

**Automated Systems Division**

**2800SBH9C  
16" 406 SLEEVE HEMMER  
WITH DIVIDE BY 2  
& STACKER**

**01/2004**

**TECHNICAL  
MANUAL**

TECHNICAL MANUAL  
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# PL1388

PRELIMINARY USER MANUAL SBH5C (AS72C) REVISED DECEMBER 19,1995

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On system power up, the display will have the following message:

```
"      ***** MAIN MENU *****      "
```

```
"---CURRENT STYLE: DEFAULT-----  "
```

```
"      F2: AUTOMATIC MODE              "
```

```
"      F3: MANUAL MODE                 "
```

```
"      F4: PROGRAMMING MODE           "
```

```
"      F5: SYSTEM SETUP MODE          "
```

```
"---VERSION 1.002, REVISED 6-12-95-- "
```

- F2: To run the machine in AUTOMATIC MODE, press the F2 key. This starts the conveyor. If the material does not move under the TRIM KNIFE SENSOR in ( CONVEY\_TIME param # 2 ), the conveyor will turn off and the system will be in MODE.
- F3: To place the machine in manual mode, press the F3 key. In MANUAL MODE, you can operate the AIR KLIPP, PRESSER FOOT LIFT CHAINING and SEWING. Each function has a dedicated switch located under the conveyor table across from the sew head. It is important to note that CHAINING and SEWING will not work if the presser foot is up.
- F4: To modify the timing parameters, gear ratio parameter or style data, press the F4 key. Up to 12 styles can be set. You will be given an option to change styles and rename a style. If you select a style with no letters, the system will ask you to enter a new name.  
( For timing parameter description refer to page 2 )

## PERIPHERAL PARAMETERS

```

" **** PERIPHERAL PARAMETER MENU **** "
"-----"
"1. CONVEY_SPD      2. FOLDER_SPD      "
"3. CHAIN_SPD      4. HOLD_SPD        "
"5. SYNC_FACTOR    6. TB_DEBOUNCE     "
"7. T_BRK_LEVEL    8. *****        "
"E = Enter Param: CONVEY_SPD  <<  >>  "
"C = Clear, Q = Exit, Scroll = Position.  "

```

1. CONVEY\_SPD Conveyor speed (inches per second times 10). Linear velocity of conveyor.
2. FOLDER\_SPD Folder speed (inches per second times 10). Linear velocity of folder.
3. CHAIN\_SPD Chain Puller speed (inches per second times 10). Linear velocity of Chain Puller.
4. HOLD\_SPEED During chaining the conveyor and folder speeds drop to this value in order to allow the chain to be cut by the air clip.
5. SYNC\_FACTOR The ratio between the internal clock speed and the synchronizer speed defined as:  

$$\frac{1 \text{ Mhz internal clock speed}}{\text{Sew head Revolutions Per Minute} \times \text{Synchronizer pulses per revolution} / 60} \times 10$$

Example:

$$\frac{1 \text{ Mhz.}}{5500 \text{ RPM} \times 512 \text{ pulses/rev./60}} \times 10 = 213$$
6. TB\_DEBOUNCE THREAD BREAK DEBOUNCE ( unit belt counts; 1 belt count equals .01 inches. The THREAD BREAK SIGNAL must remain at the THREAD BREAK LEVEL for this number of belt counts.
7. T\_BRK\_LEVEL THREAD BREAK LEVEL, the level at which thread motion is not detected. A value of 1 represents a HIGH SIGNAL LEVEL. A value of 0 represents a LOW SIGNAL LEVEL.

## TIMING PARAMETERS PAGE 1

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```
" ***** PARAMETER MENU page 1 of 6 ***** "
```

"----- Current Style: -----"	"
"1. CONVEY_TIME            2. *****"	"
"3. CONV_ON_DLY           4. TRIM_OFF_DL           "	"
"5. BLOW_ON_DLY           6. BLOW_OFF_DL           "	"
"7. VENT_ON_DLY           8. VENT_OFF_DL           "	"
"E = Enter Param: CONVEY_TIME << >>"	"
"C = Clear, Q = Exit, Scroll = Position."	"

1. CONVEY\_TIME The conveyor will remain on this number of milliseconds after the last garment has entered the sew area. If material is constantly fed to the sew head, the timer will restart.
2. NOT USED
3. CONV\_ON\_DLY After pressing the F2 key to go to AUTOMATIC MODE, the system will delay this number of milliseconds before activating the conveyor.
4. TRIM\_OFF\_DL After the material activates the TRIM KNIFE SENSOR, the system will wait this number of milliseconds before turning off the AC trim motor.
5. BLOW\_ON\_DLY After the material activates the TRIM KNIFE SENSOR, the system will wait this number of belt counts before activating the TRIM BLOWERS ( 1 belt count equals .01 inches ).
6. BLOW\_OFF\_DL After the material leaves the TRIM KNIFE SENSOR, the system will wait this number of belt counts before turning off the TRIM BLOWERS.
7. VENT\_ON\_DLY After the material activates the TRIM KNIFE SENSOR, the system will wait this number of belt counts before activating the TRIM VENTURI.
8. VENT\_OFF\_DL After the material leaves the TRIM KNIFE SENSOR, the system will wait this number of belt counts before turning off the TRIM VENTURI.

## TIMING PARAMETERS PAGE 2

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```
" ***** PARAMETER MENU page 2 of 6 ***** "
```

"----- Current Style: -----"	"
"9. CURL_ON_DLY      10.CURL_DURATN"	"
"11.*****"	"
"13.CHAIN_LE_ON      14.CHAIN_LE_DR"	"
"15.CHAIN_TE_ON      16.CHAIN_TE_DR"	"
"E = Enter Param: CURL_ON_DLY << >>"	"
"C = Clear, Q = Exit, Scroll = Position."	"

9. CURL\_ON\_DLY After the material activates the TRIM KNIFE SENSOR, the system will wait this number of milliseconds before activating the LEADING EDGE DECURL BLOWERS.
- 10.CURL\_DURATN After the CURL\_ON\_DLY on delay, the LEADING EDGE DECURL BLOWERS will remain on for this number of milliseconds.
11. NOT USED
- 12.SEW\_OFF\_DLY After the material leaves the SEW SENSOR, the system will wait this number of belt counts before turning off the CLUTCH to the sew motor.
- 13.CHAIN\_LE\_ON After the material activates the SEW SENSOR, the system will wait this number of belt counts before activating the CHAIN VENTURI.  
( 1 belt count equals .01 inches )
- 14.CHN\_LE\_DUR After the CHAIN\_LE\_ON on delay, the CHAIN VENTURI will remain on for this duration of belt counts.
- 15.CHAIN\_TE\_ON After the material leaves the SEW SENSOR, the system will wait this number of belt counts before activating the CHAIN VENTURI.  
( 1 belt count equals .01 inches )
- 16.CHN\_TE\_DUR After the CHAIN\_TE\_ON on delay, the CHAIN VENTURI will remain on for this duration of belt counts. This count plus parameter 15 (CHAIN\_TE\_ON) should be greater than parameter 12 (SEW\_OFF\_DLY).

