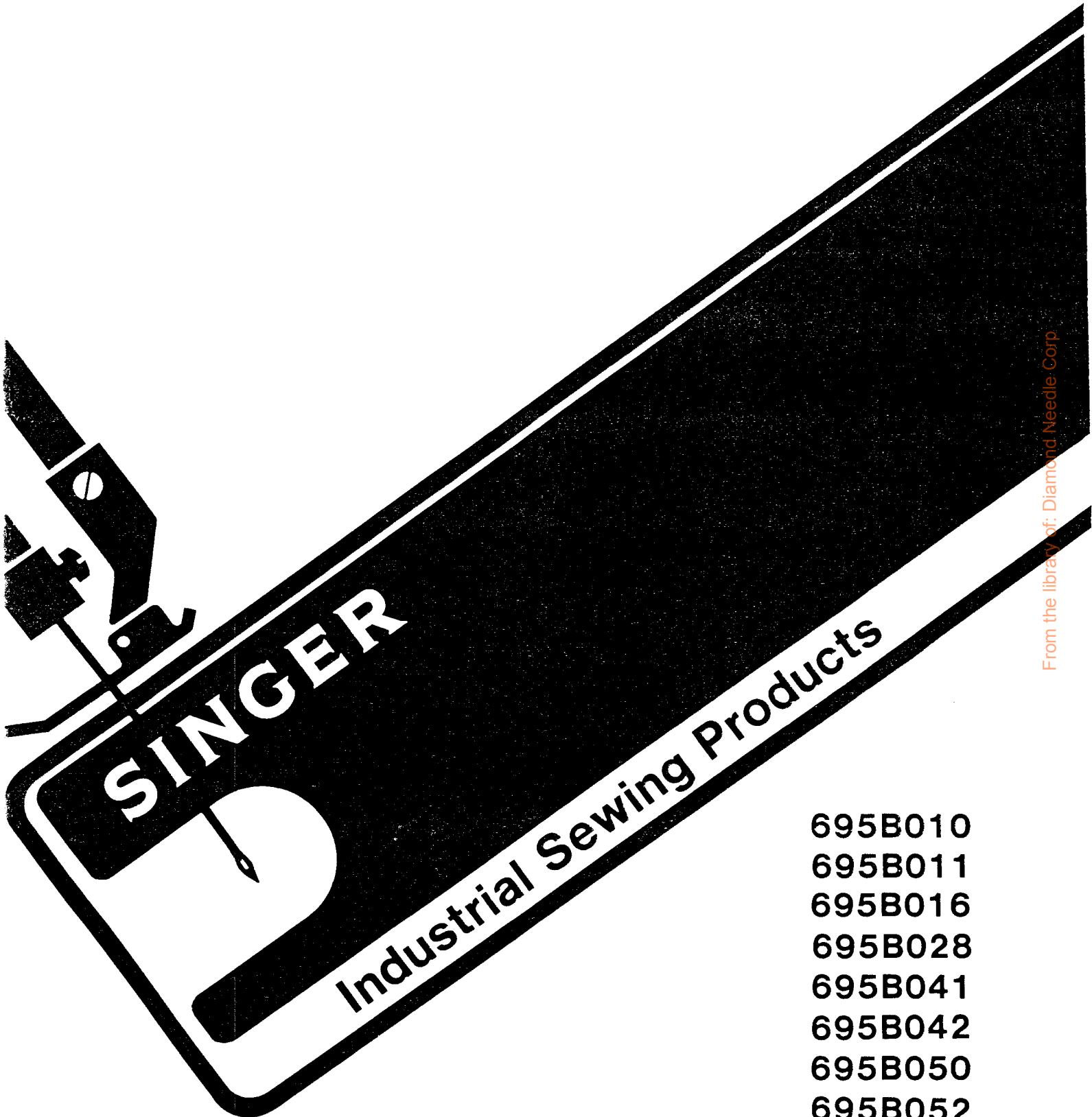


Form 17 11

Service Manual and Parts List



- 695B010
- 695B011
- 695B016
- 695B028
- 695B041
- 695B042
- 695B050
- 695B052
- 695B054

IDENTIFICATION OF MACHINES

Each 695B machine is identified by a Variety number on a metal plate on the machine.

APPLICATION OF CATALOG

This catalog applies specifically to the Varieties of machines as listed herein. References to directions, such as right, left, front, back, etc., are given from the operator's position while seated at the machine. Operating direction of handwheel is away from operator.

DESCRIPTION OF VARIETIES IN THIS CATALOG

Ultra High Speed, Single Curved Needle, Two Looper - Three Thread or One Looper - One Spreader - Two Thread Machine, Differential Feed, Trimming Mechanism with Spring Pressed Lower Knife, Automatic Lubricating System, Improved Air Cooling System.

695B010 Light to medium duty machine for seaming light and medium weight flat, warp, and ribbed knit fabrics of cotton, silk, or similar weight synthetics. The sewing combination has been designed especially for use on women's and children's slips, pajamas, nightgowns, or similar articles where long straight hanging seams are a primary requisite. Seam Specification, 504-SSa-1; standard seam widths, 3/32 and 1/8 inch (2.38 and 3.17 mm); stitch range, 8-30 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.

695B011 Light to medium duty machine for seaming light and medium weight flat, warp, and ribbed knit fabrics of cotton, silk, or similar weight synthetics. The sewing combination has been designed for general purpose seaming of "T" shirts, polo shirts, panties, infant and children's knit wear, and similar garments. Seam Specification, 504-SSa-1; standard seam widths, 3/32 and 1/8 inch (2.38 and 3.17 mm); stitch range, 8-30 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.

695B016 Medium to heavy duty machine for seaming medium to heavy weight flat, warp, and ribbed knit fabrics made from cotton and wool, used on snow suits, sweat shirts, underwear and similar garments. Seam Specification, 504-SSa-1; standard seam width, 1/8 inch (3.17 mm); stitch range, 8-20 per inch; cam adjusted main and differential feeds. Maximum recommended speed 7500 R. P. M.

695B016

695B028 Medium to heavy duty machine, same as ██████████ except fitted with ██████████ sewing parts. For seaming all types and weights of flat, warp and ██████████ ribbed knit cotton, wool, rayon and silk fabrics. Seam Specification, 504-SSa-1; **695B011-7** standard seam widths, 3/32, 1/8 and 5/32 inch (2.38, 3.17 and 3.97 mm); stitch range, 8-20 per inch; cam adjusted main and differential feeds. Maximum recommended speed 7500 R. P. M.

695B041 Light to medium duty machine with reverse differential feed for general purpose of seaming and attaching collarettes to "T" shirts. Prepared to accept Jesse Heap folder No. U-100. Seam Specification, 504-SSa-1; standard seam width 1/8 inch (3.17 mm); stitch range, 8-30 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.

VARIETIES OF MACHINES (Continued)

- 695B042 Medium to heavy duty machine for seaming bulky knit sweaters; can be used for attaching a reinforcing tape used on shoulder seams of sweaters and similar garments, tape automatically guided by slot in presser foot. Straight knife parts. Seam Specification, 504-SSa-1; standard seam widths 1/8 and 3/16 inch (3.17 and 4.76 mm); stitch range, 8-20 per inch; cam adjusted main and differential feeds. Maximum recommended speed 7500 R. P. M.
- 695B043 Light to medium duty machine for upturned hem on cotton wash cloths and other light to medium weight material. Seam Specification, 505-EFa-1; standard seam width, 1/8 inch (3.17 mm); stitch range, 8-15 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.
- 695B050 Light duty machine, for toe closing on women's seamless hosiery. Seam Specification 505-EFe-1 inverted; standard seam width, 1/16 to 3/32 inch (1.59 to 2.38 mm) depending on material; stitch range, 15-100 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.
- 695B052 Light to medium duty machine with the main and differential feed dogs having a square separation located approximately at the needle, for seaming light and medium weight perma-press materials where long straight pucker free seams are a primary requisite. Seam Specification 504-SSa-1; standard seam widths, 3/32 and 1/8 inch (2.38 and 3.17 mm); stitch range, 8-30 per inch; cam adjusted main and differential feeds. Maximum recommended speed 8000 R. P. M.
- 695B054 Medium to heavy duty machine for simultaneously attaching right pants flies and zipper tapes to pants fronts; also attaching zippers to right flies only and similar operations. Seam Specification 504-SSa-1; standard seam width, 3/8 inch (9.52 mm); stitch range, 6-16 per inch; cam adjusted main and differential feeds. Maximum recommended speed 7500 R. P. M.

SPEED RECOMMENDATION

Class 695 machines have been tested in their complete stitch range at their maximum rated speeds. Varied field conditions, severity and cleanliness of the sewing operation may necessitate operating at a lower speed. When operating from 50-100% machine running cycle and a longer than recommended stitch length, it may be necessary to reduce the machine's speed by 10-15%.

The Class 695 is a precision manufactured and tested sewing machine. To obtain maximum performance, the machine should be operated at 1000 R. P. M. below maximum recommended speed for the first 20 days of field operation. This will minimize readjustment of precision mechanisms.

OILING

CAUTION! Oil was drained from machine when shipped, so reservoir must be filled before beginning to operate. Oil capacity of Class 695 is eight ounces. Use Singer Type C oil or equivalent.

From the Internet: Diarrhoeal Disease

OILING (Continued)

Machine is filled with oil at spring cap in top cover. Oil level is checked at sight gauge on front of machine. Red tip of oil indicator should show between gauge lines when machine is stationary.

Machine is automatically lubricated. No oiling is necessary, other than keeping main reservoir filled. Check oil daily before the morning start; add oil as required.

To maintain maximum recommended speed and serviceability of this equipment when operating continuously, the oil must be changed at least every six months. In no case should oil remain in machine for more than one year.

The drain plug screw is located at back of machine near bottom edge of base. It is a magnetic screw designed to accumulate possible foreign materials which may have entered the crank case. It should be removed and cleaned periodically.

NEEDLES

Class 695B machines use a curved blade needle. The standard recommended needle for Varieties covered by this catalog is:

Cat. 1431 - Light Set Point	(Sizes 7-23)
Also available are:	
Cat. 1433 - Light Ball Point	(Sizes 7-21)
Cat. 1434 - Medium Ball Point	(Sizes 9-18)
Cat. 1436 - Heavy Ball Point	(Sizes 8-16)

CHANGING NEEDLES

Release pressure on presser foot by turning presser foot release bushing (AG, Fig. 1, 1A, 1B or 1C) and swing presser arm (U) out of position. Turn handwheel in operating direction until needle is at its lowest point of travel. Using hexagonal socket wrench No. 21388 AU, furnished with machine, loosen needle clamp nut about 1/4 turn. Again turn handwheel until needle is at high position; withdraw needle.

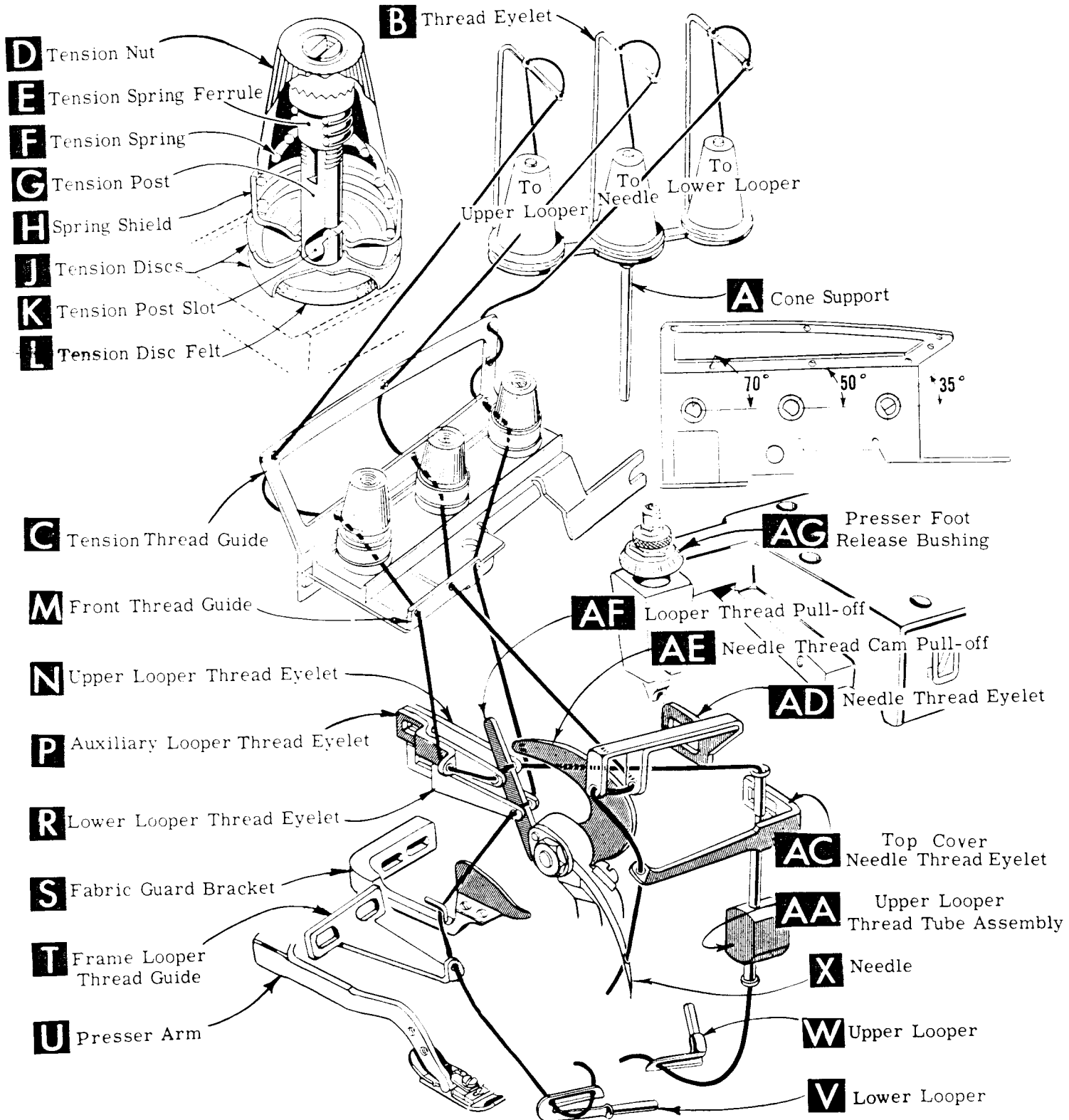
To replace needle, leave needle holder at high position and, with the flat to the left, insert needle in holder until it rests against stop pin. Keeping needle in this position, turn handwheel until holder is again at its low point of travel; then tighten nut. Return presser arm (U) to position; re-lock presser foot release bushing (AG).

THREAD STAND (503 STITCH)

After thread comes from cone on cone support (A, Fig. 1A) it is brought up through the back hole of thread eyelet (B), then down through the front hole of thread eyelet. The needle thread is then threaded through the upper hole of tension thread guide (C) from front to back, and then through the lower hole from back to front. The lower looper thread is threaded through the upper hole back to front, through the middle hole from front to back, and finally through the lower hole from back to front. Both threads then continue between the tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).

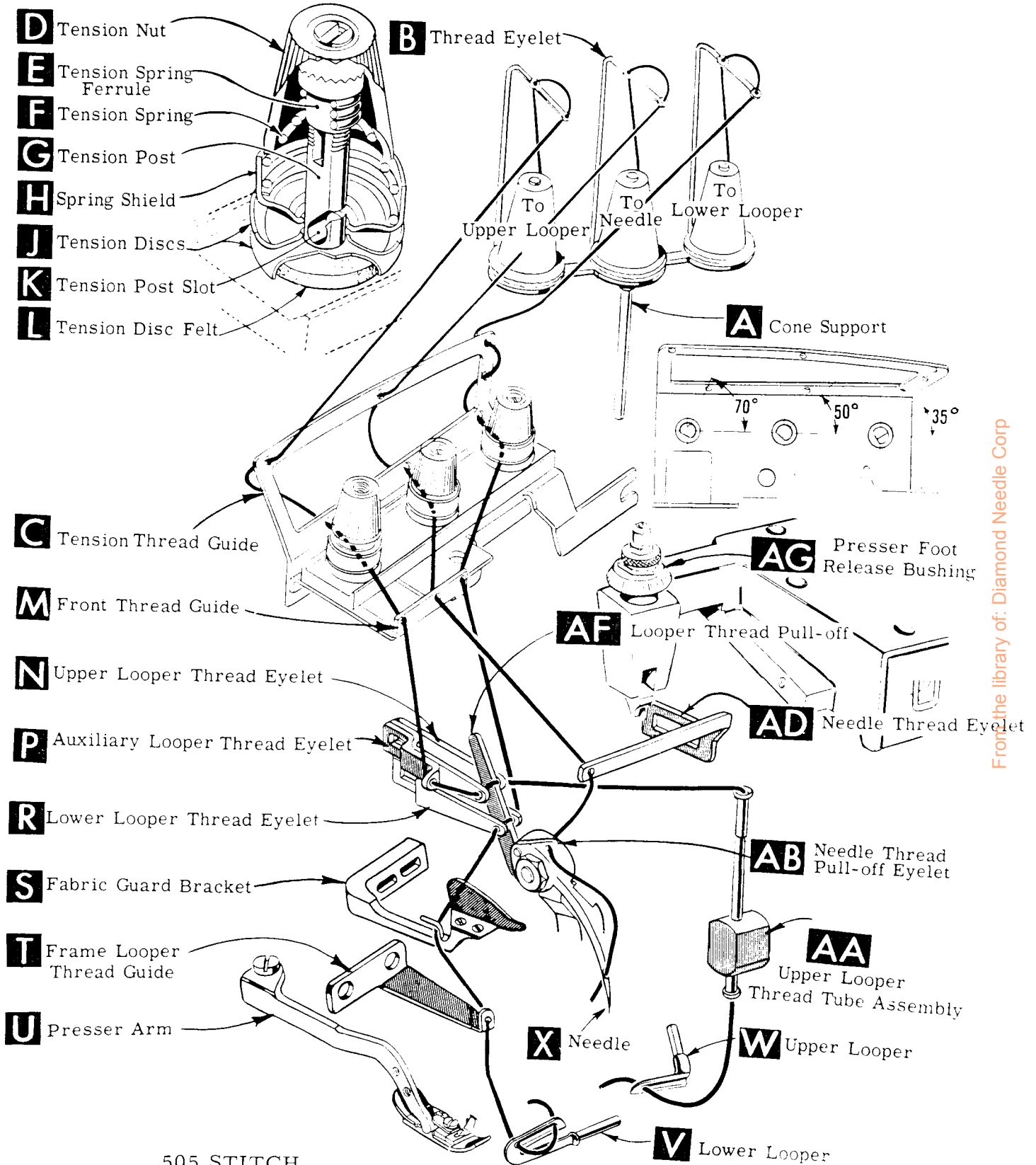
THREAD STAND (504 and 505 STITCH)

After thread comes from cone on cone support (A, Fig. 1, 1B or 1C) as applicable. It is brought up through the back hole of thread eyelet (B), then down through the front hole of thread eyelet. The needle and upper looper threads are then threaded through the upper hole of tension thread guide (C) from front to back, and then through the lower hole from back to front. The lower looper thread is threaded through the upper hole back to front, through the middle hole from front to back, and finally through the lower hole from back to front. All three threads then continue between the tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).



