

## ***MODEL 8-2000***

***ILLUSTRATED PARTS BREAKDOWN MANUAL***

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## IPB Notice and Revision History

**IPB 730103 M8-2000**


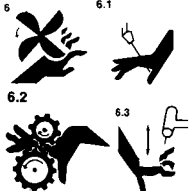

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**WARNING**



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.

	<p><b>WARNING:</b> 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.</p>
	<p><b>WARNING:</b> 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</p> <p>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. <b>USE EXTREME CAUTION!</b></p>
	<p><b>Electrical Shock Hazard:</b> Always disconnect weld heads when servicing internal components or opening housing covers for access.</p>

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REV	ECO #	CHANGE DESCRIPTION	DATE	BY	APR
A	4693	IPB 080601. Added Item 2 bubble	21 MAY 2008	SO	BF
B	4779	Added 750015 rev D	28 May 2008	SO	BF
C	5011	In IPB 080803, changed Item 3 to SCS02-56-0,25NP was SBS02-56-0,25NP. In IPB 080110, changed Item 15 to SCS02-56-0,25NP was SBS02-56-0,25NP.	6 Jun 2008	SO	BF
D	5467	In IPB 080110 changed Item 11 to 13080733-03 was 22080729-01	9 DEC 2009	LK	WO
E	5579	Added rev F of 750015 and Wiring Diagram	18 Jan 2010	CB	DC
F	6461	UPDATED IPB 080111 AND IPB 080108, CLARIFIED WH TOP AND BASIC ASSY BOMS AND DWGS TO REFLECT LATEST REV. ASSY.	01/18/2013	LK	DC

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## TABLE OF CONTENTS

DATE EFFECTIVE: 14 APR 1998

PRODUCT MODEL: 8-2000  
MANUAL NUMBER: 730103

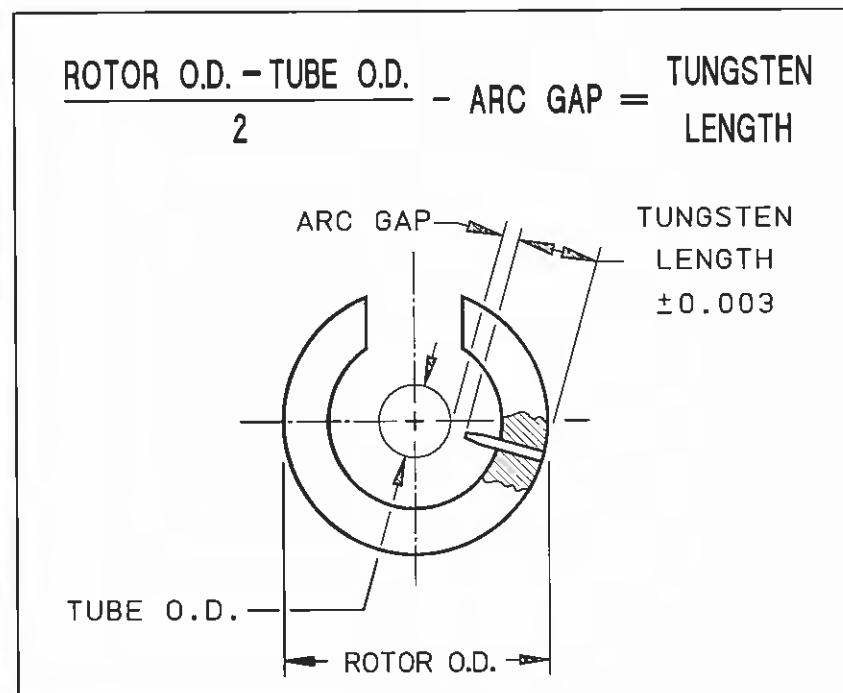
<b>IPB NUMBER</b>	<b>DESCRIPTION</b>
750015	ELECTRODE DIMENSIONS
080108	WELD HEAD TOP ASSEMBLY
080111	WELD HEAD BASIC ASSEMBLY
080110	HOUSING HSG SIDE BASIC ASSEMBLY
080110-01	HOUSING COVER SIDE BASIC ASSEMBLY
080803	LIMIT SWITCH-TRIM POT ASSEMBLY
080601	MOTOR DRIVE ASSEMBLY
080710	ROTOR ASSEMBLY
080802	CABLE ASSEMBLY
47081703	MODEL 8-2000 WELD HEAD WIRING DIAGRAM

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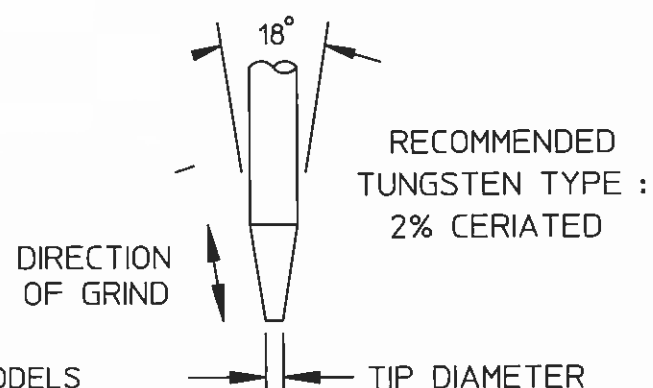
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## ELECTRODE DIMENSIONS

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.	



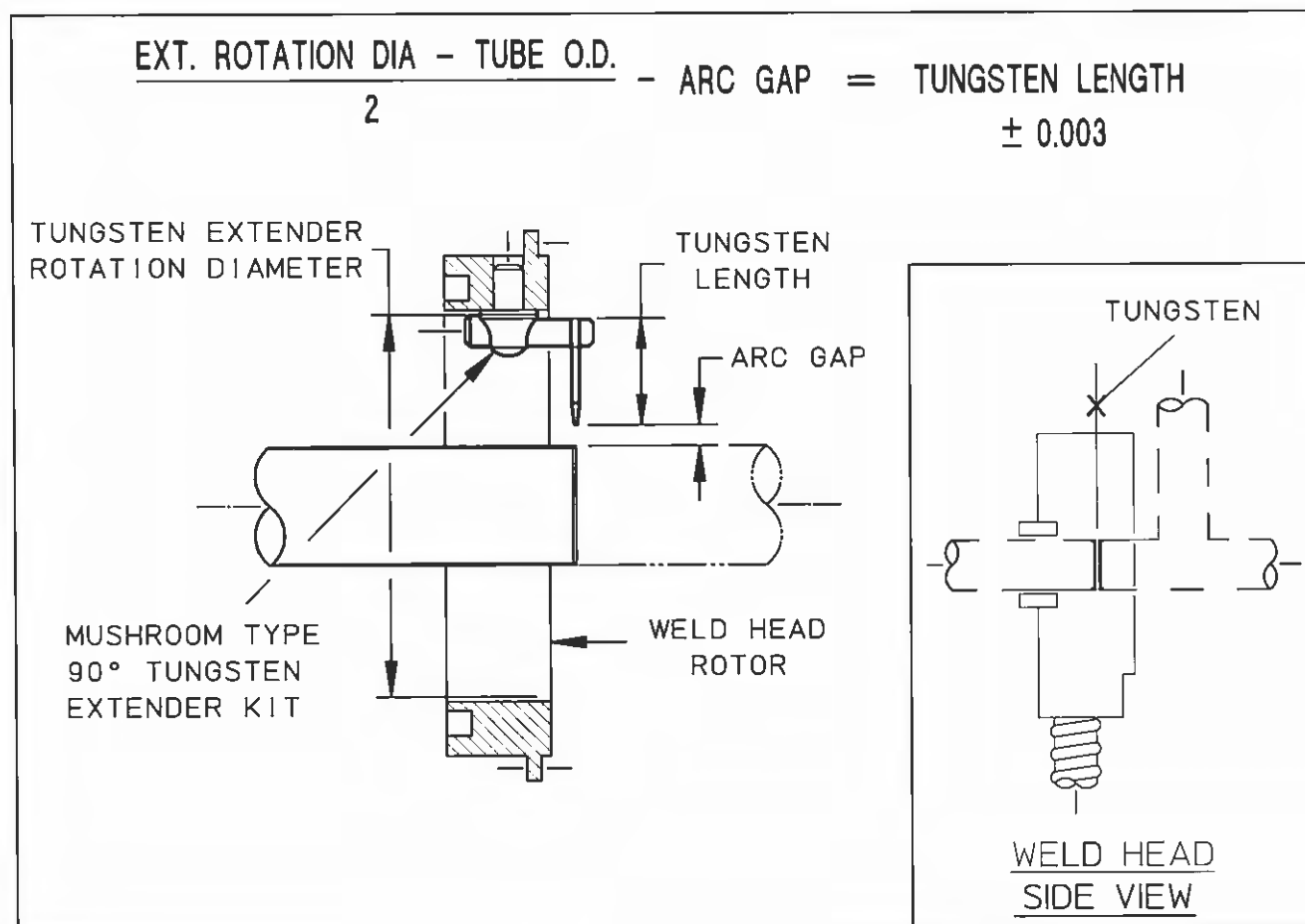
TUBE/PIPE WALL THICKNESS	RECOMMENDED ARC GAP	RECOMMENDED TIP DIA.
0.020/0.035	0.030	0.020
0.049/0.085	0.050	0.030
0.091/0.154	0.070	0.040



