Victaulic®
TOOL COMPANY

OPERATION MANUAL

VCT-2

VICTAULIC® AUTOMATIC PORTABLE FLAME PIPE CUT-OFF TOOL

This equipment is provided solely for use by trained operators knowledgeable in sound welding and safety procedures. Misuse of this equipment or lack of adherence to proper safety procedures may result in personal injury or property damage. Always read this Operation Manual thoroughly before using this equipment.

INTRODUCING

We are very happy you have chosen the VCT-2, and we would like to make some suggestions for its proper handling and maintenance.

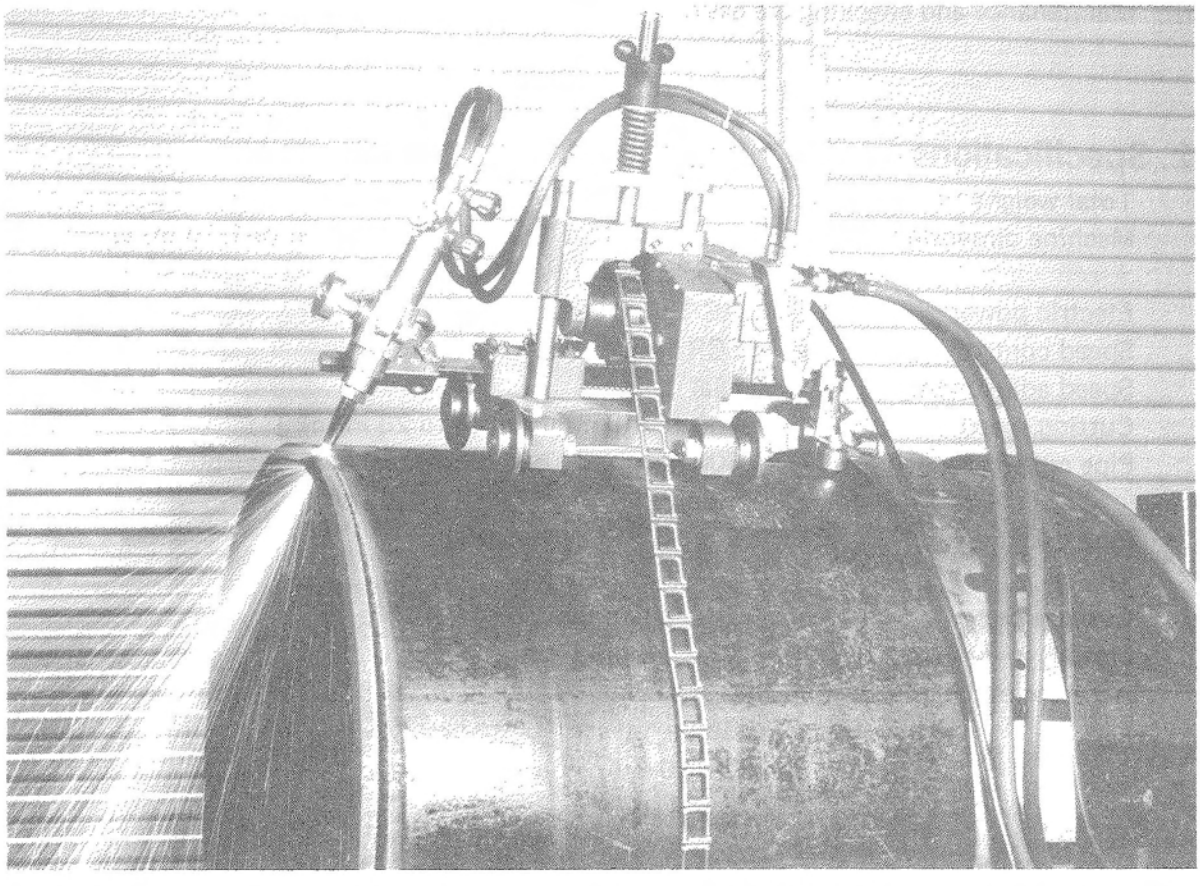
The VCT-2 is a quality flame cutting machine and should be treated as such. Please follow the directions in this manual for its operation closely to achieve maximum performance. As with any quality unit, proper maintenance ensures long life, and you can be certain your VCT-2 will be performing productively for many years to come with a minimum of care.

We have made every effort to include all necessary operational information in this booklet, but if at any time a question arises not covered here, we hope you will not hesitate to contact us or our representative immediately.

VICTAULIC TOOL COMPANY

Thank you for buying this VCT-II automatic pipe gas cutting machine.

Before using your VCT-II please read this manual carefully and follow the instructions. This will ensure that your machine is always in optimum operational condition.



Contents

1. Features

1) Can cut pipe of more than 150 mm (6" and up) diameter, and is especially effective for cutting pipe of more than 600 mm (24") diameter.
2) Positioning the machine on the pipe is quick and easy, and the guide rail ensures high cutting precision.
3) The drive unit is corporates a clutch, which simplifies the alignment of the machine.
4) It has automatic drive, so it is easy to operate and provides precision cutting.
5) The construction has been made extremely simple and straightforward.
6) Maintenance and checking are easy.

2. Specifications

Total weight	15 kg (33 lb)
Machine dimensions	270 mm (10-5/8 in) long x 230 mm (9-1/16 in) wide (track) x 400 mm (15-3/4 in)
Electric power	AC 120 V 50/60 Hz
Speed control	SCR system
Speed adjustment	Dial
Cutting speed	100 ~ 700 mm/min (4 to 28 in/min)
Pipe cutting capacity	600 mm (24") ϕ and over (can also cut 150 ~ 600 mm ϕ pipe)
Pipe thickness	5 ~ 50 mm (3/16" to 2")
Cut contour	Straight and bevel (up to 45°)
Motor	15 w 10,000 rpm
Accessories	Remote control box
	Guide rail set
	D-600
	D-900
	D-1200
	D-1500

3. Construction (See Drawing 1)

The main parts of the VCT-II are the main frame (including drive unit), control box, distributor, torch assembly, and guide rail.

(A) Frame

The frame has four wheels, and a torch and guide roller mounted on a slide assembly. Above this are two columns, a slide bracket and the drive sprocket. The columns form a guide on which the slide bracket can move up or down, and the drive unit is fixed on one side of the bracket.

The rotation of the motor is transmitted to the drive sprocket via the reduction gear and clutch.

The motor switch has been positioned on the top of the motor cover for operational considerations.

(B) Drive chain

The chain holds the machine in position and also forms the machine's means of travel. The length of the chain can be adjusted to fit the size of pipe by adding or removing links.

The requisite number of links is found by the equation (or size chart on page xx):

$$Y = X + 13$$

Here, Y = number of links

X = pipe outside diameter (in cm) (2.54 x O.D inches)

e.g. Pipe outside diameter = 200 mm → 20 cm

$$Y = X + 13$$

$$= 20 + 13 = 33$$

Therefore a 33-link chain is needed.

Join the chain as shown in Photo 1.

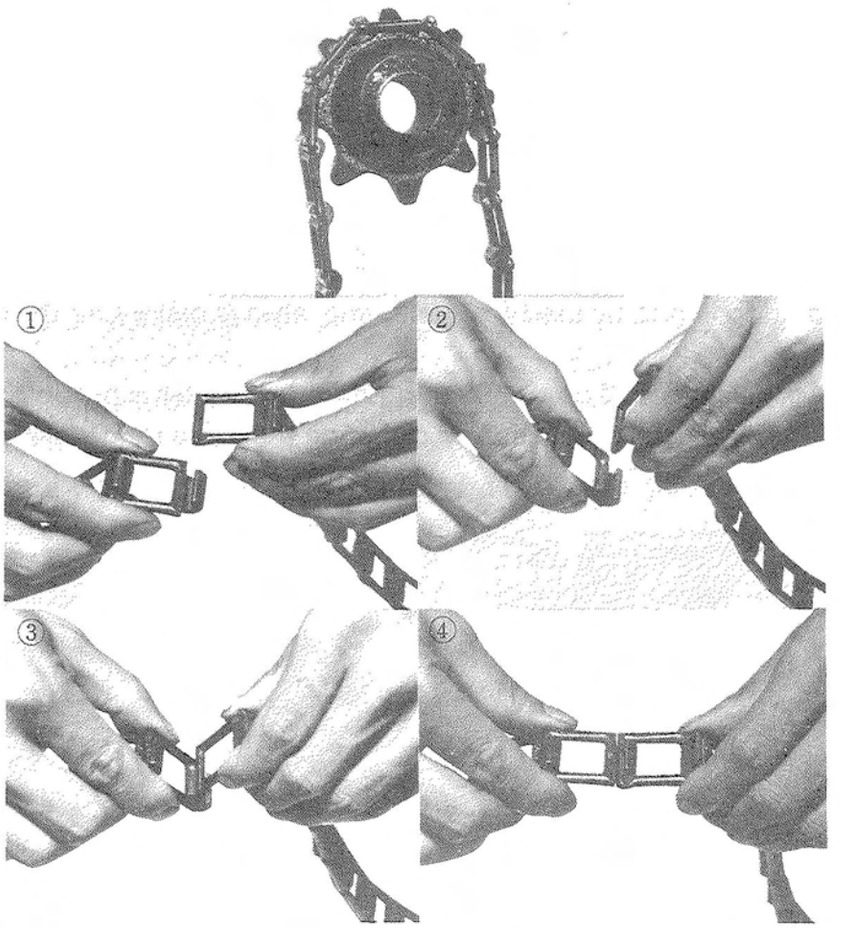


Photo 1

(C) Distributor and torch assembly

The torch is provided with valves for flame adjustment.

