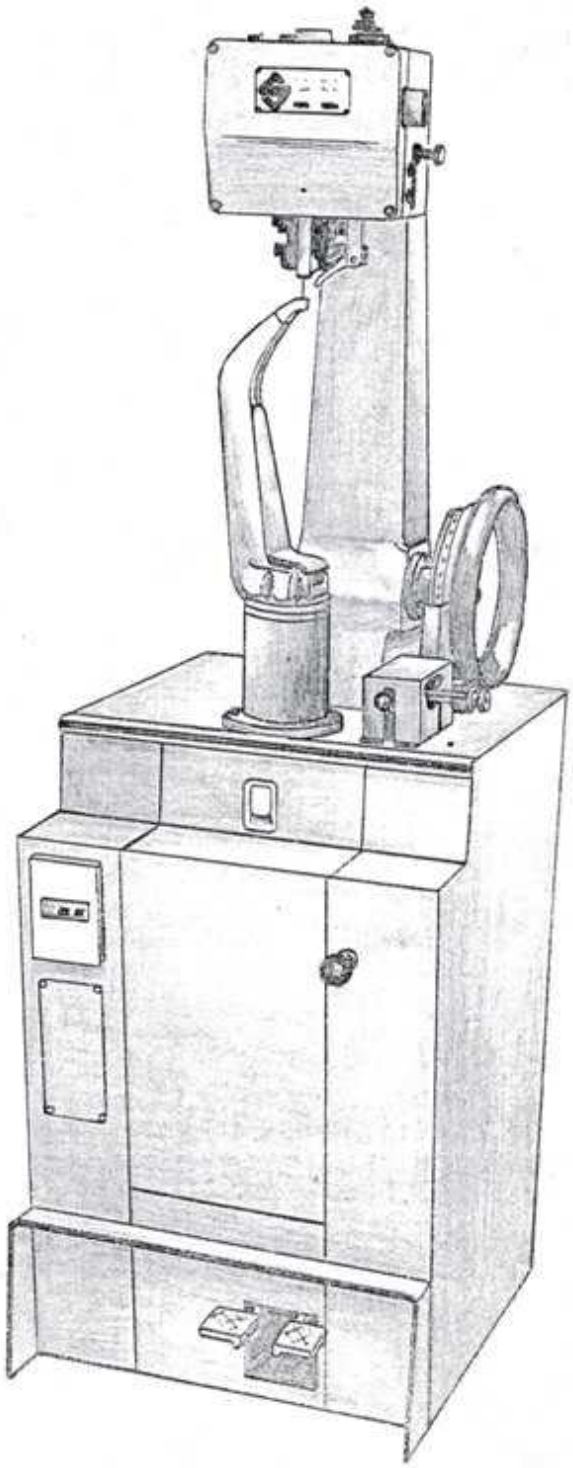
MODEL

DN 2000



LOCKSTITCH SOLE SEWING MACHINE MODEL DN 2000

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

MACHINE SPEED :-

Model DN 2000 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 2050 onto the larger 'V' motor pulley DN 1665 and realigning the motor pulley to ensure that the belt is running vertical as shown on Plate 2.

NOTE. FOR 1760REV 60HZ. MOTOR THE STITCHES/MIN WILL BE 120 SLOW SPEED
160 FAST SPEED

STITCHING TRIALS :-

The machine's Lubricating Tank, DN 4113+ as shown on Plate 4 must be filled with a solution to lubricate the thread, i.e. a soluble oil mixed with water. 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 untill freshly lubricated thread is clear of the horn and then fix under clip DN 1050, as shown on page 6, and cut off surplas thread. The shuttle thread should be left with approximately 8 - 10cm 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 handwheel 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.

STITCHING :-

Attach the thread under the spring clip, DN 1050 and position the bow of the horn to the left, as shown on page 6 , rotate the handwheel until the presser foor is positioned close to the needle and using the Foot Treadle (L.H.) raise the presser foot to its upper postion. 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 Treadle and guide the work as required. The stitch length may be varied by adjustment of the stitch length control knob, DN 825S as shown on Plate 1. 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, DN 832 and DN 833, as shown on Plate 10. To stop stitching release the foot treadle

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.

SHUTTLE Fig 5 :-

To remove the shuttle rotate the machine by hand until the shuttle point, thread splitter, and needle point are coincidental, fig 5. Loosen the retaining screw DN 919. Rotate the shuttle retainging ring DN 918, and pull downwards. The shuttle DN 920 may than be removed. Remove the bobbin DN 927 from the shuttle using the special key DN 1114 supplied with the machine, fig 4.

TO FIT NEW BOBBIN INTO SHUTTLE Fig 6 :-

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' in the shuttle wall.

B) Press the bobbin into the shuttle (the two holes in the bobbin wall to be outwards). It is avisable 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' and draw the thread end through the hole.

D) * Position the thread behind the flat tension spring DN 930 and the thread may now be drawn through. The shuttle can now be replaced into the machine.

E) * The shuttle thread tension can be varied by adjusting the screw DN 933.

* Only when parts are requested.

THREADING THE MACHINE Fig 1 :-

The thread path through the machine is as shown on page 6 , This is done by removing the door, DN 4075.

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, as shown on Plate 9. 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 2.

WHIRL AND PINION :-

Rotate the handwheel until the shuttle tip, when travelling from left to right is in line with the needle, fig 4. Rotate the horn so that the horn tip is facing the machine column. Remove the horn cap DN 1043, as shown on Plate 6. 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 2. Adjustment is made by removing the horn tip and pinion DN 1042 and DN 1047 and adjust the small screw DN 1047a situated in the end of DN 15. Only small adjustments to this screw should be required.

BOBBIN WINDING :-

The bobbin winder is situated on top of the base on the right hand side, as shown on Plate 1.

The cop of pre-waxed thread is positioned on the right hand spool holder, DN 1530B, and the thread path to the bobbin winder is as shown on Fig 1, page 6.

Two bobbins should be positioned on to the driving spindle by removing Knob DN 4056, so that the driving pin engages into one of the two holes situated in the bobbin flange of the inner bobbin. Pass the free end of 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 knob DN 4056. Tighten knob finger tight. Rotate the bobbin by hand 2 - 3 turns running anti-clockwise, viewed from spindle end to engage the thread on the bobbin. The thread must be over the guide bar as shown on fig 1. Engage the drive by lifting the operating lever, DN 4055 as shown on Plate 11. The thread should be 'layed' during the winding process to ensure even take-off when stitching. When both bobbins are full, release the lever to disengage the drive, remove both bobbins and trim off threads. Note: The fixed end thread on both should be trimmed as close to the flange as possible.

MAINTENANCE :-

DAILY - Oil all working faces and oil holes.

WEEKLY - Apply grease to all grease nipples with grease gun.

MONTHLY - Grease main countershaft, by means of grease nipple in right han bearing block.

RECOMMEND THREAD AND NEEDLE SIZES :-

The 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.

MOTOR VOLTAGE :-

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

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 1. 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 5, Page 7 .

1. If the needle does not pick up the thread :- See whirl setting instrutctions. See needle setting instructions (the needle could be going down too far or not far enough, Fig 2.)
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, Fig 5, adjusting the thread lifter so that in its highest position the point of the thread lifter is approximately 1mm to the left of the needle. Check that there is sufficient gap between the needle and the thread lifter for the thread to pass.

Stitching by power can now take place. The 'lock' produced by the horn thread and the shuttle should pull into the middle of the material. This can be adjusted by balancing the tension of the horn thread by turning knob, DN 4104A, Fig 1, and shuttle thread by screw DN 933, Fig 6.

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 parts which 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.

1. If the thread breaks in the machine base :- Check that the machine is threaded up correctly and that the thread is not trapped, Fig 1.

2. If the machine misses stitches :- Check whirl settings. Check needle settings.

3. If material does not feed :- Check that the pawl DN 809 at the back of the presser foot bar, Plate 10, is engaging correctly in the teeth of the presser foot bar. To do this remove the front cover of the machine head. Do not run the machine under power when the front cover is removed as the needle bar is then unsupported.

MACHINE ARE SUPPLIED WITH THE FOLLOWING SETTING CORRECT. THESE SHOULD BE CHECKED.

SHUTTLE - When the shuttle point and the thread splitter DN 928 are both at their farthest point left, the distance between the point of the thread splitter and the needle shoul be 13 - 15 mm.

THREAD LEVER DN 4006 -As the needle bar DN 1005 travels downwards and the groove on the top of the needle bar is level with the top of bush DN 714 in the head casting, the lever DN 4006 should be just starting it downwards movement.

PRESSER FOOT - The presser foot is fitted with screws DN 817 and DN 920, Plate 10, 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 presser one point should be each side of the needle. The presser foot must be set to clear and not touch the horn cap.

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 it is straight it may be corrected by adjustment of the 4 screws DN 4081A situated in the horn base, DN 4081. Should the whirl/horn be out of square with the needle the horn may be tipped by one or more grub screws, DN 1035A in the horn. The four slotted screws DN 1034 must be slackened before adjusting the horn. As shown on Fig 1.

