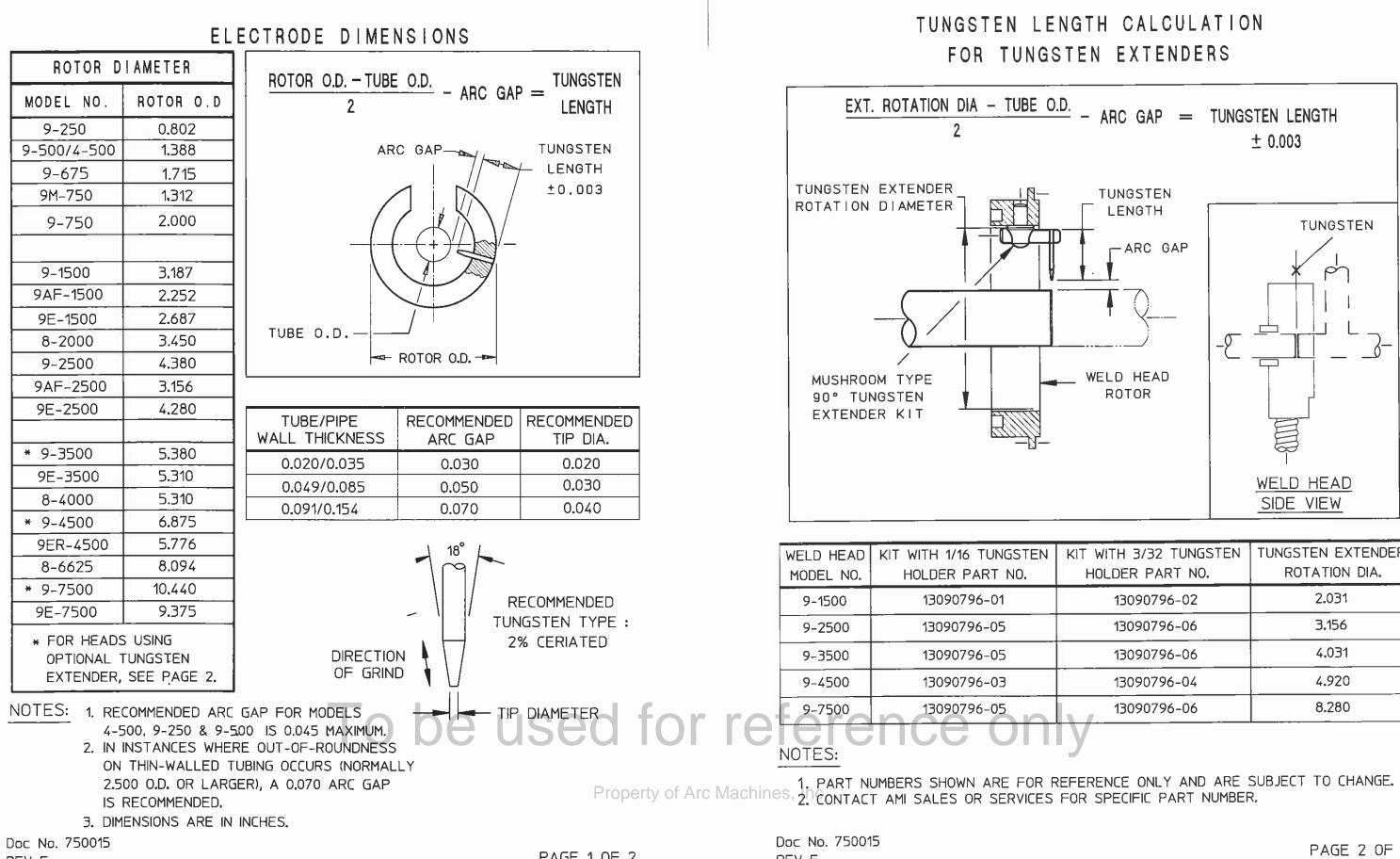
IPB NUMBER	DESCRIPTION
750015	MODEL 9 ELECTRODE DIMENSIONS
090117	MAIN ASSEMBLY
090515	LOCATING ARM KIT
090104	MODEL 9E CONFIGURATION
750031	MODEL 9 CONVERSION TO MODEL 9E INSTRUCTIONS
090800	CABLE ASSEMBLY M9
175144-04	MODEL 9 WELD HEAD WIRING DIAGRAM

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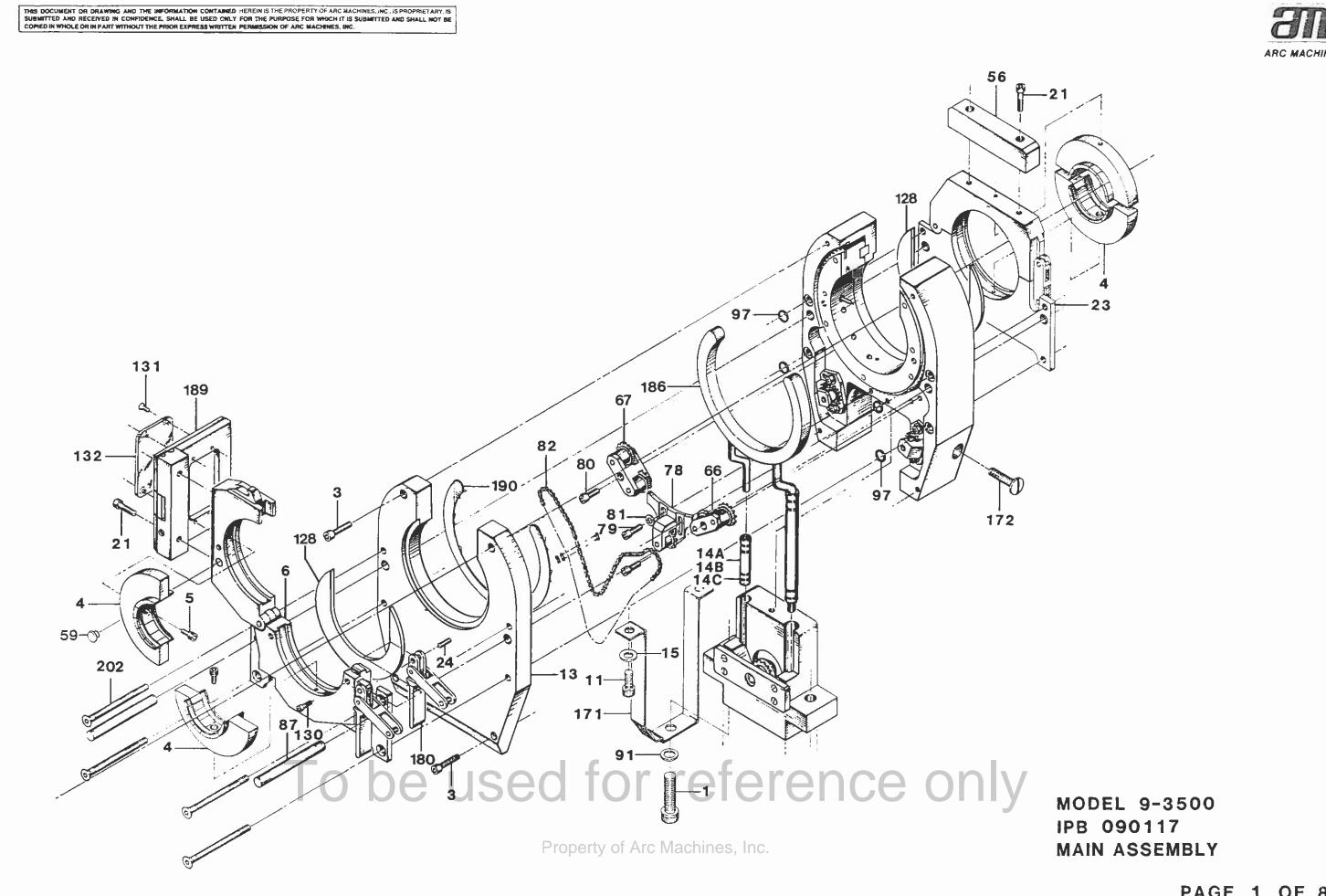


