

INSTRUCTIONS AND PARTS MANUAL

SADDLE & ELBOW CUTTERS 3RD AXIS OPTION

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

Model Number _____

Serial Number _____

Date of Purchase _____

Whenever you request replacement parts or information on this equipment, always supply the information you have recorded above.

LIT-3RDAXIS-IPM-0408



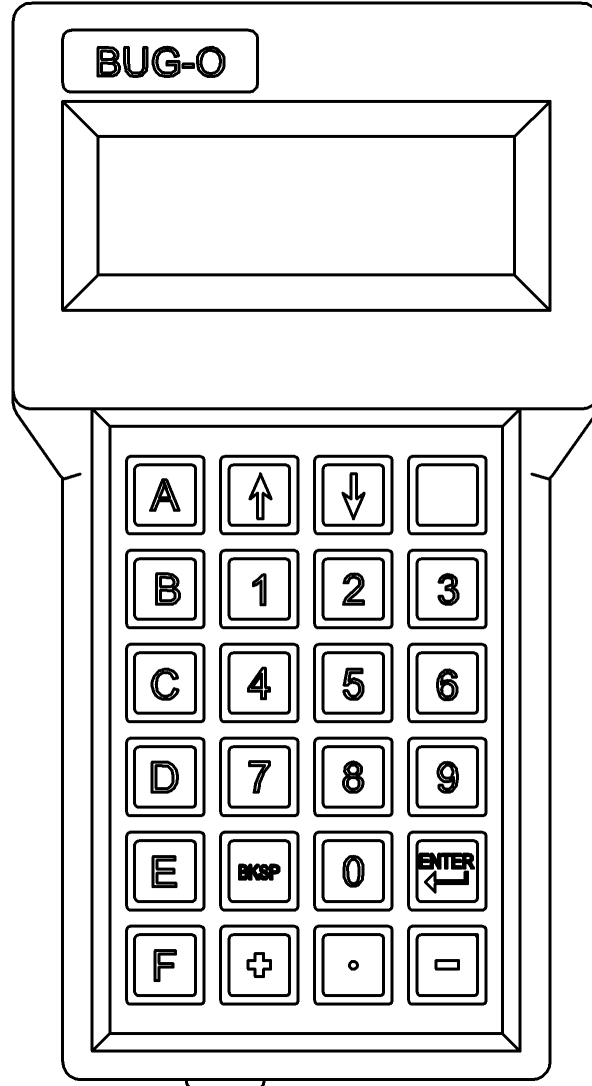
CYPRESS WELDING EQUIPMENT INC.

CE

A DIVISION OF WELD TOOLING CORPORATION

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Telephone: 1-412-331-1776 • 1-800-245-3186 • Fax: 1-412-331-0383
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PROGRAMMING MODULE



This is a hand held terminal with key pad and display which plugs in to the control panel. Press keys A, B, C, D, or E for the function desired, as described in the Programming instructions on page 5. Use the digit keys to enter pipe diameters or other dimensions; push the Enter button to store the numeric value entered. The Backspace key removes the last digit before pushing the Enter button, in case a correction is required.

PROGRAMMING

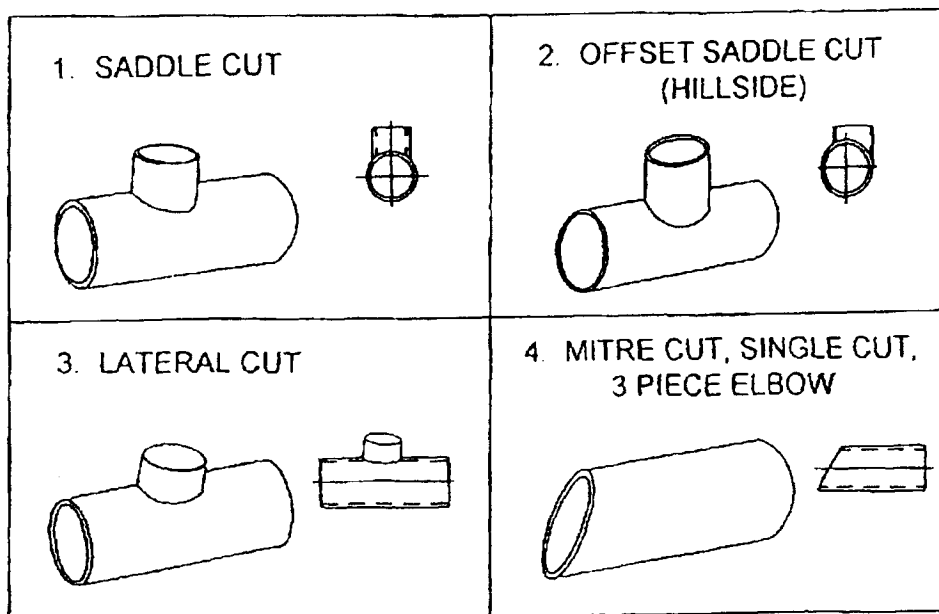
For programming, the following keys on the keypad are used:

- Push A: To select type of cut and enter dimensions
 B: To enter the time delay for plasma cutting.
 C: To display the Cut No. in memory (Nos. 0-10)
 D: To display the type and dimensions of cut.
 E: To enter end of cut slowdown.

