

Sanki

**AUTOMATIC DETWISTER
FOR KNITS, WOVENS AND BLANKET**

SANKI INDUSTRY LTD.

For Sales and Service Please Contact:

The Sanki Automatic Detwister is designed to detect true twist and correct same on woven or knitted fabrics (open width or tubular), and open fabrics at the same time with the aid of Sanki's SMG-A Guider.

There are two detwisters:

TX-UA (Standard) - Rope Diameter - 3.15" (80mm) maximum.
TX-HUA/Heavy Duty - Rope Diameter - 5.12" (130mm) maximum.

A. Main Components: (See Pages 7, 9, 11, 13, 15)

1. Control Panel:

The Sanki Control Panel gives different and valuable operational flexibility:

Panel Door - (See Page 2)

- (a) Electric Source Pilot: Light on with power.
 - (b) Drive Pilot Lamp: Indicates if unit is on in the setting of (e) and (f).
 - (c) Push Button "ON": To turn unit "on" when select switch (e) is on single.
 - (d) Push Button "OFF": Turns unit "off".
 - (e) Select Switch:
 - Single, to operate detwister in manual operation, or independently.
 - Combi, to operate detwister in conjunction with other drive units.
 - (f) Snap Switch:
 - Auto, detwister will operate automatically.
 - Hand, detwister will operate manually.
 - (g) Snap Switch:
 - Left (turn of detwister)
 - Right (turn of detwister)
- NOTE: Operates hand position only.

Inside Panel - (See Page 2)

- (i) Non-fuse Breaker
- (j) One Timer, when controlling detwister only. (TM1)
Two Timers, when working in conjunction with turn table/detwister combination. (TM2)
- * (k) Two Oscillator units (Proximity switch adjustments).
- * (l) Two Control units (Proximity switch sensing).
- (m) Dial Speed Control for D.C. Motor.
- (n) Two Magnetic Relays for detwister signal.

(*). These units will also control turn table through relays.

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4. Disc Brake:

Designed to control tension, set at 1 kg/cm² air pressure (14 PSI).

5. Guide Roll: (See Page 11)

The Guide Roll (60) is above the sensing unit (1) and it is adjustable.

The adjustment is for the fabric to lightly touch the sensing spline wheels. The Guide Roll must be in the same line as the Guiders. By moving the Guide Roll forward, the fabric touch on the spline wheels becomes light, moving it back the fabric touch becomes heavy.

C. Start-Up:

The following verifications are required:

1. Electric Source Pilot (a) must be on.
2. Snap Switch (f) must be on auto or hand.
3. Select Switch (e) must be on single or combi.

* NOTE: Drive Pilot Lamp (b) will turn on when snap switch (f) is in auto and Select Switch (e) is in combi

** NOTE: Drive Pilot Lamp (b) will turn off when Changing Select Switch (e) is turned from combi to single. In order to operate, Push Button "ON" (c).

I. Operating in "Single"

1. Select switch (e) must be set on "Single".
2. Press Push Button "ON" (c), Electric Source Pilot (a) will come on.
3. Snap Switch (f) can be turned to auto or hand.

II. Operating in "Combi"

1. Select Switch (e) must be set on "Combi".
2. Drive Pilot Lamp (b) will come on automatically.
3. Snap Switch (f) must be on auto.

D. Maintenance Checks:

If the detwister is not working properly, check for setting first (B. Adjustments or Settings). If problem persists, check for the following:

1. Insufficient contact of carbon brush on DC Motor (15).
2. Timing Belt (21) for Driving Rotor (20) is damaged or broken.
3. Ball Bearing Collar (23) to Hold Rotor (20) is faulty.
4. Guide Bearing Collar (28) is worn out.
5. Sensibility of Proximity Switch on the Detecting Device (1) is not set properly (See Page 3-1.)
6. Check Pinch Rolls (36) and Springs (40) on Twist Corrector (2).

B. Adjustments or Settings:

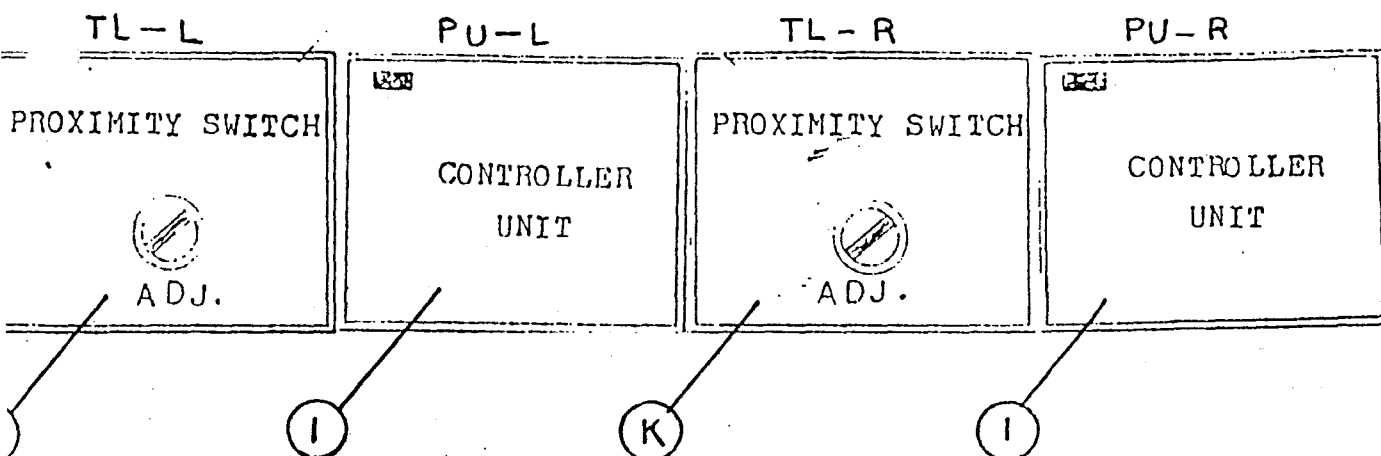
1. Sensitivity of Proximity Switches (See Sketch Below)

The two Oscillator units (k) inside the Control Panel regulate the sensitivity of the Proximity Switches located in the Sensing Head of the detwister.

Both units (left and right) have an adjusting knob, which must be set by means of a small screw-driver.

Turn the select switch (e) to single and press push button "ON" (c), making sure the detwister has no fabric touching the spline wheels of the sensing head. If the indicating light of the control units (l) is on, turn adjusting knob of oscillator unit (k) in a counterclock motion until light is off on both control units (l). Then turn the adjusting knob of the oscillator units (k) clockwise until the light on each control unit (l) is on. Stop turning clockwise and turn knob counterclockwise until light turns off and stop.

NOTE: Do not adjust while machine is running, or when fabric is touching the sensing head.



2. DC Motor Speed:

The turn of the detwister is controlled by a DC Motor.

