

MODEL 9-250

ILLUSTRATED PARTS BREAKDOWN

MODEL 9-250
IPB Notice and Revision History


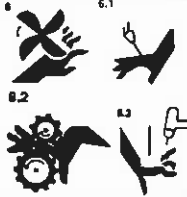

This document and the information contained herein is the property of Arc Machines, Inc. It is proprietary and submitted and received in confidence. It shall be used only for the purpose for which it is submitted and shall not be copied in whole or in part without the prior express written permission of Arc Machines, Inc. The information in this document has been carefully reviewed and is believed to be accurate. However, no responsibility is assumed for inaccuracies. Information and part numbers in this document are subject to change and Arc Machines, Inc. reserves the right to change required data without notice.



WARNING



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

All rights reserved.
Publication date: First Edition – June 5, 2007
Copyright 2007 by Arc Machines, Inc.

| REV | ECO # | CHANGE DESCRIPTION | DATE | BY | APR |
|-----|-------|---------------------------------------|-------------|----|-----|
| A | 4779 | Added rev D of 750015 | 26 May 2008 | SO | BF |
| B | 5579 | Added rev F 750015 and wiring diagram | 18 Jan 2010 | CB | DC |
| | | | | | |

TABLE OF CONTENTS

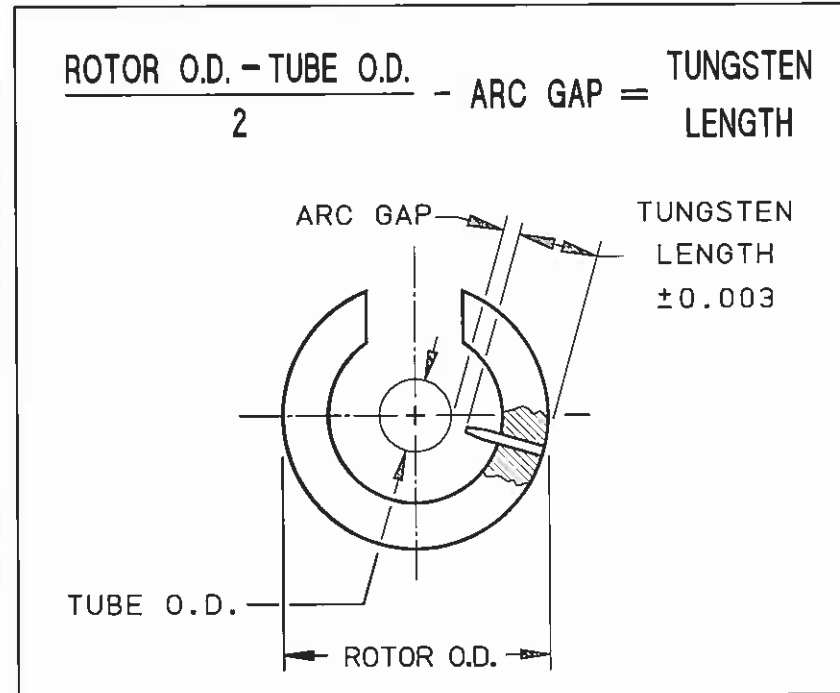
DATE EFFECTIVE: 19 Aug 1993

PRODUCT MODEL: 9-250
MANUAL NUMBER: 730077

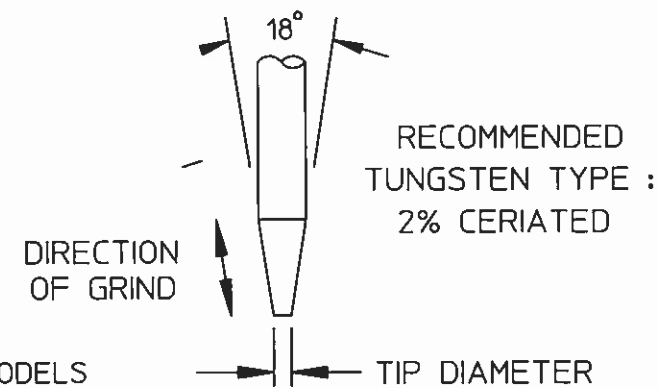
| IPB NUMBER | DESCRIPTION |
|-------------------|--------------------------------------|
| 750015 | MODEL 9 ELECTRODE DIMENSIONS |
| 090005 | WELD HEAD ASSEMBLY |
| 0901110 | WELD HEAD BASIC ASSEMBLY |
| 0905192 | STANDARD CLAMP ASSEMBLY |
| 090816 | CABLE ASSEMBLY |
| 175144-06 | MODEL 9-250 WELD HEAD WIRING DIAGRAM |

ELECTRODE DIMENSIONS

| ROTOR DIAMETER | |
|---|------------|
| MODEL NO. | ROTOR O.D. |
| 9-250 | 0.802 |
| 9-500/4-500 | 1.388 |
| 9-675 | 1.715 |
| 9M-750 | 1.312 |
| 9-750 | 2.000 |
| | |
| 9-1500 | 3.187 |
| 9AF-1500 | 2.252 |
| 9E-1500 | 2.687 |
| 8-2000 | 3.450 |
| 9-2500 | 4.380 |
| 9AF-2500 | 3.156 |
| 9E-2500 | 4.280 |
| | |
| * 9-3500 | 5.380 |
| 9E-3500 | 5.310 |
| 8-4000 | 5.310 |
| * 9-4500 | 6.875 |
| 9ER-4500 | 5.776 |
| 8-6625 | 8.094 |
| * 9-7500 | 10.440 |
| 9E-7500 | 9.375 |
| * FOR HEADS USING OPTIONAL TUNGSTEN EXTENDER, SEE PAGE 2. | |

