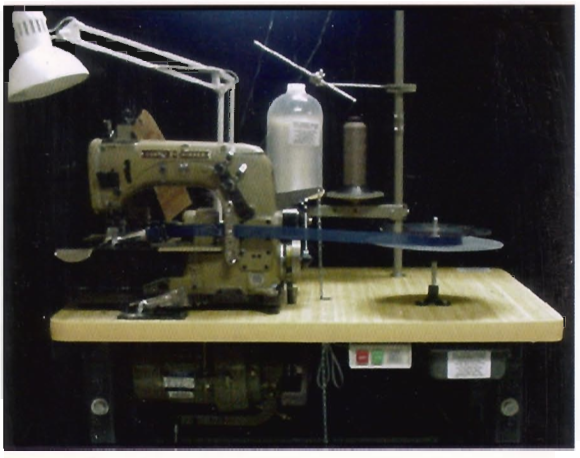
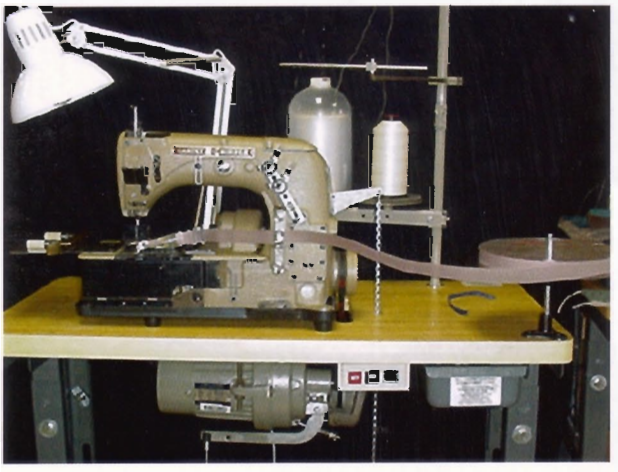
N-C CARPET BINDING AND EQUIPMENT CORP

"WHERE QUALITY COUNTS"



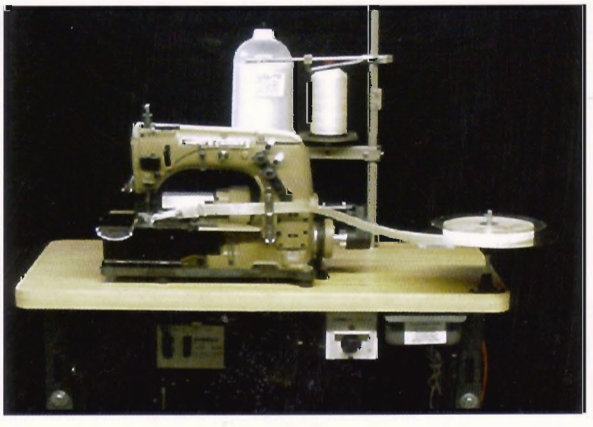
MODEL TPB

Twin Puller Bobbinless Carpet Binder



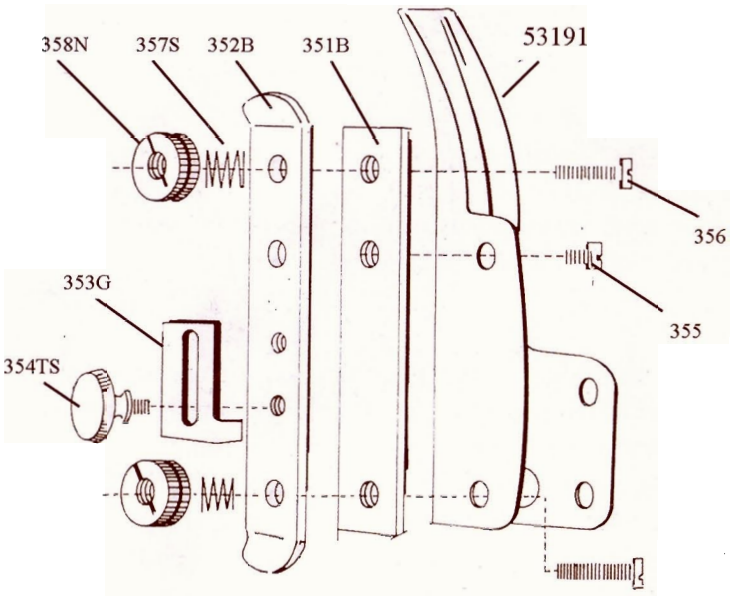
MODEL SB

High Speed Wall Cove & Base Sample Binder



MODEL SBA

Automated Sample Binder



NC16 COMPLETE

NC16 (complete)	Looper thread guard with tape tension bracket
53191	Looper Thread Guard
351B	Tape Tension Place
352B	Tape Tension Bar
353G	Tape Guide
354TS	Tape Guide Thumb Screw
358N	Tension Nut
357S	Spring
356	Tension Nut Screw
355	Plate Screw

IF YOUR MACHINE IS NOT FUNCTIONING CORRECTLY, CHECK THE FOLLOWING:

MACHINE SKIPPING
(missing stitches)

1. If the machine is making clicking sound, the looper is hitting the needle. Make sure that the needle guard is pushing the needle enough so it cannot bend back into the path of the looper. If the needle guard is in proper position, then move the looper back to a point where it will not hit the needle.

2. If the machine is skipping on the binding alone or not making the clicking sound, then the looper is too far away from the needle. The needle guard may be pushing the needle too hard. If that is not the case, then move the looper a little closer to the needle. Make sure that the looper does not strike the needle in any case.

3. Needle hole in the throat plate NC01 may have a burr on it.

4. Needle may be striking side of the needle hole in the throat plate.

5. Make sure the needle is pushed all the way up into the needle bar.

6. Adjust the top thread tension so that when you pull the thread by hand it does not jerk or hold back. Putting oil on the spool of thread will help this condition.

7. See to it that the needle is not hitting the folder.

8. Check the machine for improper threading.

9. Make sure that the looper has not been bent or the point blunted.

MACHINE NOT FEEDING PROPERLY

1. Check all set screws on both pullers. On front puller, you will have to remove the puller wheel before the rubber sleeve is removed so you can check the set screws.
2. Binding or thread can be wrapped around the puller wheels.

THE BINDING IMPROPERLY SEWED

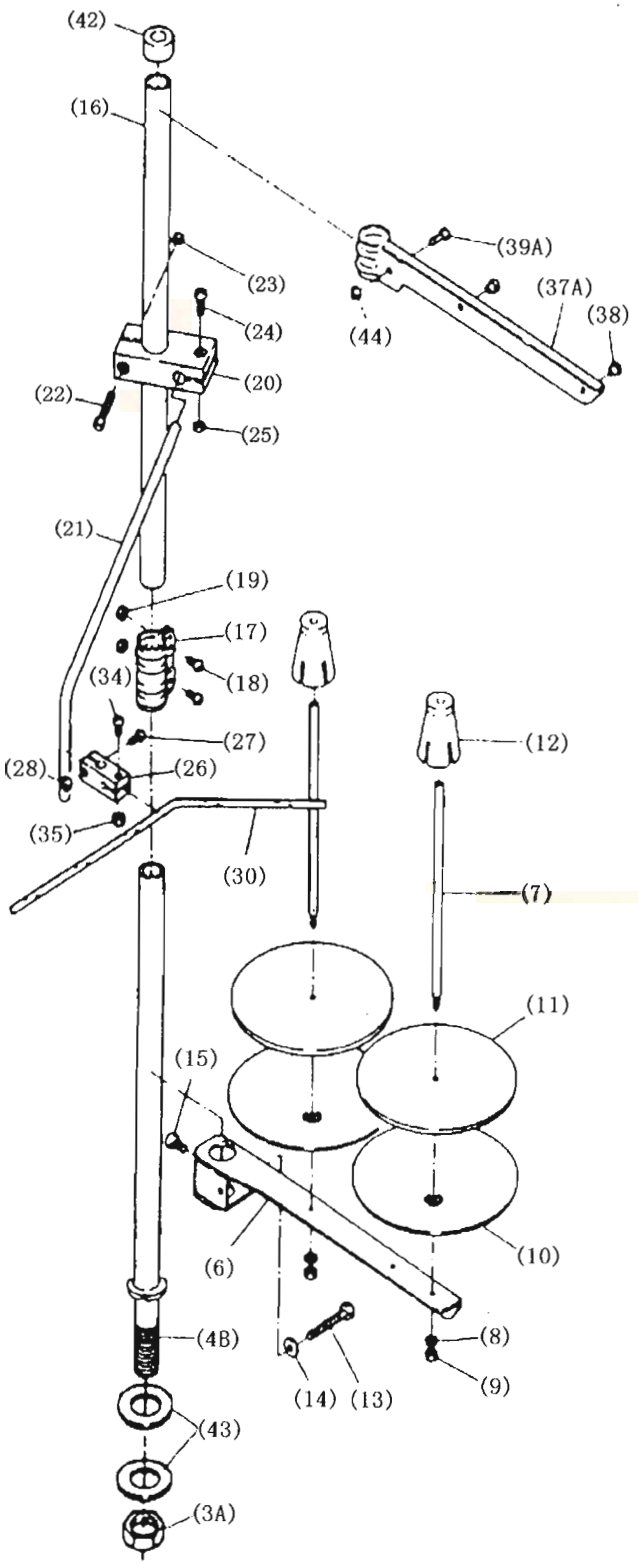
1. The entire folder can be removed sideways so the stitching can cover more or less on the edge of the binding.
2. If the binding is not being caught on the top, increase the speed of the front top puller.
3. If the binding is not caught on the under side, then slow the speed of the front top puller.
4. Make sure the binding is not under 13/16" in width.
5. Too much pressure on the binding guide will cause the rug to ripple when sewing a loose backed carpet.
6. Be sure that the compressor guide NC07 has not been bent. When it is replaced, have the inside radius conform with the inside radius of the binder.

NEEDLE BAR, FORWARD & BACKWARD PLAY, ADJUSTMENT NOT LISTED IN UNION SPECIAL CATALOG
(Refer to U.S. Catalog pages 18-19)

Remove lower Allen head screw in front on head cover (Ref. 856, part #53182J). Loosen two set screws (Ref. 49, part #22565) that hold needle bar frame guide pin (Ref. 62, part #53137A). After set screws are loosened, take up play by pushing guide pins in against frame. This will take up forward and backward play on the needle bar.