## TIMING PARAMETERS PAGE 3

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```
" ***** PARAMETER MENU page 3 of 6 ***** "
```

"----- Current Style: -----"	"
"17.KLIP_LE_ON            18.KLIP_LE_DUR"	"
"19.KLIP_TE_ON            20.KLIP_TE_DUR"	"
"21.PRESS_ON_DL        22.PRES_OFF_DL"	"
"23.THRD_TEN_ON        24.THD_TEN_OFF"	"
"E = Enter Param: KLIP_LE_ON << >>"	"
"C = Clear, Q = Exit, Scroll = Position."	"

17.KLIP\_LE\_ON After the material activates the SEW SENSOR, the system will wait this number of belt counts before activating the AIR KLIPP.  
( 1 belt count equals .01 inches )

18.KLIP\_LE\_DUR After the KLIP\_LE\_ON on delay, the AIR KLIPP will remain on for this duration of belt counts.

19.KLIP\_TE\_ON After the material leaves the SEW SENSOR, the system will wait this number of belt counts before activating the AIR KLIPP.  
( 1 belt count equals .01 inches )

20.KLIP\_TE\_DUR After the KLIP\_LE\_DUR on delay, the AIR KLIPP will remain on for this duration of belt counts.

21.PRESS\_ON\_DL After the material activates the SEW SENSOR, the system will wait this number of belt counts before reducing the pressure of the presser foot on the material. This parameter is normally set equal to parameter 23 (THRD\_TEN\_ON).

22.PRES\_OFF\_DL After the material leaves the SEW SENSOR, the system will wait this number of belt counts before increasing the pressure of the presser foot for chaining. This parameter is normally set equal to parameter 24 (THD\_TEN\_OFF).

23.THRD\_TEN\_ON After the material activates the SEW SENSOR, the system will wait this number of belt counts before increasing the needle thread tension and decreasing the looper thread tension for sewing into material.

24.THD\_TEN\_OFF After the material leaves the SEW SENSOR, the system will wait this number of belt counts before decreasing the needle thread tension and increasing the looper thread tension for chaining.

## TIMING PARAMETERS PAGE 4

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```
" ***** PARAMETER MENU page 4 of 6 ***** "
```

"----- Current Style: ----- "
"25.CHN_PULL_UP      26.CHN_PUL_DN      "
"27.*****            28.*****            "
"29.*****            30.*****            "
"31.PF_BLW_ONDL      32.PF_BLW_OFF      "
"E = Enter Param: CHN_PULL_UP << >> "
"C = Clear, Q = Exit, Scroll = Position. "

25.CHN\_PULL\_UP After the material activates the SEW SENSOR, the system will wait this number of belt counts before lifting the chain puller assembly.

26.CHN\_PUL\_DN After the material leaves the SEW SENSOR, the system will wait this number of belt counts before lowering the chain puller assembly.

27.NOT USED

28.NOT USED

29.NOT USED

30.NOT USED

31.PF\_BLW\_ONDL After the material activates the SEW SENSOR, the system will wait this number of belt counts before activating the UPPER AND LOWER DECURL BLOWERS ( 1 belt count equals .01 inches ).

32.PF\_BLW\_OFF After the material leaves the SEW SENSOR, the system will wait this number of belt counts before turning off the UPPER AND LOWER DECURL BLOWERS.



## TIMING PARAMETERS PAGE 5

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" ***** PARAMETER MENU page 5 of 6 ***** "
```

"----- Current Style: -----"	"
"33.CHBLW_ONDLY 34.CHBLW_DURTN"	"
"35.BLADE_ON_DL 36.BLADE_DURTN"	"
"37.PL_BLW_ONDL 38.PL_BL_OFFDL"	"
"39.DRPOF_ON_DL 40.DRPOF_DURTN"	"
"E = Enter Param: CHBLW_ONDLY << >>"	"
"C = Clear, Q = Exit, Scroll = Position."	"

33.CHBLW\_ONDLY After the material leaves the SEW SENSOR, the system will wait this number of belt counts before the CHAIN BLOWER blows the chain into the AIR KLIPP. The conveyor will also drop to HOLD\_SPEED (peripheral parameter #8) at this time.

34.CHBLW\_DURTN After the CHBLW\_ONDLY on delay, the CHAIN BLOWER will remain on for this duration of milliseconds. The conveyor will also drop to HOLD\_SPEED (peripheral parameter #8) for this duration.

35.BLADE\_ON\_DL After material activates the PICKUP BLADE SENSOR, the system will wait this # of milliseconds before activating the PICKUP BLADE.

36.BLADE\_DURTN After the BLADE\_ON\_DL, the system delays for this # of milliseconds before deactivating the PICKUP BLADE.

37.PL\_BLW\_ONDL After material activates the PICKUP BLADE SENSOR, the system delays this # of milliseconds before activating the PLY SEPARATION BLOWER.

38.PL\_BL\_OFFDL After material leaves the PICKUP BLADE SENSOR, the system will wait this # of milliseconds before deactivating the PLY SEPARATION BLOWER.

39.DRPOF\_ON\_DL After material leaves the PICKUP BLADE SENSOR, the system will wait this # of milliseconds before activating the DROPOFF CYLINDER.

40.DRPOF\_DURTN After the DRPOF\_ON\_DL, the system delays for this # of milliseconds before deactivating the DROPOFF CYLINDER.

## TIMING PARAMETERS PAGE 6

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" ***** PARAMETER MENU page 6 of 6 ***** "
"----- Current Style: -----"
"41.S_BLW_ON_DL      42.S_BLW_ON_DR      "
"43..SWITCH_DLY      44.*****"
"45.STACK_DURTN      46.STACK_COUNT      "
"47.*****           48.*****"
"E = Enter Param: S_BLW_ON_DL << >> "
"C = Clear, Q = Exit, Scroll = Position."

```

- 41.LEBLW\_ON\_DL After the material leaves the PICKUP BLADE SENSOR, the system will wait this # of milliseconds before activating the LEADING EDGE UNCURL BLOWER.
- 42.LEBLW\_DURTN After the LEBLW\_ON\_DL on delay, the LEADING EDGE UNCURL BLOWER will remain on for this duration of milliseconds.
- 43.FLAP\_ON\_DLY After the material leaves the STACKER SENSOR, the system will wait this number of milliseconds before activating the STACKER FLAPPER.
- 44.FLAP\_DURTN After the FLAP\_ON\_DL on delay, the STACKER FLAPPER will remain on for this duration of milliseconds.
- 45.STACK\_DURTN After a STACK\_COUNT of units are picked or an operator pushes the F7 key for a manual stack index, the system enables the stack conveyor for this number of milliseconds to index the garment stack.
- 46.STACK\_COUNT Sets the number of units that can be stacked before the system activates the stack conveyor.
- 47.NOT USED
- 48.SWITCH\_DLY After material activates the SEW SENSOR, the system will wait this number of milliseconds before switching the tracking of the conveyor and folder drive from the internal clock to the sew head synchronizer.

# PL 1428

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## CALIBRATION PROCEDURE FOR RM6602 LOWER LOOPER THREAD BREAK PCB WITH BAR GRAPH LED

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7/795

Used on: 2800CE1 / 94800BHAT / 2800DNHS / 2800SBH5B / 2800SBH5C

Note: This procedure is written for REV B boards. Refer to the sketch with this document for physical positions of TP2 and TP1.

Note: Move the thread from the sensor area so that the two small eyes are not covered for these adjustments. If necessary turn the hand wheel to move the looper thread out of the way.

These settings are made with the sensor installed in the machine. Since all sensors are different, the settings for RM6602 must be done for each individual sensor and TB box together. It is generally not possible to "preset exactly" a board for every sensor since the mechanical alignment of the "sensor eyes" varies on each sensor board RM6428. Only a ball park setting can be used at the time of manufacture using a simple calibration fixture with a sensor placed in a box to simulate the machine. However, the circuit has a wide tolerance and will generally work when about 90% of the sensors are plugged in even though the voltages fall outside the cal values.

The circuit works by tracking the voltage applied to pin 3, the + input, of the op-amp. The resistor capacitor network connected to pin 2. The - input, slowly tracks the level of the input with the RC network. Hence, fast signals are averaged at pin 2 on the capacitor and the output responds each time the signal on pin 3 dips below the running average of pin 2. If the Thread breaks, there will be no more transitions and the output will respond with a break signal.