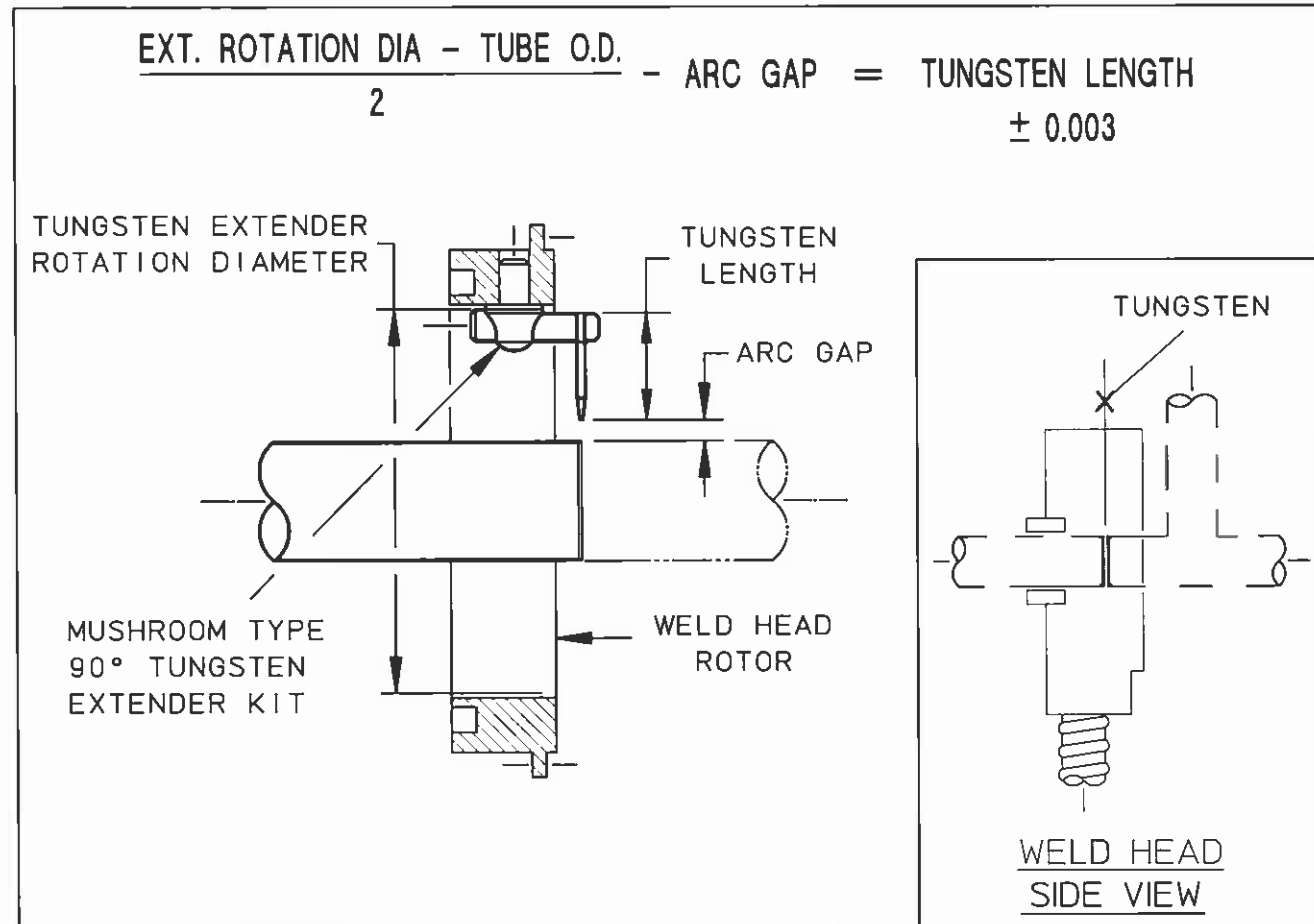


| TUBE/PIPE WALL THICKNESS | RECOMMENDED ARC GAP | RECOMMENDED TIP DIA. |
|--------------------------|---------------------|----------------------|
| 0.020/0.035 | 0.030 | 0.020 |
| 0.049/0.085 | 0.050 | 0.030 |
| 0.091/0.154 | 0.070 | 0.040 |



- NOTES:
1. RECOMMENDED ARC GAP FOR MODELS 4-500, 9-250 & 9-500 IS 0.045 MAXIMUM.
 2. IN INSTANCES WHERE OUT-OF-ROUNDNESS ON THIN-WALLED TUBING OCCURS (NORMALLY 2.500 O.D. OR LARGER), A 0.070 ARC GAP IS RECOMMENDED.
 3. DIMENSIONS ARE IN INCHES.

TUNGSTEN LENGTH CALCULATION FOR TUNGSTEN EXTENDERS



| WELD HEAD MODEL NO. | KIT WITH 1/16 TUNGSTEN HOLDER PART NO. | KIT WITH 3/32 TUNGSTEN HOLDER PART NO. | TUNGSTEN EXTENDER ROTATION DIA. |
|---------------------|--|--|---------------------------------|
| 9-1500 | 13090796-01 | 13090796-02 | 2.031 |
| 9-2500 | 13090796-05 | 13090796-06 | 3.156 |
| 9-3500 | 13090796-05 | 13090796-06 | 4.031 |
| 9-4500 | 13090796-03 | 13090796-04 | 4.920 |
| 9-7500 | 13090796-05 | 13090796-06 | 8.280 |