SET UP INSTRUCTIONS FOR THREAD STANDS

Refer to the illustration and assemble parts



REF. NO.	NAME	2 CONE
	Thread Stand Assembly	1
	" "	
	" "	
	" "	
	" "	
	" "	
(4B)	Thread Stand Rod (lower)	1
(43)	Washer	2
(3A)	Nut	1
(5)	Bracket	
(6)	Bracket	1
(7)	Spool Pin	2
(8)	Spring Washer	2
(9)	Nut	2
(10)	Spool Tray	2
(11)	Seat	2
(12)	Spool Retaining Fig	2
(13)	Screw	1
(14)	Washer	1
(15)	Screw	1
(16)	Thread Stand Rod (upper)	1
(17)	Joint	1
(18)	Screw	2
(19)	Nut	2
(20)	Holder (large)	1
(21)	Thread Guide Bar	1
(22)	Screw	1
(23)	Nut	1
(24)	Screw	1
(25)	Nut	1
(26)	Holder (small)	1
(27)	Screw	1
(28)	Nut	1
(29)	Thread Guide Bar	
(30)	Thread Guide Bar	
(31)	Thread Guide Bar	
(32)	Thread Guide Bar	1
(33)	Thread Guide Bar	
(34)	Screw	1
(35)	Nut	1
(36A)	Bracket	
(37A)	Bracket	1
(38)	Thread Eyelet	2
(39A)	Screw	1
(42)	Cap	1
(44)	Nut	1

ORDERING REPAIR PARTS

At the back of the book you will find a numerical index of all the parts shown in this book. This will facilitate locating the illustration and description when only the part number is known.

IDENTIFYING PARTS

Where the construction permits, each part is stamped with its part number. On some of the smaller parts, and on those where the construction does not permit, an identification letter is stamped in to distinguish the part from similar ones.

Part numbers represent the same part, regardless of catalog in which they appear.

IMPORTANT! ON ALL ORDERS, PLEASE INCLUDE PART NAME AND STYLE OF MACHINE FOR WHICH PART IS ORDERED.

USE GENUINE NC NEEDLES AND REPAIR PARTS

Success in the operation of these machines can be secured only with genuine NC needles and Repair Parts as furnished by the NC Corporation, its subsidiaries and authorized distributors. They are designed according to the most approved scientific principles, and are made with the utmost precision. Maximum efficiency and durability are assured.

Genuine needles are packaged with labels marked NC. Genuine repair parts are stamped with the NC trademark, US Emblem. Each trademark is your guarantee of the highest quality in materials and workmanship.

OILING AND THREADING

The oil has been drained from the machine before shipping, and the reservoir must be filled before beginning to operate. Use a NC oil with a Saybolt viscosity of 90 to 125 seconds at 100 Fahrenheit.

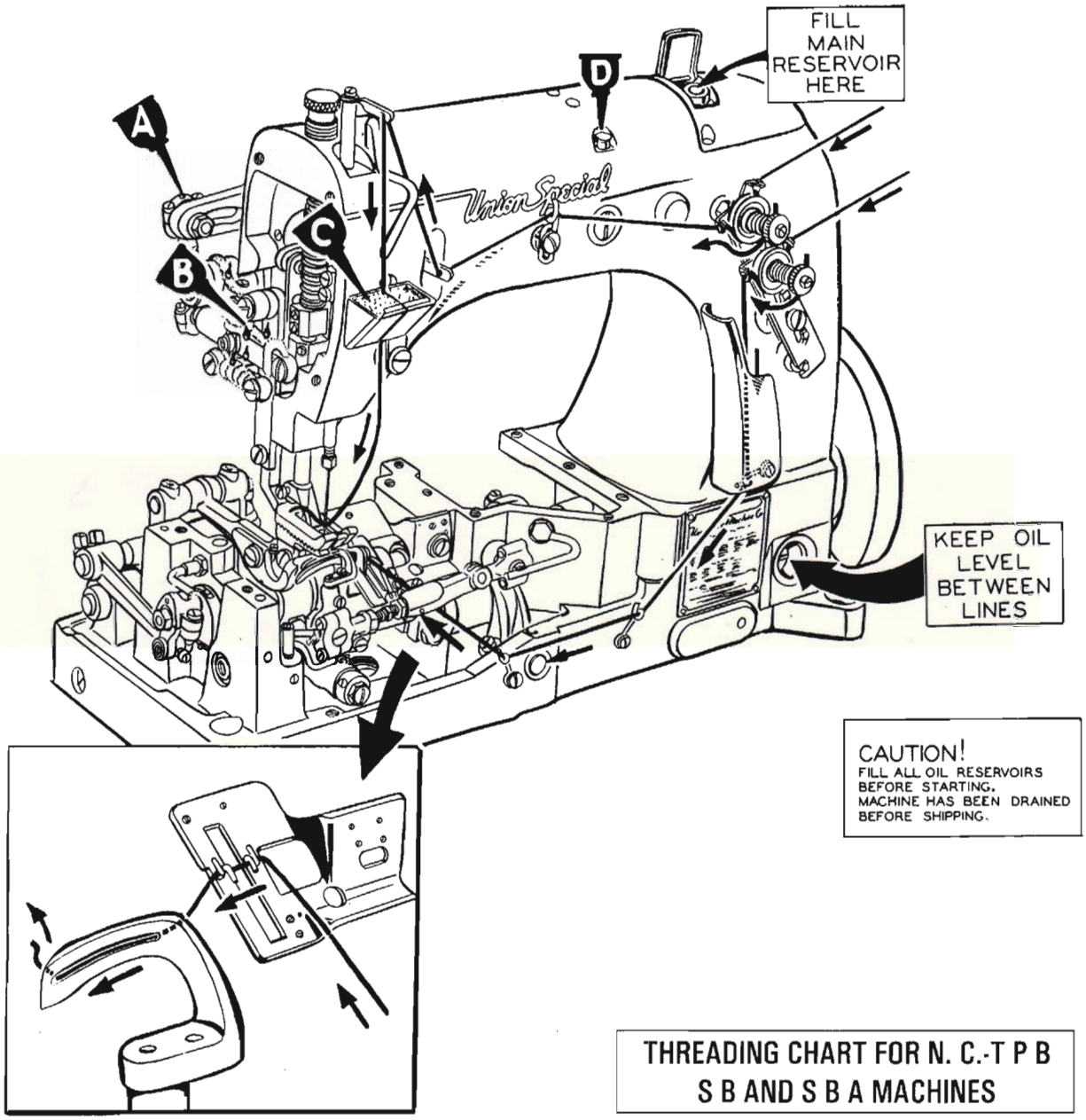
Oil is filled at the spring cap in the top cover, and the oil level is checked at the sight gauge on the front of the machine. The oil level should be maintained between the red lines on the gauge. The capacity of the oil reservoir is 12 ounces.

The machine is automatically lubricated, and no oiling, other than keeping the main reservoir filled is necessary.

A daily check before the morning start should be made and oil added if required. Oil which has gone through the machine is filtered and pumped back into the main reservoir, making too frequent oilings unnecessary. Excessive oil in the main reservoir may be drained at the plug screw in the main frame directly under the handwheel.

On the next page is a picture showing the manner in which the 53100 Styles covered in this catalog are threaded. The looper threading has been enlarged for clarity.

THREADING



THREADING CHART FOR N. C.-T P B S B AND S B A MACHINES

SB and SBA Timing

SEQUENCE OF ADJUSTMENTS FOR N-C BOBBINLESS RUG BINDER
Use No. 52 Monofilament Thread in Needle
Use 24/4—Cotton for Looper

MAIN ADJUSTMENTS FOR TIMING LOOPER

1. Put in new needle (123 x 14 #24 Lg. Pt.)
2. Remove needle plate. Turn the handwheel counter clockwise until the needle is at its lowest point. The point of the looper should now be 5/32" from the center of needle. You may check this by using your looper gauge.
3. Adjust height of needle bar so that the point of the looper passes 1/64" above the eye of the needle.
4. Set the side throw of the looper so that it passes the needle closely without contacting it.
5. Set the needle guard so that it supports the needle as the looper passes.
   After needle guard has been set, check to see that the looper point cannot strike the needle. THIS IS VERY IMPORTANT.

TPB Timing

SEQUENCE OF ADJUSTMENTS FOR N-C BOBBINLESS RUG BINDER
Use No. 52 Monofilament Thread (DRY) in Needle
Use 24—Cotton for Looper

MAIN ADJUSTMENTS FOR TIMING LOOPER

1. Put in new needle (123 x 14 #24)
2. Remove needle plate. Time looper 5/32" from point of looper to center of needle when needle is on the RIGHT hand stroke. Use gauge that comes with machine.
3. Adjust height of needle bar with the needle on the left-hand stroke and set the needle bar so the top of the eye is about 1/64" below bottom of the looper (or needle eye should be even with the eye in the looper).
4. Set the side throw of the looper so the looper passes the needle closely but not contact ing it ON THE RIGHT STROKE. Make sure needle presses against backside of looper stroke.
5. Set the needle guard so that when the needle is on the right-hand stroke, the guard is pushing the needle enough so the looper cannot strike it as the looper passes behind the needle.
   After needle guard has been set, check to see that the looper point cannot strike the needle. THIS IS VERY IMPORTANT.

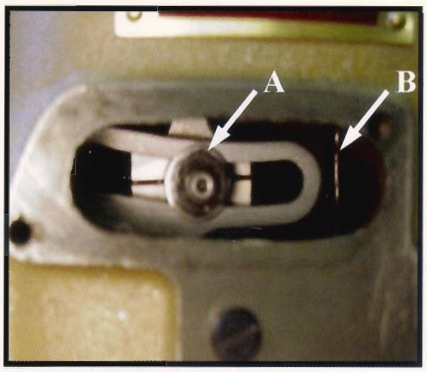


fig. 1

OILING SYSTEM

Clean machine thoroughly. Fill oiling system to the first red line of oil gauge on the front of the machine, and oil all bearings. Run machine slowly for a minute to allow oil wicks to carry oil to the bearings. Then, recheck oil in oiling system and run machine for five minutes. Run Styles 53100 A, D, and E at 4500 RPM and Styles 53100 B and C at 4000 RPM. Inspect siphon and head felt for proper function, and all plug screws for leakage.

SETTING THE ZIG-ZAG MOTION
(Factory Set)

Set the zig-zag motion to the maximum travel that the needle hole in the throat plate will permit. This can be accomplished by moving the ball joint. (A, *fig 1*) in the segment lever (B) located under the cover directly above the handwheel on the right side of the machine. Moving it away from the operator increases the zig-zag motion and toward the operator acts the reverse.

The cam gear pinion located on the crank shaft adjacent to the handwheel housing, should be set so that the lateral zig-zag motion of the needle bar occurs when the needle is completely out of the work. This is accomplished by loosening the set screws in the pinion; then, while holding the gear train in a fixed position, turning the handwheel either forward or backward until the desired timing is obtained.