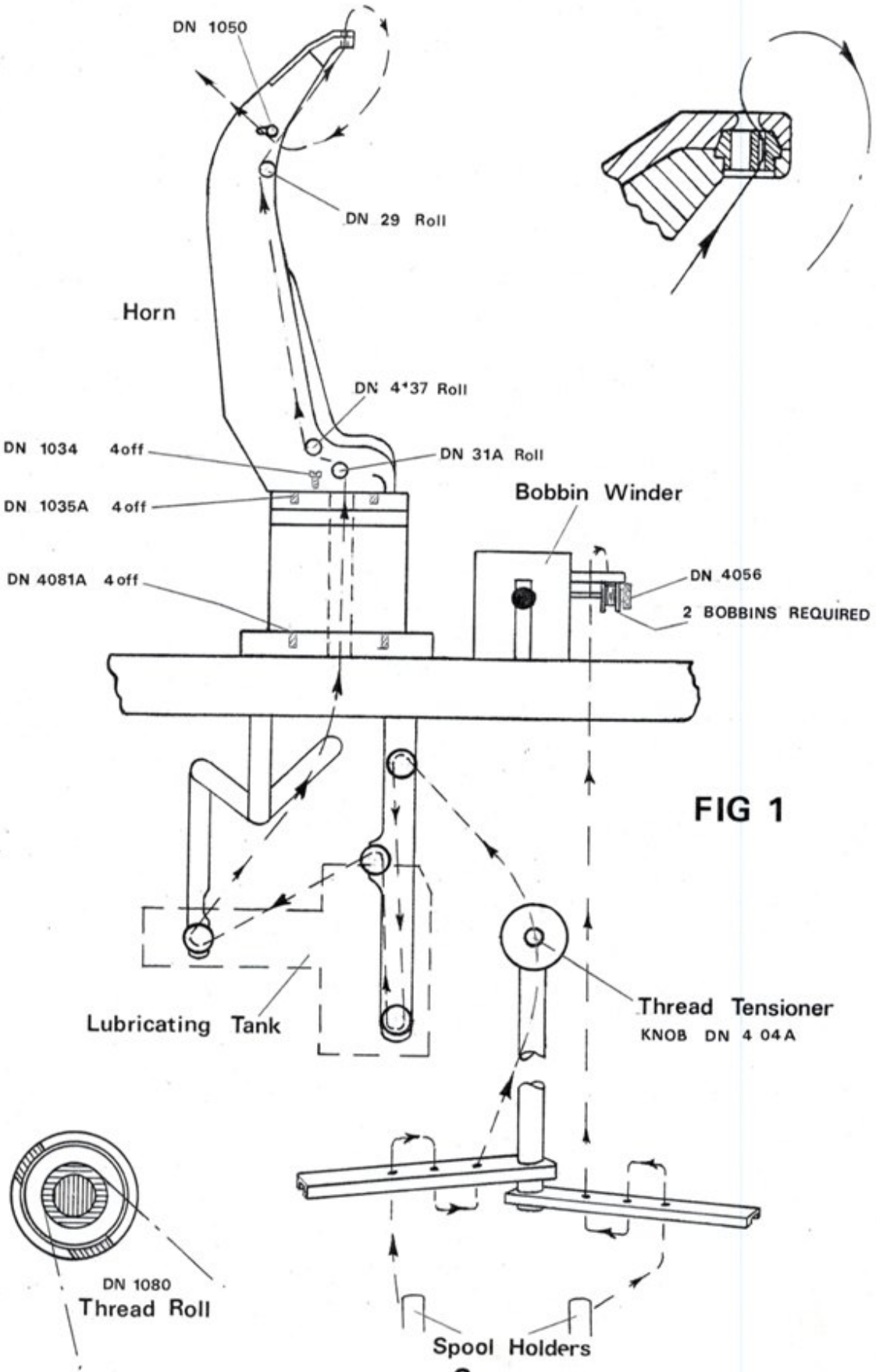

DN 1050
DN 29 Roll
Horn
DN 4*37 Roll
DN 1034 4off
DN 31A Roll
DN 1035A 4off
Bobbin Winder
DN 4081A 4off
DN 4056
2 BOBBINS REQUIRED
Lubricating Tank
Thread Tensioner
KNOB DN 4 04A
DN 1080
Thread Roll
Spool Holders

