



**AUTOMATIC POLYPROPYLENE
STRAPPING MACHINE**

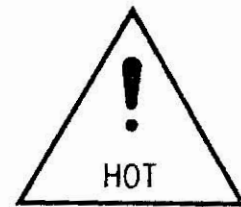
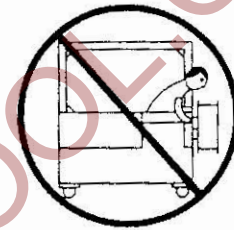
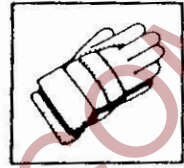
TP-130

OPERATION & MAINTENANCE MANUAL

SAFETY INSTRUCTIONS

Read these safety instructions before operating or servicing your strapping machine.

- (1) Read the operating instructions and all of the signs on the machine carefully.
- (2) Wear eye or face, and hand protection. Do not wear loose clothing.
- (3) Keep hands or other parts of the body out of the strap chute area during operation.
- (4) The temperature of the heater plate is high up to 320 °C . Do not touch!
- (5) Do not replace any safety parts of different specifications.
- (6) Shut off all electric power after machine operation or during machine servicing.
- (7) Do not use water or steam to clean the machine.
- (8) Keep this operation manual near your strapping machine. Refer to it often.
- (9) Heat joint is used in the machine, it is only applicable to PP straps, PE straps, not to sheet metal, paper, ropes.



Do not touch heater plate.

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Maintenance

Strap

This machine is designed for different strap width such as; 9mm, 12mm and 15mm.

To Change the strap width, the following parts have to be replaced:

Figure 8 key 14 RH. bandway Ass'y

Figure 7 key 2 Feed upper roller

Figure 7 key 10 Feed shooter

Figure 10 key 6 Pool feed shooter

and Figure 12 key 14 Pool box clear plate must be adjusted.

After Operation

Depress the Feed Reverse Switch to take back the strap from the Pool Box.

Wind the strap back to the Reel by hand.

Leaving the strap in the Pool Box, might cause feeding problems on your next operation.

Cleaning

In order to assure the longest possible life and a trouble free condition of your machine, cleaning is the most important thing.

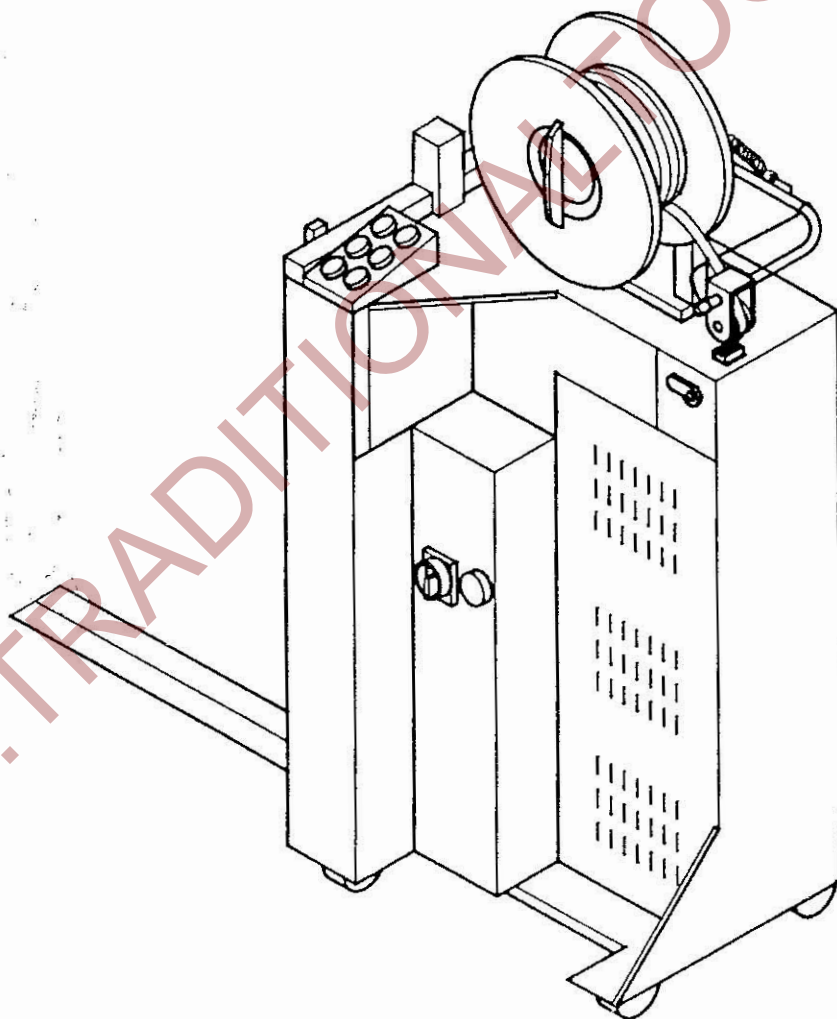
Lubrication

This machine is designed lubricant-free.

Please be sure not to add oil to Feed Rollers and the Pre-Feed Rollers because the surfaces of these Rollers must be dry.

INTRODUCTION

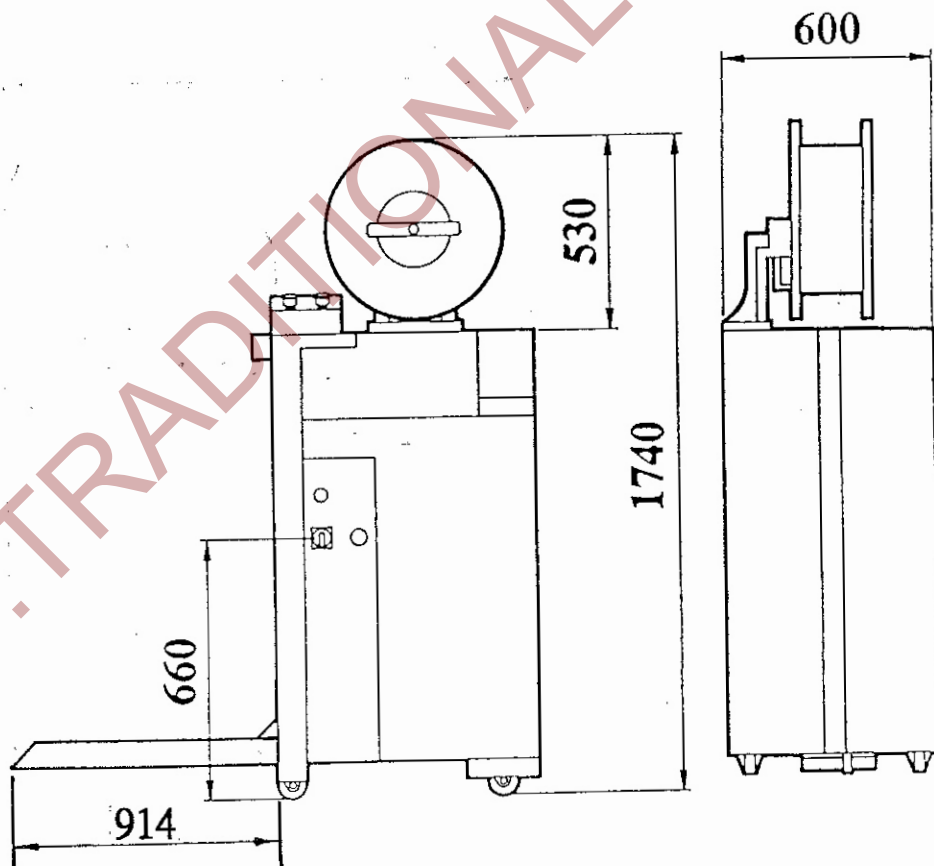
1. This manual contains safety, operating, and maintenance instruction for the machine. This model is designed to strap packages with plastic strap 1/4" to 5/8" (6mm to 15mm) wide. the strap ends are joined by means of the hot-knife welding process.



2. Multiple Activating Methods

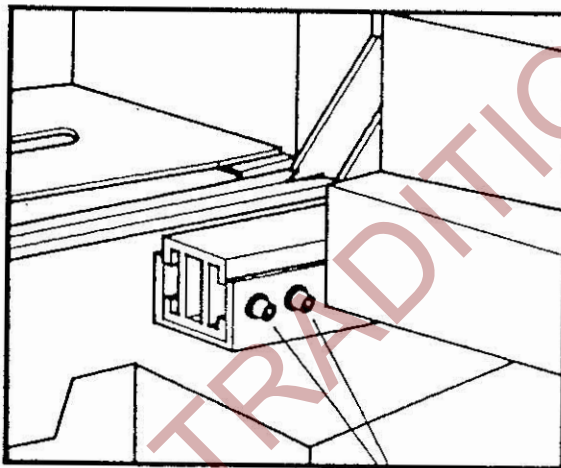
- A. Manual operation
- B. Roller Activator
- C. Foot Peddle
- D. Photocell Option

3. The machine does not require lubrication of any kind. No lubricant should ever be placed on the rollers, clutch and brake systems.

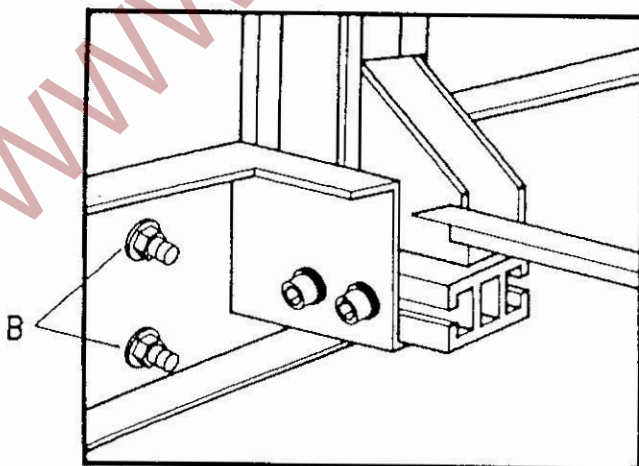


TRACK INSTALLATION

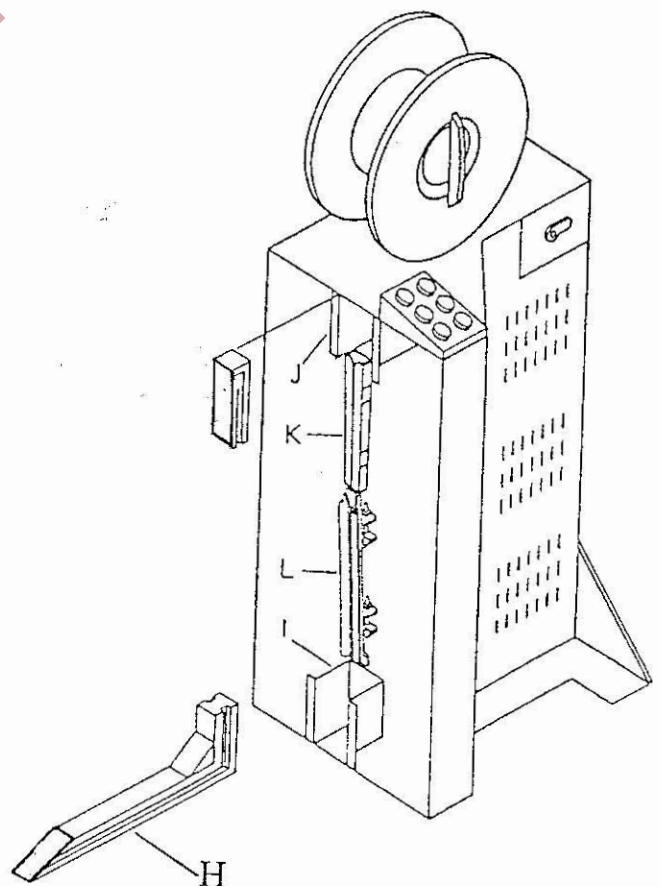
1. Please loosen the 8 bolts of the track mount on the machine table at position (I) and (J) as shown on the diagram below.
2. Place the track assembly (H) into the mounts (I) and (J).
3. Next put the 8 bolts back into the mounts in their proper position in (I) and (J). Do not tighten fully.
4. Part (H) (track) strap exit should be adjusted between 0.5mm and 1mm higher than strap guide (K). The other end of the track should be adjusted between 0.5mm and 1mm below strap guide (L).
5. Once the above adjustments have been successfully made tightening of all of the bolts in the mounts and casing should be done.



C



B



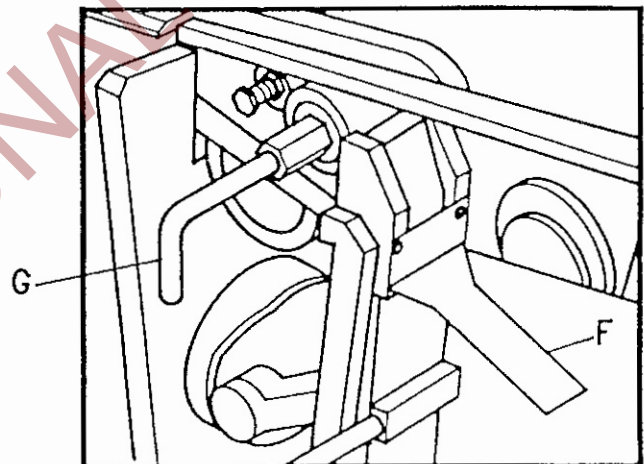
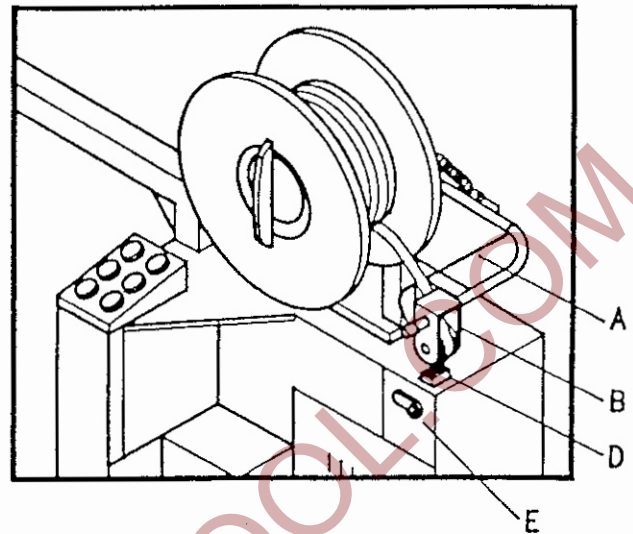
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OPERATING INSTRUCTIONS

These instructions offer the necessary details on P.P. STRAP INSTALLATION, OPERATOR'S CONTROLS and APPLYING STRAPPING CYCLE to Packages.

P.P. STRAP INSTALLATION

1. Be sure all electrical power to the strapping machine is turned "OFF".
2. Place the strap coil on the Dispenser Drum in accordance to the direction arrow on the Outer Reel. Be sure that the Outer Reel is securely fastened.
3. Thread tip of strap through guide "A" and "B" then through "Free Angle Roller C". Note that the direction of strap travel turns 90° between guide "B" to "Free Angle Roller C".
4. Thread the turned strap through guide "D". Please note: Lever "E" must be pushed down to allow the strap to pass through the "Feed shooter".
5. Pull sufficient strap to thread through the strap guide "F". Note: Be sure to press the strap into the slot between the Pool Box and Bottom Front Panel of the machine.
6. Thread strap through guide "F" to "Tension Arm". Briefly hold down strap setting lever "G" so that strap fits between the Upper Feed Roller and Feed Roller.
7. Replace all cover removed to facilitate strap threading and after power has been restored push "Feed" button.