To Program a cut, select one of five types as follows:

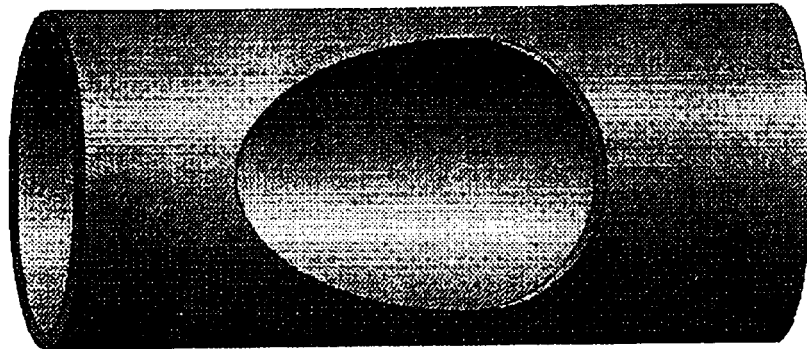
- Type 1: Saddle Cut on centerline.
Type 2: Saddle Cut offset (hillside).
Type 3: Lateral Cut, offset or on centerline (for center line, put offset=0)
Type 4: Mitre Cut
Type 5: Holes (see next page).

CUT TYPES 1 to 4:

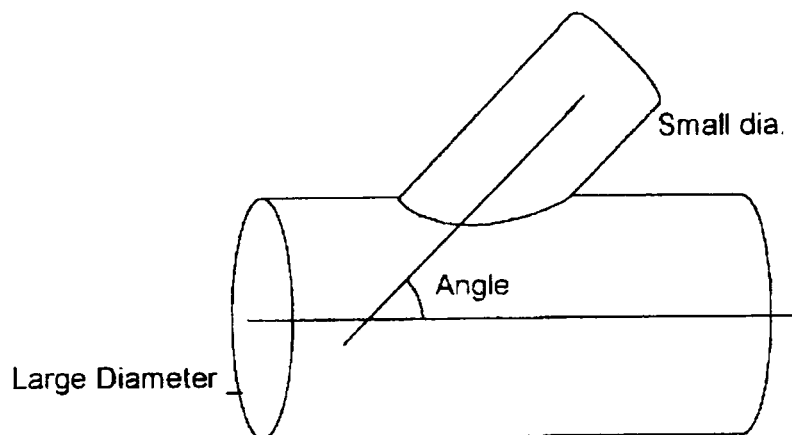


CUTTING HOLES: TYPE 5

Select Type 5 to cut a hole on the side of a pipe. Using Type 5, the machine is programmed to cut holes in pipes for branching joints, either square (T-joints) or angled (laterals). The joint must be on centerline.



The display will ask for small diameter, and then large diameter. Enter the diameter of the branch pipe for small diameter, and then large diameter, as shown in the diagram, and the diameter of the pipe being cut for large diameter. Next the display will prompt for angle. Enter the angle, in degrees x 100 (e.g. for 60° enter 6000). For square cuts you must enter 9000 (for 90°).



NOTE:

The type 5 Cut is provided on both the standard SE-4PTD and the Dual program SE-4PTD machines.

Data Entry

When entering data on the keypad, multiply inches, degrees, or seconds by 100 and enter the number without a decimal point. For metric dimensions, multiply mm x 10 cm x 100.