504 STITCH
 For 695B010, 011, 016, 028,
 041, 042, 052, and 054
 505 STITCH
 For 695B050

Fig. 1



505 STITCH
 FOR 695B043

Fig. 1B

THREADING

Only parts involved in threading are shown in threading diagrams (Fig. 1, 1A, 1B and 1C). Parts are placed in their relative positions for clarity.

It will simplify the threading of these machines to follow the recommended sequence of threading the lower looper first and the needle second when using the 503 stitch (Fig. 1A). The recommended sequence when using the 504 or 505 stitch (Fig. 1, 1B and 1C) is to thread the lower looper first, upper looper second, and the needle third.

Before beginning to thread, swing cloth plate open, turn handwheel in operating direction until needle (X) is at high position, release pressure on presser foot by turning presser foot release bushing (AG) and swing presser arm (U) out of position.

Be sure threads, as they come from the tension thread guide (C), are between tension discs (J) and in diagonal slots (K) in tension posts (G).

TO THREAD THE LOWER LOOPER

Double end of thread and lead it through the right eyelet of front thread guide (M, Fig. 1, 1A, 1B or 1C). Then lead thread through both eyes of lower looper thread eyelet (R, Fig. 1, 1A, 1B or 1C) from right to left. NOTE: Thread must pass in front of looper thread pull-off (AF). Lead thread behind fabric guard (S) and through frame looper thread guide (T). Turn handwheel in operating direction until heel of lower looper (V) is all the way to the left, then thread through both eyes from left to right. Left eye of lower looper can be threaded easily if tweezers are in left hand.

NOTE: In Fig. 1C for the 505 stitch, the lower looper thread eyelet is placed in the upper position.

TO THREAD UPPER LOOPER (504 AND 505 STITCH ONLY)

Thread upper looper thread through left eyelet of front thread guide (M). Then turn handwheel until point of upper looper (W) is all the way left. Lead thread through auxiliary looper thread eyelet (P) from back to front, then through both eyes of upper looper thread eyelet (N) from left to right. Note: thread must pass in front of looper thread pull-off (AF). After pulling up upper looper thread tube assembly (AA), lead thread under neck of top cover casting and down through thread tube assembly (AA). Pull thread out bottom of tube; push tube down, then insert thread through upper looper eye from front to back.

NOTE: In Fig. 1C for the 505 stitch, the upper looper thread eyelet is placed in the lower position.

CAUTION! Be sure upper looper thread is under lower looper thread when passing from tube assembly to upper looper eye.

TO THREAD THE NEEDLE (FOR ALL VARIETIES EXCEPT 695B043)

Thread needle thread through middle eyelet of front thread guide (M). Then turn handwheel in operating direction until needle (X, Fig. 1, 1A, 1C) is at its highest position. Insert needle thread from right to left, through both eyes of needle thread eyelet (AD), under neck of top cover casting; then down through hole in top cover needle thread eyelet (AC). Thread needle from front.

TO THREAD THE NEEDLE (FOR 695B043)

Thread needle thread through middle eyelet of front thread guide (M). Then turn handwheel in operating direction until needle (X, Fig. 1B) is at its highest position. Insert needle thread from back to front of needle thread eyelet (AD), under neck of top cover casting; then through needle thread pull-off eyelet (AB) from right to left. Thread needle from front.

THREAD TENSION

The amount of tension on the needle and looper threads is regulated by knurled tension nuts (D, Fig. 1, 1A, 1B, 1C). Tension on threads should be only enough to secure proper stitch formation.

PRESSER FOOT PRESSURE

Sufficient presser foot pressure to feed work uniformly should be maintained. Should it be necessary to increase or decrease amount of pressure on presser foot, loosen lock nut (A, Fig. 2) and turn adjusting screw (B). Adjusting screw has a right hand thread so tightening increases pressure, loosening decreases pressure. When pressure adjusting screw (B) has been properly set, tighten lock nut (A). With presser foot resting on throat plate, position locking nut (C) so that its under surface is approximately 1/32 inch to 1/16 inch (.79 to 1.59 mm) from the top surface of adjusting screw (B). Set cap (D) against locking nut (C).

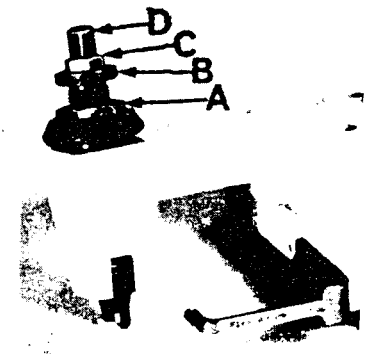


Fig. 2

FEED ECCENTRICS

Feed eccentrics used in 695B010 machines have been selected to produce approximately 12 stitches per inch. It will be noted that the part number of main feed eccentric is No. 39540 B-10 while that of differential feed eccentric is No. 39540 B-12. Minor numbers of the part symbol indicate approximately the number of stitches obtainable when using that eccentric. Unless otherwise specified, machine 695B010 will be shipped with above combination of eccentrics. Refer to exploded views in catalog for eccentrics furnished on other styles of machines.

Generally speaking, differential (right hand) feed eccentric determines number of stitches produced; main (left hand) feed eccentric is selected in relation to degree and direction of stretch of material being sewn, or type of operation.

Following stitch number feed eccentrics are available under No. 39540 B-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 40, 50, 60, 70, 100. Only two eccentrics are supplied with each machine. Additional eccentrics may be ordered separately. To order an eccentric use No. 39540 B with a minor number suffixed to indicate number of stitches desired. Example: "39540 B-12".

ASSEMBLING AND ADJUSTING SEWING PARTS

Before assembling and adjusting sewing parts, remove cloth plate, fabric guard, chip guard, upper knife assembly, lower knife holder assembly, then follow the procedure that begins on the next page.

SETTING THE NEEDLE

With throat plate assembled in position, needle should center in the front end of needle slot. When needle is at high position, needle point should be set $\frac{1}{2}$ inch (12.70 mm) above throat plate (A, Fig. 3) for Varieties 695B010, 011, 016, 028, 041, 043, 050, and 052; $\frac{15}{32}$ inch (11.91 mm) for Varieties 695B-042 and 054. To align needle or set the height above the throat plate, move needle driving arm (B, Fig. 3) by loosening clamp screw (C). After needle has been set properly, tighten screw (C) and remove throat plate.

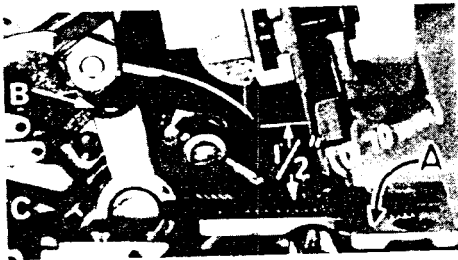


Fig. 3

If needle thread cam pull-off (A, Fig. 4) overlaps looper thread pull-off (B), separate by moving looper thread pull-off back. When retightening looper pull-off screw, be sure to take up end play in needle driving arm.

On all of the Varieties covered in this catalog except 695B054, insert lower looper (A, Fig. 5) into bar (B). With lower looper at left end of its stroke, set looper point $\frac{1}{8}$ inch (3.17 mm) from center of needle (Fig. 5), using looper gauge No. 21225- $\frac{1}{8}$. Do not have lower looper deflecting needle. Tighten nut (C).

695B054

On machine **695B054** insert lower looper (A, Fig. 5) into bar (B). With lower looper at left end of its stroke, set looper point $\frac{3}{32}$ inch (2.38 mm) from center of needle (Fig. 5), using looper gauge No. 21225- $\frac{3}{32}$. Do not have lower looper deflecting needle. Tighten nut (C).

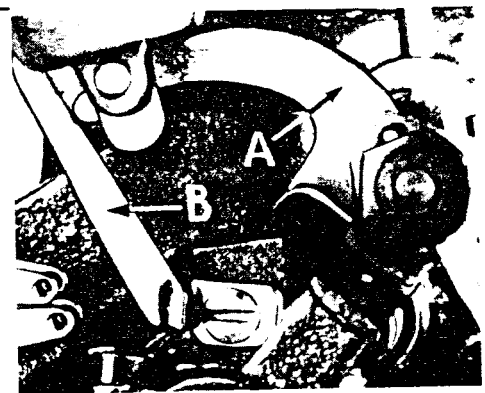


Fig. 4

Now assemble differential (front) feed dog to all Varieties.

SETTING THE REAR NEEDLE GUARD

Set rear needle guard (A, Fig. 6) as high as possible, without interfering with either lower looper or movement of lower knife holder, but still in position to deflect needle forward .002-.004 inch (.051-.102 mm). Screw (B) is used to set rear needle guard. Make sure there is no interference between rear needle guard and lower looper.

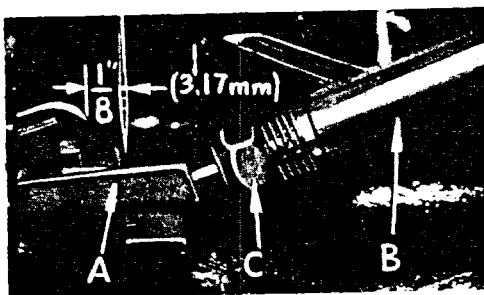


Fig. 5

SETTING THE LOWER LOOPER

Now finish lower looper adjustment. As lower looper moves to the right, its point should be set into the needle scarf (A, Fig. 7) until the needle springs forward from rear guard surface another .002-.004 inch (.051-.102 mm).

SETTING THE FRONT NEEDLE GUARD

Assemble front needle guard (C, Fig. 6). When lower looper is springing needle off backguard, set front needle guard as close as possible to needle without touching. Screw (D) is used to adjust and set front needle guard. After this setting make sure there is no interference between needle guards and differential feed dog.

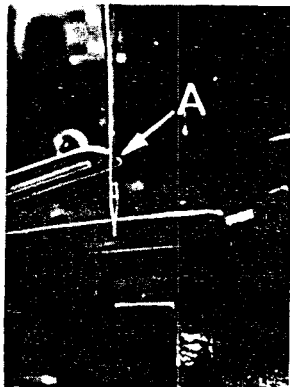


Fig. 7

SETTING THE UPPER LOOPER

Insert upper looper (A, Fig. 8) in its holder. Screw (B) holds upper looper in its holder, and permits it to be pushed in or out, or turned around its shank. Insert upper looper holder into upper looper shaft, if it is not already in place. Screw (C, Fig. 8) on clamp holds the upper looper holder in the shaft. Locate upper looper in its holder so that the shank extends $1/32$ to $1/16$ inch (.79 to 1.59 mm) beyond holder (Fig. 8), for 695B010, 011, 041, 043, 050 and 052, and $1/16$ to $3/32$ inch (1.59 to 2.38 mm) for 695B016, 028, 042 and 054.

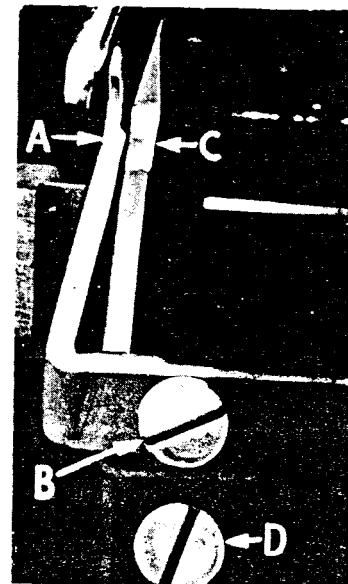


Fig. 6

When the upper looper is at the right end of its stroke, upper looper holder should be set to position upper looper shank slightly back of vertical on 695B010, 011, 016, 028, 041, 043, 050, and 054 (Fig. 8). On 695B042 upper looper holder should be set to position the upper looper shank about vertically.

Be sure, on all Varieties, there is a clearance between heel of looper and casting. By adjusting looper holder in or out of upper looper shaft and by turning the looper around its shank, set upper looper point to cross lower looper to the left of the lower looper eye with .002 to .004 (.051 to .102 mm) clearance (Fig. 9).

As the upper looper moves toward the top of its stroke, the heel of the upper looper should pass behind the lower looper head with $1/64$ to $1/32$ inch (.40 to .79 mm) clearance.

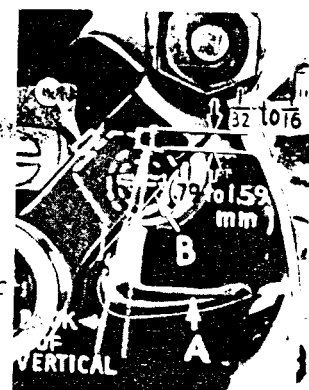


Fig. 8



Fig. 9

Next, turn handwheel until looper is at the left end of its travel; check dimensions of upper looper point with respect to needle and throat plate (Fig. 10). If resetting is necessary, do it by moving the upper looper holder (A, Fig. 10). Figure 10 represents the dimensional setting for 695B010, 011, 041, 043, 050 and 052.

NOTE: For 695B016 and 054 the dimensional settings are $9/64$ and $35/64$ inch (3.57 and 13.89 mm). For 695B028 the settings are $9/64$ and $15/32$ inch (3.57 and 11.91 mm).

SETTING THE UPPER LOOPER (Continued)



Fig. 10

For example, dimension $31/64$ inch (12.30 mm) is increased by turning upper looper holder counterclockwise looking from left end of machine; dimension $5/32$ inch (3.97 mm) is increased by pulling upper looper holder left, out of upper looper shaft. After these changes are made it may be necessary to turn upper looper around its shank slightly to maintain the condition shown in Fig. 9.

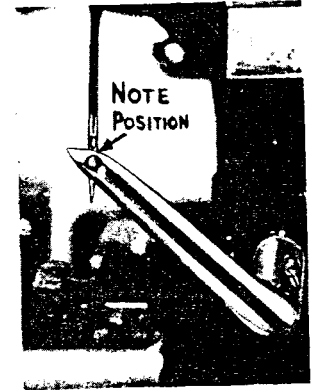


Fig. 11

When the correct setting is obtained, it can be checked quickly as follows: As upper looper is moving to the right, when upper looper eye centers on the needle, bottom of the needle eye should be about level with top surface of upper looper (Fig. 11) for 695B010, 011, 041, 043, 050 and 052.

NOTE: For 695B016, 028, 042 and 054 the eyes of the upper looper and needle should align exactly.

Check setting to avoid interference between upper looper and needle on needle downstroke. If needle rubs the back of upper looper, pull looper out of its holder slightly and rotate looper a short distance counterclockwise, looking from left end of machine. Reset to maintain dimensions of Figs. 9, 10, 11.

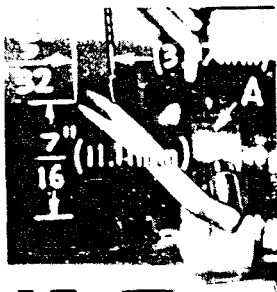


Fig. 10A

the same time.

SETTING THE FEED DOGS

Now assemble differential (front) feed dog (A, Fig. 12), if not already in place, main (back) feed dog (B) and chaining feed dog (C).