- 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.

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## TUNGSTEN LENGTH CALCULATION FOR TUNGSTEN EXTENDERS



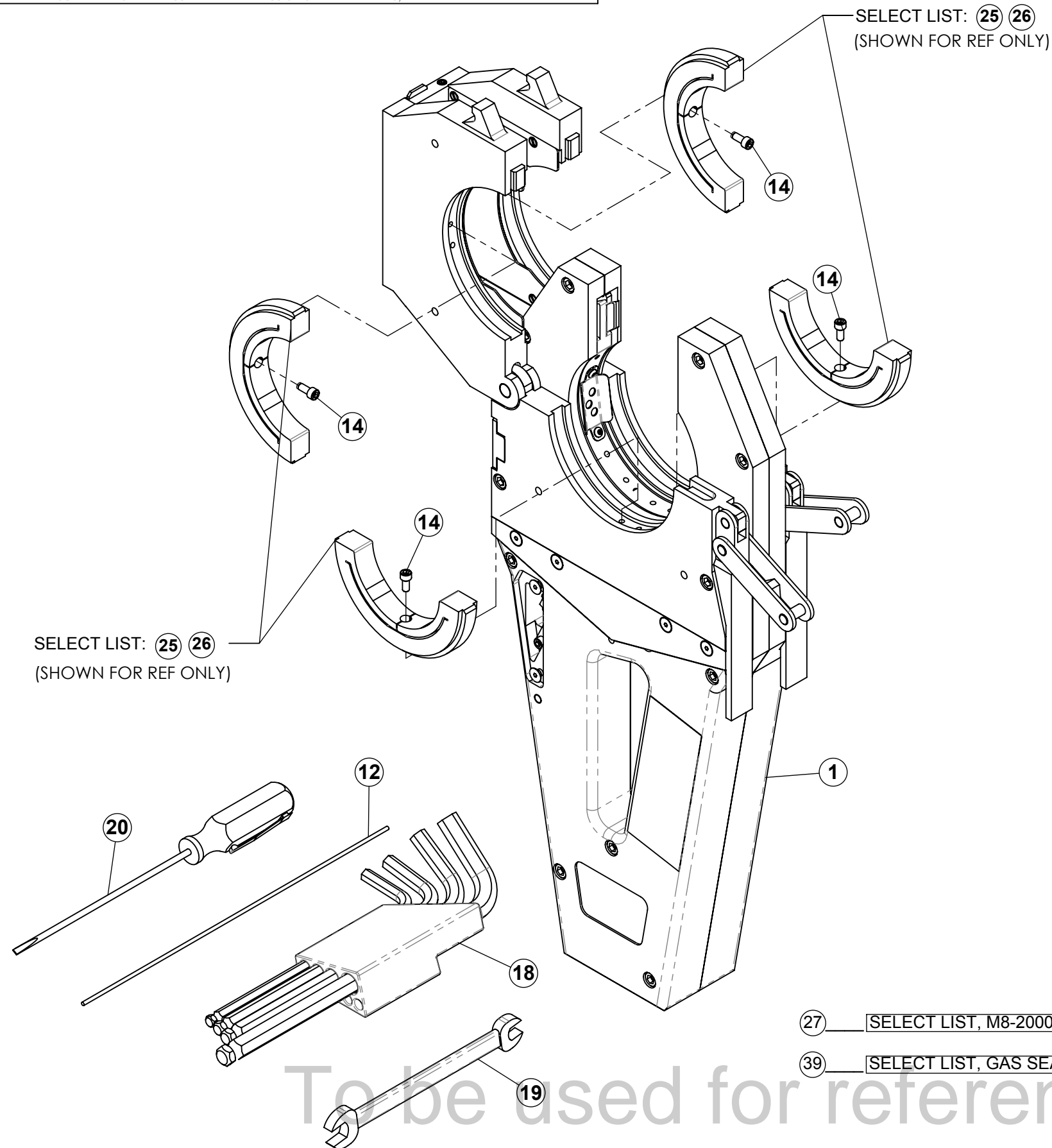
WELD HEAD MODEL NO.	KIT WITH 1/16 TUNGSTEN HOLDER PART NO.	KIT WITH 3/32 TUNGSTEN HOLDER PART NO.	TUNGSTEN EXTENDER ROTATION DIA.
9-1500	13090796-01	13090796-02	2.031
9-2500	13090796-05	13090796-06	3.156
9-3500	13090796-05	13090796-06	4.031
9-4500	13090796-03	13090796-04	4.920
9-7500	13090796-05	13090796-06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

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BOM Table			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	13080111-01	WELD HEAD ASSY	1
12	TC06	TUNG 2% CERIA .062 DIA 7.00L	1
14	SCS04-40-0,25 NP	SCREW CAP SKT 4-40 1/4 L	4
18	BLX-12	WRENCH L HEX BALL DRIVE SET 12 PIECE	1
19	21004	WRENCH OPEN-END 1/4 X 5/16	1
20	R3324	SCREWDRIVER SLOTTED 3/32 X 4IN LONG	1
25	14080535-01	SELECT LIST, BCU TCI M8-2000	0
26	14080580-01	SELECT LIST, TCI-A M8-2000	0
27	14080113-01	SELECT LIST, M8-2000 OPTIONS	0
39	140905145-01	SELECT LIST, GAS SEAL	0