For Example: 350 for 3.5 inches,
 800 for 80mm on metric machines
 1500 for 15°

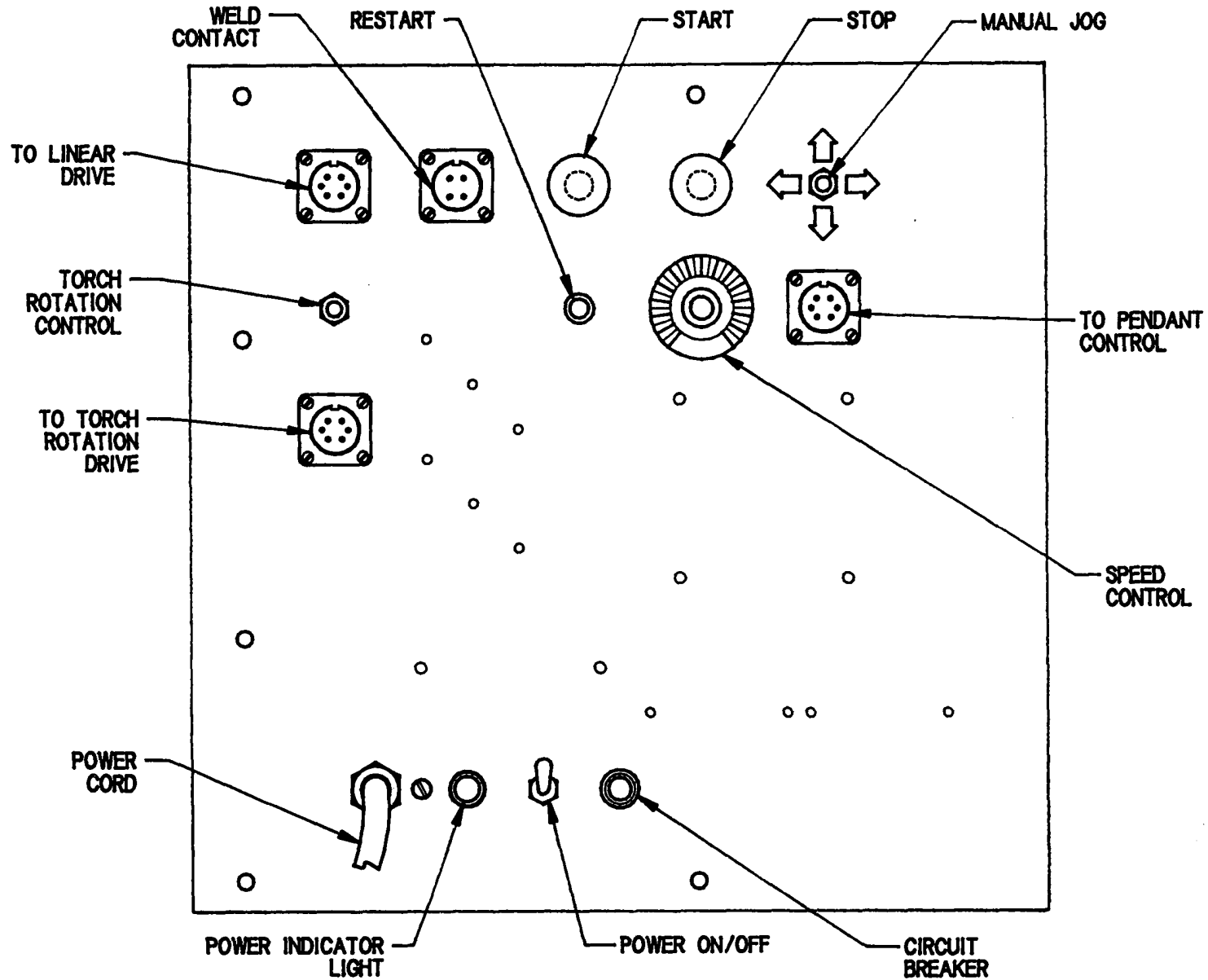
Press the return button after the number is entered.

Data required:

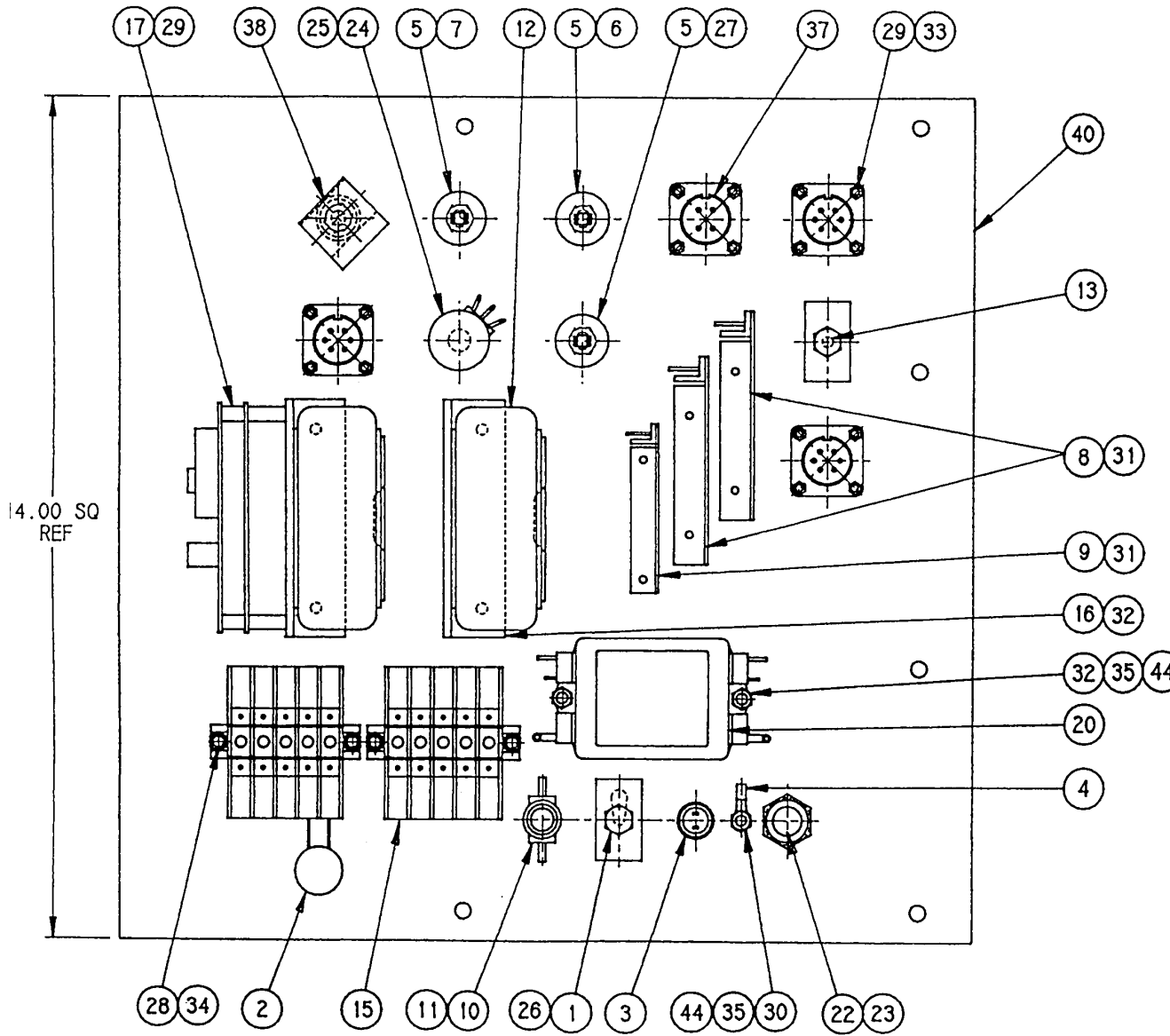
- | | | |
|-------------------|----|--|
| TYPE 1: Requires | 1. | Small diameter (pipe being cut). |
| | 2. | Large diameter (pipe it fits on). |
| | 3. | Torch Rotation Angle |
| TYPE 2: Requires | 1. | Small diameter |
| | 2. | Large Diameter |
| | 3. | Offset distance between centerlines |
| | 4. | Torch Rotation Angle |
| TYPE 3: Requires | 1. | Small diameter |
| | 2. | Large diameter |
| | 3. | Offset |
| | 4. | Angle between pipes
(No torch rotation.) |
| TYPE 4: Requires: | 1. | Small diameter |
| | 2. | Cutback distance |
| | 3. | Angle of mitre cut
(Rotation automatically sets to mitre angle) |
| TYPE 5: Requires: | 1. | Small diameter |
| | 2. | Large diameter |
| | 3. | Rotation Angle |