(D) Control box

For operational ease, all electrical controls except the motor on/off switch have been housed in a control box separate from the machine. All machine motions can be controlled from this box. There are three controls: a power switch, speed dial, and cutting direction switch (clockwise-counterclockwise). The SCR control is housed in this box. As mentioned already, the motor switch is located on the motor cover.

(E) Guide rail (See Drawing 6)

There are guide rails of different length to match the pipe diameter. The guide rail is 100 mm (4") wide and has holes every 40 mm (1-9/16"), and is equipped with bridge spacers, adjusting spindles and nut, and a clamp. The adjusting nut is used to tighten the rail on the pipe.

4. Operation

1) Precautions

All parts of the machine have passed rigorous inspections and great care has been taken in the whole production and assembly process to ensure that it gives trouble-free operation. Please observe the following points to ensure that the machine continues to give good service.

A. Aluminum alloy has been used for the main parts for lightness, so the machine can be easily damaged by shocks and impacts. Therefore take care not to drop it or allow heavy objects to fall on it.

B. To reverse the cutting direction, always switch off first and make sure the machine has stopped before reversing direction.

C. If a voltage supply that exceeds 120 V ±10% is used it will cause breakdowns, so use the specified voltages.

D. For maximum safety and protection always use the ground wire to ground the machine.

E. Avoid any damage to the tapered seating of the torch or tip, as this may cause backfire.

F. Take care not to damage the contact surface of the wheels, as this can cause knocking.

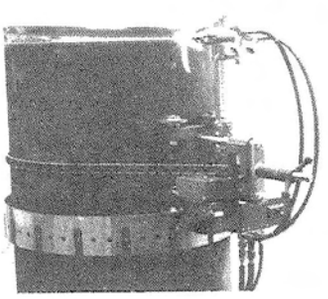
G. The control box is separate from the machine. Take adequate precautions when using it.

H. The hoses and cabtire cable should be taped together.

I. If the machine is not going to be used for some time, always make sure the control box power switch is at OFF.

J. Also, cutting of vertical pipes of up to 500 mm (20 in.) diameter is possible.

For vertical cuts, pay particular attention to clamping the guide rail firmly in place.



2) Pre-operation

A. Remove the machine from its container.

B. The hoses from the distributor to the torch are color-coded: black hose for oxygen (box nut, M12 right-hand thread), red hose for fuel gas (box nut, M12 left-hand thread).

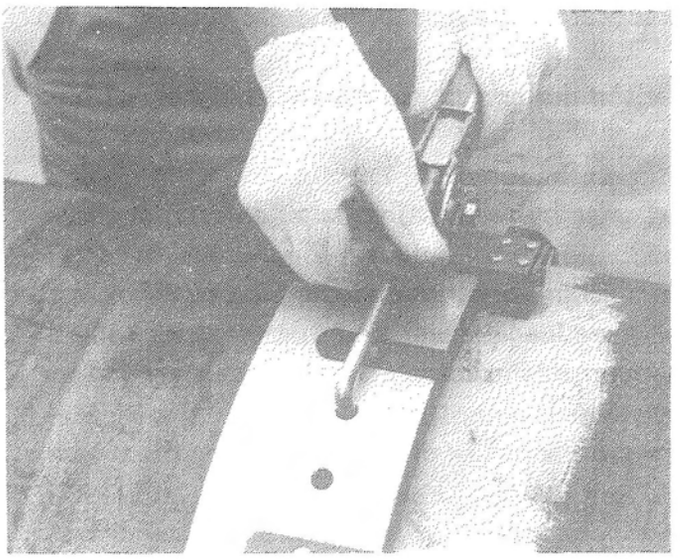
C. Rail assembly (Refer to Drawing 6)

Select the correct length of guide rail for the pipe diameter, and fix bridge spacers to the rail at 120 mm (4-3/4") intervals. Take the amount of guide rail overlays into account when fitting these spacers.

D. Fitting the guide rail

Secure the pipe in position, and mark the pipe circumference, in four places, at a point 450 mm (17-23/32 in) from the cutting line.

Next, align the guide rail with the marks and put it around the pipe. After inserting the adjusting spindles (with the clamp on), use the adjusting nut to tighten the rail. (Photo-2)



Notes:
– Make sure the hand-clamp doesn't slip when tightening the adjusting nut.
– Tighten the adjusting nut to a setting (a maximum of about 8 kg (8 kg cm) on a torque-wrench) which does not cause the guide-rail adjusting spindle (B) holes to distort.

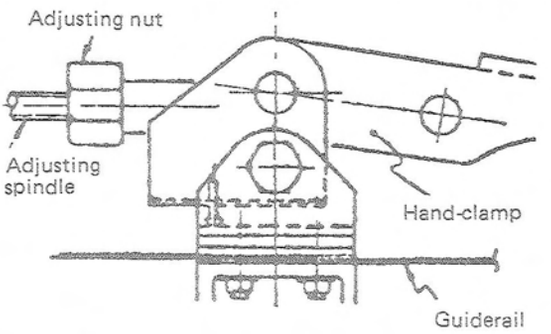


Photo 2

When pipes of identical diameter are being cut, it is only necessary to use the adjusting nut for tightening the rail the first time. From the second pipe onwards using the clamp alone is sufficient.

For rail overlap sections, use two clips positioned as shown in Photo 3 to prevent the guide rail sticking out to the side.

E. Prepare the correct length of chain. Position the machine on the pipe and turn the handle on the top of the machine to lower the slide bracket. Next, fasten the drive chain onto the machine and around the pipe, and secure the machine to the pipe by turning the handle to raise the slide bracket.

Make sure the guide roller is kept pressed against the guide rail by the slide spring by clamping the stop ⑭ in the required position.

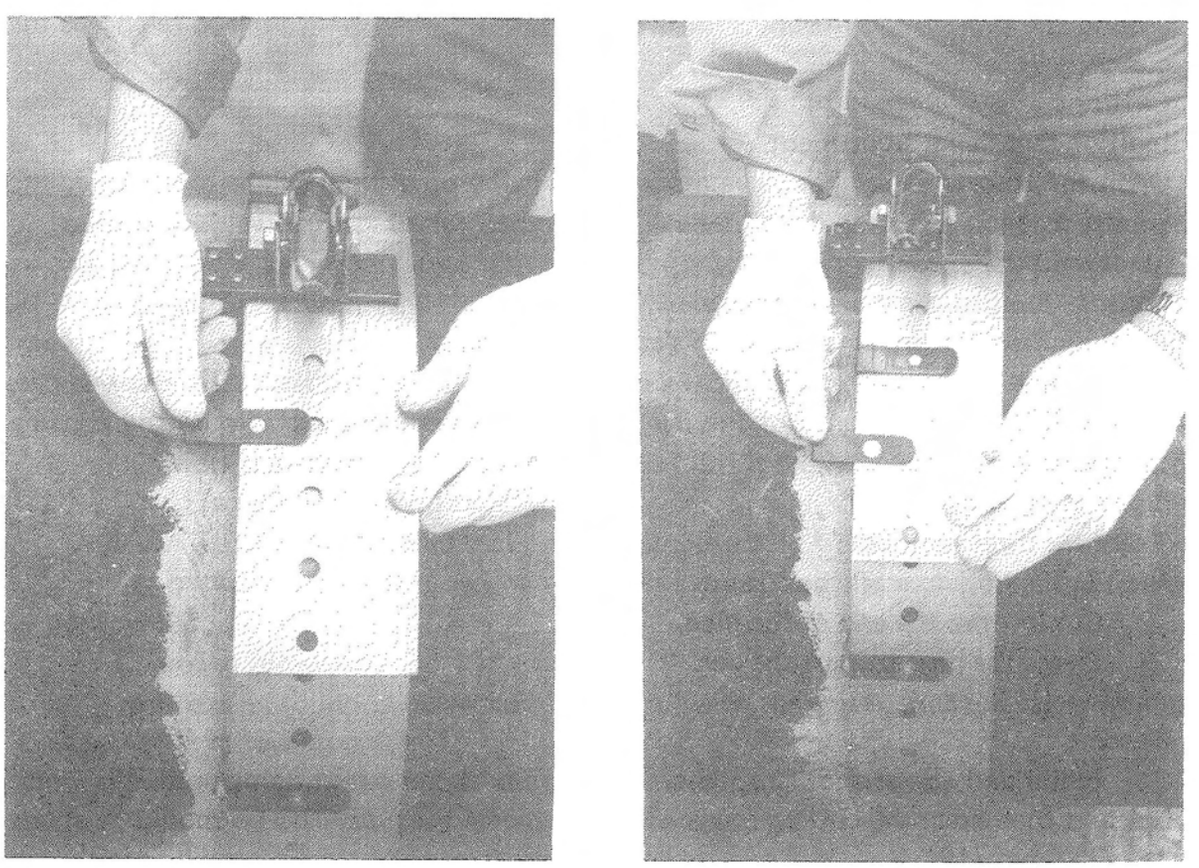


Photo 3

F. Connect up the control box, the metal socket to the machine and the rubber plug to the power source.

G. Consult the Cutting Data Tables and select the correct tip for the thickness of pipe being cut, and fasten the tip onto the torch.