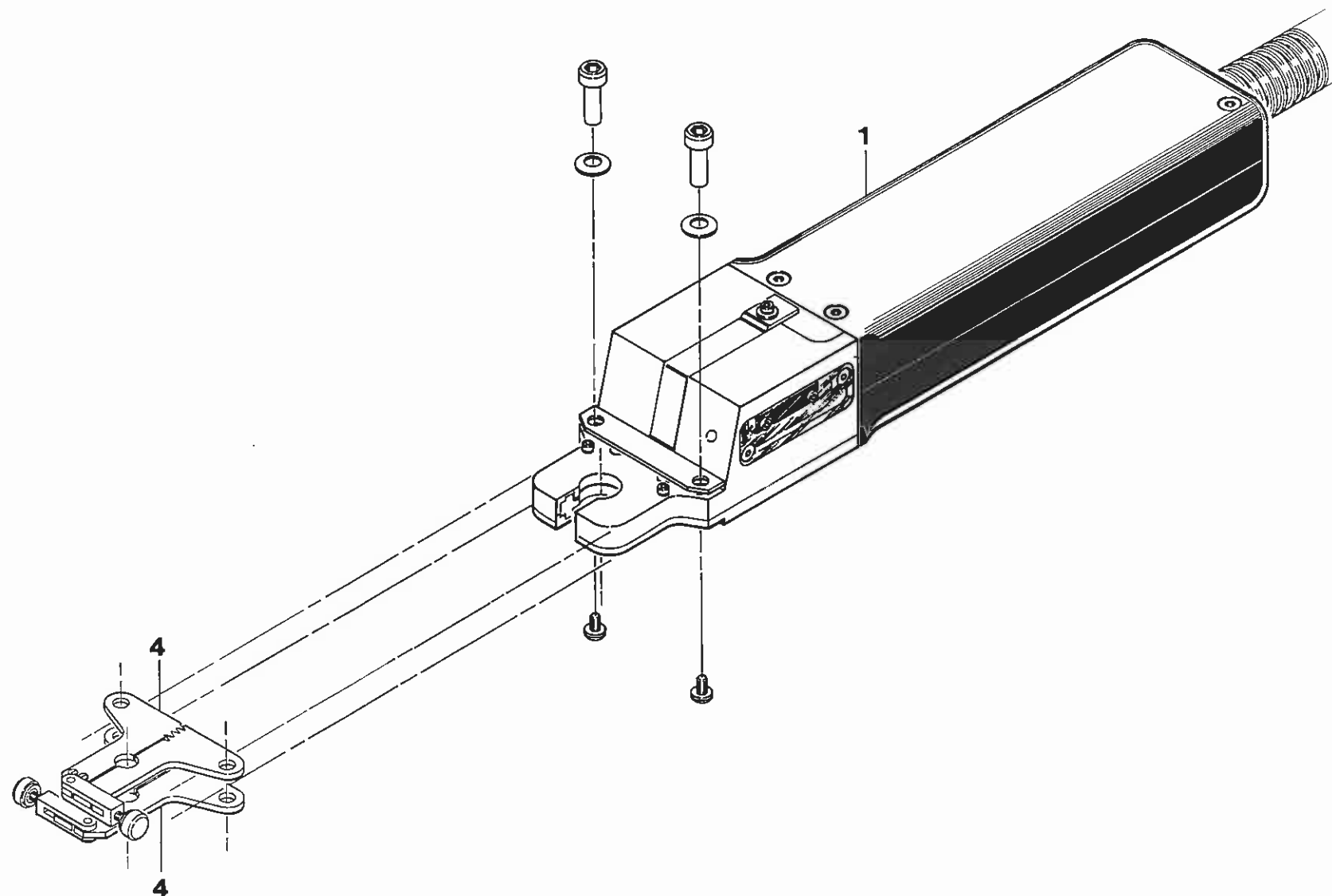
NOTES:

1. PART NUMBERS SHOWN ARE FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.
2. CONTACT AMI SALES OR SERVICES FOR SPECIFIC PART NUMBER.

THIS DOCUMENT OR DRAWING AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ARC MACHINES, INC., IS PROPRIETARY, IS SUBMITTED AND RECEIVED IN CONFIDENCE, SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUBMITTED AND SHALL NOT BE COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF ARC MACHINES, INC.