If thread is left in the sensor area, the circuit readjusts to the new level and gives a thread break output when the RC time constant is satisfied. The circuit will recover usually within 8 stitches as the thread starts to move again and resume normal operation levels. That's why the thread break debounce parameter should be set higher than 8 ...possibly around 10 to 40.

As dust builds up in the lower looper area, IR light is reduced from the IR LED. The circuit will automatically track the change in operating environment over a fairly wide range.

Ambient light is usually taken to change slowly. Sudden changes in ambient light (like a sew light shining through the crack in the throat plate) may trip the sensor until a new operation level is established. This can be aggravated by the looper bar moving between the angle of the sew light and sensors in the lower looper circuit. Normally, this crack is small or not present. The width of the crack, small, reduces the dust infiltration as well as light. Check this on your machine.

# PL1428

## CALIBRATION PROCEDURE FOR LOWER LOOPER CIRCUIT RM6602:

Updated 7/7/95

- Step #1) Check to be sure that the head is grounded to the frame of the machine which should have continuity to the AC ground wire. Use a Digital Volt Meter (DVM) in 'continuity' mode to verify the ground connections.
- Step #2) Remove the thread from the thread break sensor.
- Step #3) Plug the RM6428 sensor in to the Thread Break Box.
- Step #4) Adjust pot VR1 while watching to bar graph led array. Adjust the pot until the illuminated bar is in the middle of the bar graph (5th LED). This is the standard setting for normal operation. Operation voltage is 12V nominal.

Test by inserting a piece a thread into the sensor or running the machine in manual mode. Watch the single red LED. IT should not flicker while running the machine. If it does, recheck the above settings. This LED is the output status of the signal being fed to the break circuit.

**The LED BAR GRAPH should flicker** as the thread moves in and out of the sensor. It will move from its center position to a lower level as thread passes into the sensor eye area. This indicates that the sensor is seeing thread and is working.

- Step #5) Test the sensor by running the machine in manual mode. Watch the single red LED. It should not flicker while running the machine with thread present and moving in the lower looper. A solid RED light indicates that thread is not moving in the sensor area.
- Step #6) Check the Thread break debounce parameter in the operators control panel, should be 20 or above for BHA's, and 40 for 2800CE1, SBH5B, SBH5C.

# ***Automated Systems***

CAT NO. DA2507

# SAFETY MANUAL

 *Union Special*

**FINEST QUALITY**

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## INSTRUCTIONS

### SAFETY RULES

This sewing machine must not be used until it has been determined that the sewing units and the sewing systems into which these sewing machines will be placed conform with the provisions of the EC Council Directive Machinery, of June 14, 1989, as amended \*

1. Only properly trained personnel are permitted to operate this machine.
2. Observe the national safety rules adopted in your country.
3. This machine should only be used for the purpose intended.
4. All safety devices must be in position when the machine is ready for work or when in use. Using the machine without safety devices is prohibited.
5. For your personal protection it is recommended that you wear safety glasses.
6. If alterations are made to the machine all of the machinery safety rules must be considered. Conversions and changes are made at your own risk.
7. Danger points are marked with the following warning symbols.



8. The following operations must not be performed until the machine has been disconnected from its power supply by turning-off the main switch or by pulling out the main plug:
    - 8.1 Threading needle(s), looper, spreader etc.
    - 8.2 Replacing sewing tools such as needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, fabric guide etc.
    - 8.3 Leaving the work place unattended.
    - 8.4 Maintenance work.
    - 8.5 When using clutch motors without actuation lock, wait until the motor has completely stopped.
  9. Maintenance, repair and conversion works (see item 6) must only be done by trained technicians or qualified personnel. Only genuine spare parts approved by Union Special should be used for repairs.
  10. Any work on the electrical equipment must be done by qualified electricians or under direction and supervision of qualified personnel.
  11. Work on parts and equipment under electrical tension is prohibited. Exceptions are described in the applicable sections of standard sheet EN 50110.
  12. The machine must be disconnected from the compressed air supply before performing any maintenance or repairs. After disconnecting, residual air pressure must be bled from the compressed air supply. Exceptions are only allowed for adjusting work and function checks done by qualified personnel.
- \* This restriction does not apply to complete sewing units and sewing systems delivered by Union Special.

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## BETRIEBSANLEITUNG

### SICHERHEITS-HINWEISE

Die Inbetriebnahme der Nähmaschinen ist solange untersagt, bis festgestellt wurde, daß die Näheinheiten bzw. Nähanlage, in die diese Nähmaschinen eingebaut werden sollen, der EG-Richtlinie Maschinen entsprechen. \*

1. Jede Maschine darf nur durch entsprechend unterwiesene Bedienungspersonen betätigt werden.
2. Beachten Sie die für Ihr Land geltenden nationalen Unfallverhütungsvorschriften.
3. Jede Maschine darf nur ihrer Bestimmung gemäß verwendet werden. Eine andere Benutzung ist nicht bestimmungsgemäß.
4. Bei betriebsbereiter oder in Betrieb befindlicher Maschine müssen alle Schutzeinrichtungen montiert sein. Ohne zugehörige Schutzeinrichtungen ist der Betrieb nicht erlaubt.
5. Zu Ihrer persönlichen Sicherheit empfehlen wir zusätzlich eine Schutzbrille zu tragen.
6. Umbauten und Veränderungen der Maschinen dürfen nur unter Beachtung der gültigen Sicherheitsvorschriften vorgenommen werden. Umbauten und Veränderungen erfolgen auf eigene Verantwortung.
7. Warnhinweise sind durch diese beiden Symbole gekennzeichnet:



8. Bei folgendem ist die Maschine durch Ausschalten am Hauptschalter oder durch Herausziehen des Netzsteckers vom Netz zu trennen:
  - 8.1. Zum Einfädeln von Nadel(n), Greifer, Leger usw.
  - 8.2. Zum Auswechseln von Nähwerkzeugen, wie Nadel, Drückerfuß, Stichplatte, Greifer, Leger, Transporteur, Nadelanschlag, Apparat, Stoffführung usw.
  - 8.3. Beim Verlassen des Arbeitsplatzes und bei unbeaufsichtigtem Arbeitsplatz.
  - 8.4. Für Wartungsarbeiten.
  - 8.5. Bei mechanisch betätigten Kupplungsmotoren ohne Betätigungssperre ist der Stillstand des Motors abzuwarten.
9. Wartungs-, Reparatur- und Umbauarbeiten (siehe Punkt 6) dürfen nur von Fachkräften oder entsprechend unterwiesenen Personen durchgeführt werden. Für Reparaturen sind nur die von Union Special freigegebenen Original-Erstatzteile zu verwenden.
10. Arbeiten an der elektrischen Ausrüstung dürfen nur von Elektrofachkräften oder unter Leitung und Aufsicht von entsprechend unterwiesenen Personen durchgeführt werden.
11. Arbeiten an unter Spannung stehenden Teilen und Einrichtungen sind nicht erlaubt. Ausnahmen regeln die zutreffenden Teile der EN 50110.
12. Vor Wartungs- und Reparaturarbeiten an pneumatischen Einrichtungen ist die Maschine vom pneumatischen Versorgungsnetz zu trennen. Wenn nach der Trennung vom pneumatischen Versorgungsnetz noch Restenergie ansteht (z. B. bei pneumatischen Einrichtungen mit Windkessel), ist diese durch Entlüften abzubauen.  
Ausnahmen sind nur bei Einstellarbeiten und Funktionsprüfungen durch entsprechend unterwiesene Fachkräfte zulässig.

\* Diese Einschränkung gilt nicht für von Union Special gelieferte Näheinheiten bzw. Nähanlagen.