OPERATOR'S CONTROLS

MAIN POWER SWITCH (Ref. Drawing below)

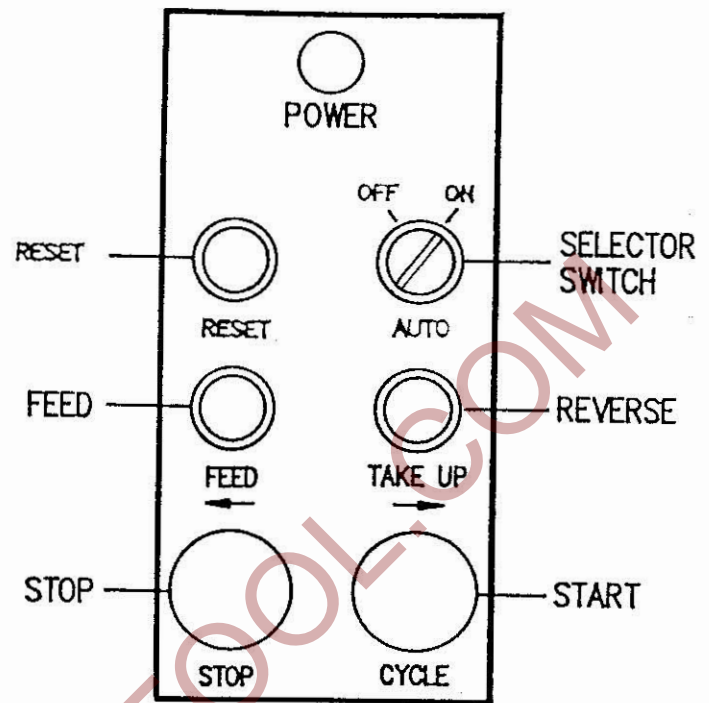
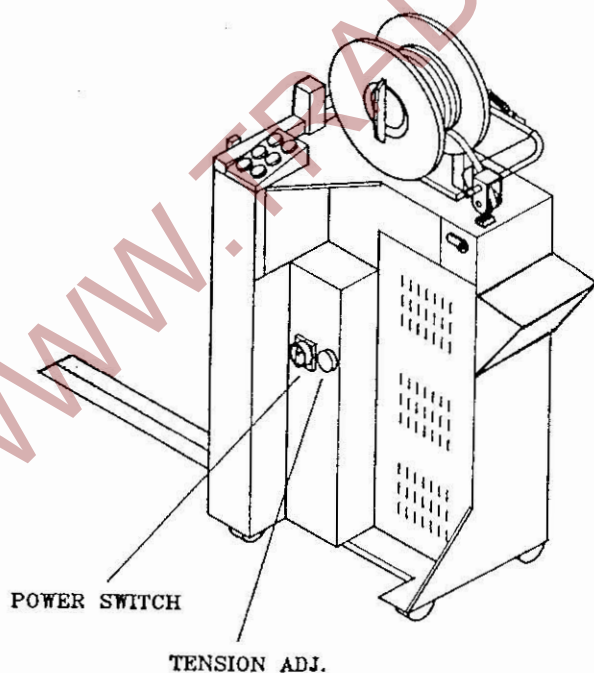
"On" applies power to the electrical circuit and the electric motor is energized. "OFF" disconnects all power.

POWER PILOT LAMP

When the power switch is turned "ON," the pilot lamp lights up, showing that electric power is being supplied.

AUTO/MANUAL SELECTOR SWITCH

When the selector switch is in the "ON" position, the machine will automatically strap packages which are placed on the deck and pass through the chute. (As individual packages are placed under the chute, strapping operation will continuously serve.) When the selector switch is in the "OFF" position, after putting the package in the proper position under the chute, push the "START" switch. A single strap application will then occur.



RESET BUTTON

In the event a non-completed arch feed occurs, push this button, the machine will make a self correction around the arch.

FEED SWITCH

When pushed, the strap will feed around the chute.

REVERSE SWITCH

When pushed, the strap reverses and returns to the Pool Box from the chute.

STOP SWITCH

Push the stop switch in case of emergency. The strapping operation stops completely simply by pushing the Stop Switch. When an operator interrupts the strapping work temporarily, Stop Switch will lock. In this case, the machine stops, but the heater element maintains the temperature. The operator can work the machine again immediately without waiting for a warm up of the heater element by releasing the locked Stop Switch.

START SWITCH

When the selector switch is placed in the "MANUAL" position, the strapping cycle is completed only by pushing the Start Switch.

STRAPPING CYCLE

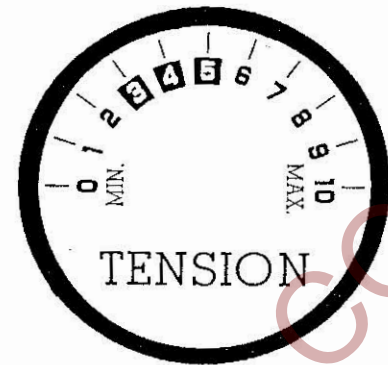
The machine is ready to apply strap around the chute. To operate the machine proceed as follows:

1. Turn the MAIN POWER SWITCH to the "ON" position. The PILOT LAMP lights up and the strap is automatically fed into the Pool Box.
2. Push the FEED SWITCH. The P.P. strap will run into the chute until the strap reaches the stopper.
3. Wait for about 30 sec for the heater element to reach the required operating temperature.
4. Turn the "STRAP" to whatever position you want and turn "SELECTOR SWITCH" to whatever position you want, the machine will be in strapping system.
5. Note the condition of the weld and the tension of the tie on the package. If the condition of the weld or the level of the tension is unsatisfactory, adjust the hot knife temperature or the tension level as needed. See service adjustments in this section.

SERVICE ADJUSTMENTS AND CLEARANCES

ADJUSTING TENSION

If a tension adjustment is required, the tension dial is used to adjust the tension strength. The range of strapping tension is 0-10, so you can choose the adequate strapping tension for a package. Normally, the dial positions 3-5 are suitable for a carton box.



ADJUSTING HOT-KNIFE TEMPERATURE

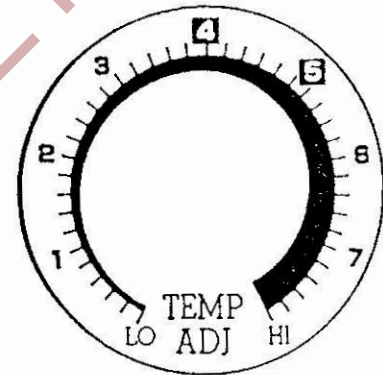
If the condition of the weld appears to be minimal, it may be that the temperature is improperly set. Make all corrections, in small increments, according to the following conditions:

RAISING HOT-KNIFE TEMPERATURE

If the weld appears to have insufficient heating, turn the hot knife rheostat, in a clockwise direction.

LOWERING HOT-KNIFE TEMPERATURE

If the condition of the weld appears to have been over heated, turn the rheostat counter-clockwise.

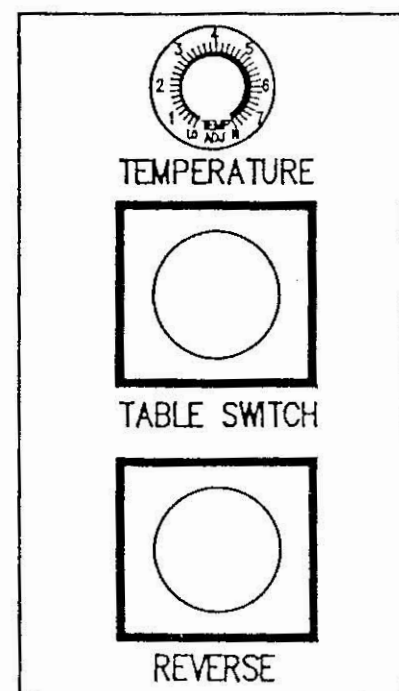


TIMER FOR TABLE SWITCH

When the table switch is placed in the "ON" position, and package pushes the table switch continuously, the time between two cycles can be adjusted by this Timer.

TIMER FOR REVERSE

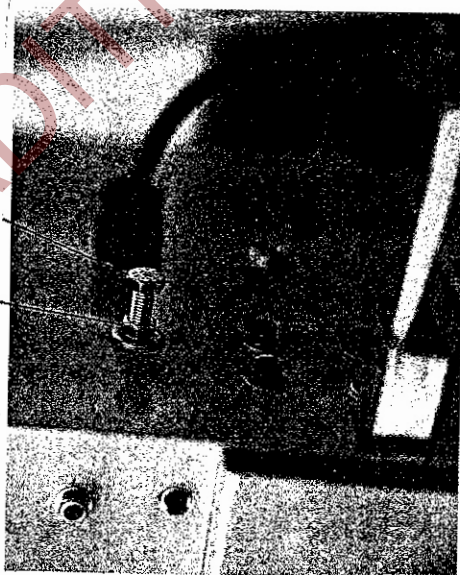
Adjust the reversing time.



AMOUNT OF STRAP IN POOL BOX

The Machine has already been set to store the correct amount of strap in the Pool Box. But some adjustment may be required depending on the quality and thickness of strap. In such case, adjust it as follows: (See illustration below.)

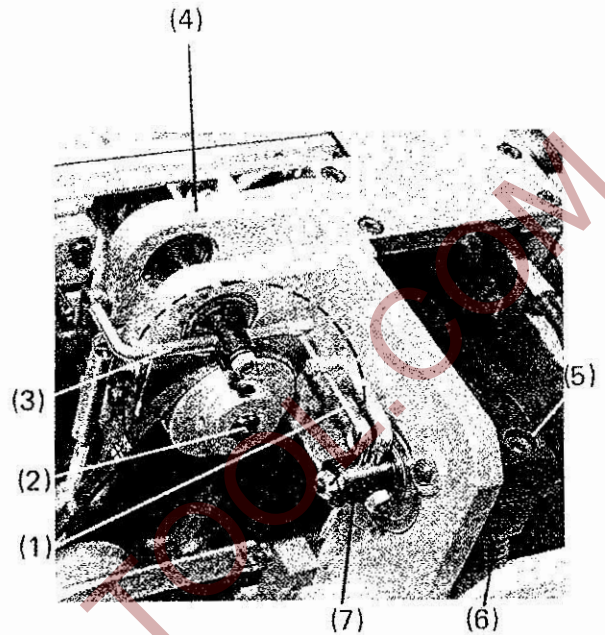
1. If the amount of strap contained in the Pool Box is insufficient, loosen nut "M" and turn Pool Adjuster Bolt "N" counterclockwise.
2. If the amount of strap in the Pool Box is excessive, loosen nut "M" and turn the Pool Adjuster Bolt "N" clockwise.
3. Tighten nut "M" to lock the Pool Adjuster Bolt in position.



FEED AND REVERSE MECHANISM

When this unit is not correctly adjusted, the feeding and reversing of strap becomes irregular

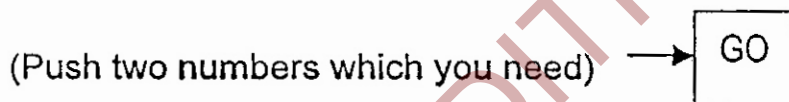
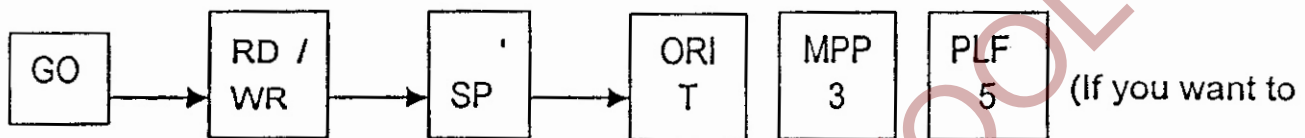
Normally, this unit is set to take P.P. strap with the thickness of 0.55mm-0.65mm. When the thickness of strap varies, adjust the part marked by the circle in the drawing, so that the clearance should be 1 mm between the Upper Roller Spring (1) and the Upper Shaft Spring Hook (3). When this unit is not precisely adjusted, the strap can-not be reversed properly. (The strap seals before tightening around the package.) Also, the strap comes out of the arch track when it feeds if there is no clearance between them.



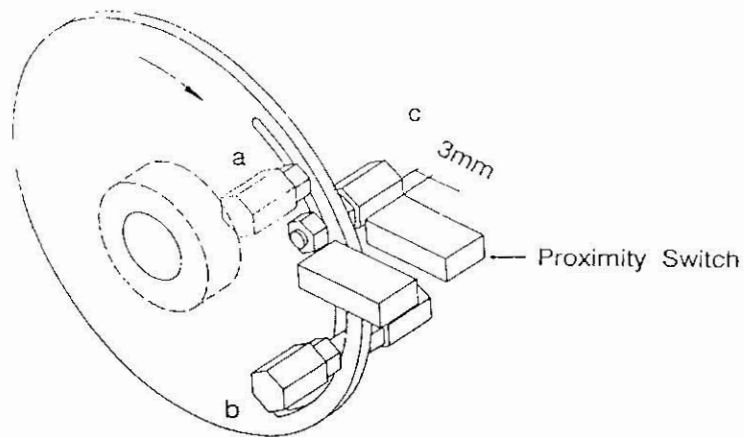
1. Check if the control unit returns to its original position. Insert the strap between Feed Roller (2) and Feed Upper Roller(4).
2. Loosen 2 bolts (5) holding the Right-Hand Block Arm (6) with the Press Arm Shaft (7)
The Press Arm Shaft then moves easily by hand.
3. Adjust to have a clearance of 0.6-0.7mm between the Upper Roller Spring (1) and the Upper Shaft Spring Hook(3).
4. Tighten 2 bolts (5).

Time adjustment from MITSUBISHI PLC

1. The code for feeding strap is T35.
2. The code for taking back strap is T34.
3. Connect PLC and Key Board by cables, and set "RUN" switch on PLC at "STOP" position.
4. Push the following keys:

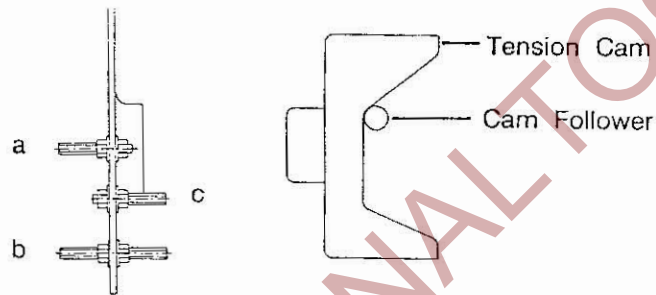


5. Set "RUN" switch up, back at "RUN" position.



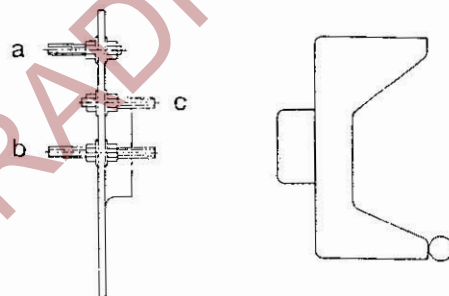
1. When the "Proximity Switches" are activated by sensing bar "a" the Gear Box motion is suppressed and reverse feed of strap begins. At this stage, the "Upper Cutter" stays at it's top position and holds the strap in place. The "Tension Arm" does not separate from the Feed Shooter. (Fig. A)

Fig. A



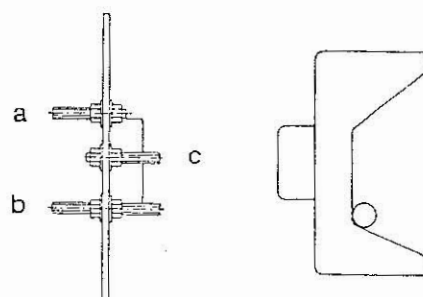
2. When the "Proximity Switches" are activated by sensing bar "b" strap feed begins. The "Tension Arm" stays in position during tension. At this time the "Tension Arm" stays on top of the "Tension Cam". (Fig. B)

Fig. B



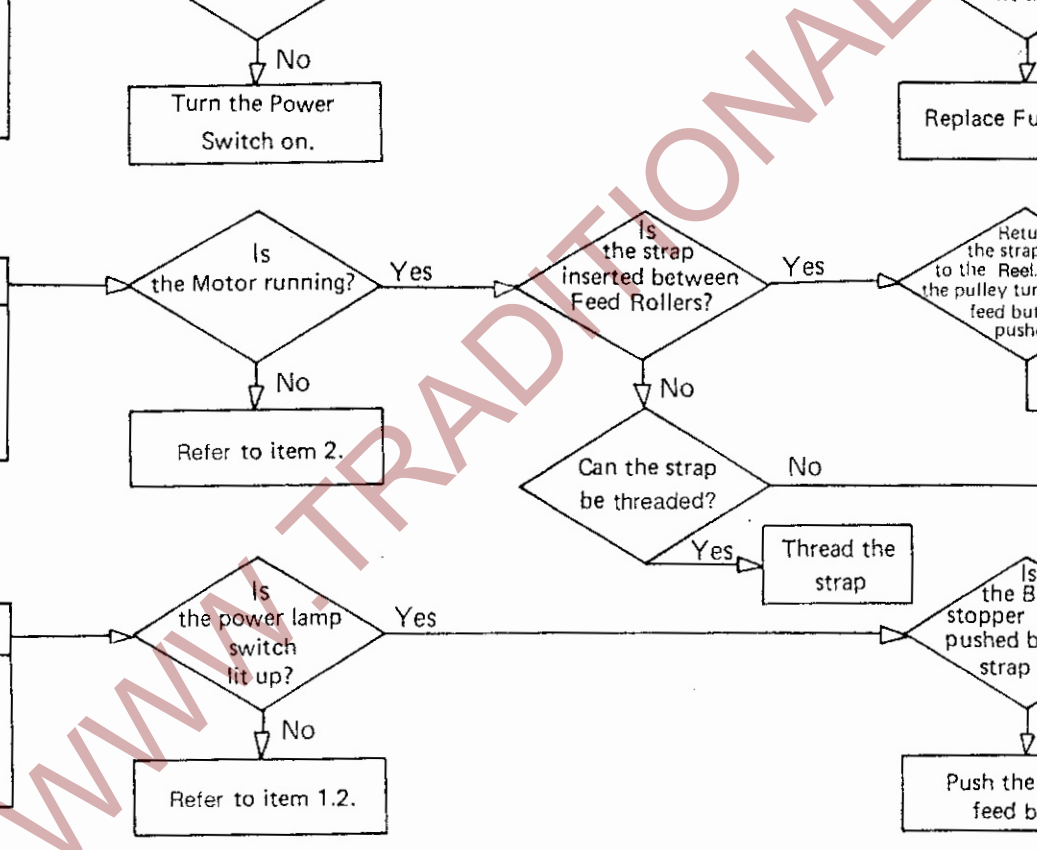
3. When the "Proximity Switches" are activated by sensing bar "c" the Seal and Control unit return to their initial position and the "Upper Cutter" goes to it is lowest position (Fig. C)