REV F

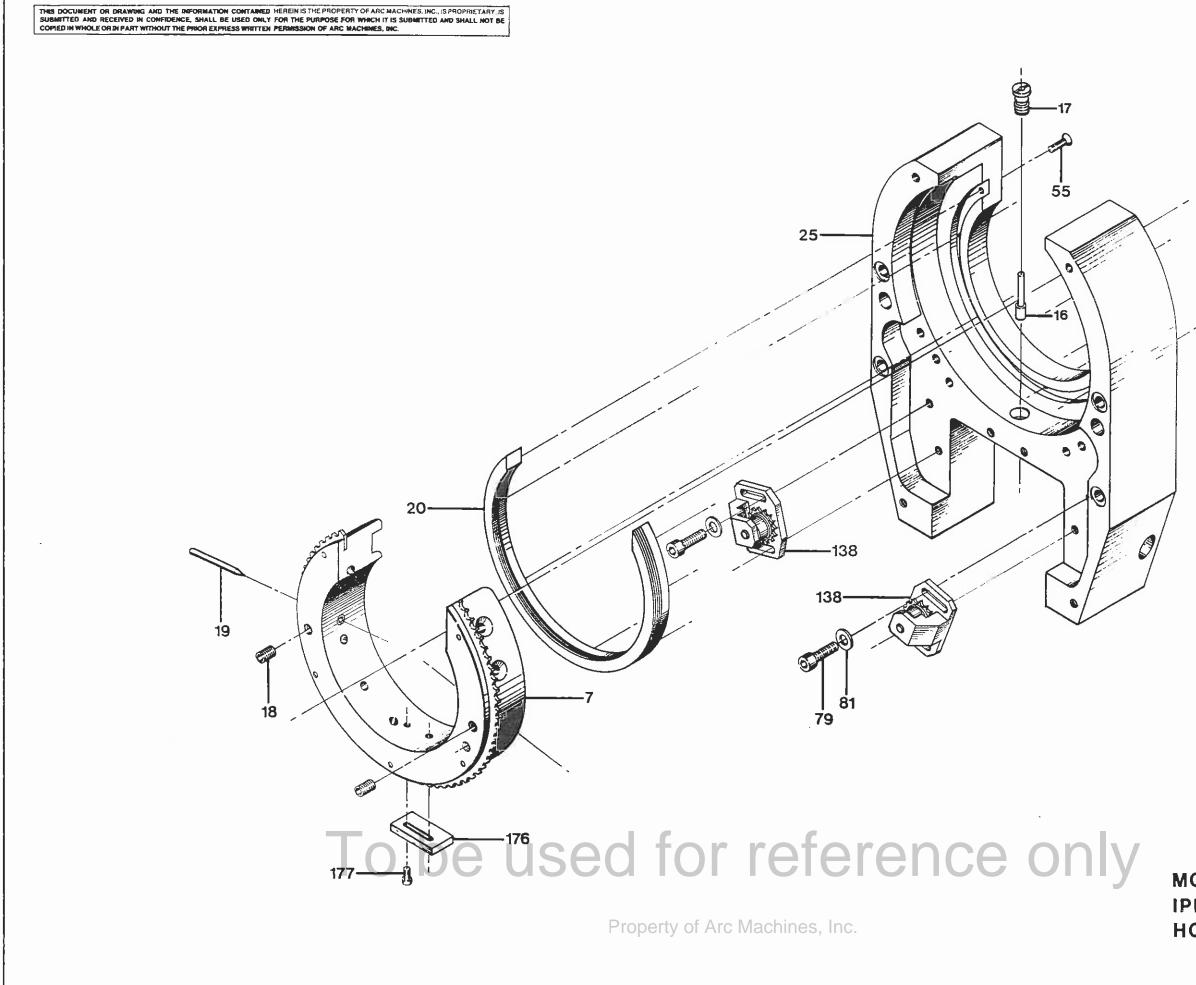
PAGE 1 OF 2

REV F

KIT WITH 3/32 TUNGSTEN	TUNGSTEN EXTENDER
HOLDER PART NO.	ROTATION DIA.
13090796-02	2.031
13090796-06	3.156
13090796-06	4.031
13090796-04	4.920
13090796-06	8.280