## MODE D'EMPLOI

### INSTRUCTIONS DE SECURITE

La mise en route de la machine n'est autorisée que jusqu'au moment où on a déterminé que les éléments de couture respectivement les installations de couture - dans lesquelles ces machines à coudre seront incorporées - sont conformes avec les normes de la C.E.E. \*

1. La mise en route de chaque machine ne peut être effectuée que par des opérateurs qualifiés.
2. Observez les règles de sécurité en vigueur dans votre pays.
3. Chaque machine ne peut être utilisée que pour ce qu'elle est prévue. Un autre usage au delà de la description n'est pas prévu.
4. Tout l'appareillage de sécurité doit être mis en place lorsque la machine est prête à l'emploi. Opérer sans appareillage de sécurité n'est pas autorisé.
5. Pour votre protection personnelle, nous vous recommandons de porter des lunettes de sécurité.
6. En cas de conversion de la machine et de changements, toutes les règles de sécurité en vigueur doivent être considérées. Des conversions et changements sont effectués à vos propres risques.
7. Les avertissements dans les instructions sont marqués avec un des symboles suivants:



8. Pour la suite la machine doit être déconnectée du réseau électrique soit par déconnection de l'interrupteur ou soit par isolement de la machine du secteur.
    - 8.1. Pour enfiler le(s) aiguille(s), le crochet, fil de couverture, etc.
    - 8.2. Pour remplacer les pièces de couture telles qu'aiguille, pied-presseur, plaque à aiguille, crochet, doigt de couverture, transporteur, protège-aiguille, guide, guide-tissu, etc.
    - 8.3. Quand on quitte le lieu de travail et quand le lieu de travail est sans surveillance.
    - 8.4. Pour des travaux d'entretien.
    - 8.5. En cas d'emploi de moteurs à friction sans sécurité d'arrêt, il faut attendre l'arrêt total du moteur.
  9. Entretien, réparation et travaux de conversion (voir art. 6) ne doivent être exécutés que par des techniciens spécialisés ou par du personnel qualifié. Pour les dépannages seulement de pièces de rechange Union Special originales doivent être utilisées.
  10. Tout travail à l'équipement électrique doit être exécuté par des électriciens ou sous supervision de personnel qualifié.
  11. Des travaux aux pièces détachées et équipements sous tension électrique ne sont pas autorisés. Les exceptions sont décrites dans les secteurs appropriés de la feuille standard EN 50110.
  12. Avant d'effectuer des travaux de service et de réparation à l'équipement pneumatique, la machine doit être déconnectée de l'alimentation du compresseur d'air. Si - après déconnection de l'alimentation du compresseur d'air - il reste encore de la pression (p.e. à des installations pneumatiques avec un réservoir d'air) il faut évacuer l'air complètement. Exception est faite pour des travaux d'ajustements et de contrôle des fonctions, faits par du personnel qualifié.
- \* Cette restriction n'est pas valable sur machines à coudre respectivement installations à coudre livrées par Union Special

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## ISTRUZIONI D'USO

### NORME DI SICUREZZA

E' proibito mettere in funzione le macchine per cucire sino a che non sia stato accertato che le unità di cucitura, così come i sistemi di cucitura nelle quali queste macchine cucitrici saranno incorporate, siano conformi alle normative C.E.E.\*

- 1) L'avviamento di ogni macchina è permessa solo da operatori qualificati.
- 2) Attenersi alle norme di sicurezza in vigore nel Vostro Stato.
- 3) Ogni macchina deve essere usata solo per quello a cui è predisposta, ogni altro uso non è permesso.
- 4) Tutti i dispositivi di sicurezza devono essere correttamente posizionati prima di mettere in funzione la macchina e durante il funzionamento stesso. E' proibito far funzionare senza i suddetti dispositivi.
- 5) Per una migliore protezione personale si raccomanda l'uso di occhiali di sicurezza.
- 6) In caso di trasformazioni e modifica di una macchina devono essere tenute in considerazione tutte le regole di sicurezza in vigore. Trasformazioni e modifiche sono fatte a proprio rischio.
- 7) Le raccomandazioni di sicurezza sono contrassegnate da questi due simboli:



- 8) Per i seguenti casi le macchine devono essere staccate per mezzo dell'interruttore principale o togliendo la spina di alimentazione:
  - 8.1) Per l'infilatura dell'ago (aghi), crochet, filo di copertura ecc.
  - 8.2) Quando si sostituiscono elementi di cucitura quali ago, piedino, placca ago, crochet, crochet di copertura, griffe, salvaago, bordatore, guida tessuto, ecc.
  - 8.3) Quando si lascia il posto di lavoro e quando il posto di lavoro non è sorvegliato.
  - 8.4) Quando è in corso un lavoro di manutenzione.
  - 8.5) Quando si usa un motore a frizione senza sicurezza di arresto, si deve attendere sino a che il motore sia completamente fermo.
- 9) Lavori di manutenzione, riparazione e conversione (vedi punto 6) devono essere attuati solo da tecnici specializzati o personale qualificato. Solo pezzi di ricambio originali approvati dalla Union Special, devono essere usati per le riparazioni.
- 10) Ogni lavoro sulla parte elettrica deve essere fatto da elettrotecnici o sotto la direzione e supervisione di personale qualificato.
- 11) Interventi su parti ed apparecchiature sotto tensione elettrica non sono permessi. Le eccezioni permesse sono descritte nella sezione corrispondente alle norme standard EN 50110.
- 12) Prima di effettuare manutenzioni e riparazioni su apparecchiature pneumatiche, le macchine devono essere staccate dalla alimentazione del compressore d'aria. In caso di presenza di aria residua, dopo aver staccato il compressore (ad esempio un dispositivo con riserva d'aria) deve esser svuotato completamente tutto il circuito. Eccezioni sono ammesse solo per riparazioni e controlli da personale qualificato.

\* Questa limitazione non è valida per le unità di cucitura, così come per i sistemi di cucitura consegnati dalla Union Special.

## INSTRUCCIONES DE SERVICIO

### REGLAMENTACION SOBRE SEGURIDAD

La puesta en funcionamiento de la máquina de coser está prohibida hasta tanto no se haya comprobado que las unidades e instalaciones de costura, en las cuales se montaran las máquinas de coser, concuerden con las Directivas de Máquinas de la CE. \*

1. La puesta en funcionamiento de cada máquina sólo está permitida una vez tomado nota de las instrucciones y por una persona calificada.
2. Observe las reglamentaciones nacionales de seguridad de su País.
3. Cada máquina sólo puede ser utilizada para lo provisto. Otra utilización, fuera de la prevista, no está permitida.
4. Todos los dispositivos de seguridad tienen que estar montados y fijados antes de poner en funcionamiento la unidad. Operar la máquina sin los dispositivos de seguridad está prohibido.
5. Para su propia protección recomendamos utilizar gafas de seguridad.
6. En caso de conversiones y cambios en la máquina, deben ser respetadas todas las reglamentaciones existentes. Toda conversión y/o cambio se hacen bajo propio riesgo.
7. Recomendaciones de seguridad están marcadas con los siguientes dos símbolos:



8. En los siguientes casos la máquina debe ser desconectada por medio de la llave principal o bien desenchufada de la fuente principal de corriente:
  - 8.1. Cuando se enhebran las aguja(s), garfio(s) (loopers), "spreader(s)", etc.
  - 8.2. Cuando se reemplazan elementos de costura, tales como agujas, pie prensatela, plancha-agujas, garfio (looper), "spreader", transportadores, guarda-agujas, dobladilladores, guías de telas, etc.
  - 8.3. Al abandonar el puesto de trabajo y al dejar desatendido el mismo.
  - 8.4. Cuando se realizan trabajos de mantenimiento.
  - 8.5. Cuando se utilizan motores mecánicos de embrague sin bloques de seguridad, debe de esperarse hasta que el motor haya parado de girar totalmente.
9. Trabajos de mantenimiento, conversiones y cambios (ver ítem 6) sólo pueden ser realizados por personal idóneamente entrenado o personal especializado y respetando siempre las instrucciones de empleo. Para trabajos de conversiones solamente se tienen que utilizar piezas de recambio originales de Union Special.
10. Cualquier trabajo en partes eléctricas sólo puede ser realizado por electricistas o bajo dirección y supervisión de personal especializado.
11. Trabajos en partes y dispositivos bajo tensión eléctrica están prohibidos. Excepciones están permitidas y descritas en las secciones correspondientes de normas standard según EN 50110.
12. Antes de realizar trabajos de mantenimiento o reparaciones en la instalación neumática, la máquina debe ser desconectada de la fuente de aire comprimido. En caso de existir presión de aire residual después de desconectar la unidad de la fuente principal (ejemplo equipo neumático con tanque de aire), la misma debe ser liberada por medio de la válvula correspondiente. Solamente se permiten excepciones para trabajos de ajuste y pruebas de funcionamiento por personal especializado.