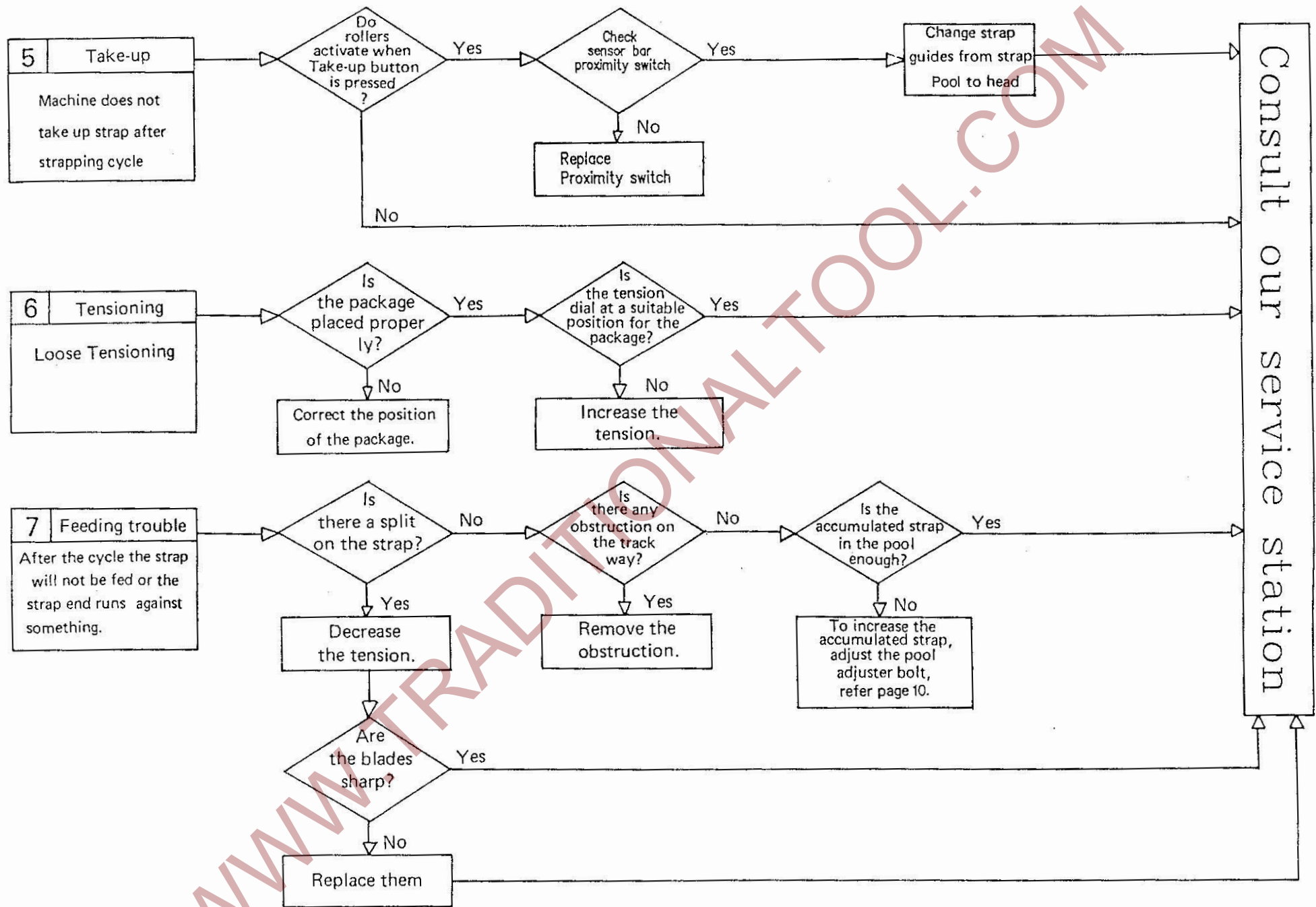
Fig. C

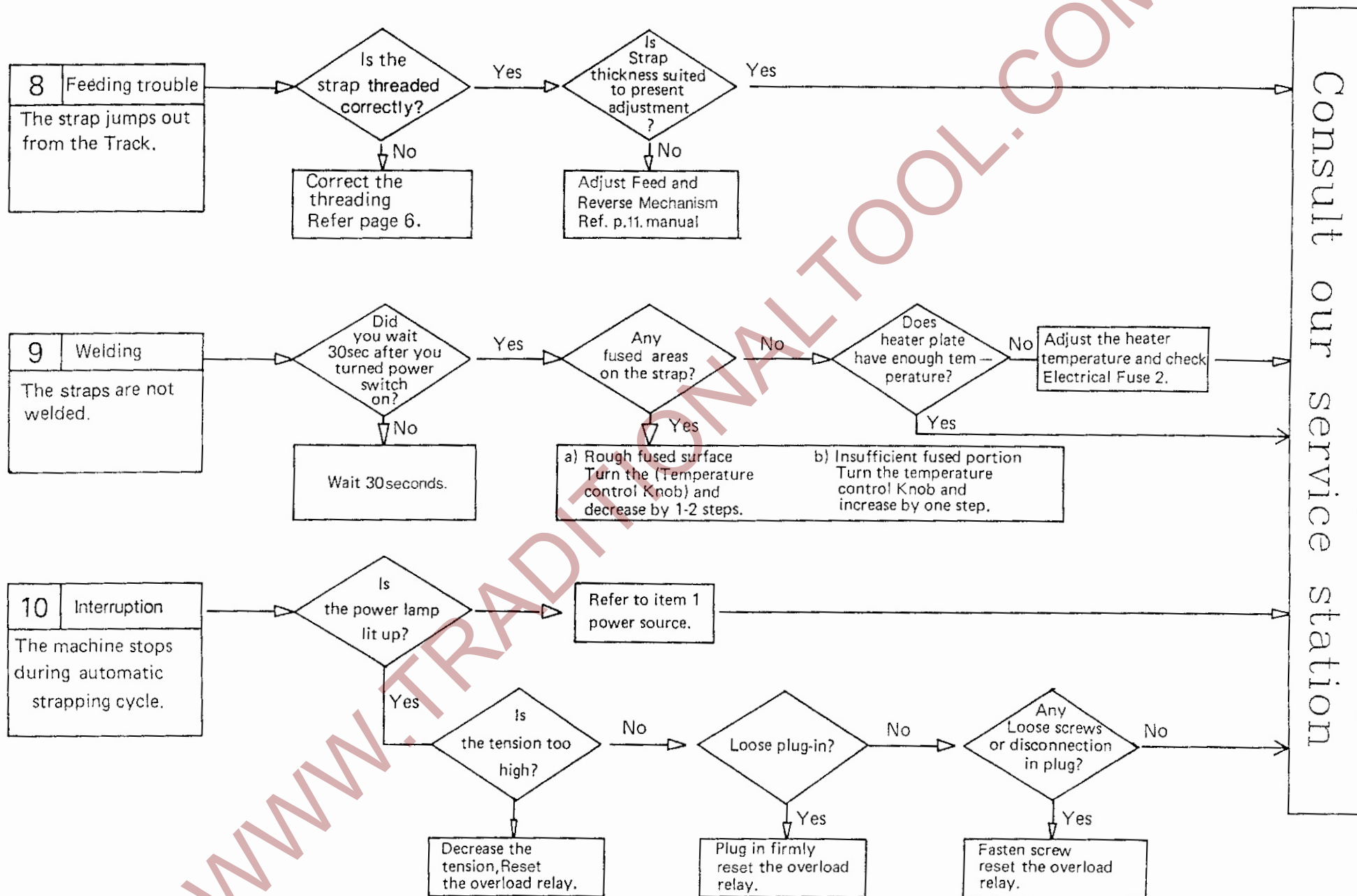


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graph LR
    A{Is there any disconnection or loose screw?} -- No --> B[Replace Fuse1(15A)]
    A -- Yes --> C[Fasten the Screw.  
Replace the cord.]
  
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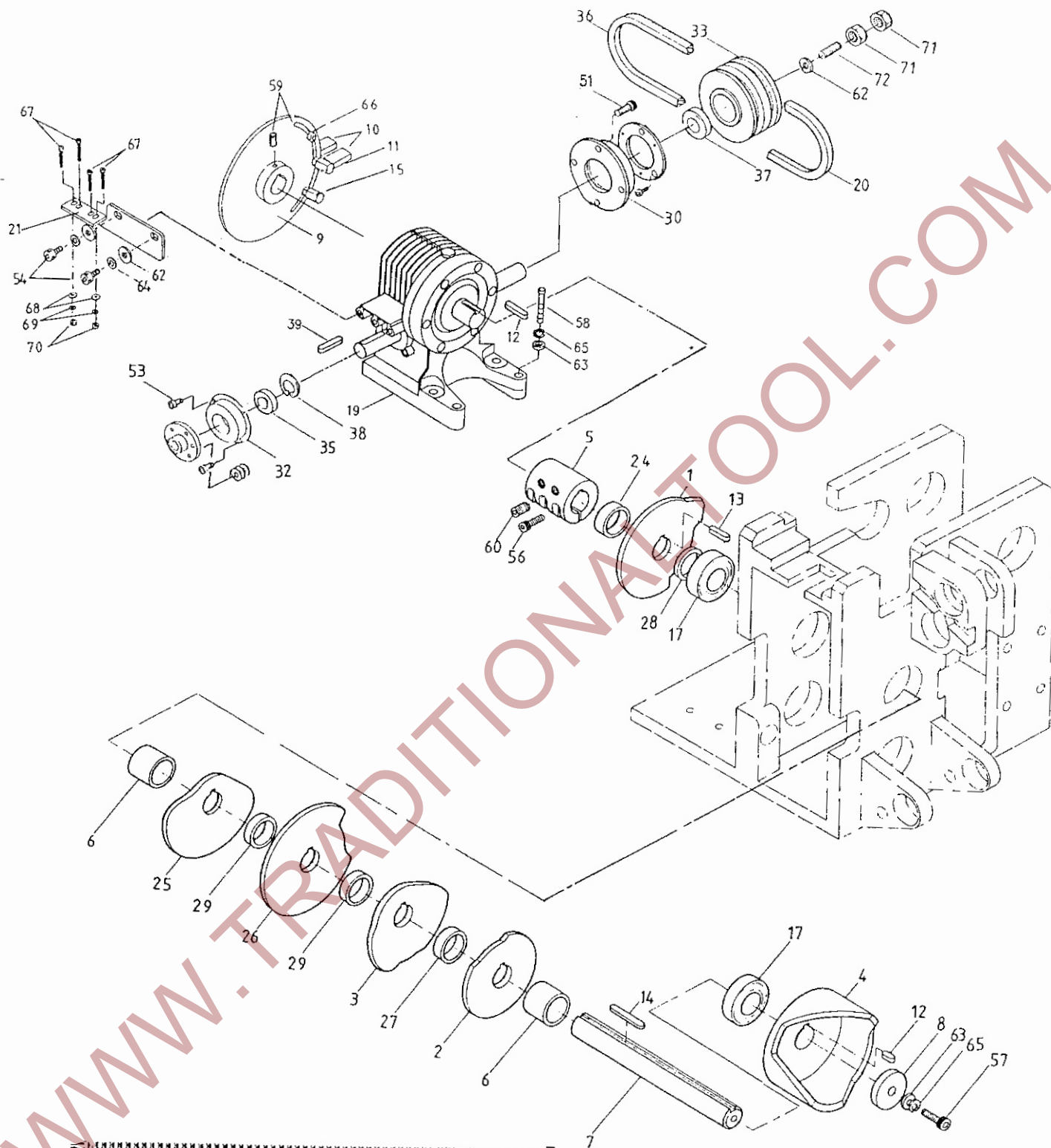






PARTS LIST, FLGURE 1

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576200	Slide table cam
2	1	576201	RH press cam
3	1	576202	Center press cam
4	1	576203	Tension cam
5	1	576204	Cam shaft coupling
6	2	576205	Cam collar 29 x 34 x 28
7	1	576206	Cam shaft
8	1	576207	Cam shaft end plate
9	1	576208	Limit switch contactor
10	2	576755	Proximity switch
11	3	576865	Sense bar
12	2	575979	Key, 7 x 7 x 20
13	1	575980	Key, 7 x 7 x 48
14	1	575981	Key, 7 x 7 x 110
15	1	576865A	Sense nut
17	2	575909	Ball bearing, 6205ZZ
19	1	576212	Gear box
20	1	575995	Belt, A-25
21	1	576213	Limit switch bracket
24	1	576214	Collar, 29 x 34 x 10
25	1	576215	LH press cam
26	1	576216	Heater Cam
27	1	576217	Collar, 29 x 34 x 19
28	1	576218	Collar, 29 x 34 x 5
29	2	576219	Collar, 29 x 34 x 7
30	1	576226	Clutch
32	1	576223	Magnetic brake
33	1	576224	Gear box pulley
35	1	575908	Ball bearing, 6202ZZ
36	1	575989	Belt, A-38
37	1	575905	Ball bearing, 6002ZZ
38	1	575946	Ring, R-35
39	1	575984	Key, 5 x 5 x 12
51	4	575707	Socket head cap screw, M5 x 12
53	4	575742	Socket head cap screw, M4 x 12
54	2	575720	Socket head cap screw, M6 x 16
56	3	575721	Socket head cap screw, M6 x 20
57	1	575733	Socket head cap screw, M8 x 20
58	4	575730	Socket head cap screw, M8 x 40
59	2	575785	Socket head set screw, M6 x 10
60	2	575790	Socket head set screw, M8 x 10
62	4	575871	Plain washer, M6
63	5	575873	Plain washer, M8
64	5	575883	Lock washer, M6
65	4	575884	Lock washer, M8
66	6	575851	Hex nut, M4
67	4	575803	Phillips head machine screw, M3 x 20
68	4	575865	Plain washer, M3
69	4	575880	Lock washer, M3
70	4	575850	Hex nut, M3
71	2	575853	Hex nut, M6
72	1	575787	Socket head set screw, M6 x 30