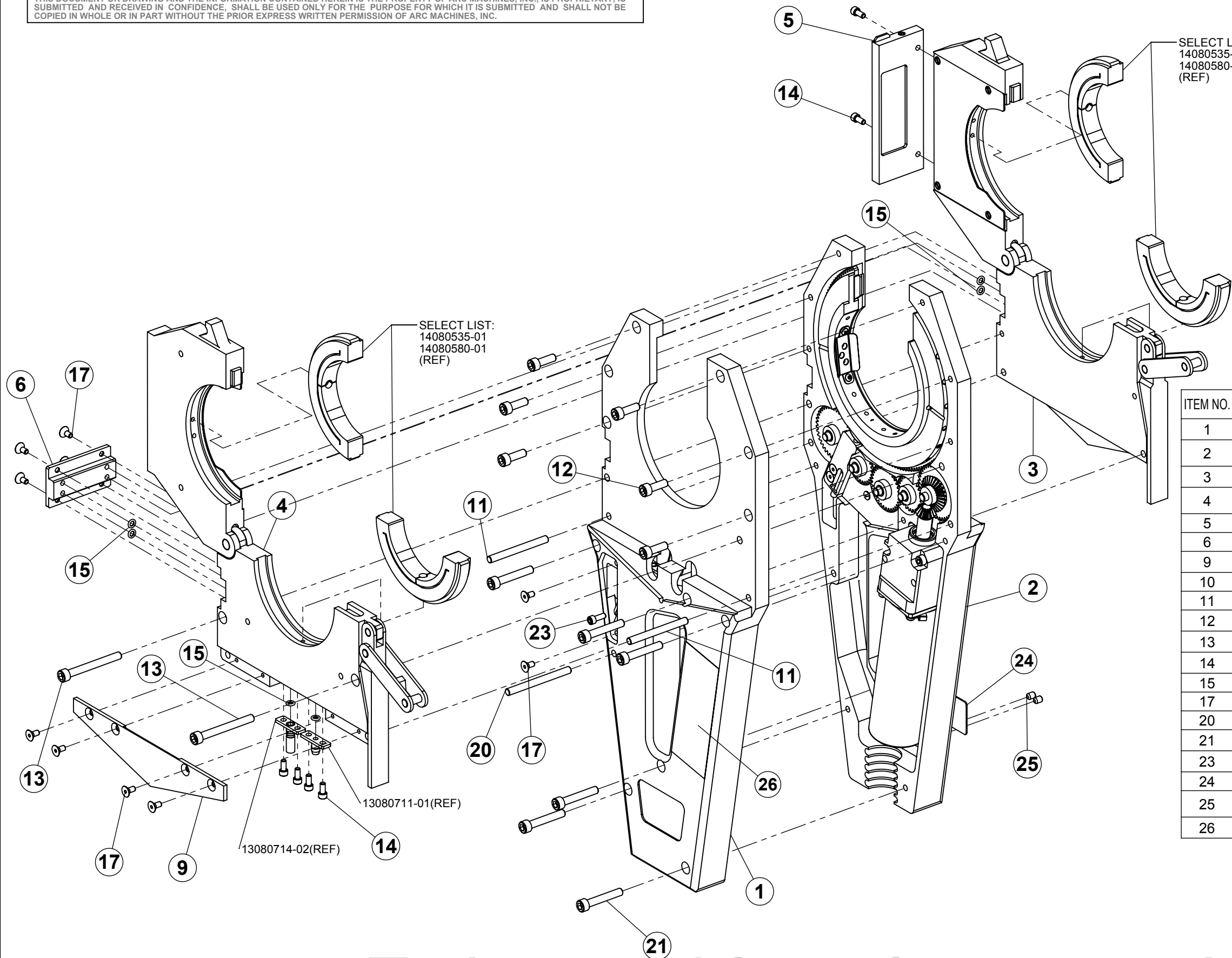
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**MODEL 8-2000**  
**IPB 080108**  
**WELD HEAD TOP ASSY**

ISSUED: 14 APR 1998  
 REVISED: 01/30/2013

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SELECT LIST:  
14080535-01  
14080580-01  
(REF)

SELECT LIST:  
14080535-01  
14080580-01  
(REF)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	13080110-01	HOUSING COVER SIDE ASSY	1
2	13080110-02	HOUSING ASSY HSG SIDE BASIC	1
3	13080556-01	CLAMP HSG HSG SIDE ASSY	1
4	13080557-01	CLAMP HSG ASSY (COVER SIDE)	1
5	13080527-01	WINDOW ASSY	1
6	13080526-01	BRACKET COOLING ASSY	1
9	42080557-02	PLATE COVER CLAMP HSG	1
10	42080532-03	COVER LIMIT SWITCH	1
11	42090164-12	PIN .156D 1.62L	2
12	SCS08-32-0,50NY	SCREW CAP SKT 8-32 1/2L NYL	6
13	SCS08-32-1,50NP	SCREW CAP SKT 8-32 1-1/2L	2
14	SCS04-40-0,25 NP	SCREW CAP SKT 4-40 1/4 L	6
15	R00109-040-40SL	O RING	6
17	SFS04-40-0,25NP	SCREW FLH SKT 4-40 1/4 L	10
20	42090164-09	PIN .156D 1.75L	1
21	SCS08-32-1,00NP	SCREW CAP SKT 8-32 1.0L	6
23	SCS04-40-0,31NP	SCREW CAP SKT 4-40 5/16L	1
24	420901111-60	NAMEPLATE	1
25	SSS06-32-0,18NPCU	SCREW SET SKT 6-32 3/16 L CUPT	2
26	L-743	LABEL AMI RECOMMENDS 2%	1

**MODEL 8-2000**  
**IPB 080111**  
**WELD HEAD BASIC ASSEMBLY**

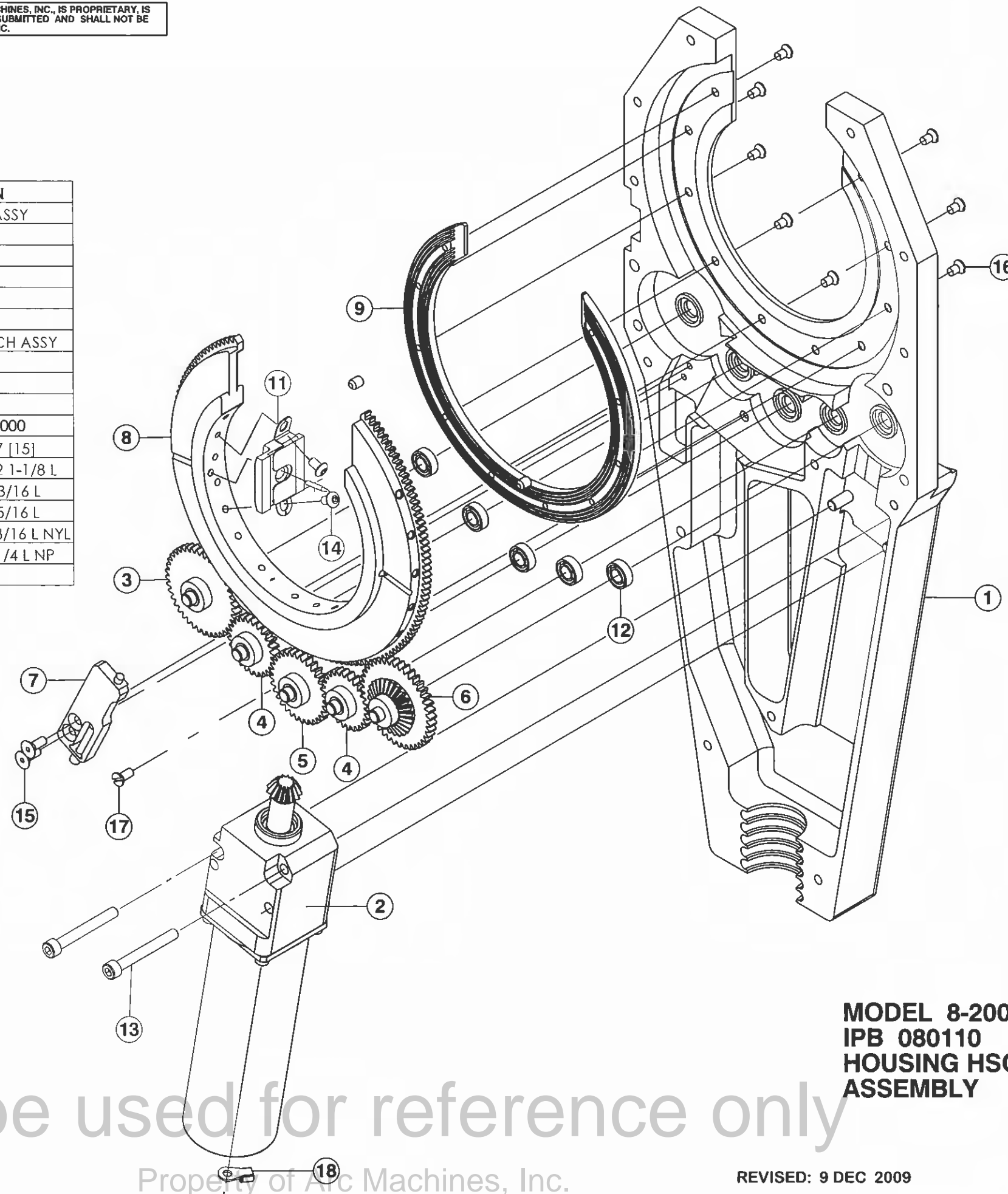
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ISSUED: 14 APR 1998  
REVISED: 01/29/2013