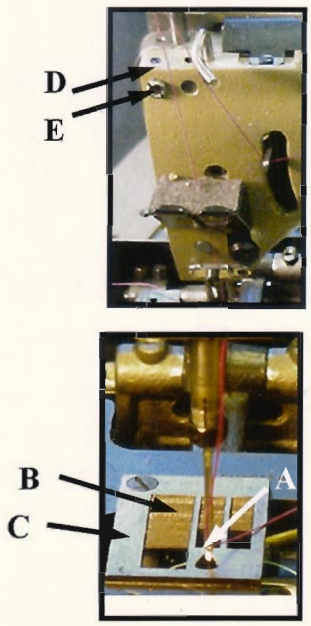


fig. 2

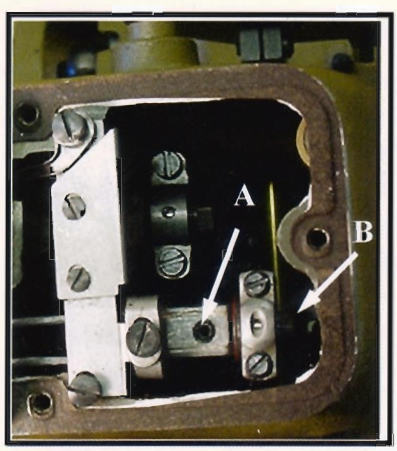


fig. 3

SPACING NEEDLE IN THROAT PLATE
(Factory Set)

Equalize the clearance between the needle (A, *fig 2*) and the right and left sides of the needle hole (B) in throat plate (C). This is accomplished by loosening set screw (D) and turning the eccentric stud (E) clockwise or counterclockwise until the described clearance has been obtained. Retighten set screw.

If additional adjustment is required, it can be obtianed by loosening set screw (A, *fig 3*) and turning the eccentric ball joint stud (B), located at the right end of the needle bar frame under the top cover, either clockwise or counterclockwise.

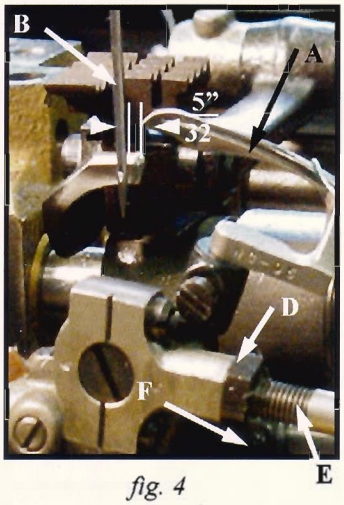


fig. 4

SETTING THE LOOPER

Insert a new needle, size as specified, Type 123 x 14, TPB, SB and SBA.

With the zig-zag motion at the end of its stroke to the right, set the looper (A, *fig 4*) so the distance from the center of the needle (B) to the point of the looper is 5/32 inch, when the looper is at its farthest position to the right. Looper gauge No. 21225-5/32 (C) can be used advantageously in making this adjustment. If the adjustment is needed, loosen nut (D) (it has a left hand thread) and also loosen nut on right end of connecting rod (E), turn connecting rod forward or backward to obtain 3/32 inch and retighten both nuts.

The looper is set correctly in line with the feed when there is .003 inch space between its point (A, *fig 5*) and the rear of the needle (B) as the former is ascending on the right side. If adjustment is needed, loosen screw (F, *fig 4*) and move the looper toward or away from needle as required and retighten screw when .003 inch space is obtained.

SETTING HEIGHT OF NEEDLE BAR

The height of the needle (A, *fig 6*) is correct when the top of its eye is 1/64 inch below the underside of the looper, with the looper point flush with the left side of the needle and the needle is ascending on the left side. If adjustment is necessary, loosen screws (B) and move needle bar (C) up or down as required and retighten screws.

fig. 5

fig. 6

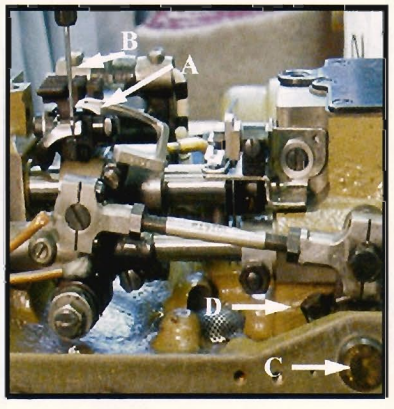


fig. 7

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Turn the handwheel in the operating direction until the looper point (A, *fig 7*) moves to the left and is even with the left side of the needle (B). Note the height of the eye of the needle with respect to the looper point, then, turn the handwheel in the reverse direction until the looper point again moves to the left, and is even with the left side of the needle. If the motions synchronize, the height of the eye of the needle with respect to the looper point will be the same. A variation of .005 inch is allowable. If the distance from the eye of the needle to the point of the looper is longest when the pulley is turned in the operating direction, move the looper drive lever shaft synchronizing stud (C) to the rear. Moving it in the opposite direction acts the reverse.

Moving of the looper drive lever shaft synchronizing stud is accomplished as follows: Loosen clamp screw (D) of looper drive lever.

To move stud to rear (away from operator), a light tap with a small hammer, directly on the stud, is all that is required.

SYNCHRONIZATION OF THE UPPER ROLLER FEED

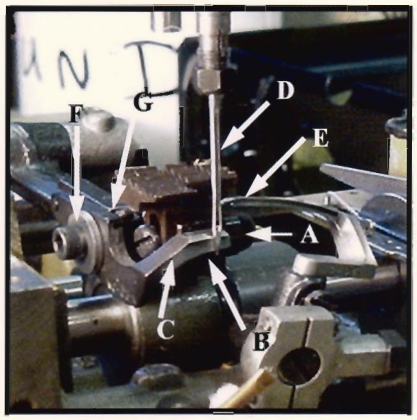


fig. 8

On Styles 53100 B and C, synchronize the upper roller feed (E, *fig 8*) with the lower feed dog. This is accomplished by removing the plug screw (A, *fig 12*) from the top of the housing (B) located at the rear right side of the machine. Then, after noting the direction the shaft journaled in the housing rotates, loosen the clamp screws in the gear hub, made accessible by removal of the plug screw. Turning this back shaft in its operating direction causes the top roller feed to start turning sooner, and turning the shaft backward causes the puller roll to start turning later.

NOTE: The adjustment just mentioned and the regulation of the pressure on the presser foot are very important to the appearance of the finished seam.

The travel of the top roller feed is adjusted at the end of this back shaft. Its adjustment is identical to the stitch length adjustment mentioned in the adjusting instructions under "CHANGING STITCH LENGTH". It has the same adjusting screw and left hand thread lock nut arrangement. When loosening or tightening the lock nut, do not hold the handwheel to maintain the shaft position, as the gear on the crankshaft might shift, which would make it necessary to re-time the machine. Instead, insert a screw driver through the access hold (C) in the top of the gear housing at the left end and engage the adjusting screw. By holding the screw driver in this manner, the lock nut may be loosened or tightened without disturbing the gear setting.

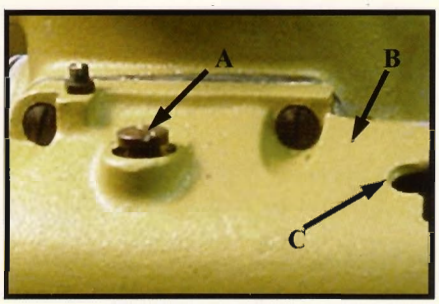


fig. 9

PRESSER FOOT PRESSURE

Regulate the presser spring regulating screw (A, *fig 14*) so that it exerts only enough pressure on the presser foot to feed the work uniformly. This is located directly behind the needle bar in the head of the machine. Also, regulate the pressure on the upper roller feed, using only enough pressure to insure the uniform feeding of the material being sewn.

SETTING NEEDLE THREAD TAKE-UP

Set the needle thread take-up (B, *fig 14*), located adjacent to the needle bar thread eyelet (C), so that its upper surface projects 3/32 inch above the line of thread when the needle bar has completed its downward stroke. Set the needle thread frame eyelet (D) so the smallest noticeable amount of thread is drawn through the needle thread tension while the needle is descending. (Setting this eyelet too high can cause the needle thread around the looper to be pulled from under the front retainer prematurely.

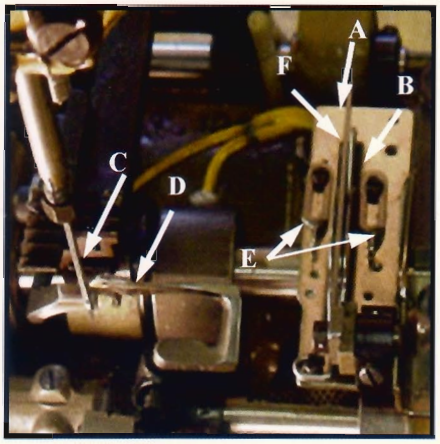


fig. 10

SETTING THE LOOPER THREAD TAKE-UP

The cast-off plate (A, *Fig. 10)* should be set over the take-up so that there is equal clearance on each side. The looper thread take-up (B) is not spotted on the main shaft, and consequently, can be set to compensate for varying conditions. It is set correctly, when the looper thread is just cast off the highest lobe of the take-up when the point of the needle (C) is clearly visible below the underside of the looper (D). The looper thread eyelets (E), located on the cast-off plate, are adjustable, and their setting determines the amount of thread pulled off by the take-up. Moving the eyelets to the rear causes more thread to be pulled from the cones, and moving them forward causes less thread to be pulled off. Set the eyelets so that, when the looper reaches its extreme position to the left, all the slack has been removed from the looper thread, but it has been removed from the looper thread, but it has not become taut. The retaining finger (F) controls the amount of slack thread in the system, and it is set correctly when it prevents the looper thread triangle from being wiped under the blade of the looper when the looper moves from right to left.

THREAD TENSIONS

The tension on the needle thread should be only sufficient to produce uniform stitches on the under surface of the fabric. The tension on the looper thread should be just sufficient to steady the tread.

THREADING

Draw looper and needle threads onto the machine and start operating on a piece of fabric. Refer to threading diagram on Page 8, for manner of threading these machines.