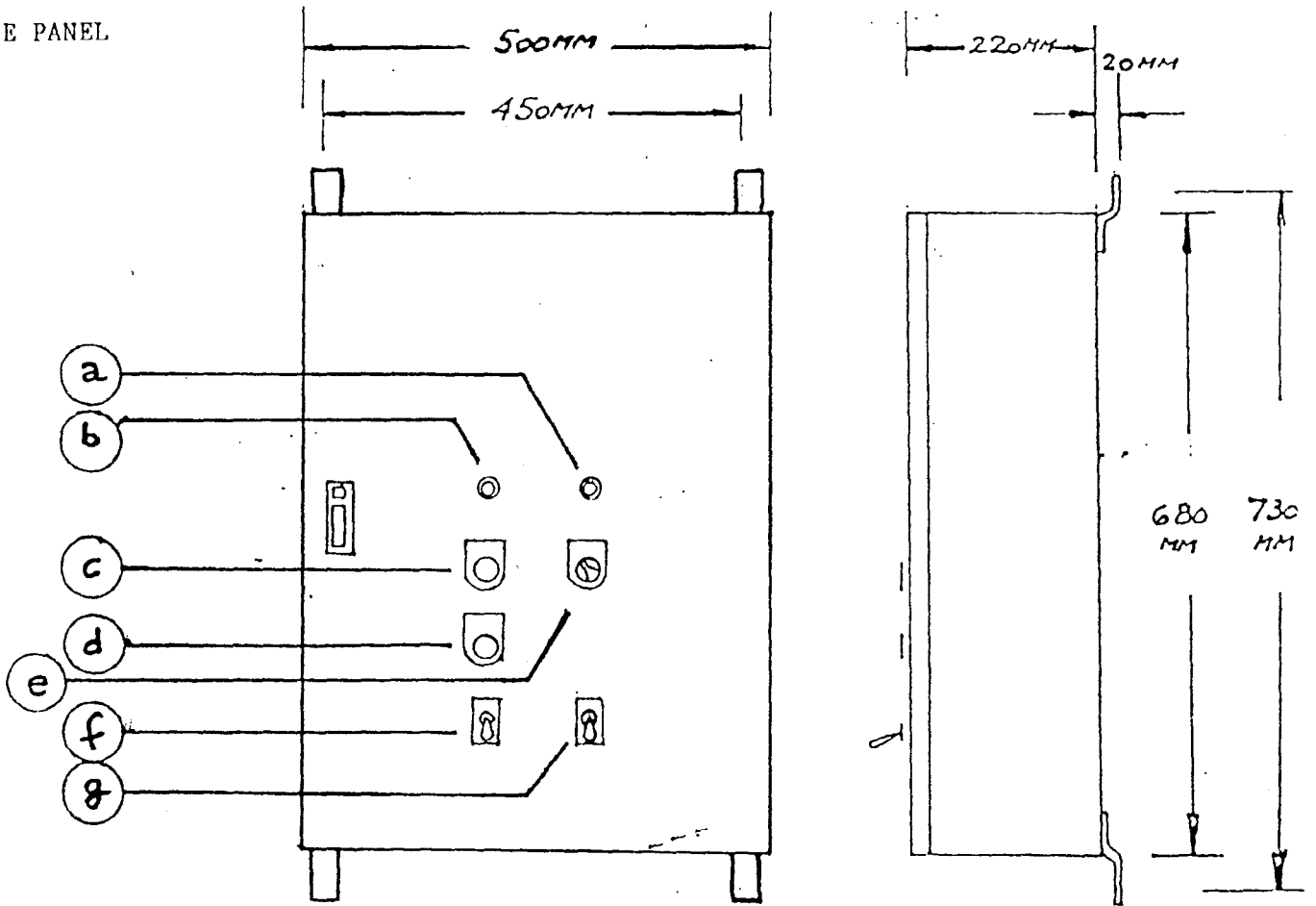
The setting of the speed is done by the Dial Speed Control (m). The ideal setting is at about 1/4 of the speed. High speed may convey additional twist instead of eliminating it. If this condition is noted, slow the motor down.

3. Timer:

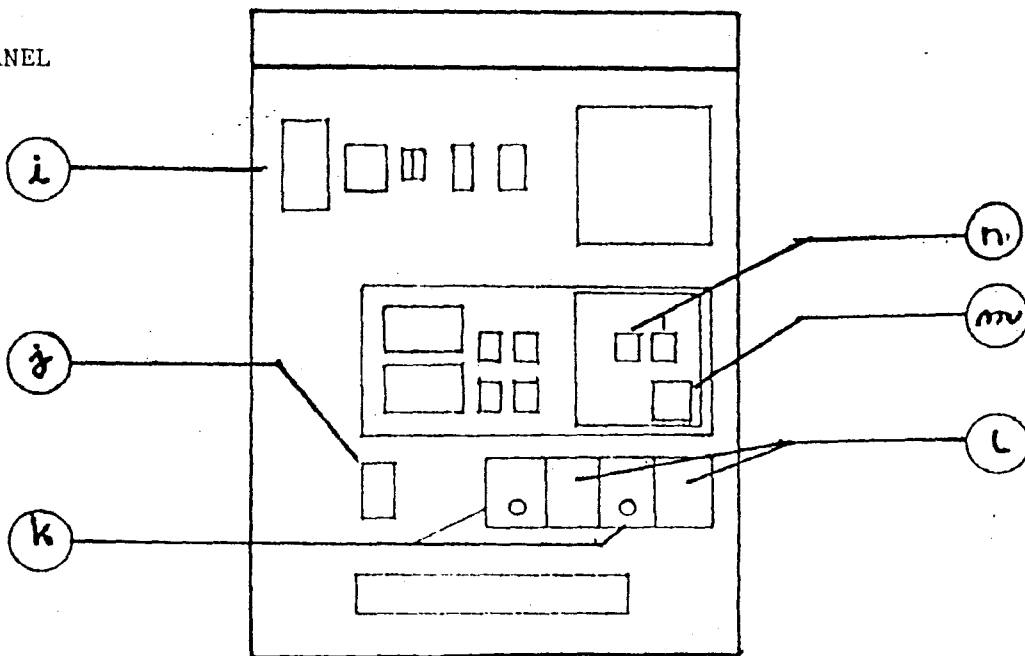
The Timer (j) controls the speed of the signal from the sensing head to the control panel and the turn of the DC Motor. Its ideal setting is at the lowest point, unless operating at very low speeds (30 ypm), where a slight turn clockwise should suffice.

SANKI'S AUTOMATIC DETWISTER - CONTROL PANEL

OUTSIDE PANEL



INSIDE PANEL



E. MAINTENANCE

POINTS OF MAINTENANCE	HOW TO DO IT
Exchange of Carbon Brush for DC Motor (UA 15)	<p>Take off motor cover, and then Carbon Brush Cap by turning it to right hand pull out Carbon Brush, Then, insert new one.</p> <p>(See Page 9)</p>
Breakage of Timing Belt (UA 21)	<p>Take off Top Cover (UA 25) and then Top Casing (UA 13). Take off Bottom Casing Cover (UA 41). Take out broken Belt. Put on new Belt, check if Belt is properly set through hole on Bottom Cover.</p>
Exchange of Bearing Collar (UA 23) for Timing Belt Pin (UA 22)	<p>Take off Top Cover (UA 25). Take off Bottom Holder (UA 32). Take off Top Casing (UA 13). Pull out Timing Belt Pin (UA 22), and take off Bearing Collar. Applying new Bearing Collar, insert it to Bottom Casing (UA 14).</p>
Exchange of Guide Bearing Collar (UA 28)	<p>Take off Top Cover (UA 25) Take off Bracket (UA 26) Pull out Pin (UA 27)</p>
Exchange of: Pinch Roll (UA 36) Spring (UA 40) Bearing Brush (UA 38)	<p>Take off Top Cover (UA 25) Take off right and left Bracket from Cover (UA 39) Take off Snap Ring and pull out pin (UA 37)</p>