On 695B010 and 052, set all three feed dogs (A, B, C, Fig. 12) so the top surfaces of teeth all lay in the same plane. This can be checked by sighting across teeth with a straight edge. Now assemble throat plate. Feed dogs should now be leveled with throat plate surface by rotating feed tilting adjusting pin (D). This pin raises or lowers the back end of both feed bars at

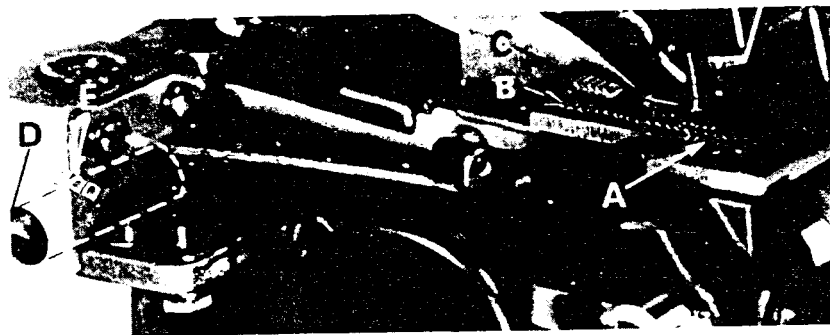


Fig. 12

SETTING THE FEED DOGS (Continued)

The feed dogs should be set level at the time teeth first appear above the throat plate. Screw (E) locks feed tilting adjusting pin in place. Now set feed dogs so that teeth rise about $3/64$ inch (1.19 mm) above throat plate, except on [REDACTED] the differential feed dog should rise $1/32$ inch (.79 mm) above throat plate. 695B042

NOTE: On 695B011, 016, 041, 042, 043, 050 and 054, set chaining feed dog (C) level with top of throat plate when feed is at the top of its travel.

NOTE: 695B050 does not use a chaining feed dog.

SETTING THE LOWER KNIFE

Replace lower knife holder assembly. Lower knife (A, Fig. 13) should be set with cutting edge flush with throat plate surface. Adjustments are made with hexagonal head screw which holds lower knife. Lower knife is spring pressed against upper knife, so no lateral adjustment is necessary when width of trim is changed.

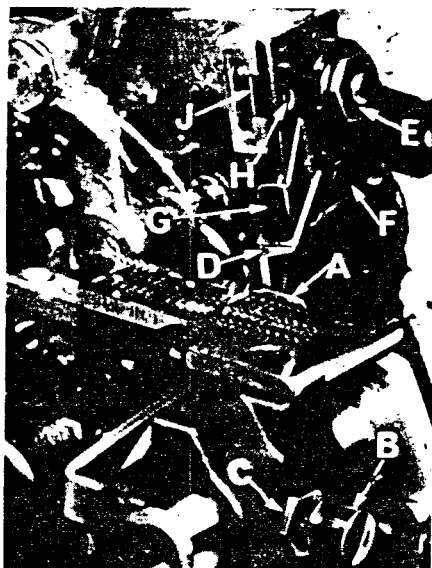


Fig. 13

back from the cutting edge.

After upper knife has been set for proper width of trim, screw (H) should be tightened to lock upper knife holding block (J) in place. This will simplify resetting when upper knife is replaced.

Lower knife may be secured in any position by tightening screw (B) and locking nut (C) against support bracket. Because screw (B) also serves as latch pin for the cloth plate latch spring, it should always be locked with nut (C) even when screw is not tightened against lower knife holder.

SETTING THE UPPER KNIFE (FOR ALL VARIETIES EXCEPT 695B042)

Replace upper knife assembly. Clamp upper knife (D, Fig. 13) in position, setting nut (E) to hold clamp (F) in its most clockwise position against upper knife. At bottom of its stroke, front cutting edge of upper knife should extend not less than $1/64$ inch (.40 mm) below cutting edge of lower knife. The chain guard (G) should be set down against the upper knife and slightly

SETTING UPPER KNIFE (FOR 695B042)

Replace upper knife assembly. Clamp upper knife in position, setting Allen screw located on the right side to hold clamp against the upper knife. At bottom of its stroke, front cutting edge of upper knife should extend not less than $1/64$ inch (.40 mm) below cutting edge of the lower knife.

SETTING UPPER KNIFE (FOR 695B042) (Continued)

After the upper knife has been set for the proper width of trim, the upper knife holding block should be locked in place using the screw at the front of the holding block.

SETTING THE STITCH LENGTH

Length of stitch is determined by the combination of feed eccentrics used. Outer (left) eccentric (A, Fig. 14) actuates main (rear) feed dog; while the inner (right) eccentric (B) actuates the differential (front) feed dog.

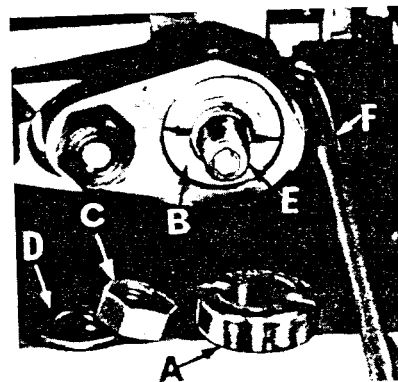


Fig. 14

In assembling feed eccentrics, be sure hubs are facing each other. Be careful not to damage shaft or key. Tighten nut (C) securely.

To change feed eccentrics, remove nut (C) and washer (D) from end of shaft (E). Turn handwheel in operating direction until key slot in eccentric is toward front. Using hooked eccentric extractor (F), supplied with machine, reach behind eccentrics as shown and withdraw eccentrics. It may be necessary to move handwheel back and forth slightly during extraction.

If eccentrics are unusually tight fitting, in addition to removing nut (C) and washer (D, Fig. 15) from shaft (E), it may be helpful to remove nut (G) and feed driving connection (H). Then continue as originally suggested.

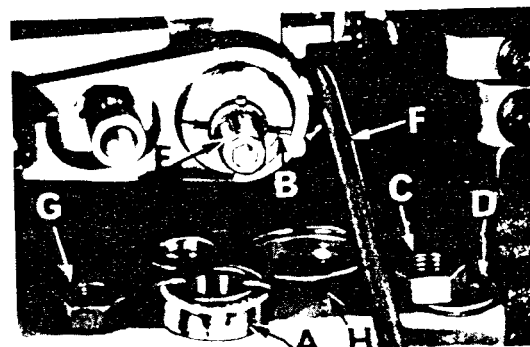


Fig. 15

SETTING THE PRESSER FOOT

Assemble the presser foot to presser arm. With needle in high position, swing presser arm into sewing position and set the presser foot to align needle holes (front and back) and flat on throat plate. The front edge of needle hole in presser foot must be aligned with front edge of needle hole in throat plate. It is also important that the bottom of the presser foot be flat on the throat plate. If necessary, presser foot can be re-aligned with throat plate slots by shifting the foot lifter lever shaft (H, Fig. 16). To move the shaft, loosen collar screws (B, Fig. 16) and clamp screw (G) and then shift the foot lifter lever shaft to the left or right as required. Retighten collar screws and clamp screw.

The foot lifter lever arm (A, Fig. 16) and the collar (B) secure the shaft. Be sure the presser arm does not bind and rise when presser foot release busing is unlocked.

SETTING THE PRESSER FOOT (Continued)

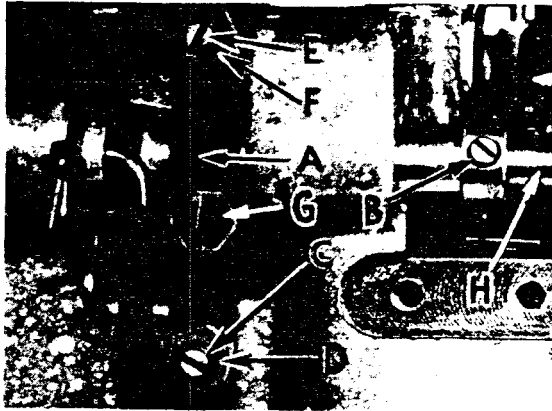


Fig. 16

Adjust lifter lever stop screw (C) so that presser foot can be raised no higher than upper looper will permit; then lock the nut (D). There should be from 1/16 to 1/8 inch (1.59 to 3.17 mm) free motion of foot lifter lever before the presser foot begins to rise. This adjustment should be made with screw (E) and locked with nut (F). Re-assemble the chip guard, fabric guard and cloth plate. To assemble chip guard, turn handwheel until upper knife assembly reaches its highest position.

STARTING TO OPERATE (503 AND 504 STITCH)

Be sure machine is threaded according to threading diagram Fig. 1A for the 503 stitch or according to Fig. 1 for the 504 stitch. With thread tensions light, set looper thread eyelet (R, Fig. 1A) or looper thread eyelets (N and R, Fig. 1) approximately horizontal and in the middle of their front to back locations. Operate machine slowly, without presser foot in place, to make sure chain forms and moves off stitch tongue freely. Swing presser foot into position, insert material and sew slowly.

NEEDLE THREAD CONTROL (503 AND 504 STITCH)

While sewing on material, check needle thread control as follows: Usually all needle thread is drawn on needle down stroke. At top of needle stroke, thread should be just tight enough to feed chain off stitch tongue. Stitch tends to pull down slightly if excessive thread is pulled on the up stroke. With needle at bottom of stroke, position needle thread eyelet (AD, Fig. 1) so that needle thread cam pull-off (AE) just contacts needle thread.

It is desirable to adjust the needle thread eyelet well-forward (toward the operator) to delay slightly, the tightening of the needle thread.

LOWER LOOPER THREAD CONTROL (503 STITCH)

With material under presser foot, set lower looper thread eyelet (R, Fig. 1A) back and down far enough so thread is a little slack when spreader reaches its extreme left position. Lower looper thread eyelet (R) should be about horizontal.

Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of heel eyelet of looper (V) at the time lower looper is at extreme left end of its travel.

LOWER LOOPER THREAD CONTROL (504 STITCH)

With material under presser foot, set lower looper thread eyelet (R, Fig. 1) back far enough so thread is a little slack when looper thread pull-off (AF) reaches its most rearward position. Looper thread pull-off (AF) is set about 1/32 inch (.79 mm) distance behind needle thread campull-off (AE). Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of lower looper (V) heel eyelet at the time lower looper is at extreme left end of its travel.

While sewing on material, check drawing off of looper thread as follows: A portion of lower looper thread should be drawn through the tension before lower looper thread comes off upper looper. To increase amount of thread drawn through the tension while lower looper thread is on upper looper, move lower looper thread eyelet (R) down, keeping the same amount of pull-off action.

UPPER LOOPER THREAD CONTROL (504 STITCH)

Before proceeding to adjust upper looper thread eyelet (N, Fig. 1) balance all three tensions to give a normal appearing stitch. Moderate change in these tensions will not markedly affect the purl.

During needle down stroke, forward stroke of looper thread pull-off (AF) will draw upper looper thread through the tension. When normal amount of looper thread is drawn, upper looper thread will have almost all slack taken up as looper thread pull-off reaches its most rearward position.

POSITIONING THE PURL (504 STITCH)

To move the purl more under the edge, both looper thread eyelets (N and R, Fig. 1) should be raised keeping the same amount of pull-off. Usually it is better to have slightly more pull-off on upper thread than on lower thread.

If it becomes necessary to move looper thread pull-off (AF), be sure to take up all end play in needle drive shaft before tightening. If upper looper is located so that it is higher over throat plate than recommended in Fig. 10, the purl will tend to form near top edge. If upper looper is too low, the purl will form nearer bottom edge.

THREAD TENSIONS (503 STITCH)

Balance both tensions to give a normal appearing stitch. Moderate change in these tensions will not markedly affect the purl.

THREAD TENSIONS (504 STITCH)

The needle thread tension required is a function of needle thread and material being sewn. In general, lower looper thread tension should be set as high as possible without causing needle thread to be pulled down. Upper looper thread tension should be increased as long as the elasticity of the chain increases, or until the purl is pulled too far over the top.

STARTING TO OPERATE (505 STITCH)

Be sure machine is threaded according to threading diagram (Fig. 1, 1B or 1C).

With thread tensions light, set upper and lower looper thread eyelets (N and R) about horizontal and in the middle of their front to back locations.

Operate machine slowly, without presser foot in place, to make sure that chain forms and moves off the tongue freely.

Swing presser foot into position, insert materials, and sew slowly.

NEEDLE THREAD CONTROL (505 STITCH)

While sewing on material, check needle thread control as follows: About 60% of needle thread required for the stitch should be drawn on needle downstroke.

To increase thread drawn on downstroke, position needle thread eyelet (AD, Fig. 1, 1B or 1C) farther to the rear.

LOWER LOOPER THREAD CONTROL (505 STITCH)

Set lower looper thread eyelet (R, Fig. 1, 1B or 1C) about horizontal and all the way forward in its slot.

Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of lower looper (V) heel eyelet, when lower looper is at the left end of its stroke.

UPPER LOOPER THREAD CONTROL (505 STITCH)

With material under presser foot, set upper looper thread eyelet (N, Fig. 1, 1B or 1C) to rest on top of lower looper thread eyelet (R), and back far enough so upper looper thread is a little slack when upper looper reaches the left end of its stroke.

POSITIONING THE SQUARE EDGE (505 STITCH)

Position of lower looper thread at the edge is located by balancing needle and upper looper thread tensions.

To reduce amount of lower looper thread in the stitch, or close the edge more, increase lower looper thread tension.

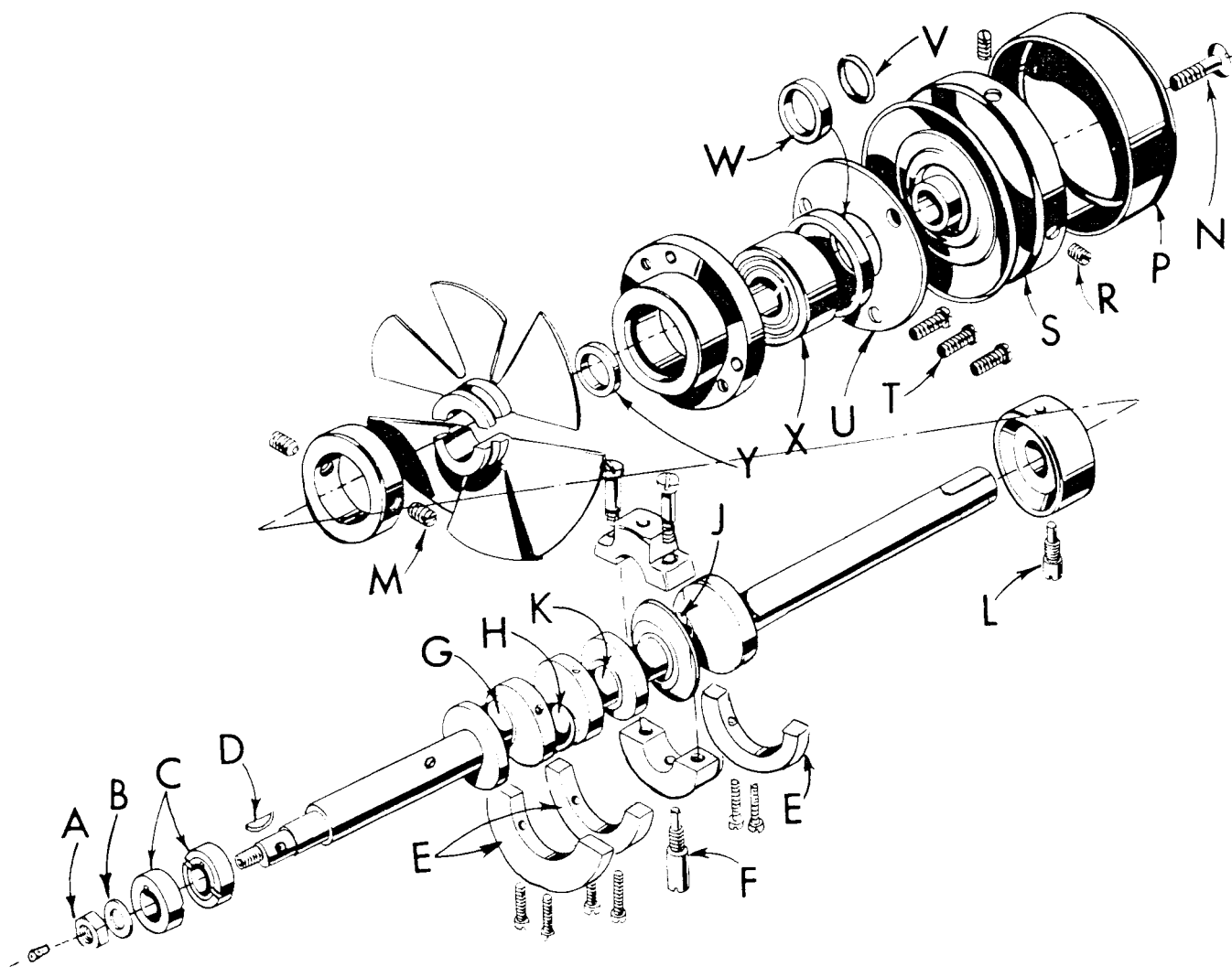


Fig. 17

TO REMOVE CRANKSHAFT

Crankshaft can be withdrawn easier if these steps are followed:

1. Drain oil by removing plug screw located on back of machine near bottom edge of base.
2. Remove top and bottom covers of machine.
3. Remove feed eccentric nut (A, Fig. 17) and washer (B), and, with the aid of the eccentric extractor, slip off the eccentrics (C).
4. Remove key (D).
5. Remove three counterweights (E). Identify these counterweights so that they will be re-assembled in the proper places.
6. Remove screw (F) which holds crankshaft split bearing. This screw is reached through bottom of bed casting.

TO REMOVE CRANKSHAFT (Continued)

7. Remove caps of bearings on crankshaft at points G, H, and J. When re-assembling bearing caps make sure they are in their original position. Trade marks are stamped on both halves of the caps and both trade marks should be on the same side of the bearings. Also, screws should be re-assembled in the same holes from which they were removed.