FIG 1

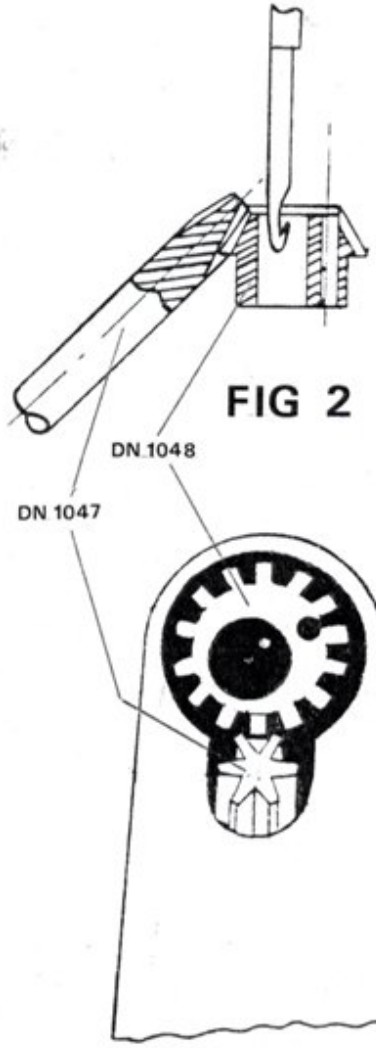


FIG 2

FIG 3

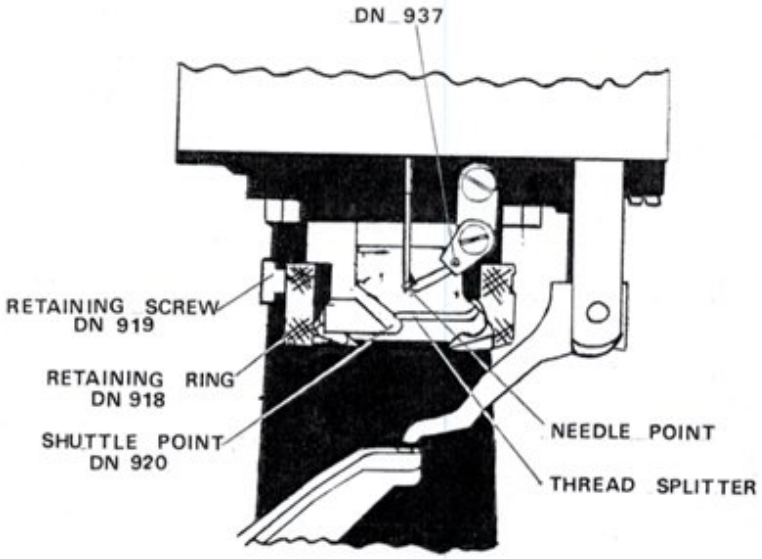


FIG 5

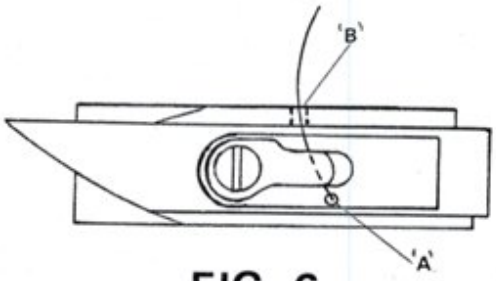


FIG 6

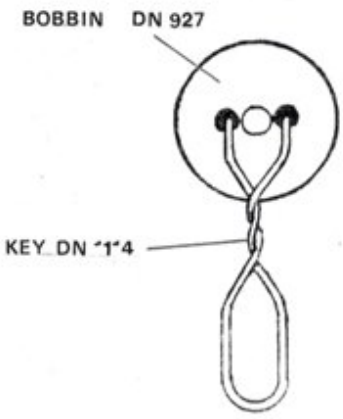


FIG 4

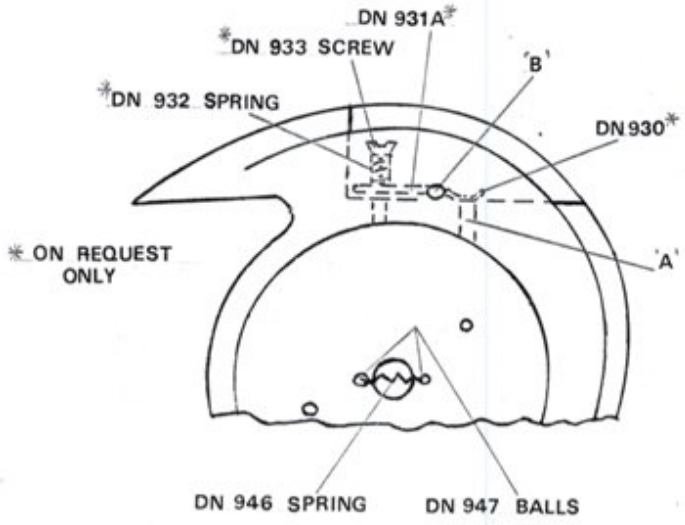


PLATE 1

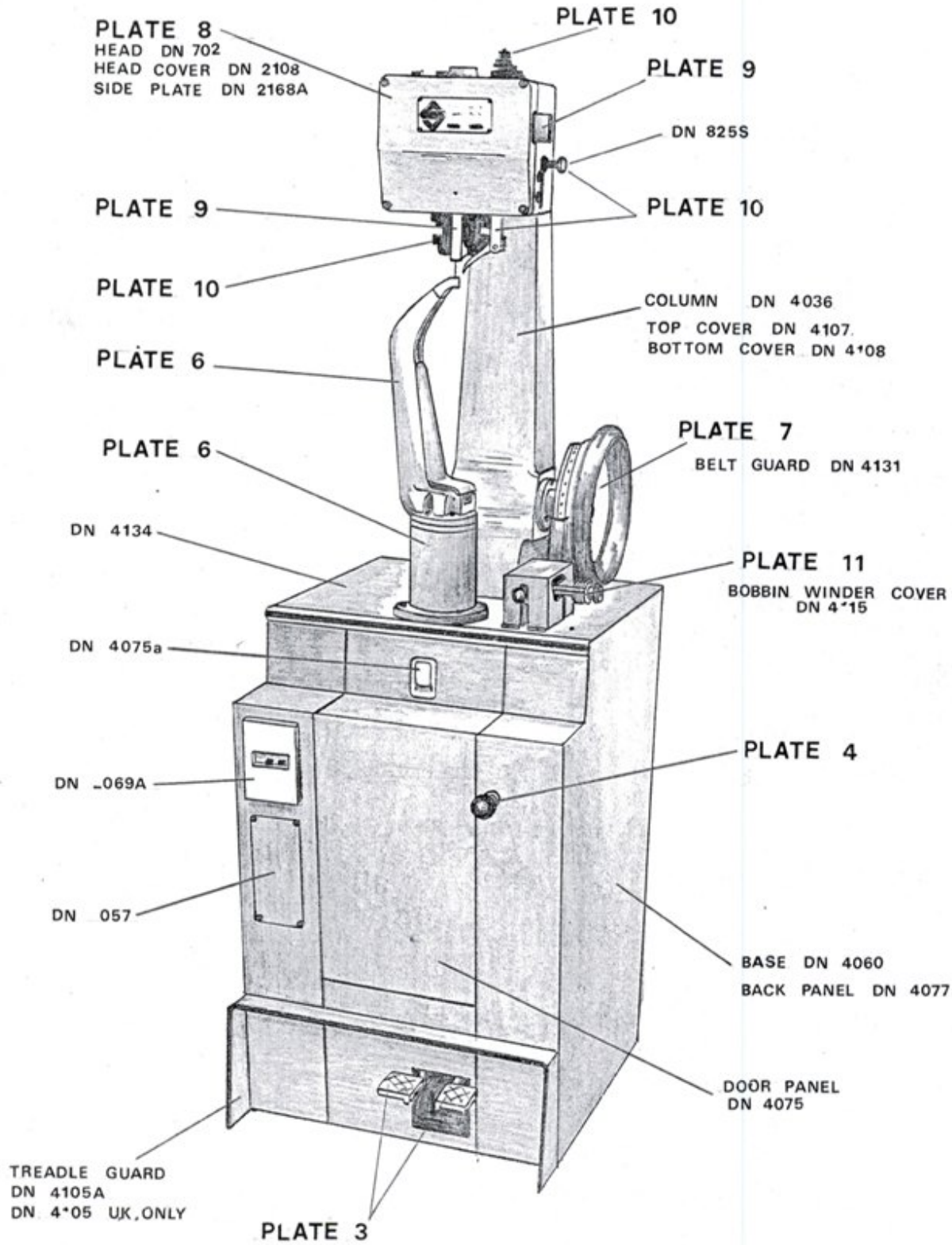


PLATE 8
HEAD DN 702
HEAD COVER DN 2108
SIDE PLATE DN 2168A
PLATE 10
PLATE 9
DN 825S
PLATE 9
PLATE 10
PLATE 10
COLUMN DN 4036
TOP COVER DN 4107
BOTTOM COVER DN 4108
PLATE 6
PLATE 7
BELT GUARD DN 4131
PLATE 6
DN 4134
PLATE 11
BOBBIN WINDER COVER
DN 4115
DN 4075a
PLATE 4
DN 069A
DN 057
BASE DN 4060
BACK PANEL DN 4077
DOOR PANEL
DN 4075
TREADLE GUARD
DN 4105A
DN 4105 UK ONLY
PLATE 3

PLATE 2

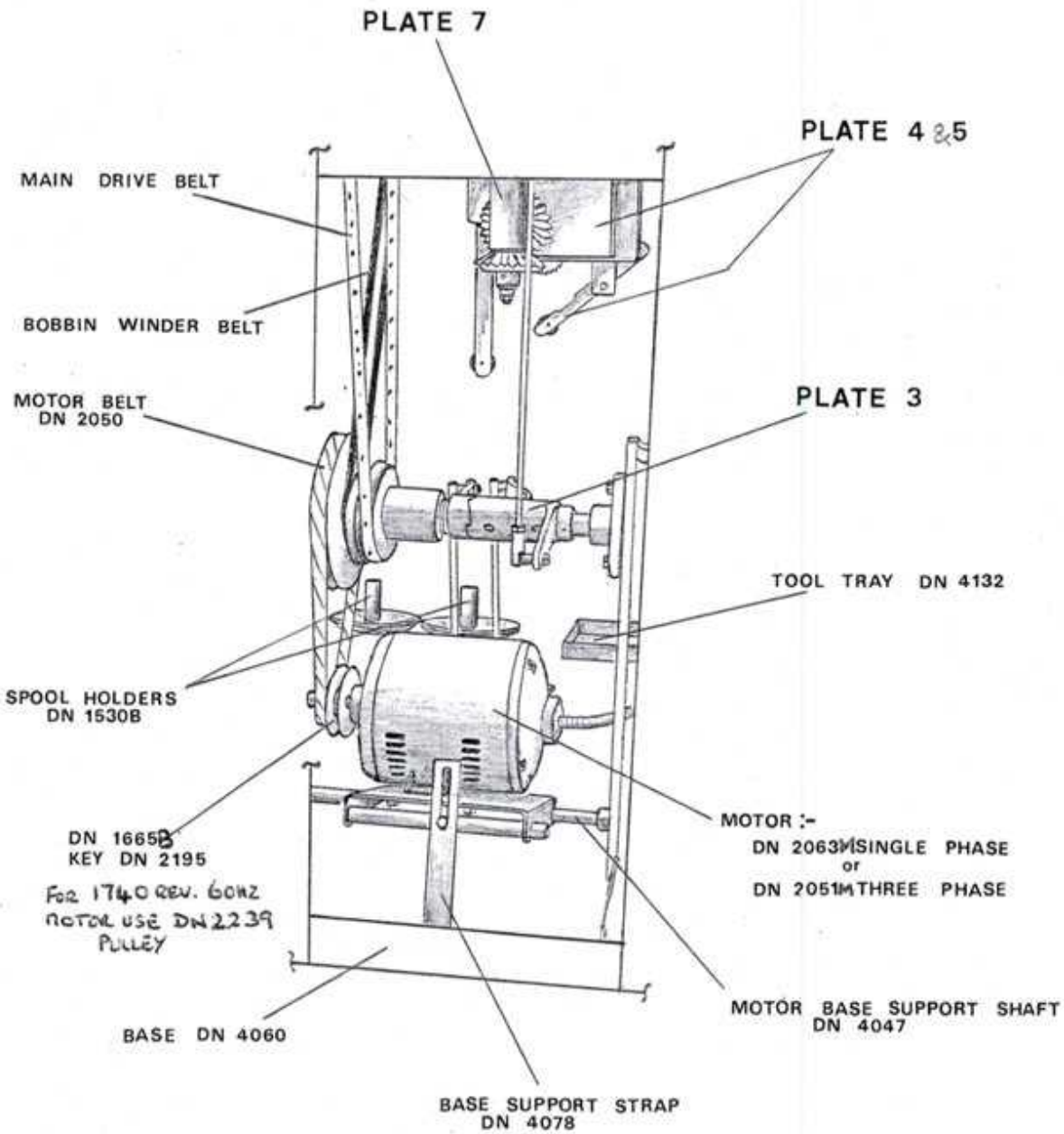


PLATE 7
PLATE 4 & 5
MAIN DRIVE BELT
BOBBIN WINDER BELT
MOTOR BELT
DN 2050
PLATE 3
TOOL TRAY DN 4132
SPOOL HOLDERS
DN 1530B
DN 1665B
KEY DN 2195
FOR 1740 REV. 60HZ
MOTOR USE DN2239
PULLEY
MOTOR :-
DN 2063M SINGLE PHASE
or
DN 2051M THREE PHASE
MOTOR BASE SUPPORT SHAFT
DN 4047
BASE DN 4060
BASE SUPPORT STRAP
DN 4078

PLATE 3

DN 4044	Clutch Shaft
DN 1806	Treadle Lever
DN 1807	Collar for DN 1806
DN 1807a	Grub Screw for DN 1807
DN 1625	Clutch Dog
DN 1626	Pin for DN 1625
DN 1624	Clutch Lever
DN 1618	Thrust Bearings
DN 4045	Main Drive Pulley
DN 1621	Pulley Clutch Pad
DN 1622	Screws for DN 1621
DN 1623	Clutch Spring
DN 13049A	Clutch Shaft Pulley
DN 13049b	Bushes for DN 13049A
DN 4046	Clutch Shaft Spacing Collar
DN 13047	Clutch Shaft Bracket (R.H.)
DN 13047A	Clutch Shaft Bracket (L.H.)
DN 13047b	Screws for DN 13047 & DN 13047A to DN 4044
DN 1616	Screws for DN 13047 & DN 13047A
DN 2048	Grease Nipple in DN 13047
DN 1808	Presser Foot Lever Rod
DN 13048a	Screw securing 4044 to Base DN 4060

DN 1585A	Treadle Shaft
DN 1800	Treadle L.H. (Presser Foot)
DN 1803	Treadle R.H. (Clutch)
DN 1577	Collar for DN 1800 & 1803
DN 1577a	Screw securing DN 1577 to 1585A
DN 1804	Treadle Rod
DN 1805N	Rod End Swivel Joint
DN 1805a	Nuts for DN 1805N
DN 1578	Treadle Spring