For plasma cutting, a value for the time delay is also required to allow for the delay in striking the arc. A commonly used delay is 3 seconds (enter 300 on the terminal keypad).

3-AXIS PANEL CONTROLS



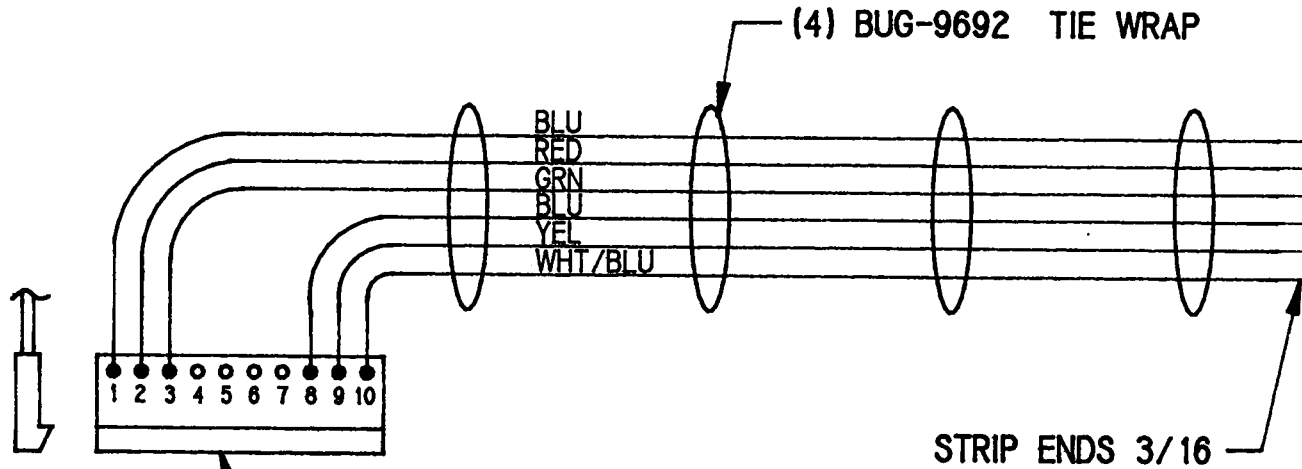
SEO-4310-MM1 CONTROL PANEL 120 V COMPONENT LAYOUT ALONG W/4312-MM1 CALLOUTS



(INSIDE VIEW)