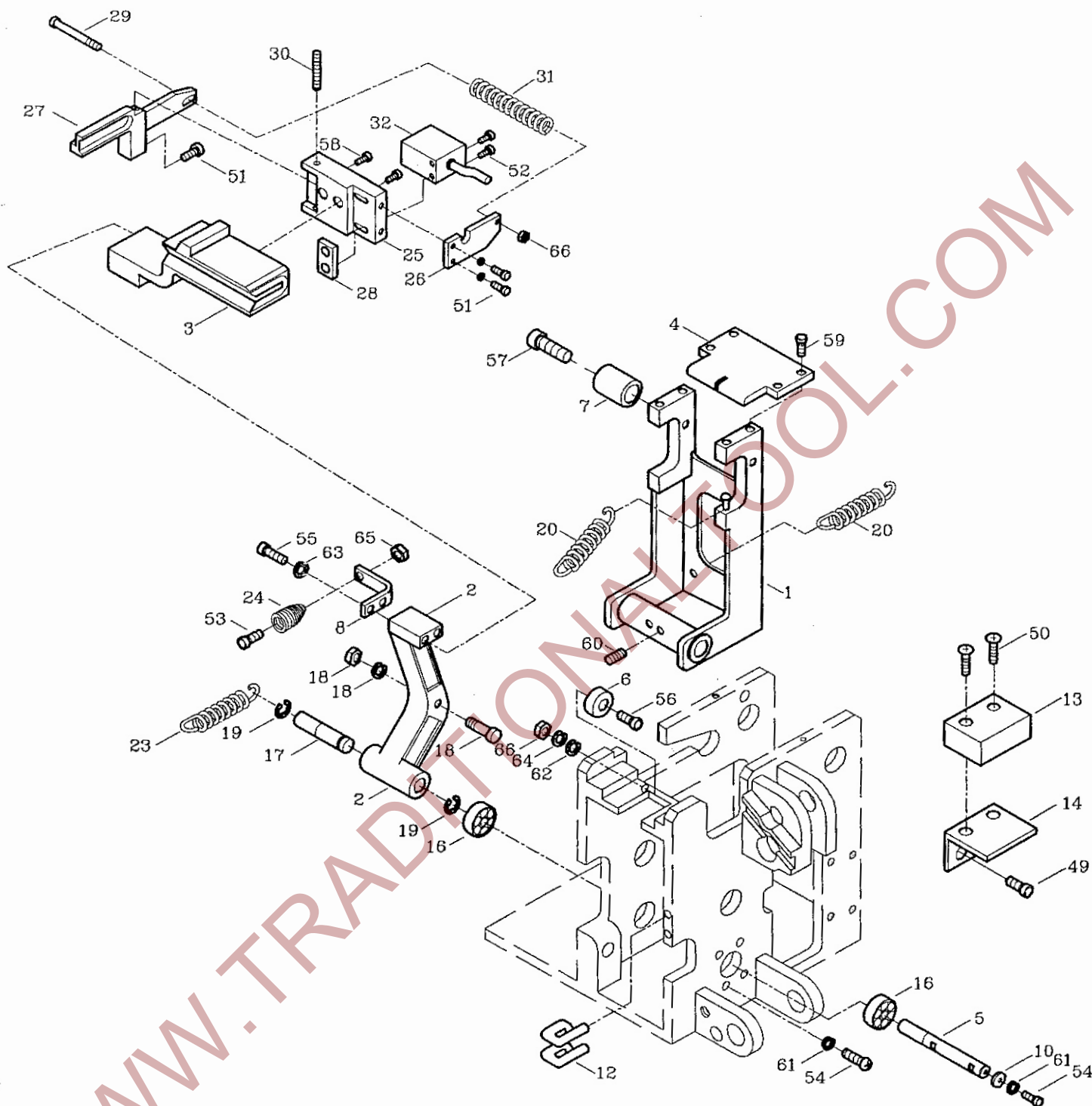


! WARNING
 All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.

FIGURE 1 CAM UNIT

PARTS LIST, FIGURE 2

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576230	Slide table frame
2	1	576235	Band guide arm
3	1	576236W	Band guide, 12mm, 15mm
		576236BW	Band guide, 9mm
4	1	576237AW	Slide table, 9mm
		576237BW	Slide table, 12mm
		576237CW	Slide table, 15mm
5	1	576238	Slide table frame shaft
6	1	576239	Slide table stopper
7	1	576240	Slide table back adjuster
8	1	576241	Flap connecting spring bracket
10	1	576243	End plate
12	1	576244	Slide table spring hook
13	1	3-PRSW-5010	Proximity switch (PH4)
14	1	6-PPFX-2560	Bracket
16	2	2-BRZZ-6304	Ball bearing, 6304ZZ
17	2	576644	Metal bush, MB2025
18	1	576247	Cam follower, KR22 x L
19	2	2-RNXE-0015	Ring, E-15
20	2	6-SPRX-201680	Slide table tension spring, ϕ 2.0 x 16 x 80
23	1	6-SPRX-121148	Band guide arm spring, ϕ 1.2 x 11.5 x 48.5
24	1	6-SPRX-141332	Stop spring, ϕ 1.4 x 13 x 32.5
25	1	576254	Proximity switch bracket
26	1	576252	Spring base
27	1	576253	Striker
28	1	576251	Plate
29	1	1-PMSX-0450	Screw, M4 x 50
30	1	576255	Pin
31	1	576250	Spring
32	1	576866	Proximity switch (PH3)
49	2	1-SCSX-0410	Socket head cap screw, M4 x 10
50	2	1-PMSX-0320	Phillips head machine screw, M3 x 20
51	3	1-PMSX-0308	Phillips head machine screw, M3 x 8
52	2	1-PMSX-0330	Phillips head machine screw, M3 x 30
53	1	1-SCSX-0615	Socket head cap screw, M6 x 15
54	3	1-SCSX-0616	Socket head cap screw, M6 x 16
55	2	1-SCSX-0650	Socket head cap screw, M6 x 50
56	1	1-SCSX-0830	Socket head cap screw, M8 x 30
57	1	1-SCSX-1050	Socket head cap screw, M10 x 50
58	2	1-SCSX-0408	Socket head cap screw, M4 x 8
59	4	1-SCSS-0616	Socket head cap screw, M6 x 16(Stainless steel)
60	2	1-SETX-0810	Socket head set screw, M8 x 10
61	4	1-SPWX-0006	Lock washer, M6
62	2	1-SPWX-0010	Lock washer, M10
64	1	1-SPWX-0008	Lock washer, M8
66	1	1-HNXX-0004	Hex nut, M4
67	1	1-PLWX-1020-2	Plain washer, M10 x 20 (2mm)
70	1	1-HNXX-0006	Hex nut, M6
71	1	1-HNXX-0008	Hex nut, M8
72	1	1-HNXX-10012	Hex nut, M10 (1.25P)



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.

FIGURE 2 CAM UNIT

PARTS LIST, FIGURE 3

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576260	LH, block arm
2	1	576261	RH, block arm
3	1	576262	Center block arm
4	1	576263	Cutter upper
5	1	576264	Cutter upper pin
6	1	576265	Jaw left
7	1	576266	Press arm shaft
8	1	576267	Universal press
9	1	576268	Cutter lower
10	1	576269	Cutter tension spring hook
11	1	6-SPRX-301606	Upper roller spring, $\phi 3.0 \times 16$
12	1	576271	Upper shaft spring adjuster
13	1	576272	Cutter spring hook
14	3	6-SPRX-2318118	Press tension spring, $\phi 2.3 \times 18.8 \times 118.8$
15	1	6-SPRX-181438	Cutter tension spring, $\phi 1.8 \times 14.5 \times 38$
17	2	6-SPRX-351363	LH & center block spring, $\phi 3.5 \times 13.5 \times 63.5$
18	1	6-SPRX-351345	RH, block spring, $\phi 3.5 \times 13.5 \times 45$
19	1	576243	End plate
20	2	2-BRZZ-6304	Ball bearing, 6304ZZ
21	2	2-MBXX-2020	Metal bush, MB2020
22	1	2-MBXX-2025	Metal bush, MB2025
23	3	2-BRZZ-6280	Ball bearing, 628ZZ
24	1	2-RNXE-0015	Ring, E-15
25	2	2-SPNX-0820	Spring pin, 8dia. x 20
26	1	2-SPNX-0622	Spring pin, 6dia. x 22
27	1	2-SPNX-0624	Spring pin, 6dia. x 24
28	1	2-SPNX-0824	Spring pin, 8dia. x 24
51	1	1-SCSX-0620	Socket head cap screw, M6 x 20
52	2	1-SCSX-0835	Socket head cap screw, M8 x 35
53	2	1-SETX-0615	Socket head set screw, M6 x 15
54	1	1-TMSN-0610	Truss head machine screw, M6 x 10
55	2	1-FMSX-0510	Flat head machine screw, M5 x 10
56	2	1-SCSX-0616	Socket head cap screw, M6 x 16
57	1	1-PLWX-0818-2	Plain washer, M8 x 18 (2mm)
58	4	1-SPWX-0006	Lock washer, M6
60	1	1-HNXX-0008	Hex nut, M8
61	1	1-HNXX-0010	Hex nut, M10
62	1	1-TLWE-0010	Toothed lock washer external, M10
63	1	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
64	2	1-PLWX-0621-2	Plain washer, M6 x 21 (2mm)



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.

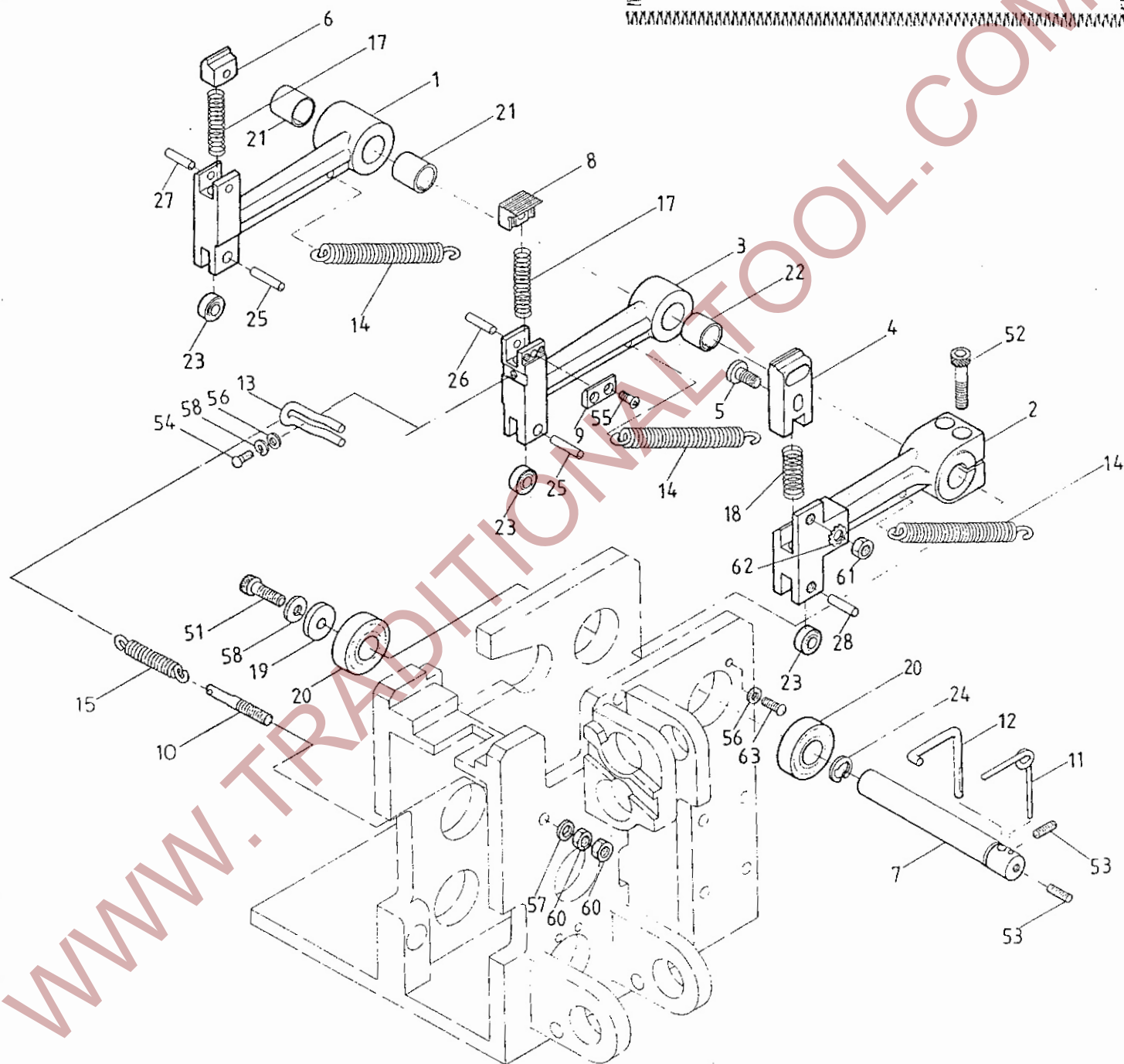
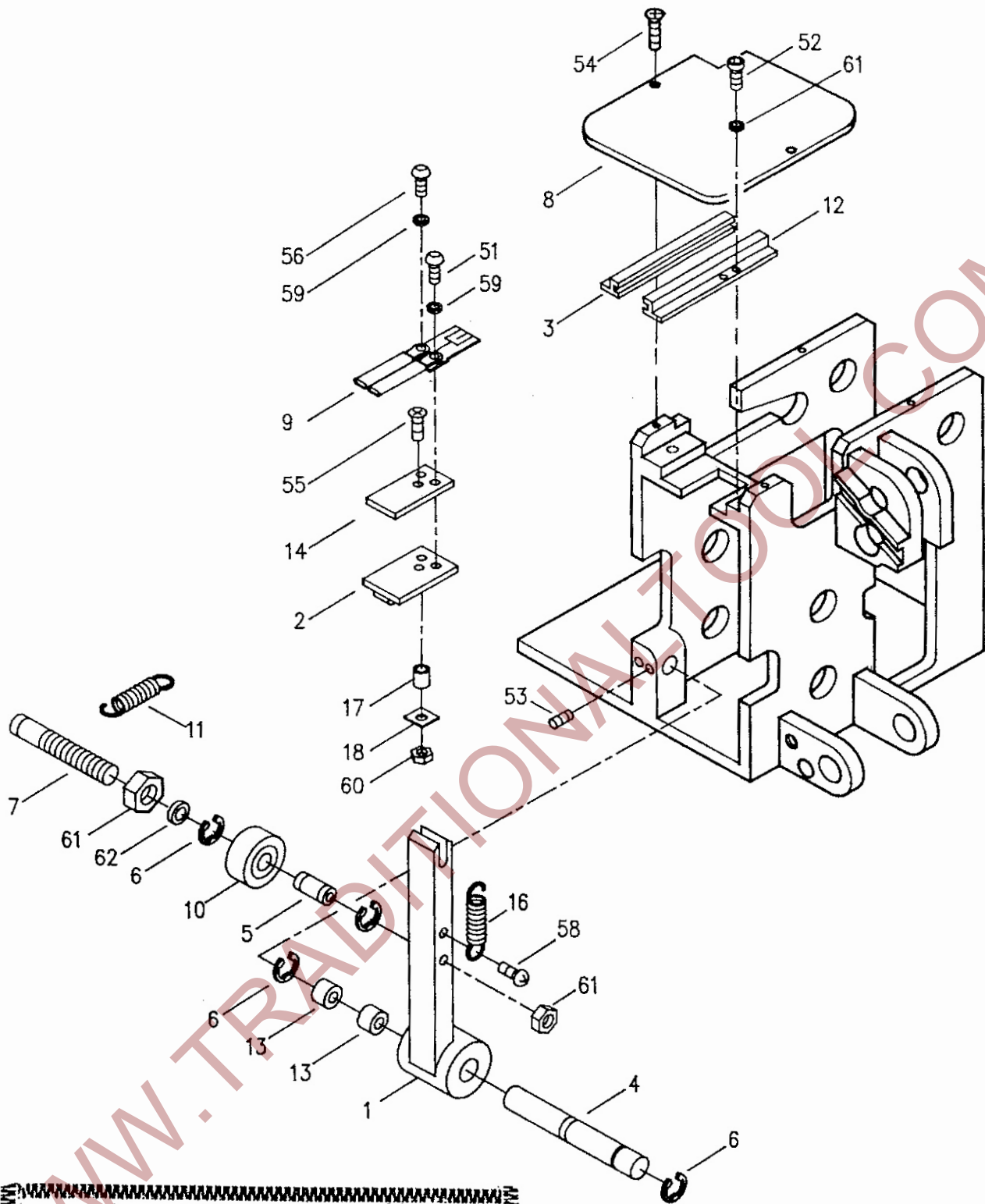