PLATE 3

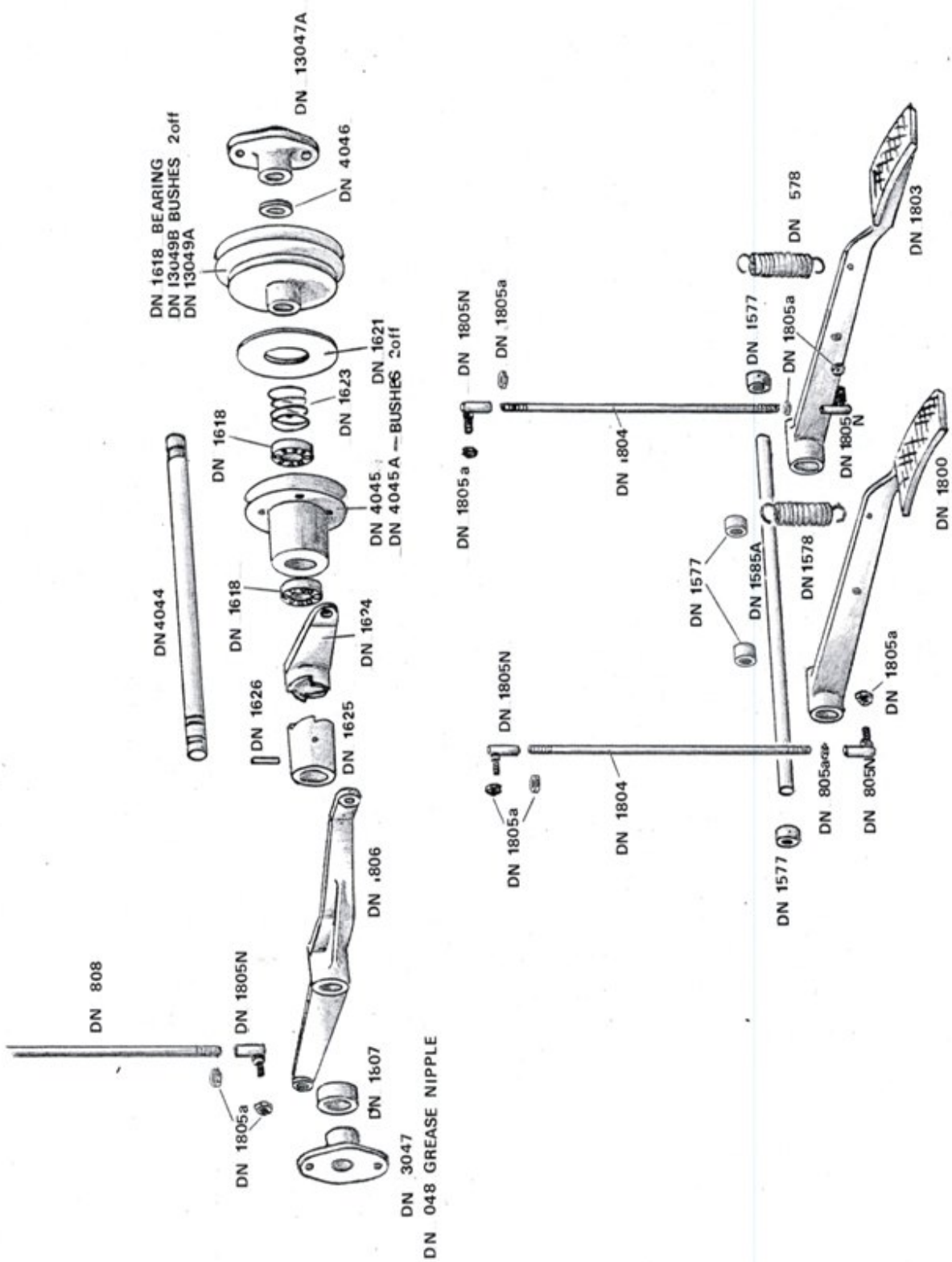

DN 808
DN 1805N
DN 1805a
DN 1607
DN 3047
DN 048 GREASE NIPPLE
DN .806
DN 1625
DN 1626
DN 1618
DN 1624
DN4044
DN 1618
DN 1623
DN 1621
DN 4045
DN 4045 A — BUSHES 2off
DN 1618 BEARING
DN 13049B BUSHES 2off
DN 13049A
DN 4046
DN 13047A
DN 1805N
DN 1805a
DN 1805a
DN 1804
DN 1804
DN 1805N
DN 1805a
DN 1577
DN 1585A
DN 1577
DN 1578
DN 1577
DN 1805a
DN 1805N
DN 1805a
DN 578
DN 1803
DN 1800

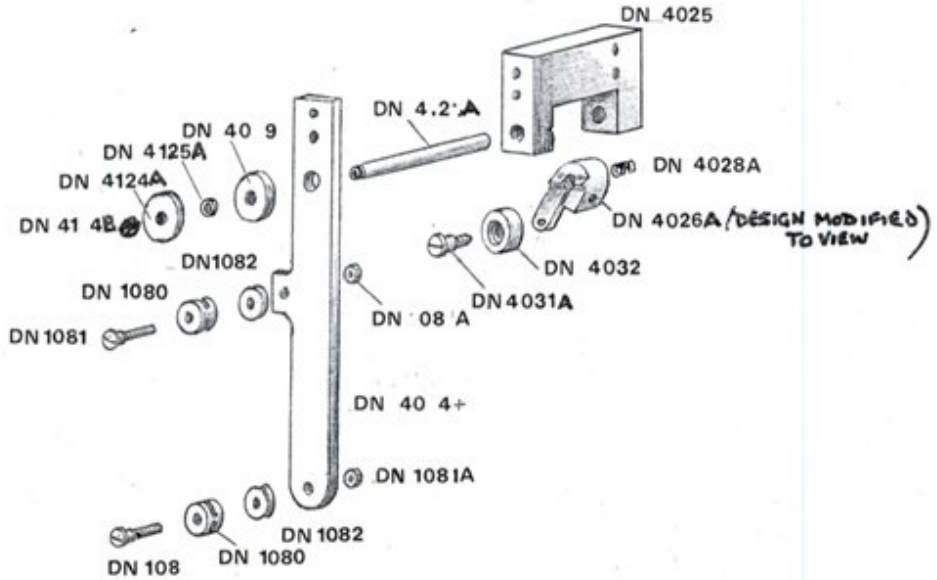
PLATE 4

DN 4024+	Thread Lock Mechanism, Front Plate
DN 4025	Thread Lock Mechanism Block
DN 4025A	Screws securing DN 4025 to DN 4026
DN 4025B	Screws securing DN 4025 to DN 4001
DN 4026A	Thread Lock Release Lever
DN 4026B	in DN 4026A
DN 4029	Clamp Spindle Spacer
DN 4028A	Clamp Spindle Spring
DN 4031	Cam Roller Shoulder Screw
DN 4032	Cam Roller
DN 1080	Thread Roll Cover
DN 1081	Thread Roll
DN 1081A	Nut for DN 1081
DN 1082	Thread Roll
DN 4123A	Thread Lock Shaft
DN 4124A	Thread Lock Front Disc.
DN 4125A	Thread Lock Roller
DN 4124B	NUT

DN 4100	Thread Lubricating Tank Support
DN 4100a	Screw for DN 4100
DN 4113+	Thread Lubricating Tank
DN 1250B	Thread Tension Disc Shaft
DN 1250a	Nut for DN 1250
DN 4128	Thread Tension Discs
DN 1269	Thread Tension Disc Spring
DN 4104	Thread Tension Knob Shaft
DN 4104A	Tension Shaft Knob
DN 4104B	Screw securing DN 4104A
DN 4126	Thread Feed Arm Shaft
DN 4127	Thread Feed Arm
DN 4127a	Screws securing DN 4127
DN 1260	Disc Washer
DN 1261	Screw for DN 1260

Grommet

PLATE 4


DN 4025
DN 4.2·A
DN 40 9
DN 4125A
DN 4124A
DN 41 4B
DN 4028A
DN 4026A (DESIGN MODIFIED TO VIEW)
DN 4032
DN4031A
DN1082
DN 1080
DN 1081
DN 08 A
DN 40 4+
DN 1081A
DN 1082
DN 1080
DN 108

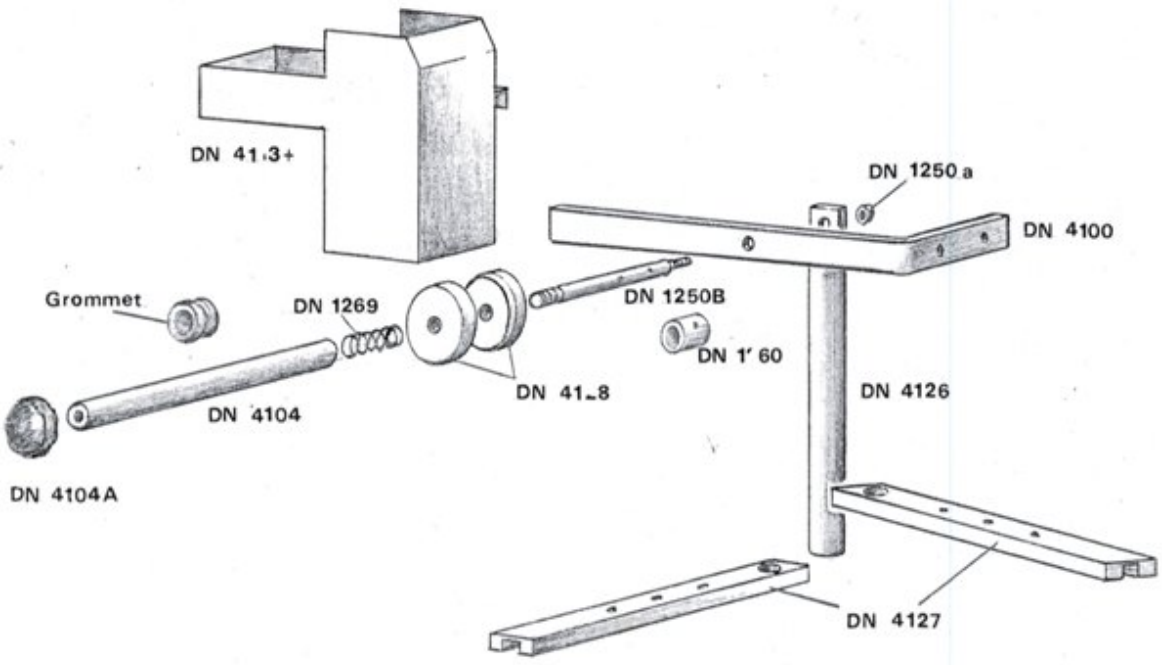
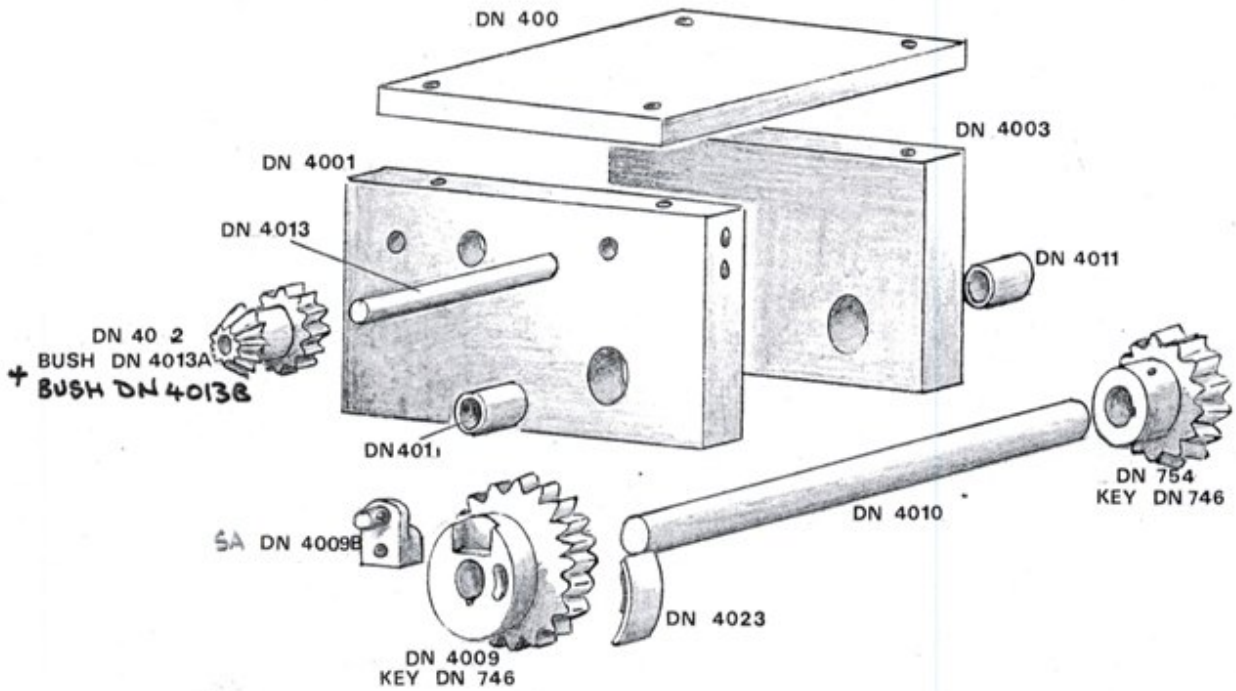