ITEM	PART NUMBER	QTY	DESCRIPTION
1	ARM-2279	1	Toggle Switch, DPST, On-Off
2	BUG-1393	1	Volt Trap 120 VAC
3	BUG-1415	1	Pilot Light
4	BUG-1435	1	Sta-kon Connector
5	BUG-1536	3	Pushbutton Switch SP NO
6	BUG-1537	1	Cap, Black
7	BUG-1557	1	Cap, Red
8	BUG-1770	2	Motor Control Board
9	CWO-6520	1	Motor Control
	CWO-6522	1	Motor Control
10	BUG-2931	1	Circuit Brake 1 A
11	BUG-2924	1	Reset Button Seal
12	BUG-5218	2	Transformer 117V 50/60Hz
13	BUG-5761	1	Tog Switch SPDT (On) Off (On)
13	NOT SHOWN		
	BUG-6017	1	Amphenol Wiring Harness
15	BUG-6028	2	Terminal Block
16	BUG-6029	2	Bracket
17	BUG-6030	1	Control Module
17	NOT SHOWN		
	BUG-6052	2	Ins. QC. .187, 14 Ga
	BUG-6053	19	Ins. QC. .187, 14 Ga
20	BUG-6069	1	Filter
20	NOT SHOWN		
	BUG-9234	2	Label 120 V
22	BUG-9445	1	Power Cord 120 V
23	BUG-9448	1	Cord Grip
24	BUG-9686	1	Potentiometer Control
25	BUG-9688	1	Dial
26	BUG-9884	1	On-Off Switch Plate
27	CAP-0223	1	Cap. .022, Flm
28	FAS-0115	4	Pan Hd Screw 6-32 x 1/2
29	FAS-0204	20	Rnd Hd Screw 4-40 x 3/8
30	FAS-0225	1	Rnd Hd Screw 8-32 x 1/2
31	FAS-1214	6	But Hd Sk Hd Scr 6-32 x 3/8
32	FAS-1224	6	But Hd Sk Hd Scr 8-32 x 3/8
33	FAS-1305	16	Hex Nut 4-40
34	FAS-1310	4	Hex Nut 6-32
35	FAS-1320	3	Hex Nut 8-32
35	NOT SHOWN		
	GOF-3036	4	Female Connector
37	MUG-1156	1	Panel Connector, 4-T, F
38	PRS-1065	1	Joystick
38	NOT SHOWN		
	SEO-4118	2	Ferrite Line Filter
40	SEO-4311	1	Panel
40	NOT SHOWN		
	SEO-4313	1	Panel Controls Wiring Harness
	SEO-4316	1	Speed Board Wiring Harness
	SEO-4321	1	Encoder/Motor Wiring
	NOT SHOWN		
44	WAS-0221	3	Encoder/Motor Wiring Harness

SEO-4313 PANEL CONTROLS WIRING HARNESS



CNN-012A HOUSING 10 PIN

INCLUDES:

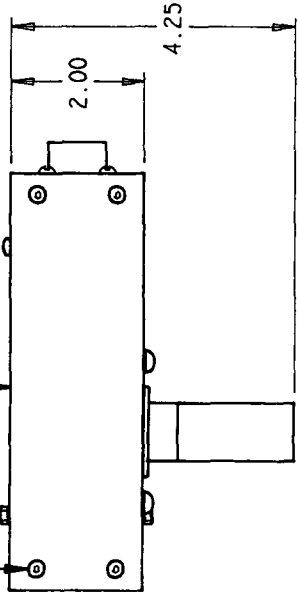
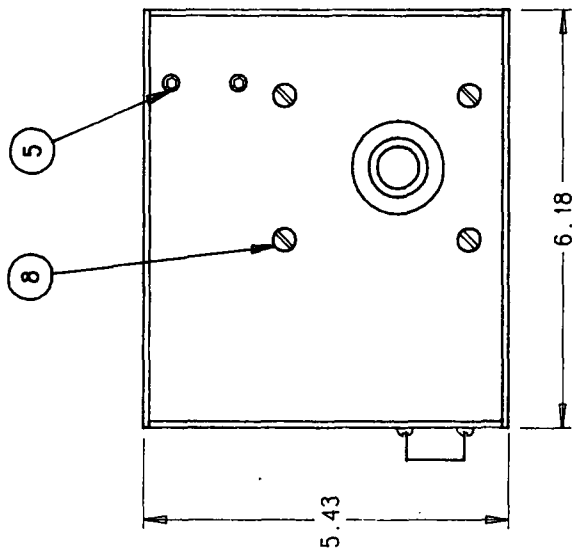
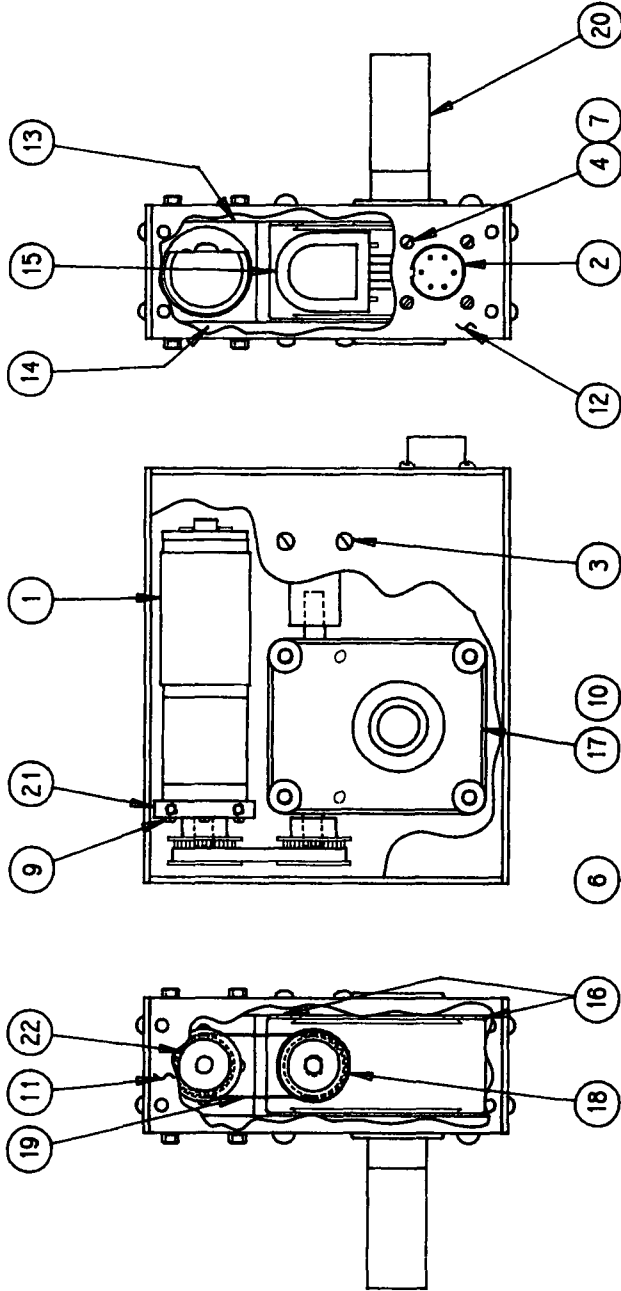
- (10) CNN-0120 PIN .100 (DIGI-KEY NO. WM-2200)
- (1) CNN-012A-P HOUSING (DIGI-KEY NO. WM-2008)