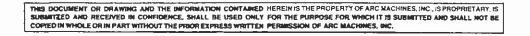


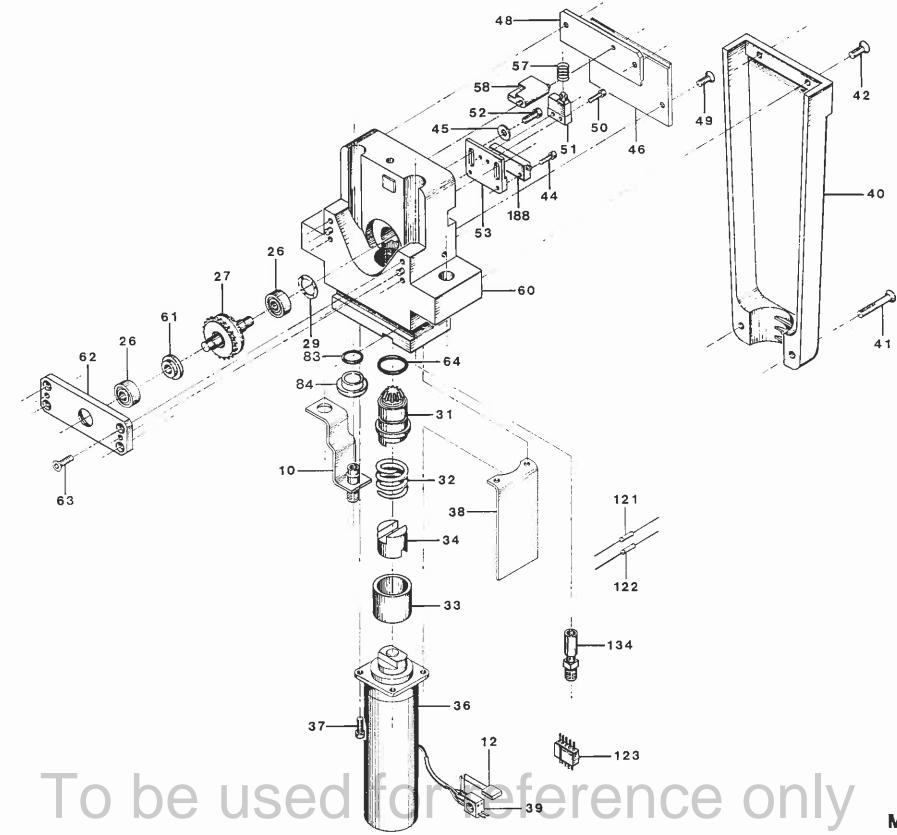




MODEL 9-3500 IPB 090117 HOUSING ASSEMBLY

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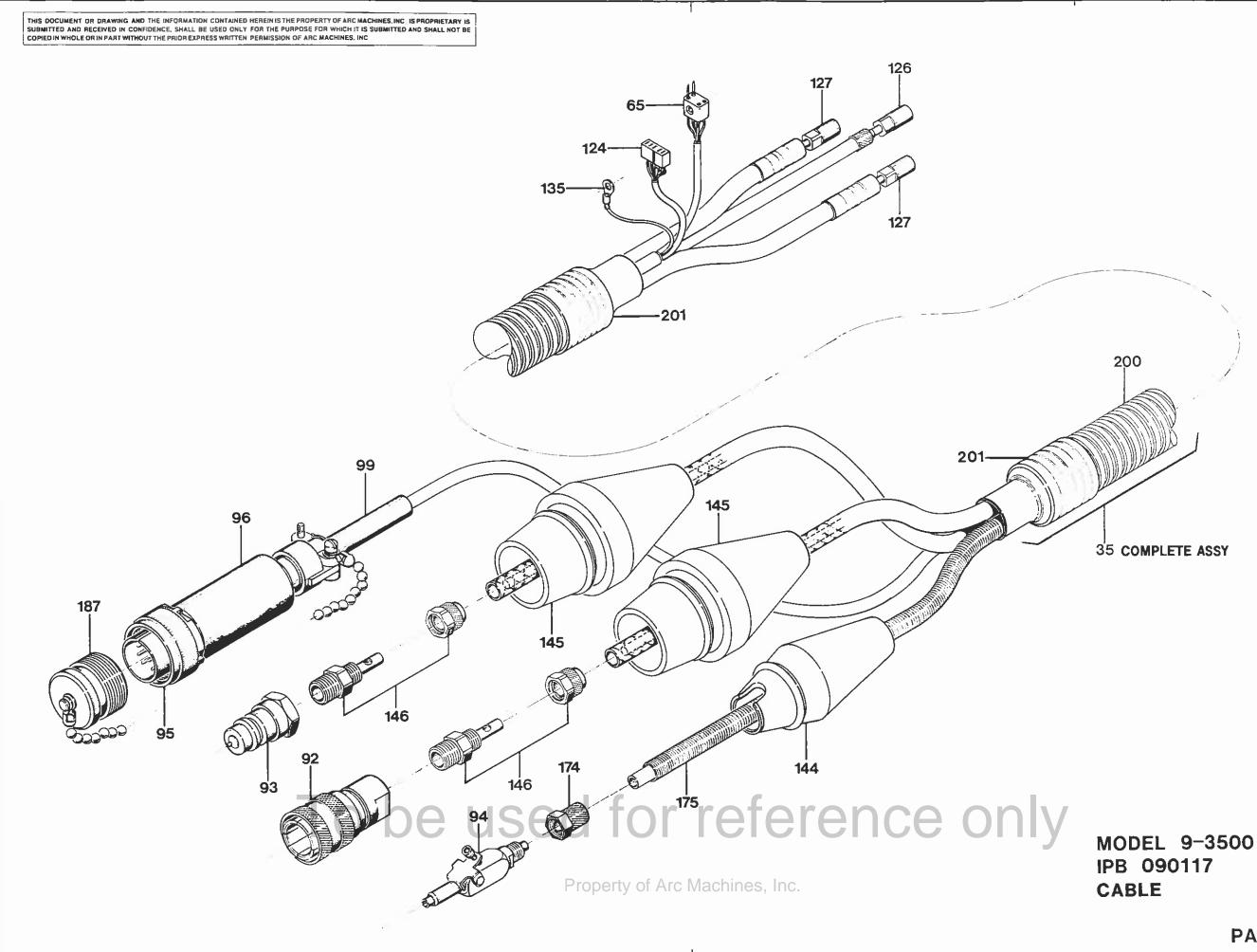


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TO ORDER

USE PART NUMBER DO NOT USE IPB

ITEM NUMBER

ARC MACHINES, INC.

PRODUCT MODEL: 9-3500 DESCRIPTION: MAIN ASSEMBLY MANUAL NUMBER: 730023 NOTES:

IPB ITEM NUMBER			PART NUMBER	
1	2	EA		SCREW CAP SKT 5/16-18 1-1/4 L
2	0	-	-	
3	4	EA	SCS08-32-0.87NP	SCREW CAP SKT 8-32 7/8 L
4	0	-	-	
5	4	EA		SCREW CAP SKT 6-32 3/8 L
6	1			CLAMP HSG COVER SIDE
7	1	EA	13090773-01	ROTOR 9-3500
8	0	-	-	
10	1	EA		
11	2	EA	SCS25-20-0.62SP	SCREW CAP SKT 1/4-20 5/8 L SP
12	1			CAP 0.1MF 100V 10%
13	1	EA	42090159-01	COVER
	0.5	$\mathbf{FT}$	029173	TBG SILICONE 1/8ID 1/4OD RED TBG SHRINK
14B	0.08	$\mathbf{FT}$	FP-301-0.25	TBG SHRINK
14C	18	IN	MS20995C25	LOCKWIRE 1LB SPOOL .025D 304SS
15	2	EA	W25NP-FL	
16	1	EA	42091109-06	PIN ACT 9-3500
17	1	EA	42091110-01	BUSHING ACTUATOR
18	3	EA	SSS06-32-18NPCU	SCREW SET SKT 6-32 3/16 L CUPT
19	0	-	-	
20	1	EA	42090778-01	GUIDE RING
21	4	EA	SCS10-32-1.00NP	SCREW CAP SKT 10-32 1.00 L
22	0	EA	-	
23	1	EA	130905272-01	CLAMP HSG HSG SIDE
24	2	EA	PD12-0.31SS	PIN DOWEL 1/8D 5/16L SST HOUSING UPPER BEARING BALL .18 .50 [5LY-101]
25	1	EA	42090158-01	HOUSING UPPER
26	2	EA	SSR-3LLRA3P2[	BEARING BALL .18 .50 [5LY-101]
27	1	EA	13090613-01	GEAR BEVEL
28	0	-	-	
29	1	EA	SV-8	SPRING WAVE WASHER .351D .44
30	ō	-	_	
31	1	EA	13090602-07	GEAR PINION DRIVE
32	- 1	EA	15156	SPRING CPRSN .81D .70L .067W
33	ī			SPACER SPRING
34	1	EA	42090602-03	COUPLING INSULATING DELRIN
35	1	EA	13090800-01	CABLE M9 10 FT
36	1	EA	13090602-03	MOTOR DRIVE PINION 81 RPM
		5	<b>USPRIC</b>	E, PART NUMBER AND TELEPOOCE ON

DESCRIPTION SUBJECT TO CHANGE WITHOUT NOTICE

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TUBE CLAMP INSERT-ORD BY SIZE ITEMS 24, 59 & 180 INCLUDED ITEMS 18, 176 AND 177 INCLUDED

TUNGSTEN

ITEMS 180 AND 24 INCLUDED ITEMS 16, 17, 60 & 172 INC.