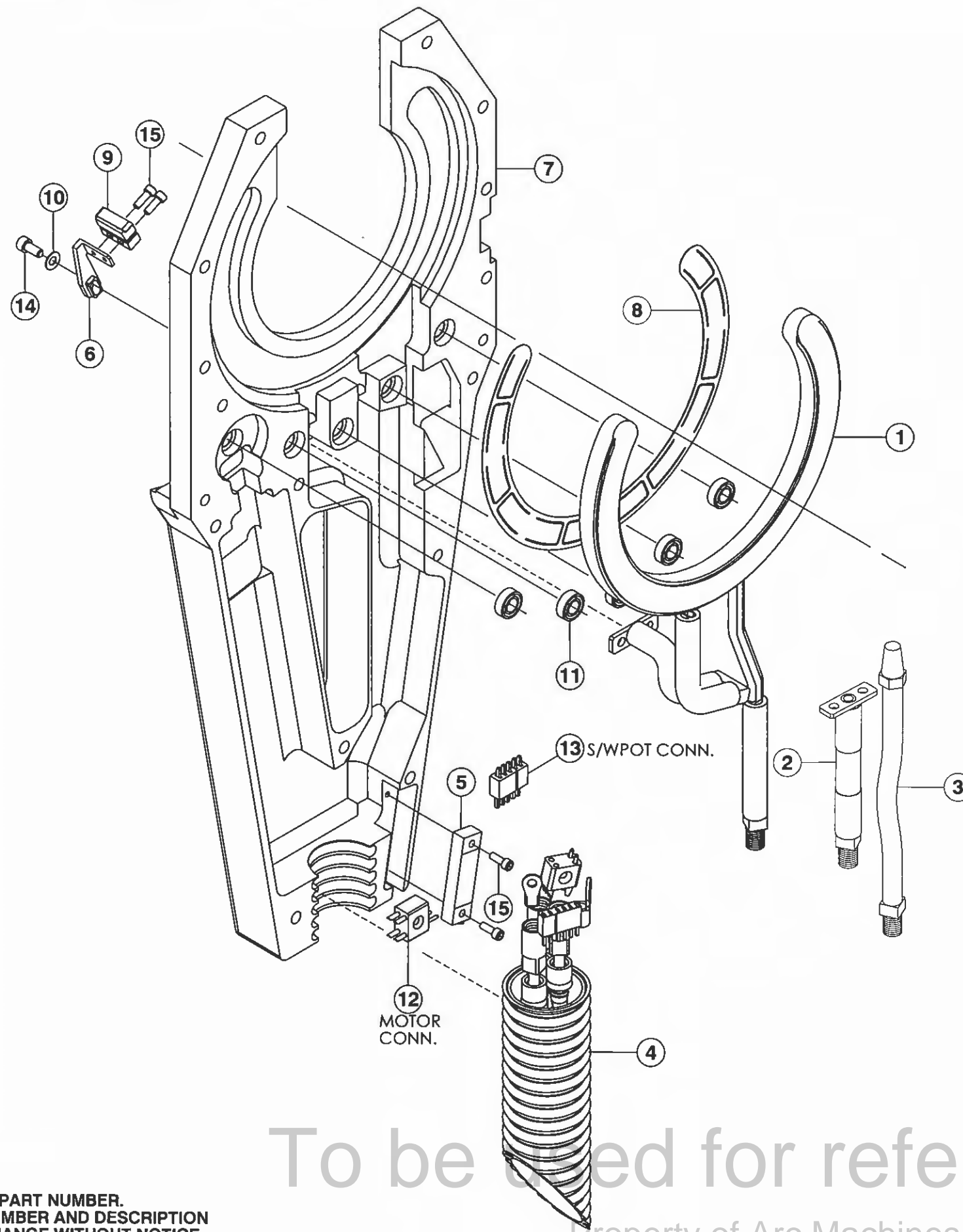
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	13080112-01	HOUSING HSG SIDE ASSY
2	1	13080601-01	MOTOR DRIVE ASSY
3	1	13080603-03	GEAR DRIVE ASSY
4	2	13080603-02	GEARDRIVE ASSY
5	1	13080600-04	GEAR DRIVE ASSY
6	1	13080603-04	GEAR SPUR BEVEL
7	1	13081102-01	HOUSING LIMIT SWITCH ASSY
8	1	13080710-01	ROTOR
9	1	42080713-01	GUIDE RING
10	1	42080603-01	COVER GEAR
11	1	13080733-03	KIT HEAT SHIELD M8-2000
12	5	SSRI6632LLRA3P25LY	BEARING BALL .18 .37 [15]
13	2	SCS06-32-1,12NP	ACREW CAP SKT 6-32 1-1/8 L
14	2	SBS04-40-0,18NP	SCREW BTH SKT 4-40 3/16 L
15	2	SFS04-40-0,31NP	SCREW FLH SKT 4-40 5/16 L
16	10	SFL04-40-0,18N	SCREW FLH SLT 4-40 3/16 L NYL
17	1	SFL04-40-0,25NP	SCREW FLH SLT 4-40 1/4 L NP
18	1	34119	TERM RING 16-14 #4



MODEL 8-2000  
 IPB 080110  
 HOUSING HSG SIDE BASIC  
 ASSEMBLY

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ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	13080711-01	CONDUCTOR RING ASSY
2	1	13080714-02	GROUND LINE ASSY
3	1	13080709-01	FTG GAS LINE ASSY
4	1	13080802-01	CABLE ASSY
5	1	3057L-1-202	POT TRIM 2K 1-1/4 MULTI TURN
6	1	42081102-01	BRACKET LIMIT SWITCH
7	1	42080103-01	HOUSING COVER SIDE
8	1	42080714-01	SPRING LEAF BACK
9	1	MMGGD1L2C	SWITCH LIMIT LEAF LOW MOTION
10	1	DD621	WASHER BELLEVILLE .125 ID .25 D
11	5	SSRI6632LLRA3P25LY	BEARING BALL .18 .37 [15]
12	1	JF2S2PCD	CONN 4 PIN JACK MINIATURE (GRY)
13	1	7051	CONN 5 PIN MALE SUB-MINIATURE BLK
14	1	SCS04-40-0.25NP	SCREW CAP SKT 4-40 1/4 L
15	4	SCS02-56-0.25NP	SCREW CAP SKT 2-56 1/4 L