DN 41.3+
DN 1250 a
DN 4100
Grommet
DN 1269
DN 1250B
DN 1' 60
DN 41_8
DN 4126
DN 4104
DN 4104A
DN 4127

PLATE 5

DN 4001	Front Support Plate
DN 4002	Mid Mounting Plate
DN 4002A	Screws securing DN 4002 to DN 4001 & 4003
DN 4002B	Bolts securing DN 4002 to DN 4035
DN 4002C	Washers For DN 4002B
DN 4003	Rear Support Plate
DN 4005	Thread Take Up Link
DN 4006	Thread Take Up Link
DN 4007	Thread Take Up Link
DN 4008	Thread Take Up Link
DN 4009	Bottom Spur Gear
DN 4009A	Screw for DN 4009
DN 4009B	Link Drive Block
DN 4009C	Screw securing DN 4009B to DN 4009
DN 4010	Drive Shaft
DN 4011	Bushes in DN 4001 & DN 4003
DN 4012	Horn Base Driver Gear
DN 4013	Horn Base Driver Gear Stub Shaft
DN 4013A	Bush in DN 4012 (FIRST BUSH HEADED)
DN 4013C	Screw securing DN 4013 to DN 4001
DN 4013B	BUSH IN DN 4012 (SECOND BUSH)
DN 4015	Thread Take Up Adjusting Support Arm
DN 4016	Thread Take Up Adjusting Pivot
DN 4016A	Screws securing DN 4016 to DN 4001
DN 4017	Thread Take Up Bottom Spacer
DN 4018	Thread Take Up Bottom Shoulder Screw
DN 4020	Mid Link Shoulder Screw
DN 4020A	MidlLink Shoulder Screw
DN 4021	Top Link Shoulder Screw
DN 4022	Link Spacers
DN 4023	Thread Lock Cam
DN 4023A	Screw securing DN 4023 to DN 4009
DN 4023B	Nut for DN 4023A
DN 730	Screw securing DN 754
DN 746	Key for DN 754 & DN 4009
DN 754	Bevel Gear on DN 4010
DN 1080	Thread Roll Cover
DN 1081	Thread Roll Stud
DN 1081A	Nut for DN 1081
DN 1082	Thread Roll

PLATE 5


DN 400
DN 4003
DN 4001
DN 4013
DN 4011
DN 40 2
BUSH DN 4013A
+ BUSH DN 4013B
DN 4010
DN 754
KEY DN 746
5A DN 4009B
DN 4023
DN 4009
KEY DN 746

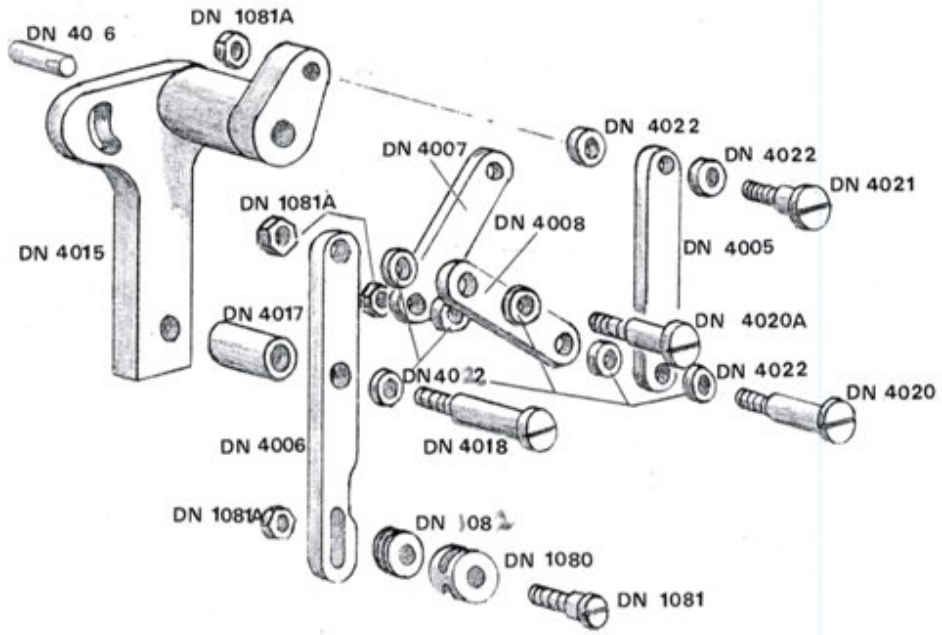

DN 40 6
DN 1081A
DN 4022
DN 4007
DN 4022
DN 4021
DN 1081A
DN 4008
DN 4005
DN 4015
DN 4017
DN 4020A
DN 4022
DN 4020
DN 4006
DN 4018
DN 1081A
DN 1080
DN 1081

PLATE 6

DN 4043	Horn, Slim Type
DN 2059	Whirl Pinion Drive Bush.
DN 1035A	Horn Setting Screw
DN 1034	Horn Clamp Screw
DN 1042	Horn Tip
DN 1043	Horn Cap
DN 22	Pin for DN 1043
DN 28	Screw for DN 1043
DN 1044	Screw for DN 1043
DN 4043A	Horn Front Cover
DN 4122	Horn Back Cover
DN 4122A	Screws for 4122
DN 2B	Horn Pinion Cover
DN 2C	Dowel for DN 2B
DN 3	Screw for DN 2B
DN 29	Thread Roll (upper)
DN 30	Thread Roll Stud (upper)
DN 2012	Horn Cover Spring Clip
DN 4137	Thread Roll (lower)
DN 34A	Stud for DN 30 & DN 4043A
DN 1050	Thread Clip
DN 1051	Screw for DN 1050
DN 1048	Thread Whirl
DN 1047	Whirl Pinion
DN 15	Whirl Pinion Drive
DN 1047A	Screw for DN 15
DN 17	Gear for DN 15
DN 1045A	Screw for DN 17
DN 12	Whirl Drive Gear (upper)
DN 10	Whirl Drive Gear (lower)
DN 13	Screw for DN 12
DN 1039	Pin for DN 10
DN 9	Whirl Drive Gear Shaft
DN 31A	Thread Roll
DN 129	Thread Roll Stud
DN 4138	Washer for DN 9

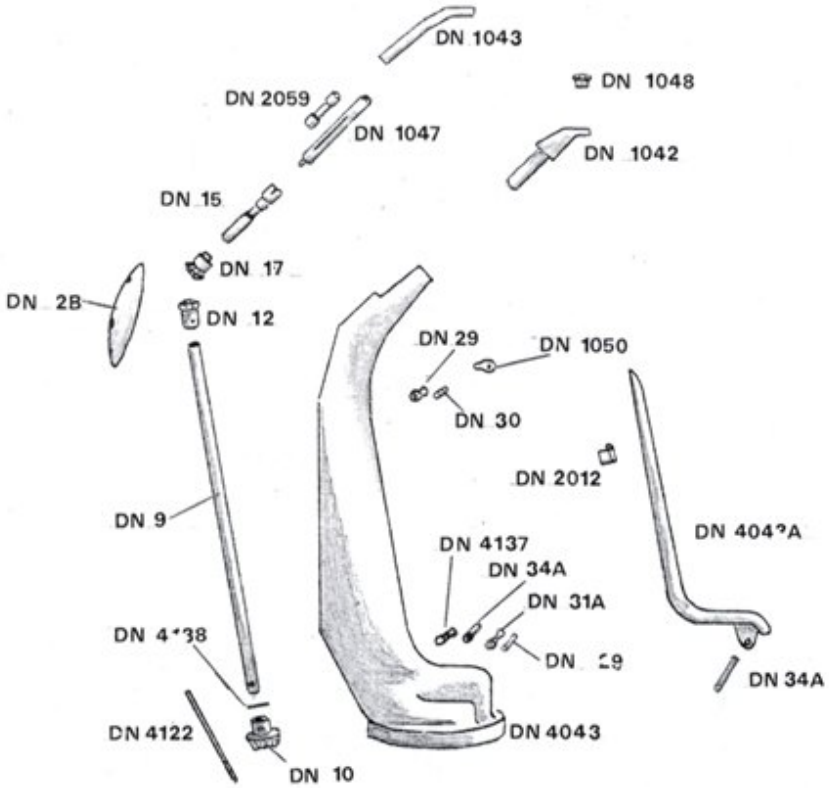
DN 4080	Horn Support
DN 4081	Horn Base
DN 4081A	Jacking screws for DN 4081
DN 4081B	Screws securing DN 4080 to DN 4035A
DN 4082	Locking Ring
DN 4083	Horn Base Bush
DN 4084	Horn Base Bottom Gear
DN 4084A	Screws for DN 4084

Con't

PLATE 6

DN 4085	Whirl Gear Drive (upper)
DN 4085A	Screw for DN 4085
DN 4086	Locking Screw Pad
DN 4086A	Screw for DN 4082
DN 4087	Contact Bearing (lower)
DN 4088	Contact Bearing (upper)
DN 4089	Main Shaft
DN 4139	Washer for DN 4089

PLATE 6


DN 1043
DN 1048
DN 2059
DN 1047
DN 1042
DN 15
DN 17
DN 28
DN 12
DN 29
DN 1050
DN 30
DN 2012
DN 9
DN 4137
DN 34A
DN 31A
DN 4122
DN 10
DN 4043
DN 34A