ALL WIRES

BELDEN P/N 8523

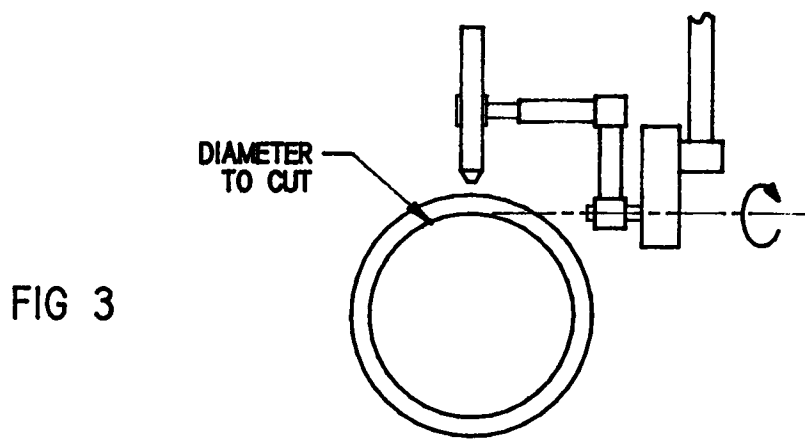
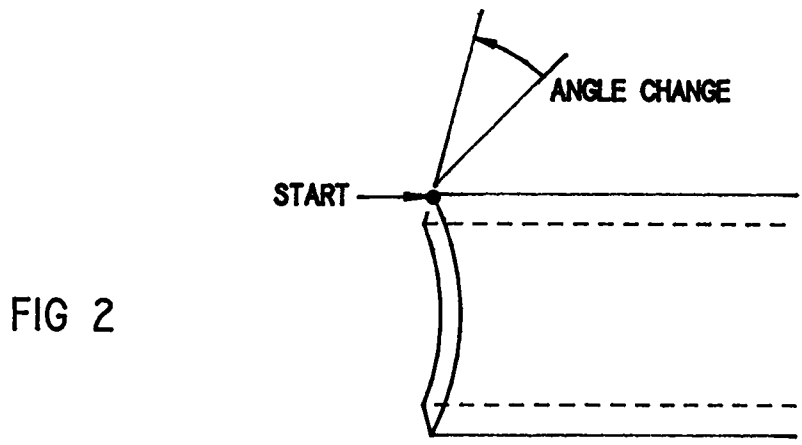
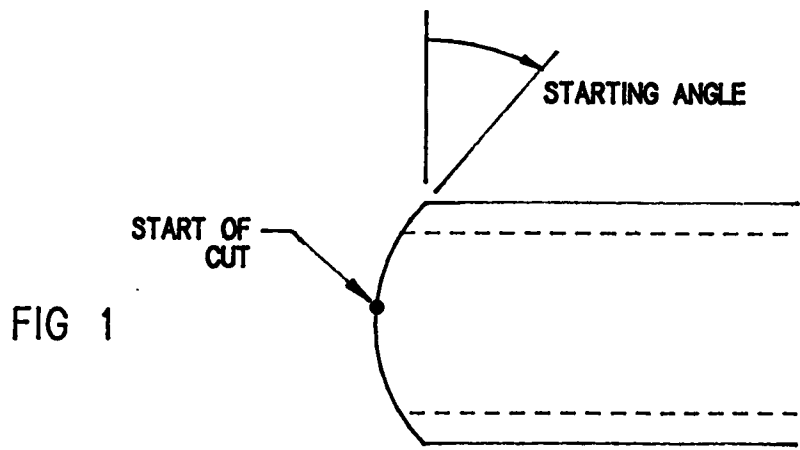
10x30 20 AWG x 15" LG EA