Always use two spanners to tighten the tip on the torch.

H. Adjust the gas pressures to the levels indicated by the Cutting Data Tables, first checking that all the torch valves are shut.

I. After completing these steps, rotate the machine once around the pipe to check that it is securely on, that the hoses and cabtire cable are long enough, and that the guide roller is still in firm contact with the guide rail when the machine completes a full circle around the pipe.

The machine can be set to do this turn automatically or, by disengaging the clutch, manually, as follows.

Automatic

There are two ways to start the machine motion, by the switch on the motor or by the direction switch on the control box.

— Start using motor switch

Put the control box direction switch to the desired direction and start the machine by using the switch on the motor cover.

— Start using control box

Put the switch on the motor body to ON and start the machine by using the direction switch on the control box.

Adjust the cutting speed while the machine is moving.

Manual

Hold the machine in place, disengage the clutch and gently move the machine around the pipe. After making sure the cutting is finished, remember to re-engage the clutch.

3) Cutting

A. Ignition and flame adjustment

Open the torch preheat has valve a quarter to half a turn and light the torch, using the igniter, and as soon as this is done gradually open the preheat oxygen valve and adjust to obtain a standard flame.

B. Next, fully open the cutting oxygen valve.

C. After ignition the pressure will drop slightly, so readjust.

D. If the flame changes after the cutting oxygen is turned on, readjust it. An uneven cutting flame will lower the quality of the cut surface, so remedy any such trouble by clearing the nozzle with a tip cleaner of the correct size, while the cutting oxygen is flowing.

E. Pipe cut-in

There are three methods:

1. Drill a hole to start the cut.
2. Cut in from the end of the pipe.
3. Pierce the pipe to start the cut.

Piercing

Ignite and adjust the flame, thoroughly preheat the cut-in point until it is white hot and then open the cutting oxygen valve to pierce the pipe. The tip should be about 15 — 20 mm (19/32 — 25/32 in) from the pipe to prevent slag splashing onto the tip

and adhering there, which will shorten the working life of the tip.

F. Cutting

1. Align the tip with the cut-in point (a drilled hole, for example), ignite the flame and adjust it.
2. Thoroughly preheat the cut-in point.
3. After the cut-in point has been sufficiently preheated, turn on the cutting oxygen and turn on the motor switch (or the direction switch) to start the cutting operation.
4. Observe the progress of the cut, and adjust to the optimum cutting speed.
5. After the cutting is finished, shut off the cutting oxygen, turn off the motor (or direction switch), and then shut off the preheat gas, followed by the preheat oxygen.
6. For bevel edge cutting, loosen the wing-nut that clamps the torch in position, turn the torch to the required angle, and re-clamp.

For inside edge bevels, remove the torch from the torch holder and refit the holder the other way around. (Photo 4)

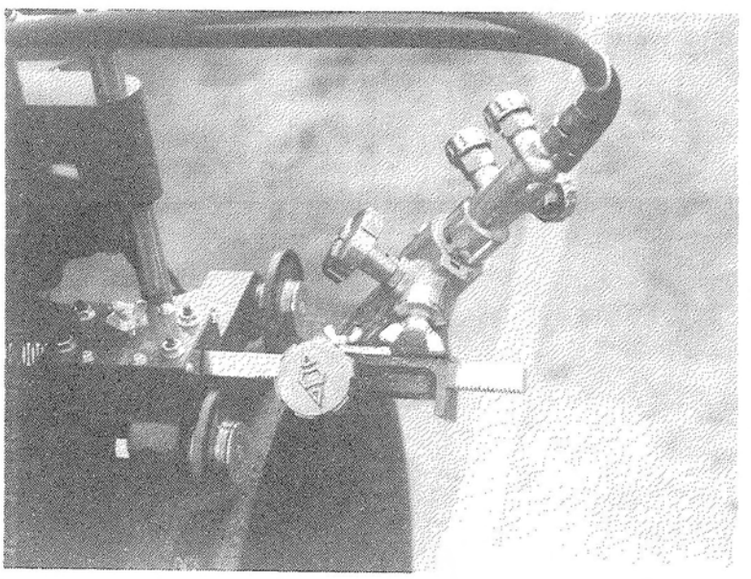


Photo 4

G. Cutting precautions

A basic problem is backfire and blowback. The two are often confused, but strictly speaking, backfire is when the flame ignites momentarily inside the torch and then goes out, or it goes out and re-ignites, while blowback is when the flame continues to burn inside the torch.

1. Causes of backfire
   1) Wrong gas pressure
   2) Tip has become hot
   3) Slag adhering to tip nozzle
   4) Tip or torch tapered section is damaged

If backfire occurs through one of these causes, find and remedy the fault before continuing.

2. Causes of blowback

If a roaring sound is heard coming from inside the torch, shut the valves immediately in the following order.

Preheat oxygen valve → preheat gas valve → cutting oxygen valve

Again, find the cause and remedy it before continuing.

5. Checks and precautions

① Lubricate the lift screw shaft and column slide parts about once a week. Wipe the exterior of the machine every day.

② Make sure the chain is stretched taut, as a slack chain will cause the machine to slip.

③ Make sure the guide rail adjusting nut is tight.

④ Any shake in the slide bar (part ⑦①) will be caused by the guide roller spindle (B) (part ⑨⑥) being out of alignment, so tighten them to adjust. (Photo-5)

⑤ The chain should be stretched more tightly when cutting upright pipe.

⑥ The machine traverses the whole circumference of the pipe, so make sure the hoses and cable are long enough to allow free machine movement.

⑦ Keep in mind that any damage to the wheels may cause uneven cutting.

⑧ Use of a supply voltage exceeding 120 V ±10% will cause breakdown and should therefore be avoided.

⑨ Securely connect the earth lead of the power cable to an iron bar set well into the ground, or to a similar grounding means.

⑩ First switch off and wait till the machine has completely stopped before changing the cutting direction.

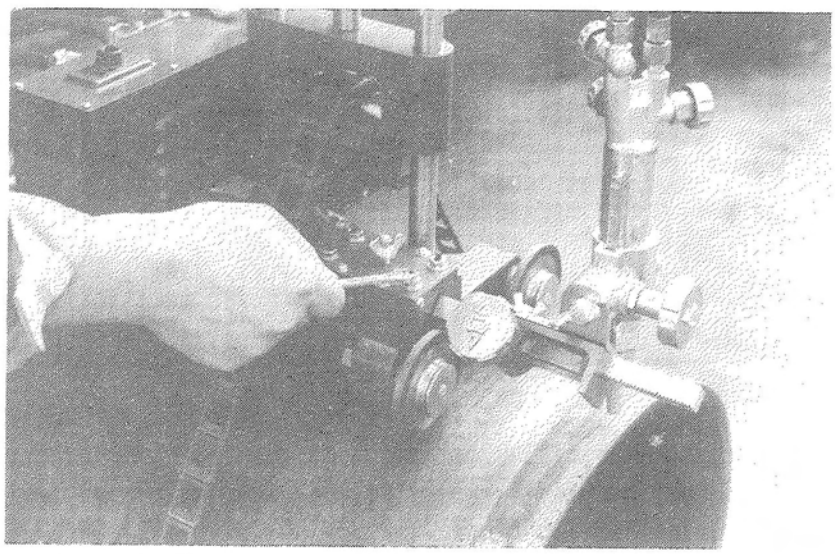


Photo 5

CUTTING DATA

102 (STANDARD SPEED) For Acetylene

Metric System

PLATE THICKNESS (mm)	TIP SIZE	CUTTING SPEED (mm/min.)	OXYGEN PRESSURE (kg/cm^2)		FUEL GAS PRESSURE (kg/cm^2)	KERF WIDTH (mm)
			CUTTING	PR-HEAT		
3	00	680	1.5	1.5	0.2	1.0
6	0	610	2.0	2.0	0.2	1.3
10	0	560	2.0	2.0	0.2	1.5
12.5	1	530	2.5	2.5	0.2	1.8
19	2	460	3.0	3.0	0.2	2.0
25	2	430	3.0	3.0	0.2	2.0
38	3	355	3.0	3.0	0.2	2.3
50	4	320	3.0	3.0	0.25	2.8
60	5	280	4.0	4.0	0.3	3.0
75	5	250	4.0	4.0	0.3	3.0
100	6	200	4.0	4.0	0.35	3.6
125	6	180	4.0	4.0	0.35	3.6
150	7	150	4.5	4.5	0.4	4.1
200	7	130	4.5	4.5	0.4	4.3
250	8	,80	4.5	4.5	0.4	5.6
300	8	50	4.5	4.5	0.4	6.6