ITEMS 12 AND 39 INCLUDED

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TO ORDER

ARC MACHINES, INC.

USE PART NUMBER DO NOT USE IPB ITEM NUMBER

#### PRODUCT MODEL: 9-3500 DESCRIPTION: MAIN ASSEMBLY MANUAL NUMBER: 730023 NOTES :

IPB ITEM NUMBER	QTY	U/M	PART NUMBER	DESCRIPTION	
37	4	EA	SCS04-40-0.31NP	SCREW CAP SKT 4-40 5/16 L	
38	1	EA	42091102-04	INSULATOR SKIRT	
39	1	EA	JF2P2SCD	CONN 4 PIN PLUG MINIATURE	
40	2	EA	42090104-01	HANDLE	
41	2	EA	SFS04-40-1.00NP	SCREW FLH SKT 4-40 1.00 L	
42	4	EA	SFS04-40-0.37NP	SCREW FLH SKT 4-40 3/8 L	
43	0	-	-		
44	2	EA	SCS02-56-0.25NP	SCREW CAP SKT 2-56 1/4 L	
45	2	EA	W04ZP-FL	WASHER FLAT #4	
46	1	EA	42090619-02	COVER PLATE BOT LIMIT SW	
47	0	-	-		
48	1	EA	42090619-01	COVER PLATE TOP LIMIT SW	
49	4	EA	SFS04-40-0.31NP	SCREW FLH SKT 4-40 5/16 L	
50	2	EA	SCS02-56-0.25NP	SCREW CAP SKT 2-56 1/4 L	
51	1	EA	MMGGD1D0C	SWITCH LIMIT PLUNGER	
52	2	EA	SCS04-40-0.25NP	SCREW CAP SKT 4-40 1/4 L	
53	1	EA	42090616-05	PLATE LIMIT SWITCH	
54	0	-	-		
55	7	EA	SFL06-32-0.50NY	SCREW FLH SLT 6-32 1/2 L NYL	
56	1	EA	42090597-02	CLOSURE	
57	1	EA	L-14	SPRING CPRSN .25D .43L .020W	
58	1	EA	42091108-03	LEVER LIMIT SW ACTR	
59	1	EA	650	PLUG 1/4 DIA HOLE	
60	1	EA	42090146-01	HOUSING DRIVE	SEE ITEM 25
61	1	EA	42090617-02	SPACER BEVEL GEAR	
62	1	EA	42090548-02	RETAINER PLATE	
63	4	EA	SFS04-40-0.37NP	•	
64	1	EA	2-014-S604-70	O RING .489 ID .070 W SIL	
65		BA	JF262PCD	CONN 4 SOCKET RECEPTACLE MINTR	
66	1	EA	13090625-01	BRACKET H R/H	
67	1	EA	13090625-02	BRACKET H L/H	
77	0	-	-		
78	1	EA	13090630-01	TENSIONER CENTER	
79	6	EA	SCS08-32-0.37NP	SCREW CAP SKT 8-32 3/8 L	
80	2	EA	SCS08-32-0.75NP	SCREW CAP SKT 8-32 3/4 L	
81	6	EA	W08NP-FL	WASHER FLAT #8	
82	1	EA	RC14SS-139	OBS USE P/N 47SS-139	
	Тс	b	e us prict Desci	E, PART NUMBER AND FEIERCE OF SE WITHOUT NOTICE	Page 6 of 8

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ARC MACHINES, INC.

USE PART NUMBER DO NOT USE IPB ITEM NUMBER

TO ORDER

#### PRODUCT MODEL: 9-3500 DESCRIPTION: MAIN ASSEMBLY MANUAL NUMBER: 730023 NOTES:

IPB ITEM NUMBER	QTY	บ/м	PART NUMBER	DESCRIPTION
83	1	EA	2-010-S604-70	O RING .238 ID .070 W SILICONE
84	1	EA	420901126-02	GROMMET
87	2	EA	42090164-03	PIN .312D 2.45L 9-2500
88	0	-	-	
89	0	-	-	
91	2	EA	W31ZP-FL	WASHER FL 5/16
<del>92</del>		<del>- EA -</del>	42060808 02	COUPLING Q/D CONN (CM 251D)
93		<u> </u>	<u>- 6M252D</u>	COUPLING
94	- 1	EA		- DO NOT GELL UCE: 1351109 01
<del>95</del>			-M83106E18 1P	CONN 10 PIN PLUC
96			<del>G1501N186A3A</del>	CONN BACKSHELL
97	4	EA	2-106-S604-70	O RING .174 ID .103 W SILICONE
98	0	-	-	
<del>99 —</del>	- 1	- EA	<del></del>	CONN TELESCOPIC BUSHING
105	0	-	_	
106	0	-	-	
107	0	-	_	
121	1	EA	RN55D1300F	RES 130 OHMS 1/4W
122	1	EA	RN55D7871F	RES 7.87K
123	1	EA	5PM	OBS USE 7051
124	1	<u> </u>	<u> </u>	<u>OBS USE 7052</u>
125	0	_	-	
126				
127		<u> </u>	<u> </u>	OBS (USE ARC 1881)
128	2	ĒA	420907159-01	HEAT SHIELD 9-3500
130	4	EA		SCREW CAP SKT 4-40 1/2 L
131	4	EA	SFL06-32-0.37NY	
132	ī	EA	42090597-03	WINDOW
134	1	EA	13090803-01	TUBE FTG GAS
135 -	1	<u>EA</u>		TERM 16 14 AWC #6
136	Ō	-	-	
138	2	EA	13090623-02	TENSIONER SIDE
139	0		13030023-02	IENSTONER SIDE
140	0	_	-	
and a	1			
	2 T	EA	42060804-01	DOOL MALE DOMED (CDOMED
146	<u>z</u>	EA	-42060800 07	BOOT MALE POWER/GROUND
140	L -		12000000 07	FTG COUPLING HOSE/CABLE
	T	bb	e us pric	E, PART NUMBER AND FEIERCE Page 7 of 8 RIPTION SUBJECT TO FEIERCE Page 7 of 8 GE WITHOUT NOTICE