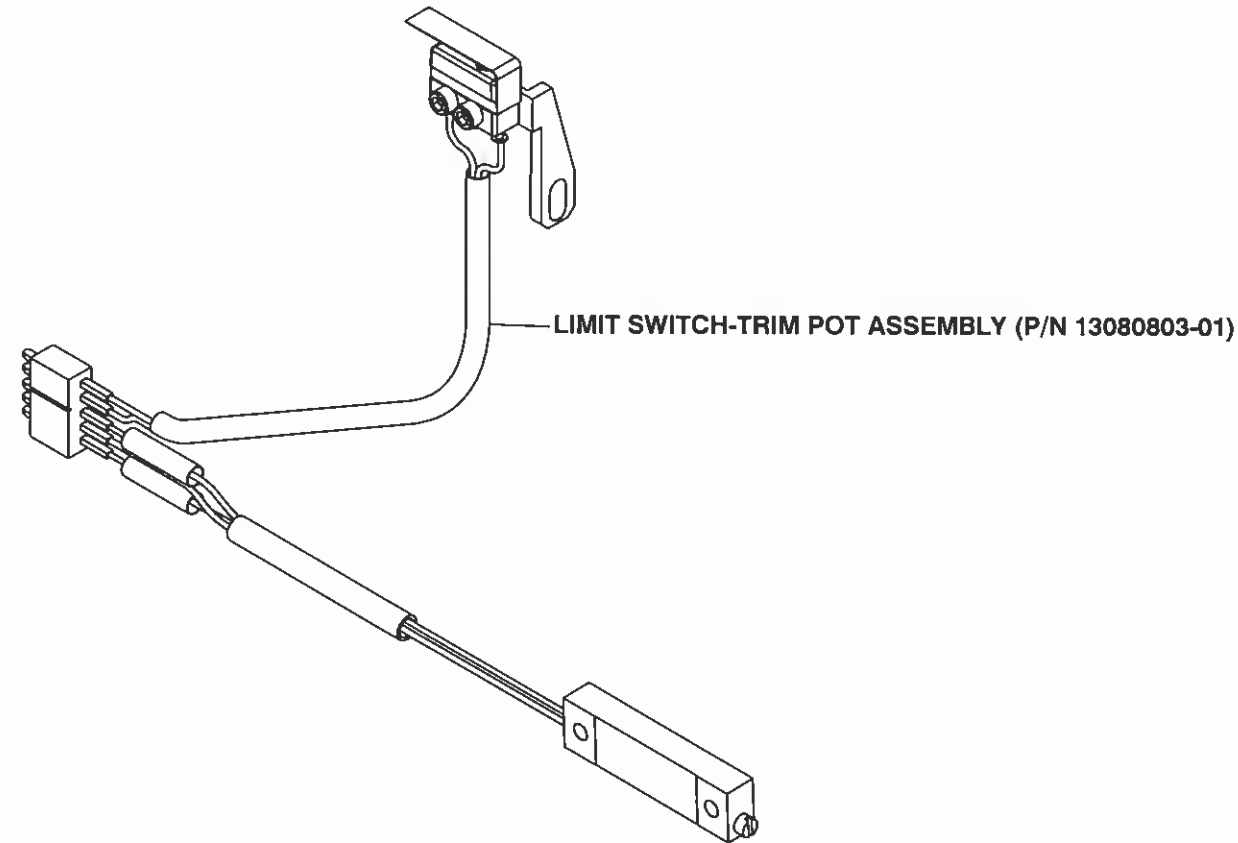
NOTE: ITEMS 5, 6, 9, 13 & 15 ARE AVAILABLE AS A COMPLETE ASSEMBLY, PART NUMBER 13080803-01 (IPB # 080803).

MODEL 8-2000  
 IPB 080110-01  
 HOUSING COVER SIDE BASIC  
 ASSEMBLY

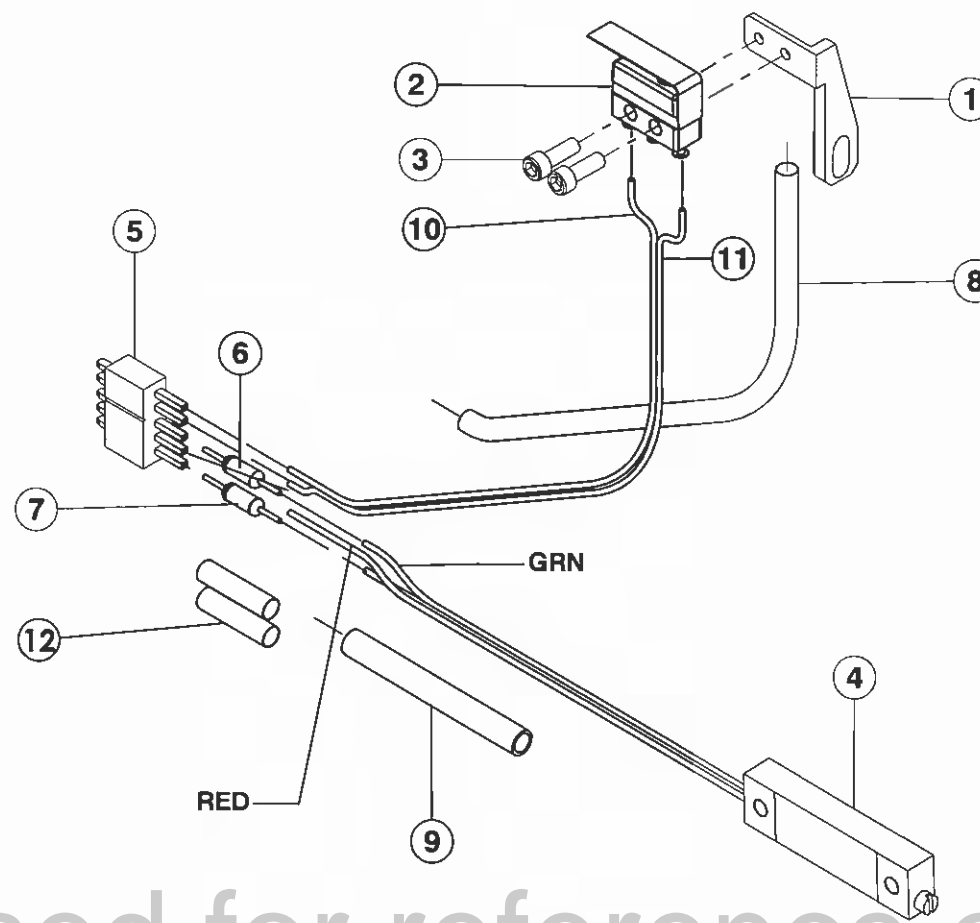
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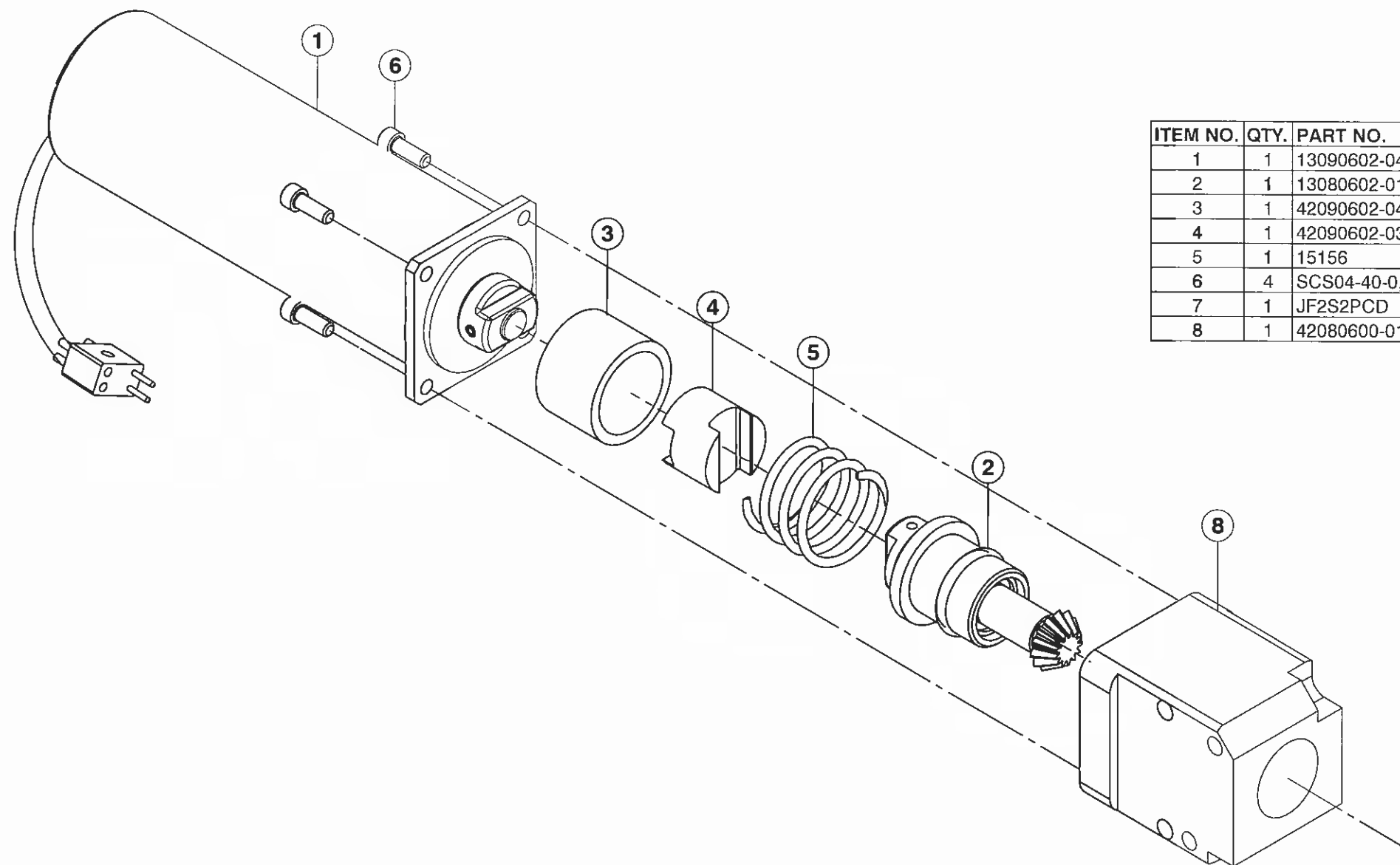


ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	42081102-01	BRACKET LIMIT SWITCH
2	1	MMGGD1L2C	LIMIT SWITCH LEAF
3	2	SCS02-56-0,25NP	SCREW CAP SKT 2-56 1/4 L
4	1	3057L-1-202	POT TRIM 2K 1-1/4 MULTI TURN
5	1	7051	CONN 5 PIN MALE
6	1	RN55D7871F	RES 7.87K
7	1	RN55D1300F	RES 130 OHMS 1/4W
8	1	M23053-5-102-0	TBG SHRINK 1/16 ID BLK
9	1	M23053-5-102-0	TBG SHRINK 1/16 ID BLK
10	1	EXE-24-19-36-9	WIRE 24 AWG 19 STRD WHITE TEFLON INSUL
11	1	EXE-24-19-36-3	WIRE 24 AWG 19 STRD ORANGE TEFLON INSUL
12	2	M23053_5-104-0	TBG SHRINK 1/8 ID BLK



MODEL 8  
 IPB 080803  
 LIMIT SWITCH-TRIM POT ASSEMBLY  
 (M8-2000, M8-4000 AND M8-6625)

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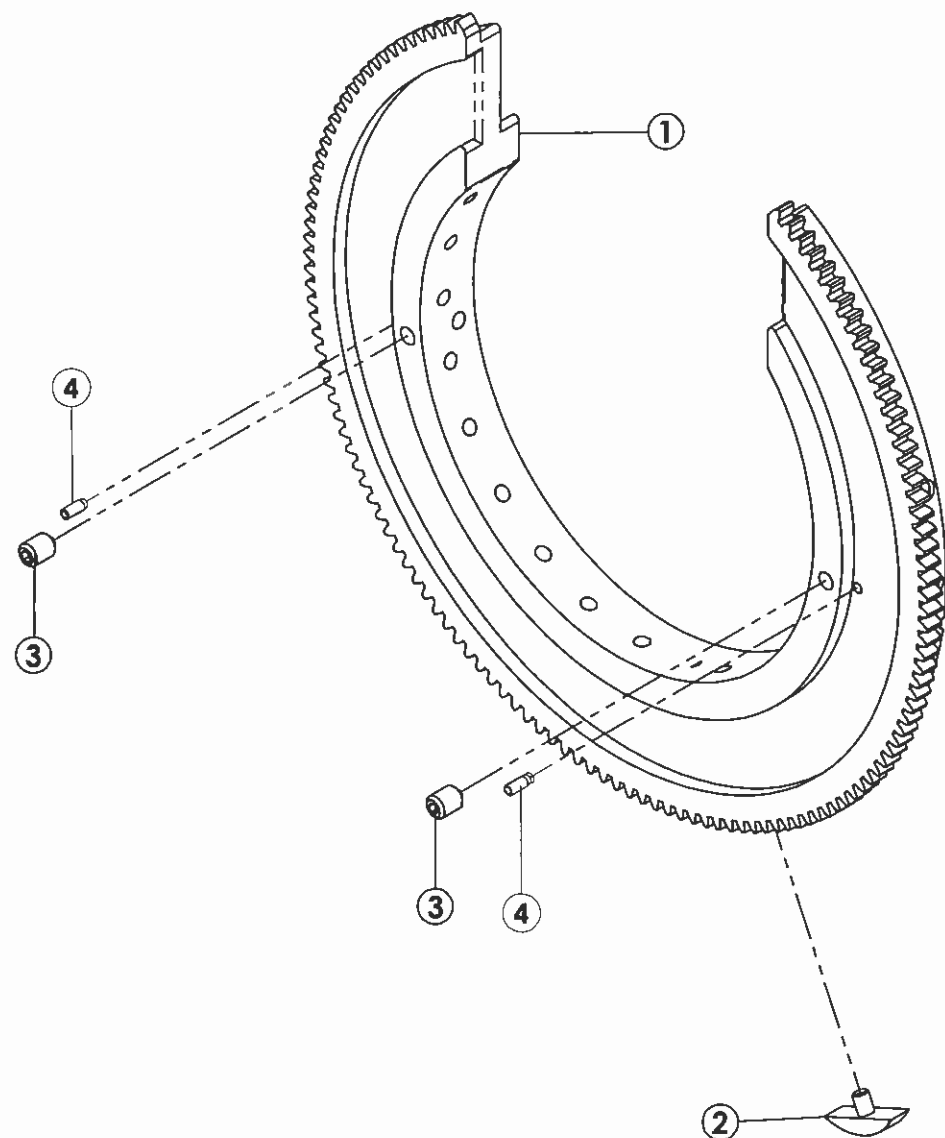
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	13090602-04	MOTOR DRIVE ASSY
2	1	13080602-01	DRIVE PINION ASSY
3	1	42090602-04	SPACER SPRING
4	1	42090602-03	COUPLING INSULATING DELRIN
5	1	15156	SPRING CPRSN .81D .70L .067W
6	4	SCS04-40-0,31NP	SCREW CAP SKT 4-40 5/16 L
7	1	JF2S2PCD	CONN 4 PIN JACK MINIATURE (GRY)
8	1	42080600-01	BLOCK MOTOR (NEW)

