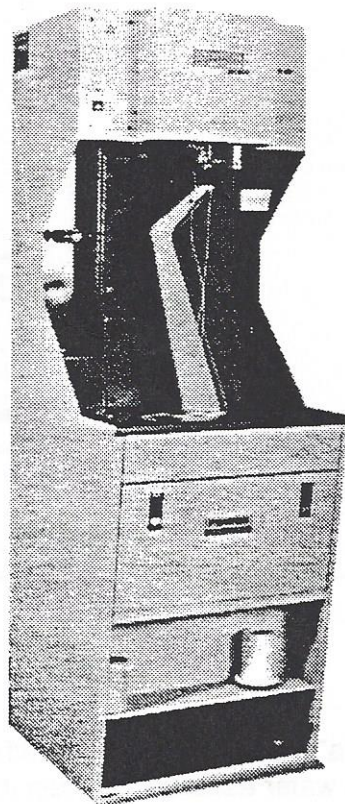


POWER

OPERATION MANUAL LOCKSTITCH SOLE SEWING MACHINE MODEL

DN 86



It is important to read these instructions carefully before using the stitcher.

CAUTION

Check, before the machine is "plugged in", if the local electr. current equals the voltage etc. as indicated on the label. Failures caused by incorrect electrical connections will invalidate any warranty claims.

MACHINE SPEED

Model DN 86 is supplied set to run at 100 stitches per minute and it is suggested that the operator should become fully conversant with the machine before the drive is adjusted to the higher speed of 160 stitches per minute, if required. This operation is carried out by changing belt DN 1113 onto the larger 'V' motor pulley DN 1665 and realigning the motor pully to ensure that the belt is running vertical as shown (fig. 9).

Fig. 9

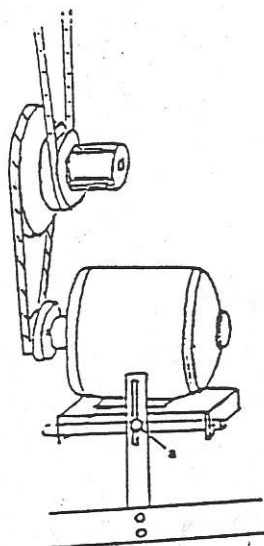
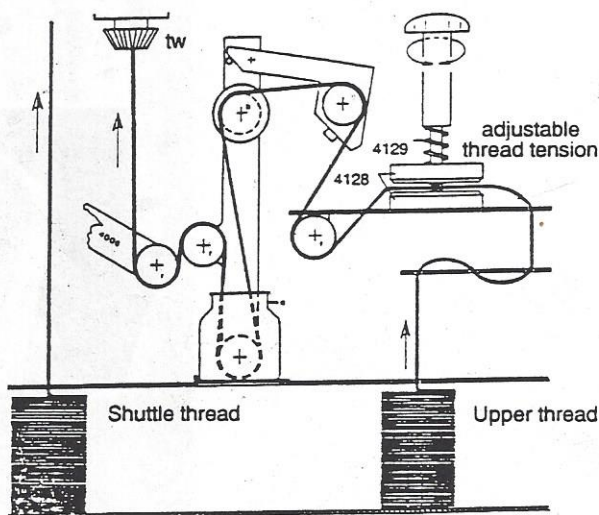


Fig. 8



STITCHING TRIALS

The machine's Lubricating Tank, "a" (fig.8) must be filled with a solution to lubricate the thread, i.e. a soluble oil (1/10) mixed with water essential for linen thread.

Our polyester "never strand" thread can be used without lubrication. The thread feeding from the machine base must always be wet when stitching. The shuttle thread must be waxed. The machine is supplied with a stitch sample attached. This should be removed cutting the thread close to the work piece. The Horn thread should be drawn through at the same time until freshly lubricated thread is clear of the horn and cut off surplus thread.

The shuttle thread should be left with approximately 8–10 cm of loose thread. Scrap leather should be used in order to gain experience in the working of the machine. To examine the stitching principle, the machine may be operated by hand rotating the hand-wheel in a clockwise direction, i.e. the top of the handwheel away from the operator when standing at the front of the machine.

Correct conditioning of the leather to be stitched will reduce the wear on the needle and other functioning parts.