INTERCHANGEABLE PARTSSANKI EQUIPMENT

<u>DETWISTER</u>		<u>SMG-A GUIDER</u>	
<u>Part No.</u>	<u>Name</u>	<u>Part No.</u>	<u>Name</u>
UA 16	Brush For DC Motor	5050-1	Carbon Brush for DC Motor
UA 48	Ball (4mm) for UA 44	GF 2020	Ball 4mm
UA 106	Snap Switch (WD 1112)	2	Snap Switch
UA 109	Magnet Switch (SRCa-3631-0 AC 200V)	6	Magnet Switch
UA 110-111	Cartridge Fuse (10A-Rectifier Fuse)	10 & 11	Cartridge Fuse 10A
UA 118-119	Magnet Relay (MSK-607P)	15 & 16	Magnet Relay MSK 607P
UA 126	Diode (11R1SC 10A)	22	Diode
UA 132	Resistor (RS-150-1 OHM)	20	Resistor

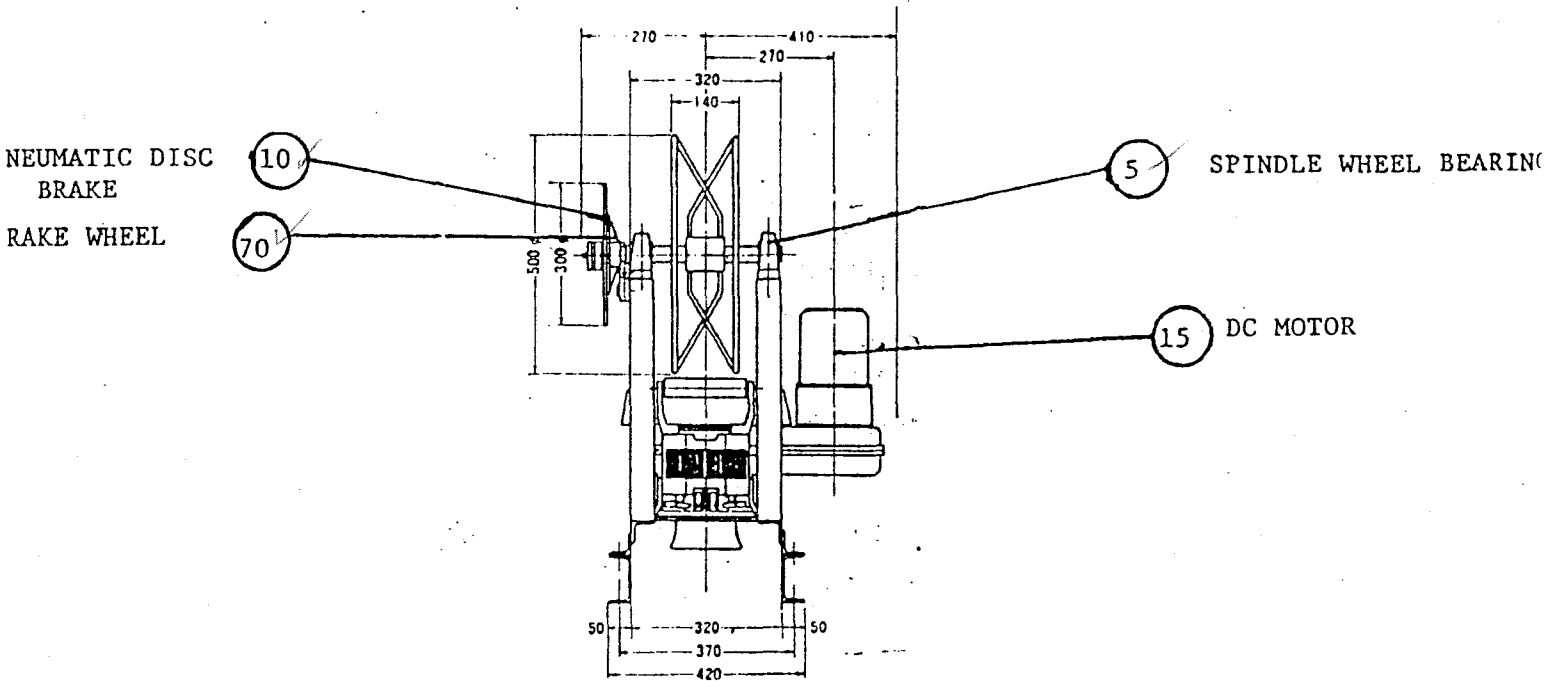
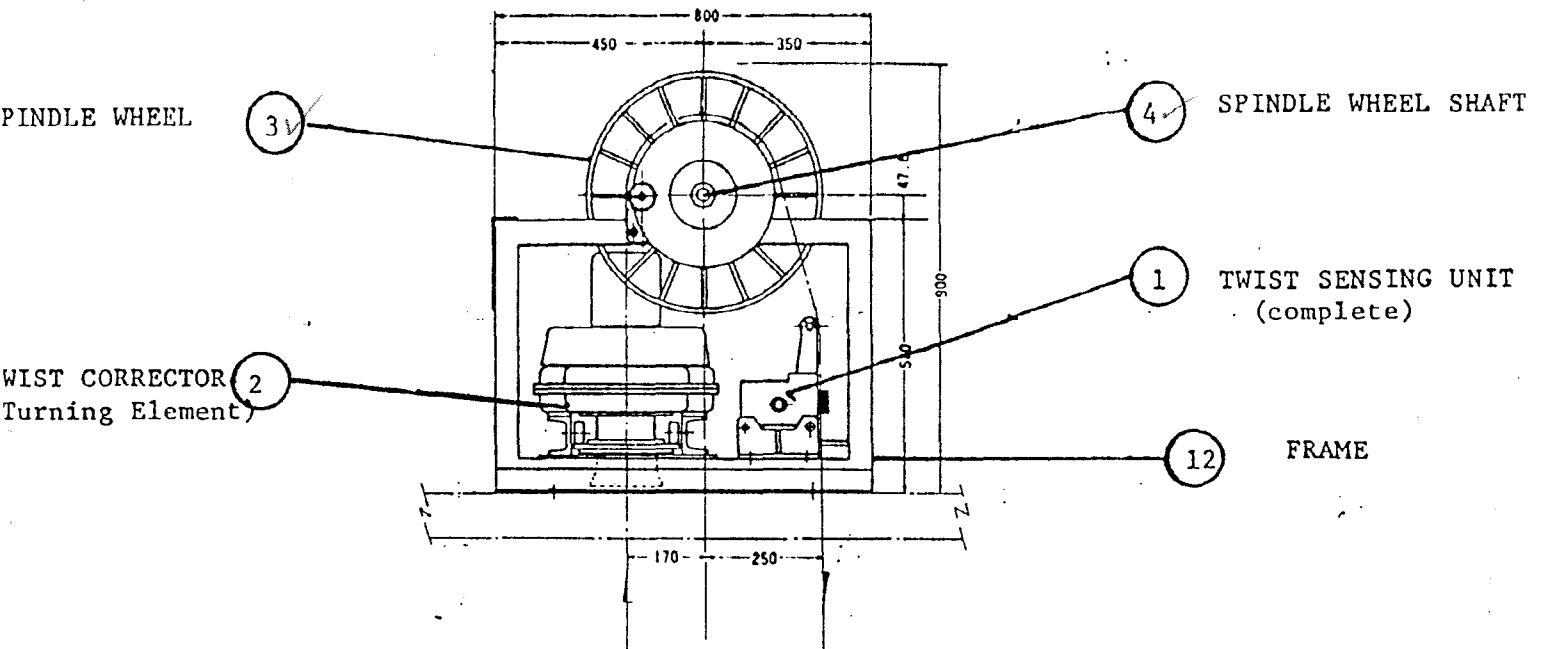
F.