ISSUED: 19 AUGUST 1993
REVISED: 18 OCTOBER 1993



MODEL 9-250
IPB 090005
WELD HEAD ASSEMBLY

IPB NUMBER: 090005
DATE EFFECTIVE: 19 Aug 1993
DATE REVISED: 27 Mar 1996

TO ORDER
USE PART NUMBER
DO NOT USE IPB
ITEM NUMBER

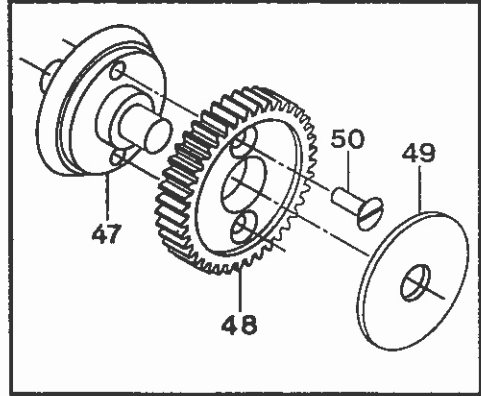
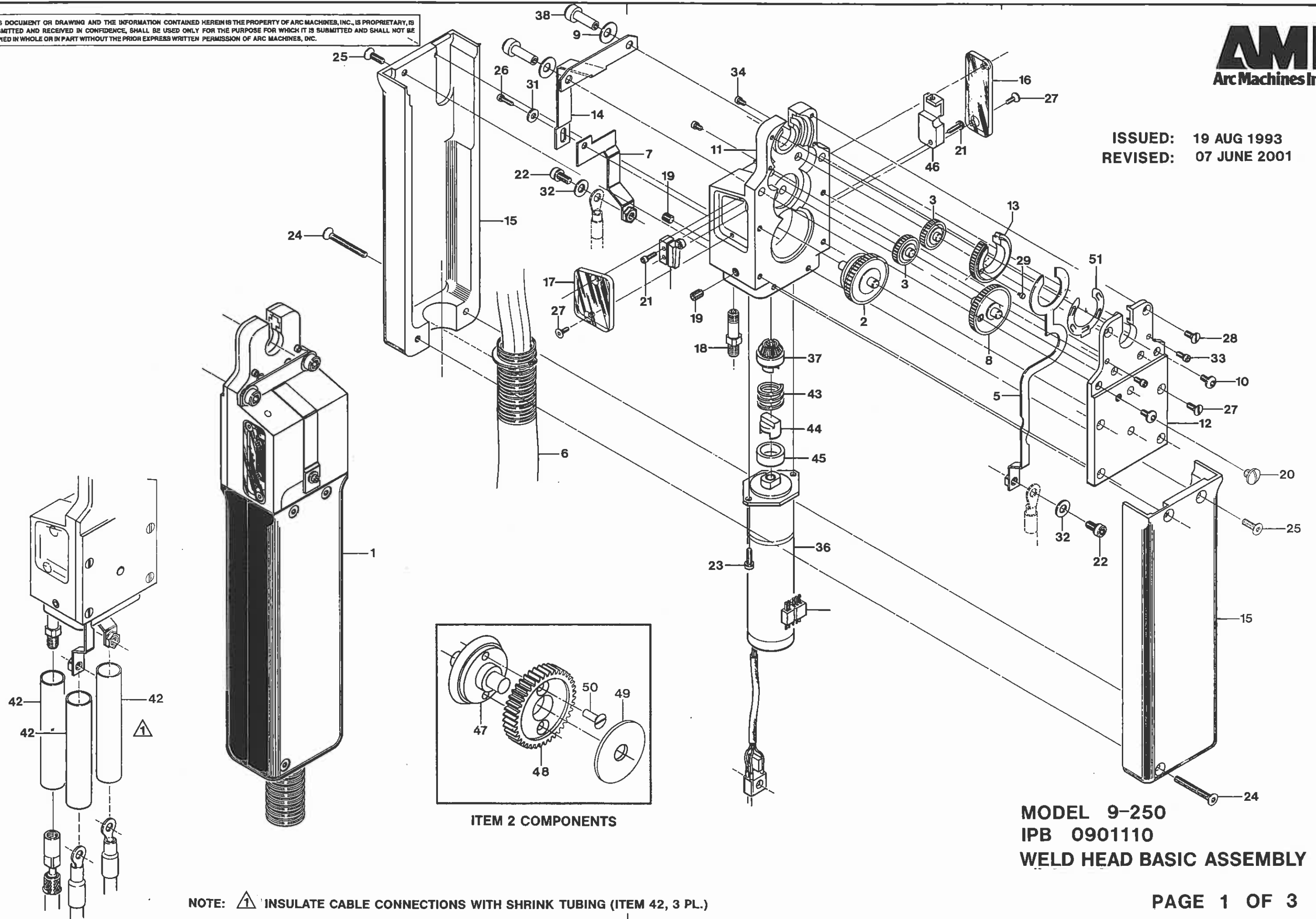
ARC MACHINES, INC.
PRODUCT MODEL: 9-250
DESCRIPTION: WELD HEAD ASSEMBLY
MANUAL NUMBER: 730077
NOTES:

| IPB ITEM NUMBER | QTY | U/M | PART NUMBER | DESCRIPTION |
|--------------------|-----|-----|--------------|-----------------------------|
| 1 | 1 | EA | 130901110-01 | WELD HEAD ASSY BASIC M9-250 |
| 2 | 0 | - | - | ----- |
| 3 | 0 | - | - | ----- |
| 4 | 2 | EA | 130905187-01 | PLATE CLAMP .125 OD M9-250 |
| 4A | 2 | EA | 130905187-02 | PLATE CLAMP .250 OD M9-250 |

PRICE, PART NUMBER AND
DESCRIPTION SUBJECT TO
CHANGE WITHOUT NOTICE

THIS DOCUMENT OR DRAWING AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ARC MACHINES, INC., IS PROPRIETARY, IS SUBMITTED AND RECEIVED IN CONFIDENCE, SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUBMITTED AND SHALL NOT BE COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF ARC MACHINES, INC.

ISSUED: 19 AUG 1993
REVISED: 07 JUNE 2001



MODEL 9-250
IPB 0901110
WELD HEAD BASIC ASSEMBLY

NOTE: INSULATE CABLE CONNECTIONS WITH SHRINK TUBING (ITEM 42, 3 PL.)

IPB NUMBER: 0901110

TO ORDER
USE PART NUMBER
DO NOT USE IPB
ITEM NUMBER

ARC MACHINES, INC.

DATE EFFECTIVE: 26 Jun 1995
DATE REVISED: 10 Oct 2002

PRODUCT MODEL: 9-250
DESCRIPTION: WELD HEAD BASIC ASSEMBLY
MANUAL NUMBER: 730077
NOTES:

| IPB ITEM NUMBER | QTY | U/M | PART NUMBER | DESCRIPTION | |
|-----------------|-----|-----|-------------------|--------------------------------|------------|
| 1 | 1 | EA | 130901110-01 | WELD HEAD ASSY BASIC M9-250 | |
| 2 | 1 | EA | 13090656-01 | GEAR DRIVE ASSY M9-250 | REPAIRABLE |
| 3 | 2 | EA | 42090659-01 | GEAR IDLER M9-250 | |
| 4 | 0 | EA | | | |
| 5 | 1 | EA | 130907104-02 | CONDUCTOR SHOE BRZD ASSY 9-250 | |
| 6 | 1 | EA | 13090816-01 | CABLE M9-500 CONTROL | |
| 7 | 1 | EA | 130905136-01 | GROUND STRAP CONN-BRZD 9-500 | |
| 8 | 1 | EA | 13090649-02 | GEAR ASSY MAIN IDLER M9-250 | |
| 9 | 2 | EA | 420905314-03 | WASHER WAVE SPRING (5806-53-1) | |
| 10 | 2 | EA | SBS06-32-0.18NP | SCREW BTH SKT 6-32 3/16 L | |
| 11 | 1 | EA | 420901122-01 | HOUSING MAIN M9-250 | |
| 12 | 1 | EA | 420901123-01 | COVER HOUSING M9-250 | |
| 13 | 1 | EA | 42090651-01 | GEAR ROTOR M9-250 (DG5T44) | |
| 14 | 1 | EA | 420907196-01 | GROUND STRAP UPPER M9-250 | |
| 15 | 2 | EA | 420901101-01 | HANDLE M9-500 | |
| 16 | 1 | EA | 420901124-01 | COVER TRIM POT M9-250 | |
| 17 | 1 | EA | 420901124-02 | COVER LIMIT SW M9-250 | |
| 18 | 1 | EA | 420901102-01 | NIPPLE GAS | |
| 19 | 2 | EA | SSS10-32-18NPCU | SCREW SET SKT 10-32 3/16L CUPT | |
| 20 | 1 | EA | SIL08-32-0.12NY | SCREW BDH SLT 8-32 1/8 L NYL | |
| 21 | 3 | EA | SCS02-56-0.31NP | SCREW CAP SKT 2-56 5/16 L | |
| 22 | 2 | EA | SCS08-32-0.25SS | SCREW CAP SKT 8-32 1/4 L SST | |
| 23 | 2 | EA | SCS04-40-0.31NP | SCREW CAP SKT 4-40 5/16 L | |
| 24 | 2 | EA | SFS04-40-1.00NP | SCREW FLH SKT 4-40 1.00 L | |
| 25 | 4 | EA | SFS04-40-0.37NP | SCREW FLH SKT 4-40 3/8 L | |
| 26 | 1 | EA | SPL02-56-0.25NP | SCREW PNH SLT 2-56 1/4 L | |
| 27 | 8 | EA | SFL02-56-0.25NP | SCREW FLH SLT 2-56 1/4 L | |
| 28 | 2 | EA | SFL02-56-0.25NY | SCREW FLH SLT 2-56 1/4 L NYL | |
| 29 | 3 | EA | SFIL-00-80-0,12NP | SCREW BDH SLT 0-80 1/8 L | |
| 30 | 1 | EA | 7051 | CONN 5 PIN MALE | |
| 31 | 2 | EA | W02SS-FL | WASHER FL #2 SST | |
| 32 | 2 | EA | W08SS-FL | WASHER FL .18/.37/.030 T SST | |
| 33 | 2 | EA | SCS02-56-0.18NP | SCREW CAP SKT 2-56 3/16 L | |
| 34 | 2 | EA | SCS02-56-0.12NP | SCREW CAP SKT 2-56 1/8 L | |
| 35 | 1 | EA | MMW35 | SWITCH NYLON ROLLER | |
| 36 | 1 | EA | 13090651-01 | MOTOR DRIVE 9-500 20 RPM ASSY | |
| 37 | 1 | EA | 13090652-01 | GEAR PINION ASSY COUPLING TYPE | |

PRICE, PART NUMBER AND
DESCRIPTION SUBJECT TO
CHANGE WITHOUT NOTICE

IPB NUMBER: 0901110
 DATE EFFECTIVE: 26 Jun 1995
 DATE REVISED: 10 Oct 2002

TO ORDER
 USE PART NUMBER
 DO NOT USE IPB
 ITEM NUMBER

ARC MACHINES, INC.
 PRODUCT MODEL: 9-250
 DESCRIPTION: WELD HEAD BASIC ASSEMBLY
 MANUAL NUMBER: 730077
 NOTES:

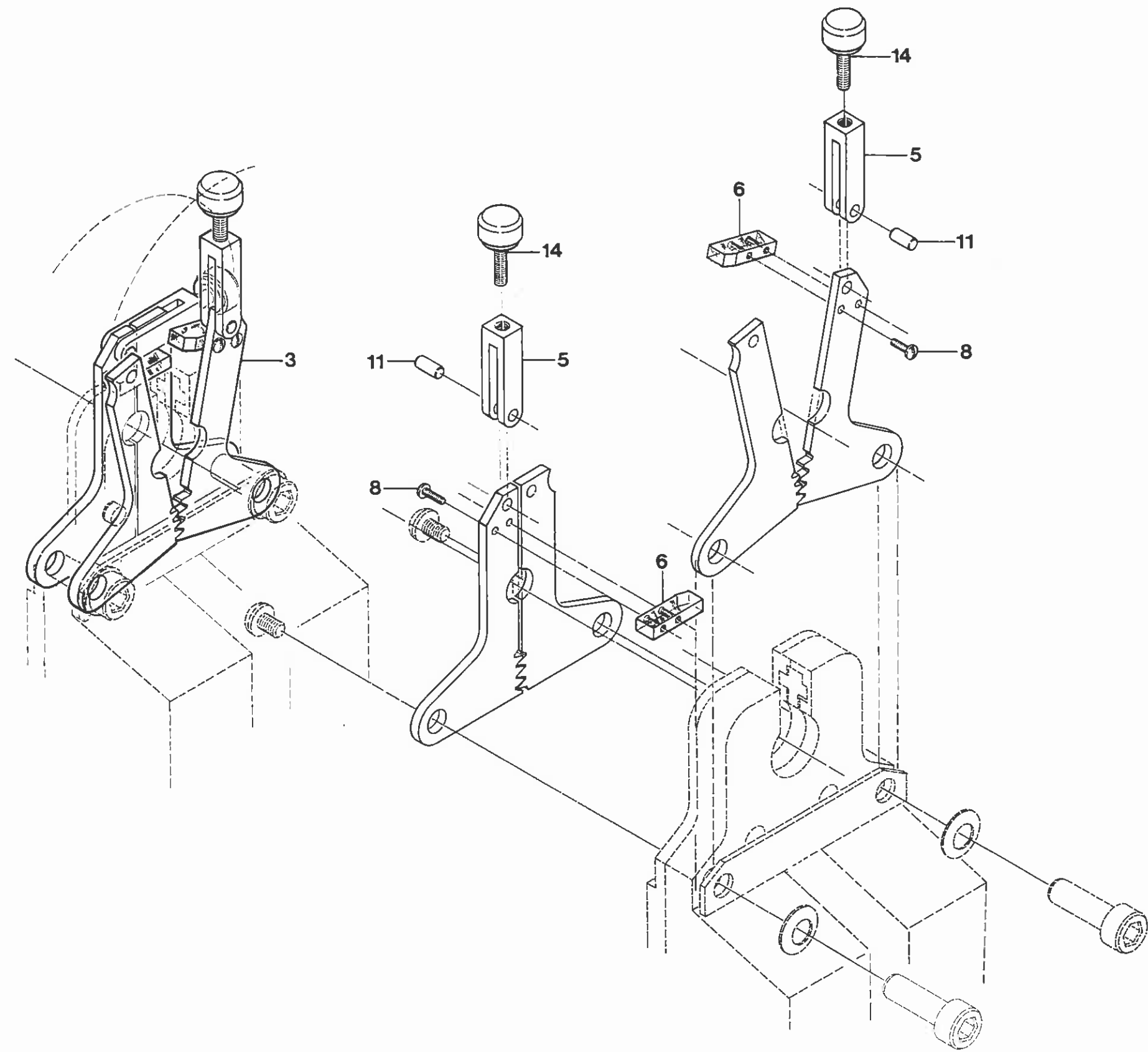
| IPB ITEM NUMBER | QTY | U/M | PART NUMBER | DESCRIPTION |
|--------------------|-----|-----|-----------------|--------------------------------|
| 38 | 2 | EA | 420905314-01 | SCREW HINGE (44D21) |
| 39 | | | - | ----- |
| 40 | | | - | ----- |
| 41 | | | - | ----- |
| 42 | 12 | IN | FB-301-0.37 | TBG SHRINK 3/8 ID BLK |
| 43 | 1 | EA | OO-86 | SPRING CPRSN .48D .37L .035W |
| 44 | 1 | EA | 42090654-02 | COUPLING INSULATING M9-500 |
| 45 | 1 | EA | 42090654-03 | SPACER SPRING .39ID .49D .20LG |
| 46 | 1 | EA | 130901121-02 | TRIM POT ASSY M9-250 |
| 47 | 1 | EA | 13090655-01 | GEAR & SHAFT ASSY |
| 48 | 1 | EA | 42090662-01 | GEAR DRIVE M9-250 |
| 49 | 1 | EA | 5610-103-40 | WSHER NY .75 OD .199 ID .040TH |
| 50 | 2 | EA | SFL02-56-0.25SS | SCREW FLH SLT 2-56 1/4 L |
| 51 | 1 | EA | 420907195-02 | SPRING LEAF |