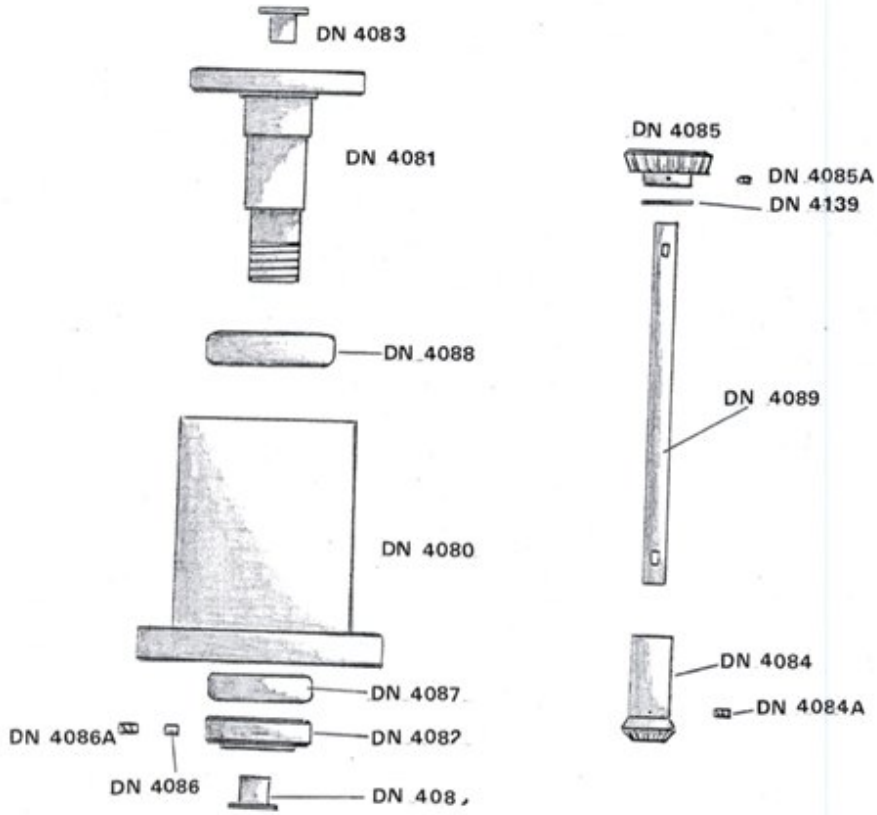

DN 4083
DN 4081
DN 4085
DN 4085A
DN 4139
DN 4088
DN 4089
DN 4080
DN 4084
DN 4084A
DN 4087
DN 4086A
DN 4086

PLATE 7

DN 4039	Main Drive Shaft
DN 754	Main Drive Shaft Gear (lower)
DN 746	Key for DN 754
DN 730	Screw securing DN 754
DN 740	Gear Washer
DN 744a	Nuts for DN 4039
DN 754	Main Drive Shaft Gear (upper)
DN 746	Key for DN 754
DN 754a	Screw for DN 754
DN 2201	Screw securing DN 754
DN 4004	Main Shaft Support Housing
DN 4004A	Bushes for DN 4004
DN 4004B	Screws securing DN 4004 to 4035
DN 4004C	Washers for DN 4004B
DN 739	Main Drive Shaft Gear
DN 746	Key For DN 739
DN 730	Screws for DN 739
DN 4103	Back shaft Spacer

DN 4034A	Handwheel
DN 791	Handwheel Rim
DN 792	Screws securing DN 791
DN 4034	Handwheel Shaft
DN 4034B	Pin for DN 4034A
DN 755	Key for DN 4034
DN 729	Handwheel Gear
DN 729a	Screw for DN 729
DN 4033	Handwheel Support
DN 4033A	Bushes for DN 4033
DN 4033B	Screws securing DN 4033 to DN 4036

PLATE 7

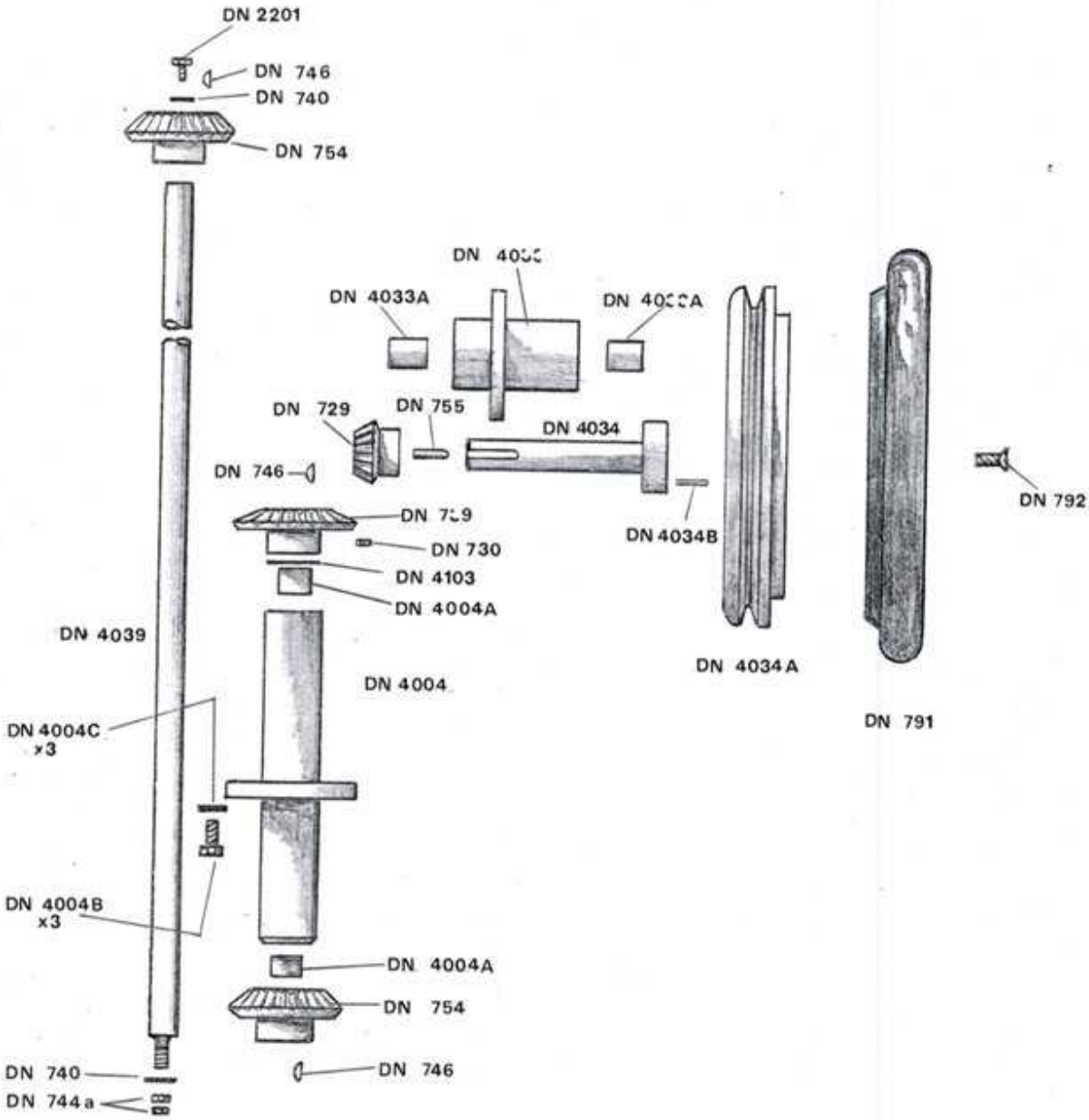

DN 2201
DN 746
DN 740
DN 754
DN 4033A
DN 729
DN 755
DN 4034
DN 746
DN 4034B
DN 4034A
DN 792
DN 791
DN 730
DN 4103
DN 4004A
DN 4039
DN 4004
DN 4004C x3
DN 4004B x3
DN 4004A
DN 754
DN 740
DN 744a
DN 746

PLATE 8

DN 898	Shuttle Drive Rack
DN 897	Shuttle Drive Shaft
DN 904	Screws securing DN 904 to DN 898
DN 904a	Washer for DN 904
DN 903	Shaft Slide Block
DN 901	Slide Block Spacer
DN 900	Slide Block Fulcrum
DN 900a	Pin securing DN 900 to DN 897
DN 905	Slide Block Retaining Screw
DN 906	Washer for DN 905
DN 907	Star Washer for DN 905
DN 879	Cam Lever Bracket
DN 879A	Dowel for DN 879
DN 880	Screws for DN 879
DN 881	Washer for DN 879
DN 881A	Star Washer for DN 879

DN 885	Shuttle Drive Cam Lever
DN 886	Cam Lever Carrier
DN 894	Carrier Eccentric
DN 894W	Washer for DN 894
DN 893	Nut For DN 894
DN 893a	Washer for DN 894
DN 890	Screw for DN 885
DN 890a	Washer for DN 885
DN 887	Cam Lever Carrier Pin
DN 883	Screw for DN 887
DN 889	Cam Roll
DN 888	Cam Roll Stud

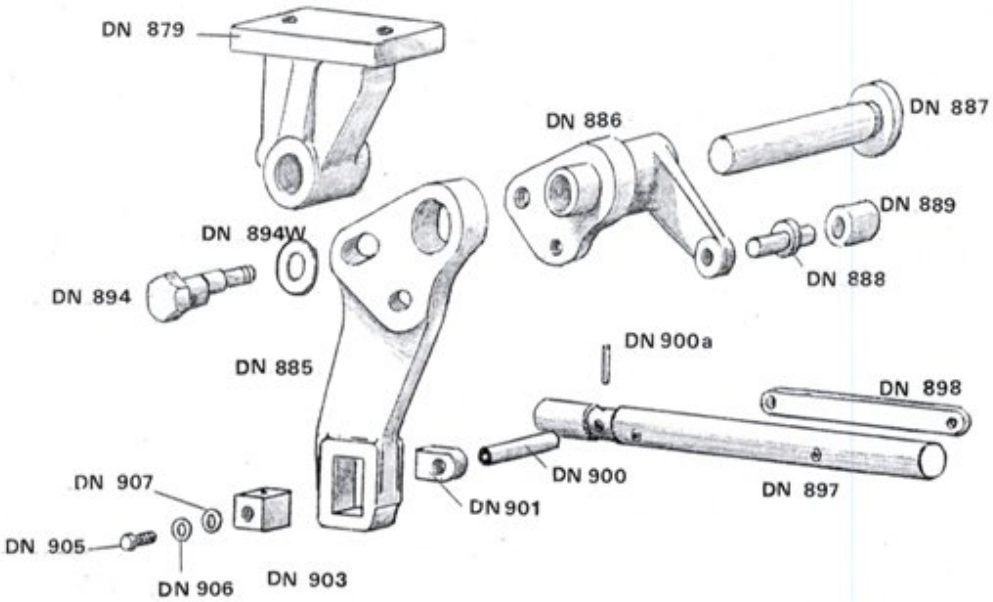
DN 868	Presser Foot Cross Slide Cam
DN 869	Cam Lever Pin
DN 870	Screw for DN 869
DN 872	Cam Roll
DN 871	Cam Roll Stud
DN 873	Cross-slide Lever
DN 874	Lever Pin
DN 875	Pin for DN 874
DN 778	Presser Foot Rise & Fall Cam Lever
DN 778a	Stop Screw for DN 778
DN 778b	Nut for DN 778a
DN 779	Cam Lever Pin
DN 780	Screw for DN 779
DN 784	Cam Roll Stud
DN 785	Cam Roll