- UA 1. TWIST SENSING UNIT (COMPLETE)
- UA 2. TWIST CORRECTOR (TURNING ELEMENT)
- UA 3. SPINDLE WHEEL
- UA 4. SPINDLE WHEEL SHAFT
- UA 5. SPINDLE WHEEL BEARING
- UA 10. PNEUMATIC DISC BRAKE
- UA 12. FRAME
- UA 15. DC MOTOR
- UA 70. BRAKE WHEEL

NOTE: PLEASE INDICATE IF PARTS ARE REQUIRED FOR THE AUTOMATIC DETWISTER,
MODEL TX-UA OR FOR THE AUTOMATIC HEAVY DUTY DETWISTER, MODEL TX-HUA.

MAIN COMPONENTS - DETWISTER TX-UA

(Dimensions in Millimeters)



NOTE: ITEMS 6, 7, 8 AND 9 DO NOT CORRESPOND TO THIS TYPE DETWISTER

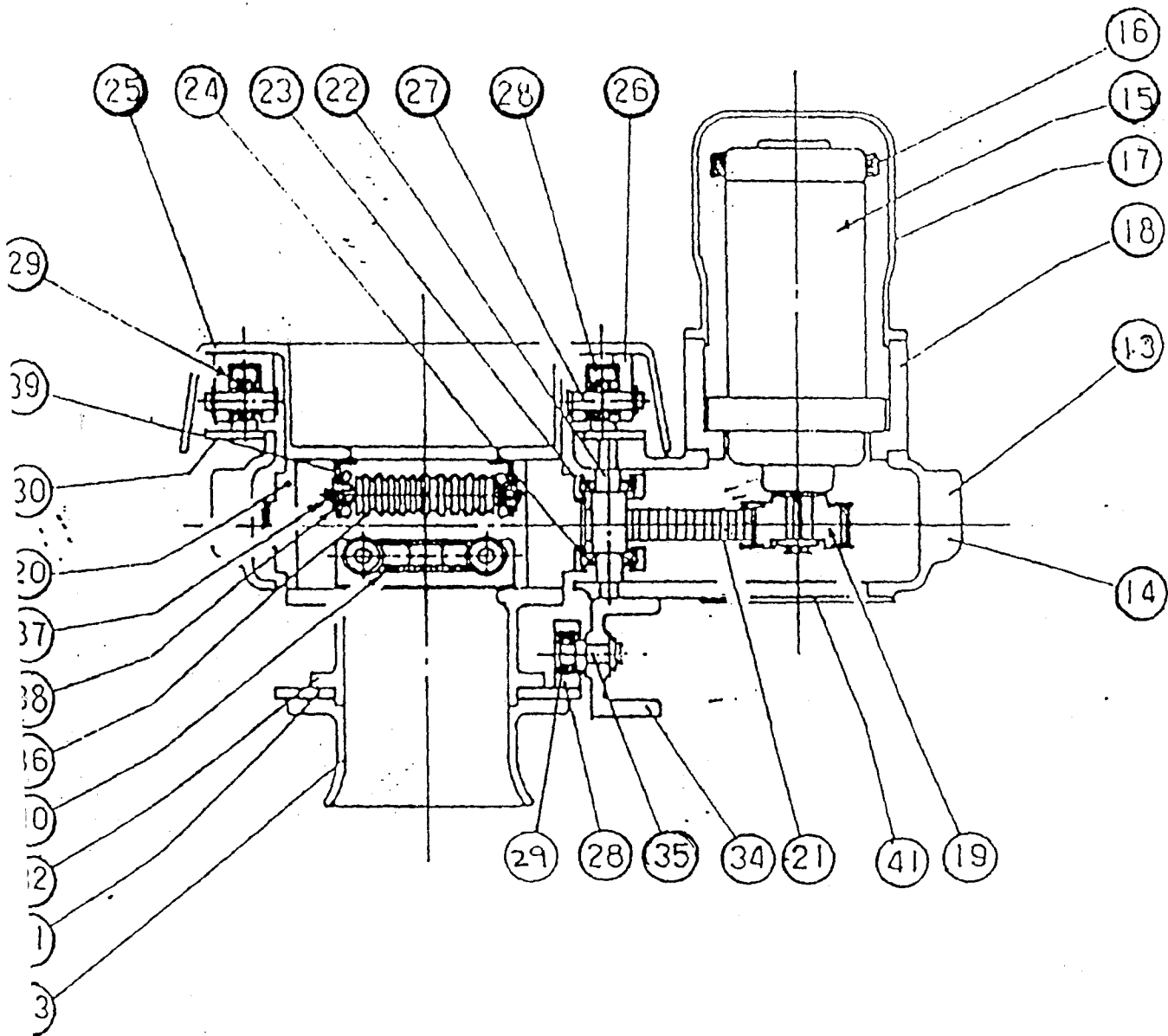
NOTE: NUMBERS CORRESPOND TO COMPONENTS OR PARTS NUMBERS.

G.

- UA 13. TOP CASING
- UA 14. BOTTOM CASING
- UA 15. DC MOTOR
- UA 16. BRUSH FOR DC MOTOR
- UA 17. MOTOR COVER
- UA 18. MOTOR SUPPORT
- UA 19. TIMING PULLEY
- UA 20. DRIVING ROTOR
- UA 21. TIMING BELT
- UA 22. TIMING BELT PIN
- UA 23. BEARING COLLAR FOR UA 22
- UA 24. BALL BEARING
- UA 25. TOP COVER FOR UA 2
- UA 26. BRACKET FOR UA 29 - TOP
- UA 27. PIN FOR UA 29 - TOP
- UA 28. BEARING COLLAR FOR UA 29 - TOP & BOTTOM
- UA 29. BALL BEARING (6201 LL) TOP & BOTTOM
- UA 30. TOP BEARING PLATE
- UA 31. BOTTOM BEARING PLATE
- UA 32. BOTTOM HOLDER
- UA 33. BOTTOM FEED TUBE
- UA 34. BRACKET FOR UA 29 - BOTTOM
- UA 35. PIN FOR UA 29 - BOTTOM
- UA 36. PINCH ROLL
- UA 37. ROLLER PIN FOR UA 36
- UA 38. BEARING BUSHING FOR UA 36
- UA 39. BRACKET FOR UA 36
- UA 40. SPRING (PINCH ROLL) FOR UA 36
- UA 41. COVER ON UA 14