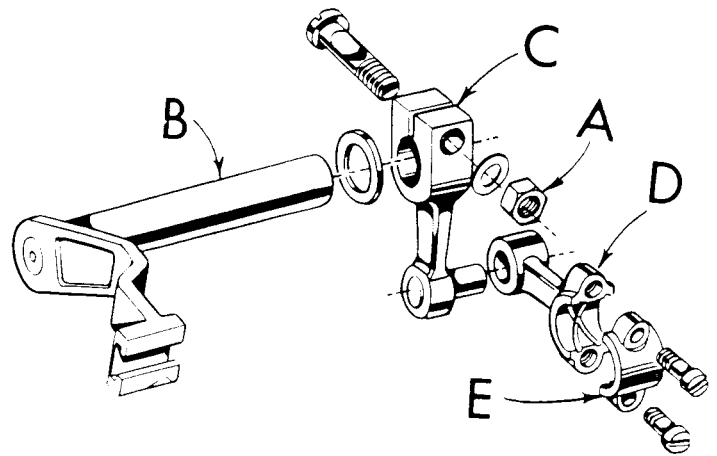


Fig. 18

8. Loosen clamp nut (A, Fig. 18) which holds upper knife driving arm (B). Access to clamp nut is through top cover. Draw driving arm to the left until upper knife driving lever (C) and connecting rod (D) drop, allowing removal of bearing cap (E). This is at bearing point (K, Fig. 17) on crankshaft. Observe same precautions when re-assembling cap as described in 7 above.
9. Remove screw (L, Fig. 17) which holds inner right crankshaft bearing. This screw is reached through bottom of bed casting.
10. Loosen two screws (M) in fan collar; remove both halves of cooling fan.
11. Remove screw (N); take off pulley cap (P).
12. Loosen two screws (R); remove pulley (S).
13. Remove three screws (T); take off bearing retaining plate (U); also, spacer collars (V) and (W) may be removed at this time.
14. Crankshaft may now be removed.
15. If necessary to replace ball bearing (X), it should be pressed off shaft on an arbor press. In replacing bearing it must be pressed on carefully until it seats against ground thrust washer (Y).
16. Carefully observing reverse of the foregoing operations should simplify re-assembly of crankshaft. Checking exploded view drawings for location of various parts and constant testing for binds during re-assembly will also prove helpful.
17. Before re-assembling thoroughly clean and dry top and bottom covers and gaskets. Before re-assembling bottom cover make sure that spring pressed oil wick which lubricates left crankshaft bearing is inserted in hole in casting and that it contacts shaft. The wick stands vertically on its spring against bottom cover. Coat oil drain plug with a sealing compound before re-assembling to prevent oil leakage. No. 1 Crane Lead Seal is recommended.

ORDERING REPAIR PARTS

ILLUSTRATIONS

This catalog is arranged to simplify ordering replacement parts. Exploded views of various sections of the mechanism are shown on the left hand pages so that parts may be seen in their actual positions in the machine. On the right hand pages opposite the illustrations, the parts are listed with descriptions and the quantity of parts required in the particular view being shown.

Numbers in the first column are reference numbers only indicating position of a part in the illustration. Do not use the reference numbers in ordering.

In the second column in the examples below are the part numbers as listed in this catalog. In the third column is the coded number to be ordered. The prefix "910" must be used. Additionally, letter suffixes generally are transposed as a prefix to the part number.

Components of sub-assemblies which can be furnished as replacements are indented under the description of the main sub-assembly.

The examples below show how to order using parts on Page 31 of this catalog to illustrate the instructions above:

Ref. No.	Part No.	Order As	<u>Description</u>	<u>Qty.</u>
25	29477 JM	910-JM 29477	Crankshaft and needle driving arm crank assembly for 695B010, 011, 041, 043, 050 and 052.....	1
	29477 KE	910-KE 29477	Crankshaft and needle driving arm crank assembly for 695B016, 028, 042 and 054.....	1
26	29477 MC	910-MC 29477	Needle driving arm crank and connecting rod assembly.....	1
27	22768 C	910-C 22768	Screw	1
28	22596 H	910-H 22596	Screw	1
29	22587 M	910-M 22587	Screw	2
30	51-228	910-51 228	Vent Plug.....	1
31	Blk. 39541A	910-A 39541	Feed Driving Eccentric Key.....	1
32	30-106	910-30 106	Wood Plug.....	1
33	Blk. C067 E	910-C067 E	Cork Plug.....	1

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ORDERING REPAIR PARTS (Continued)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Order As</u>	<u>Description</u>	<u>Qty.</u>
34	40-46	910-40 46	Washer	1
35	258	910-258	Nut.....	1
36	39591 B	910-B 39591	Crankshaft counterweight, right.....	1
37	22747 B	910-B 22747	Screw for crankshaft counterweights.	6

In the example above, the crankshaft, needle driving arm crank or connecting rod are not listed. Replacement of these individual parts is not recommended. The complete sub-assembly should be ordered.

Where the parts for all machine varieties covered in this catalog are not the same, the difference will be shown in the illustrations or mentioned in the descriptions. When a part is used in all machines in this catalog, the variety number is not mentioned.

A numerical list of all parts shown in this catalog appears on Pages 50 and 51 to facilitate locating the illustration and description when 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 construction does not permit, an identification letter is stamped in to distinguish the part from similar ones.

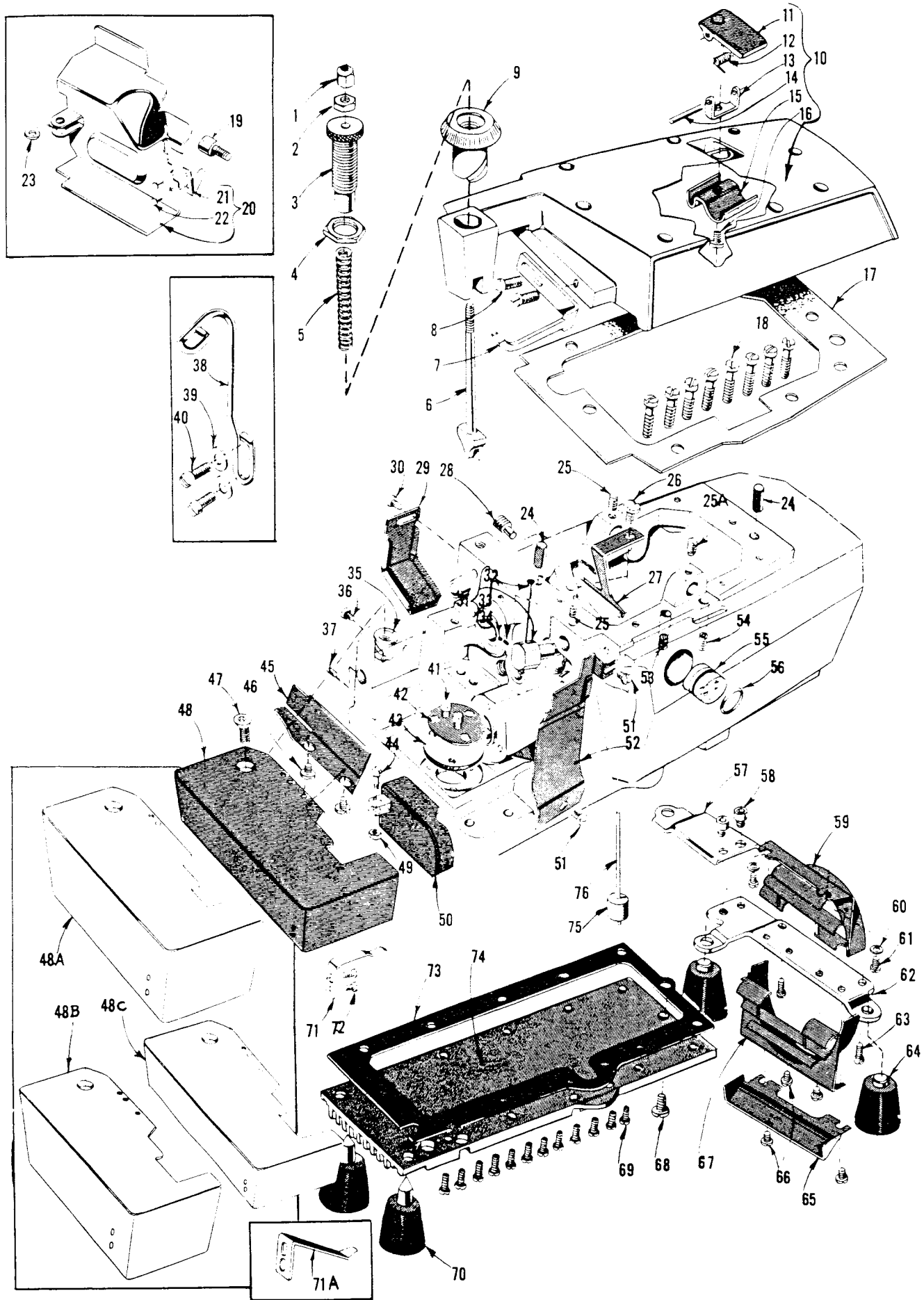
PART NUMBERS REPRESENT THE SAME PART, REGARDLESS OF CATALOG IN WHICH THEY APPEAR.

TORQUE REQUIREMENTS

Torque (measured in inch-pounds) is a rotating force (in pounds) applied through a distance by a lever (in inches or feet). This is accomplished by a wrench, screw driver, etc. Many of these devices are available, which when set at the proper amount of torque will tighten the part to the correct amount and no tighter.

All straps and eccentrics should be tightened to 19-21 inch-pounds (22-24cm/kg) unless otherwise noted. All other nuts, bolts, screws, etc., should be tightened by hand as tightly as possible, unless otherwise noted.

The screws requiring a specific torque, will be indicated on the picture plates.

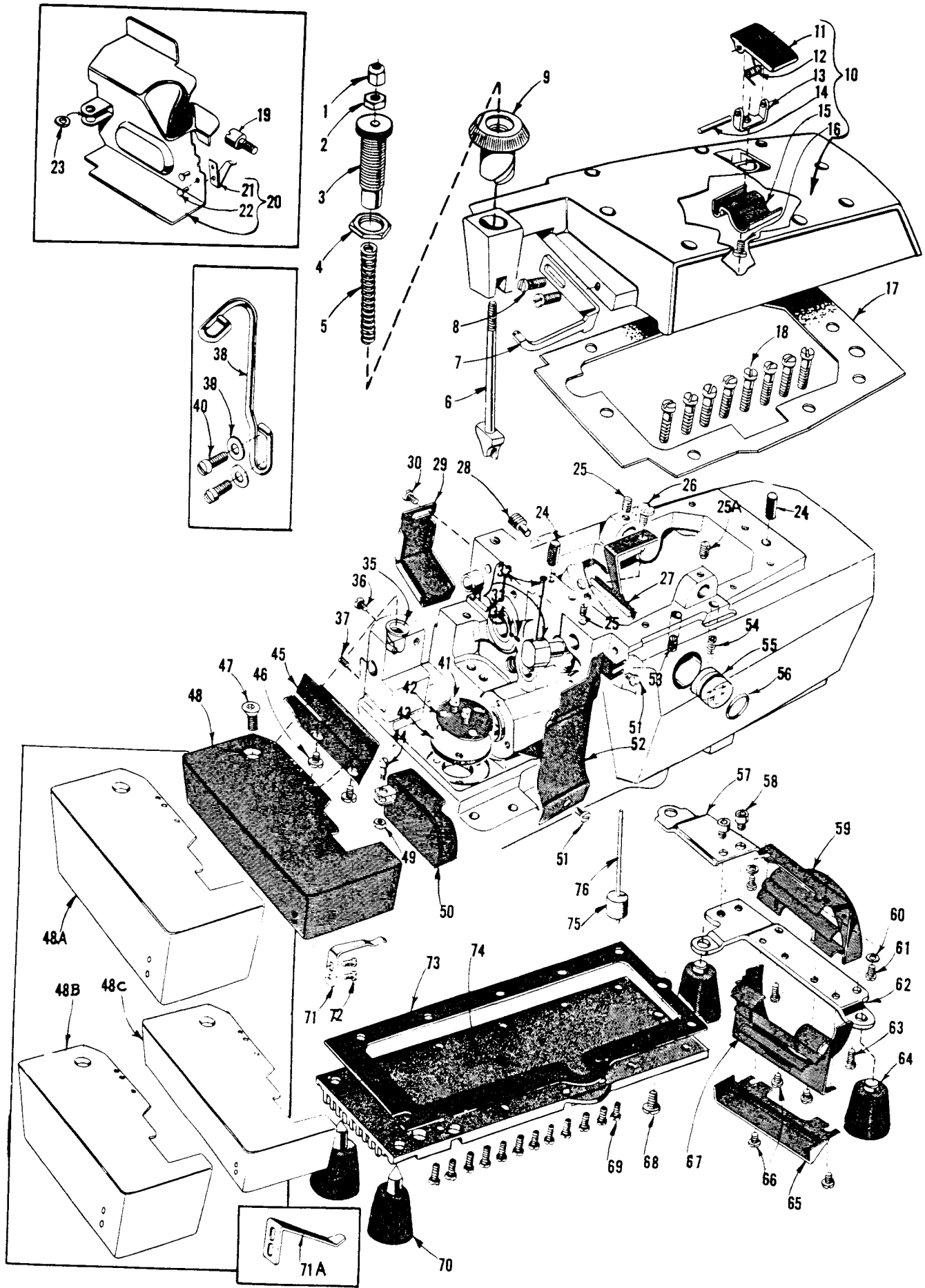


IMPORTANT: BEFORE ORDERING ANY PARTS BELOW, REFER TO THE DETAILED INSTRUCTIONS ON PAGE 21 AND 22

MAIN FRAME, PRESSER FOOT RELEASE PARTS,
MISCELLANEOUS COVERS AND PLATES

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39557 B	Presser Spring Plunger Cap Nut -----	1
2	39557 E	Presser Spring Plunger Locking Nut-----	1
3	39557 C	Presser Spring Plunger Adjusting Screw -----	1
4	39557 F	Lock Nut, for adjusting screw -----	1
5	39557	Presser Spring-----	1
6	39557 A	Presser Spring Plunger -----	1
7	39563 F	Top Cover Needle Thread Eyelet, for all Varieties except 695B042 and 043-----	1
-	39563 T	Top Cover Needle Thread Eyelet, for 695B042-----	1
8	22569 B	Screw, for top cover needle thread eyelet-----	2
9	39556 A	Presser Foot Release Bushing-----	1
10	39582 AD	Top Cover-----	1
11	39582 AF	Oil Filler Cover -----	1
12	39582 V	Spring -----	1
13	39582 AG	Hinge Bracket -----	1
14	51-103 Blk.	Hinge Pin-----	1
15	39582 W	Oil Guard-----	1
16	22562 A	Screw, for hinge bracket -----	1
17	39582 AE	Top Cover Gasket -----	8
18	22541	Screw, for top cover-----	1
19	22585 G	Side Cover Latch Stud, for 695B042 -----	1
20	39582 GG	Side Cover, for 695B042 -----	1
21	39582 H	Spring-----	2
22	39582 J	Rivet, for spring -----	2
23	53634 C	Washer, for No. 39582 GG and used with 86 X on 695B042 -----	1
24	667 D-8	Dowel Pin -----	2
25	22565	Set Screw, for upper looper thread tube assembly and for upper looper drive lever shaft -----	2
25A	22565 S	Spot Screw, for upper looper drive lever shaft -----	1
26	22569 D	Screw, for oil collector plate -----	1
27	39594 R	Oil Collector Plate -----	1
28	22571 E	Magnetic Oil Drain Plug Screw-----	1
29	39534 R	Feed Bar Oil Shield -----	1
30	90	Screw, for feed bar oil shield-----	1
31	29477 GW	Upper Looper Thread Tube Assembly, -----	1
32	39568 G	Thread Tube, for No. 29477 GW -----	1
33	39568 J	Thread Tube Tension Spring -----	1
34	22743	Set Screw, for thread tube tension spring -----	1
35	39501 K	Cloth Plate Stud -----	1
36	22569	Screw, for cloth plate stud -----	1
37	22565 F	Screw, for feed adjusting pin -----	1
38	39599	Tape Guide, for 695B042 -----	1
39	69 H	Washer, for tape guide-----	2
40	22569	Screw, for tape guide -----	2
41	22569 B	Screw, for oil filter screen and strainer-----	2
42	39594 G	Oil Filter Screen -----	1
43	39594 H	Oil Strainer, felt -----	1
44	thru 76	See following page	