Before start and after finishing work always turn the handwheel to the "start position" see fig.1. If it is not possible to hold the thread by hand (f.i. with boots) when starting then attach the thread under spring clip V (fig.2). However there should be at least 16 cm thread between clip and horn tipcover.

Fig. 1

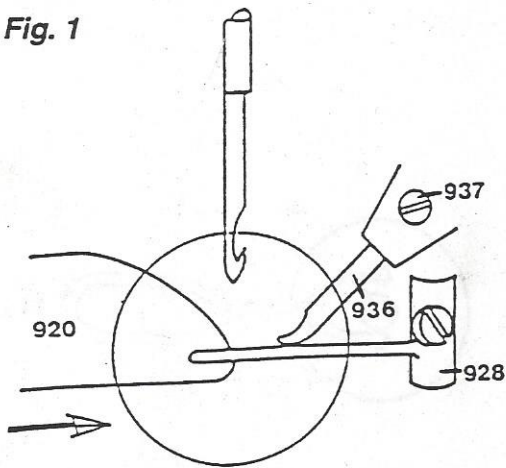
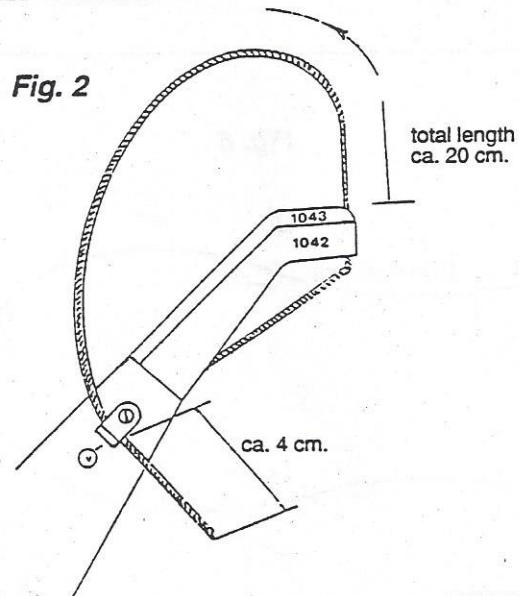


Fig. 2



STITCHING

Turn the handwheel into "start position" and the position the bow of the horn to the left, as shown in fig. 1. Use the foot threadle (L.H.) to raise the presser foot to its upper position.

Place the work between the horn cap and the presser foot and lower to clamp the workpiece. The stitching can then proceed by operating the (R.H.) foot threadle holding the upper thread until the first two stitches are made and guide the work as required. The stitch length may be varied by adjustment of the stitch length control knob, DN 325. The presser foot tension should be adjusted when working with very soft materials, i.e. felt or rubber etc., or with extreme thicknesses of material. This is carried out by adjustment of nuts at the top of machine, the head cover must be lifted up, DN 829 and DN 833. To stop stitching release the foot threadle and rotate the machine by hand until the needle is about to pierce the leather, turn the handwheel back one full turn and raise the presser foot. The shoe may then be removed from the machine at the same time assisting the thread passing through the horn.

THREAD TENSION

With knob 4130 to the right of the horn on the wooden work table, the tension can be adjusted, so that the "lock" of upper and shuttle thread should pull into the middle of the material.

SHUTTLE

To remove the shuttle rotate the machine by hand until the shuttle point, thread splitter, and needle point coincide "start position" (fig.1). Loosen the retaining screw DN 919.

Rotate the shuttle retaining ring DN 918, and pull downwards.

The shuttle DN 920 may then be removed. Remove the bobbin DN 927 from the shuttle using the special key DN 1114 supplied with the machine (fig.7).

Fig. 6

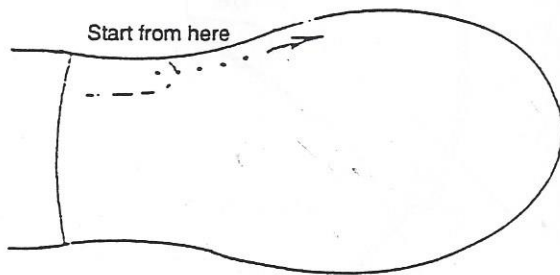
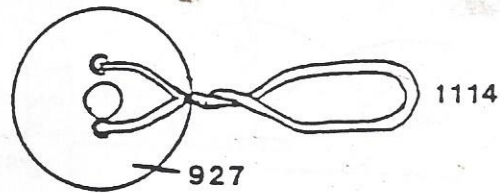