SEO-4325 TORCH ROTATION DRIVE



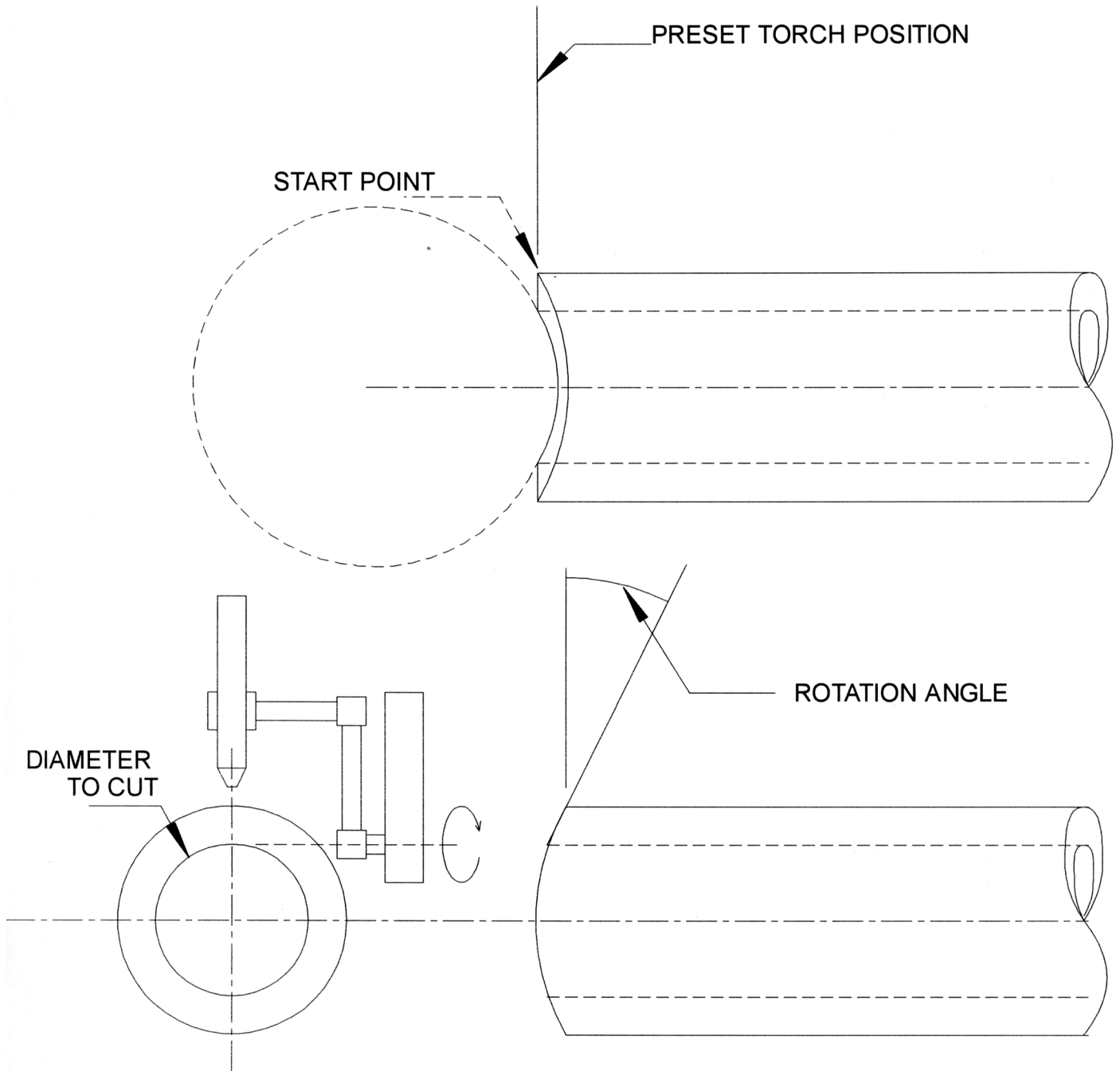
ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	BUG-5590	1	Gear Motor	10	SEO-4324	2	End Panel
2	BUG-5607	1	Wiring Harness	11	SEO-4326	1	End Panel
3	FAS-0114	2	Pan Hd Scr 6-32 x 3/8 Lg	12	SEO-4327	1	End Panel
4	FAS-0204	4	Rnd Hd Scr 4-40 x 3/8 Lg	13	SEO-4328	1	Side Plate
5	FAS-0525	4	Soc Hd Cop Scr 8-32 x 1/2 Lg	14	SEO-4329	1	Side Plate
6	FAS-1214	8	But Hd Soc Scr 6-32 x 3/8 Lg	15	SEO-4330	1	Encoder Assembly
7	FAS-1305	4	Hex Nut 4-40	16	SEO-4334	8	Gear Box Spacer
8	FAS-2235	4	Rnd Hd Scr 10-24 x 2" Lg	17	SEO-4335	1	Gear Box 15:1
9	FAS-3101	4	Pan Hd Scr 3mm x .5 x 12mm Lg	18	SEO-4336	1	Timing Pulley
				19	SEO-4337	1	Timing Belt
				20	SEO-4338	1	Shaft
				21	SEO-4339	1	Motor Mount
				22	SEO-4341	1	Timing Pulley

TORCH ROTATION DATA REQUIREMENTS AND SET-UP



TORCH ROTATION SET-UP

TYPE 1 CUTS



Third Axis: Torch Rotation

A programmed torch rotation is provided for the pipe cuts, (except Type 3), in order to control the bevel angle of the cut. The additional features and programming are described below, compared to the 2-axes machine.