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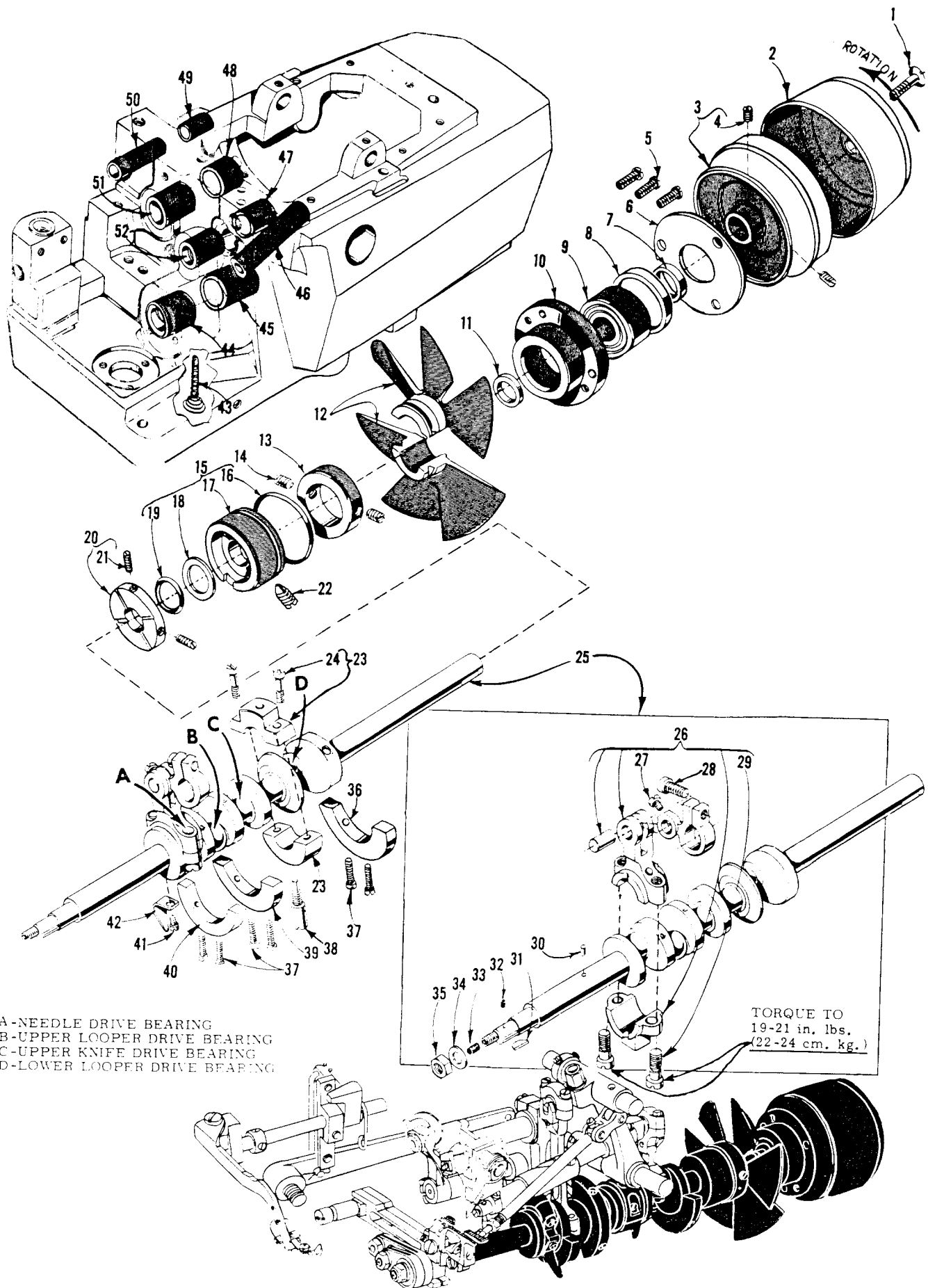


IMPORTANT: BEFORE ORDERING ANY PARTS BELOW, REFER TO THE DETAILED INSTRUCTIONS ON PAGE 21 AND 22

MAIN FRAME, PRESSER FOOT RELEASE PARTS,
MISCELLANEOUS COVERS AND PLATES

Ref. No.	Part No.	Description	Amt. Req.
1 thru 43		See preceding page	
44	86 X	Screw, for feed mechanism cover -----	1
45	39578 F	Cloth Plate Fabric Guard, for all Varieties except 695B042 -----	1
46	138	Screw, for cloth plate fabric guard -----	2
47	22657 D-12	Screw, for cloth plate -----	1
48	39501 D	Cloth Plate, for semi or fully submerged installation on all Varieties except 695B042 -----	1
48A	39501 E	Cloth Plate, non submerged installation on all Varieties except 695B042 -----	1
48B	39501 EB	Cloth Plate, for non submerged installation on Variety 695B042 -----	1
48C	39501 DB	Cloth Plate, for semi or fully submerged installation on Variety 695B042 -----	1
49	41071 G	Nut, for feed mechanism cover -----	1
50	39582 D	Feed Mechanism Cover, for all Varieties except 695B042 -----	1
51	22569 D	Screw, for chip guard -----	2
52	39578 T	Chip Guard, for all Varieties except 695B28-5/32, 043 and 054 -----	1
-	39578 U	Chip Guard, for 695B043 -----	1
-	39578 AH	Chip Guard, for 695B028-5/32 only -----	1
-	39578 TA	Chip Guard, for 695B054 -----	1
53	22569 K	Screw, for oil sight gauge -----	1
54	22894 AE	Screw, for lower looper bar driving lever shaft -----	2
55	39593 H	Oil Sight Gauge -----	1
56	660-243	Oil Gauge Seal Ring -----	1
57	39582 F	Bottom Cover Extension -----	1
58	22653 D-4	Screw, for bottom cover extension -----	2
59	39582 BV	Air Duct, upper -----	1
60	8372 A	Washer, for upper air duct -----	2
61	22569 C	Screw, for upper air duct -----	2
62	39582 BM	Base Plate -----	1
63	22541 B	Screw, for base plate -----	2
64	39595	Isolator, for all except 695B050 -----	2
-	39595	Isolator, for 695B050 -----	4
65	39582 BL	Air Duct, outer -----	1
66	22569 D	Screw, for lower and outer air duct -----	4
67	39582 BK	Air Duct, lower -----	1
68	22586 R	Screw, for bottom cover -----	1
69	22541 B	Screw, for bottom cover -----	12
70	51295 B	Isolator, for all except 695B050 -----	2
71	39532 A	Cloth Plate Latch Spring, for all except 695B042 -----	1
71A	39532 E	Cloth Plate Latch Spring, for 695B042 -----	1
72	90	Screw, for latch spring -----	2
73	39582 BH	Bottom Cover Gasket -----	1
74	39582 BG	Bottom Cover -----	1
75	39593 C	Oil Gauge Float -----	1
76	39593 D	Oil Gauge Indicator -----	1

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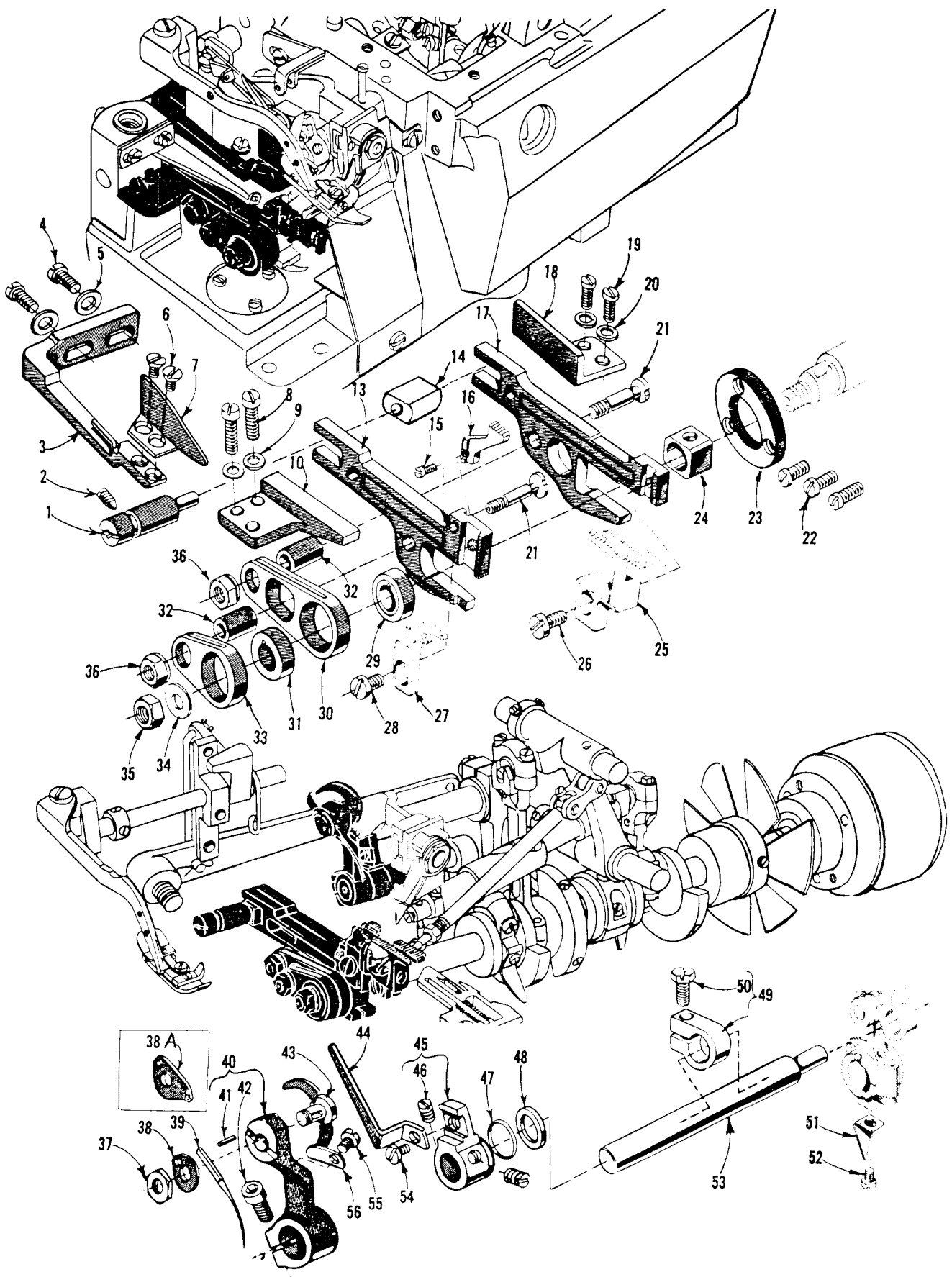


IMPORTANT: BEFORE ORDERING ANY PARTS BELOW, REFER TO THE DETAILED INSTRUCTIONS ON PAGE 21 AND 22

CRANKSHAFT MECHANISM AND BUSHINGS

Ref. No.	Part No.	Description	Amt. Req.
1	22769 B	Screw, for pulley cap -----	1
2	39521 D	Pulley Cap -----	1
3	39521 G	Pulley -----	1
4	95	Screw, for pulley -----	2
5	22569 B	Screw, for crankshaft ball bearing retaining plate -----	3
6	39590 H	Crankshaft Ball Bearing Retaining Plate -----	1
7	39590 S	Spacer Collar -----	1
8	39590 R	Ball Bearing Stop Collar -----	1
9	660-268	Crankshaft Ball Bearing -----	1
10	39590 G	Crankshaft Ball Bearing Housing -----	1
11	39590 J	Thrust Washer -----	1
12	39591 L	Crank Chamber Cooling Fan -----	1
13	39591 H	Crank Chamber Cooling Fan Collar -----	1
14	22894 D	Spot Screw, for crank chamber cooling fan collar -----	2
15	29480 LB	Kit Of Parts -----	1
16	660-443	"O" Ring, for crankshaft bearing, inner right -----	1
17	39590 L	Crankshaft Bearing, inner right -----	1
18	39573 A	Washer, for crankshaft bearing, inner right -----	1
19	660-202	"O" Ring, for crankshaft bearing, inner right -----	1
20	39590 P	Oil Slinger Collar -----	1
21	77 Q	Set Screw, for oil slinger collar -----	2
22	22565 F	Screw, for crankshaft bearing, inner right -----	1
23	39590 D	Crankshaft Split Bearing -----	1
24	97 A	Screw, for crankshaft split bearing -----	2
25	29477 JM	Crankshaft and Needle Driving Arm Crank Assembly, for 695B010, 011, 041, 043, 050 and 052 -----	1
	29477 KE	Crankshaft and Needle Driving Arm Crank Assembly, for 695B016, 028, 042 and 054 -----	1
26	29477 MC	Needle Driving Arm Crank and Connecting Rod Assembly -----	1
27	22768 C	Screw, for needle driving arm connecting rod pin -----	1
28	22596 H	Screw, for needle driving arm crank -----	1
29	22587 M	Screw, for needle driving arm connecting rod -----	2
30	51-228 Blk.	Vent Plug -----	1
31	39541 A	Feed Driving Eccentric Key -----	1
32	30-106 Blk.	Wood Plug -----	1
33	CO67 E	Cork Plug -----	1
34	40-46	Washer -----	1
35	258	Nut -----	1
36	39591 B	Crankshaft Counterweight, right -----	1
37	22747 B	Screw, for crankshaft counterweights -----	6
38	39590 N	Stud, for crankshaft split bearing -----	1
39	39591 A	Crankshaft Counterweight, middle -----	1
40	39591 K	Crankshaft Counterweight, left -----	1
41	87 U	Screw, for oil splasher -----	1
42	39594 N	Oil Splasher -----	1
43	666-94	Oil Wick and Spring -----	1
44	39590	Crankshaft Bushing, left -----	1
45	39590 T	Crankshaft Bushing, inner left -----	1
46	39544 L	Lower Looper Bar Bushing -----	1
47	39552 P	Needle Driving Arm Crank Bushing, right -----	1
48	39573 AA	Upper Knife Driving Arm Bushing, right -----	1
49	39555 N	Foot Lifter Shaft Bushing, right -----	1
50	39555 E	Foot Lifter Shaft Bushing, left -----	1
51	39573 K	Upper Knife Driving Arm Bushing, left -----	1
52	39552 U	Needle Driving Arm Crank Bushing, left -----	1

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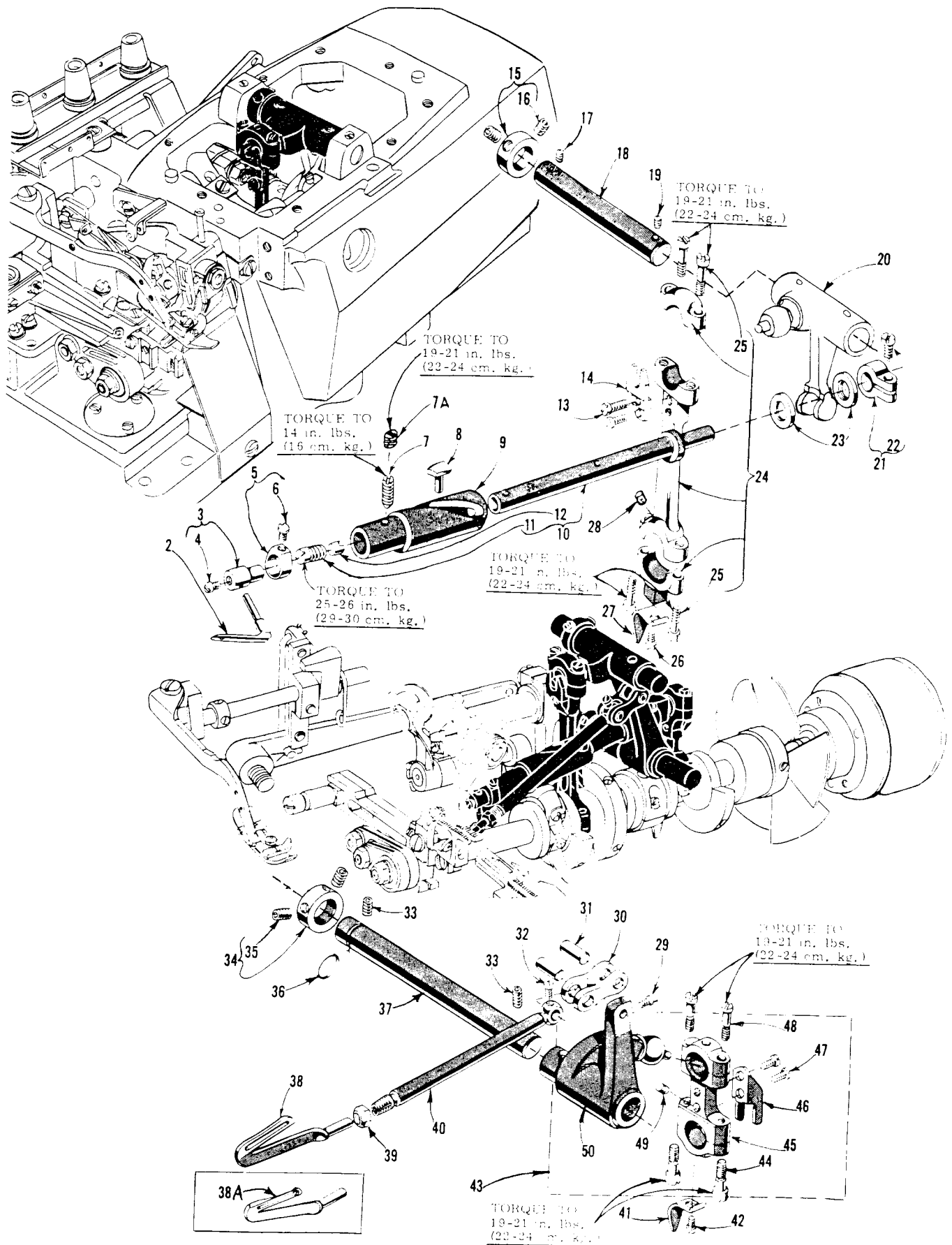
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IMPORTANT: BEFORE ORDERING ANY PARTS BELOW, REFER TO THE DETAILED INSTRUCTIONS ON PAGE 21 AND 22