Fig. 7



TO FIT NEW BOBBIN INTO SHUTTLE

- A) Pass the free end thread through the wire loop of the threader, DN 463 and draw it from inside to outside through hole "a" (fig.5) in the shuttle wall.
- B) Press the bobbin into the shuttle (the two holes in the bobbin wall to be outwards). It is advisable to place a few drops of machine oil in the housing before pressing in the bobbin. Check that the thread pulls through freely.
- C) Pass the threader through the hole "b" (fig.5) and draw the thread end through the hole.
- D) The shuttle can now be replaced into the machine.

Fig. 5

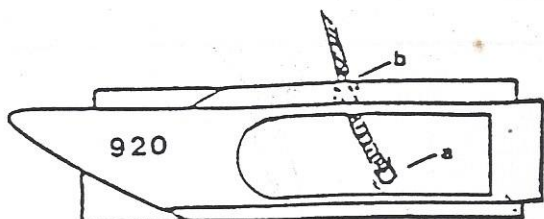
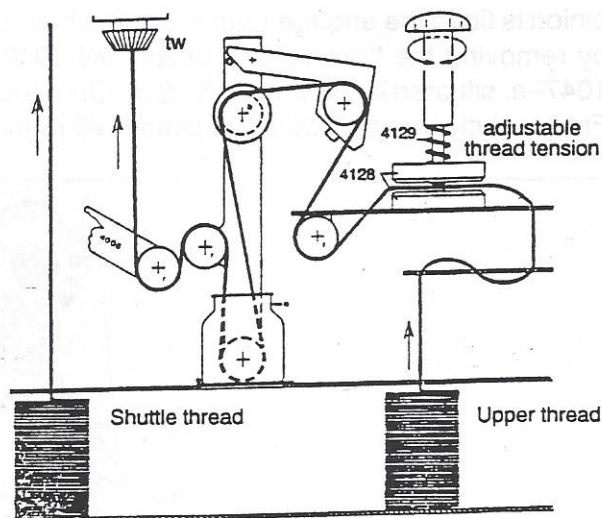


Fig. 8



THREAD PATH

The thread path is shown in fig.8. This fig. is also in the inside of the frontdoor of the machine. Always feed the thread through the hole in the thread tensioning shaft nr. 4129 between the tensioning discs nr. 4128.

Around the various rolls are "cages", always thread around the rolls (r) and not around the "cage". Check that thread goes between the discs of the threadlock "b".

After feeding the thread around the roll in lever 4006 pull it upwards with the long threader 213 supplied with the machine through the hole in the base of the horn. Then backwards around roll 290 and with the small threader 463 through the little exentric hole in the whirl 1048. Pull the thread up approximately 20 cm.

NEEDLE SETTING

When a new needle is fitted, the shank end must locate up to the stop-pin DN 1011, situated inside the needle bar DN 1005. The hook of the needle must be directed to the right when viewed from the front of the machine and pointing slightly into the body of the machine. Ensure that the clamp screw DN 1014 is secure.

When the needle is in its lowest position the top of the needle barb must be just below the thread hole in the whirl DN 1048, see fig.4.

WHIRL AND PINION

Rotate the handwheel until the shuttle tip, when travelling from left to right is in line with the needle (fig.1), "start pos."

Rotate the horn so that the horn tip is facing the machine column. Remove the horn cap DN 1043. The hole in the whirl should be positioned as shown in fig.3. It is important that if a new whirl or pinion is fitted the engagement of the teeth is correct, this is shown in fig.4. Adjustment is made by removing the horn tip and pinion DN 1042 and DN 1047 and adjust the small screw DN 1047-a, situated in the end of DN 236. Only small adjustments to this screw should be required. Frequent cleaning of whirl and pinion will reduce wear.

Fig. 3

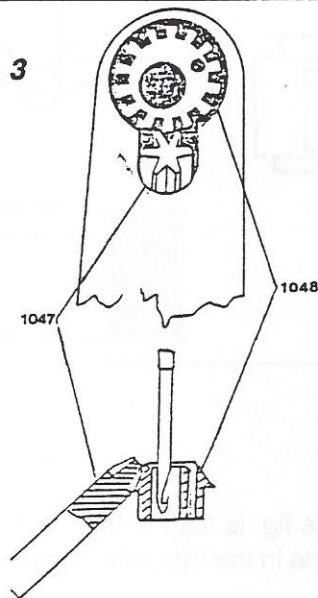


Fig. 4

BOBBIN WINDING

The electric bobbin winder is situated on the left of the column.