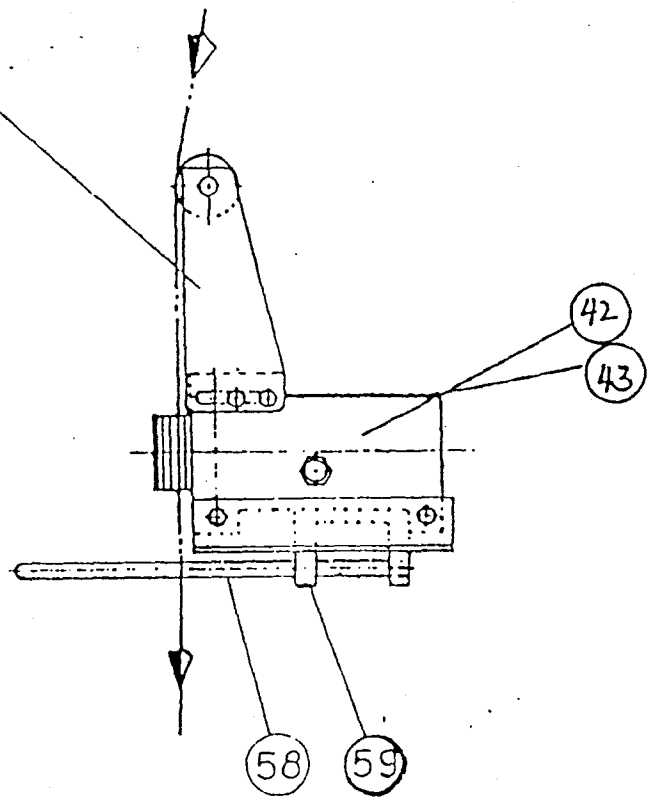
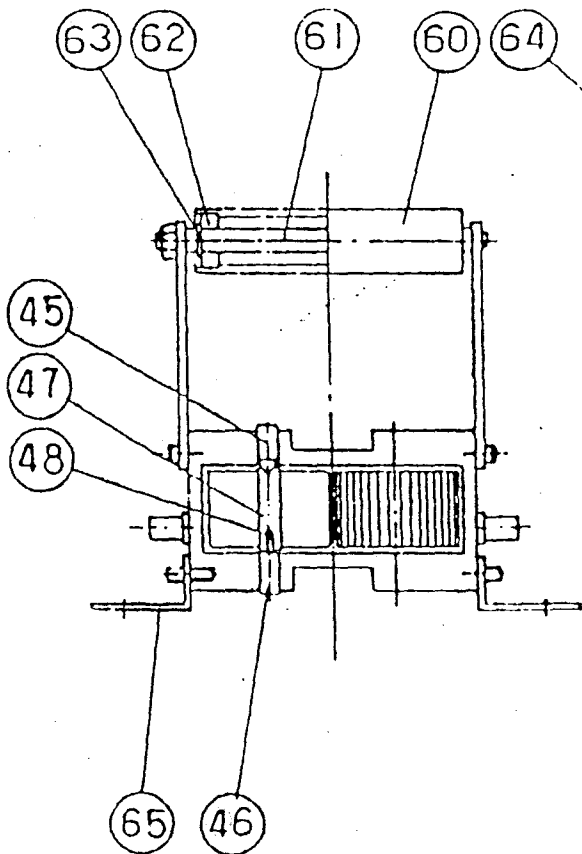
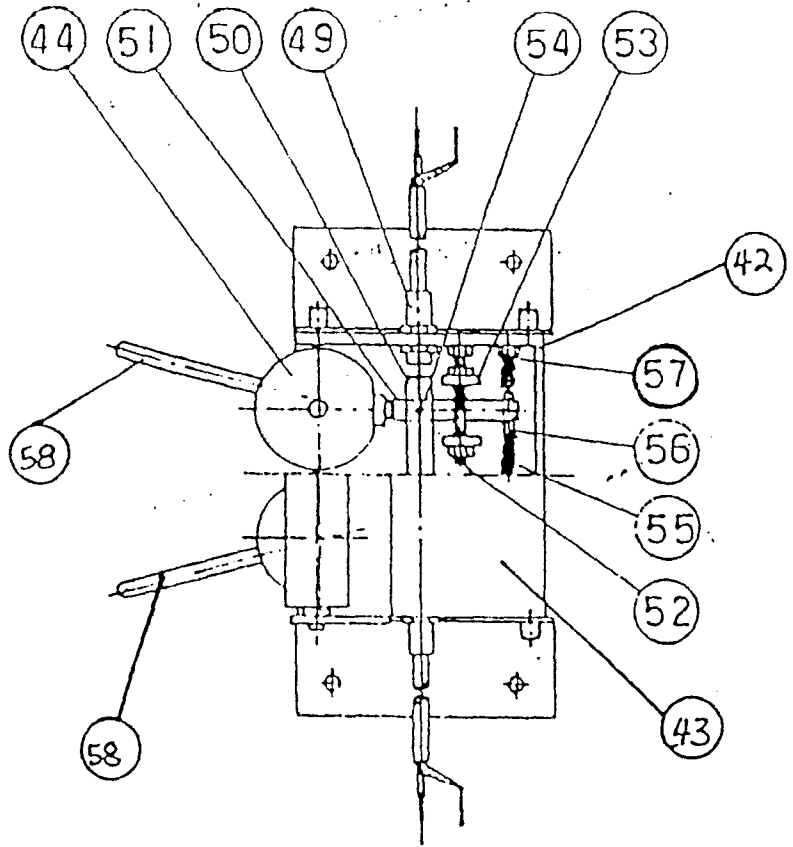
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DETAIL OF TWIST CORRECTOR - DETWISTER TX-UA, TX-HUA



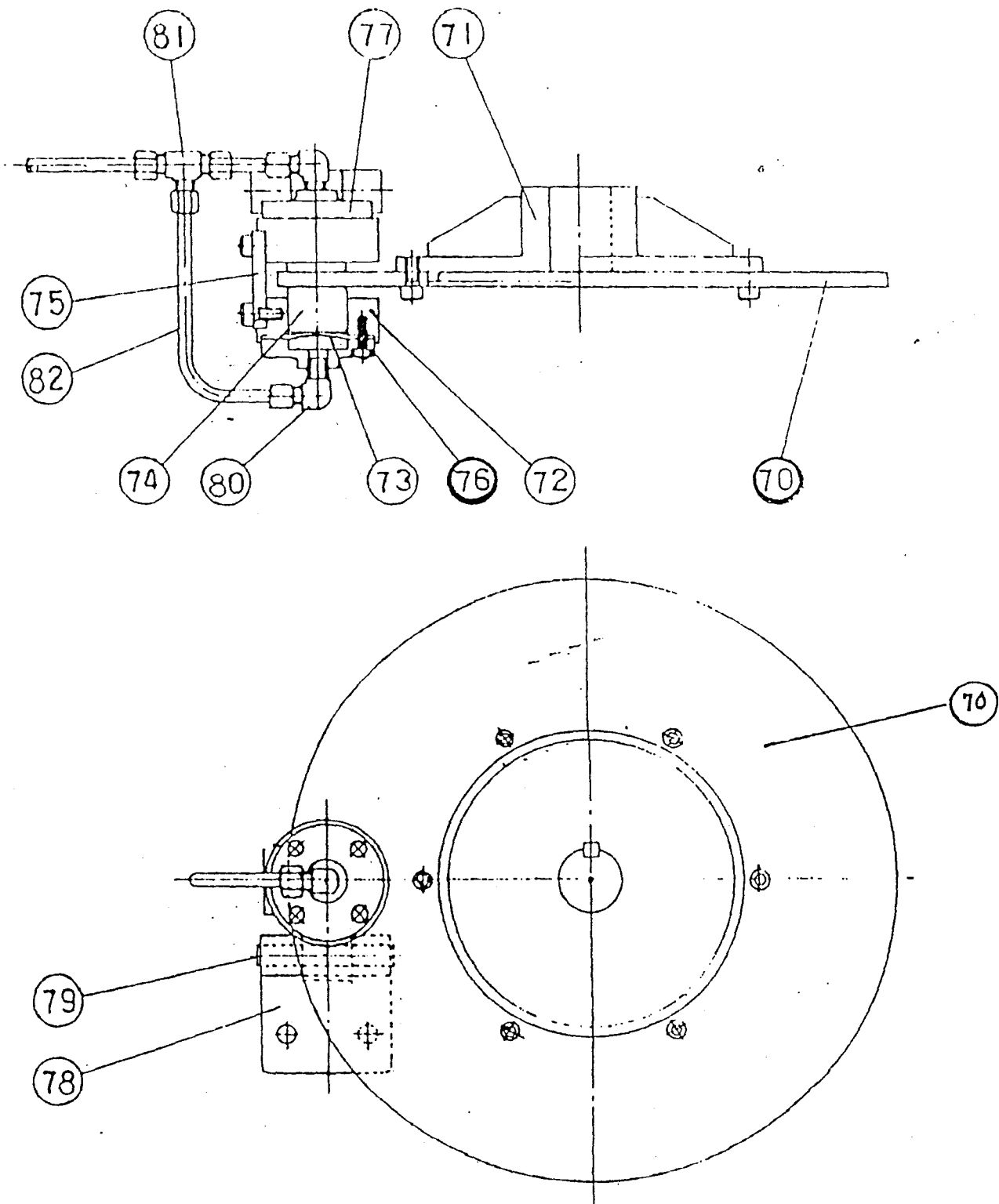
- JA 42. CASE FOR UA 1
- JA 43. CASE COVER
- JA 44. DETECTING WHEEL
- JA 45. TOP PIN FOR UA 44
- JA 46. BOTTOM PIN FOR UA 44
- JA 47. DETECTING WHEEL SHAFT FOR UA 44
- JA 48. BALL (4m/m) FOR UA 44
- UA 49. PROXIMITY SENSOR
- UA 50. SENSING BAR
- UA 51. CONNECTING ARM
- UA 52. ADJUSTING SCREW
- UA 53. ADJUSTING NUT
- UA 54. SCREW FOR UA 50
- UA 55. SPRING
- UA 56. ADJUSTING PIN FOR UA 55
- UA 57. FIXING PIN FOR UA 55
- UA 58. GUIDE BAR
- UA 59. BRACKET FOR UA 58
- UA 60. GUIDE ROLL
- UA 61. SHAFT FOR UA 60
- UA 62. BALL BEARING (6202LL) FOR UA 60
- UA 63. SNAP RING FOR UA 62
- UA 64. SIDE BRACKET FOR UA 60
- UA 65. CASE BRACKET FOR UA 1