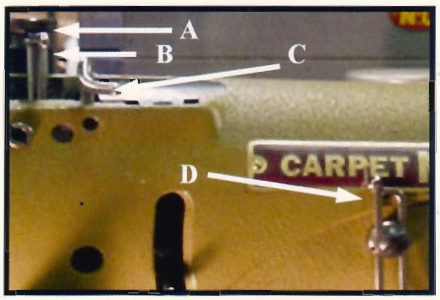


fig. 11

THREAD TENSION RELEASE

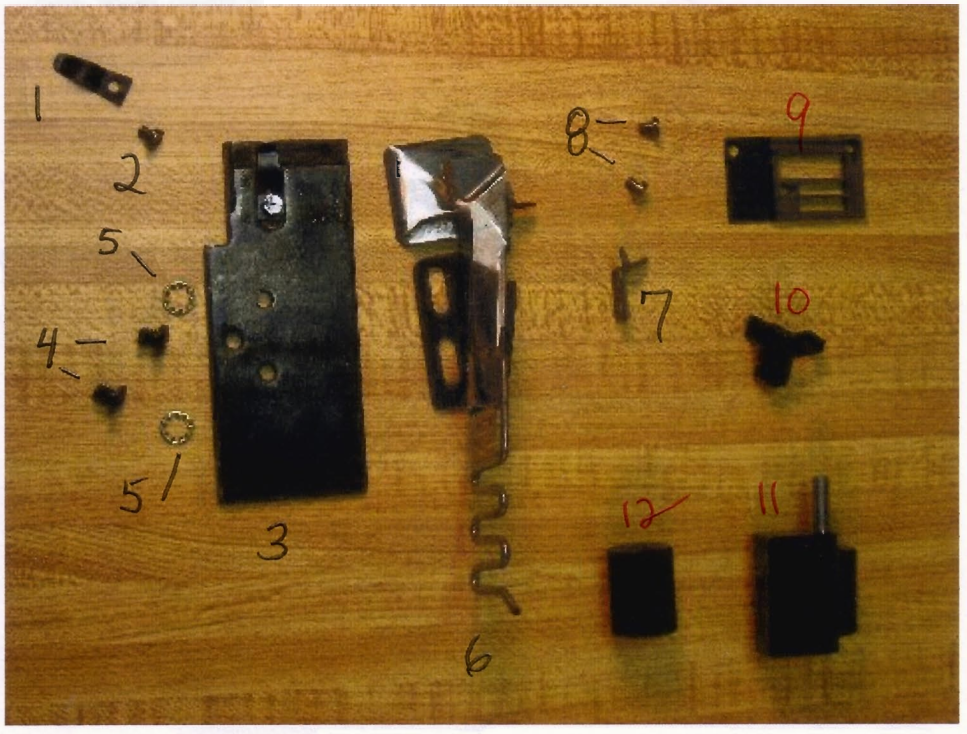
The thread tension release is set correctly when it begins to function as the presser foot is raised to within 1/8 inch of the end of its travel and is entirely released when the presser foot reaches its highest position. On Styles 53100 B and C, adjust feed roller lifter connection so that, when the presser foot and the feed roller are raised, the feed roller does not contact the presser foot.

SETTING THE NEEDLE GUARD

Set the needle guard (C, *Fig. 8)* horizontally so that it slightly pushes the needle (D). It should be set as low as possible, yet have its vertical face remain in contact with the needle until the point of the looper (E), moving to the left, is even with the needle and the latter is ascending on the left side. To move needle guard forward or backward, merely loosen screw (F), move needle guard as required, and retighten screw. To raise or lower needle guard, loosen screw (F), and turn screw (G) clockwise to lower needle guard, and counterclockwise to raise needle guard. Retighten screw (F) after guard is set properly.

NOTE: Any change in stitch length will require a change in the needle guard setting.

PARTS FOF N-C MODELS SB & TPB

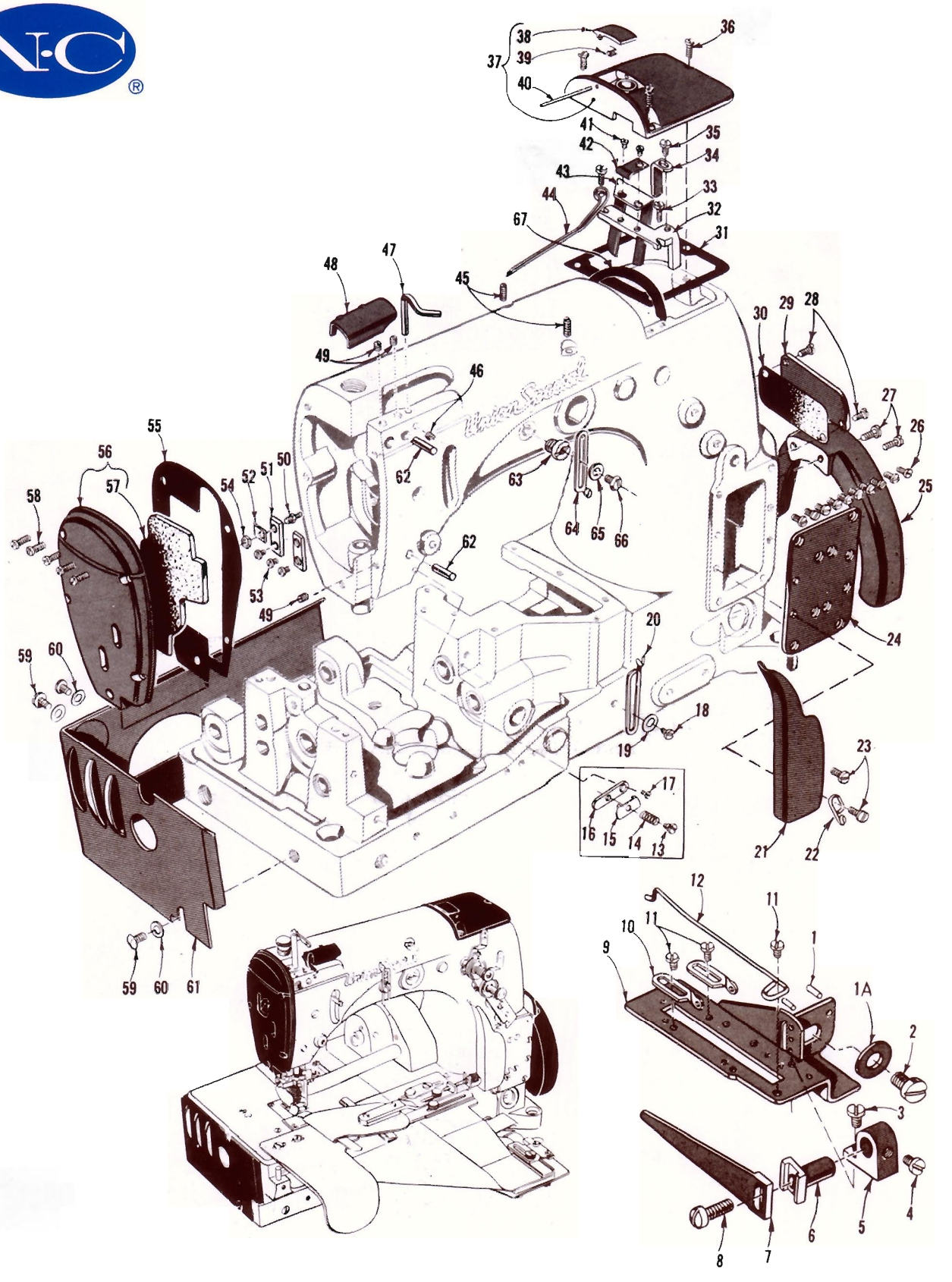


Parts for SB & TPB:

1. 356S Clip for NC09
2. 217 (2) Screws for 356S
3. NC09 Slide Plate Complete
4. 25C (2) Screws for NC09
5. SLW (2) Slotted washers for NC09
6. NC10REPNS 7/8" Binding Tape Attachement
7. NC07NS Compressor Guide for NC10REPNS
8. 217 (2) Screws for NC07NS

Parts ***Exclusively*** for SB Model:

9. NC01NS Throat Plate for SB
10. SB02N Feeder/Feed Dog for SB
11. NC04NS Feed wheel & housing complete for SB
12. NC04SB Feed wheel for SB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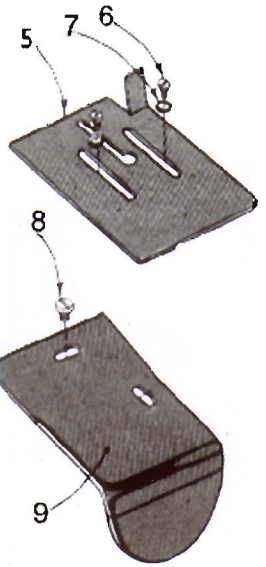
MAIN FRAME, CAST-OFF PLATE, MISCELLANEOUS COVERS AND PLATES

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	50-216 Blk	Dowel Pin	2
1A	21657E	Washer	1
2	2528	Screw	1
3	22768	Screw	1
4	87U	Screw	1
5	52904E	Retaining Finger Support Bracket	1
6	52804E	Retaining Finger Support	1
7	52904B	Retaining Finger	1
8	22516	Screw	1
9	52957C	Cast-Off Support Plate	1
10	52958D	Eyelet	2
11	73A	Screw	3
12	52904G	Cast-Off Wire	1
13	57WD	Nipper Spring Screw for Styles 53100 A, D, E	1
14	15438C	Nipper Spring for Styles 53100 A, D, E	1
15	57WB	Nipper Spring Plate for Styles 53100 A, D, E	1
16	43296	Thread Nipper Base, for Styles 53100 A, D, E	1
17	605A	Screw for Styles 53100 A, D, E	1
18	98A	Screw	1
19	20	Washer	1
20	539	Frame Thread Eyelet	1
21	53191	Looper Thread Guard	1
22	51758	Looper Thread Lead-In Eyelet	1
23	93	Screw	2
24	53182E	Cam Gear Fork Frame Support Plate	1
25	AB21375AH	Belt Guard	1
26	22570A	Screw	10
27	93	Screw	2
28	22570A	Screw	2
29	53182F	Cover Plate	1
30	53182G	Gasket	1
31	53182A	Crank Chamber Cover Gasket	1
32	53137C	Needle Bar Frame Guide Plate, front	1
33	22760B	Screw	2
34	53137D	Needle Bar Frame Guide Plate, rear	1
35	376	Screw	1
36	22541B	Screw	3
37	53182	Crank Chamber Cover	1
38	39582L	Oil Cap	1
39	52882AC	Oil Cap Torsion Spring	1
40	50-789 Blk	Oil Cap Hinge Pin	1
41	22564B	Screw	2
42	53182N	Oil Sheild	1
43	53182B	Baffle Plate	1
44	53182C	Needle Lever Bearing Oiler	1
45	719	Screw	2
46	22565	Screw	1
47	53170	Take-Up Wire	1
48	53182D	Needle Bar Frame Cover	1
49	22565	Screw	3
50	51294R	Screw	1
51	35731A	Presser Bar Connection Guide Plate	2
52	51294P	Oil Tube Clamp	1
53	22513	Screw	3
54	7947	Nut	1
55	53182K	Gasket	1
56	53182J	Head Cover	1
57	53182L	Felt Liner	1
58	22569B	Screw	5
59	22848	Screw	3
60	20	Washer	3
61	51282AH	Oil Sheild end and back for Styles 53100 A, B, C, D	1
62	53137A	Needle Bar Frame Guide Pin	2
63	22889A	Plug Screw	1
64	539	Needle Thread Eyelet	1
65	20	Washer	1
66	22848	Screw	1
67	53182M	End Gasket	1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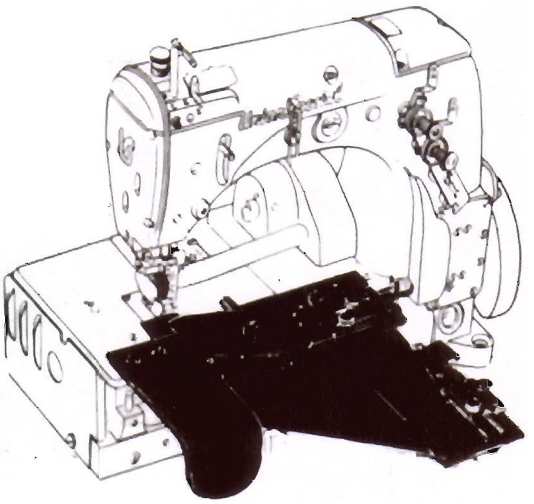