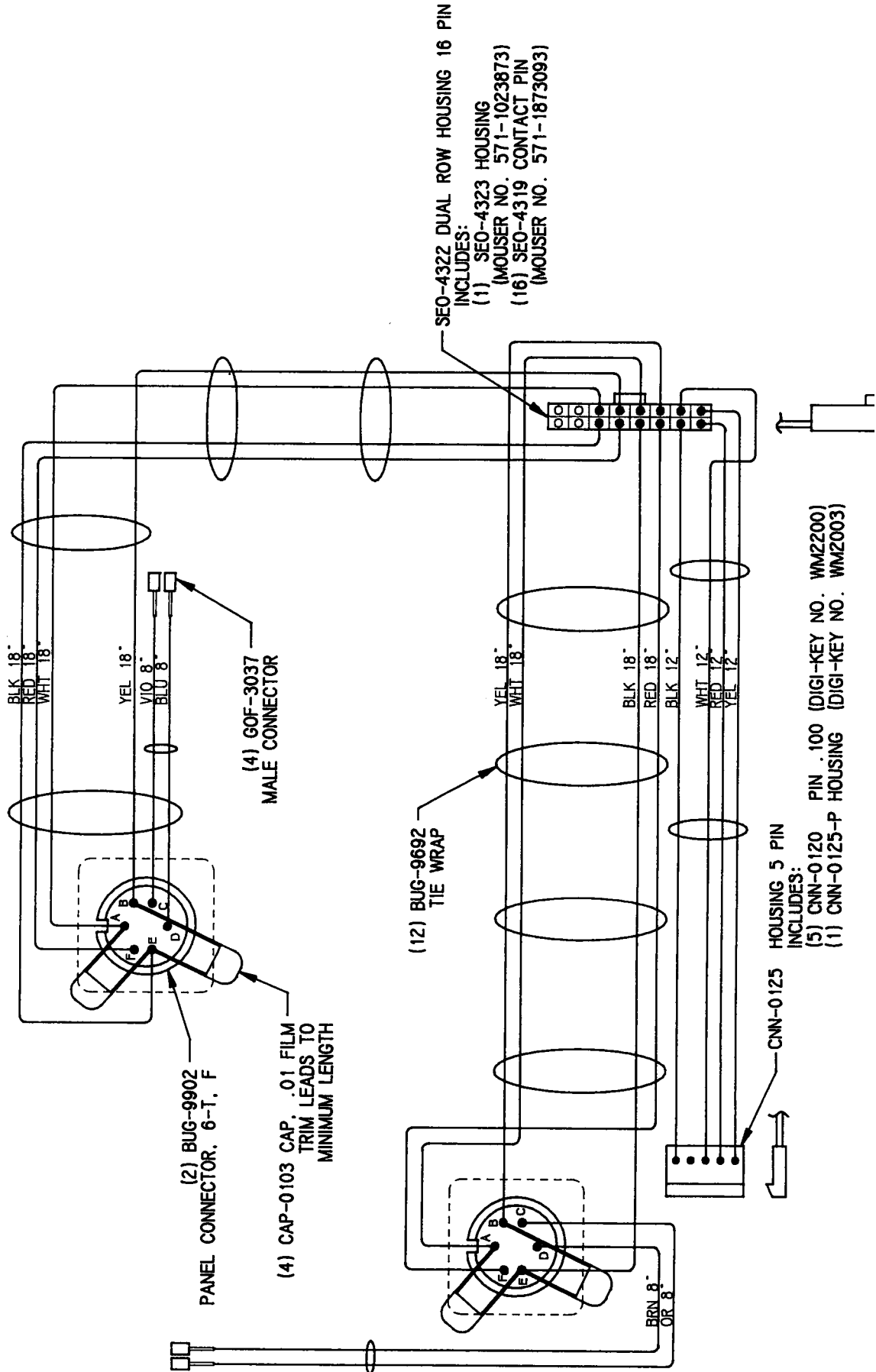
For Types 1,2 (and 3), the cut starts at the tip of the Fishmouth, not the cusp (as in th 2-axes machine). Usually a square bevel is required here, tilting back as it reaches the cusp to provide clearance to the main pipe. When programming, Types 1 and 2 wil ask for "Angle Change", which is the total tilt relative to the start position. (Note- the start position does not have to be square, and is set manually). To rotate the torch 30 degrees, enter 3000.

Type 4 (mitre) does not ask for additional data; the torch rotation is set to the angle of the mitre. If the torch is positioned square to the pipe, this results in a cut with a bevel in the same plane as the cut all around. If the torch is set at a bevel angle at the start, the cut will have a constant bevel all around relative to the plane of the cut, or twice that if fitted against a similar cut.

Type 5: (hole) : required Small diameter, Big diameter, Angle - of branch to main pipe- as in the 2-axis machine, and Angle change. The angle change is only along the pipe axis, and produces a bevel in this direction; a certain amount of bevel is automatically provided by the pipe rotating from one side to the other.

For Type 5, the torch should be positioned square; on pushing the start button, the torch will first rotate by the "Angle Change" amount, then start the cut, swinging the other way and back as the cut is completed; then it turns off the cut and returns the torch to the original position.

SEO-4321 ENCODER/MOTOR WIRING HARNESS



SEO-4316 SPEED BOARD WIRING HARNESS