The cop of the pre-waxed thread is positioned on the left hand spool holder, and the thread path to the bobbin winder is as shown on fig.8, straight upwards through metal plate on wooden work table.

Two bobbins should be positioned on to the driving spindle by removing knob DN 353. Pass the free end at the thread from inside to outside through the hole in the outer flange of the second bobbin and trap it between the outer face and the boss of the driving spindle. Tighten knob 353. The thread must be over the guide bar. Start motor of bobbin winder by pushing button on switch panel. The thread should be "laid" during the winding process to ensure even take-off when stitching. When both bobbins are full, release the button, remove both bobbins and trim off threads. **Note:** the fixed end thread on both should be trimmed as close to the flange as possible.

RECOMMENDED THREAD AND NEEDLE SIZES

The linen machine thread must be reverse (left) twist. The machine thread should not be more than 2 sizes above the needle size, i.e. no.5. Nowadays the braided polyester thread our "Never-strand nr.208" is highly recommended, available through all Power Outlets in white and brown. Shuttle thread is 6-cord pitched or waxed.

MOTOR VOLTAGE

Switches are supplied to suit the motor. If the motor is changed to a different voltage the switch must also be changed.

PRESSER FOOT

The presser foot is fitted with screws DN 817 and DN 819, which can be adjusted to give correct alignment. A single point presser foot should be in line with the needle. When using a double point presserfoot one point should be each side of the needle. The presser foot must be set to clear and not touch the horn cap.

With the machine there are 3 different presserfeet.

- 815 Double point for weak materials and when stitching without channel.
- 816 With a guide to stitch into the channel.
- 2139 Single point for very hard leather and as this one is in line with the needle it will not leave marks on the sole.

HORN

The needle must pass through the centre of the horn cap. Should this be in error check that the needle is not bent. If the needle is straight it may be corrected by adjustment of the 4 screws situated in the horn base. Should the whirl/horn be out of square with the needle the horn may be tipped by one or more set screws, DN 204 in the horn. The four screws DN 208 must be slacked before adjusting the horn. As this is a tricky job we advise to leave this to an expert mechanic.

MACHINE SETTING AND FAULT FINDING

Before stitching by power a check should be made to ensure that the settings are correct to form the stitch. To do this the machine should be threaded up, fig.8. Take the thread coming through the whirl and trap lightly with the thumb against the horn tip (the horn's bow should be to the left). Turn the handwheel by hand in the direction indicated to bring the needle down through the whirl, which will rotate placing the thread in the needle barb. When the needle rises the thread is drawn through the horn, and when the loop so formed gets as high as the shuttle the thread splitter DN 928 will come across from the right and separate the threads just under the needle point. The needle will continue to rise and the shuttle will reverse so the shuttle point travelling from the left will go through the gap made by the thread splitter. Then the thread lifter DN 936 will move upwards taking the thread off the needle so that it passes around the shuttle and forms a loop around the shuttle thread. The thread lever DN 4006, will then pull the machine thread down through the horn to form the "lock".

Fig. 3

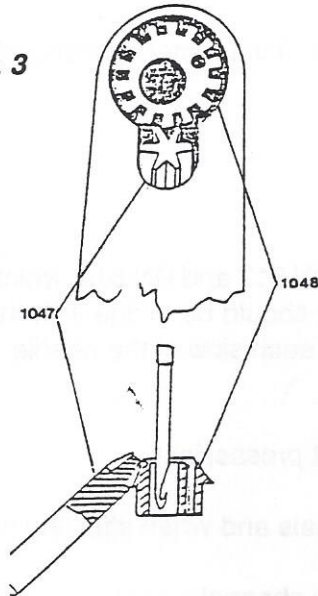


Fig. 4

- 1) If the needle does not pick up the thread: –See whirl setting instructions. See needle setting instructions fig.3 (the needle could be going down too far or not far enough, fig.4).
- 2) If the thread splitter does not divide the thread:–Check that the point of the thread splitter passes exactly under the point of the needle. The thread splitter can be bent into the correct position.
- 3) If the thread lifter does not lift the thread from the needle:
 Bend slightly up or down or move in or outwards by means of screw DN 937, adjusting the thread lifter so that in its highest position the point of the thread lifter is approximately 1 mm to the left of the needle. Check that there is sufficient gap between the needle and the thread lifter for the thread to pass.