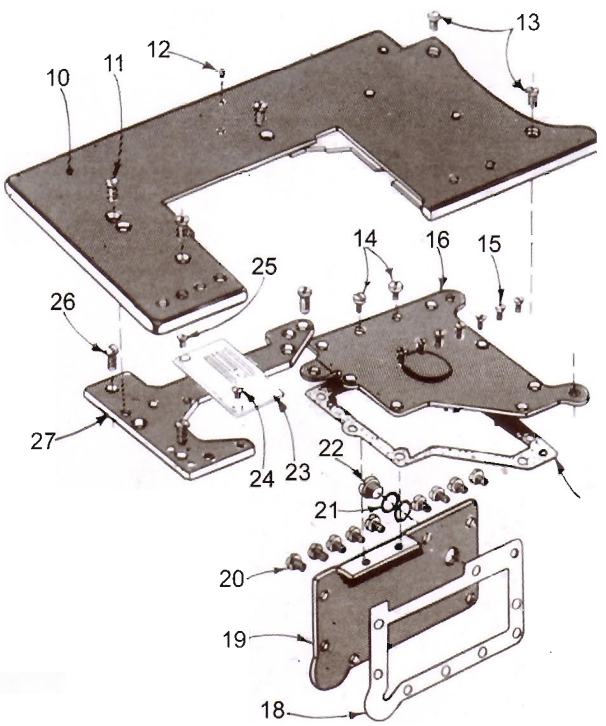
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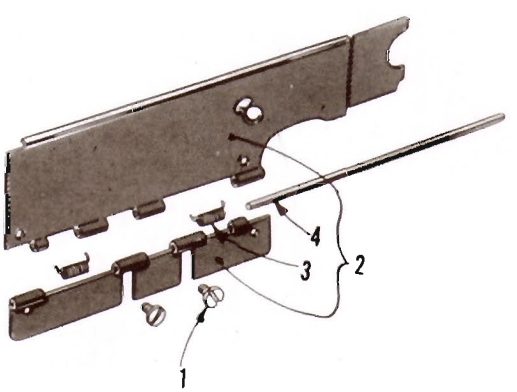
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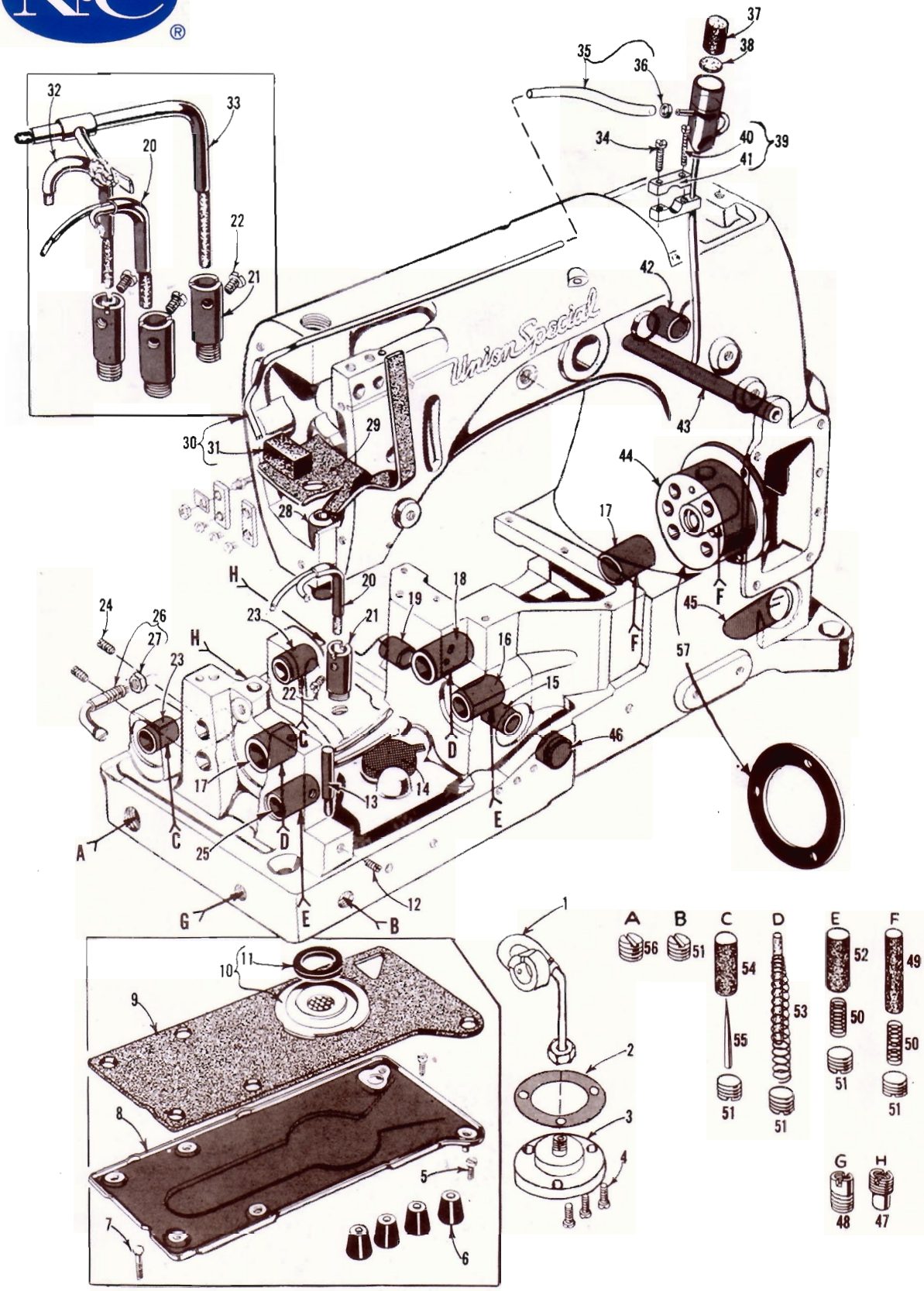
CLOTH PLATES, CLOTH PLATE COVERS, MISCELLANEOUS COVERS AND ATTACHMENTS

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	25S	Screw	2
2	51282AJ	Oil Sheild, front, for Styles 53100 A, C, D, E	1
3	51282AK	Spring	2
4	52978G	Hinge Pin	1
5	53102	Cloth Plate Cover for Styles 53100 B, C	1
6	22760A	Screw	2
7	35772H	Washer	2
8	25C	Screw	2
9	BCP	BASE Cover Plate	1
10	53101	Cloth Plate for Styles 53100 B, C	1
11	80	Screw	3
12	22845B	Screw	1
13	22839C	Screw	2
14	22585A	Screw	2
15	22524	Screw	7
16	53782B	Oil Reservoir Top Cover	1
17	51382A	Gasket	1
18	52982E	Gasket	1
19	52982D	Oil Reservoir Back Cover	1
20	22848	Screw	9
21	41394A	Gasket	2
22	22733B	Screw	1
23	NC01N/NC01NS	Throat Plate for TPB and SB	1
24	222D	Screw for Styles 53100 B,C	1
25	87	Screw for Styles 53100 B,C	1
26	22839	Screw	3
27	51280AA	Throat Plate Support for Styles A, B, C, D	1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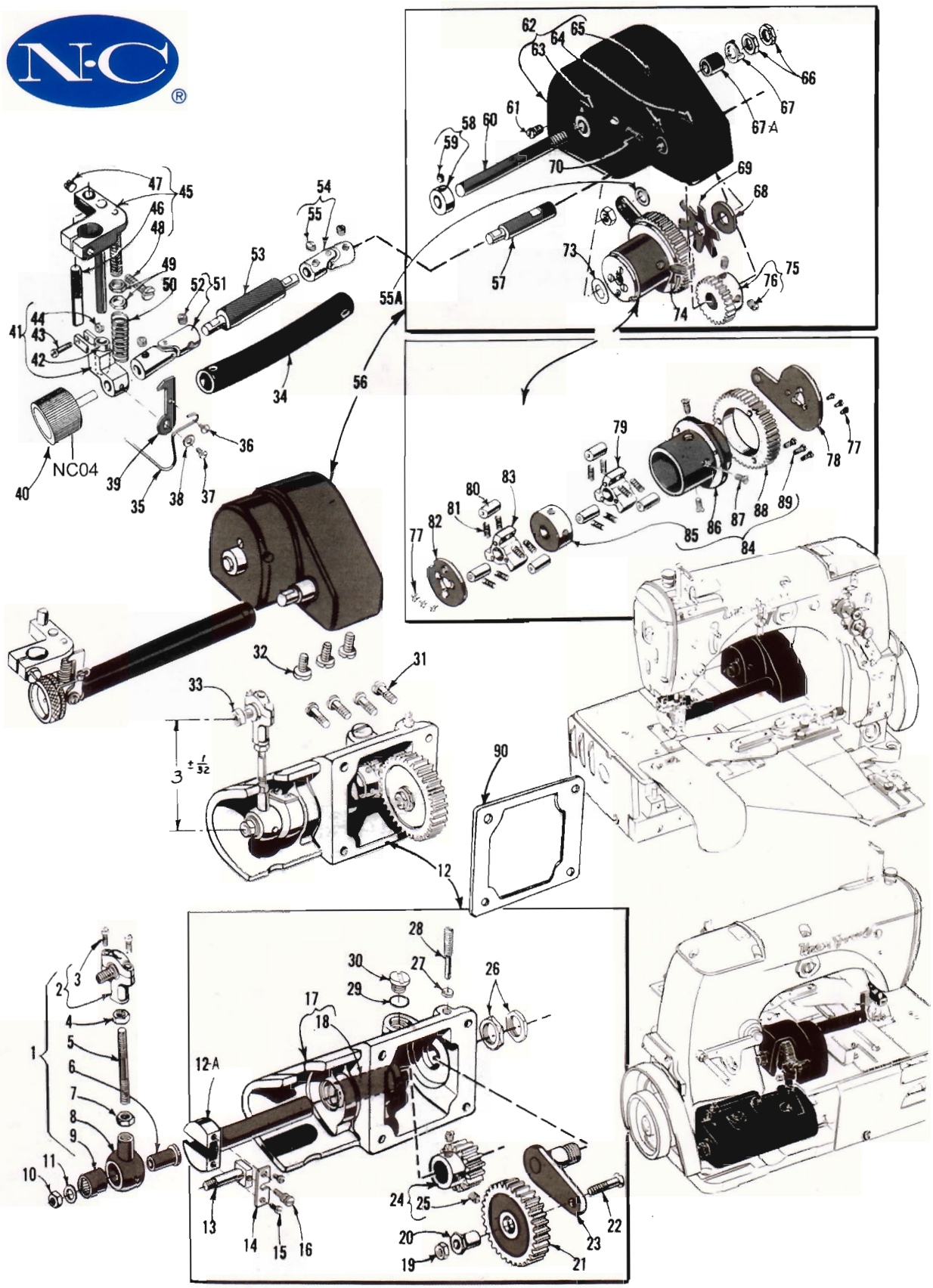
MAIN FRAME, BUSHINGS AND MISCELLANEOUS OLING PARTS