NEEDLE DRIVE AND FEED MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	39535 C	Feed Adjusting Pin -----	1
2	22565 F	Screw, for feed adjusting pin -----	1
3	39578 P	Fabric Guard Mounting Bracket -----	1
4	22569 B	Screw, for fabric guard mounting bracket -----	2
5	8372 A	Washer, for mounting bracket screw -----	2
6	87	Screw, for fabric guard -----	2
7	39578 R	Fabric Guard, for all except 695B054 -----	1
-	39578 S	Fabric Guard, for 695B054 only -----	1
8	22569 B	Screw, for main feed bar guide, left -----	2
9	53634 C	Washer, for main feed bar guide screw -----	2
10	39535	Main Feed Bar Guide, left -----	1
13	39534	Main Feed Bar, for all except 695B042 -----	1
-	39534 C	Main Feed Bar, for 695B042 only -----	1
14	39535 J	Feed Bar Guide Block -----	1
15	22797 A	Screw, for chaining feed dog on all except 695B050 -----	1
16		Chaining Feed Dog (See Pages 42, 44, 46) -----	1
17	39534 G	Differential Feed Bar -----	1
18	39535 D	Differential Feed Bar Guide, right -----	1
19	22569 B	Screw, for differential feed bar guide, right -----	2
20	53634 C	Washer, for differential feed bar guide screw -----	2
21	39536 B	Feed Bar Driving Stud -----	2
22	22569 G	Screw, for thrust washer -----	3
23	39534 H	Differential Feed Bar Thrust Washer -----	1
24	39538	Feed Lift Block -----	1
25		Differential Feed Dog (See Pages 42, 44, 46) -----	1
26	22528	Screw, for differential feed dog -----	1
27		Main Feed Dog (See Pages 42, 44, 46) -----	1
28	93 A	Screw, for main feed dog -----	1
29		Differential Feed Driving Eccentric (See Chart Below) -----	1
30	39536 AE	Differential Feed Bar Driving Connection -----	1
31		Main Feed Driving Eccentric (See Chart Below) -----	1
32	39536 C	Feed Bar Driving Stud Bushing -----	2
33	39536 AF	Main Feed Bar Driving Connection -----	1
34	40-46	Washer, for crankshaft -----	1
35	258	Nut -----	1
36	39536 E	Nut -----	2
37	14077	Nut -----	1
38	39551 A	Needle Clamp Washer, for all except 695B043 -----	1
38A	39563 Z	Needle Thread Pull-up Eyelet and Needle Clamp Washer for 695B043 -----	1
39		Needle (See Page 6) -----	1
40	39552	Needle Driving Arm, marked "B", for all except 695B042 and 043 -----	1
-	39552 J	Needle Driving Arm, marked "F" for 695B042 and 043 -----	1
41	50-774 Blk.	Stop Pin -----	1
42	22596 E	Screw -----	1
43	39551 F	Needle Clamp Stud -----	1
44	39568 A	Looper Thread Pull-off -----	1
45	39568 Y	Looper Thread Pull-off Lever -----	1
46	88 B	Screw -----	2
47	660-207	Oil Seal Ring -----	1
48	39552 C	Needle Driving Arm Crank Thrust Washer -----	2
49	39543 Y	Needle Drive Shaft Thrust Collar -----	1
50	22782 A	Screw -----	1
51	39594 N	Oil Splasher -----	1
52	87 U	Screw -----	1
53	39552 R	Needle Driving Shaft -----	1
54	22513	Screw -----	1
55	87 U	Screw -----	1
56	39563 G	Needle Thread Cam Pull-off, for all except 695B043 -----	1

VARIETIES	REF. NO. 29 DIFF. FEED DRIVING ECC.	REF. NO. 31 MAIN FEED DRIVING ECC.
695B010, 052	39540 B-12	39540 B-10
695B011, 016, 028	39540 B-10	39540 B-12
695B041	39540 B-12	39540 B-9
695B042	39540 B-4	39540 B-10
695B043	39540 B-9	39540 B-9
695B050	39540 B-30	39540 B-30
695B054	39540 B-8	39540 B-7



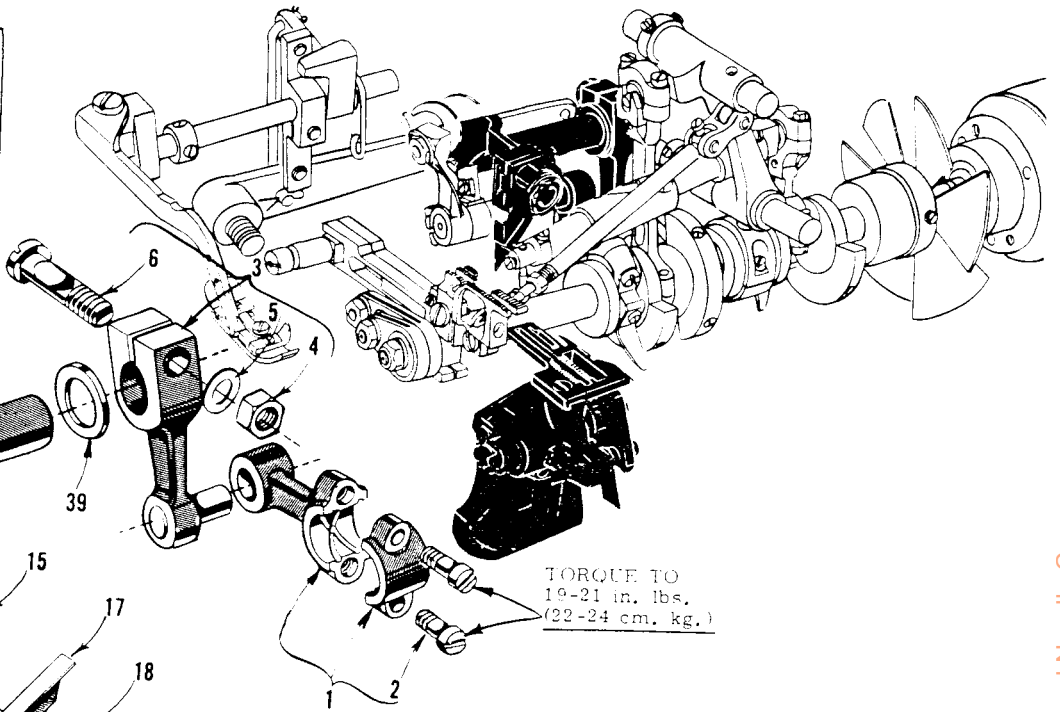
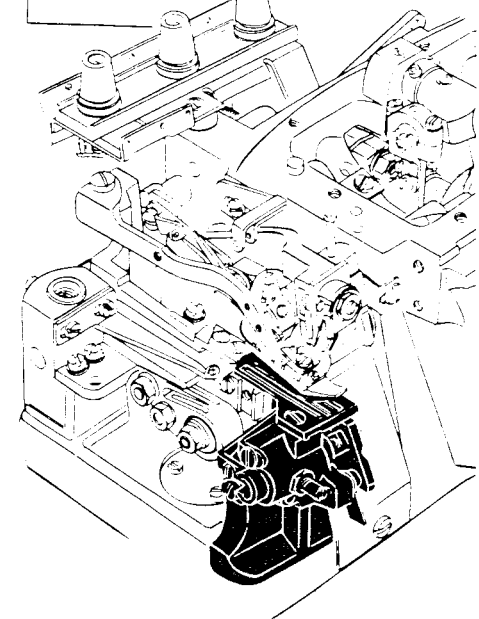
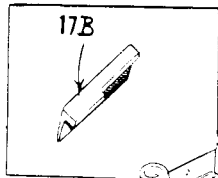
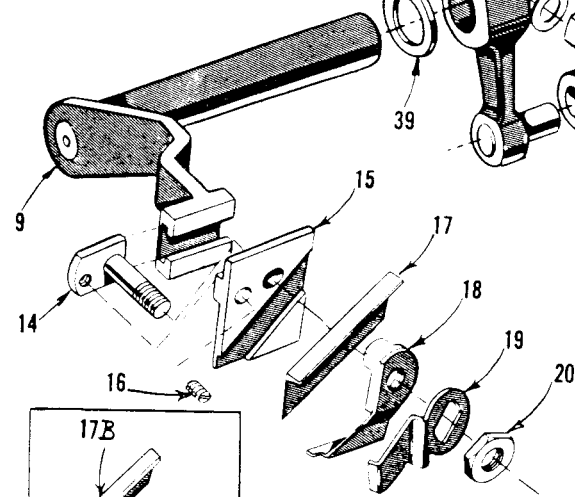
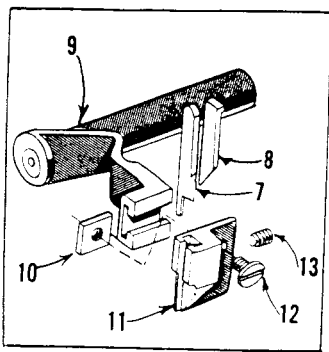
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UPPER AND LOWER LOOPER DRIVING PARTS

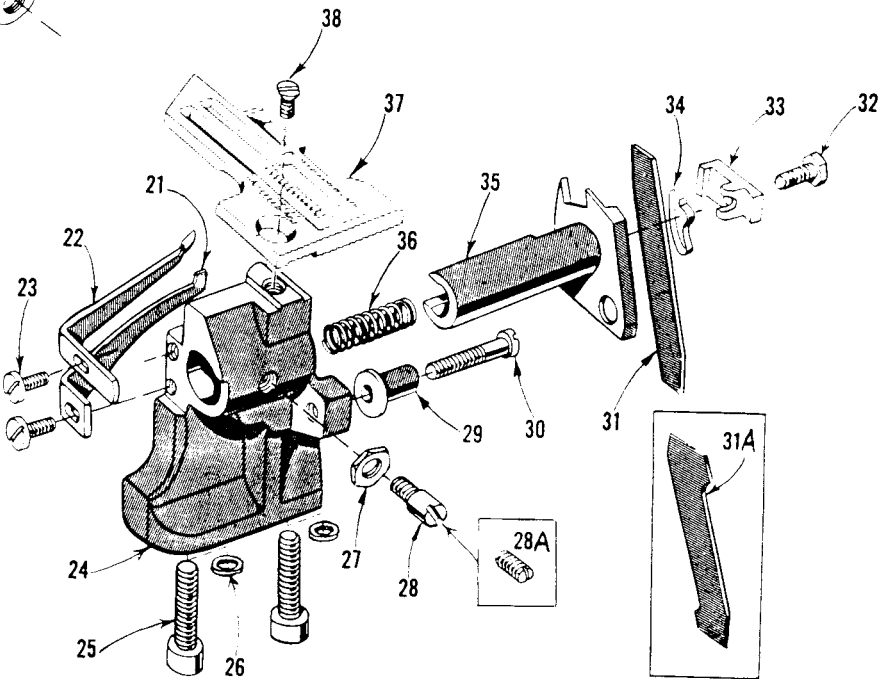
Ref. No.	Part No.	Description	Amt. Req.
2	39508 A	Upper Looper, marked "CC", for all except 695B042 -----	1
-	39508 E	Upper Looper, marked "CK", for 695B042 -----	1
3	39543	Upper Looper Holder -----	1
4	22564 G	Screw for upper looper -----	1
5	39543 A	Upper Looper Holder Collar -----	1
6	22 KH	Screw, for upper looper holder collar -----	1
7	22565 H	Spot Screw, for bushing and cam guide -----	1
7A	1025 L	Lock Screw, for bushing and cam guide screw -----	1
* 8	39543 T	Cam Follower -----	1
* 9	39543 S	Bushing and Cam Guide -----	1
* 10	39543 K	Upper Looper Drive Shaft -----	1
11	22503 F	Screw, for cam follower locking clamp -----	1
12	39543 E	Cam Follower Locking Clamp -----	2
13	97	Screw, for ball joint guide fork -----	1
14	39544 J	Ball Joint Guide Fork, for upper looper drive lever -----	1
15	482 C	Upper Looper Shaft Collar -----	2
16	22894 C	Set Screw, for upper looper shaft collar -----	1
17	22565	Set Screw, for upper looper rock shaft -----	1
18	39543 X	Upper Looper Drive Lever Shaft -----	1
19	22565 S	Spot Screw, for upper looper drive lever shaft -----	1
20	39543 W	Upper Looper Drive Lever -----	1
21	39543 M	Clamp Collar, for upper looper drive shaft -----	1
22	22562 A	Screw, for clamp collar -----	2
23	39543 P	Upper Looper Drive Shaft Thrust Washer -----	1
24	39543 U	Upper Looper Drive Lever Connecting Rod -----	4
25	22729 D	Screw, for upper looper drive lever connecting rod -----	1
26	87 U	Screw, for oil splasher -----	1
27	39594 N	Oil Splasher -----	1
28	666-255	Felt, for connecting rod -----	1
29	77	Screw, for lower looper bar connecting link pin -----	1
30	39544 B	Lower Looper Bar Connecting Link -----	2
31	39544 D	Lower Looper Bar Connecting Link Pin -----	1
32	77	Screw, for lower looper bar connecting link pin -----	2
33	22894 AE	Set Screw, for lower looper driving shaft -----	1
34	482 C	Lower Looper Driving Shaft Collar -----	2
35	22894 C	Set Screw, for lower looper driving shaft collar -----	1
36	660-206	"O" Ring, for lower looper driving shaft -----	1
37	39544 V	Lower Looper Driving Shaft -----	1
38	39508 B	Lower Looper, for all except 695B042 -----	1
38A	39508 D	Lower Looper, for 695B042 -----	1
39	39151	Nut, for lower looper bar -----	1
40	39544	Lower Looper Bar -----	1
41	39594 N	Oil Splasher -----	1
42	87 U	Screw, for oil splasher -----	1
43	29126 DF	Lower Looper Bar Driving Lever and Connecting Rod Assembly -----	2
44	22729 E	Screw, for connecting rod -----	1
45	39544 N	Lower Looper Drive Lever Connecting Rod -----	1
46	39544 S	Ball Joint Guide Fork -----	2
47	97	Screw, for ball joint guide fork -----	2
48	22729 D	Screw, for connecting rod -----	1
49	666-255	Felt, for connecting rod -----	1
50	39544 U	Lower Looper Bar Driving Lever -----	1

* The use of assembly No. 29126 EC is recommended instead of the individual parts.

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TORQUE TO
19-21 in. lbs.
(22-24 cm. kg.)