Inch System

PLATE THICKNESS (inches)	TIP SIZE	CUTTING SPEED (in/min.)	OXYGEN P.S.I.G		FUEL P.S.I.G	KERF WIDTH (inches)
			CUTTING	PR-HEAT*		
1/8	00	27	20	20	2.8	0.04
1/4	0	24	30	30	2.8	0.05
3/8	0	22	30	30	2.8	0.06
1/2	1	21	40	40	2.8	0.07
3/4	2	18	45	45	2.8	0.08
1	2	17	45	45	2.8	0.08
1-1/2	3	14	45	45	2.8	0.09
2	4	12.5	45	45	3.6	0.11
2-1/2	5	11	55	55	4.3	0.12
3	5	10	55	55	4.3	0.12
4	6	8	55	55	5.0	0.14
5	6	7	55	55	5.0	0.14
6	7	6	65	65	5.7	0.16
8	7	5	65	65	5.7	0.17
10	8	3	65	65	5.7	0.23
12	8	2	65	65	5.7	0.27

102-D7 (HIGH SPEED) For Acetylene

Metric System

PLATE THICKNESS (mm)	TIP SIZE	CUTTING SPEED (mm/min.)	OXYGEN PRESSURE (kg/cm^2)		FUEL GAS PRESSURE (kg/cm^2)	KERF WIDTH (mm)
			CUTTING	PR-HEAT		
3	00	800	7.0	1.5	0.2	0.8
6	0	740	7.0	2.0	0.2	1.0
10	0	680	7.0	2.0	0.2	1.3
12.5	1	630	7.0	2.5	0.2	1.3
19	2	560	7.0	3.0	0.2	1.5
25	2	510	7.0	3.0	0.2	1.8
38	3	460	7.0	3.0	0.2	2.0
50	4	400	7.0	3.0	0.2	2.6
60	5	360	7.0	4.0	0.25	2.8
75	5	320	7.0	4.0	0.25	2.8
100	6	250	7.0	4.0	0.3	3.3
125	6	230	7.0	4.0	0.3	3.6
150	7	180	7.0	4.5	0.3	3.6
200	7	140	7.0	4.5	0.3	4.6
250	8	100	7.0	4.5	0.4	5.1
300	8	80	7.0	4.5	0.4	6.1

Inch System

PLATE THICKNESS (inches)	TIP SIZE	CUTTING SPEED (in/min.)	OXYGEN P.S.I.G		FUEL P.S.I.G	KERF WIDTH (inches)
			CUTTING	PR-HEAT		
1/8	00	31.5	100	20	2.8	0.03
1/4	0	29	100	30	2.8	0.04
3/8	0	27	100	30	2.8	0.05
1/2	1	25	100	40	2.8	0.05
3/4	2	22	100	45	2.8	0.06
1	2	20	100	45	2.8	0.07
1-1/2	3	18	100	45	2.8	0.08
2	4	16	100	45	2.8	0.10
2-1/2	5	14	100	55	3.6	0.11
3	5	12.5	100	55	3.6	0.11
4	6	10	100	55	4.3	0.13
5	6	9	100	55	4.3	0.14
6	7	7	100	65	4.3	0.14
8	7	5.5	100	65	4.3	0.18
10	8	4	100	65	5.7	0.20
12	8	3	100	65	5.7	0.24

Note: 1) All pressures are torch inlet pressures.
2) Oxygen purity is minimum of 99.7%
3) Depending on the surface condition of the steel plate (scale, paint), either increase the fuel gas pressure or decrease cutting speed. Also, when precision cutting is required, adjust all data.

CUTTING DATA

106 (STANDARD SPEED) For Propane

Metric System

PLATE THICKNESS (mm)	TIP SIZE	CUTTING SPEED (mm/min.)	OXYGEN PRESSURE (kg/cm^2)		FUEL GAS PRESSURE (kg/cm^2)	KERF WIDTH (mm)
			CUTTING	PR-HEAT		
3	00	680	1.5	1.5	0.2	1.0
6	0	610	2.0	2.0	0.2	1.3
10	0	560	2.0	2.0	0.2	1.5
12.5	1	530	2.5	2.5	0.2	1.8
19	2	460	3.0	3.0	0.25	2.0
25	2	430	3.0	3.0	0.25	2.0
38	3	355	3.0	3.0	0.25	2.3
50	4	320	3.0	3.0	0.25	2.8
60	5	280	4.0	4.0	0.3	3.0
75	5	250	4.0	4.0	0.3	3.0
100	6	200	4.0	4.0	0.3	3.6
125	6	180	4.0	4.0	0.4	3.6
150	7	150	4.5	4.5	0.4	4.1
200	7	130	4.5	4.5	0.4	4.3
250	8	80	4.5	4.5	0.4	5.6
300	8	50	4.5	4.5	0.4	6.6

Inch System

PLATE THICKNESS (inches)	TIP SIZE	CUTTING SPEED (in/min.)	OXYGEN P.S.I.G		FUEL P.S.I.G	KERF WIDTH (inches)
			CUTTING	PR-HEAT		
1/8	00	27	20	20	2.8	0.04
1/4	0	24	30	30	2.8	0.05
3/8	0	22	30	30	2.8	0.06
1/2	1	21	40	40	2.8	0.07
3/4	2	18	45	45	3.6	0.08
1	2	17	45	45	3.6	0.08
1-1/2	3	14	45	45	3.6	0.09
2	4	12.5	45	45	4.3	0.11
2-1/2	5	11	55	55	4.3	0.12
3	5	10	55	55	4.3	0.12
4	6	8	55	55	5.7	0.14
5	6	7	55	55	5.7	0.14
6	7	6	65	65	5.7	0.16
8	7	5	65	65	5.7	0.17
10	8	3	65	65	5.7	0.23
12	8	2	65	65	5.7	0.27

106-D7 (HIGH SPEED) For Propane

Metric System

PLATE THICKNESS (mm)	TIP SIZE	CUTTING SPEED (mm/min.)	OXYGEN PRESSURE (kg/cm^2)		FUEL GAS PRESSURE (kg/cm^2)	KERF WIDTH (mm)
			CUTTING	PR-HEAT		
3	00	800	7.0	1.5	0.2	0.8
6	0	740	7.0	2.0	0.2	1.0
10	0	680	7.0	2.0	0.2	1.3
12.5	1	630	7.0	2.5	0.2	1.3
19	2	560	7.0	3.0	0.25	1.5
25	2	510	7.0	3.0	0.25	1.8
38	3	460	7.0	3.0	0.25	2.0
50	4	410	7.0	3.0	0.25	2.6
60	5	360	7.0	4.0	0.3	2.8
75	5	320	7.0	4.0	0.3	2.8
100	6	250	7.0	4.0	0.3	3.3
125	6	230	7.0	4.0	0.3	3.6
150	7	180	7.0	4.5	0.4	3.6
200	7	140	7.0	4.5	0.4	4.6
250	8	100	7.0	4.5	0.4	5.1
300	8	80	7.0	4.5	0.4	6.1

Inch System

PLATE THICKNESS (inches)	TIP SIZE	CUTTING SPEED (in/min.)	OXYGEN P.S.I.G		FUEL P.S.I.G	KERF WIDTH (inches)
			CUTTING	PR-HEAT		
1/8	00	31.5	100	20	2.8	0.03
1/4	0	29	100	30	2.8	0.04
3/8	0	27	100	30	2.8	0.05
1/2	1	25	100	40	2.8	0.05
3/4	2	22	100	45	3.6	0.06
1	2	20	100	45	3.6	0.07
1-1/2	3	18	100	45	3.6	0.08
2	4	16	100	45	4.3	0.10
2-1/2	5	14	100	55	4.3	0.11
3	5	12.5	100	55	4.3	0.11
4	6	10	100	55	5.7	0.13
5	6	9	100	55	5.7	0.14
6	7	7	100	65	5.7	0.14
8	7	5.5	100	65	5.7	0.18
10	8	4	100	65	5.7	0.20
12	8	3	100	65	5.7	0.24

Note: 1) All pressures are torch inlet pressures.

2) Oxygen purity is minimum of 99.7%; propane is minimum of JIS Grade 3.

3) Depending on the surface condition of the steel plate (scale, paint), either increase the fuel gas pressure or decrease cutting speed. Also, when precision cutting is required, adjust all data.