THREAD BREAKAGE

If the thread frays or breaks, check that there are no sharp edges on the horn tip, the thread splitter, the thread lifter, the shuttle or needle. Although the thread may break in the horn it can be caused by rough edges on parts above the whirl. 90 % of thread breakage is due to rough edges developing on working parts which will fray the thread. This must be carefully checked before the cause of breakage is sought by altering machine settings.

It is essential that the machine is allowed to feed the work and that the operator does not push. If the work is pushed while the needle is in the work the needle can bend and strike the horn cap damaging the needle and/or the horn cap in such a way that the thread will fray. The thread will also fray if it is dry. Check lubricant in the container and if the machine has been standing, pull through and remove the dry portion of the thread. Also check if bobbin 927 is placed correctly with the flange with 2 holes upwards.

If you forgot to hold the hornthread when starting work, and also when threadbreakage occurred, it is possible that the thread jams between shuttle 920 and shuttle 918 and the machine comes to a standstill. You should then cut the threads just above the material and try to move the handwheel back and forth while pulling the thread out.

If this does not work, loosen screw 919 and remove shuttle 918 and shuttle 920, if necessary carefully tap with a piece of copper ring 918 anticlockwise until the end of its groove and force it down evenly with a screwdriver.

After removal of the shuttle clean all parts and refit.

If the thread breaks in the machine base: Check that the machine is threaded up correctly and that the thread is not trapped under the cone.

Fig. 1

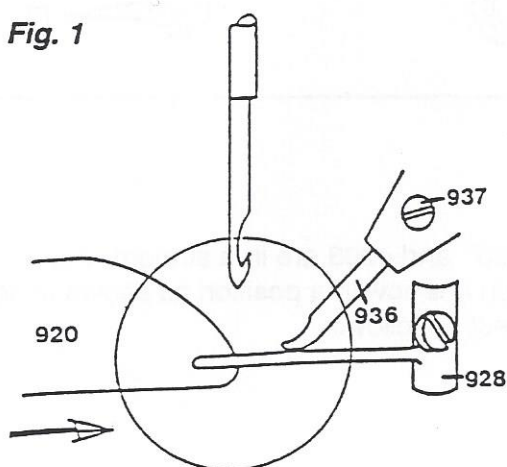
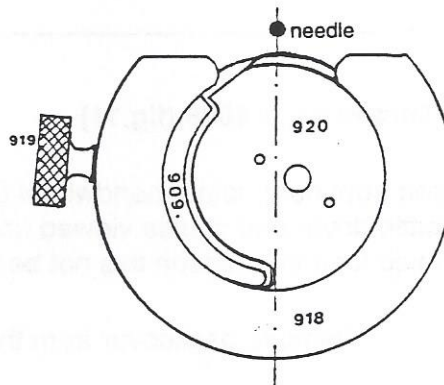


Fig. 10



MACHINES ARE SUPPLIED WITH THE FOLLOWING SETTINGS

Corrections should be done by an expert mechanis.

1) Shuttle 920

When the shuttle point and the thread splitter 928 are both at their farthest point left, the distance between the point of the thread splitter and the needle should be approximately 13 mm.

Fig. 11

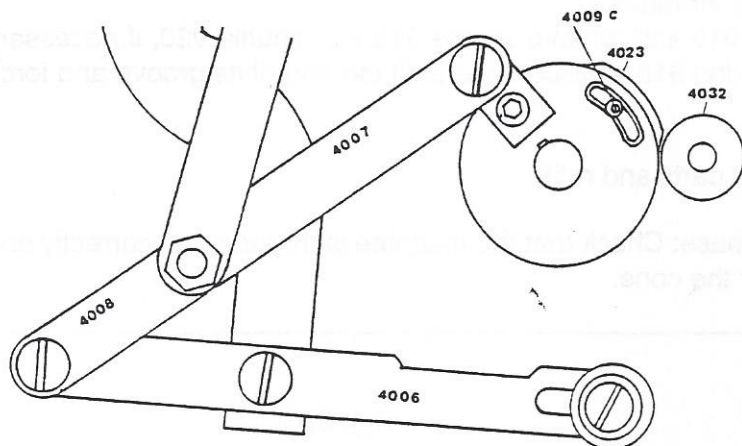
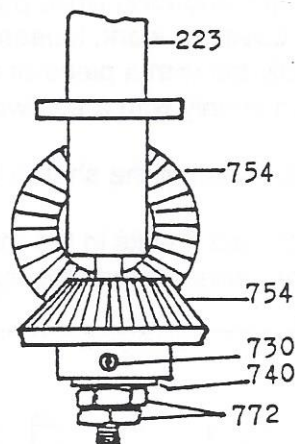