\* Esta restricción no esta valida para unidades e instalaciones de coser entregadas de Union Special.

## BRUGSVEJLEDNING

### SIKKERHEDSBESTEMMELSER:

Igangsætning og ibrugtagelse af symaskinen er forbudt, indtil man har sikret sig, at symaskinen h.h.v. det komplette sylanlæg, i hvilket denne maskine skal indbygges, er i overensstemmelse med bestemmelserne i EU landenes maskin direktiver.\*

1. Opstart af den enkelte symaskine er kun tilladt af kvalificerede operatører.
2. Vær opmærksom på de nationale sikkerhedsbestemmelser, som er gældende for dit land (Danmark).
3. Det er kun tilladt at bruge symaskinen som foreskrevet. Anden brug er ikke tilladt.
4. Alle sikkerhedsanordninger skal være på plads når symaskinen er driftklar, eller i drift. Brug af symaskinen uden de lovbefalede sikkerhedsanordninger, er ikke tilladt.
5. For Deres personlige sikkerhed anbefales det at bruge sikkerhedsbriller.
6. Forandring eller ombygning af symaskinen, må kun udføres under iagttagelse af de lovbefalede sikkerhedsbestemmelser. Forandring og ombygning sker på eget ansvar.
7. Advarselshenvisninger er afmærket med disse to symboler.



8. Ved følgende arbejdsoperationer, skal symaskinen slukkes ved afbryderen, eller ved at trække stikket ud af stikkontakten:
    - 8.1 Når man træder nålen(e), griber, dækgriber etc.
    - 8.2 Ved udskiftning af sydele, såsom nåle, trykfod, stinglade, griber, dækgriber, transportør, nålebeskytter, foldere, føringer etc.
    - 8.3 Når man forlader symaskinen og når symaskinen ikke benyttes.
    - 8.4 Ved vedligeholdelseseftersyn.
    - 8.5 Når man bruger mekanisk koblingsmotor uden betjeningsspærre, skal man vente indtil motoren er fuldstændig standset.
  9. Vedligeholdelse, reparationer og ombygningsarbejde (se punkt 6) må kun udføres af fagfolk, eller specielt uddannet personale netop til denne maskintype. Kun originale reservedele fra UNION SPECIAL må anvendes til reparationer.
  10. Alt arbejde på elektriske installationer må KUN udføres af uddannede elektrikere eller specielt uddannet personale.
  11. Arbejde på dele og udstyr med elektrisk spænding er ikke tilladt. Tilladelige undtagelser er beskrevet på standardblad EN 50110.
  12. Før der foretages vedligeholdelseseftersyn og reparationer på det pneumatiske udstyr, skal maskinen frakobles trykluftanlægget (kompressoreren). I tilfælde af, at der stadig er tryk på anlægget efter frakobling af kompressoren, skal trykket fjernes ved udluftningsventilen. Eneste undtagelse er justeringsarbejde og funktionstests, som kun må udføres af specialuddannede fagfolk.
- \* Denne bestemmelse er ikke gældende for symaskiner h.h.v. sylanlæg leveret af Union Special.

## INSTRUKTIONER

### SÄKERHETSBESTÄMMELSER

Denna symaskin får inte tas i bruk innan det har bestämts att symaskinen och de övriga delar som ingår i sömnadssystemet överensstämmer med EU Rådets Direktiv för Maskiner, från den 14 Juni, 1989, enl. tillägg \*

1. Endast noggrant instruerad personal är tillåtna att betjäna denna symaskin.
2. Ta del av de nationella säkerhetsbestämmelser som gäller i ert land.
3. Denna maskin får endast användas till det ändamål den är avsedd för.
4. All säkerhetsutrustning måste vara monterad när maskinen är klar för arbete eller i arbete. Att använda maskinen utan säkerhetsutrustningen är förbjudet.
5. För din personliga säkerhet rekommenderar vi att du använder skyddsglasögon.
6. Om några förändringar görs på maskinen, måste hänsyn tas till alla de säkerhetsföreskrifter som gäller för maskinen. Förändringar och ombyggnader som görs är på er egen risk.
7. Farliga punkter är markerade med följande varnings symboler.



8. Följande arbeten får inte utföras innan maskinen har kopplats bort från strömförsörjningen, genom att stänga av huvudströmbrytaren eller genom att ta ur stickproppen.
    - 8.1 Trädning av nål, gripare, spridare etc.
    - 8.2 Utbyte av symaskinsdelar såsom nålar, pressarfötter, stygnplåtar, gripare, spridare, matare, nålstöd, vikare, linjaler etc.
    - 8.3 Lämna arbetsplatsen obemannad.
    - 8.4 Underhållsarbete.
    - 8.5 Vid användning av kopplingsmotor utan startspärr, vänta tills motorn har stannat.
  9. Underhåll, reparationer eller ombyggnader (se punkt 6) får endast utföras av härför utbildad tekniker eller annan kvalificerad personal. Endast original reservdelar som är godkända av UNION SPECIAL skall användas vid reparationer.
  10. Allt arbete på den elektriska utrustningen måste utföras av en kvalificerad elektriker eller under överinseende av kvalificerad personal.
  11. Arbete på delar eller utrustning som är under elektrisk spänning är förbjudet. Undantag är beskrivet i tillämplig sektion biad EN 50110.
  12. Maskinen måste kopplas ifrån eventuell tryckluft före utförande av något underhåll eller reparation. Efter fränkoppling av tryckluften måste kvarvarande tryckluft tömmas från maskinen. Undantag får endast göras för justering och funktions kontroll av kvalificerad personal.
- \* Denna restriktion tillämpas inte på kompletta sömnadsutrustningar eller sömnadssystem levererad av UNION SPECIAL.

## KÄYTTÖOHJEET

### TURVALLISUUSMÄÄRÄYKSET

Tätä ompelukonetta ei saa käyttää ennen kuin on varmistettu, että ompeluyksikkö ja ompelujärjestelmä, johon tämä kone liitetään noudattavat EU:n neuvoston 14.6.1994 julkaisemaa konedirektiiviä lisäyksineen.\*

1. Vain asianmukaisesti koulutettu henkilökunta saa käyttää tätä konetta.
2. Kansallisia turvallisuusmääräyksiä on noudatettava.
3. Tätä konetta saa käyttää vain siihen tarkoitukseen, johon se on tarkoitettu.
4. Kun kone on käyttökunnossa tai käytössä, kaikkien turvalaitteiden on oltava paikoillaan. Koneen käyttö ilman turvalaitteita on kielletty.
5. Käyttäjän oman edun kannalta on suojalasien käyttö suositeltavaa.
6. Mikäli koneeseen tehdään muutoksia, turvamääräykset on otettava huomioon. Muutosten tekeminen tapahtuu käyttäjän omalla riskillä.
7. Vaaralliset pisteet on merkitty seuraavilla symboleilla.