PARTS LIST

ITEM NO.	PART NAME	Q'TY	STOCK NO.	REMARKS
1	Reduction gear box	1	*32400	
2	Casing	1	*32401	
3	Gear (A)	1	*32402	
4	Gear shaft (A)	1	*32403	
5	Gear (B)	1	*32404	
6	Gear shaft (B)	1	*32405	
7	Collar	1	*32406	
8	Clutch lever	1	*32407	
9	Casing (D)	1	*32408	
10	Gear box cover	1	*32409	
11	Pinion	1	31312	
12	Casing (A)	1	31310	
13	Collar (A)	1	31309	
14	Clutch pin	6		
15	2th worm gear	1		
16	Drive shaft	1	31318	
17	Bearing retainer	1	31306	
18	Casing (B)	1	31305	
19	Clutch lever shaft	1	31313	
20	Clutch lever plate	1	31316	
21	2th worm	1		
22	Gear cover	1	31319	
23	Reduction gear bracket	1	31320	
24	Key	1		
25	Bearing retainer	1	31311	
26	Lever spring	1	31236	
27	Clutch	1	31307	
28	Clutch spring	6		
29	Stop ring	6		E-2·3
30	Slider	1	30265	
31	7th gear	1		
32	Bearing retainer	1	31014	
33	Motor	1	32449	DC 120V 15W, 10,000 RPM
34	Du-bush	1		
35	Bearing	2	30269	608ZZ
36	Bearing	3	30252	6201XZ
37	Du-bush	1		MB0812 Du
38	Screw	6	SP-3x6	M3x6ℓ
39	Hex socket bolt	4	BC-6x25	M6x25ℓ, with WF, WS
40	Screw	4	SP-6x25	M6x25ℓ, with WS
41	Screw	4	SP-6x16	M6x16ℓ, with WS
42	Hex bolt	1	BH-6x10	M6x10ℓ, with WF
43	Spring pin	1	PR-4x20	ϕ4x20ℓ
44	Screw	11	SP-4x12	M4x12ℓ
45	Spring pin	1	PR-2.5x20	ϕ2.5x20ℓ
46	Spring pin	2	PR-2.5x14	ϕ2.5x14ℓ
47	Spring pin	2	PR-2.5x16	ϕ2.5x16ℓ
48	Hex nut	1	NH-5	M5 with SW
49	Screw	4	SP-4x16	M4x16ℓ, with WS
50	Screw	3	SP-4x50	M4x50ℓ, with WS
51	Set screw	1	SS-5x18	M5x18ℓ, with WS
52	Steel ball	1	TB-1/4	ϕ 1/4
53	Drive unit	Unit	*32454 32453	with motor (DC120V) with motor (DC100V)
54	Gear ass'y	1	*32411	
55	Bracket for gear	1		
56	No.1 gear	1		
57	No.1 gear shaft	1		
58	Bush	1		
59	Collar	1		
60	No.2 gear	1		
61	No.3 gear	1		
62	Bearing	6		R-1350ZZ
63	Spring pin	2	PR-2x10	ϕ2x10ℓ
64	No.4 gear	1		
65	No.5 gear	1		
66	No.6 gear	1		

Mark *: New stock number

PARTS LIST

ITEM NO.	PART NAME	Q'TY	STOCK NO.	REMARKS
67	Slide body	1	*32412	
68	Cover	1	*32413	
69	Cross feed	1	*32414	
70	Holder bracket	1	*32415	
71	Slide bar	1	*32416	
72	Guide roller base	1	*32417	
73	Roller bracket	1	*32418	
74	Guide Roller	1	*32419	
75	Slide Spring	1	*32420	
76	Body	1	*32421	
77	Roller	4	*32452	
80	Wheel	4	31345	
81	Wheel shaft	4	31346	
82	Washer			
83	Slide bracket	1	31339	
84	Sprocket	1	31335	
85	Drive gear	1	31333	
86	Sprocket shaft	1	31334	
87	Collar (A)	1	31338	
88	Collar (B)	1	31336	
89	Collar (C)	1	31337	
90	Upright	2	31340	
91	Lift shaft	1	31341	
92	Upper plate	1	31342	
93	Spring	1	31343	
94	Stopper	1	30912	
95	Side Roller shaft (A)	2	31612	
96	Side roller shaft (B)	2	31613	
97	Collar	6		
98	Washer	4	30667	
99	Torch Holder	1	31842	
100	Pinion (A)	2	30910	
101	Pinion metal	2	30909	
102	Bearing	8	31237	6001ZZ
103	Stop ring	4		IRTW-28
104	Bearing	2	30830	6004ZZ
105	Speed handle	1	31344	SH-50N
106	Stop ring	1		E-10
107	Handle	2	30223	ϕ40
108	Bearing	8		R1560ZZ
109	Bearing	2	31266	626ZZ
110	Washer	1	WF-18	For M18
111	Screw	4	SP-3x5	M3x5ℓ, with WF
112	Screw	4	SF-5x12	M5x12ℓ
113	Nut	8	NH-12	M12
114	Spring pin	1	PR-3x20	ϕ3x20ℓ
115	Set screw	2	SS-5x12	M5x12ℓ
116	Socket bolt	4	BC-5x18	M5x18ℓ
117	Wing bolt	3	BS-4x10	M4x10ℓ
118	Wing bolt	1	BS-4x15	M4x15ℓ
119	Hex. socket head bolt	2	BC-4x10	M4x10ℓ, with Spring washer
120	Wing bolt	1	BS-8x15	M8x15ℓ
121	Hex nut	5	NH-6	M6, with WF
122	Screw	1	SP-6x30	M6x30ℓ
123	Screw	1	SP-6x25	M6x25ℓ
124	Spring pin	2	PR-2.5x16	ϕ2.5x16ℓ
125	Screw	8	SP-4x10	M4x10ℓ
126	Set screw	1	SS-4x12	M4x12ℓ
127	Motor cover (A)	1	*32422	
128	Motor cover (B)	1	*32423	
129	Control box	1	*32424	
130	Panel plate	1	*32450	
131	Name plate	1	*32451	
132	Control box ass'y	Unit	*32456	AC120V
133	Control boxass'y		32461	AC100V
135	IK-12 bettle torch ass'y	1	10051	
136	Distributor	1	31847	

Mark *: New stock number

PARTS LIST

ITEM NO.	PART NAME	Q'TY	STOCK NO.	REMARKS
137	Nipple	1		U9/16-18, Right
138	Nipple	1		U9/16-18, Left
139	Oxygen hose connector	1		
140	Acetylen hose connector	1		
141	S.C.R	1	30740	AC100V
			30741	AC120V
142	Switch	1	30283	S-333
143	Switch	1	*32427	S-331
144	Variable resistance	1	30745	50KΩ
145	Grip	1	31039	K-2195-E
146	Fuse holder	1	30749	F-7157
147	Cord lock	1	*32428	
148	Cabtyre cord	1	*32429	5Px5M
149	Cabtyre cord	1	30278	3Px5M
150	Rubber plug	1	30279	2P
			30280	3P (for USA)
	Metal concent (plug)	1	31295	For 200 ~ 240V, AC
151	Metal concent (plug)	1	*32430	5Pxφ25
	Metal concent (socket)	1	*32460	5Pxφ25
152	Cap	3	*32431	
153	Switch	1	30822	S-332
154	Fuse	1	31601	2A
155	Resistance	1	31247	RGB-7, 10Ω, 7W
156	Earth clip	1	30295	
157	On-off name plate	1	*32433	
158	Hose (black)	1	30322	Except USA
	(green)	1	30323	for USA
159	Hose (red)	1	30326	Except USA
	(red)		30327	for USA
161	Screw	4	SP-4x6	M4x6ℓ
162	Screw	4	SP-4x10	M4x10ℓ
163	Screw	2	SM-5x20	M5x20ℓ, with Nut
164	Screw	3	SM-3x4	M3x4ℓ
170	Guide rail ass'y (D-600)	1 unit	*415-2101	Cutting dia up to φ600
	Ditto (D-900)		*415-2102	Cutting dia up to φ900
	Ditto (D-1200)		*415-2103	Cutting dia up to φ1200
	Ditto (D-1500)		*415-2104	Cutting dia up to φ1500
171	Guide rail bracket	1	*32434	
172	Liner	1	*32435	
173	Bracket base	1	*32436	
174	Hand clamp bracket	1	*32437	
175	Hand-clamp	1	*32438	
176	Adjuster shaft (A)	1	*32439	
177	Adjuster nut	1	*32440	
178	Adjuster shaft (B)	1	*32441	
179	Fixing shaft (A)	2	*32442	
180	Fixing shaft (B)	~	*32443	
181	Auxiliary base	~	*32444	Decide q'ty according to the length of rail
182	Flat spring	~	*32445	
183	Guide rail	1	*32446	For D-1500 Length: 5134 m/m
	Guide rail		*32457	For D-1200 Length. 4214 m/m
	Guide rail		*32458	For D-900 Length: 3294 m/m
	Guide rail		*32459	For D-600 Length: 2334 m/m
184	Auxiliary base ass'y	~	*32447	
185	Stop ring	1	RR-26	IRTW-26
186	Screw	5	SP-4x18	M4x18ℓ, with SW Nut
187	Screw	6	SP-4x8	M4x8ℓ, with SW, Nut
188	Screw	4	SP-4x8	M4x8ℓ with SW
189	Hex bolt	1	BH-6x50	M6x50ℓ with FW, Nut
190	Spring pin	1	PR-2.5x16	φ2.5 x 16ℓ
191	Screw	~	SP-4x4	M4x4ℓ, with FW
192	Band clip	4	*32448	
	Chain	1 unit	31101	Standard unit 2.4M (8FT)