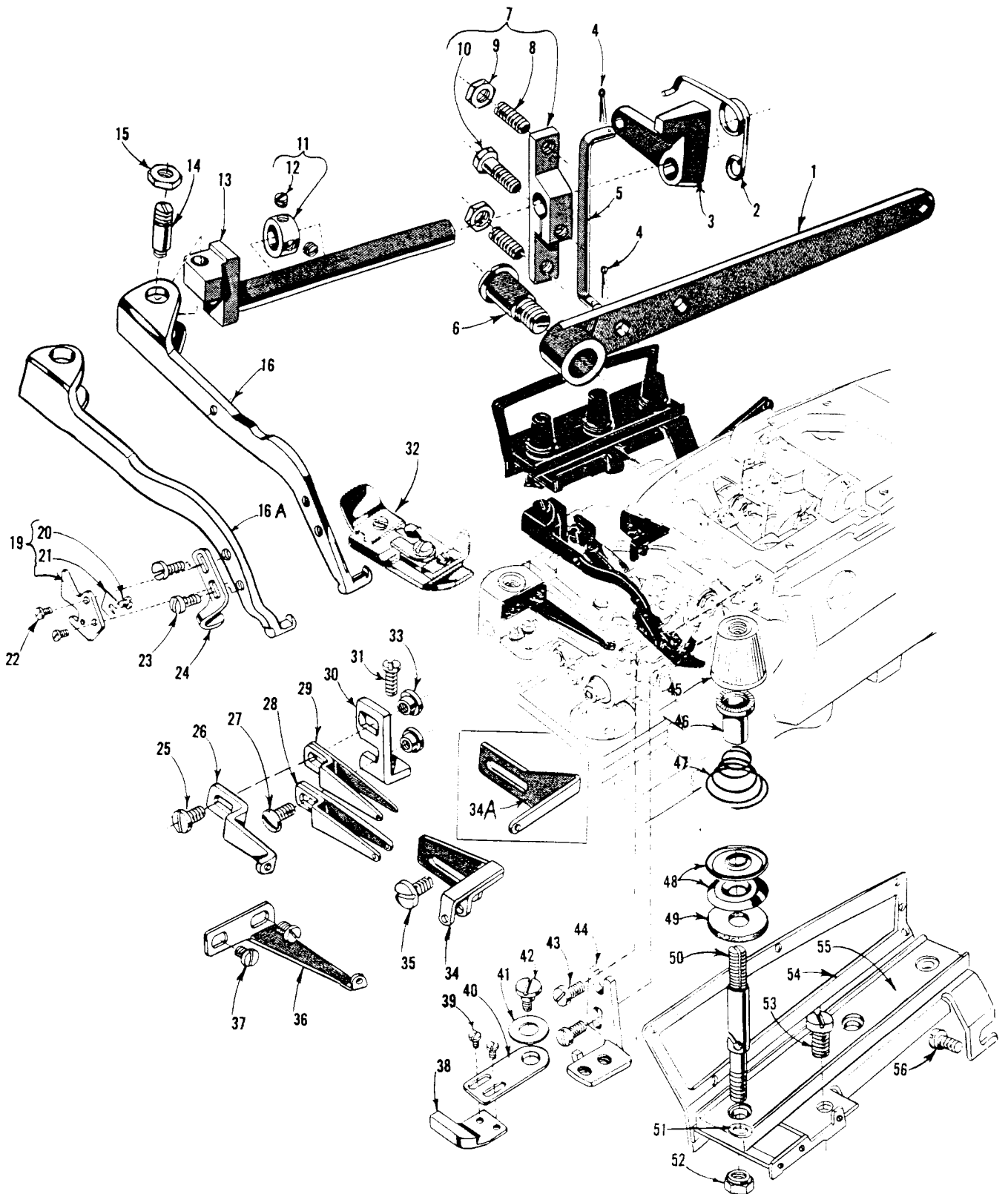


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UPPER AND LOWER KNIFE MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	39573 J	Upper Knife Driving Connecting Rod -----	1
2	22587 J	Screw, for upper knife driving connecting rod -----	2
3	39573 E	Upper Knife Driving Lever -----	1
4	55235 E	Nut, for upper knife driving lever -----	1
5	6042 A	Washer, for upper knife driving lever -----	1
6	55235 D	Locking Stud, for upper knife driving lever -----	1
7	39270 E	Upper Knife, for 695B042 only -----	1
8	39571 E	Upper Knife Clamp Bar, 695B042 only -----	1
9	39573 H	Upper Knife Driving Arm -----	1
10	39571 A	Upper Knife Clamp Nut, for 695B042 only -----	1
11	39572 B	Upper Knife Holder Block, for 695B042 only -----	1
12	22829	Screw, for upper knife holder block on 695B042 only -----	1
13	22650 CB-4	Set Screw, for upper knife on 695B042 -----	1
14	39571 D	Upper Knife Clamp Stud, for all except 695B042, 043, 054 -----	1
-	39571 C	Upper Knife Clamp Stud, for 695B042, 043 and 054 -----	1
15	39572	Upper Knife Holder Block, for all except 695B042, 043, 054 -----	1
-	39572 A	Upper Knife Holder Block, for 695B043 and 054 -----	1
16	22738	Screw, for upper knife clamp stud on all except 695B042 -----	1
17	39570	Upper Knife, for all except 605B042 and 054 -----	1
17B	39570 J	Upper Knife, for 695B054 only -----	1
18	39571 F	Upper Knife Clamp, for all except 605B042 -----	1
19	39571 B	Upper Knife Chain Guard, for all except 695B042 -----	1
20	14077	Nut, for upper knife clamp stud on all except 695B042 -----	1
21	39525	Needle Guard, front, for all 695B042 and 050 -----	1
-	39525 L	Needle Guard, front, for 695B042 and 050 -----	1
22	39525 A	Needle Guard, rear -----	1
23	22585 A	Screw, for needle guards -----	2
24	39580 A	Throat Plate and Lower Knife Support Bracket, for all except 695B042 -----	1
-	39580 AD	Throat Plate and Lower Knife Support Bracket, for 695B042 -----	1
25	22653 B-12	Screw, for throat plate and lower knife support bracket -----	2
26	39580 F	Washer, for throat plate and lower knife support bracket -----	2
27	14077	Nut, for lower knife holder locking screw -----	1
28	22892 B	Locking Screw, for lower knife holder on all except 695B042 -----	1
28A	88 B	Locking Screw, for lower knife holder on 695B042 -----	1
29	39550 C	Lower Knife Holder Locking Stud, for all except 695B054 -----	1
-	39550 R	Lower Knife Holder Locking Stud, for 695B054 only -----	1
30	22729 B	Screw, for lower knife holder locking stud -----	1
31	39549	Lower Knife, for except 695B042 and 054 -----	1
31A	39549 J	Lower Knife, for 695B042 and 054 -----	1
32	22588 J	Screw, for lower knife clamp -----	1
33	39550 Z	Lower Knife Clamp -----	1
34	39550 M	Lower Knife Clamp Spring -----	1
35	39550 S	Lower Knife Holder -----	1
36	39550 E	Lower Knife Holder Spring, for all except 695B043 and 054 -----	1
-	39550 P	Lower Knife Holder Spring, for 695B043 and 054 -----	1
37		Throat Plate (See Pages 42, 44, 46) -----	1
38	22524	Screw, for throat plate -----	1
39	39573 A	Upper Knife Driving Arm Washer -----	1

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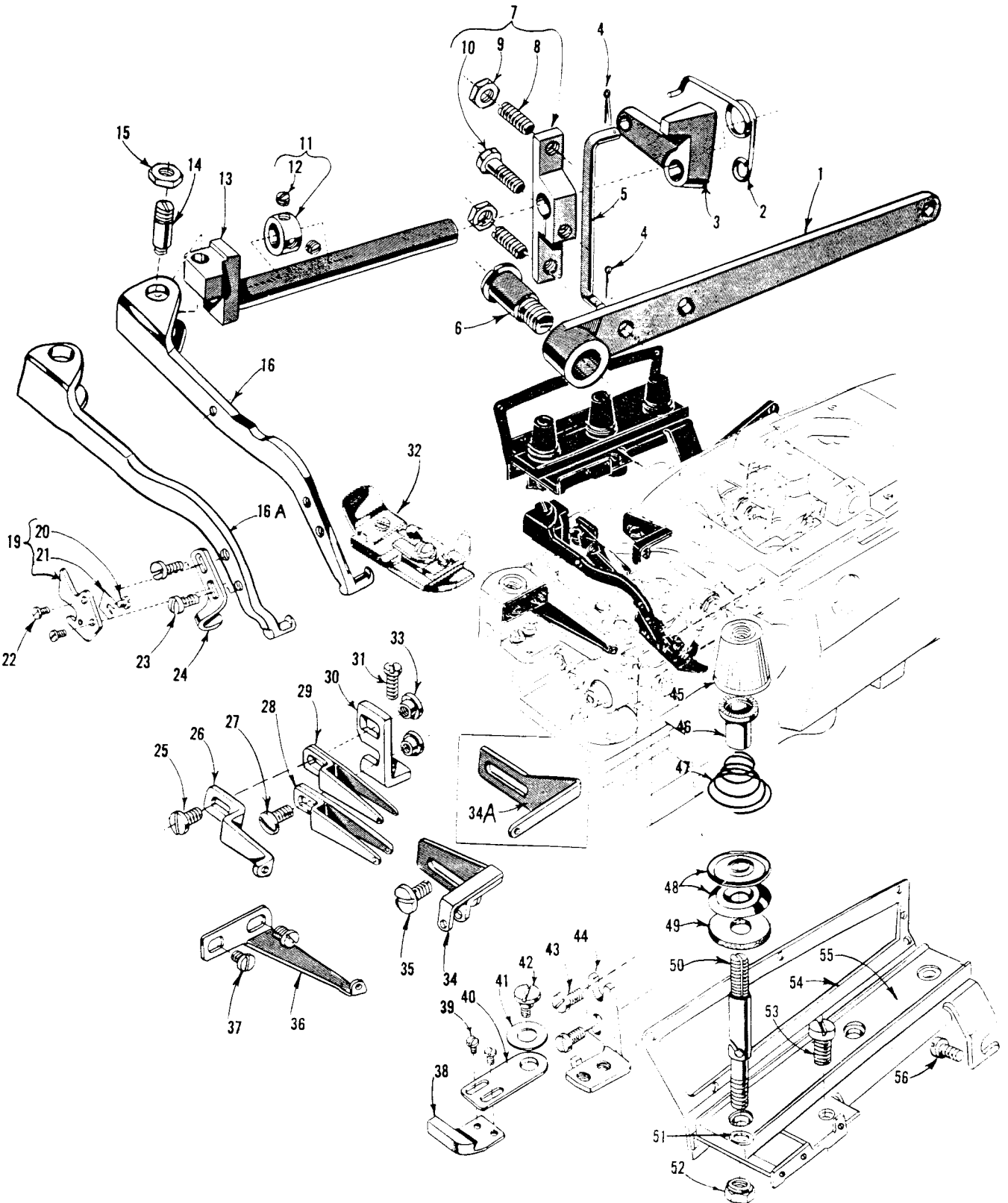
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FOOT LIFTER, CHAIN CUTTING KNIFE, EDGE GUIDE, THREAD TENSION PARTS AND MISCELLANEOUS EYELETS

Ref. No.	Part No.	Description	Amt. Req.
1	39855	Foot Lifter Lever -----	1
2	39555 B	Foot Lifter Lever Spring -----	1
3	39555 D	Foot Lifter Intermediate Lever -----	1
4	660-142	Cotter Pin, for foot lifter lever connecting link -----	2
5	39555 F	Foot Lifter Lever Connecting Link -----	1
6	22566 B	Screw, for foot lifter lever -----	1
7	39555 C	Foot Lifter Lever Arm -----	1
8	22597 E	Set Screw, for foot lifter lever arm -----	2
9	12538	Lock Nut, for foot lifter lever arm -----	2
10	627	Screw, for foot lifter lever arm -----	1
11	12865	Foot Lifter Lever Shaft Thrust Collar -----	1
12	88	Screw, for foot lifter lever shaft collar -----	2
13	39555 A	Foot Lifter Lever Shaft -----	1
14	22791 H	Screw Pin, for presser arm -----	1
15	258 A	Nut, for presser arm screw -----	1
16	39556 E	Presser Arm, for 695B042 -----	1
-	39556 D	Presser Arm, for 695B054 only -----	1
-	39556 P	Presser Arm, for 695B043 only -----	1
16A	39556 F	Presser Arm, for all except 695B041, 042, 043, and 044 -----	1
-	39556 J	Presser Arm, for 695B041 only -----	1
19	39556 M	Chain Cutting Knife, for 695B054 only -----	1
20	22798	Screw, for chain cutter blade -----	1
21	39556 L	Chain Cutter Blade -----	1
22	605	Screw, for chain cutting knife on 695B054 only -----	2
23	605 A	Screw, for presser foot hold down plate on 695B054 -----	2
24	39556 H	Presser Foot Hold Down Plate, for 695B052 -----	1
25	376 A	Screw, for upper looper thread eyelet on all -----	1
26	39568 E	Auxiliary Looper Thread Eyelet, for all except 695B042 -----	1
-	39568 U	Auxiliary Looper Thread Eyelet, for 695B042 -----	1
27	376 A	Screw, for lower looper thread eyelet -----	1
28	39568 B	Lower Looper Thread Eyelet, for except 695B042 -----	1
-	39568 S	Lower Looper Thread Eyelet, for 695B042 -----	1
29	39568 L	Upper Looper Thread Eyelet, for all except 695B042 and 043 -----	1
-	39568 B	Upper Looper Thread Eyelet, for 695B043 only -----	1
-	39568 T	Upper Looper Thread Eyelet, for 695B042 -----	1
30	39568 D	Looper Thread Eyelet Mounting Bracket -----	1
31	22569 B	Screw, for looper thread eyelet mounting bracket -----	1
32		Presser Foot (See Pages 42, 44, 46) -----	1
33	43139 A	Nut, for looper thread eyelet screw -----	2
34	39563 H	Needle Thread Eyelet, for all except 695B042 and 043 -----	1
-	39563 U	Needle Thread Eyelet, for 695B042 -----	1
34A	39563 D	Needle Thread Eyelet, for 695B043 only -----	1
35	22569 D	Screw, for needle thread eyelet -----	1
36	39568 W	Frame Thread Guide, for lower looper thread -----	1
37	73 X	Screw, for frame thread guide -----	2
38 thru 57		See following page	

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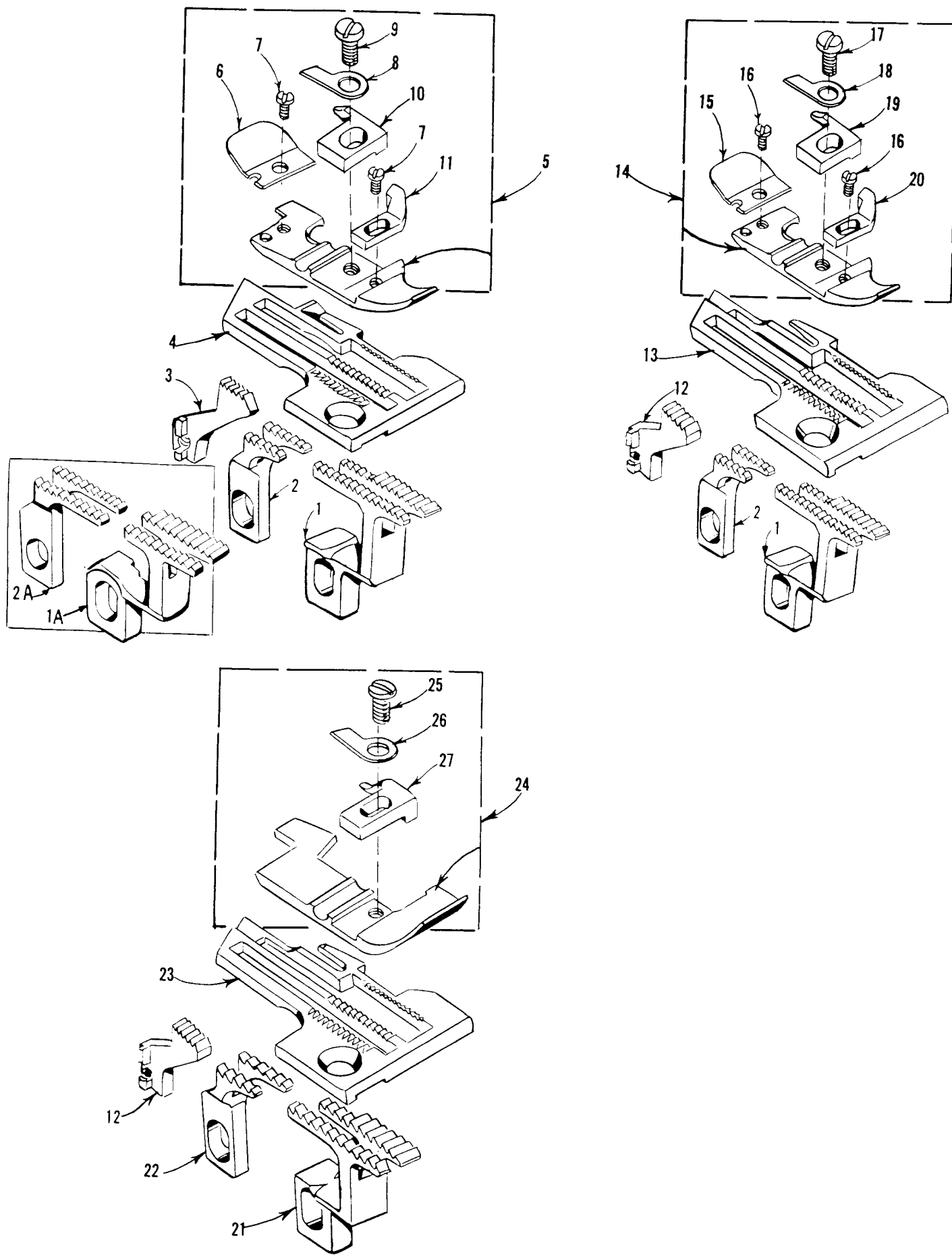


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FOOT LIFTER, CHAIN CUTTING KNIFE EDGE GUIDE, THREAD TENSION PARTS AND MISCELLANEOUS EYELETS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1 thru	37	See preceding page	
38	39503 A	Edge Guide, for 695B054 only -----	1
39	604	Screw, for edge guide on 695B054 only -----	2
40	39503 D	Edge Guide Swinging Arm, for 695B054 only -----	1
41	12957 E	Spring Washer, for swinging arm on 695B054 only -----	1
42	22758 E	Screw, for swinging arm on 695B054 only -----	1
43	22569 C	Screw, for edge guide mounting bracket on 697B054 only -----	2
44	39503 C	Edge Guide Mounting Bracket, for 695B054 only -----	1
45	39592 AA	Needle Tension Nut, green -----	1
-	39592 AB	Upper Looper Tension Nut, blue, -----	1
-	39592 AC	Lower Looper Tension Nut, red -----	1
46	39592 AK	Tension Spring Ferrule, -----	3
47	39592 AR-4	Upper and Lower Thread Tension Spring, for 695B042, 050, 052 and 054 -----	2
-	39592 AR-5	Upper and Lower Thread Tension Spring, for 695B010, 011, 016, 028 and 042 -----	2
-	39592 AR-4	Needle Thread Tension Spring, for 695B043 and 050 -----	1
-	39592 AR-8	Needle Thread Tension Spring, for all except 695B043 and 050 -----	1
-	39592 AR-4	Upper Looper Thread Tension Spring, for 695B043 -----	1
-	39592 AR-8	Lower Looper Thread Tension Spring, for 695B043 -----	1
48	39592 AD	Thread Tension Disc, -----	6
49	39592 AF	Tension Disc Felt, -----	3
50	39592 AL	Tension Post, -----	3
51	8372 A	Washer, for tension post -----	3
52	39592 AH	Locating Nut, for tension post -----	1
53	22806 A	Screw, for tension mounting bracket -----	1
54	39592 AG-3	Tension Post Mounting Bracket -----	1
55	39592 AM	Tension Post Bar -----	1
56	22847 B	Screw, for tension post mounting bracket -----	1
-	40-46	Washer, for No. 22806 A screw on 695B050 only (not shown) -----	1