REF#	PART NO.	DESCRIPTION	AMT REQ
1	53193	Oil Pump Assembly	1
2	643-127 Blk	Gasket	1
3	52393H	Oil Pump Intake Housing	1
4	22569B	Screw	3
5	22823A	Screw	2
6	51295A	Mounting Isolator	4
7	22823B	Screw	1
8	51493AY	Oil Pan Base Plate	1
9	51493BG	Base Plate Felt Pad	1
10	51493BH	Filter Cap Assembly	1
11	51493BJ	Washer, sponge rubber	1
12	22560B	Screw	1
13	52894AK	Oil Tube, for looper rocker and left ball joint	1
14	51493BK	Lint Filter Screen	1
15	52942W	Looper Drive Lever Shaft Bushing, front	1
16	52944U	Looper Rock Shaft Bushing, right	1
17	52890C	Main Shaft Bushing, left and inner right	2
18	51290T	Main Shaft Bushing, middle	1
19	52942X	Looper Drive Lever Shaft Bushing, rear	1
20	52794G	Oil Tube, for feed lift and looper avoid eccentric	1
21	52894AB	Oil Tube Holder, for Styles 53100 A, B, C, D	1
	52894AB	Oil Tube Holder, for Styles 53100 E	3
22	90	Screw, for Styles 53100 A, B, C, D	1
	90	Screw for Style 53100 E	3
23	52936	Feed Rocker Shaft Bushing	2
24	22597	Screw, for Style 53100E	2
25	52944T	Looper Rocker Shaft Bushing, left	1
26	660-136	Oil Tube, for feed crank link	1
27	258A	Nut	1
28	51257AA	Lower Presser Bar Bushing	1
29	666-210	Oil Attraction Felt	1
30	51294V	Oil Siphon Tube	1
31	666-211	Felt Lint Filter	1
32	52894AD	Oil Tube, for differential feed bar shaft for Style 53100E	1
33	52894AE	Oil Tube, for differential feed bar guide for Style 53100E	1
34	22729A	Screw	1
35	51294Z	Oil Tube Connection	1
36	21212	Oil Siphon Connection Locking Ring	1
37	666-201	Felt Plug	1
38	666-209	Felt Plug	1
39	51294S	Oil Siphon Assembly	1
40	22729B	Screw	1
41	51294K	Upper Clamp	1
42	52883R	Presser Foot Lifter Lever Bushing	1
43	21657X	Tension Release Lever Shaft Bushing	1
44	52891B	Main Shaft Housing, including bushing	1
45	50-648 Blk	Lucite Oil Gauge	1
46	52942Y	Looper Rocker Shaft Synchronizing Stud	1
47	22889C	Adapter plug Screw	2
48	22889D	Adapter plug Screw	1
49	666-114	Oil Wick	2
50	35178D	Spring	4
51	22571A	Plug Screw	15
52	666-65	Oil Wick	2
53	666-118	Oil Wick	2
54	666-111	Oil Wick	2
55	666-179	Wedge Pin	2
56	22539H	Plug Screw	1
57	56390E	Crankshaft Bearing Housing Gasket	1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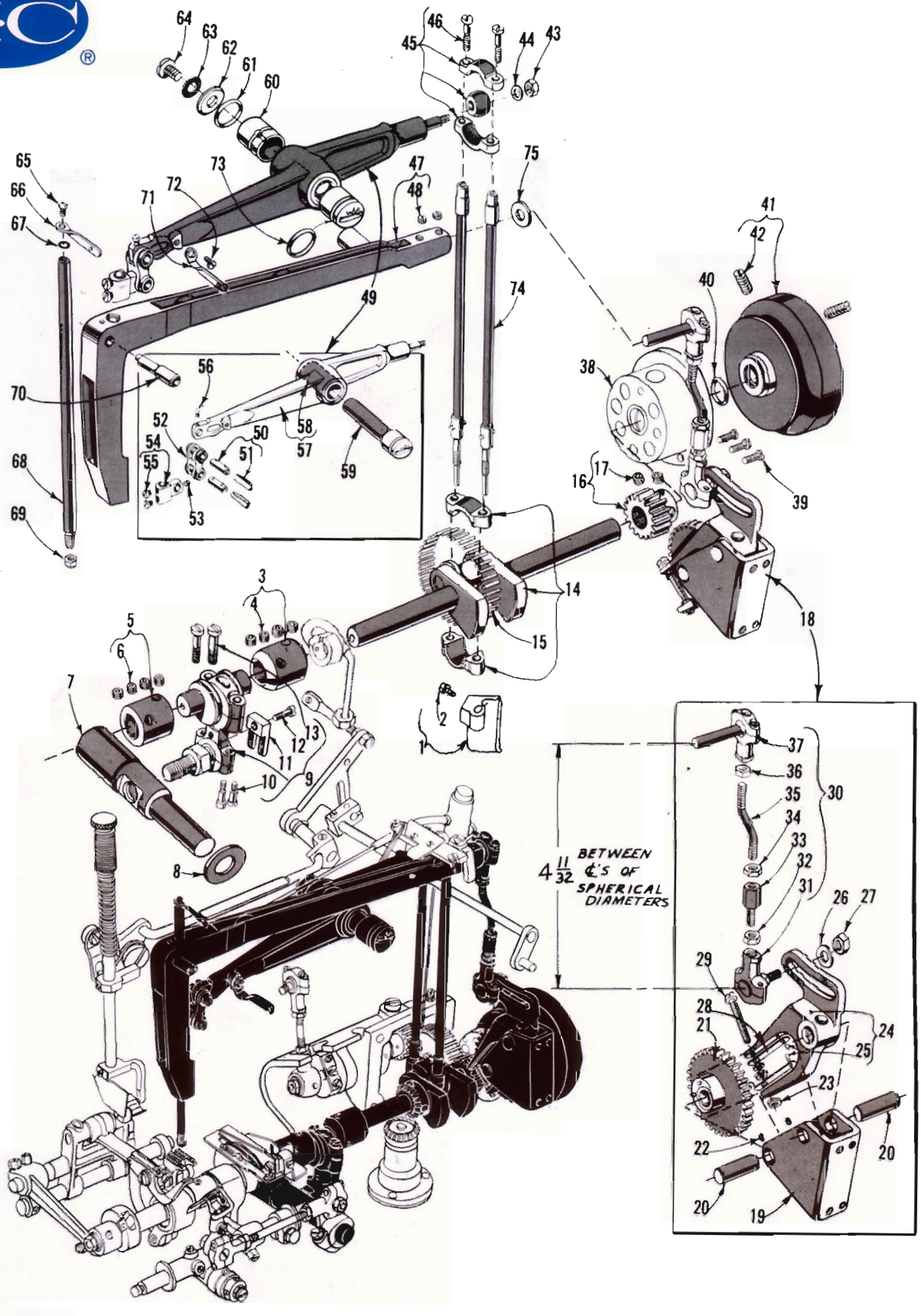
FOR STYLES 53100 B AND C ONLY CLUTCH ASSEMBLY, CLUTCH DRIVE SHAFT GEAR AND HOUSING ASSEMBLY