Mark *: New stock number

FIG – 1

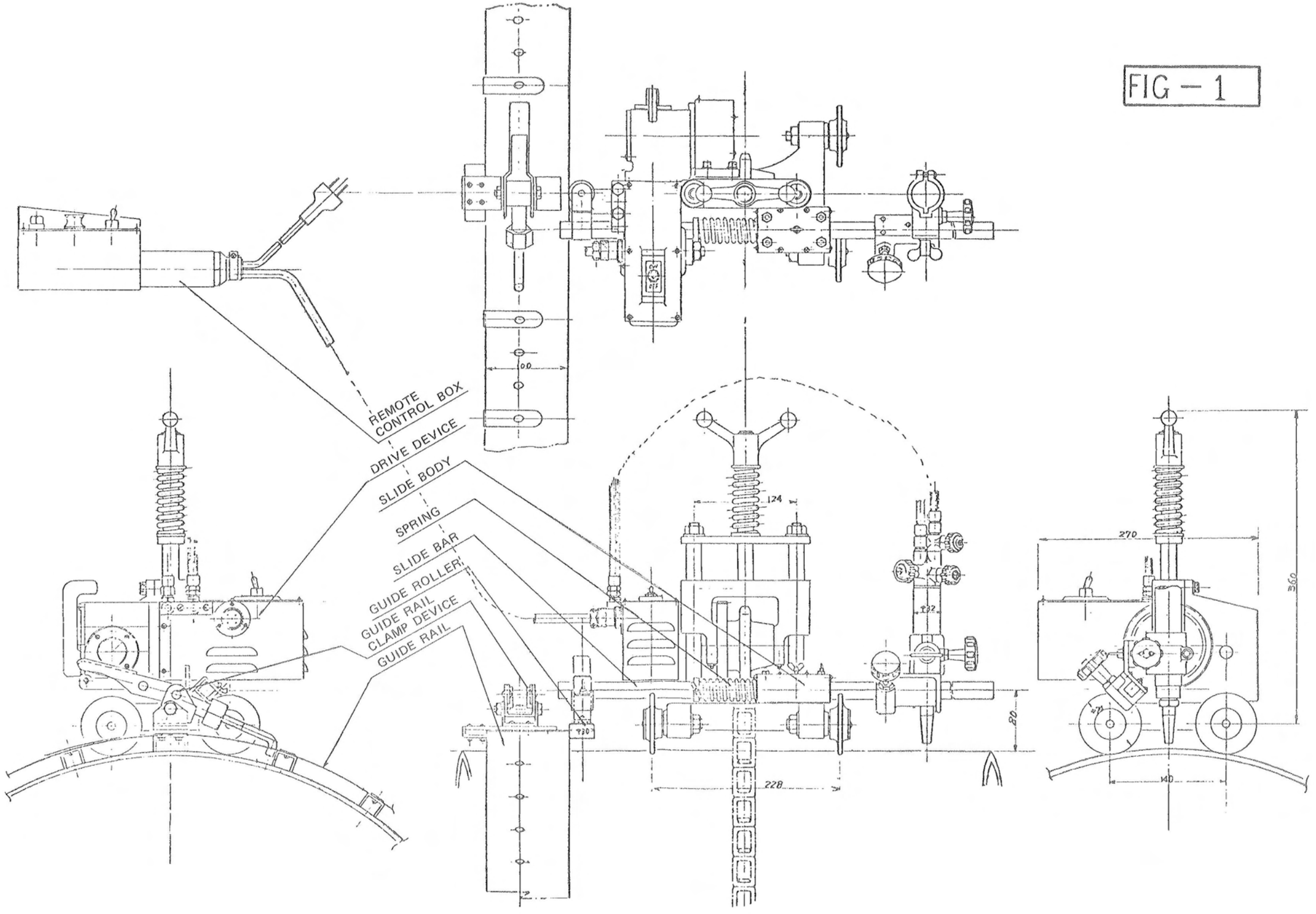
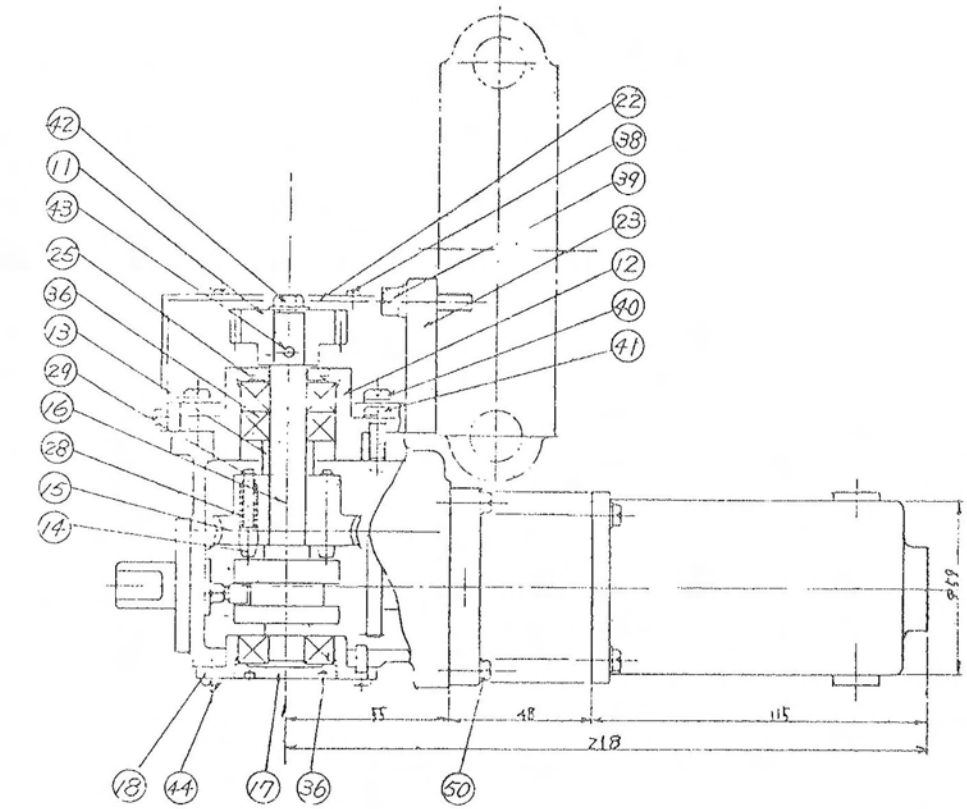
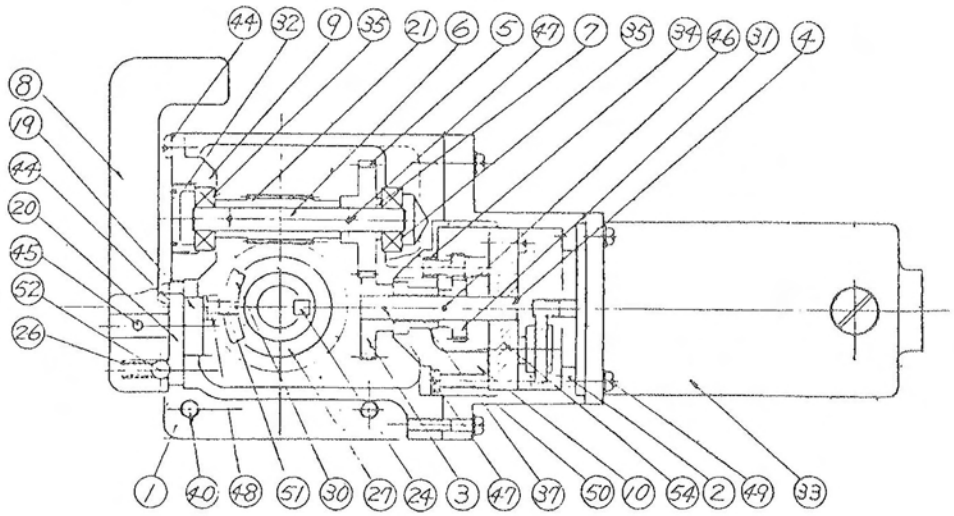

REMOTE CONTROL BOX
DRIVE DEVICE
SLIDE BODY
SPRING
SLIDE BAR
GUIDE ROLLER
GUIDE RAIL
CLAMP DEVICE
GUIDE RAIL
124
132
270
360
80
228
140

FIG – 2


42
11
43
25
36
13
29
16
28
15
14
22
38
39
23
12
40
41
55
48
115
218
Ø58
18
44
17
36
50


44
32
9
35
21
6
5
47
7
35
34
46
31
4
8
19
44
20
45
52
26
1
40
48
51
30
27
24
3
47
37
50
10
54
2
49
33