**MODEL 8-4000**  
**IPB 080601**  
**MOTOR DRIVE ASSEMBLY**

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ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	42080709-01	ROTOR
2	1	42080532-04	CAM, LIMIT SWITCH
3	2	SSS06-32-18NPCU	SCREW SET SKT 6-32 3/16 L CUPT
4	2	22080733-01	PIN, ROLL MODIFIED

MODEL 8-2000  
 IPB 080710  
 ROTOR ASSEMBLY

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ISSUED: 14 APRIL 1998  
 REVISED: 25 JULY 2006

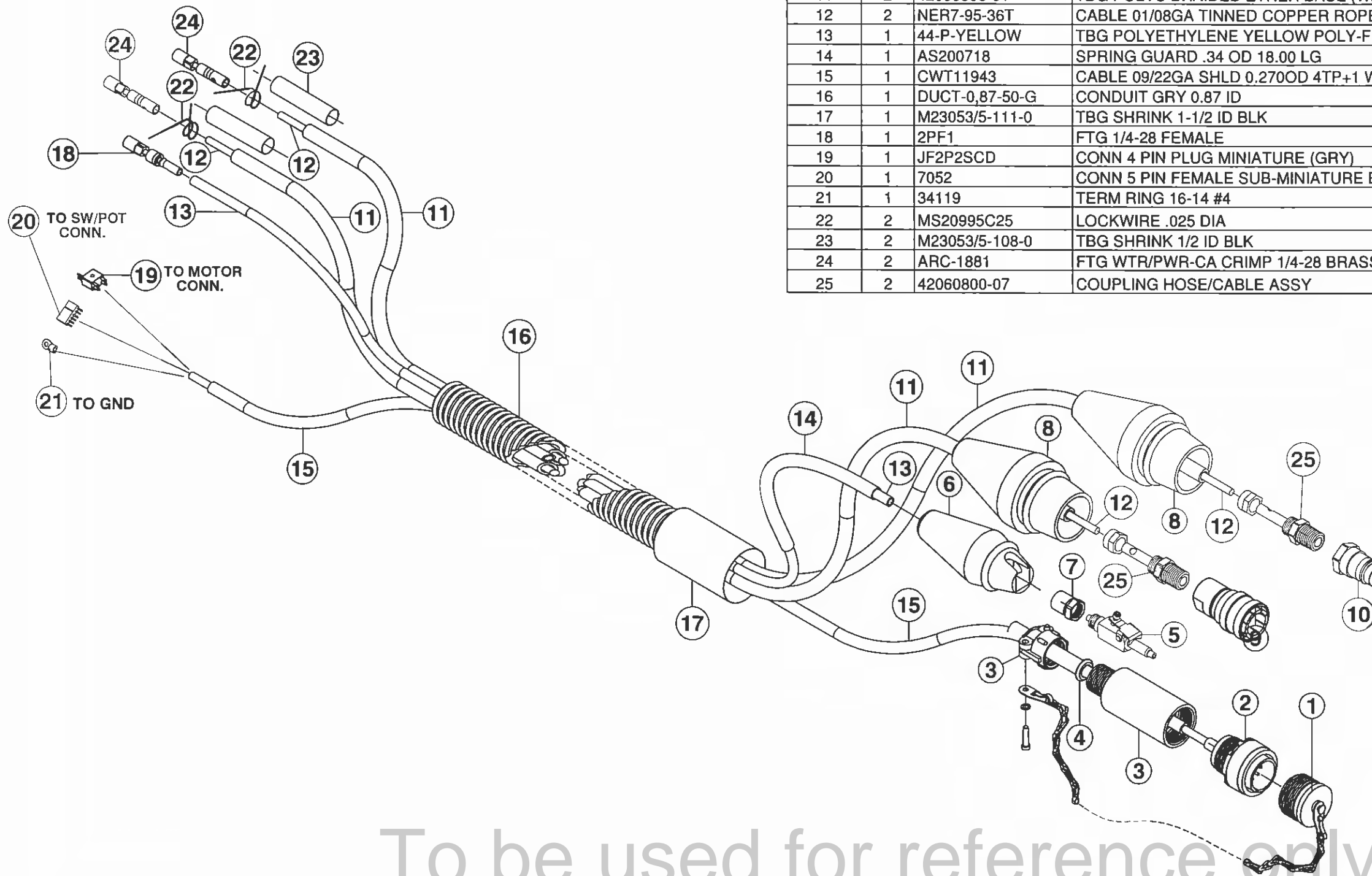
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ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	13500110-04	DUST CAP ASSY
2	1	MS3106E18-1PF42	CONN 10 PIN STRAIGHT PLUG W/OUT ENDBELL
3	1	G1501N186A3A	CONN BACKSHELL
4	1	MS39056-3	CONN TELESCOPIC BUSHING
5	1	1351109-01	COUPLING Q/D ASSY MALE GAS FOR 1/4 TUBING
6	1	42060805-04	BOOT MALE GAS CLIP TYP Q/D
7	1	261-PG-05	NUT/SLEEVE SPRING 5/16 TBG
8	2	42060804-01	BOOT MALE POWER/GROUND
9	1	42060800-02	COUPLING Q/D 1/4 WATER FEMALE MOD (SM-251B)
10	1	SM-252B	COUPLING Q/D 1/4PT MALE BRASS WATER/POWER
11	2	42090806-01	TBG POLYU BRAIDED ETHER BASE (WATER USE) 1/4 ID 3/8 OD
12	2	NER7-95-36T	CABLE 01/08GA TINNED COPPER ROPE
13	1	44-P-YELLOW	TBG POLYETHYLENE YELLOW POLY-FLO 1/4 OD .040 WALL
14	1	AS200718	SPRING GUARD .34 OD 18.00 LG
15	1	CWT11943	CABLE 09/22GA SHLD 0.270OD 4TP+1 WHT
16	1	DUCT-0,87-50-G	CONDUIT GRY 0.87 ID
17	1	M23053/5-111-0	TBG SHRINK 1-1/2 ID BLK
18	1	2PF1	FTG 1/4-28 FEMALE
19	1	JF2P2SCD	CONN 4 PIN PLUG MINIATURE (GRY)
20	1	7052	CONN 5 PIN FEMALE SUB-MINIATURE BLK W/GOLD PINS
21	1	34119	TERM RING 16-14 #4
22	2	MS20995C25	LOCKWIRE .025 DIA
23	2	M23053/5-108-0	TBG SHRINK 1/2 ID BLK
24	2	ARC-1881	FTG WTR/PWR-CA CRIMP 1/4-28 BRASS SWIVEL NUT (FEM)
25	2	42060800-07	COUPLING HOSE/CABLE ASSY