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	29476JD	Clutch Drive Connecting Rod Assembly	1
2	53139H	Clutch Drive Ball Joint	1
3	97A	Screw	2
4	18	Nut	1
5	41331G	Connecting Rod	1
6	51236F	Ferrule	1
7	269	Nut	1
8	53139K	Crank Strap	1
9	660-169	Needle Bearing	1
10	269	Nut	1
11	20	Washer	1
12	29476JF	Clutch Drive Shaft Gear and Housing Assembly	1
12A	53139B	Clutch Drive Shaft	1
13	51236G	Feed Crank Stud	1
14	51236B	Feed Crank Stud Cap	1
15	22768	Screw	2
16	82	Screw	1
17	53139	Clutch Drive Housing	1
18	53139A	Bushing	1
19	269	Nut	1
20	53139E	Idler Gear Eccentric Bushing	1
21	53139D	Idler Gear	1
22	22888A	Screw	1
23	53139F	Idler Gear Bracket	1
24	53139C	Clutch Drive Shaft Gear	1
25	98	Screw	2
26	39153G	Nut	2
27	12982	Nut	1
28	22791D	Pin	1
29	41394A	Gasket	1
30	22733B	Screw	1
31	22861B	Screw	4
32	22548	Screw	3
33	258	Nut	1
34	53139Z	Roller Feed Shaft Guard	1
35	53139AC	Feed Roller Stripper	1
36	22561	Screw	1
37	22768	Screw	1
38	41358	Washer	1
39	NC15	Feed Roller Lifter	1
40	NC04	Feed Roller for TPB	1
	NC04NS	Feed Roller for SB	1
41	NC18	Feed Roller Block	1
42	51239AB	Bushing	1
43	22747B	Screw	1
44	43443Q	Nut	1
45	53139AA	Roller Feed Mounting Bracket	1
46	50-799 Blk	Guide	1
47	88	Screw	1
48	22874	Screw	1
49	12987A	Nut	2
50	53139AG	Plunger Spring	1
51	51239G	Universal Joint	1
52	22894T	Set Screw	2
53	61339F	Roller Feed Shaft	1
54	660-239	Universal Joint	1
55	22580	Set Screw	2
55A	6042\A	Washer	1
56	29476JE	Clutch Assembly	1
57	53139Y	Roller Feed Driving Gear Shaft	1
58	460	Collar	1
59	88	Screw	1
60	53139W	Clutch Shaft	1
61	22892C	Stop Screw	1
62	53139L	Clutching Housing	1
63	53139N	Bushing	1
64	53139P	Bushing	2
65	53139M	Bushing	1
66	11636M	Nut	2
67	54278Y	Driving Washer	1
67A	54278W	Sleeve	1
68	54274P	Washer	1
69	54274N	Tension Spring	1
70	719	Set Screw	1
73	61351C	Washer	1
74	22894H	Spot Screw	1
75	53139X	Roller Feed Gear	1
76	22651CB-4	Set Screw	2
77	605	Screw	6
78	53139R	Drive Lever	1
79	54274H	Clutch Disc	1
80	54274L	Clutch Roller	6
81	54274M	Clutch Spring	12
82	54274J	Support Plate	1
83	54274H	Clutch Disc	1
84	53139S	Clutch Barrel Assembly	1
85	53139V	Core	1
86	53139U	Barrel	1
87	538	Screw	3
88	53139T	Clutch Barrel Gear	1
89	22593	Screw	3
90	54484R	Gasket	1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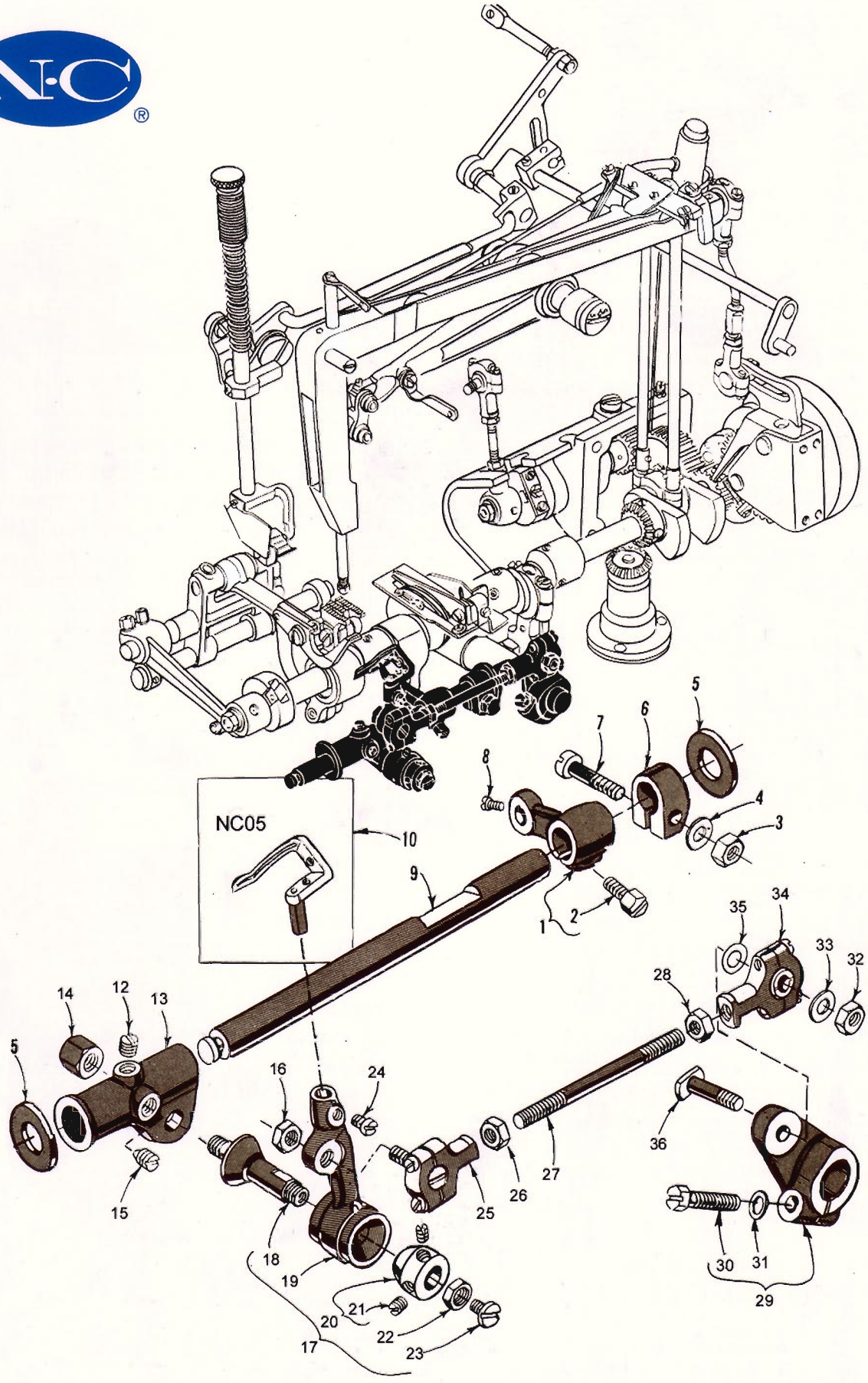
CRANKSHAFT, NEEDLE LEVER AND LOOPER DRIVING PARTS

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	54484U	Oil Distributor	1
2	22564D	Screw	1
3	52943L	Collar	1
4	22894X	Screw	4
5	56343D	Collar	1
6	22894X	Screw	4
7	52942A	Looper Drive Lever Rocker Shaft	1
8	52951C	Washer	1
9	29476LE	Looper Driving Lever Crank Assembly	1
10	22729D	Screw, lower	2
11	51243C	Ball Stud Guide	1
12	22729D	Screw	1
13	22587	Screw, upper	2
14	29476HL	Crankshaft Assembly, .910 inch throw	1
15	51216M	Needle Bearing	28
16	53138L	Cam Driving Gear	1
17	22894X	Screw	2
18	29476JZ	Cam Gear, Cam Gear Fork and Needle Bar Frame Connecting Rod Assembly	1
19	53138E	Cam Gear Fork Frame	1
20	53138F	Cam Gear Fork Shaft	2
21	53138J	Cam Gear	1
22	22733	Screw	2
23	12934A	Nut	3
24	53138C	Cam Gear Fork and Adjusting Segment	1
25	50-774Blk	Pin	2
26	21657E	Washer	1
27	18	Nut	1
28	53138D-0420	Cam Gear Fork Wear Plate, .042 inch thick	2
	53138D-0425	Cam Gear Fork Wear Plate, .0425 inch thick	2
	53138D-0430	Cam Gear Fork Wear Plate, .043 inch thick	2
29	22874F	Screw	1
30	53137E	Needle Bar Frame Connecting Rod Assembly	1
31	53137J	Ball Joint, lower	1
32	18	Nut	2
33	22841H	Adjusting Screw	1
34	269	Nut	1
35	53137H	Connecting Rod	1
36	18	Nut	1
37	53137F	Ball Joint, upper	1
38	52891B	Crankshaft Bushing Housing, including bushing	1
39	22569B	Screw	3
40	660-202	"O" Ring, for pulley	1
41	52921B	Pulley	1
42	22894G	Screw	2
43	51216P	Nut	1
44	51216N	Washer	1
45	29066R	Needle Lever Connecting Rod and Upper Bearing Assembly	1
46	22559G	Screw	2
47	53137	Needle Bar Frame	1
48	22894T	Screw	2
49	29348T	Needle Lever Assembly	1
50	51054	Feed Crank Pin	2
51	666-149	Lubricating Felt	1
52	56354A	Needle Bar Link	1
53	78	Screw	1
54	35759	Needle Bar Connection	1
55	88A	Screw	2
56	77	Screw	1
57	53115	Needle Lever	1
58	51250A	Bushing	1
59	56350A	Needle Lever Stud	1
60	51150	Needle Lever Shaft Stop Collar	1
61	660-212	Oil Seal Ring	1
62	51250D	Washer	1
63	51250F	Gasket	1
64	22586R	Screw	1
65	22768	Screw	1
66	56358	Needle Bar Thread Eyelet	1
67	27-435 Blk	Needle Bar Thread Washer	1
68	53117A	Needle Bar	1
69	56	Needle Clamp Nut	1
70	53137M	Needle Bar Frame Pivot Pin	1
71	56358A	Needle Lever Thread Eyelet	1
72	22768	Screw	1
73	660-212	Oil Seal Ring	2
74	51216G	Needle Lever Connecting Rod	2
75	15444F	Washer, redwood	1
76	54484U	Oil Distributor	1
77	22564D	Screw	1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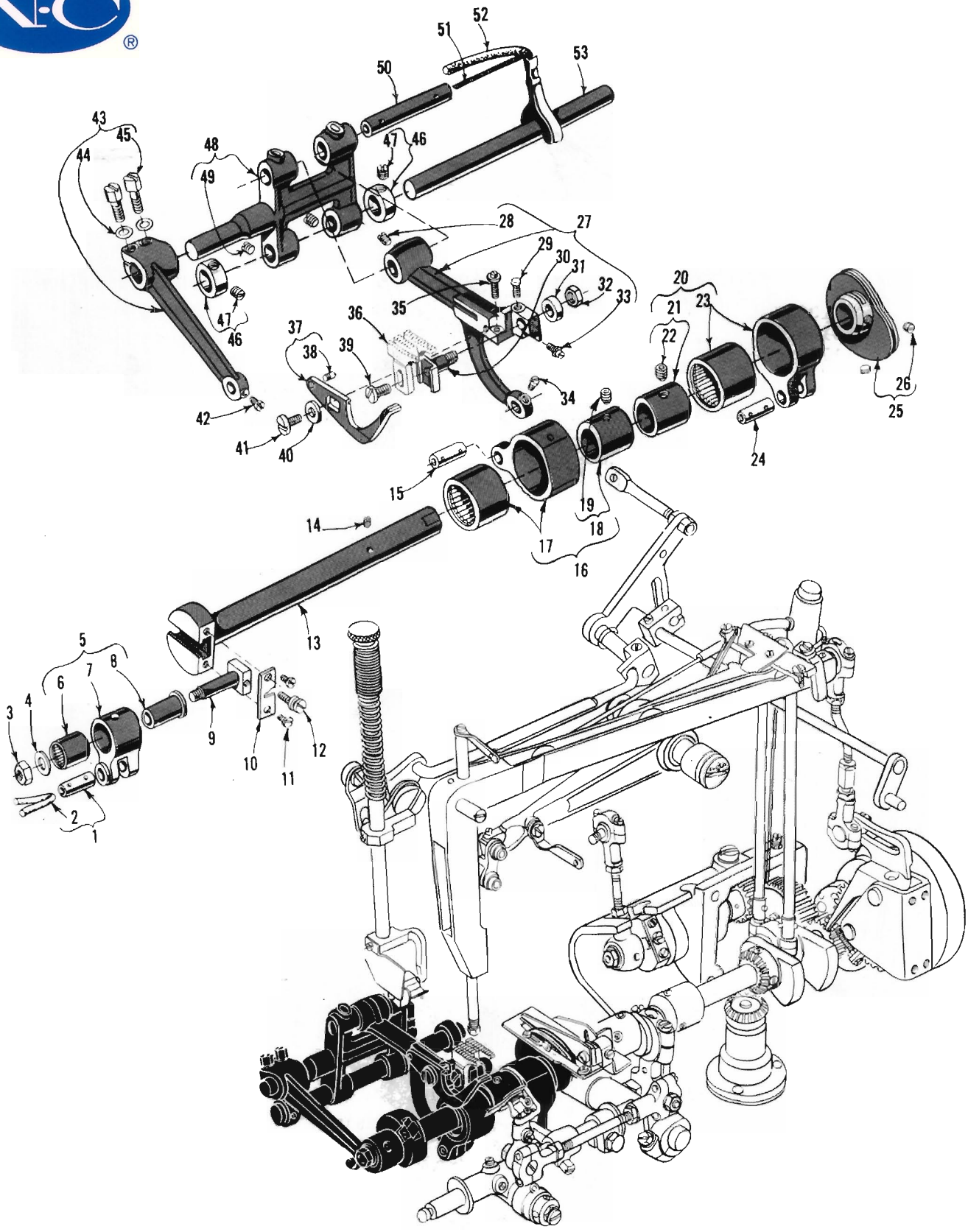
LOOPER ROCKER AND CONNECTING ROD PARTS