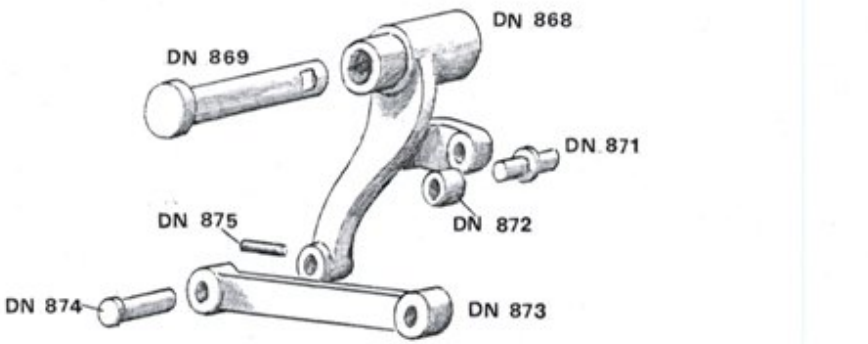
Con't

PLATE 8

DN 821	Cam Lever Spring
DN 790	Spring Anchor in DN 702
DN 788	Spring Anchor in DN 778
DN 789	Nut for DN 788
DN 781	Rise & Fall Lever
DN 782	Lever Pin
DN 783a	Screw for DN 782
DN 858	Lever Spring
DN 786	Spring Anchor
DN 787	Screw for DN 786

PLATE 8


DN 879
DN 886
DN 887
DN 889
DN 894W
DN 894
DN 888
DN 885
DN 900a
DN 898
DN 900
DN 897
DN 907
DN 901
DN 905
DN 906
DN 903


DN 868
DN 869
DN 871
DN 875
DN 872
DN 874
DN 873

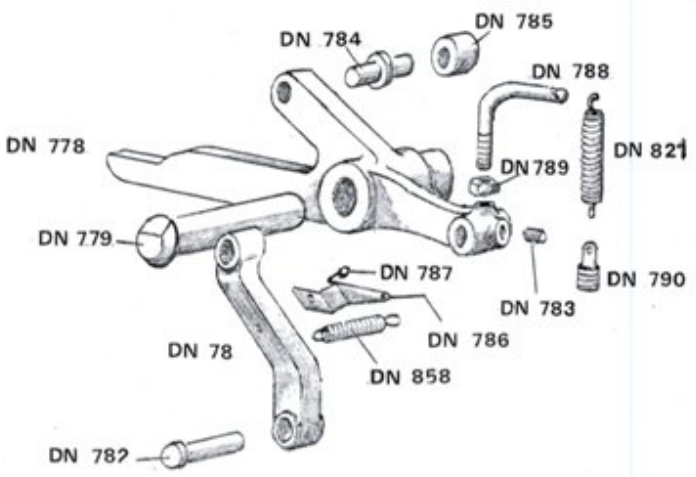
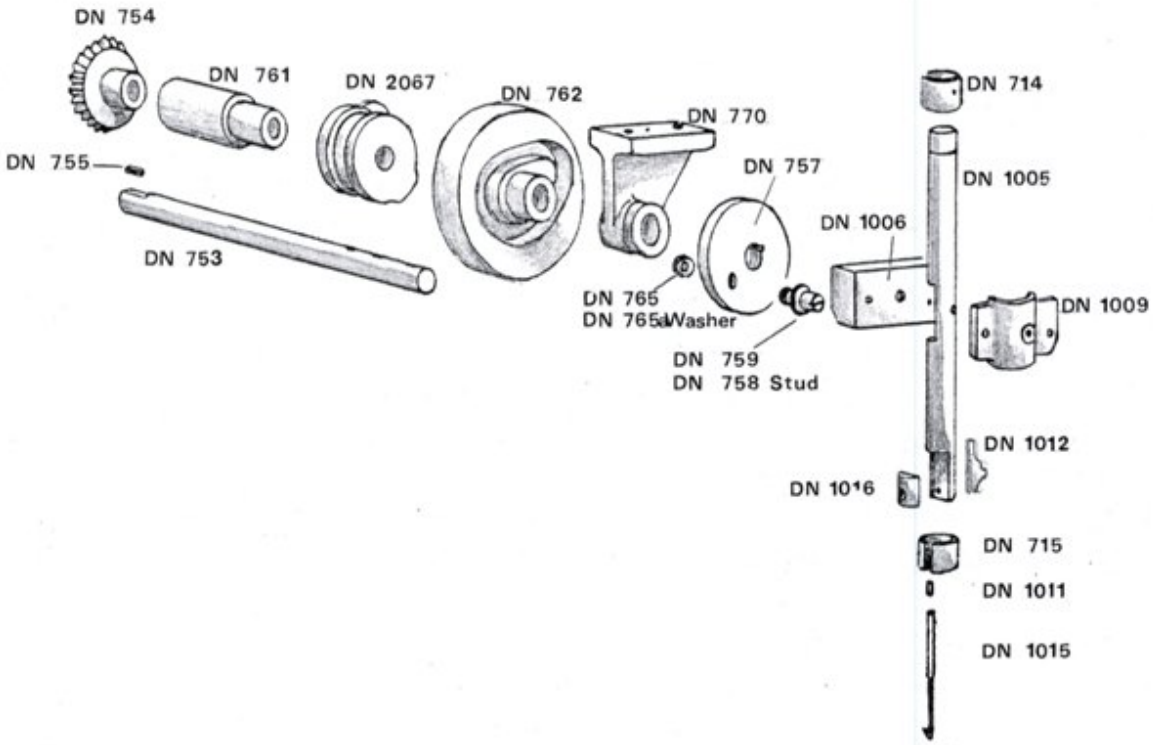

DN 784
DN 785
DN 788
DN 778
DN 789
DN 821
DN 779
DN 787
DN 790
DN 783
DN 786
DN 78
DN 858
DN 782

PLATE 9

DN 753	Mainshaft
DN 754	Mainshaft Drive Gear
DN 755	Key for DN 754
DN 730	Screw securing DN 754 to DN 753
DN 762	Shuttle Cam
DN 763	Pin for DN 762
DN 2067	Presser Foot Cam
DN 2067a	Presser Foot Cam Washer
DN 757	Needle Cam
DN 760	Pin for DN 757
DN 746	Main Shaft Cam Key
DN 759	Needle Cam Roll
DN 758	Cam Roll Stud
DN 765	Nut for DN 758
DN 765a	Washer for DN 758
DN 770	Mainshaft Bracket
DN 773	Screw for DN 770
DN 772	Washers for DN 770
DN 1005	Needle Bar
DN 714	Needle Bar Bush (upper)
DN 715	Needle Bar Bush (lower)
DN 1006	Needle Bar Cam Block
DN 1009	Holding Plate
DN 1010	Screws securing DN 1009 to DN 1006
DN 1007	Screws securing DN 1009 to DN 1006
DN 1008	Nut for DN 1007
DN 1017	Washer for DN 1007
DN 1016	Needle Calmp
DN 1015	Needle No 6
DN 1014	Screw securing DN 1016 to DN 1005
DN 1011	Needle Stop
DN 1019	Screw for DN 1011
DN 1012	Needle Bar Cam Piece
DN 1013	Pins for DN 1012
DN 1813a	Pawl (upper)
DN 1814	Pawl (lower)
DN 847	Pawl Block
DN 848	Screws for DN 847
DN 1821	Pawl Spring
DN 1815	Pawl Slide Piece
DN 1816	Spacer
DN 1817	Pawl Cam Piece
DN 1818	Screws for 1817
DN 1819	Washers for 1817
DN 1825	Washers for DN 1817
DN 1823	Pawl Setting Piece
DN 1824	Screw for DN 1824
DN 1825	Washer for 1824
DN 1826	Star Washers for DN 1824
DN 1822	Pawl Stud

PLATE 9


DN 754
DN 761
DN 2067
DN 762
DN 770
DN 755
DN 757
DN 753
DN 765
DN 765a Washer
DN 759
DN 758 Stud
DN 714
DN 1005
DN 1006
DN 1009
DN 1012
DN 1016
DN 715
DN 1011
DN 1015

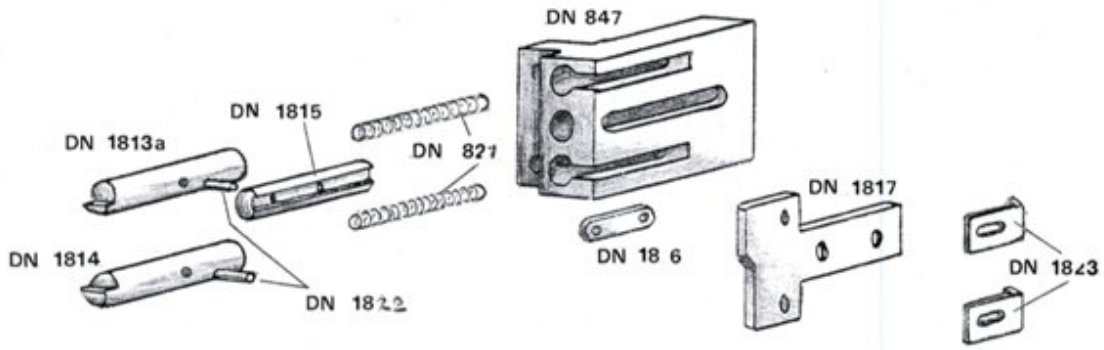

DN 847
DN 1815
DN 1813a
DN 827
DN 1814
DN 1822
DN 18 6
DN 1817
DN 1823

PLATE 10

DN 816	Presser Foot (serrated)
DN 817	Presser Foot Setting Screw (Horizontal)
DN 820	Presser Foot Setting Screw (Vertical)
DN 819	Screw for DN 816
DN 819a	Washer for DN 816
DN 804	Presser Foot Bar
DN 799	Presser Foot Bar Carrier
DN 801	Screw securing DN 800 to DN 799
DN 802	Washer for DN 801
DN 809	Presser Foot Bar Pawl
DN 822	Pin for DN 809
DN 823	Screw for DN 822
DN 808	Pawl Block
DN 1820	Pawl Cam Piece
DN 1820a	Washer for DN 1820
DN 814	Screw for DN 1820
DN 805	Pawl Release Cam
DN 807	Screws for DN 805
DN 807a	Washer for DN 805
DN 803	Presser Foot Spring
DN 812	Presser Foot Spring Pin in DN 800
DN 810	Presser Foot Spring Pin in DN 809
DN 834	Presser Foot Spring Anchor
DN 833	Spring Anchor Nut
DN 832	Locknut for DN 833
DN 832a	Washer for DN 833
DN 830	Spring Anchor Plate
DN 831	Screws for DN 830
DN 811	Pivot Pin
DN 795	Presser Foot Shaft
DN 798	Presser Foot Shaft Spring
DN 2048	Shaft Greaser