CHANGE WITHOUT NOTICE

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THD TTEM

TO ORDER USE PART NUMBER

#### ARC MACHINES, INC.

PRODUCT MODEL: 9-3500 DESCRIPTION: MAIN ASSEMBLY MANUAL NUMBER: 730023 NOTES:

IPB ITEM				
NUMBER	QTY	U/M	PART NUMBER	DESCRIPTION
147	0		_	
148	õ	_	_	
171	1	EA	42090749-01	CONDUCTOR GND STRAP
172	1	EA	SPL25-20-0.50NY	SCREW PNH SLT 1/4-20 1/2 L NYL
	L		SPL25-20-0.50N1	SCREW PMR SUI 1/4-20 1/2 1 NIL
173	0	-	-	
174	1	EA	<del>261-PG 04</del>	FTG NUT/BLEEVE SPRING 1/4 TUDE
175	-1-	-EA	A3200718	SPRING GUARD .34 OD 18.00 LG
176	1	EA	42090548-05	CAM SWITCH
177	2	EA	SCS04-40-0.31NP	SCREW CAP SKT 4-40 5/16 L
178	0	-	-	
180	2	EA	13090565-01	LATCH ASSY M9-1500, 2500, 3500
186	1	EA	13090772-01	CONDUCTOR RING 9-3500
<del>187 —</del>			1350110-04	DUST CAP AGGY W/CHAIN(MALE18D)
188	1	EA	3057L-1-202	POT TRIM 2K OHM 5%
189	1	EA	130905214-03	CLOSURE FLIP-TOP 9-3500
190	1	EA	420907213-01	PLATE BACKING M9-3500
200		<u> </u>		- CONDULT WHT 0.87 -ID
0.01		TN	<u></u>	mpc cuptor 1 1/2 ID DIV
201		TH		THE SIMILAR I LY & THE BER
202	4	EA	13090124-02	SCREW INSULATED

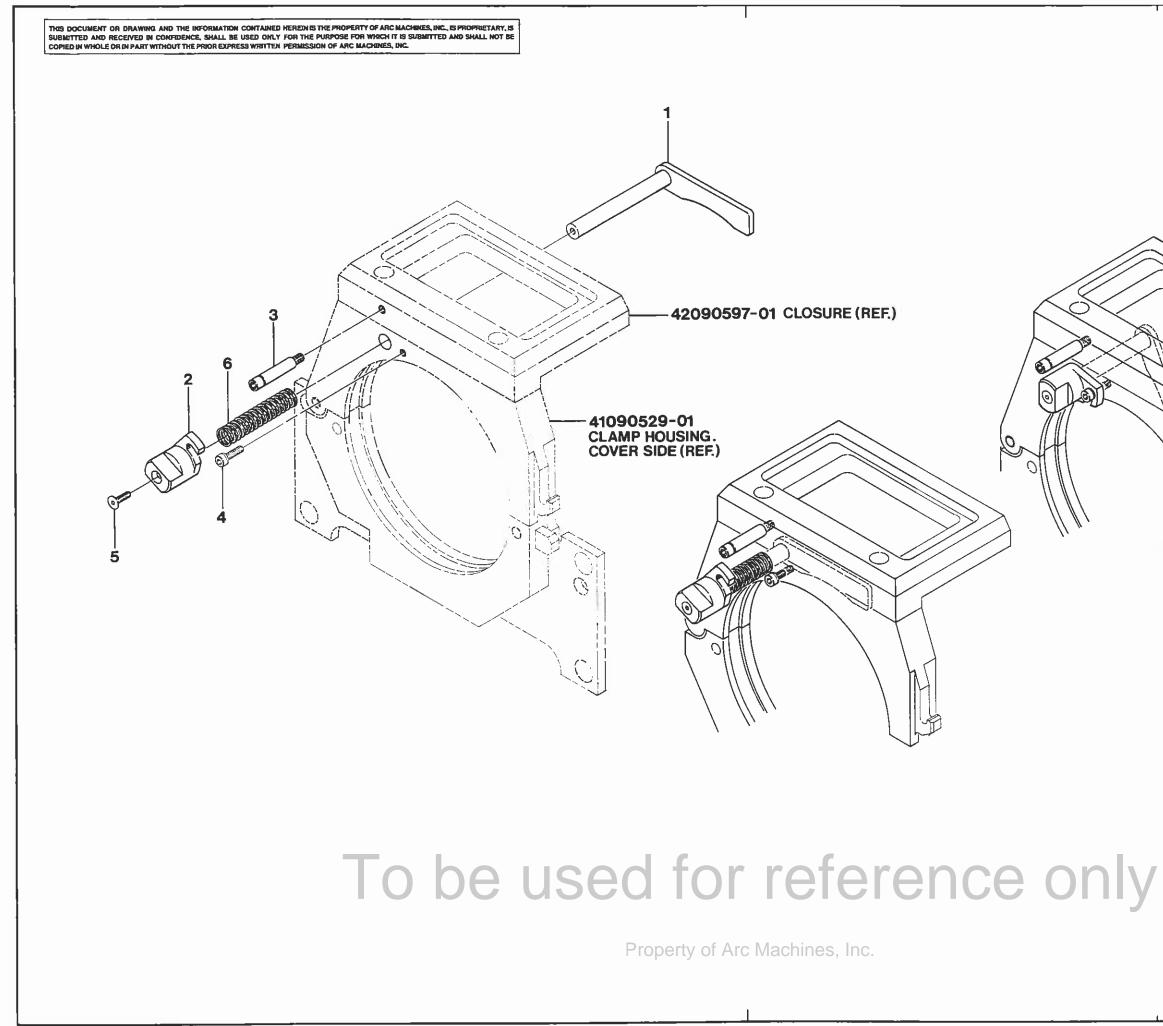
DO NOT USE IPB

ITEM NUMBER

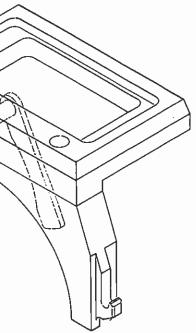
To be us price, part number and ference Orage 8 of 8 CHANGE WITHOUT NOTICE

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MODEL 9-3500 IPB 090515 ARM LOCATING KIT

IPB NUMBER:	090515		TO ORDER USE PART NUMBER	ARC MACHINES, INC.
			DO NOT USE IPB ITEM NUMBER	PRODUCT MODEL: 9-3500 DESCRIPTION: LOCATING ARM KIT MANUAL NUMBER: 730023 NOTES:
IPB ITEM NUMBER	QTY U/M	PART NUMBER	DESCRIPTION	
1 2 3	1 EA 1 EA 1 EA	130905123-02 130905108-01 420905277-04	ARM LOCATING B KNOB ASSY 1500 STOP (44D22)	RAZED 2500 3500 4500