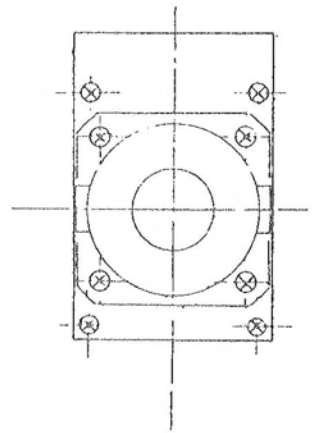


FIG – 3

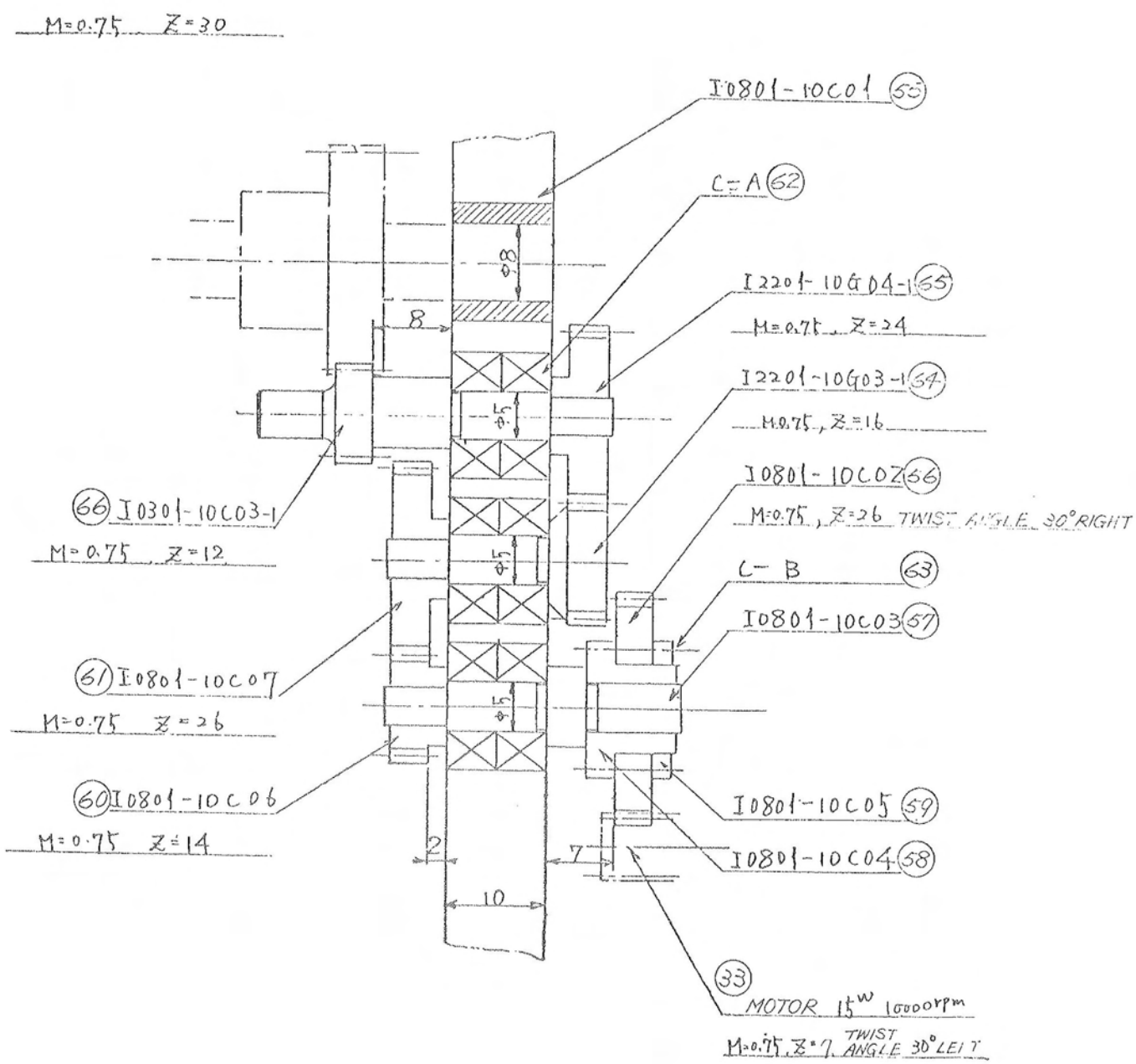

M=0.75 Z=30
I0801-10C01 (55)
C=A (62)
I2201-10G04-1 (65)
M=0.7t, Z=24
I2201-10G03-1 (64)
M=0.75, Z=16
I0801-10C02 (66)
M=0.75, Z=26 TWIST ANGLE 30° RIGHT
C-B (63)
I0801-10C03 (57)
(66) I0301-10C03-1
M=0.75 Z=12
(61) I0801-10C07
M=0.75 Z=26
(60) I0801-10C06
M=0.75 Z=14
I0801-10C05 (59)
I0801-10C04 (58)
(33) MOTOR 15W 10000rpm
M=0.75 Z=7 TWIST ANGLE 30° LEFT
8
2
7
10

FIG-4

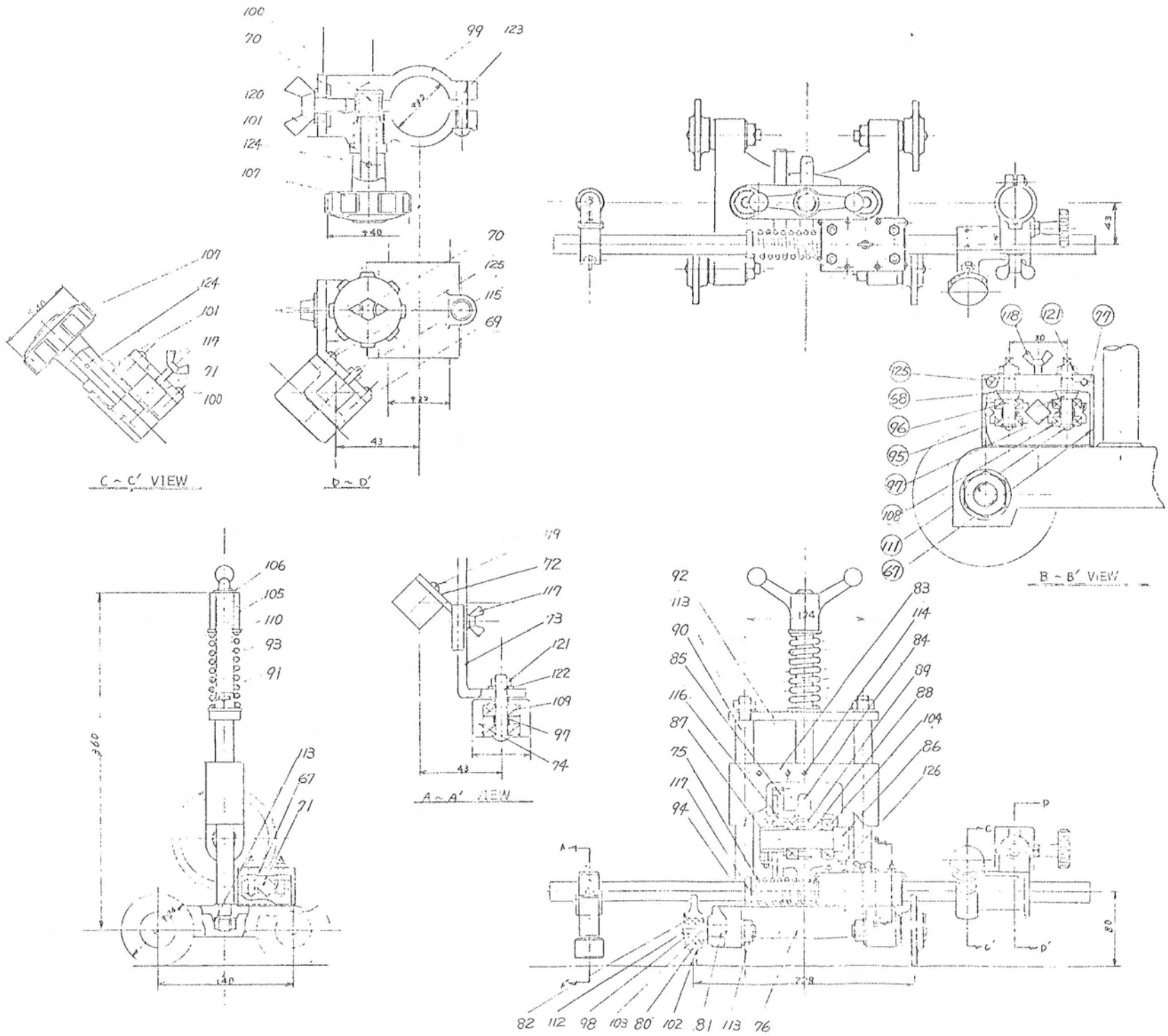
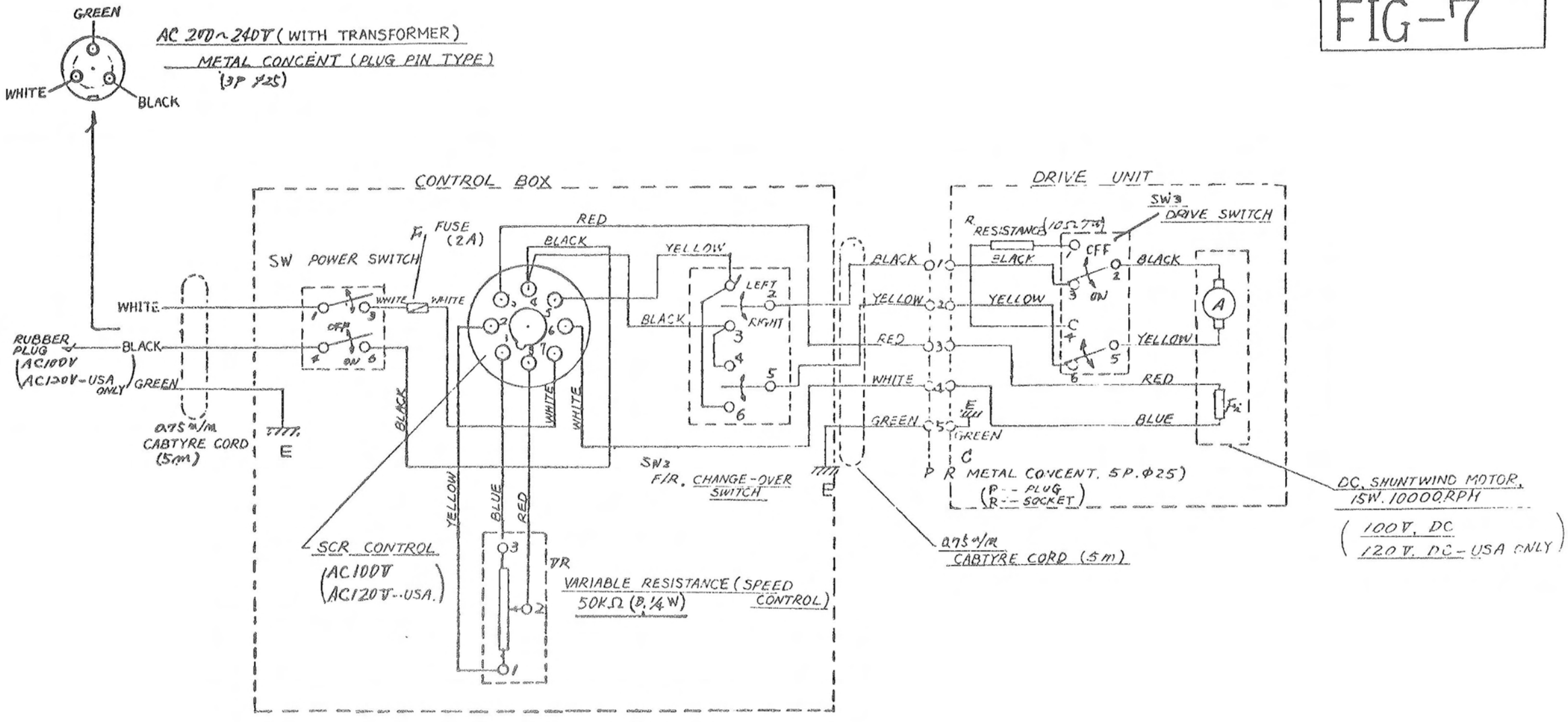