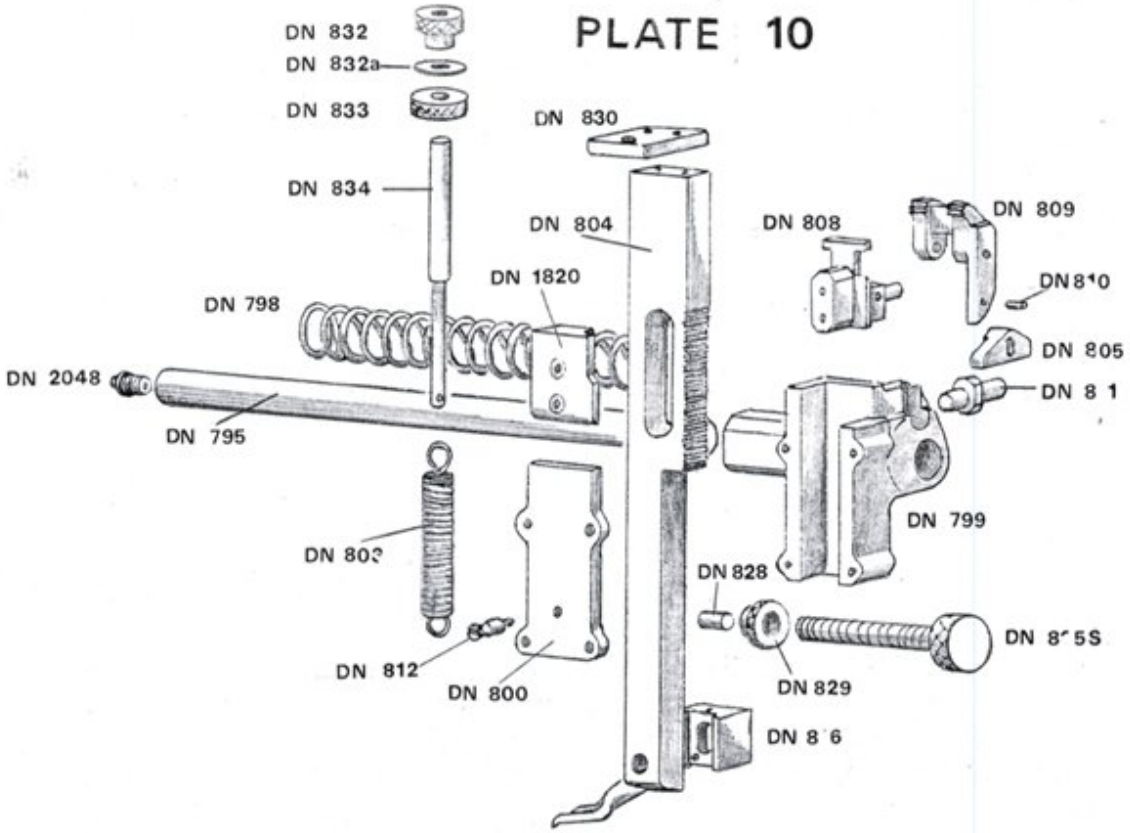
DN 920	Shuttle
DN 908/909	Shuttle Driver/Shaft
DN 910	Shuttle Driver Gear
DN 911	Pins for DN 909 & DN 910
DN 915	Shuttle Holder
DN 916	Screw securing DN 915
DN 918	Shuttle Housing
DN 917	Pin in DN 918
DN 919	Housing Clamp Screw
DN 928	Thread Splitter
DN 929	Screw for DN 928
DN 936	Thread Lifter

Con't

PLATE 10

DN 935	Thread Lifter Lever Stud
DN 934	Thread Lifter Lever
DN 937	Screw for DN 936
DN 940	Cam Roll Stud
DN 941	Thread Lifter Lever Cam Roll
DN 942	Spring Anchor
DN 943	Thread Lifter Lever Spring
DN 927	Bobbin

PLATE 10


DN 832
DN 832a
DN 833
DN 830
DN 834
DN 804
DN 808
DN 809
DN 1820
DN 798
DN 2048
DN 795
DN 805
DN 799
DN 828
DN 812
DN 800
DN 829

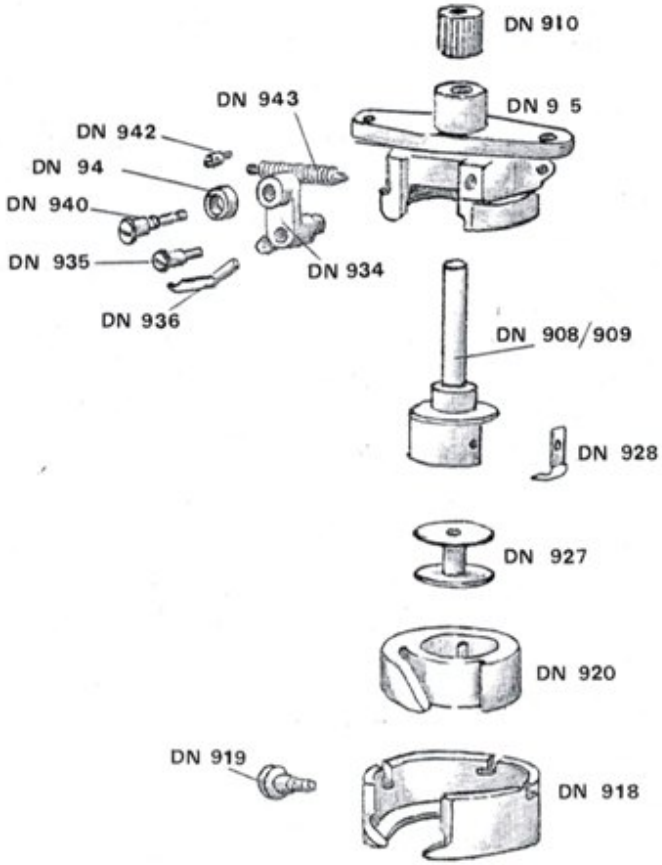
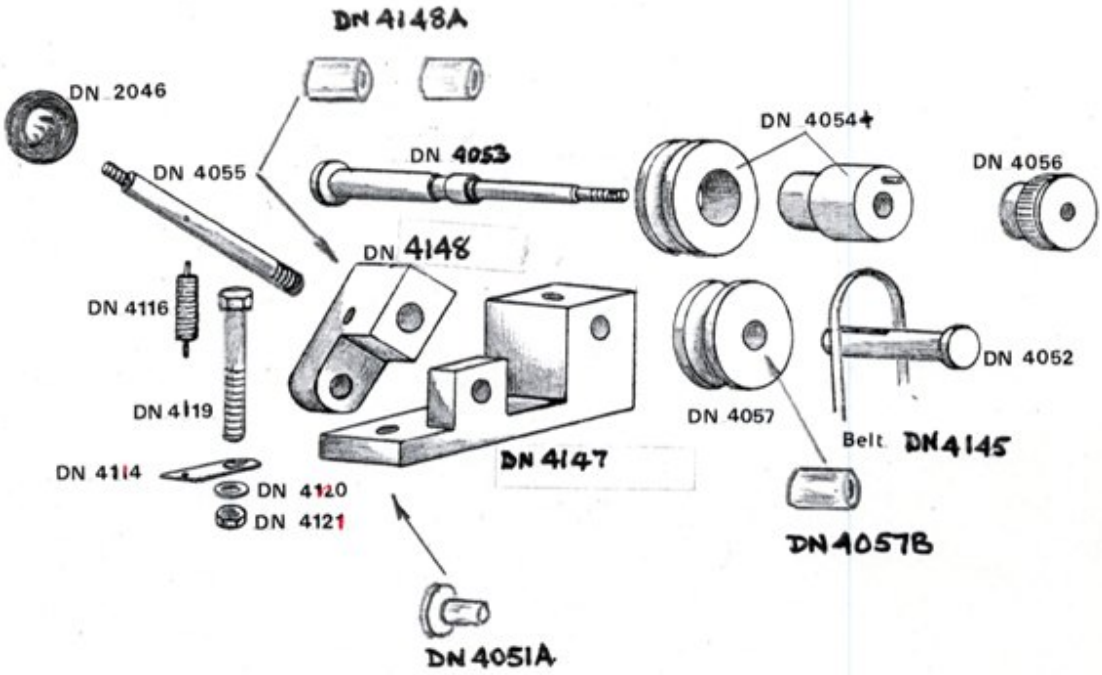

DN 910
DN 943
DN 942
DN 94
DN 940
DN 935
DN 936
DN 934
DN 908/909
DN 928
DN 927
DN 920
DN 919
DN 918

PLATE 11

DN 4147	Bobbin Winder Bracket
DN 4050A	Screws securing DN 4050 to DN 4035
DN 4148	Bobbin Winder Lever
DN 4051A	Pin for 4051
DN 4051B	Grub Screw for DN 4051A
DN 4052	Bobbin Winder Drive Pulley Spindle
DN 4053	Bobbin Winder Shaft
DN 4054+	Bobbin Drive Collar Pulley
DN 4055	Bobbin Winder Engagement Lever
DN 2046	Knob for DN 4055
DN 4056	Bobbin Clamp Nut
DN 4057	Drive Pulley
DN 4057A	Screw securing DN 4057 to 4050
DN 4114	Spring Bracket
DN 4116	Spring
DN 4119	Screw securing DN 4050
DN 4120	Washer for DN 4119
DN 4121	Nut for DN 4119
DN 4148A	BUSH
DN 4057B	BUSH.
DN 4145	Bobbin Winder Belt

PLATE 11


DN 4148A
DN 2046
DN 4055
DN 4053
DN 4054
DN 4056
DN 4148
DN 4116
DN 4119
DN 4114
DN 4120
DN 4121
DN 4147
DN 4057
DN 4052
Belt DN4145
DN 4057B
DN 4051A