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	51244B	Looper Rocker Shaft Arm	1
2	22519H	Screw	1
3	18	Nut	1
4	51216N	Washer	1
5	51244L	Thrust Washer	2
6	51244N	Looper Rocker Frame Clamp Collar	1
7	55244G	Looper Rocker Shaft Collar Stud	1
8	22768	Screw	1
9	51144	Looper Rocker Shaft	1
10	NC05	Looper	1
12	98	Screw	1
13	51244	Looper Rocker Frame	1
14	51246	Looper Rocker Stud Nut	1
15	96	Screw	1
16	18	Nut	1
17	29192	Looper Rocker Assembly	1
18	51745	Looper Rocker Cone Stud	1
19	51213	Looper Rocker	1
20	15465F	Looper Rocker Cone	1
21	88	Screw	2
22	258A	Nut	1
23	22829	Screw	1
24	73	Screw	1
25	55241N	Looper Connecting Rod Ball Joint, left	1
26	269	Nut	1
27	39141	Looper Connection Rod	1
28	18	Nut	1
29	52942P	Looper Drive Lever	1
30	22882A	Screw	1
31	51242M	Washer	1
32	18	Nut	1
33	20	Washer	1
34	52941D	Looper Connection Rod Ball Joint, right	1
35	41355U-4	Shim, .004 inch thick (as required)	
	41355U-5	Shim, .005 inch thick (as required)	
	41355U-6	Shim, .006 inch thick (as required)	
	41355U-7	Shim, .007 inch thick (as required)	
	41355U-8	Shim, .008 inch thick (as required)	
	41355U-9	Shim, .009 inch thick (as required)	
36	52942R	Looper Lever Stud	1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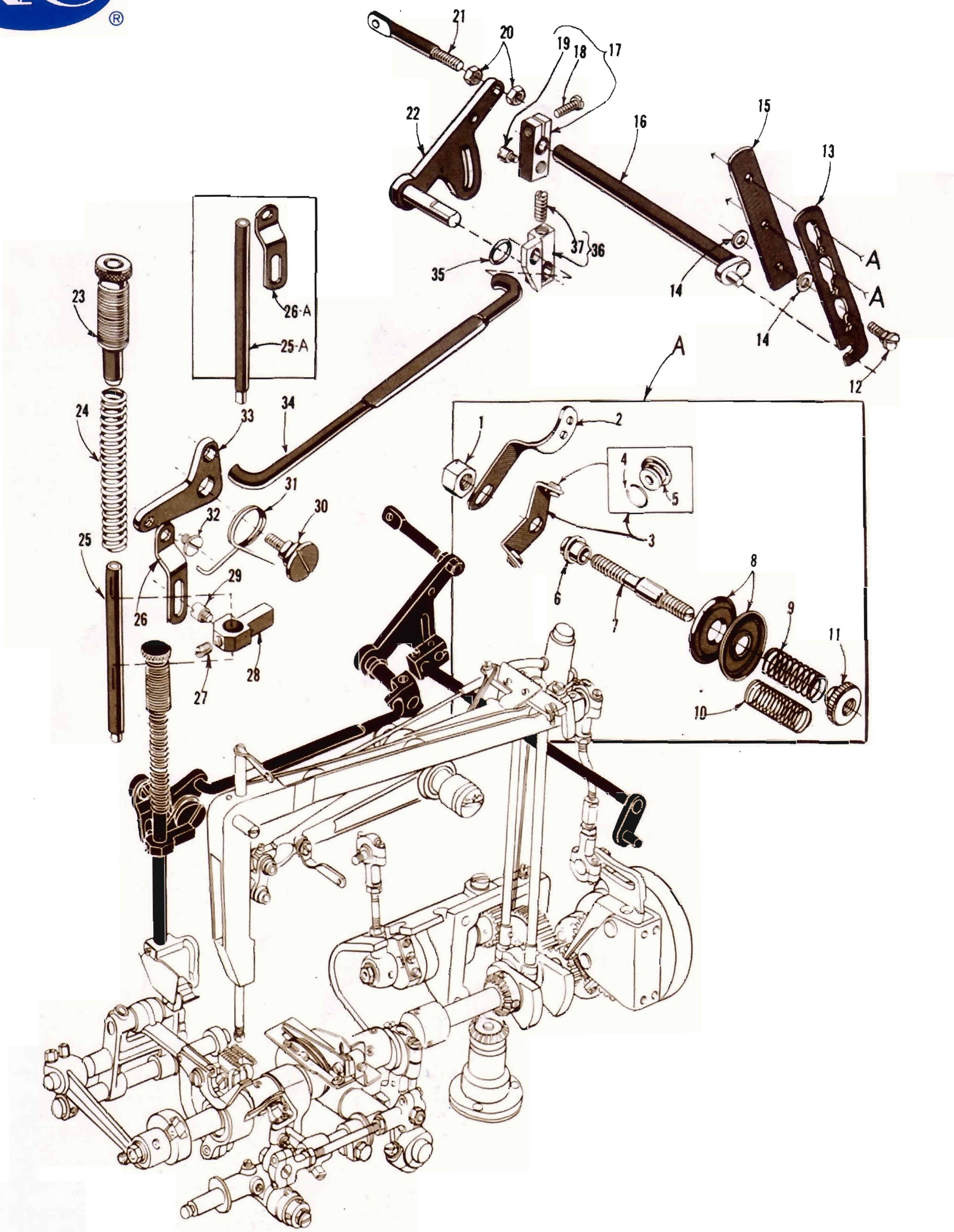
MAIN SHAFT AND FEED MECHANISM

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	51054	Link Pin	1
2	666-149	Oil Wick	1
3	269	Nut	1
4	20	Washer	1
5	51236E	Feed Crank Link Assembly	1
6	660-169	Needle Bearing	1
7	51236D	Feed Crank Link	1
8	51236F	Feed Crank Link Ferrule	1
9	51236G	Feed Crank Stud	1
10	51236B	Feed Crank Stud Cap	1
11	22768	Screw	2
12	82	Screw	1
13	52922C	Main Shaft, for Styles 53100 A, B, C, D	1
14	22801	Screw	1
15	51236A	Link Pin	1
16	29476DR	Feed Lift Eccentric Assembly, for Styles 53100 A, B, C, D	1
17	51145A	Eccentric Bearing	1
18	51142C	Eccentric, .080 inch throw	1
19	22894D	Screw	1
20	29476DX	Looper Avoid Eccentric Assembly	1
21	51306	Eccentric, .072 inch throw	1
22	22894D	Screw	1
23	51145A	Eccentric Bearing	1
24	51236A	Link Pin	1
25	52923D	Take-up	1
26	22580D	Screw	2
27	51134	Feed Bar, for Styles 53100 A, B, C, D	1
28	22560B	Screw	1
29	538	Feed Dog Height Adjusting Screw	1
30	56334E	Feed Dog Holder	1
31	51134J	Feed Dog Holder Washer	1
32	258A	Nut	1
33	22863	Feed Dog Holder Adjusting Screw	1
34	77	Screw	1
35	22834	Needle Guard Adjusting Screw, for Styles 53100 A, B, C, D	1
36	NCO2N	Feed Dogs for F/TPB	1
	SB02N	Feed Dogs for SB/SBA	1
37	NC03NS	Needle Guards for F/TPB	1
	NC03N	Needle Guards for SB/SBA	1
38	22801	Stud Screw	1
39	22528	Screw, for feed dog on Styles 53100 A, B, C, D	1
40	51225W	Washer, for needle guard on Styles 53100 A, B, C, D	1
41	22585B	Screw, for needle guard on Styles 53100 A, B, C, D	1
42	77	Screw	1
43	51235A	Feed Rocker Arm, for Styles 53100 A, B, C, D	1
44	51235G	Washer	2
45	22519C	Screw	2
46	482	Collar	2
47	98	Screw	1
48	51235	Feed Rocker, for Styles 53100 A, B, C, D	1
49	98	Screw	2
50	51134C	Feed Bar Shaft	1
51	51134R	Lubricating Felt Guard, for Styles 53100 A, B, C, D	1
52	51134P	Lubricating Felt, for Styles 53100 A, B, C, D	1
53	8	Feed Rocker Shaft	1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THREAD TENSION AND FOOT LIFTER LEVEL PARTS

REF#	PART NO.	DESCRIPTION	AMT REQ.
1	43266	Nut	1
2	51491C	Lead-in Thread Eyelet	2
3	51292D	Tension Thread Eyelet	2
4	668-25	Eyelet	2
5	668-28	Eyelet Locking Ring	2
6	51292A	Tension Post Ferrule	2
7	51292G	Tension Post	2
8	109	Tension Disc	4
9	51292F-8	Tension Spring (needle)	1
10	51292F-2	Tension Spring (looper)	1
11	51292C	Tension Nut	2
12	22598C	Tension Release Stud	1
13	21657-3	Tension Disc Separator	1
14	80557	Washer	2
15	52892	Tension Post Support	1
16	21657W	Tension Release Lever Shaft	1
17	21657Y	Tension Release Lever Connection	1
18	22596	Screw	1
19	402	Screw	1
20	258	Nut, for Styles 53100 B, C	2
21	35780B	Lifter Lever Extension, for Styles 53100 B, C	1
22	51283H	Presser Foot Lifter Lever	1
23	56356	Presser Spring Regulator	1
24	51256C	Presser Bar Spring	1
25	53157	Presser Bar, for Styles 53100 B, C	1
25A	51257K	Presser Bar, for Styles 53100 A, D, E	1
26	53183A	Presser Foot Lifter Lever Link, for Styles 53100 B, C	1
26A	53783A	Presser Foot Lifter Lever Link, for Styles 53100 A, D, E	1
27	531	Screw	1
28	51257M	Presser Bar Connection and Guide	1
29	402	Screw	1
30	22557B	Screw	1
31	52883S	Presser Foot Lifter Lever Bell Crank Spring	1
32	22758C	Screw	1
33	53783L	Presser Foot Lifter Lever Bell Crank	1
34	53783M	Presser Foot Lifter Lever Connecting Rod	1
35	660-207	Oil Seal Ring	1
36	53783N	Presser Foot Lifter Lever, internal	1
37	22537	Screw	1

NUMERICAL INDEX OF PARTS

NOTE: Only the basic part numbers are shown in index. For various gauges, capacities, etc. available, refer to the listings on pages indicated.

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