FIG-7


GREEN
WHITE
BLACK
AC 200~240V (WITH TRANSFORMER)
METAL CONCENT (PLUG PIN TYPE)
(3P φ25)
CONTROL BOX
DRIVE UNIT
SW POWER SWITCH
FUSE (2A)
RED
BLACK
YELLOW
WHITE
RUBBER PLUG
AC100V
AC120V-USA ONLY
0.75 sq/m CABTYRE CORD (5m)
OFF
ON
LEFT
RIGHT
SW2
F/R. CHANGE-OVER SWITCH
SCR CONTROL
(AC100V
AC120V--USA.)
VR
VARIABLE RESISTANCE (SPEED CONTROL)
50KΩ (B, 1/4 W)
R RESISTANCE (10Ω 7W)
SW3
DRIVE SWITCH
CFF
ON
METAL CONCENT. 5P. φ25)
(P -- PLUG
R -- SOCKET)
0.75 sq/m CABTYRE CORD (5m)
DC. SHUNTWIND MOTOR,
15W. 10000RPM
(100V. DC
120V. DC - USA ONLY)

VCT-II TOOL RATING CHART

PIPE SIZE*	WALL (IN.)		TIP SIZE	ACETYLENE OR PROPANE APPROX. CUT. TIME (MIN.)
4	.120	Sch. 10	00	0.4
4	.237	Sch. 40	0	0.5
4	.337	Sch. 80	0	0.5
5	.134	Sch. 10	00	0.6
5	.258	Sch. 40	0	0.6
5	.375	Sch. 80	1	0.6
6	.134	Sch. 10	00	0.7
6	.280	Sch. 40	0	0.7
6	.432	Sch. 80	1	0.8
8	.148	Sch. 10	00	0.9
8	.322	Sch. 40	0	1.0
8	.500	Sch. 80	1	1.1
10	.165	Sch. 10	00	1.1
10	.365	Sch. 40	0	1.3
10	.500	X-Strong	1	1.4
12	.180	Sch. 10	00	1.3
12	.375	Std.	0	1.5
12	.500	X-Strong	1	1.6
14	.188	Sch. 10S	00	1.4
14	.250	Sch. 10	0	1.5
14	.375	Std.	1	1.6
14	.500	X-Strong	1	1.8
16	.188	Sch. 10S	00	1.6
16	.250	Sch. 10	0	1.7
16	.375	Std.	1	1.9
16	.500	X-Strong	1	2.0
18	.188	Sch. 10S	00	1.9
18	.250	Sch. 10	0	2.0
18	.375	Std.	1	2.1
18	.500	X-Strong	1	2.3
20	.218	Sch. 10S	0	2.1
20	.250	Sch. 10	0	2.2
20	.375	Std.	1	2.3
20	.500	X-Strong	1	2.5
24	.250	Sch. 10	0	2.6
24	.375	Std.	1	2.8
24	.500	X-Strong	1	3.0

*Steel Pipe

CHAIN LINK CHART

PIPE SIZE	NUMBER OF LINKS	LENGTH (IN.)
6	30	34½
8	35	40¼
10	40	46
12	45	51¾
14	49	56⅜
16	54	62⅛
18	59	67⅞
20	64	73⅝
24	74	85⅛

VICTAULIC TOOL COMPANY

World Headquarters

P.O. Box 31
Easton, PA 18044-0031

4901 Kesslersville Road
Easton, PA 18042

Telephone: 215/252-6400—WUI Telex: 6858011VICAM UW

VICTAULIC TOOL COMPANY
Sales and Lease Payments
P.O. Box 11608
Newark, NJ 07917

VICTAULIC TOOL COMPANY
Tool Shipments
Tatamy & Corriere Roads
Easton, PA 18042

Branch Sales Offices and Service Centers

California: (Los Angeles)
Long Beach 90810
20934 So. Santa Fe Avenue
Phone: 213/537-1691

Colorado: Denver 80239
5045 Paris Street
P.O. Box 39966
Phone: 303/371-1320

Georgia: Norcross 30093
4290 International Blvd.
Phone: 404/925-1161

Illinois: (Chicago)
Bensenville 60106
730 Thomas Drive
Phone: 312/595-8310

Maryland/DC: Baltimore 21227
6600 Amberton Drive
Phone: MD-301/796-0500
DC-301/621-4360

Massachusetts: (Boston)
Braintree 02184
40 Messina Drive
Phone: 617/843-1950

Michigan: (Detroit)
Farmington Hills 48024
23107 Commerce Drive
Phone: 313/471-3600

Missouri: Kansas City 64120
1681 North Topping Avenue
Phone: 816/241-4521

New Jersey: Pine Brook 07058
One Chapin Road
P.O. Box 682
Phone: 201/575-5566

Pennsylvania: (Pittsburgh)
Warrendale 15086
166 Thorn Hill Road
Phone: 412/931-1693

Texas: Houston 77078
7177 Railspur Street
P.O. Box 23038 (77228)
Phone: 713/635-6865

Texas: Odessa 79763
2650 Remington Road
Phone: 915/332-1489

Washington: (Seattle)
Kent 98032
22633 83rd Ave. So.
Phone: 206/872-2200

VICTAULIC COMPANY OF CANADA, LIMITED

65 Worcester Road, Rexdale, Ontario, Canada M9W 5N7
Phone: 416/675-5575

Branch Sales Offices and Service Centers

Alberta
Edmonton T5M 3S9
15353 114th Avenue
Phone: 403/452-0680

British Columbia:
Vancouver V6V 1Z1
5920 #6 Road-Unit 215
Phone: 604/270-9674

Quebec: (Montreal)
Saint Laurent H4T 1X9
6200, Rte. Trans-Canadienne
Phone: 514/737-2888

PIPECO INTERNATIONAL COMPANY

Division of Victaulic Company of America

P.O. Box 31
Easton, PA 18044-0031

4901 Kesslersville Road
Easton, PA 18042

Telephone: 215/252-6400—WUI Telex: 6858011VICAM UW

Victaulic® Factory Representatives and Distributor Stocks Worldwide

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