FIGURE 3 PRESS UNIT

PARTS LIST, FIGURE 4

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576290	Heater crank
2	1	576301	Heater base
3	1	576294	Heater slider guide LH.
4	1	576295	Heater crank shaft
5	1	576296	Heater crank roller collar, ϕ 8 x 20 x 25.2
6	4	2-RNXE-0015	Stop ring, E-15
7	1	576297	Heater bearing shaft
8	1	576298	Heater cover
9	1	576300A	Instant heating heater plate & Cable assembly
9A		6U-HTXX-3001	Instant heating heater plate assembly (KEY 2, 9, 14, 17, 18, 51, 55, 56, 60)
10	1	2-BRZZ-6304	Ball bearing, 6304ZZ
11	1	6-SPRX-201680	Heater crank spring, ϕ 2.0 x 16 x 80
12	1	576294A	Heater slider guide RH
13	2	576643	Metal bush, MB2020
14	1	576307	Isolating plate
16	1	6-SPRH-071050	Pool tension spring, ϕ 0.7 x 10 x 50.9
17	1	576303B	Ring
18	1	576303A	Isolating plate
51	1	1-BSSX-0616	Button head socket cap screw, M6 x 16
52	4	1-SCSX-0516	Socket head cap screw, M5 x 16
53	2	1-SETX-0610	Socket head set screw, M6 x 10
54	2	1-FMSS-0510	Flat head machine screw, M5 x 10
55	1	1-FMSX-0412	Flat head machine screw, M4 x 12
56	1	1-BSSX-0620	Button head socket cap screw, M6 x 20
58	1	1-PMSX-0415	Phillips head machine screw, M4 x 15
59	2	1-SPWX-0006	Lock washer, M6
60	1	1-HNXX-0006	Hex nut, M6
61	2	1-HNXX-0008	Hex nut, M8

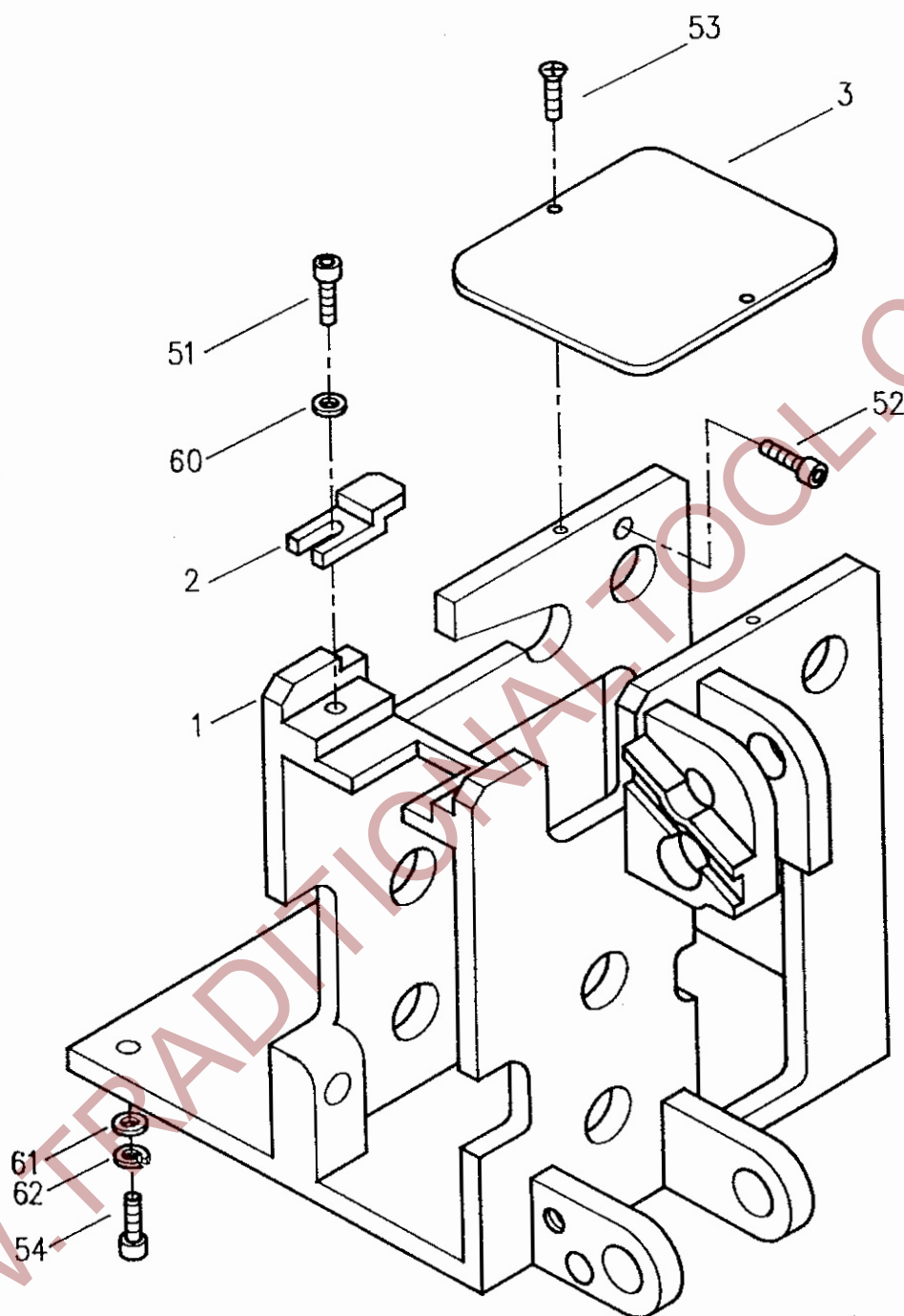


WARNING
 All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard

FIGURE 4 HEATER UNIT

PARTS LIST, FIGURE 5

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576328	Control frame
2	1	576325A	Band width block
3	1	576326	Slide table cover
51	1	1-SCSX-0516	Socket head cap screw, M5 x 16
52	1	1-SCSX-0430	Socket head cap screw, M4 x 30
53	2	1-FMSS-0510	Flat head machine screw, M5 x 10
54	4	1-SCSX-0820	Socket head cap screw, M8 x 20
60	1	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
61	4	1-PLWX-0818-2	Plain washer, M8 x 18 (2mm)
62	4	1-SPWX-0008	Lock washer, M8



WARNING

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FIGURE 5 CONTROL FRAME UNIT

PARTS LIST, FIGURE 6

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576340	Tension arm
2	1	576341	Tension adjust arm
3	1	576344	Tension arm shaft
5	1	576346	Tension jaw shaft
6	1	576347	Tension jaw
			Tension jaw (for PET strap)
7	1	2-SPNX-0630	Spring pin, 6dia. x 30
8	2	2-RNXS-0012	Ring, S-12
9	1	576350	Tension adjuster
10	1	576352	Tension adjust cam shaft
11	1	576353	Tension adjust arm spring hook
12	1	576354	Band guide
13	1	576362	Tension adjust cam
14	1	576363	Tension arm spring hook I-type
15	1	6-SPRX-121504	Tension jaw spring, ϕ 1.2 x 15.2
16	1	6-SPRX-2318104	Tension arm spring, ϕ 2.3 x 18.8 x 104
17	1	6-SPRX-231446	Tension adjust arm spring, ϕ 2.3 x 14 x 46.5
20	1	576367	Tension arm spring hook L-type
21	2	575910	Needle bearing, HK2516
22	2	576642	Metal bush, MB2015
23	1	576247	Cam follower, KR22 x L
24	2	2-RNXE-0015	Ring, E-15
25	1	2-RNXE-0006	Ring, E-6
27	1	2-SPNX-0675	Spring pin, 6dia. x 75
30	2	2-SPNX-0645	Spring pin, 6dia. X 45
33	2	575920	Needle bearing inner, IR202516
34	1	576369	Tension arm spacer
35	1	576370	Tension plain washer
36	2	576640	Metal bush, MB0808
37	1	576372	Tension cam shaft bearing
38	1	576373	Tension adjust dial
51	2	1-SCSX-0616	Socket head cap screw, M6 x 16
52	1	1-SCSX-0625	Socket head cap screw, M6 x 25
53	2	1-SETX-0616	Socket head set screw, M6 x 16
54	1	1-SETX-0810	Socket head set screw, M8 x 10
55	2	1-TMSN-0510	Truss head machine screw, M5 x 10
56	1	1-SETX-0612	Socket head set screw, M6 x 12
59	3	1-HNXX-0008	Hex nut, M8
60	2	1-SPWX-0008	Lock washer, M8
61	1	1-PLWX-0613	Plain washer, M6 x 13
62	3	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
63	2	1-SPWX-0006	Lock washer, M6
64	1	1-SPWX-0010	Lock washer, M10

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.



PARTS LIST, FIGURE 7

KEY	QTY.	PART NO.	DESCRIPTION
2	1	576381	Feed upper roller 9mm
		576381A	Feed upper roller 12mm
		576381B	Feed upper roller 15mm
3	1	576382	Feed upper roller shaft
4	1	576383	Feed roller
5	1	576384	Lever holder
6	1	576385	Feed roller pulley
7	1	576386	Feed FR pulley
8	1	576387	Feed upper roller spring adjuster
9	1	576388	SP adjuster stay
10	1	576389	Feed shooter 9mm
		576389A	Feed shooter 12mm
		576389B	Feed shooter 15mm
11	1	576390	Feed shooter cover
12	1	575901	Ball bearing,628ZZ
13	6	575908	Ball bearing,6202ZZ
14	2	575944	Ring,R- 24
15	5	575946	Ring,R- 35
16	1	575928	Ring,E- 12
17	1	575986	Belt K18 6mm,9mm
		575985	Belt K19 12mm,15mm
18	1	576402	Clutch plate
21	1	576392	Upper shaft spring hook
22	1	576393	Feed upper roller spring
23	1	576394B	Strap threading lever
25	1	576398	FR shaft
26	1	576399	FR bracket
27	1	576400	Pulley,FR assembly
28	1	576401	Magnet clutch
29	1	576225	Clutch support
30	1	576403	Magnet clutch
31	1	575989	Belt,A- 38
32	5	575905	Ball bearing,6002ZZ
33	1	575988	Belt,M- 31
35	1	576405	Pulley,FR assembly
36	1	575972	Key,5×5×20
37	1	575971	Key,5×5×16
38	1	575970	Key,5×5×15
39	1	576223A	Magnetic brake 0.6
40	1	575929	Ring,E- 15
51	6	575821	Phillips head machine screw,M4×6
52	9	1-SCS-0408	Socket head cap screw,M4×8
53	2	1-TMS-0512	Truss head machine screw,M5×12
54	1	575720	Socket head cap screw,M6×16
55	2	575725	Socket head cap screw,M6×45
56	1	575731	Socket head cap screw,M8×12
57	4	575785	Socket head set screw,M6×10
58	1	575784	Socket head set screw,M6×8
59	2	1-TMS-0610	Truss head machine screw,M6×10
60	6	575866	Plain washer,M4
61	4	575871	Plain washer,M6
62	2	575868	Plain washer,M5
63	9	575881	Lock washer,M4
64	2	575882	Lock washer,M5
65	4	575883	Lock washer,M6
66	1	575851	Hex nut,M4
67	4	575853	Hex nut,M6
68	2	575884	Lock washer,M8



WARNING

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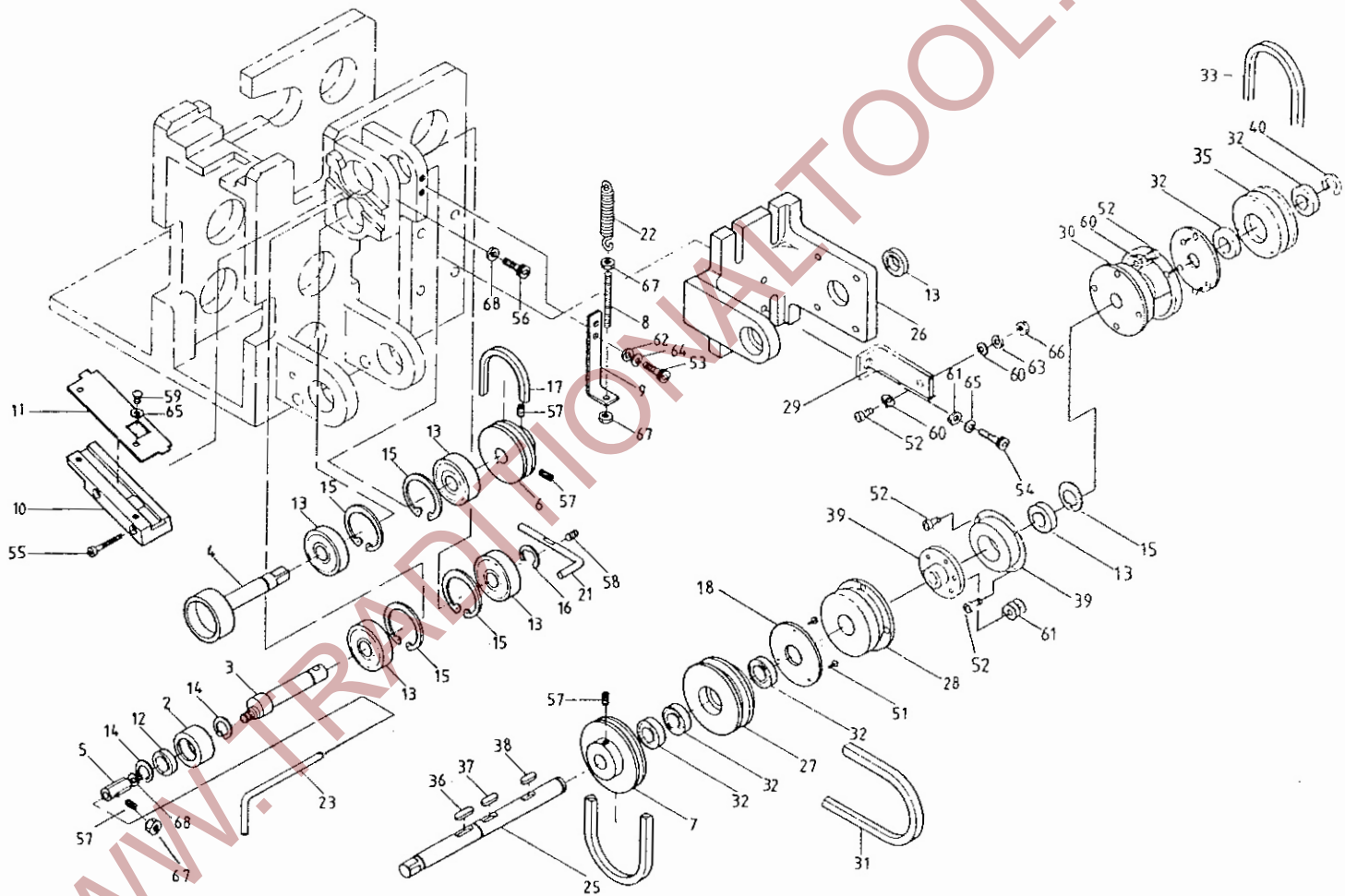
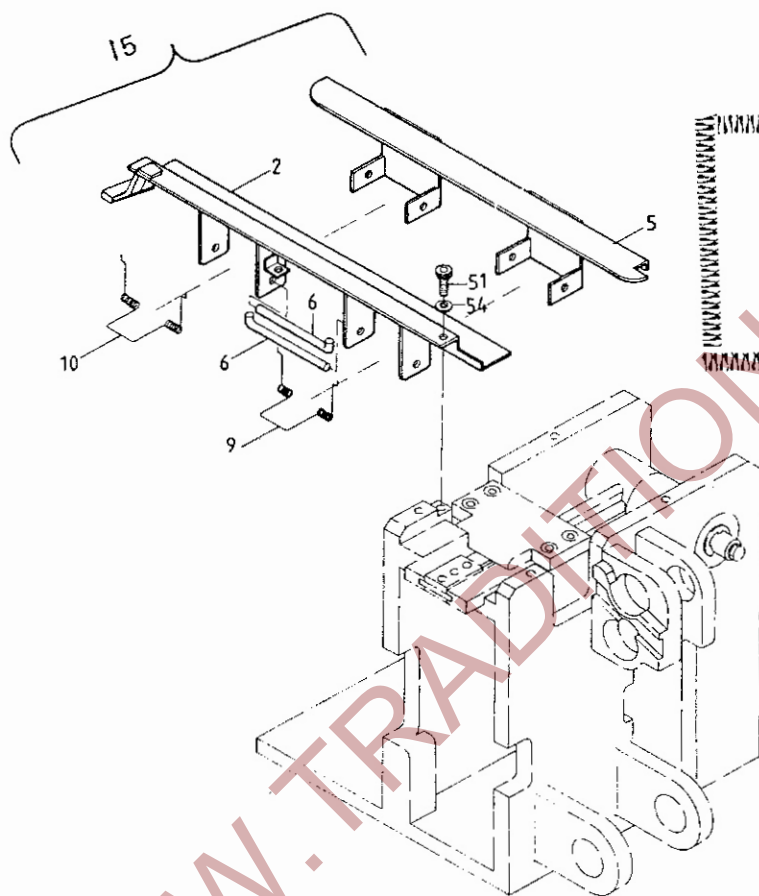