8. Seuraavien toimenpiteiden teko on sallittu vain koneen ollessa kytketty pois sähkövirrasta joko pääkatkaisijaa kääntämällä tai ottamalla sähköjohto pois pistorasiasta.
  - 8.1 Langanpujotus neulaan, sieppariin, riipojaan y.m.
  - 8.2 Ompeluvälineiden kuten: neulan, paininjalan, pistolevyn, siepparin, langanohjaimen, syöttäjän, neulatuen, pallistajan tai kankaanohjaimen vaihtaminen.
  - 8.3 Työpisteen jättäminen ilman valvontaa.
  - 8.4 Huoltotyöt
  - 8.5 Käytettäessä kytkinmoottoria ilman lukitusta on odotettava kunnes moottori on täysin pysähtynyt.
9. Huolto, korjaus ja muutostöitä (ks. kohta 6) saa tehdä ainoastaan koulutettu teknikko tai henkilökunta. Korjauksissa tulee käyttää vain Union Specialin hyväksymiä alkuperäisiä varaosia.
10. Sähkölaitteita koskevia töitä saa tehdä vain koulutettu sähkömies tai koulutetun henkilökunnan johdossa ja valvonnassa.
11. Työ osilla tai varusteilla, joissa on sähköjännite on kielletty. Poikkeukset on lueteltu standardin EN 50110 soveltuvissa osissa.
12. Kone tulee kytkeä irti painellusta ennen kuin huolto- tai korjaustöitä tehdään. Irtykytkennän jälkeen jäännösilmanpaine tulee purkaa pois. Poikkeuksena on vain koulutetun henkilökunnan tekemä säätötyö ja toiminnan tarkastukset.

\* Tämä rajoitus ei koske Union Specialin toimittamia kokonaisia ompeluyksiköitä ja ompelujärjestelmiä.

## INSTRUÇÕES

### REGRAS DE SEGURANCA

A colocação em serviço das máquinas de costura, é proibida até que tenha sido assegurado que as instalações nas quais as cabeças de costura serão aplicadas estejam de acordo com as normas do Concelho Directivo das Máquinas da CE (EC Council Directives Machinery).\*

1. O funcionamento de cada máquina só é permitido a operadores qualificados.
2. Observar as regras de segurança vigentes no País.
3. Cada máquina só pode ser utilizada para o que foi determinada. Outro uso não é permitido.
4. Todos os dispositivos de segurança devem estar em ordem quando a máquina estiver pronta para trabalhar ou em operação. A operação sem o correspondente dispositivo de segurança é proibida.
5. Para sua protecção pessoal recomendamos o uso adicional de óculos de segurança.
6. Em caso de conversão ou alterações na máquina, todas as regras válidas de segurança devem ser consideradas. Conversões e alterações são efectuados com risco próprio.
7. Os avisos de alerta são designados pelos seguintes dois símbolos:



8. Para as seguintes situações, a máquina tem de ser desligada da corrente, através do interruptor principal ou desligando a ficha eléctrica:
  - 8.1. Para enfiar a(s) agulha(s), laçadeira, laçadeira cega, etc.
  - 8.2. Para substituir peças de costura, tal como agulha, calcador, chapa de agulha, laçadeira, laçadeira cega, serrilha, protecção da agulha, aparelho, guia do tecido etc.
  - 8.3. Ao deixar o local de trabalho e quando o local não estiver sob vigia
  - 8.4. Para trabalhos de manutenção
  - 8.5. Ao usar motor de embraiagem sem travão, terá de aguardar até que o motor pare completamente.
9. Trabalhos de manutenção, reparação e conversão (ver parágrafo 6) têm de ser efectuados somente por técnicos treinados ou pessoas especialmente preparadas. Somente peças genuínas aprovadas pela Union Special podem ser usadas para reparações.
10. Qualquer trabalho no equipamento eléctrico tem de ser feito por electricistas sob a direcção e supervisão de pessoal especialmente qualificado.
11. Trabalhos em partes e equipamentos sob tensão eléctrica não são permitidos. Excepções permitidas são descritas na secção própria da norma EN 50110.
12. Antes de se fazerem trabalhos de manutenção e reparação no equipamento pneumático, a máquina tem de ser desligada da fonte de ar comprimido. No caso de pressão residual após desligada da fonte de ar comprimido (ex. equipamento pneumático com tanque de ar) tem de ser removido através de sangria. Excepções são apenas permitidas para trabalhos de ajuste e funções de verificação feitos por pessoal especialmente qualificado.

\* Este seguram-se não da na Union Special assegurado que as instalações.

## GEBRUIKSAANWIJZIGING

### VEILIGHEIDSMATREGELEN

Het opstarten van de machine is niet eerder toegelaten dan op het moment waarop men bepaald heeft dat de naai-elementen en de naai-installatie waarin de machines zullen opgenomen worden, conform zijn aan de E.E.G.-normen.

1. Het opstarten van elke machine mag enkel gebeuren door geschoolde bedieners.
2. Neem de veiligheidsmaatregelen in acht die gangbaar zijn in Uw land.
3. Elke machine moet gebruikt worden voor het doel waarvoor ze voorzien is. Een ander gebruik buiten de beschrijving is niet voorzien.
4. Alle veiligheidsapparatuur moet eerst geplaatst zijn voor de machine klaar is voor gebruik. Werking zonder veiligheidsapparatuur is niet toegelaten.
5. Voor Uw persoonlijke bescherming, raden wij U aan een veiligheidsbril te dragen.
6. In geval van ombouwing of wijzigingen aan de machine, moeten alle veiligheidsmaatregelen in acht genomen worden. Ombouwingen en wijzigingen gebeuren op Uw eigen risico.
7. De verwittigingen in de instructies zijn aangeduid met volgend symbool :



8. Voor het volgende moet de machine van de stroom ontkoppeld worden hetzij door het uitschakelen van de hoofdschakelaar, hetzij door het uittrekken van de stekker.
    - 8.1. Voor het bedraden van de naald(en), grijper, spreader, etc.
    - 8.2. Voor het vervangen van naai-onderdelen zoals de naald, persvoet, naaldplaat, grijper, naaldbeschermer, geleider, stofgeleider, etc.
    - 8.3. Wanneer men de werkplaats verlaat of wanneer de werkplaats onbewaakt is.
    - 8.4. Voor onderhoudswerken.
    - 8.5. In geval van gebruik van frictiemotor zonder veiligheidsstop, moet men wachten tot de motor volledig gestopt is.
  9. Onderhoud, herstelling en ombouwingswerken mogen enkel uitgevoerd worden door gespecialiseerde technici of door bevoegd personeel. Voor de herstelling mogen enkel originele Union Special-stukken gebruikt worden.
  10. Alle werken aan de elektrische uitrusting moeten uitgevoerd worden door electriciers of onder toezicht van bevoegd personeel.
  11. Werken aan onderdelen en apparaten onder elektrische spanning zijn niet toegelaten. Uitzonderingen zijn beschreven in de betreffende sectoren op het standaardblad EN 50110.
  12. Alvorens herstellingswerken uit te voeren aan het pneumatisch materiaal, moet de machine ontkoppeld worden van de voeding van perslucht. Indien er nog druk blijft na het ontkoppelen van de voeding van perslucht (bijvoorbeeld bij pneumatische installaties met een luchtreservoir), moet de lucht volledig geëvacueerd worden. Uitzondering wordt gemaakt voor uitvoering van afstellingen en controle van de functies, gedaan door bevoegd personeel.
- \* Deze beperking is niet van toepassing op volledige naai-eenheden en naaisystemen geleverd door Union Special.