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 MODEL TX-UA OR FOR THE AUTOMATIC HEAVY DUTY DETWISTER, MODEL TX-HUA.



- UA 70. DISC
- A 71. DISC HOLDER
- A 72. DIAPHRAGM CASING
- A 73. DIAPHRAGM MEMBRANE
- A 74. BRAKE PAD
- A 75. FIXING PLATE
- A 76. DIAPHRAGM COVER- FRONT
- A 77. DIAPHRAGM COVER- BACK
- A 78. BRACKET
- A 79. PIN FOR UA 78
- A 80. ELBOW
- A 81. TEE
- A 82. COPPER TUBE $\emptyset 6 \times \emptyset 4$

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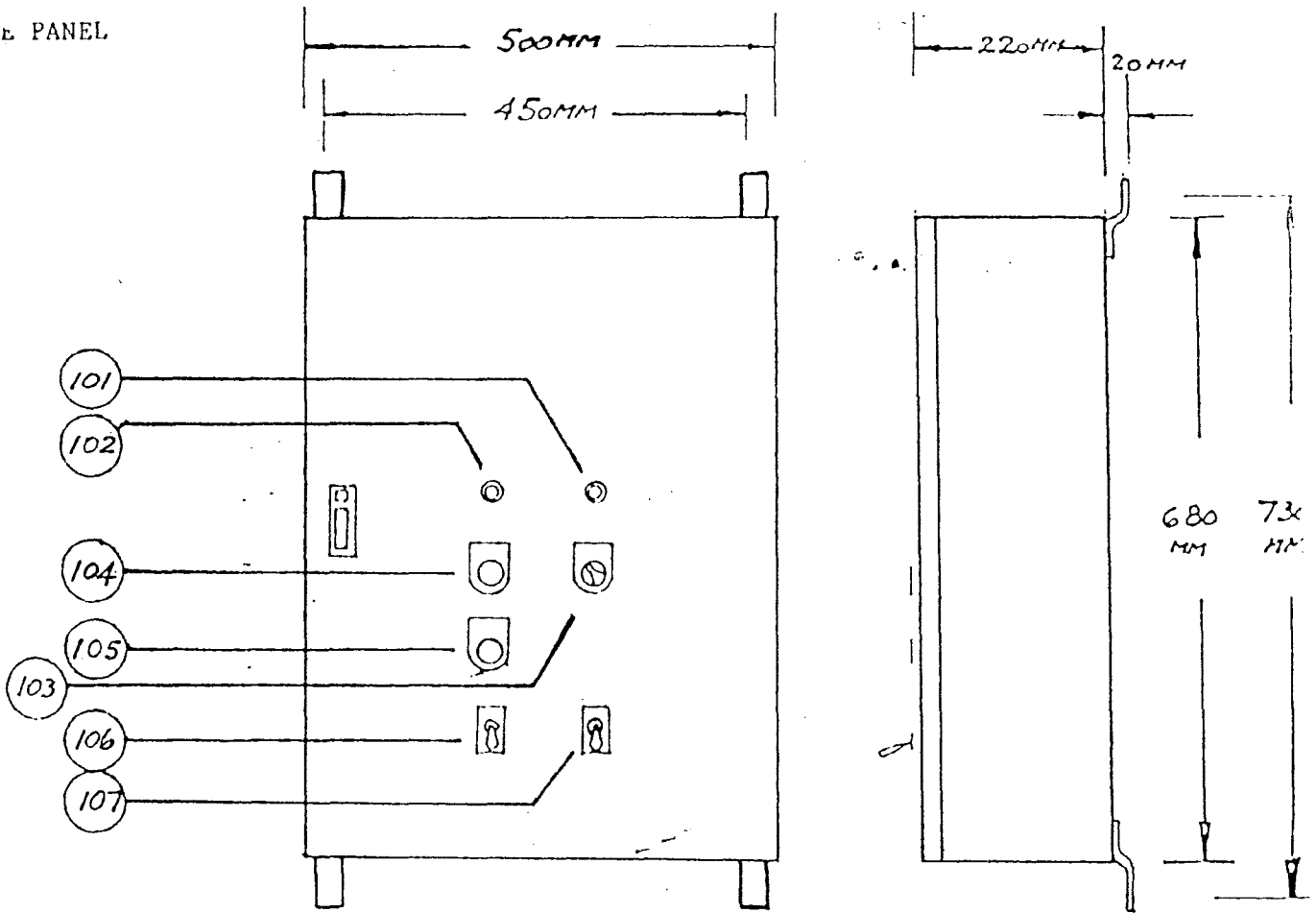
ELECTRICAL PARTS LIST - CONTROL PANEL