Fig. 12



2) Thread lever 4006 (fig.11)

Open front door, rotate handwheel until levers 4007 and 4008 are in a straight line. Shuttle driver and shuttle viewed from underneath are now in a position as shown in fig.10. Should for some reason this not be so, than correct as follows:

1. Remove backcover from the machine
2. Loosen screw 730 (fig.12) with alanhead key supplied with the machine.
3. Rotate machine with handwheel until levers 4007 and 4008 are in straight line.
4. Loosen locknut and nut 772 with open end key 13 supplied with the machine and move the vertical gear 754 approx. 1 cm downwards so that it disengages fully from the horizontal gear, which must remain in position.
5. Now rotate the handwheel until shuttle 920 and shuttle driver are in the position of fig.10.
6. Now move vertical gear 754 up, so that it engages with the horizontal one properly. When locking nuts 772, take care that engagement is not to firm.
7. Fasten screw 730.
8. Check setting of whirl and pinion as discribed earlier (fig.3).
9. Fit back cover of the machine.

Fig. 11

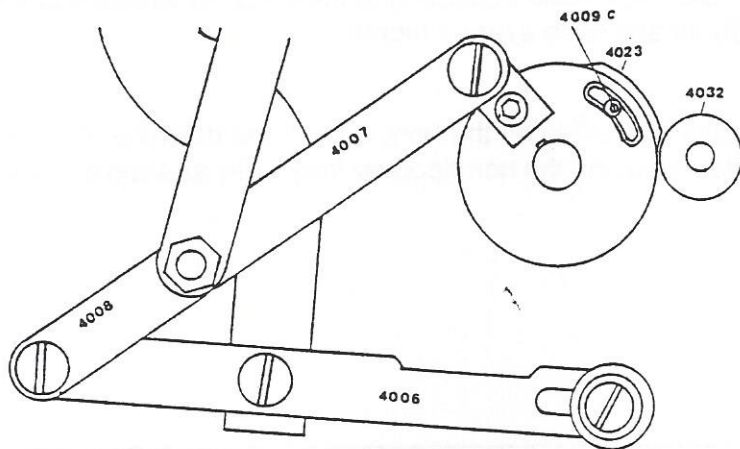
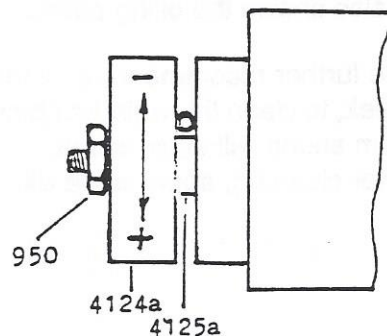