SCS04-40-0.37NP SCREW CAP SKT 4-40 3/8 L

SFS02-56-0.31NP SCREW FLH SKT 2-56 5/16 L

SPRING CPRSN .31D 2.00L .024W

1

1

EA

S-910

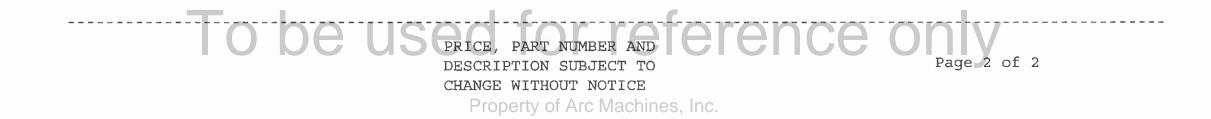
EA

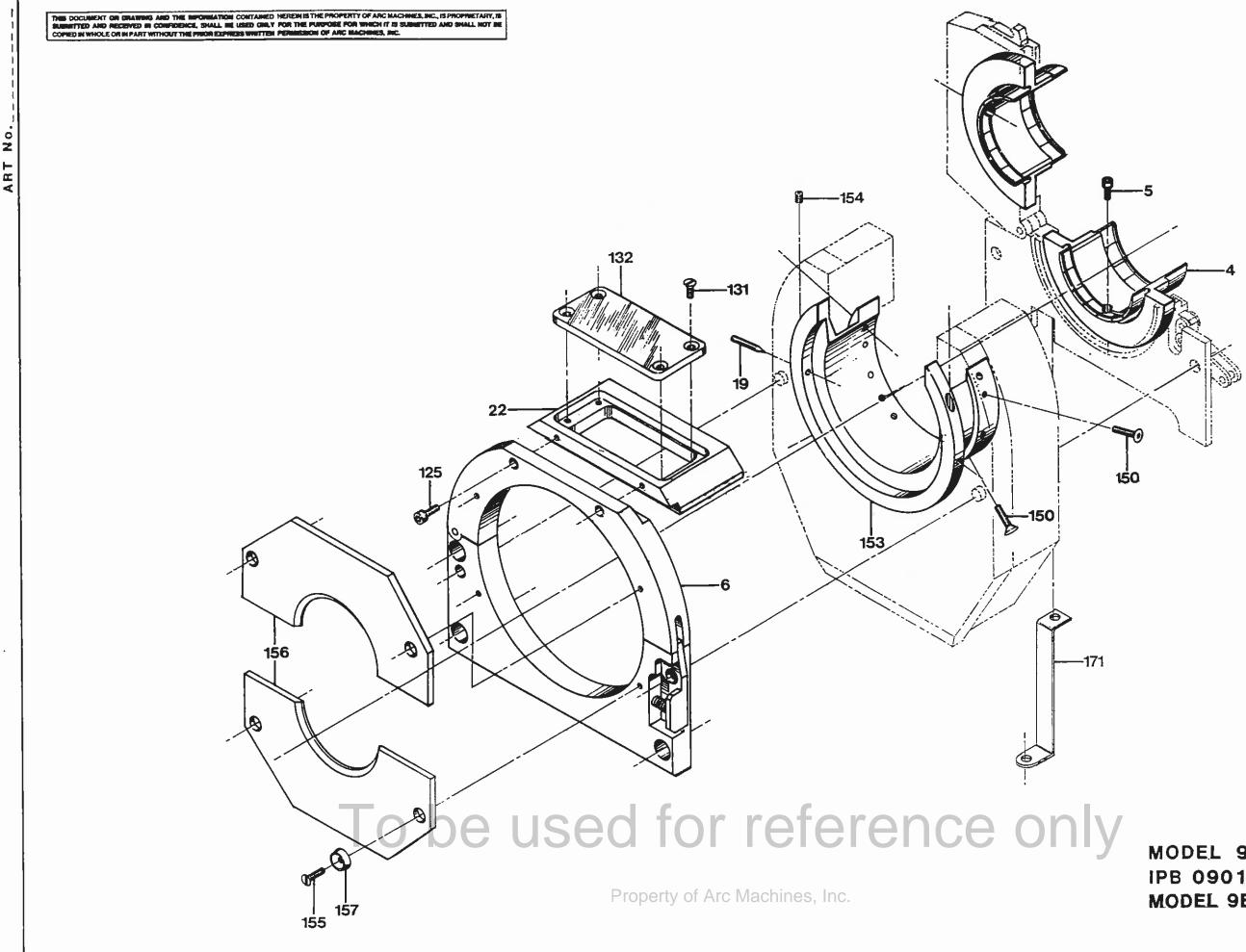
1 EA

4

5

6







MODEL 9E-3500 IPB 090104 MODEL 9E CONFIGURATION

#### IPB NUMBER:

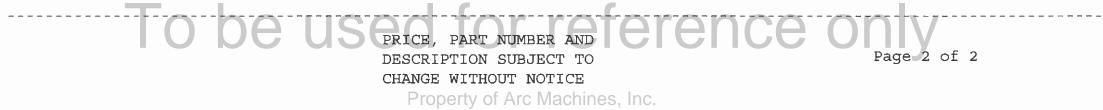
TO ORDER

#### ARC MACHINES, INC.

USE PART NUMBER DO NOT USE IPB ITEM NUMBER

PRODUCT MODEL: 9-3500 DESCRIPTION: MODEL 9E CONFIGURATION MANUAL NUMBER: 730023 NOTES:

IPB NUM		QTY	U/M	PART NUMBER	DESCRIPTION	
	1	0	_	_		
	4	Õ	_	_		CLAMP INSERTS-ORD
	5	2	EA	SCS06-32-0 37NP	SCREW CAP SKT 6-32 3/8 L	
	6	1	EA		HOUSING GAS SEAL 9E-3500	
	- 7	ō	_	-		
1:		Õ	_	_		TUNGSTEN
2		1	EA	420905185-01	CLOSURE 9E-3500	ITEMS 131 AND 132
2		0	_	-		
12		2	EA	SCS08-32-0.62NP	SCREW CAP SKT 8-32 5/8 L	
12		0	-	-		
13		4	EA	SFL06-32-0.31NY	SCREW FLH SLT 6-32 5/16 L NYL	
13:		1	EA	420905185-02	•	
13		0	_	-		
15		4	EA	SFS08-32-0.75NP	SCREW FLH SKT 8-32 3/4 L	
15		1	EA	-		
15		1	EA	13090740-01	ROTOR EXTENSION 9E-3500	
15	4	2	EA	420907144-12	SCREW SET SKT 6-32 3/8 L FLPT	
15	5	4	EA		SCREW FLH SLT 8-32 1/2 L NYL	
15	6	0	-	-		GAS SEALS-ORD BY S
15	7	4	EA	11SFW0008	WASHER NYLON FINISHING #8	
17	1	1	EA	42090749-04	GROUND STRAP	
17	2	0	-	_		
18	0	1	EA	13090158-03	KIT CVRSN M9-3500 TO M9E-3500	