NO	MARK	DESIGNATION	Q UNT	MAKER	SPECIFICATION
101.	PL1	PILOT LAMP-(POWER ON)	1	MARUYASU	AC200v NOL-200C
102.	PL2	PILOT LAMP-(DRIVE)	1	MARUYASU	AC200v NOL-R200C
103.	CS	SELECT SWITCH	1	IZUMI	ASN-311
104.	PB1	PUSH BUTTON SWITCH	1	IZUMI	ABN-110
105.	PB2	PUSH BUTTON SWITCH	1	IZUMI	ABN-101
106.	SW1	SNAP SWITCH	1	MATSUSHITA	WD1112
107.	SW2	SNAP SWITCH	1	MATSUSHITA	WD1114
108.	NF-30	NO FUSE BREAKER	1	MITSUBSHI	NF-30C-3P 30A
109.	MC	MAGNET SWITCH	1	FUJI	SRCa-3631-0 AC200v
110.	F1	CARTRIGE FUSE - DC DRIVE	1	FUJI	10A-RECTIFIER FUSE
111.	F2	CARTRIGE FUSE - DC DRIVE	1	FUJI	10A-RECTIFIER FUSE
112.	F3, F4	GLASS TUBE FUSE FOR UA LOG	2	FUJI	2Z
113.	F5, F6	GLASS TUBE FUSE	2	FUJI	0.5A-RELAY CONTROL
114.	TL-L	OSCILLATOR UNIT	1	OMRON	TL-KA-SAME AS 115
115.	TL-R	OSCILLATOR UNIT	1	OMRON	TL-KA-SAME AS 114
116.	PU-L	CONTROLLER UNIT	1	OMRON	PU-NA AC200v-SAME 117
117.	PU-R	CONTROLLER UNIT	1	OMRON	PU-NA AC200v-SAME 116
118.	RY1	MAGNET RELAY (DETWISTER)	1	TAIKO	MSK-607P-SAME 119
119.	RY2	MAGNET RELAY (DETWISTER)	1	TAIKO	MSK-607P-SAME 118
120.	TM1	TIMER (DETWISTER)	1	TAIKO	ON2V 10SEC DC48v
121.	TM2	TIMER (TURN TABLE)	1	TAIKO	ON2V 10SEC DC48v
122.	RY3	MAGNET RELAY (TURN TABLE)	1	OMRON	MK-2P DC48v
123.	RY4	MAGNET RELAY (TURN TABLE)	1	OMRON	MK-2P DC48v
124.	1SCR	THYRISTOR	1	NEC	20P1SG 20A
125.	2SCR	THYRISTOR	1	NEC	20P1SG 20A
126.	1D-4D	DIODE	4	NEC	11R1SC 10A
127.	TR	TRANSFORMER	1	NEC	640VA
128.		PRINTED CIRCUIT BOARD (COMPLETE)	1		
129.	1R & 2R	RESISTOR	2	SANKYO	RWH40G 120 OHM
130.	3R	RESISTOR (ADJUSTABLE)	1	SANKYO	RWH40AIG 500 OHM
131.	4R & 7R	RESISTOR	2	SANKYO	RAS-150- 3.5 OHM
132.	17R & 15R	RESISTOR	2	SANKYO	RS-150- 1 OHM

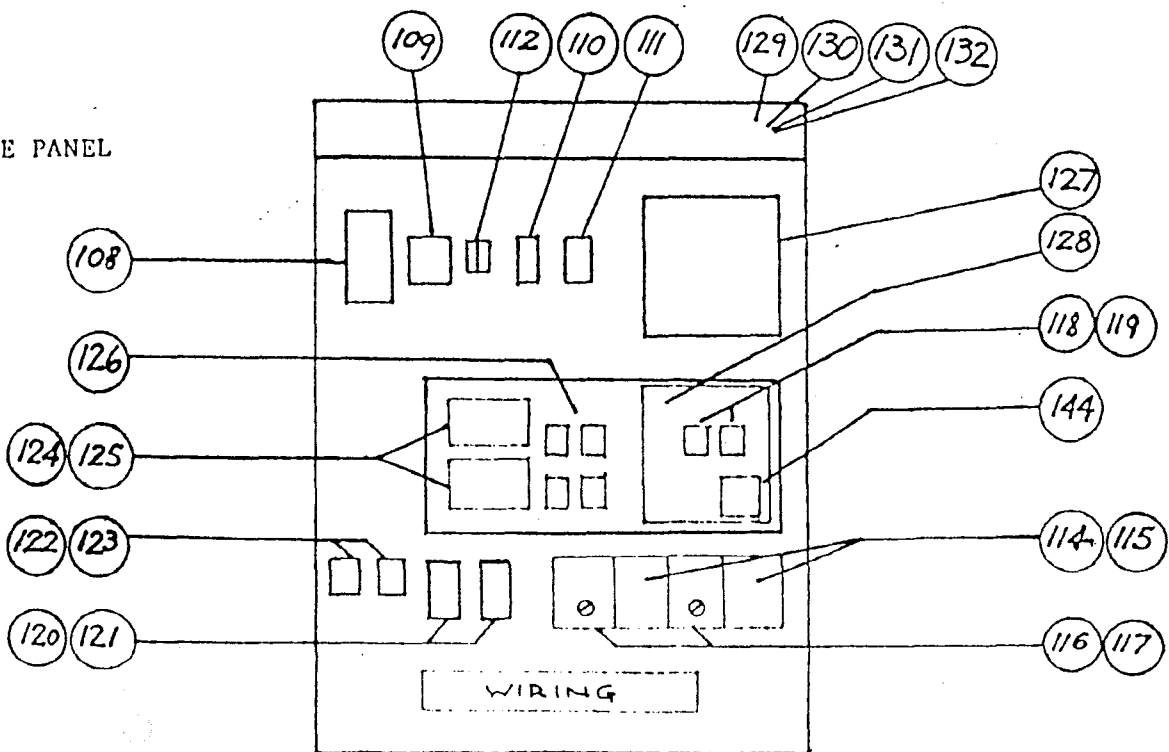
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SANKI'S AUTOMATIC DETWISTER - CONTROL PANEL.

OUTSIDE PANEL



INSIDE PANEL



K.

ELECTRICAL PARTS LIST- PRINTED CIRCUIT BOARD

NO.	MARK	DESIGNATION	Q UNT	MAKER	SPECIFICATIONS
UA 133.	5D - 10D	DIODE	6	NEC	10D10
UA 134.	11D - 14D	DIODE	4	NEC	F14J
UA 135.	3SCR. 4SCR	THYRISTOR	2	NEC	2SF101
UA 136.	1ZD - 4ZD	ZENER DIODE	4	NEC	AW05
UA 137.	5R, 8R	RESISTOR	2		220 OHM 1 WATT
UA 138.	6R, 9R	RESISTOR	2		1K OHM 1 WATT
UA 139.	10R, 11R	POTENTIOMETER	2		500 OHM 1 WATT
UA 140.	12R, 13R	RESISTOR	2		50 OHM 1 WATT
UA 141.	14R	RESISTOR (ADJUSTABLE)	1		500 OHM 10 WATT
UA 142.	15R	RESISTOR	1		100 OHM 3 WATT
UA 143.	19R, 20R	RESISTOR (SPEED CONTROL)	2		5 OHM 3 WATT
UA 144.	VR1	POTENTIOMETER	1		200 OHM 2 WATT
UA 145.	1C - 4C	CAPACITOR	4		.1MF 50 WVDC
UA 146.	5C	CAPACITOR	1		300MF 50 WVDC
UA 147.	6C	CAPACITOR	1		1MF 100 WVDC
UA 148.	7C, 8C	CAPACITOR	2		100MF 25 WVDC

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AUTO. DETWISTER

DIMENSIONS FOR TX-UA

Sanki

SANKI INDUSTRY CO., LTD.