PRICE, PART NUMBER AND
 DESCRIPTION SUBJECT TO
 CHANGE WITHOUT NOTICE

THIS DOCUMENT OR DRAWING AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ARC MACHINES, INC., IS PROPRIETARY, IS SUBMITTED AND RECEIVED IN CONFIDENCE, SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUBMITTED AND SHALL NOT BE COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF ARC MACHINES, INC.



ISSUED: 19 AUGUST 1993
REVISED: 14 AUGUST 2000



MODEL 9-250
IPB 0905192
STANDARD CLAMP ASSEMBLY

ARC MACHINES, INC.
1993-10-14

IPB NUMBER: 0905192
DATE EFFECTIVE: 19 Aug 1993
DATE REVISED: 14 Aug 2000

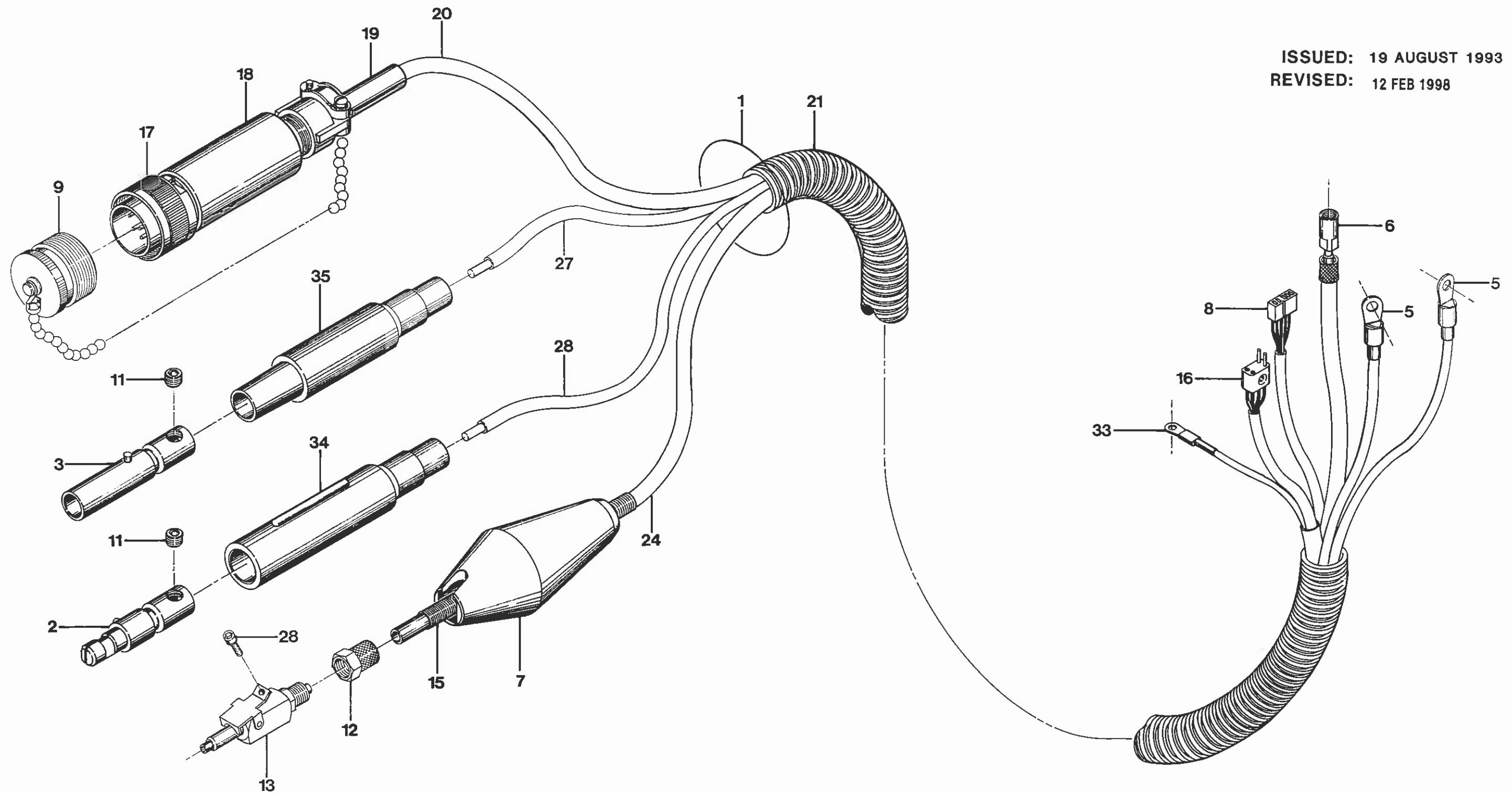
TO ORDER
USE PART NUMBER
DO NOT USE IPB
ITEM NUMBER

ARC MACHINES, INC.
PRODUCT MODEL: 9-250
DESCRIPTION: STANDARD CLAMP ASSEMBLY
MANUAL NUMBER: 730077
NOTES:

| IPB ITEM NUMBER | QTY | U/M | PART NUMBER | DESCRIPTION |
|--------------------|-----|-----|-----------------|----------------------------|
| 1 | 0 | - | - | ----- |
| 2 | 0 | - | - | ----- |
| 3 | 2 | EA | 130905187-01 | PLATE CLAMP .125 OD M9-250 |
| 3A | 2 | EA | 130905187-02 | PLATE CLAMP .250 OD M9-250 |
| 4 | 0 | - | - | ----- |
| 5 | 1 | EA | 420905315-01 | CLEVIS LATCH |
| 6 | 1 | EA | 420905315-02 | WINDOW CLOSURE |
| 7 | 0 | - | - | ----- |
| 8 | 2 | EA | SBL00-80-0.18NP | SCREW BTH SLT 0-80 3/16 L |
| 9 | 0 | - | - | ----- |
| 10 | 0 | - | - | ----- |
| 11 | 1 | EA | PR09-0.18NP | PIN ROLL 3/32D 3/16L |
| 12 | | | - | ----- |
| 13 | | | - | ----- |
| 14 | 1 | EA | 130905188-01 | SCREW THUMB |

PRICE, PART NUMBER AND
DESCRIPTION SUBJECT TO
CHANGE WITHOUT NOTICE

ISSUED: 19 AUGUST 1993
REVISED: 12 FEB 1998



MODEL 9-250
IPB 090816
CABLE ASSEMBLY

IPB NUMBER: 090816
 DATE EFFECTIVE: 19 Aug 1993
 DATE REVISED: 10 Mar 1998

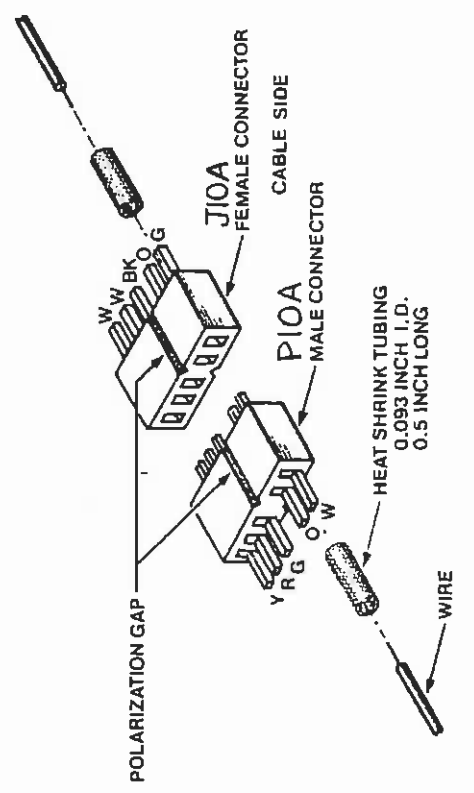
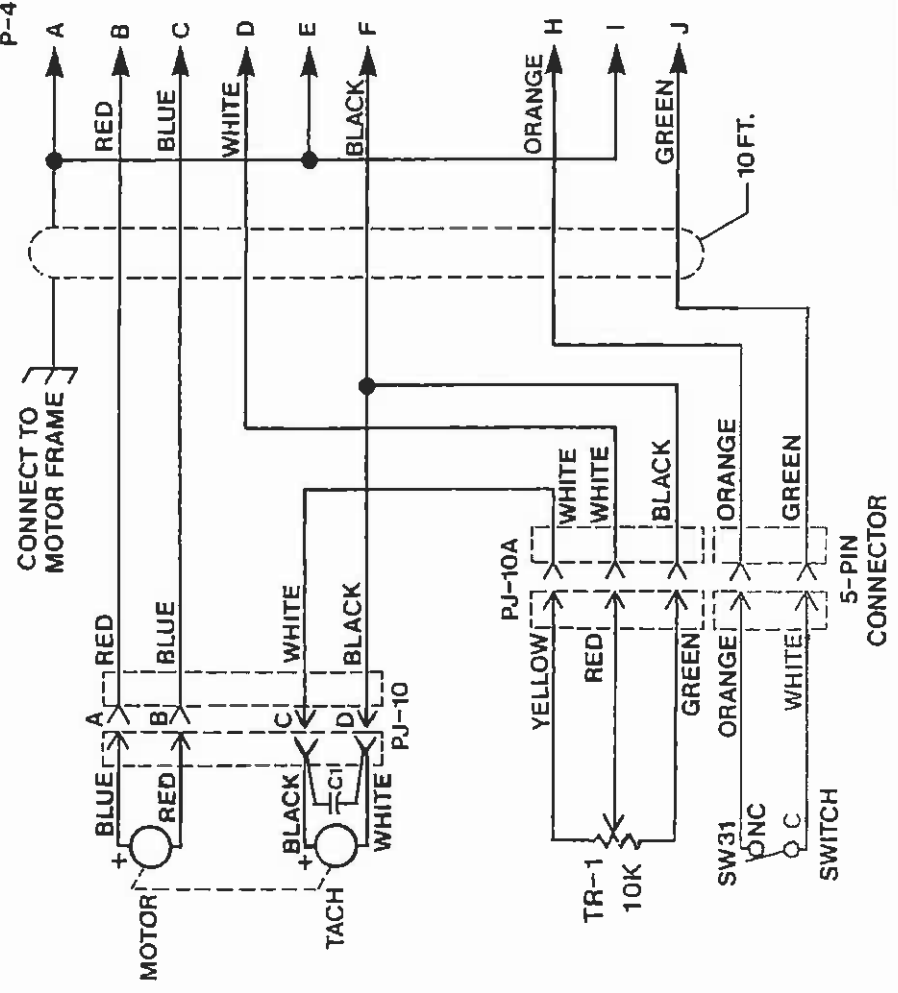
TO ORDER
 USE PART NUMBER
 DO NOT USE IPB
 ITEM NUMBER