MODEL 8-2000  
IPB 080802  
CABLE ASSEMBLY

ISSUED: 7 JUL 2003  
REVISED: 25 JULY 2006

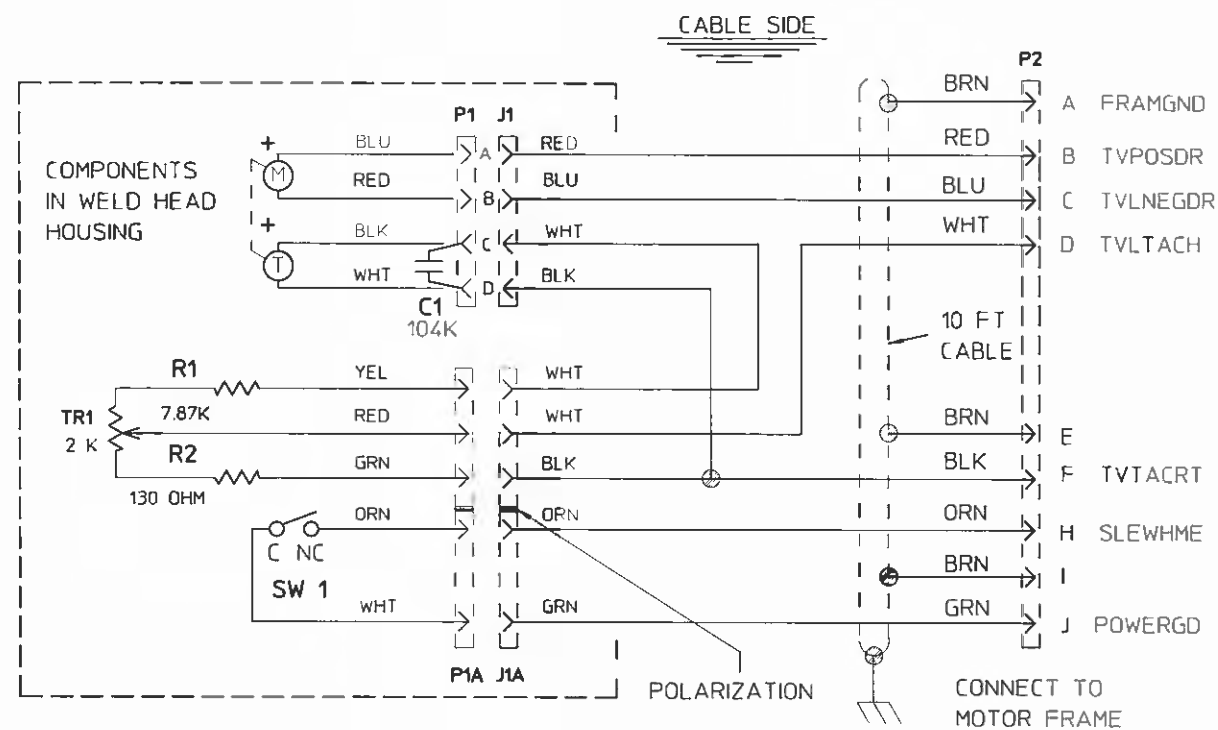
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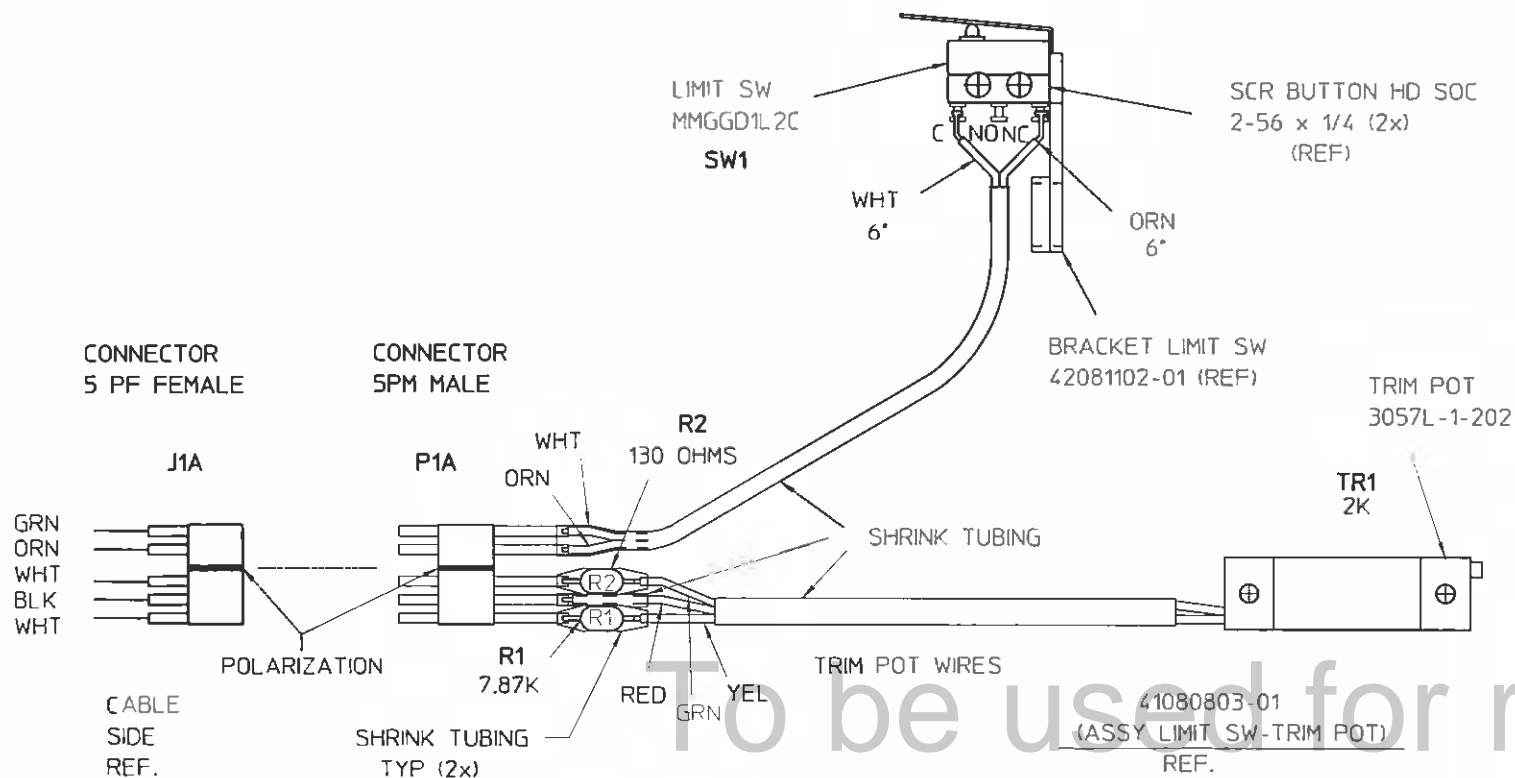
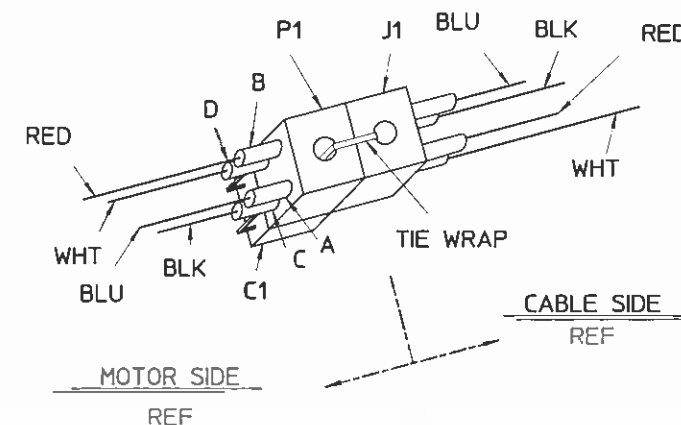
ZONE	LTR	DCO	REVISIONS
	A	3806	ADDED TRIM POT, LIMIT SW ASSY

NOTES:



-01

CONNECTORS



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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16 .030 ° .XX .010 ° .XXX .005 °	THIRD ANGLE PROJECTION	FOR FILED STANDARDS SEE DDD-STD-100	<b>ARC MACHINES, INC.</b> DESCRIPTION <b>MODEL 8-2000 WELDIAGRAM HEAD WIRING DIAGRAM</b>
APPROVALS	DATE		
DRAWN: JONAS VYNIS	11JAN2001		SIZE MODEL NO DRWG NO REV. D M-8 47081703 A
ALL MACHINED SURFACES TO BE	CHECKED: ✓		SCALE NONE DO NOT SCALE DRAWING SHEET 1 of 1
MATERIAL	APPR		
NEXT ASSY USED ON APPLICATION	QUOTATION		

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