FIGURE 7 FEED UNIT

PARTS LIST, FIGURE 8

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576410	RH. bandway
2	1	576416C	LH. bandway
3	1	576421	RH. bandway rear flap
4	1	576424	RH. bandway front flap
5	2	576426C	LH. bandway flap
6	2	576429	LH. bandway flap pin
7	2	576430	RH. bandway flap pin (rear)
8	2	576431	RH. bandway flap spring
9	1	576428	LH. bandway stop spring
10	1	576433	LH. bandway flap spring
11	1	576434	RH. bandway flap pin (front)
14	1	576437	RH. bandway assembly, 9mm
		576437A	RH. bandway assembly, 12mm
		576437B	RH. bandway assembly, 15mm
15	1	6U-BWLX-1300	LH. bandway assembly, (for TP-130)
51	1	1-SCSX-0516	Socket head cap screw, M5 x 16
52	1	1-HBXX-0650	Hexagon bolt, M6 x 50
54	1	1-PLWX-0510	Plain washer, M5 x 10
55	2	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
57	2	1-HNXX-0006	Hex nut, M6



WARNING

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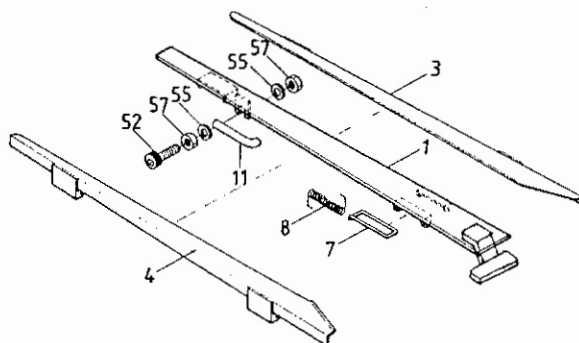


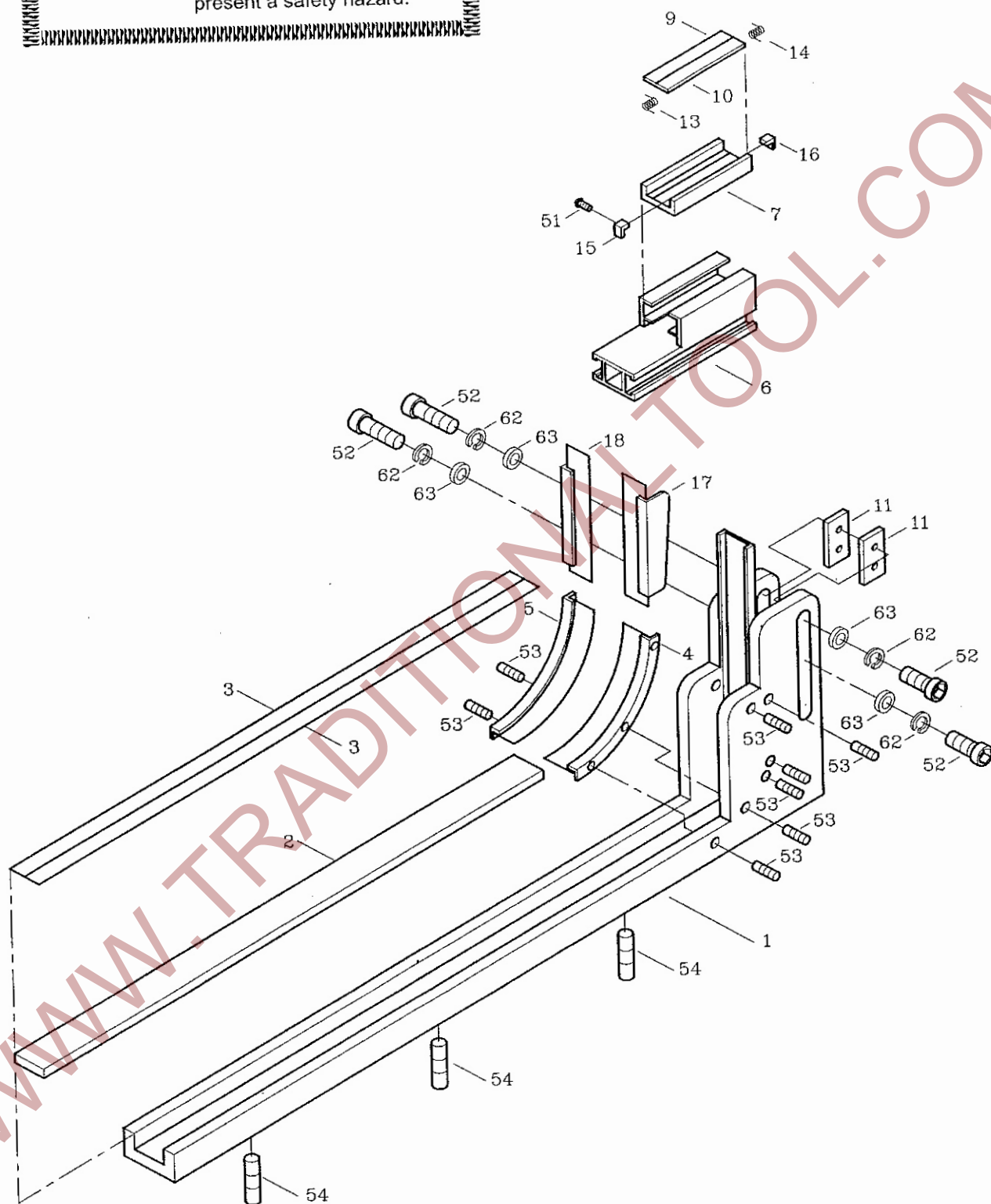
FIGURE 8 BANDWAT UNIT

PARTS LIST, FIGURE 9

KEY	QTY	PART NO	DESCRIPTION
1	1	6-TKIX-1000	Track, side down, (For L1000mm) 40"
		6-TKIX-1220	Track, side down, (For L1219mm) 48"
		6-TKIX-1250	Track, side down, (For L1245mm) 49"
		6U-TKIX-1000	Track assembly, (For L1000mm) KEY 1, 2, 3, 4, 5, 8, 11, 17, 18
		6U-TKIX-1220	Track assembly, (For L1219mm) KEY 1, 2, 3, 4, 5, 8, 11, 17, 18
		6U-TKIX-1250	Track assembly, (For L1245mm) KEY 1, 2, 3, 4, 5, 8, 11, 17, 18
2	1	6-ITKX-1000D	Track extrusion, down, (For L1000mm) 40"
		6-ITKX-1220D	Track extrusion, down, (For L1219mm) 48"
		6-ITKX-1250D	Track extrusion, down, (For L1245mm) 49"
3	2	6-TKFX-221000	Fabric, W22mm x L1000
		6-TKFX-221220	Fabric, W22mm x L1219
		6-TKFX-221250	Fabric, W22mm x L1245
4	1	6-TKIB-1304	Bracket, (right)
5	1	6-TKIB-1305	Bracket, (left)
6	1	6-TKBA-0200T	Track, bottom, exit (right), L=200mm
7	1	6-ITKA-0130T	Track extrusion, bottom, exit (right), L=130mm
8	2	6-TKFX-1308	Fabric
9	1	6-TKFA-0130TL	Flap, L=130mm
10	1	6-TKFA-0130TR	Flap, L=130mm
11	2	6-TKBX-4920	Bracket
13	1	6-SPRL-4950	Spring (left)
14	1	6-SPRR-4950	Spring (right)
15	2	576497	Aluminum washer
16	2	576498	Aluminum washer
17	1	6-TKIB-1317	Bracket, (right) L=100mm
18	1	6-TKIB-1318	Bracket, (left) L=100mm
51	4	1-PMSX-0308	Phillips head machine screw, M3 x 8
52	4	1-SCSX-0820	Socket head cap screw, M8 x 20
53	12	1-SETX-0610	Socket head set screw, M6 x 10
54	4	1-SETX-0606	Socket head set screw, M6 x 6
55	4	1-PMSX-0306	Phillips head machine screw, M3 x 6
61	4	1-SPWX-0003	Lock washer, M3
62	4	1-SPWX-0008	Lock washer, M8
63	4	1-PLWX-0818	Plain washer, M8 x 18
64	4	1-PLWX-0308	Plain washer, M3 x 8

! WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.



PARTS LIST, FIGURE 10

KEY	QTY	PART NO	DESCRIPTION
1	1	576500	Pool bearing case
2	1	576501	Pool lower shaft
3	1	576502	Pool lower roller
4	1	576503	Pool main shaft
5	1	576504	Pool balance bar holder
6	1	576507	Pool feed shooter, 9mm
		576507A	Pool feed shooter, 12mm
		576507B	Pool feed shooter, 15mm
7	5	2-BRZZ-6202	Ball bearing, 6202ZZ
8	1	576508A	Balance bar, 9mm
		576508B	Balance bar, 12mm
		576508C	Balance bar, 15mm
9	2	2-BRZZ-6902	Ball bearing, 6902ZZ
10	1	2-RNXS-0015	Ring, S-15
11	1	6-SPRX-091050	Pool tension spring, ϕ 0.9 x 10.5 x 50.9
12	1	2-KYXX-5030	Key, 5 x 5 x 30
13	1	2-KYXX-5020	Key, 5 x 5 x 20
14	1	6-CRXC-1508	Circlet, 15 x 22 x 8 (Copper)
15	1	2-BRZZ-6201	Ball bearing, 6201ZZ
16	1	2-RNXS-0012	Ring, S-12
17	2	6-CRXC-15038	Circlet, 15 x 22 x 3.8 (Copper)
18	2	2-RNXE-0015	Ring, E-15
19	2	2-BRZZ-6002	Ball bearing, 6002ZZ
20	2	2-RNXR-0032	Ring, R-32
21	1	576511	Knob
22	1	6-SPRX-091050	Pool balance spring, 9mm (ϕ 0.9 x 10.5 x 50.9)
		6-SPRX-121056	Pool balance spring, 12mm (ϕ 1.2 x 10.5 x 56)
		6-SPRX-081050	Pool balance spring, 6mm (ϕ 0.8 x 10.5 x 50.9)
23	1	5-CRXX-15014	Circlet, 15 x 22 x 1.4
25	1	576401	Magnet clutch
26	1	576516	Pool rear bearing case
27	1	576517	Feed roller pulley
28	1	576518	Collar, 15 x 30 x 11
30	1	576534	Bracket
31	1	576521	Bearing collar
32	1	2-RNXE-0012	Ring, E-12
34	1	576524	Pool main roller
36	1	576526	Band guard
37	1	576527	Pool spring adjuster
41	1	576531	Twist stopper
43	1	2-SPNX-0440	Spring pin, 4dia x40
44	1	2-BLMJ-0030	Belt, M-30
51	3	1-SCSX-0612	Socket head cap screw, M6 x 12
52	8	1-SCSX-0616	Socket head cap screw, M6 x 16
53	1	1-SCSX-0650	Socket head cap screw, M6 x 50
54	2	1-SCSX-0630	Socket head cap screw, M6 x 30
55	5	1-SETX-0608	Socket head set screw, M6 x 8
56	3	1-PMSX-0406	Phillips head machine screw, M4 x 6
58	1	1-HBXX-0860	Hexagon bolt, M8 x 60
59	1	1-FMSX-0320	Flat head machine screw, M3 x 20
60	1	1-PLWX-0818-2	Plain washer, M8 x 18 (2mm)
61	11	1-SPWX-0006	Lock washer, M6
62	2	1-SPWX-0003	Lock washer, M3
63	3	1-HNXX-0003	Hex nut, M3
64	1	1-HNXX-0008	Hex nut, M8
65	8	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
66	2	1-HNXX-0006	Hex nut, M6



WARNING

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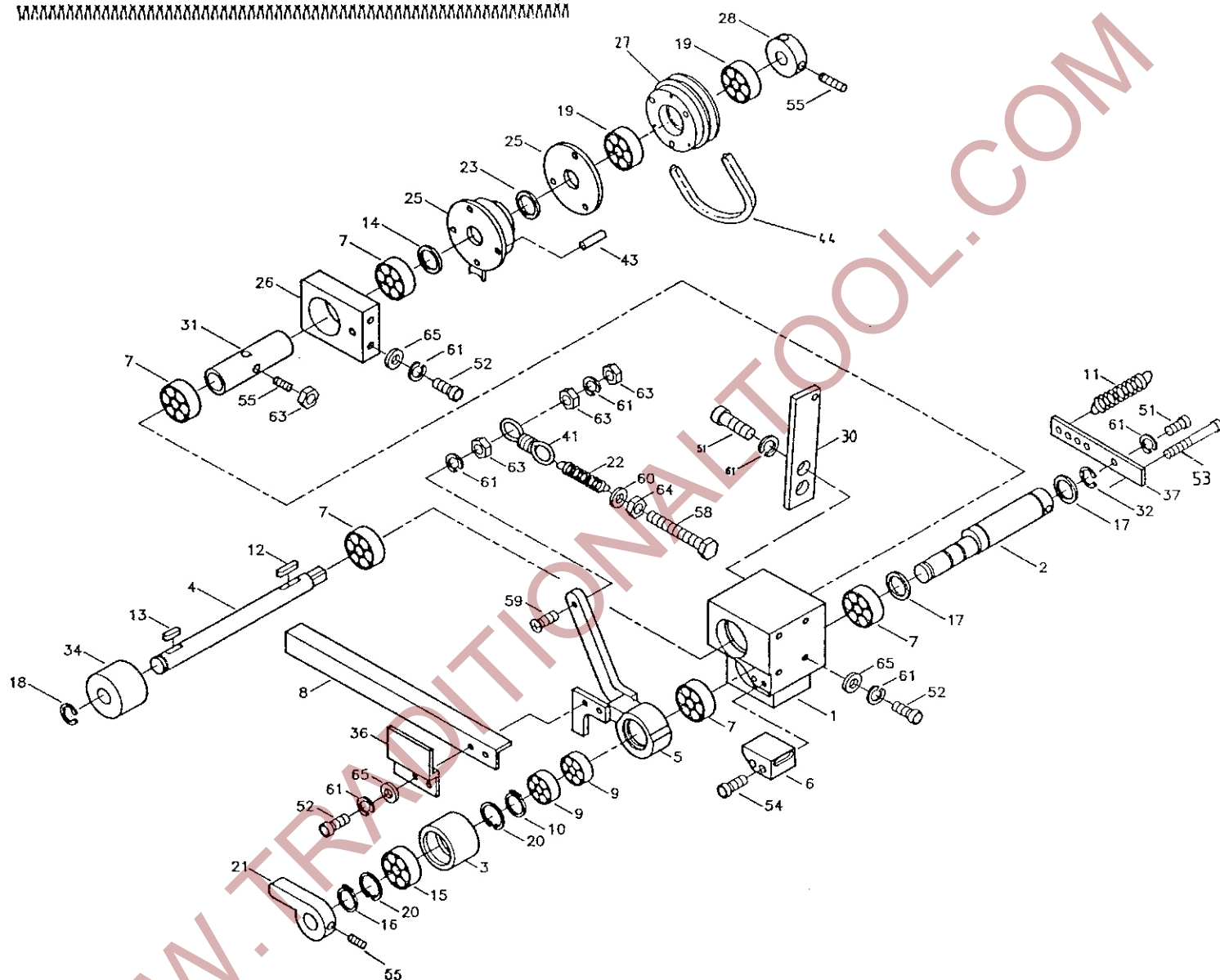


FIGURE 10 POOL UNIT

PARTS LIST, FIGURE 11

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576540-2	Reel unit base
3	1	576541	Reel brake pulley
4	1	576542	Brake belt holder
5	1	576543-2	Brake tension holder
6	1	576544	Brake belt tightener
7	1	576545-2	Reel shaft
8	1	576546-2	Reel nut handle
9	2	576547	Holder shaft
11	1	576549-2	Reel brake arm
13	1	576551	Free slide roller bracket
14	1	576368	Rivet, 6 ϕ x30
15	1	576345	Band guide roller
16	1	576552	Belt holder plate
18	1	576553	Reel inner circular
19	1	576554	Reel outside circular
21	2	576641	Metal bush, MB1525
23	1	576556	Protector
24	1	576557	Reel center drum
25	1	576558	Brake tension arm spring
26	1	576562	Brake V-belt
27	2	575909	Ball bearing, 6205ZZ
28	1	575944	Stop ring, H-24
29	5	575928	Stop ring, E-12
30	1	575896	PN, 6 ϕ
32	1	576560	Band supporter
33	1	576561	Brake tension spring ring
51	1	575718	Socket head cap screw, M6x12
52	1	575721	Socket head cap screw, M6x20
53	1	575722	Socket head cap screw, M6x25
55	1	575729	Socket head cap screw, M8x25
56	1	575746	Socket head cap screw, M14x25
57	1	575803	Pan head machine screw, M3x20
58	3	575775	Hex head bolt, M14x25
60	1	575871	Plain washer, M6
61	1	575873	Plain washer, M8
62	1	575883	Lock washer, M6
63	1	575884	Lock washer, M8
64	4	575887	Lock washer, M14
65	1	575853	Hex nut, M6
67	1	575854	Hex nut, M8
68	2	575734	Socket head cap screw, M8x30