# U. Union Special

## INSTRUKSJONER

### SIKKERHETSREGLER

Denne symaskinen må ikke brukes før det er fastslått at sømenhetene og sømsystemene som disse maskinene skal plasseres i, er i overensstemmelse med EU-rådets retningslinjer for maskiner av 14. juni 1989.\*

1. Kun dertil opplærte personer er tillatt å betjene denne maskinen.
2. De nasjonale sikkerhetsregler som gjelder i vedkommende land, må følges.
3. Denne maskinen må kun benyttes for det formål den er bestemt til.
4. Alle sikkerhetsinnretninger må være montert når maskinen er klar til bruk eller i bruk. Det er ikke tillatt å benytte maskinen uten tilhørende sikkerhetsinnretninger.
5. For din personlige beskyttelse anbefales å bruke sikkerhetsbriller.
6. Eventuelle forandringer av maskinen må foretas i henhold til sikkerhetsforskriftene. Ombygging og forandringer skjer på egen risiko.
7. Farepunkter er merket med følgende advarselssymboler:



8. Følgende operasjoner må ikke utføres før maskinen er koblet fra strømmettet ved enten å slå av hovedbryter eller trekke ut støpslet:
    - 8.1 Tråing av nål(er), griper, spreder etc.
    - 8.2 Utskifting av sømverktøy som nål, trykkfot, stingplate, griper, spreder, transportør, nålstøtte, faldeapparat, linjal etc.
    - 8.3 Forlating av arbeidsplass hvis denne er ubevoktet.
    - 8.4 Vedlikeholdsarbeid.
    - 8.5 Ved bruk av clutch motorer uten startsperre, vent til motoren har stoppet.
  9. Vedlikehold, reparasjoner og ombyggingsarbeider (se pkt. 6) må kun foretas av opplærte teknikere eller kvalifisert personell. Kun originaldeler godkjent av Union Special må benyttes ved reparasjoner.
  10. Alt arbeid på det elektriske utstyr må foretas av kvalifiserte elektrikere eller under ledelse og oppsikt av kvalifisert personell.
  11. Arbeid på deler og utstyr under elektrisk spenning er ikke tillatt. Unntak er beskrevet i de aktuelle paragrafer i standardark EN 50110.
  12. Ved vedlikeholds- og reparasjonsarbeider på pneumatiske innretninger må maskinen frakobles det pneumatiske forsyningsnett. Eventuelt resterende lufttrykk fjernes ved ventilering av luftforsyningsanlegget. Unntak tillates kun for justeringsarbeid og funksjonskontroll foretatt av kvalifisert personell.
- \* Denne restriksjon gjelder ikke for komplette sømenheter og sømsystemer levert av Union Special.

# U. Union Special

ΟΔΗΓΙΕΣ

## ΚΑΝΟΝΕΣ ΑΣΦΑΛΕΙΑΣ

ΑΠΑΓΟΡΕΥΕΤΑΙ Η ΧΡΗΣΗ ΤΩΝ ΡΑΠΤΟΜΗΧΑΝΩΝ ΜΕΧΡΙ ΝΑ ΕΞΑΚΡΙΒΩΘΕΙ, ΟΤΙ ΟΙ ΜΟΝΑΔΕΣ ΡΑΦΗΣ ΚΑΙ ΑΝΤΙΣΤΟΙΧΩΣ ΤΑ ΣΥΣΤΗΜΑΤΑ ΡΑΦΗΣ ΣΤΑ ΟΠΟΙΑ ΘΑ ΤΟΠΟΘΕΤΗΘΟΥΝ ΑΥΤΕΣ ΟΙ ΜΗΧΑΝΕΣ ΑΝΤΑΠΟΚΡΙΝΟΝΤΑΙ ΣΤΟΥΣ ΟΡΟΥΣ ΤΟΥ ΣΥΜΒΟΥΛΙΟΥ ΤΗΣ ΕΥΡΩΠΑΪΚΗΣ ΚΟΙΝΟΤΗΤΑΣ.\*

1. ΤΟ ΞΕΚΙΝΗΜΑ ΚΑΘΕ ΜΗΧΑΝΗΣ ΠΡΕΠΕΙ ΝΑ ΓΙΝΕΤΑΙ ΜΟΝΟ ΑΠΟ ΚΑΝΟΙΟΝ ΕΙΔΙΚΑ ΕΚΠΑΙΔΕΥΜΕΝΟ.
2. ΝΑ ΤΗΡΗΤΕ ΤΟΥΣ ΚΑΝΟΝΕΣ ΑΣΦΑΛΕΙΑΣ ΠΟΥ ΙΣΧΥΟΥΝ ΣΤΗΝ ΧΩΡΑ ΣΑΣ.
3. Η ΚΑΘΕ ΜΗΧΑΝΗ ΕΧΕΙ ΣΥΓΚΕΚΡΙΜΕΝΗ ΧΡΗΣΗ. ΔΙΑΦΟΡΕΤΙΚΗ ΧΡΗΣΗ ΤΗΣ ΜΗΧΑΝΗΣ ΔΕΝ ΕΠΙΤΡΕΠΕΤΑΙ.
4. ΟΛΟΙ ΟΙ ΜΗΧΑΝΙΣΜΟΙ ΑΣΦΑΛΕΙΑΣ ΠΡΕΠΕΙ ΝΑ ΕΙΝΑΙ ΣΤΗ ΘΕΣΗ ΤΟΥΣ, ΟΤΑΝ Η ΜΗΧΑΝΗ ΕΙΝΑΙ ΕΤΟΙΜΗ ΝΑ ΔΟΥΛΕΥΕΙ Η ΟΤΑΝ ΔΟΥΛΕΥΕΙ. Η ΛΕΙΤΟΥΡΓΙΑ ΤΗΣ ΜΗΧΑΝΗΣ ΧΩΡΙΣ ΑΥΤΕΣ ΤΙΣ ΑΣΦΑΛΕΙΕΣ ΔΕΝ ΕΠΙΤΡΕΠΕΤΑΙ.
5. ΓΙΑ ΤΗΝ ΠΡΟΣΩΠΙΚΗ ΣΑΣ ΠΡΟΣΤΑΣΙΑ ΠΡΟΤΕΙΝΟΥΜΕ ΝΑ ΦΟΡΑΤΕ ΓΥΑΛΙΑ ΑΣΦΑΛΕΙΑΣ.
6. ΣΕ ΠΕΡΙΠΤΩΣΕΙΣ ΜΕΤΑΤΡΟΠΩΝ Η ΑΛΛΑΓΩΝ ΤΩΝ ΜΗΧΑΝΩΝ ΠΡΕΠΕΙ ΝΑ ΛΑΜΒΑΝΟΝΤΑΙ ΥΠ'ΟΨΗ ΟΛΟΙ ΟΙ ΙΣΧΥΟΝΤΕΣ ΚΑΝΟΝΕΣ ΑΣΦΑΛΕΙΑΣ. ΜΕΤΑΤΡΟΠΕΣ Η ΑΛΛΑΓΕΣ ΓΙΝΟΝΤΑΙ ΜΕ ΔΙΚΗ ΣΑΣ ΕΥΘΥΝΗ.
7. ΕΝΔΕΙΞΕΙΣ ΚΙΝΔΥΝΟΥ ΣΗΜΕΙΩΝΟΝΤΑΙ ΜΕ ΤΑ ΔΥΟ ΑΚΟΛΟΥΘΑ ΣΥΜΒΟΛΑ:



8. ΣΤΙΣ ΠΕΡΙΠΤΩΣΕΙΣ ΠΟΥ ΑΚΟΛΟΥΘΟΥΝ, Η ΜΗΧΑΝΗ ΠΡΕΠΕΙ ΝΑ ΑΠΟΣΥΝΔΕΕΤΑΙ ΑΠΟ ΤΟ ΡΕΥΜΑ ΓΒΗΝΟΝΤΑΣ ΤΟΝ ΚΕΝΤΡΙΚΟ ΔΙΑΚΟΜΤΗ Η ΤΡΑΒΩΝΤΑΣ ΤΗΝ ΠΡΙΖΑ ΠΑΡΟΧΗΣ ΡΕΥΜΑΤΟΣ:
  - 8.1 ΓΙΑ ΝΑ ΠΕΡΑΣΟΥΜΕ ΚΑΩΣΤΗ ΣΤΗ ΒΕΛΩΝΑ (ΒΕΛΩΝΕΣ), ΤΣΑΓΑΝΟ, ΕΡΑΝΩ ΤΣΑΓΑΝΟ Κ.Α.Π.
  - 8.2 ΓΙΑ Ν'ΑΝΤΙΚΑΤΑΣΤΗΣΟΥΜΕ ΕΞΑΡΤΗΜΑΤΑ ΡΑΨΙΜΑΤΟΣ, ΟΠΩΣ ΒΕΛΩΝΑ, ΠΟΔΑΡΑΚΙ, ΠΛΑΚΑ, ΤΣΑΓΑΝΟ, ΔΟΝΤΑΚΙ, ΦΥΛΑΧΤΡΑ, ΣΤΡΙΦΩΤΗΡΙ, ΟΔΗΓΟ ΥΦΑΣΜΑΤΟΣ Κ.Α.Π.
  - 8.3 ΟΤΑΝ ΦΕΥΓΟΥΜΕ ΑΠΟ ΤΟΝ ΧΩΡΟ ΕΡΓΑΣΙΑΣ Η ΟΤΑΝ Ο ΧΩΡΟΣ ΕΡΓΑΣΙΑΣ ΔΕΝ ΕΠΙΒΛΕΠΕΤΑΙ.
  - 8.4 ΟΤΑΝ ΓΙΝΕΤΑΙ ΣΥΝΤΗΡΗΣΗ ΤΩΝ ΜΗΧΑΝΩΝ.
  - 8.5 ΟΤΑΝ ΧΡΗΣΙΜΟΠΟΙΟΥΜΕ ΜΟΤΕΡ ΧΩΡΙΣ ΑΣΦΑΛΕΙΑ ΚΙΝΗΤΗΡΑ ΠΡΕΠΕΙ ΝΑ ΠΕΡΙΜΕΝΟΥΜΕ ΜΕΧΡΙ ΤΟ ΜΟΤΕΡ ΝΑ ΣΤΑΜΑΤΗΣΕΙ ΤΕΛΕΙΩΣ.
9. Η ΣΥΝΤΗΡΗΣΗ, Η ΕΠΙΣΚΕΥΗ ΚΑΘΩΣ ΚΑΙ ΟΙ ΜΕΤΑΤΡΟΠΕΣ ΤΩΝ ΜΗΧΑΝΩΝ (ΒΛΕΠΕ ΤΟ ΝΟ. 6) ΠΡΕΠΕΙ ΝΑ ΓΙΝΟΝΤΑΙ ΜΟΝΟ ΑΠΟ ΕΚΠΑΙΔΕΥΜΕΝΟΥΣ ΤΕΧΝΙΚΟΥΣ Η ΕΙΔΙΚΑ ΕΚΠΑΙΔΕΥΜΕΝΟ ΠΡΟΣΩΠΙΚΟ. ΓΙΑ ΤΙΣ ΕΠΙΣΚΕΥΕΣ ΠΡΕΠΕΙ ΝΑ ΧΡΗΣΙΜΟΠΟΙΟΥΝΤΑΙ ΜΟΝΟ ΓΝΗΣΙΑ ΑΝΤΑΛΛΑΚΤΙΚΑ ΤΗΣ UNION SPECIAL.
10. ΟΠΟΙΑΔΗΠΟΤΕ ΕΡΓΑΣΙΑ ΠΟΥ ΑΦΟΡΑ ΤΑ ΗΛΕΚΤΡΙΚΑ ΠΡΕΠΕΙ ΝΑ ΓΙΝΕΤΑΙ ΑΠΟ ΗΛΕΚΤΡΟΛΟΓΟ Η ΥΠΟ ΤΗΝ ΚΑΘΟΔΗΓΗΣΗ ΚΑΙ ΕΠΟΠΤΕΙΑ ΕΙΔΙΚΑ ΕΚΠΑΙΔΕΥΜΕΝΟΥ ΠΡΟΣΩΠΙΚΟΥ.
11. ΔΕΝ ΕΠΙΤΡΕΠΕΤΑΙ ΝΑ ΓΙΝΟΝΤΑΙ ΕΡΓΑΣΙΕΣ ΣΤΑ ΑΝΤΑΛΛΑΚΤΙΚΑ ΚΑΙ ΤΟΝ ΗΛΕΚΤΡΟΛΟΓΙΚΟ ΕΞΟΠΛΙΣΜΟ ΥΠΟ ΤΑΣΗ ΡΕΥΜΑΤΟΣ. ΕΞΑΙΡΕΣΕΙΣ ΑΝΑΦΕΡΟΝΤΑΙ ΣΤΟ ΚΕΦΑΛΑΙΟ ΤΩΝ ΕΦΑΡΜΟΓΩΝ ΤΗΣ ΣΕΛΙΔΑΣ EN 50110.
12. ΠΡΙΝ ΑΠΟ ΤΗΝ ΣΥΝΤΗΡΗΣΗ ΚΑΙ ΤΗΝ ΕΠΙΣΚΕΥΗ ΤΟΥ ΣΥΣΤΗΜΑΤΟΣ ΑΕΡΟΣ, Η ΜΗΧΑΝΗ ΠΡΕΠΕΙ ΝΑ ΑΠΟΣΥΝΔΕΕΤΑΙ ΑΠΟ ΤΗΝ ΠΑΡΟΧΗ ΠΕΡΙΕΣΜΕΝΟΥ ΑΕΡΑ. ΣΕ ΠΕΡΙΠΤΩΣΗ ΠΟΥ ΑΠΟΣΥΝΔΕΣΟΥΜΕ ΤΗΝ ΜΗΧΑΝΗ ΑΠΟ ΤΗΝ ΠΑΡΟΧΗ ΠΕΡΙΕΣΜΕΝΟΥ ΑΕΡΑ (Π.Χ. ΣΥΣΤΗΜΑ ΑΕΡΟΣ ΜΕ ΑΠΟΘΗΚΕΥΣΗ) ΚΑΙ ΕΞΑΚΟΛΟΥΘΕΙ ΝΑ ΥΠΑΡΧΕΙ ΠΙΕΣΗ ΑΕΡΟΣ, ΜΠΟΡΟΥΜΕ Ν'ΑΦΗΣΟΥΜΕ ΤΟΝ ΑΕΡΑ ΝΑ ΦΥΓΕΙ ΣΙΓΑ-ΣΙΓΑ. ΕΞΑΙΡΟΥΝΤΑΙ ΜΟΝΟ ΟΙ ΕΡΓΑΣΙΕΣ ΡΕΓΟΥΛΑΡΙΣΜΑΤΟΣ ΚΑΙ ΤΕΣΤ ΛΕΙΤΟΥΡΓΙΑΣ ΤΩΝ ΜΗΧΑΝΩΝ ΠΟΥ ΘΑ ΠΡΕΠΕΙ ΝΑ ΓΙΝΟΝΤΑΙ ΑΠΟ ΕΙΔΙΚΑ ΕΚΠΑΙΔΕΥΜΕΝΟ ΠΡΟΣΩΠΙΚΟ.

\* ΑΥΤΟΣ Ο ΠΕΡΙΟΡΙΣΜΟΣ ΔΕΝ ΙΣΧΥΕΙ ΓΙΑ ΤΙΣ ΜΟΝΑΔΕΣ ΡΑΦΗΣ ΚΑΙ ΑΝΤΙΣΤΟΙΧΩΣ ΤΑ ΣΥΣΤΗΜΑΤΑ ΡΑΦΗΣ ΠΟΥ ΠΑΡΑΔΙΔΟΝΤΑΙ ΑΠΟ ΤΗΝ UNION SPECIAL.

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