D BY SIZE

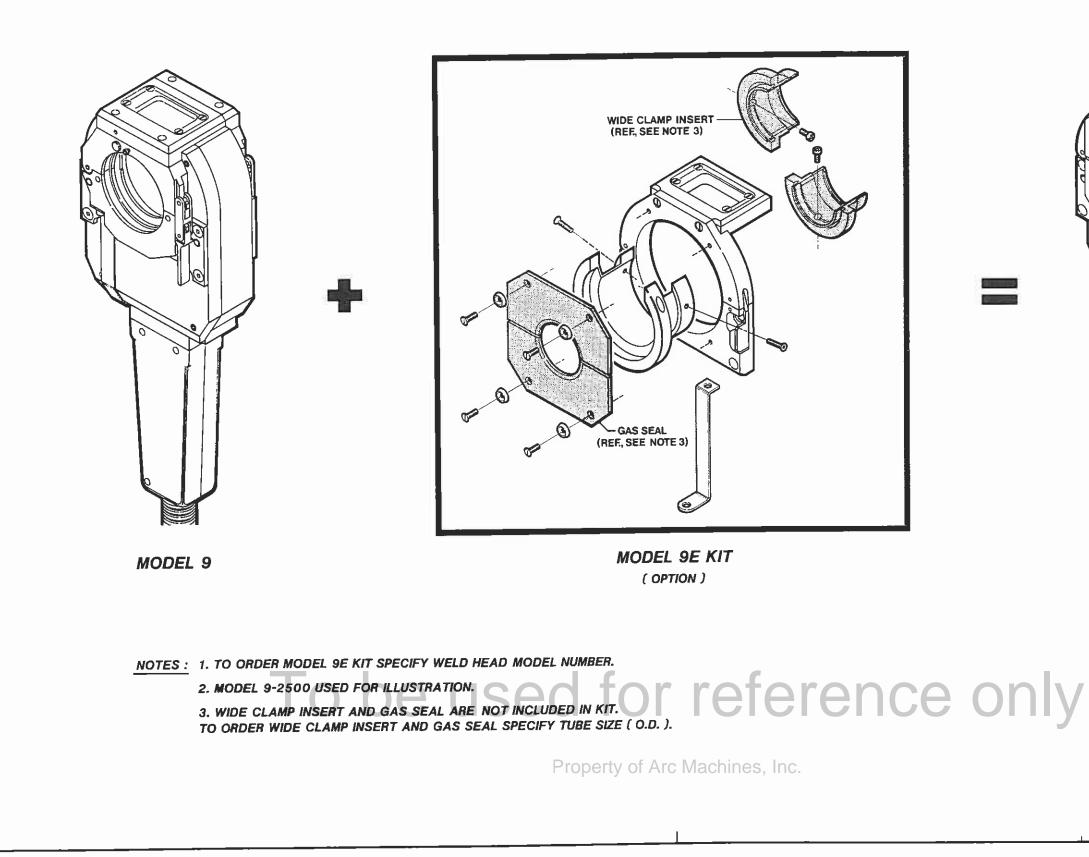
2 INCLUDED

SIZE

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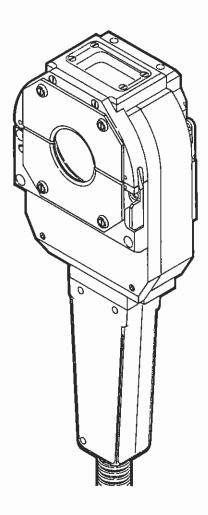
## MODEL 9 CONVERSION TO MODEL 9E INSTRUCTIONS

(MODELS 9-1500, 9-2500, 9-3500, 9-4500 AND 9-7500)



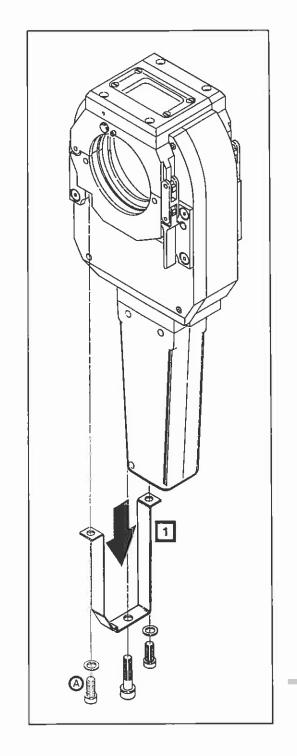


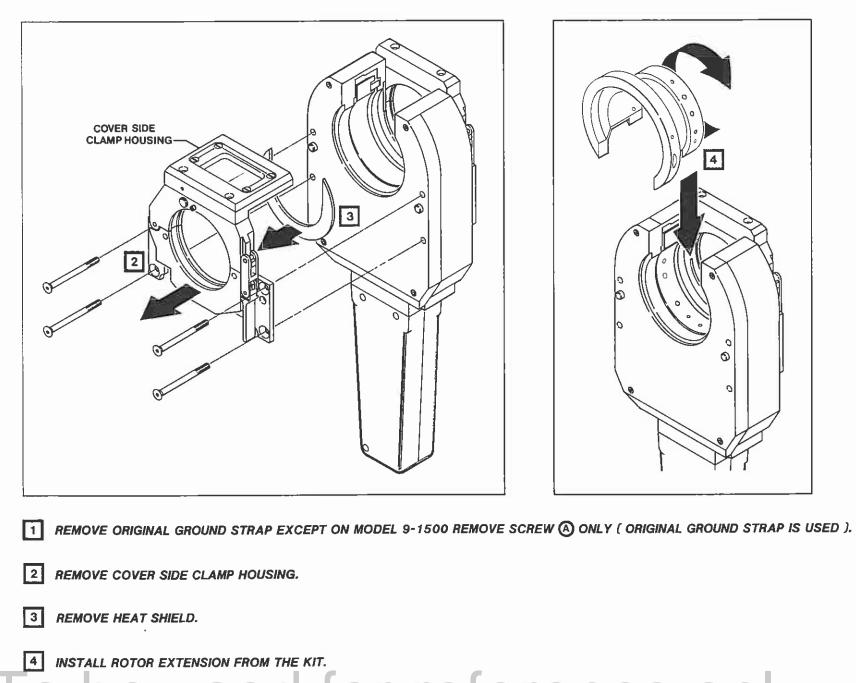
P/N 750031



MODEL 9E

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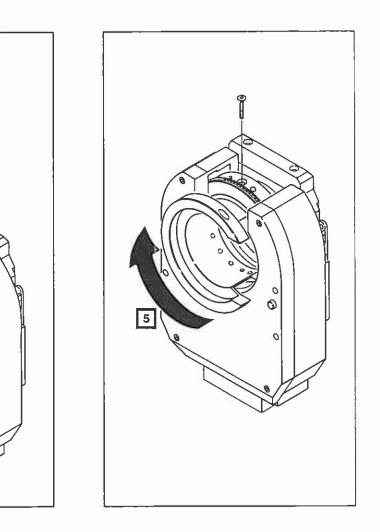




5 CONNECT WELD HEAD TO POWER SUPPLY AND JOG ROTOR UNTIL ROTOR EXTENSION MOUNTING SCREW HOLE IS ACCESSIBLE. INSTALL MOUNTING SCREWS ( 2 TO 4 EACH DEPENDING ON MODEL # ) AND TIGHTEN.