WARNING

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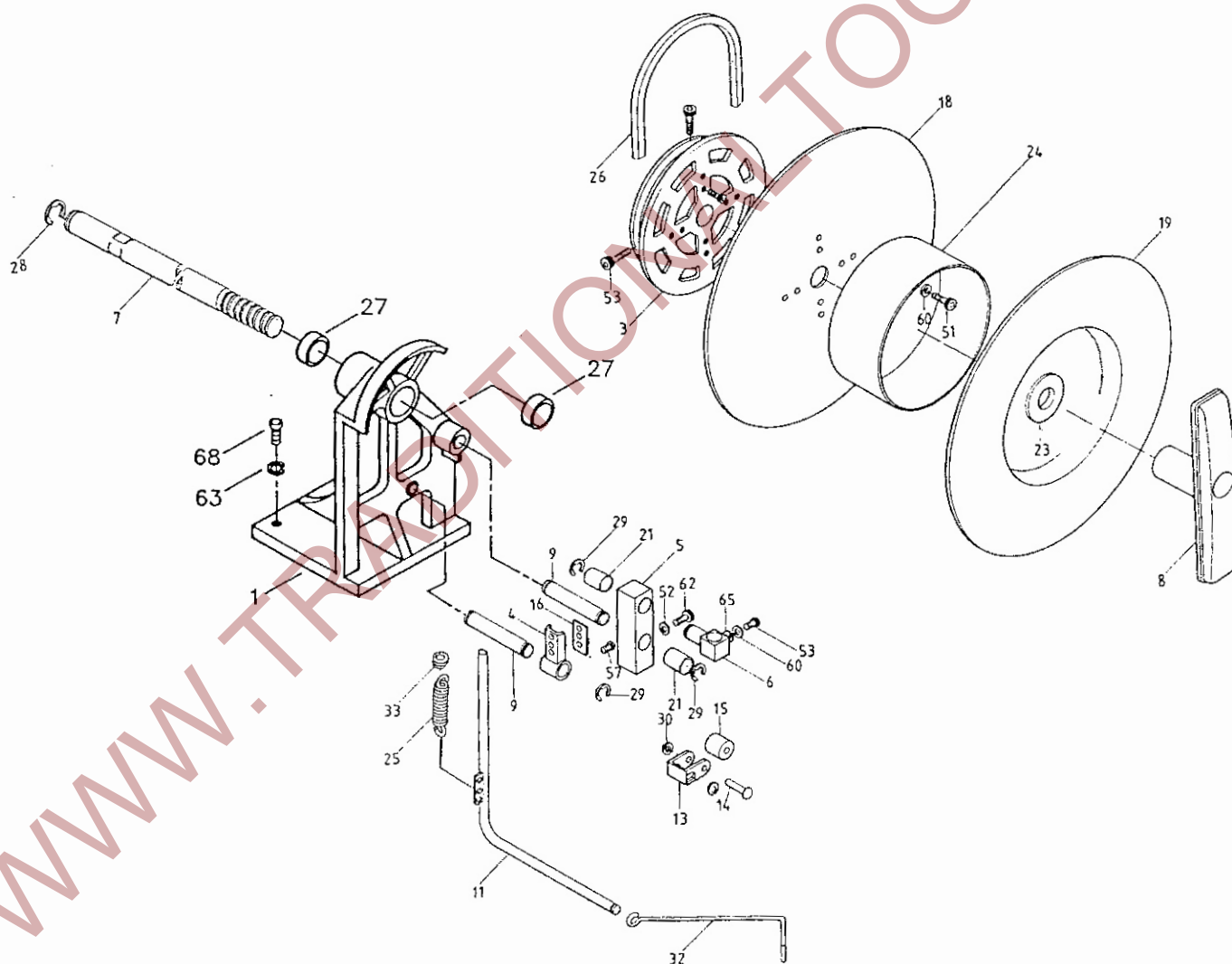
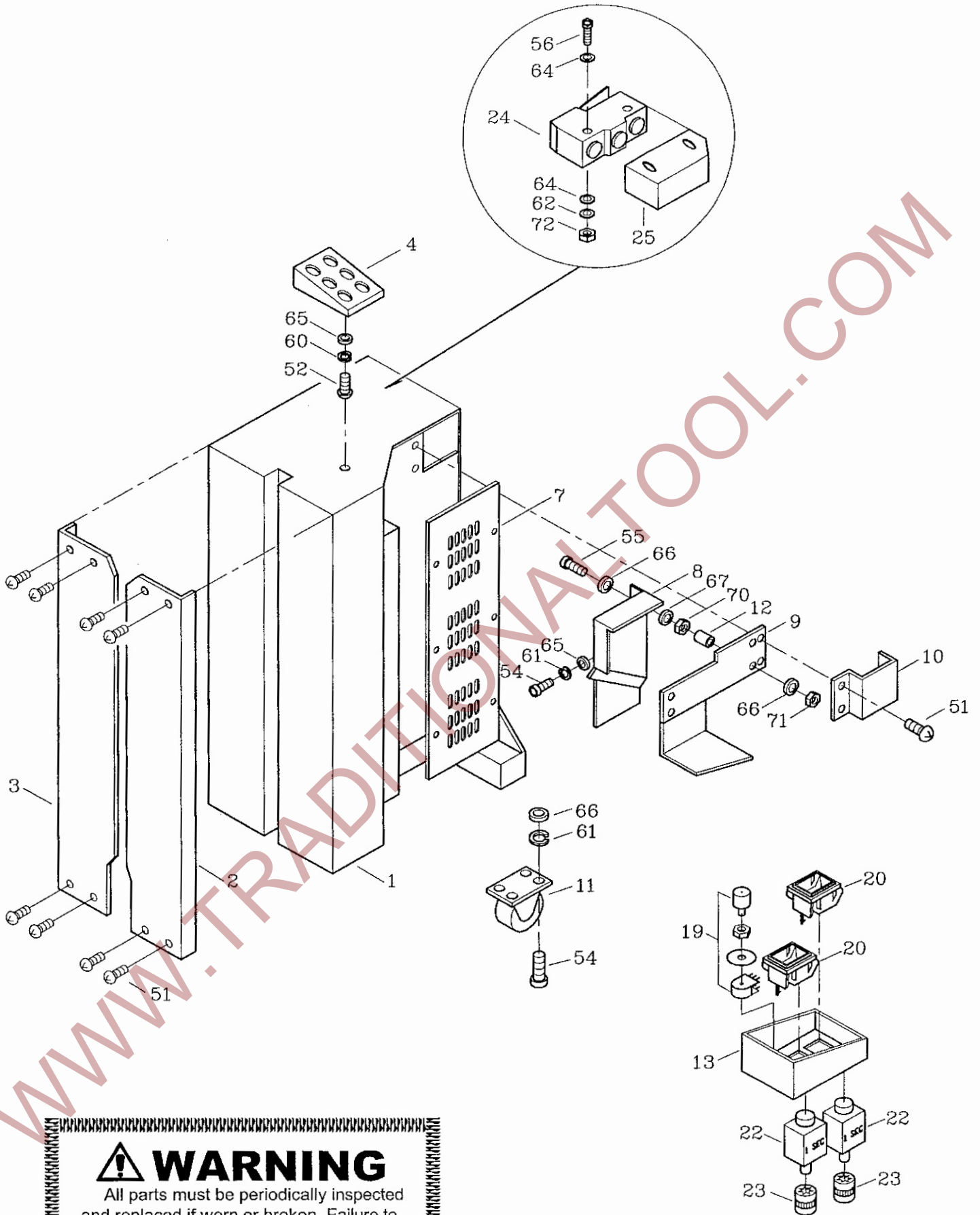


FIGURE 11 REEL UNIT

PARTS LIST, FIGURE 12

KEY	QTY.	PART NO.	DESCRIPTION
1	1	6-CSXX-1300	Body
2	1	6-CSTX-2130	Upper table (front)
3	1	576586-2	Upper table (back)
4	1	6-CSAX-5833	Switch box
		6-CSAS-5833	Switch box (Stainless steel)
5	2	576574	Sensor bracket
6	3	576015	Sensor
7	1	576592	Pool box clear plate
		576592S	Pool box clear plate (Stainless steel)
8	1	576594	Pool box rear
		576594S	Pool box rear (Stainless steel)
9	1	576593	Pool box front, RH upper (with door)
		576593S	Pool box front, RH upper (with door) Stainless steel
10	1	576595	Pool box front, RH
		576595S	Pool box front, RH (Stainless steel)
11	4	576605	Caster
12	10	576573	Sleeve, 9mm
		576573A	Sleeve, 12mm
		576573B	Sleeve, 15mm
13	1	6-CSAX-5843	Tool box
		6-CSAS-5843	Tool box (Stainless steel)
19	1	576615	Tension potentiometer adjustable (VR-1M)
20	2	576616	Accessories for flush mounting, B-68-U
22	2	3-TMXD-2401	Timer, 1 sec/DC 24V
23	2	576619	Accessories for flush mounting, B-68-U
24	1	2-MSWX-1701	Limit switch, TM1701
25	1	2-MSWC-6550	Mounting bracket
51	10	1-TMSN-0510	Truss head machine screw, M5x10
52	2	1-TMSN-0512	Truss head machine screw, M5x12
53	4	1-SCSX-0512	Socket head cap screw, M5x12
54	18	1-SCSX-0612	Socket head cap screw, M6x12
55	10	1-SCSX-0625	Socket head cap screw, M6x25 (for 9mm)
		1-SCSX-0630	Socket head cap screw, M6x30 (for 12mm, 15mm)
56	2	1-SCSX-0435	Socket head cap screw, M4x35
60	6	1-SPWX-0005	Lock washer, M5
61	18	1-SPWX-0006	Lock washer, M6
62	2	1-SPWX-0004	Lock washer, M4
64	4	1-PLWX-0412	Plain washer, M4x12
65	27	1-PLWX-0616-2	Plain washer, M6x16 (2mm)
66	10	1-PLWX-0616-1	Plain washer, M6x16 (1mm)
67	24	1-PLWX-0613	Plain washer, M6x13
70	24	1-HNXX-0006	Hex Nut, M6
71	10	1-HNXN-0006	Hex Nut, M6
72	2	1-HNXX-0004	Hex Nut, M4

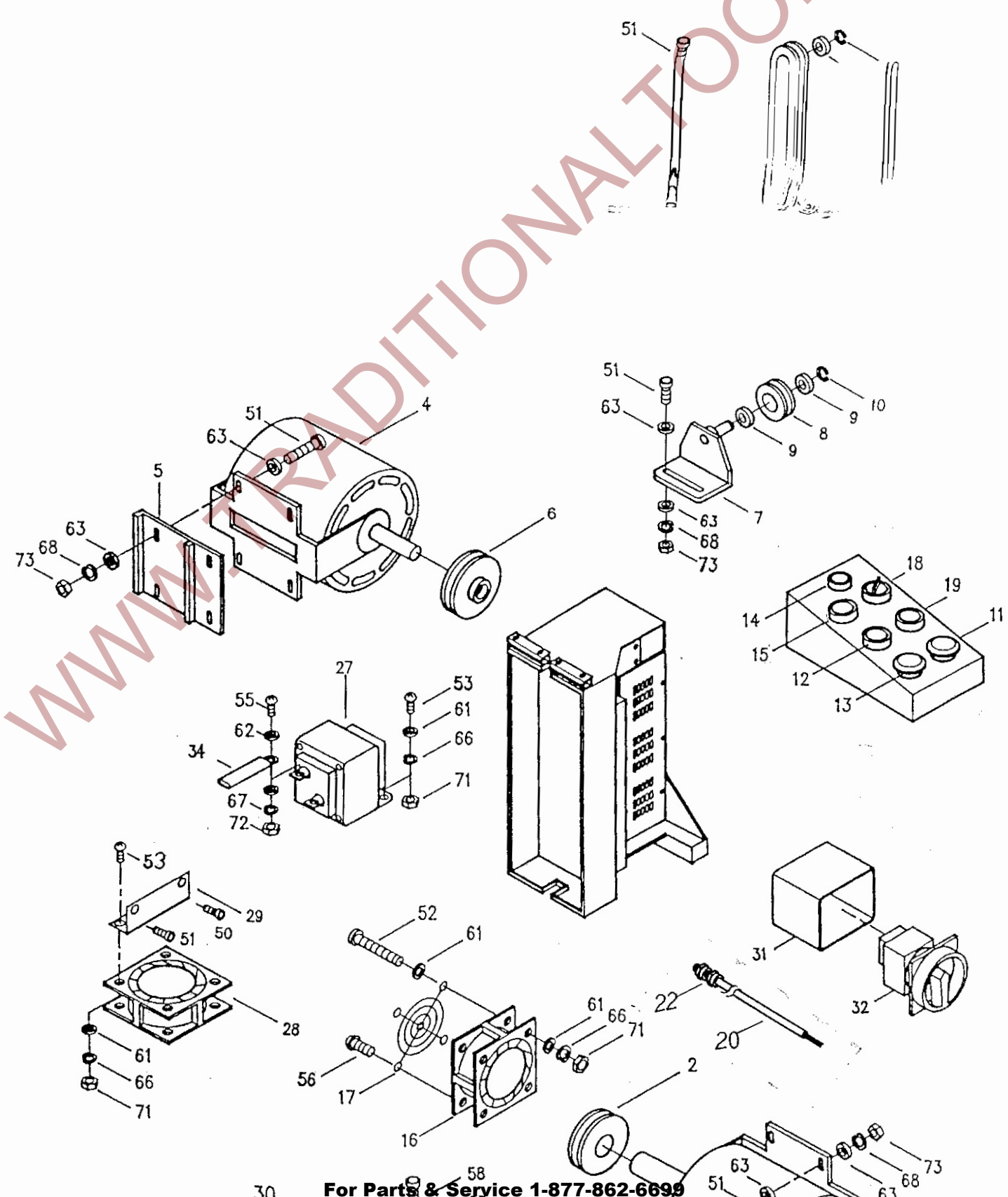


! WARNING

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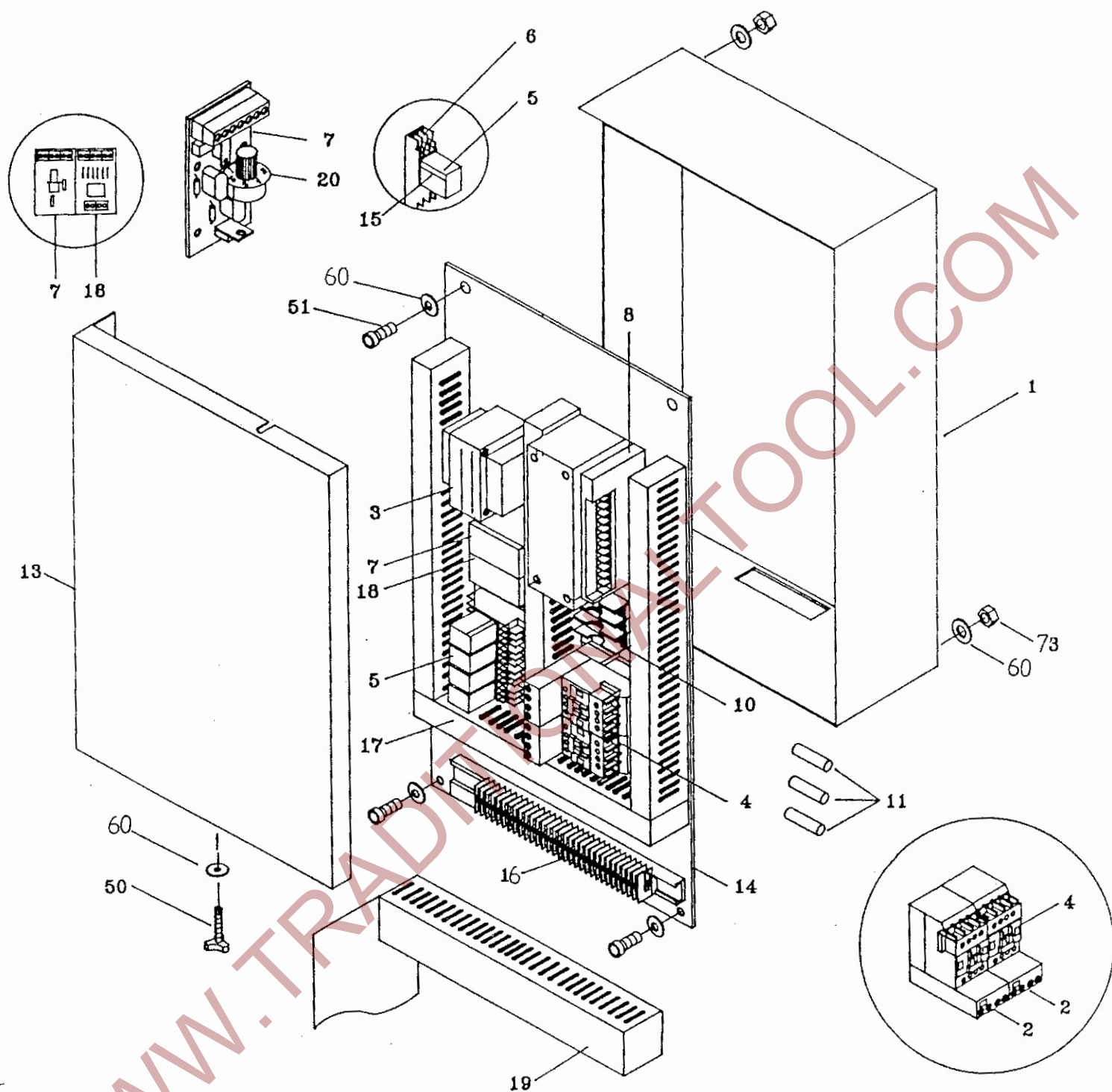
PARTS LIST, FIGURE 13