Head Office:

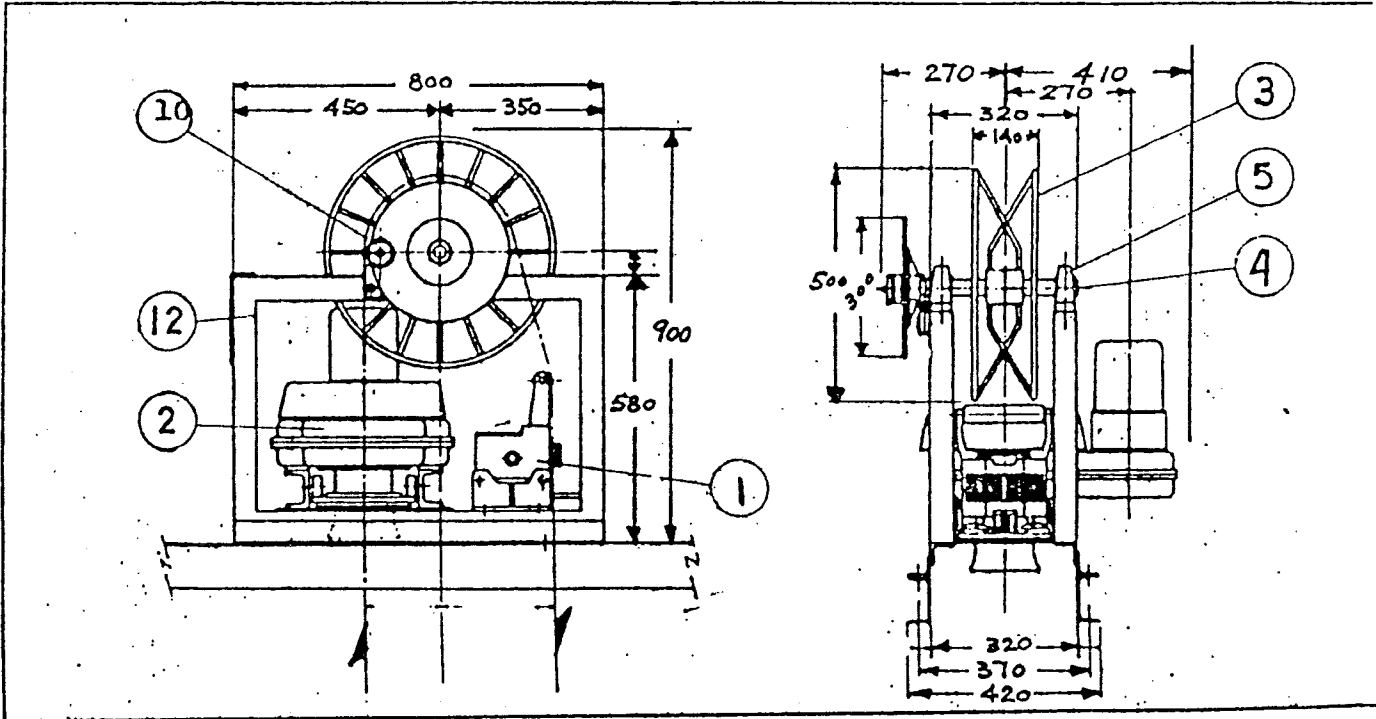
No. 37-1, Sako Sotoyoshi, Kumiyama-cho, Kuse-gun, Kyoto, Japan

TEL: 0774-43-5721

AUTO. DETWISTER

TYPE

TX-UA



DIMENSIONS IN MILLIMETERS

AUTO. DETWISTER

DIMENSIONS FOR TX-HUA

Sanki

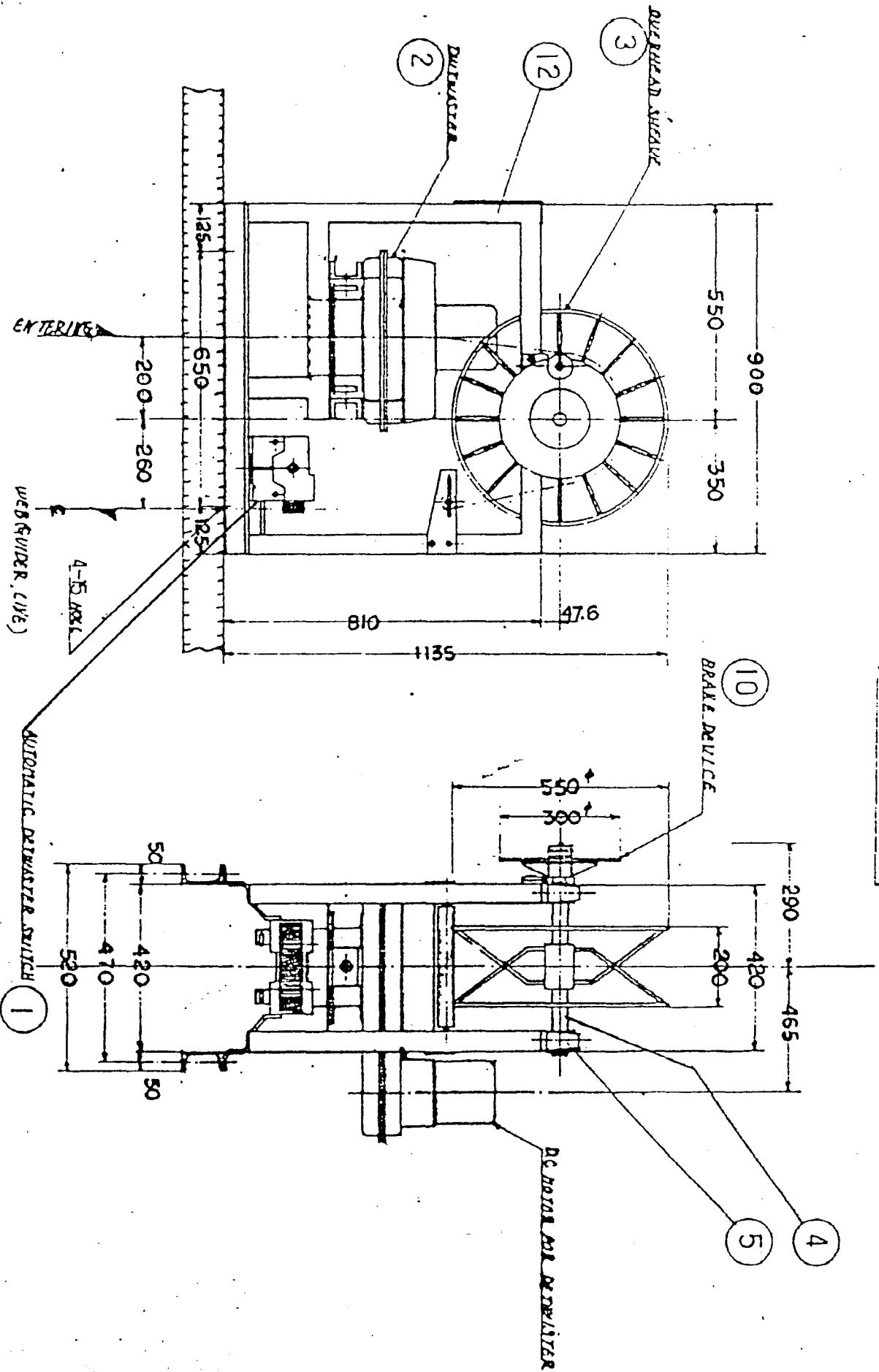
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No. 37-1, Sako Sotoyoshiki, Kumiyama-cho, Kuse-gun, Kyoto, Japan
TEL: 0774-43-5721

AUTO. DETWISTER

TYPE

TX-HUA



DIMENSIONS IN MILLIMETERS