Fig. 13



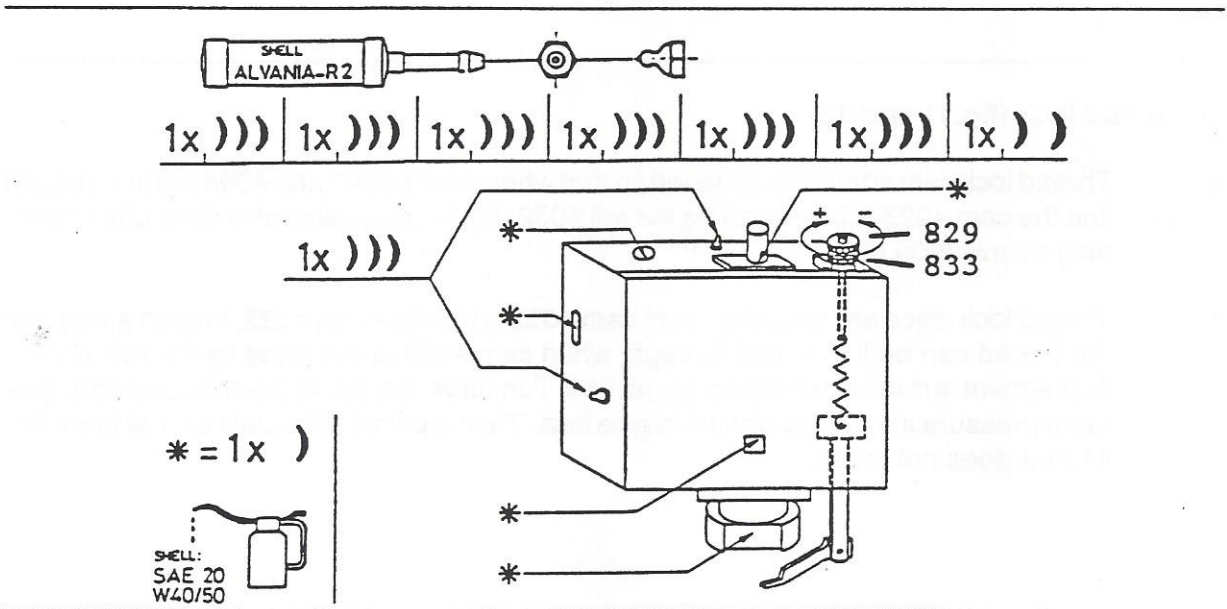
3) Thread lock (fig.11 and 13)

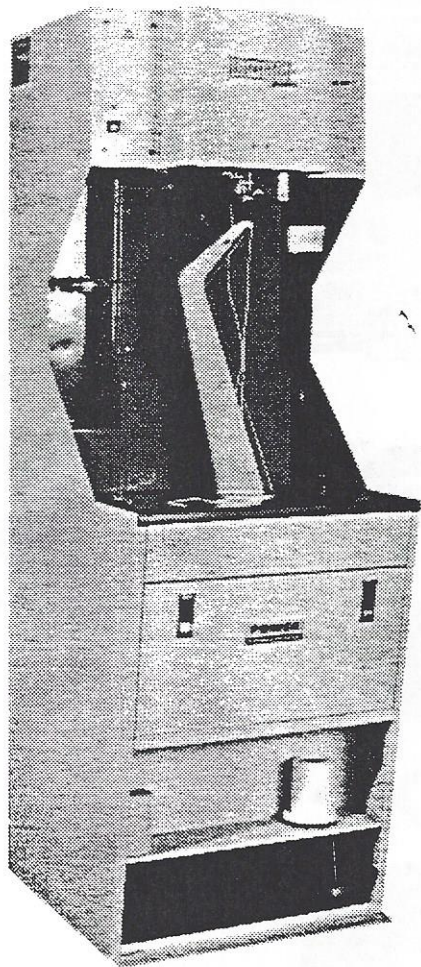
1. Thread lock cam should be adjusted so that when levers 4007 and 4008 are in a straight line the cam 4023 is just touching the roll 4032 (fig.11). Adjustment is done after loosening screw 4009 c.
2. Thread lock discs are adjusted when cam 4032 is free from roll 4023, in such a way that the thread can be just pulled through, when cam 4023 is operated by the roll 4023. Adjustment is done after loosening nut 950. Turn front disc nr. 4124—a clockwise to give more pressure and anticlockwise to give less. Then lock nut 950 again so that front disc 4124 a does not move.

MAINTENANCE

The machine has a central lubrication system. After opening the head cover, there is access to all grease nipples. Give the nipple a "shot" of grease according to the diagram attached to the front plate of the machine head. 1x))) means once every 3 month. It also shows the oiling points.

We further recommend to oil the various levers behind the front door of the machine once per week, to clean the whirl and pinion after removing the horntipcover frequently as sand and dust from shoes will enter easily. After cleaning, apply some oil.





DN 86
ONDERDELENLIJST
ERSATZTEILLISTE
PARTSLIST

Bij bestelling van onderdelen het onderstaande **ALTIJD VERMELDEN!**

1. Onderdeelnummer
2. Omschrijving
3. Artikelnummer
4. Machinenummer

ONDERDELENLIJST
ERSATZTEILLISTE / PARTSLIST