ARC MACHINES, INC.
 PRODUCT MODEL: 9-250
 DESCRIPTION: CABLE ASSEMBLY
 MANUAL NUMBER: 730077
 NOTES:

| IPB ITEM NUMBER | QTY | U/M | PART NUMBER | DESCRIPTION |
|-----------------|-----|-----|-----------------|--------------------------------|
| 1 | 1 | EA | 13090816-01 | CABLE M9-500 CONTROL |
| 2 | 1 | EA | A100864-1 | CONN CAM-LOK MALE BRASS 100A |
| 3 | 1 | EA | A100865-1 | CONN CAM-LOK FEMALE BRASS 100A |
| 4 | 0 | - | - | ----- |
| 5 | 2 | EA | B3407H | TERM RING #10 16-12AWG |
| 6 | 1 | EA | 2PF1 | FTG 1/4-28 FEMALE |
| 7 | 1 | EA | 42060805-04 | BOOT MALE GAS |
| 8 | 1 | EA | 5PF | CONN 5 PIN FEMALE |
| 9 | 1 | EA | 1350110-04 | DUST CAP ASSY W/CHAIN(MALE18D) |
| 11 | 2 | EA | SSS31-18-25NPCU | SCREW SET SKT 5/16-18 1/4 L |
| 12 | 1 | EA | 261-PG-04 | FTG NUT/SLEEVE SPRING 1/4 TUBE |
| 13 | 1 | EA | 294-PMD-04 | FTG CPLG Q/D MALE 1/4 TUBE |
| 14 | 0 | - | - | ----- |
| 15 | 1 | EA | AS200718 | SPRING GUARD .34 OD 18.00 LG |
| 16 | 1 | EA | JF2P2SCD | CONN 4 PIN PLUG MINIATURE |
| 17 | 1 | EA | MS3106E18-1P | CONN 10 PIN PLUG |
| 18 | 1 | EA | G1501N186A3A | CONN BACKSHELL |
| 19 | 1 | EA | MS39056-3 | CONN TELESCOPIC BUSHING |
| 20 | 21 | FT | CWT11943 | CABLE 9 COND 22 AWG SHLD WHT |
| 21 | 19 | FT | RC-150-2-BLK | CONDUIT FLEX .60 ID .79 OD BLK |
| 22 | 0 | - | - | ----- |
| 24 | 21 | FT | 44-P-YELLOW | TBG POLTHN 1/4 OD |
| 25 | 0 | - | - | ----- |
| 26 | 0 | - | - | ----- |
| 27 | 20 | FT | AS105-4-BLK | CABLE WELD 10AWG SILICONE GND |
| 28 | 20 | FT | AS105-4-RED | CABLE WELD 10AWG SILICONE ELEC |
| 33 | 1 | EA | R61002GSB | TERM 16-14 AWG #6 |
| 34 | 1 | EA | 100869-7 | INSULATOR CONNECTOR MALE |
| 35 | 1 | EA | 100868-7 | INSULATOR CONNECTOR FEMALE |

PRICE, PART NUMBER AND
 DESCRIPTION SUBJECT TO
 CHANGE WITHOUT NOTICE

| LTR | DCO | REVISIONS | DATE | BY | APPR |
|-----|------|--|----------|-----|------|
| A | 1438 | REMOVE OLD MOTOR DIAGRAM | 5-10-91 | JRM | GPE |
| B | 1716 | CE'D ON PJ-10 REVISED | 11-24-92 | MH | CA |
| C | | ADD M9-250 TO USED ON LIST | 10-5-93 | LEC | GPE |
| D | 2947 | ADDED P10A & J10A. REMOVED PN'S FOR P10A, J10A, P4 | 12-4-97 | MC | MC |



| ITEM | QTY | IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MFR | PART NO |
|---|-----|----------------------|-----------------------------|-----|---------|
| PARTS LIST | | | | | |
| THIS DOCUMENT OR DRAWING AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ARC MACHINES, INC. IT IS PROPRIETARY. IT IS SUBMITTED AND RECEIVED IN CONFIDENCE. IT SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUBMITTED AND SHALL NOT BE COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF ARC MACHINES, INC. | | | | | |
| UNLESS OTHERWISE SPECIFIED | | | | | |
| ALL DIMENSIONS ARE IN INCHES | | | | | |
| TOLERANCES ARE | | | | | |
| FRACTIONS DECIMALS ANGLES | | | | | |
| ± 1/16 ± .005 ± 15' | | | | | |
| ALL MACHINED SURFACES TO BE | | | | | |
| MATERIAL | | | | | |
| NEXT ASSY USED ON | | | | | |
| APPLICATION | | | | | |
| 9-250 | | FOR PARTS SET | | | |
| 9-500 | | DOUG-STD-00 | | | |
| 9RB-1250 | | DATE | | | |
| | | 10-16-85 | | | |
| | | 10-16-85 | | | |
| | | APPROVALS | | | |
| | | R. BILEK | | | |
| | | J. Mc Donald | | | |
| | | GPE | | | |
| | | SIZE | | | |
| | | MODEL NO | | | |
| | | 175144-06 | | | |
| | | SCALE | | | |
| | | A | | | |
| | | DO NOT SCALE DRAWING | | | |
| | | SHEET 1 OF 1 | | | |
| ARC MACHINES INC. | | | | | |
| MODEL 9 WELD HEAD WIRING DIAGRAM | | | | | |
| REV D | | | | | |