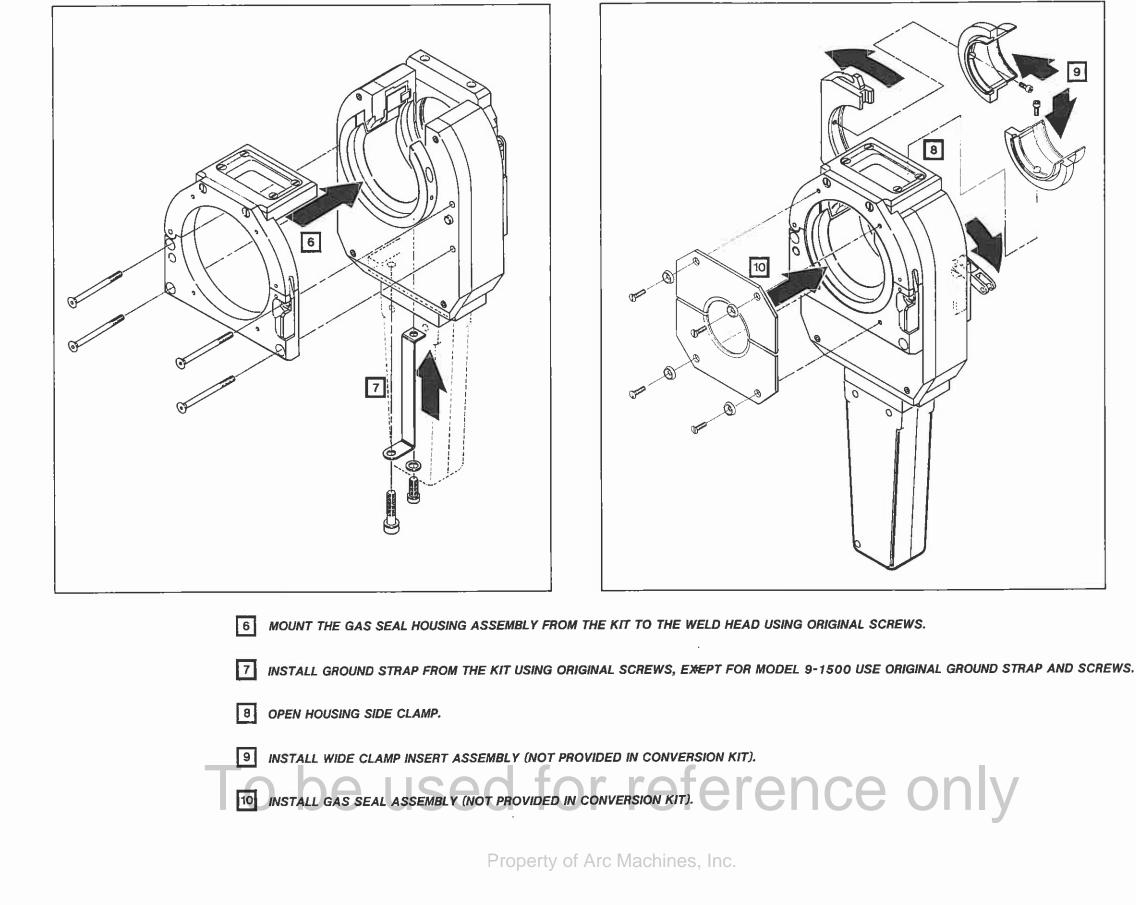
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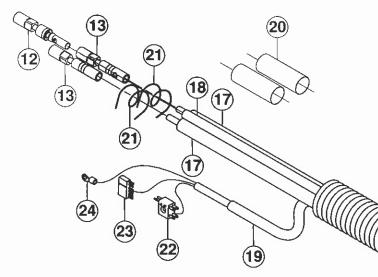
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ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	1351109-01	COUPLING Q/D MALE GAS FOR 1/4 TUBING ASSY
2	1	1350110-04	DUST CAP W/CHAIN ASSY (MALE18D)
3	1	42060805-04	BOOT MALE GAS CLIP TYPQ/D
4	1	42060800-02	COUPLING Q/D 1/4 WATER FEMALE MOD (SM-251B)
5	2	42060804-01	BOOT MALE POWER/GROUND
6	2	42060800-07	COUPLING HOSE/CABLE ASSY
7	1	AS200718	SPRING GUARD .34 OD 18.00 LG
8	1	MS3106E18-1PF42	CONN 10 PIN STRAIGHT PLUG W/OUT ENDBELL
9	1_	G1501N186A3A	CONN BACKSHELL
10	1	MS39056-3	CONN TELESCOPIC BUSHING
11	1	SM-252B	COUPLING Q/D 1/4PT MALE BRASS WATER/POWER
12	1	2PF1	FTG 1/4-28 FEMALE
13	2	ARC-1881	FTG WTR/PWR -CA CRIMP 1/4-28 BRASS SWIVEL NUT (FEM)
14	1_	261-PG-04	NUT/SLEEVE SPRING 5/16 TBG
15	1	DUCT-0,87-50-G	CONDUIT GRAY 0.87 ID
16	2	NER7-95-36T	CABLE 01/08GA TINNED COPPER ROPE
17	2	42090806-01	TBG POLYU / ETHER BASE 1/4 ID 3/8 OD
18	1	44-P-YELLOW	TBG POLYETHYLENE YELLOW POLY-FLO 1/4 OD .040 WALL
19	1	CWT11943	CABLE 09/22GA SHLD 0.270 OD 4TP+1 WHT-PLOYUR JCKT
20	2	M23053/5-108-0	TBG SHRINK 1/2 ID BLK
21	2	MS20995C25	LOCKWIRE 1LB SPOOL .025 DIA 304 SS
22	1	JF2P2SCD	CONN 4 PIN PLUG MINIATURE (GRY)
23	1	7052	CONN 5 PIN FEMALE SUB-MINIATURE BLK W/GOLD PINS
24	1	34119	TERM RING 16-14 #4
25	1	M23053/5-111-0	TBG SHRINK 1-1/2 ID BLK
_26	-	13090800-01	CABLE ASSEMBLY 10 FT M9 GENERIC

CABLE ASSEMBLY 10 FT M9 GENERIC MODEL 9 O DE USED FOR REFERENCE ON USED 5000 CABLE ASSEMBLY

(26)

(18)

19

(10)

(17)

(25)

(15)

TO ORDER USE PART NUMBER. PRICE, PART NUMBER AND DESCRIPTION SUBJECT TO CHANGE WITHOUT NOTICE.

#### Property of Arc Machines, Inc. THIS IPB SUPERSEDES ALL OTHER IPB'S REFERENCING 13090800-01 CABLE ASSEMBLY