KEY	QTY	PART NO.	DESCRIPTION	KEY	QTY	PART NO.	DESCRIPTION
1	1	576800	Timing motor 110V/50, 1/2HP	31	1	3-PSWC-1460	Power switch cover
		576800A	Timing motor 110V/60, 1/2HP	32	1	3-PSWX-1460	Power switch
		576800B	Timing motor 220V/50, 1/2HP	34	1	576300A	Instant heating heater plate A'ssy
		576800C	Timing motor 220V/60, 1/2HP	50	1	1-SCSX-0612	Socket head cap screw, M6 x 12
		576800D	Timing motor 240V/50, 1/2HP	51	16	1-SCSX-0620	Socket head cap screw, M6 x 20
		576800E	Timing motor 240V/60, 1/2HP	52	2	1-PMSX-0445	Phillips head machine screw, M4 x 45
		576800F	Timing motor 380V/50, 1/2HP	53	6	1-PMSX-0412	Phillips head machine screw, M4 x 12
		576800H	Timing motor 415V/50, 1/2HP	55	2	1-TMSN-0510	Truss head machine screw, M5 x 10
		1-CPSE-6151	Capacitor, 150MFD/125V (for starting)	56	2	1-TMSN-0410	Truss head machine screw, M4 x 10
		1-CPRE-7021	Capacitor, 20MFD/220V (for running)	57	6	1-SCSX-0616	Socket head cap screw, M6 x 16
2	1	576802	Timing motor pulley	61	12	1-PLWX-0412	Plain washer, M4 x 12
4	1	576505	Motor 110V/50, 1/3HP	62	4	1-PLWC-0512	Plain washer, M5 x 12 (Copper)
		576505A	Motor 110V/60, 1/3HP	63	28	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
		576505B	Motor 220V/50, 1/3HP	64	2	1-PMSX-0412	Phillips head machine screw, M4 X 12
		576505C	Motor 220V/60, 1/3HP	66	10	1-SPWX-0004	Lock washer, M4
		576505D	Motor 240V/50, 1/3HP	67	2	1-SPWX-0005	Lock washer, M5
		576505E	Motor 240V/60, 1/3HP	68	25	1-SPWX-0006	Lock washer, M6
		576505F	Motor 380V/50, 1/3HP	71	10	1-HNXX-0004	Hex nut, M4
		576505H	Motor 415V/50, 1/3HP	72	2	1-HNXU-0005	Hex nut, M5
		1-CPSE-6151	Capacitor, 150MFD/125V (for starting)	73	19	1-HNXX-0006	Hex nut, M6
		1-CPRE-7021	Capacitor, 20MFD/220V (for running)				
5	1	576514	Motor base				
6	1	6-MTPX-5195	Motor pulley (for 50HZ)				
		6-MTPX-5196	Motor pulley (for 60HZ)				
7	1	576523	Tension pulley bracket				
8	1	576520	Feed tension pulley				
9	2	2-BRZZ-6002	Ball bearing, 6002ZZ				
10	1	2-RNXE-0012	Stop ring, E-12				
11	1	576808	Cycle switch				
12	1	576809A	Feed switch				
13	1	576807	Stop switch				
14	1	3-LPXX-1241	Pilot lamp, AC110V, ϕ 12				
15	1	576819A	Reset switch				
16	1	3-FNXX-1212	Cooling fan, AC100V~120V				
		3-FNXX-1223	Cooling fan, AC220V~240V				
17	1	3-FNCX-1200	Cooling fan cover				
18	1	3-SWXS-3201	Selector switch				
19	1	576810	Take up switch				
20	1	2-CABE-2003	Cable, (for 1 Phase)				
		2-CABE-2004	Cable, (for 3 Phase)				
22	1	576803	Cord connector				
23	1	576825	Foot switch				
27	1	3-HTRX-1011	Heater transformer, AC110V				
		3-HTRX-1022	Heater transformer, AC220V				
28	1	3-FNXX-0812	Smoke fan, AC100V~120V				
		3-FNXX-0823	Smoke fan, AC220V~240V				
29	1	576828	Smoke fan bracket				
30	1	3-TRXJ-2422	Transformer, AC240V/220V				
		3-TRXJ-3822	Transformer, AC380V/220V				
		3-TRXJ-4022	Transformer, AC400V/220V				



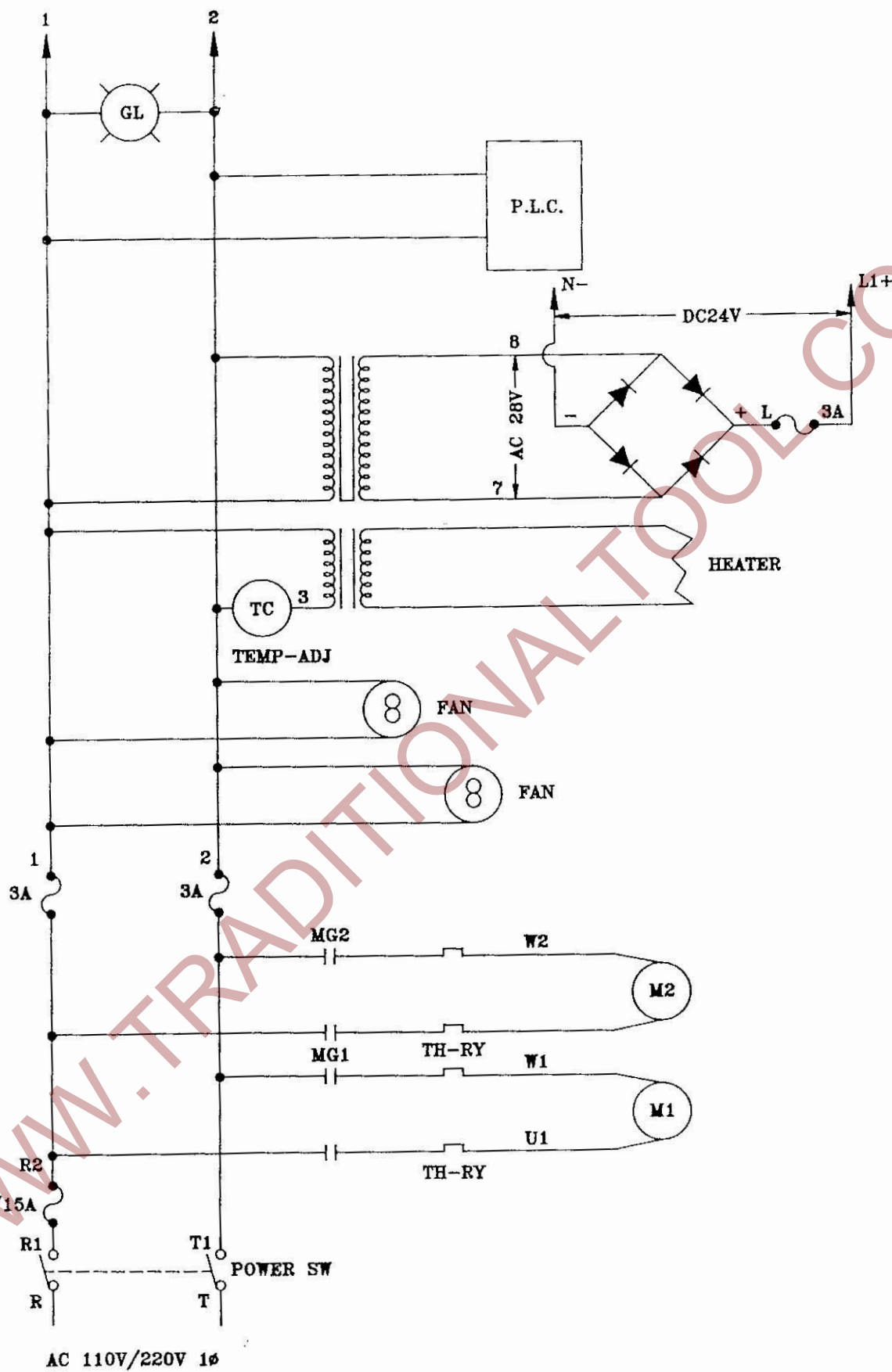
PARTS LIST, FIGURE 14

KEY	QTY.	PART NO.	DESCRIPTION
1	1	576781	Control box
2	2	576771	Over-load relay, 8-11.5A (for AC110V)
		576771A	Over-load relay, 3.7-5.5A (for AC220V)
		576771B	Over-load relay, 1.7-2.6A (for AC220V 3 ϕ)
		576771C	Over-load relay, 0.8-1A (for AC380V~415V 3 ϕ)
3	1	576753	Transformer, 110V-27V
		576753A	Transformer, 220V-27V
4	2	576834	Contactor, AC110V
		576834A	Contactor, AC220V
5	4	576770	Relay, AC110V
		576770A	Relay, AC220V
6	4	575639	Relay socket
7	1	576785	Temperature PC board, TZ-A-03 (AC110V)
		576785A	Temperature PC board, TZ-A-03 (AC220V)
8	1	3-PLC-014-FSE	PLC, FX0S-14MR-ES
		3-PLC-020-FSE	PLC, FX0S-20MR-ES
		3-PLC-030-FSE	PLC, FX0S-30MR-ES
10	2	2-FUBX-1200	Fuse box, FS-012
10A	1	2-FUBX-1100	Fuse box, FS-011
11	3	2-FUXX-3203	Fuse, 3A
12	1	2-FUXX-3215	Fuse, 15A (for 1 Phase)
13	1	576780	Control box cover
14	1	576782	Control box inner plate
16	34	2-TBXX-2315	Terminal block, 15A
17	4	575650	Cover
18	1	6-PCZA-0100	PC board, TZ-A-01
19	1	576761	Ground strip
20	1	576762	Temperature potentiometer, 500K Ω (AC110V)
		576762A	Temperature potentiometer, 1M Ω (AC220V)
24	2	2-TBHX-2300	Terminal block holder
25	8	1-ISHB-0120	Isolate holder, BS-1 2A (1 2mm)
50	2	576597	Lock
51	2	1-SCSX-0620	Socket head cap screw, M6 x 20
52	4	1-SCSX-0625	Socket head cap screw, M6 x 25
54	1	1-PMSX-0530	Phillips head machine screw, M5 x 30
55	17	1-PTSW-0812	Wafer head self tapping screw, #8 x 1/2
56	10	1-PTSX-0834	Pan head self tapping screw, #8 x 3/4
57	2	1-PMSX-0412	Phillips head machine screw, M4 x 12
60	11	1-PLWX-0616-2	Plain washer, M6 x 16 (2mm)
61	6	1-SPWX-0006	Lock washer, M6
63	1	1-PLWC-0512	Plain washer, M5 x 12 (Copper)
72	1	1-HNXC-0005	Hex nut, M5 (Copper)
73	6	1-HNXX-0006	Hex nut, M6
74	4	1-HNXX-0008	Hex nut, M8



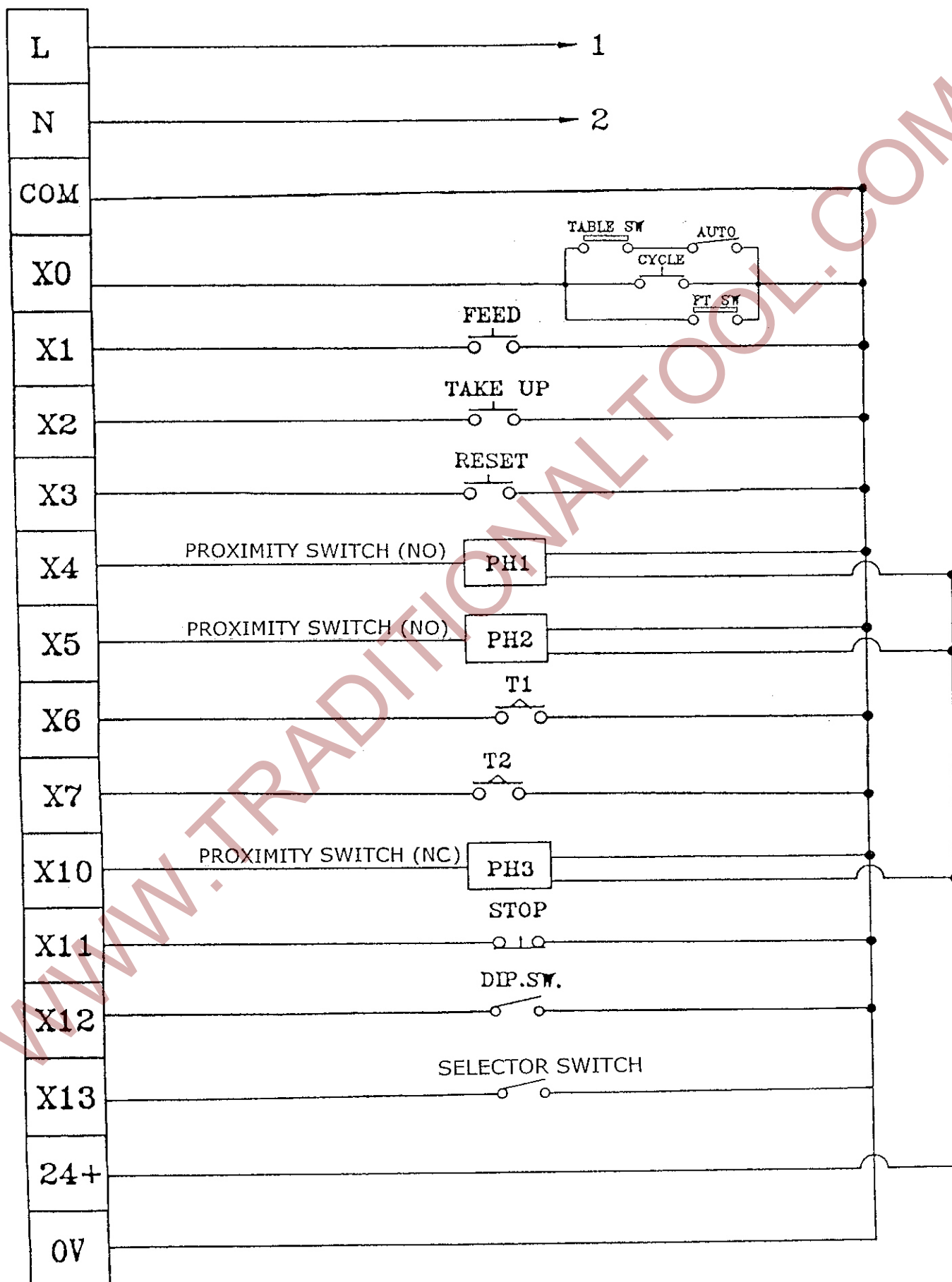
WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect operation and present a safety hazard.



TP-130

INPUT



OUTPUT