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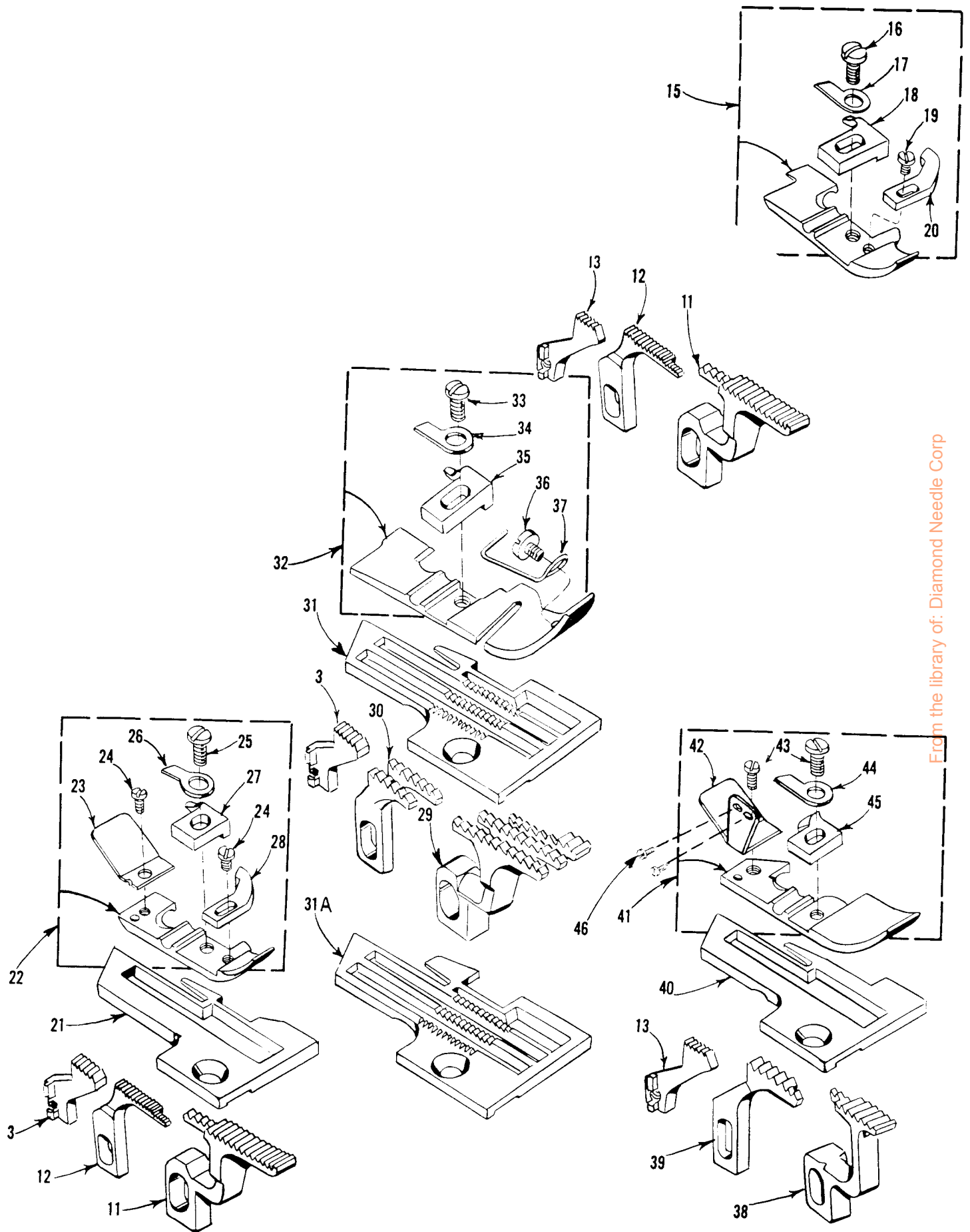


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FEED DOGS, THROAT PLATES AND PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39526 B	Differential Feed Dog, 16 t.p.i., for 695B010, 011, and 028 -----	1
1A	39526 BJ	Differential Feed Dog, 16 t.p.i., for 695B052 only -----	1
2	39505 B	Main Feed Dog, marked "B", 16 t.p.i., for 695B010, 011, 028 -----	1
2A	39505 BJ	Main Feed Dog, marked "EA", 16 t.p.i., for 695B052 -----	1
3	39505 C	Chaining Feed Dog, marked "C", 20 t.p.i., for 695B010, 043, 052 -----	1
4	39524 C-3/32	Throat Plate, marked "AC-3/32", for 3/32 inch (2.38 mm) wide seam on 695B010 and 052 -----	1
-	39524 C-1/8	Throat Plate, marked "AC-1/8", for 1/8 inch (3.17 mm) wide seam on 695B010 and 052 -----	1
5	39520 B	Presser Foot, for 695B010 and 052 -----	1
6	39530 C	Presser Foot Chain Shield -----	1
7	22738 B	Screw, for chain shield and chip guard -----	2
8	39530	Presser Foot Hinge Spring -----	1
9	22768 B	Screw, for stitch tongue and hinge spring -----	1
10	39597 A	Presser Foot Stitch Tongue, marked "DS" -----	1
11	39530 P	Presser Foot Chip Guard -----	1
12	39505 E	Chaining Feed Dog, 20 t.p.i., for 695B011, 016, 028, 041, 042 and 054 -----	1
13	39524 B-3/32	Throat Plate, marked "V-3/32", for 3/32 inch (2.38 mm) wide seam for 695B011 and 028 -----	1
-	39524 B-1/8	Throat Plate, marked "V-1/8", for 1/8 inch (3.17 mm) wide seam for 695B011 and 028 -----	1
-	39524 B-5/32	Throat Plate, marked "BH", for 5/32 inch (3.97 mm) wide seam for 695B028 -----	1
14	39520 A	Presser Foot, for 695B011 and 028 -----	1
15	39530 C	Presser Foot Chain Shield -----	1
16	22738 B	Screw, for chain shield and chip guard -----	2
17	22768 B	Screw, for stitch tongue and hinge spring -----	1
18	39530	Presser Foot Hinge Spring -----	1
19	39597 A	Presser Foot Stitch Tongue, marked "DS" -----	1
20	39530 P	Presser Foot Chip Guard -----	1
21	39526 P	Differential Feed Dog, 12 t.p.i., for 695B016 -----	1
22	39505 P	Main Feed Dog, marked "J", 12 t.p.i., for 695B016 -----	1
23	39524 P	Throat Plate, marked "AJ", for 1/8 inch (3.17 mm) wide seam for 695B016 -----	1
24	39520 P	Presser Foot, for 695016 -----	1
25	22768 B	Screw, for stitch tongue and hinge spring -----	1
26	39530	Presser Foot Hinge Spring -----	1
27	39597 P	Presser Foot Stitch Tongue, marked "EA" -----	1

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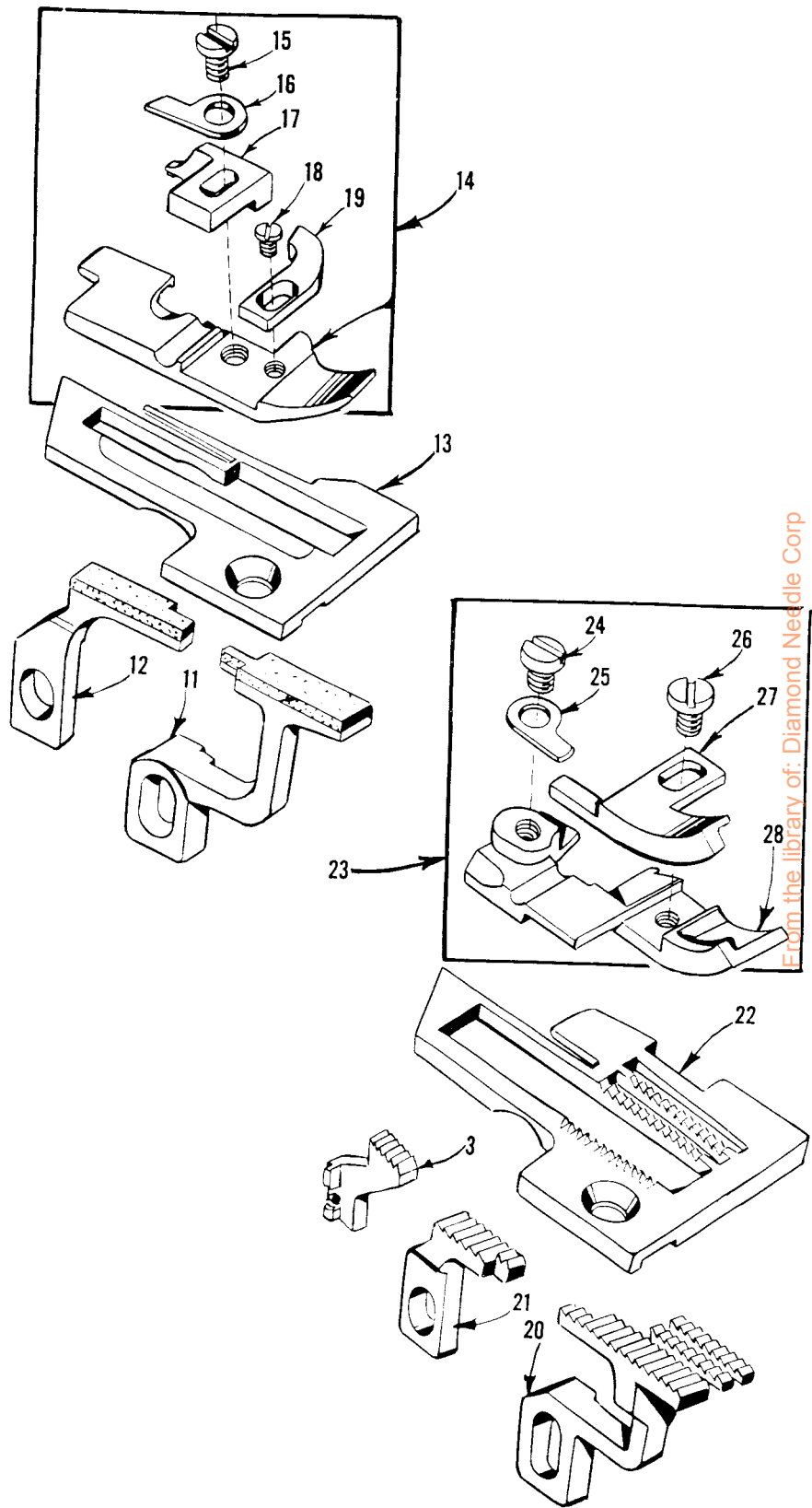


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FEED DOGS, THROAT PLATES AND PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
11	39526 AC	Differential Feed Dog, 22 t. p. i., for 695B041 -----	1
12	39505 AC	Main Feed Dog, marked "AM", 22 t. p. i., 695B041 -----	1
13	39505 C	Chaining Feed Dog, marked "C", 20 t. p. i., for 695B010, 043 and 052 -----	1
15	39520 AS	Presser Foot, for 695B050 -----	1
16	22768 B	Screw, for stitch tongue and hinge spring -----	1
17	39530	Presser Foot Hinge Spring -----	1
18	39597 AS	Presser Foot Stitch Tongue, marked "ES" -----	1
19	22738 B	Screw, for presser foot chip guard -----	1
20	39530 P	Presser Foot Chip Guard -----	1
21	39528 AD	Throat Plate, marked "BJ", for 1/8 inch (3.17 mm) wide seam for 695B041 -----	1
22	39527 AD	Presser Foot, for 695B041 -----	1
23	39530 R	Presser Foot Chain Shield -----	1
24	22738	Screw, for presser foot chain shield and chip guard -----	2
25	22768 B	Screw, for stitch tongue and hinge spring -----	1
26	39530 G	Presser Foot Hinge Spring -----	1
27	39597 AB	Presser Foot Stitch Tongue, marked "EK" -----	1
28	39530 P	Presser Foot Chip Guard -----	1
29	39526 BF	Differential Feed Dog, marked "BZ", 12 t. p. i., for 695B042 -----	1
30	39505 BF	Main Feed Dog, marked "BY", 12 t. p. i., for 695B042 -----	1
31	39524 BF	Throat Plate, marked "BK", for 1/8 inch (3.17 mm) wide seam for 695B042 -----	1
31A	39524 BF-3/16	Throat Plate, marked "DG", for 3/16 inch (4.76 mm) wide seam for 695B042 -----	1
32	39520 BF	Presser Foot, 695B042 -----	1
33	22768 B	Screw, for stitch tongue and hinge spring -----	1
34	39530	Presser Foot Hinge Spring -----	1
35	39597 P	Presser Foot Stitch Tongue, marked "EA" -----	1
36	22798 B	Screw, for presser foot tape guide -----	1
37	39530 BF	Presser Foot Tape Guide -----	1
38	39526 BG	Differential Feed Dog, 12 t. p. i., for 695B043 -----	1
39	39505 BG	Main Feed Dog, marked "CH", 12 t. p. i., for 695B043 -----	1
40	39524 BG	Throat Plate, for 3/32 inch (2.38 mm) wide seam for 695B043 -----	1
41	39520 BG	Presser Foot, for 695B043 -----	1
42	39530 X	Presser Foot Chain Shield and Hold Down Plate -----	1
43	22768 B	Screw, for stitch tongue and hinge spring -----	2
44	39530	Presser Foot Hinge Spring -----	1
45	39597 BG	Presser Foot Stitch Tongue, marked "EV" -----	1
46	22768	Screw, for presser foot hold down plate on 695B043 only -----	2

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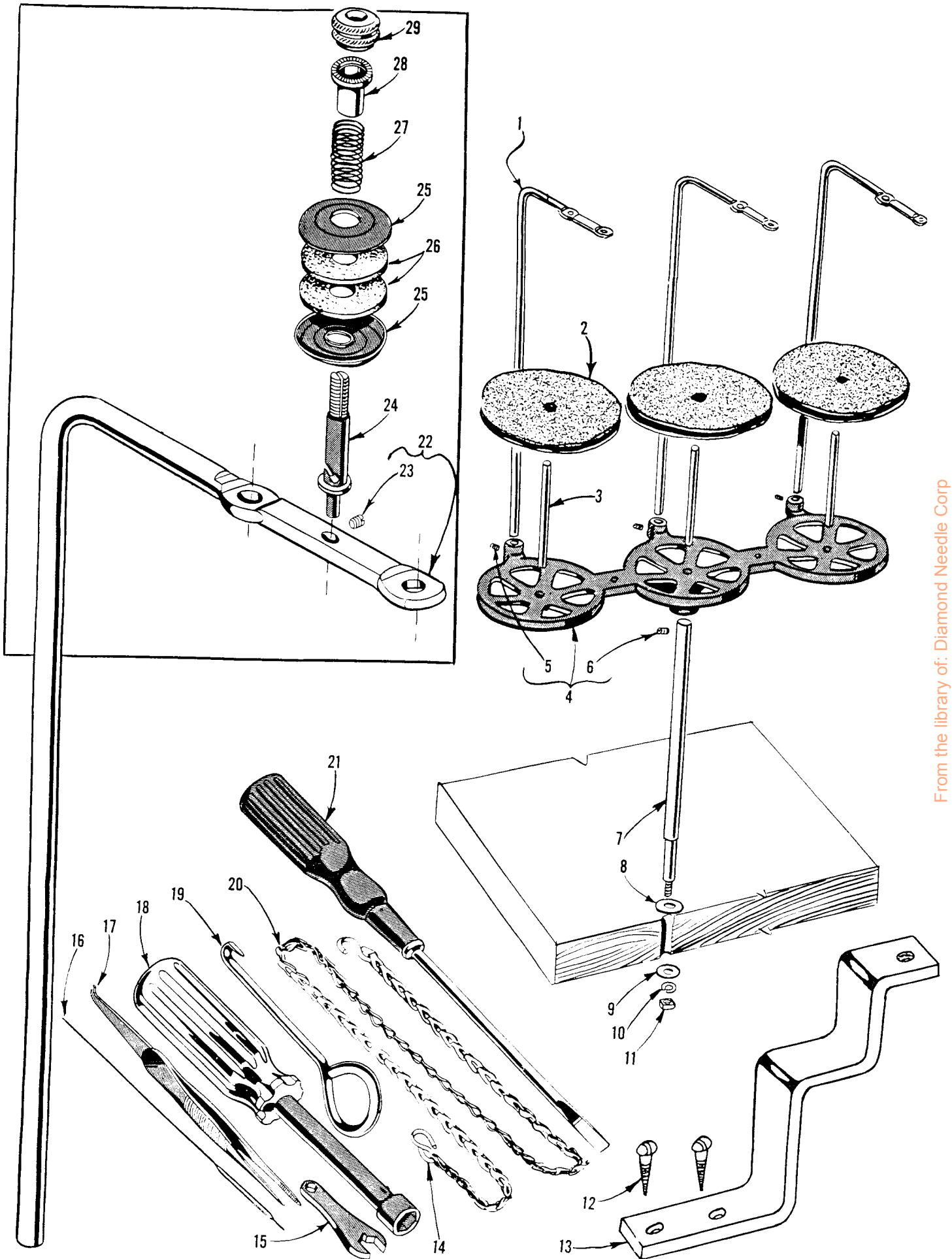
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FEED DOGS, THROAT PLATES AND PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
3	39505 E	Chaining Feed Dog, 20 t.p.i., for 695B011, 016, 028, 041, 042 and 054 -----	1
11	39526 AB	Differential Feed Dog, vulcanized rubber feed surface, for 695B050 only -----	1
12	39505 AB	Main Feed Dog, marked "AG", vulcanized rubber feed surface, for 695B050 only -----	1
13	39524 AV	Throat Plate, marked "BZ", 1/16 to 3/32 inch (1.59 to 2.38 mm) wide seam for 695B050 only -----	1
14	39520 AS	Presser Foot, for 695B050 -----	1
15	22768 B	Screw, for stitch tongue and hinge spring -----	1
16	39530	Presser Foot Hinge Spring -----	1
17	39597 AS	Presser Foot Stitch Tongue, marked "ES" -----	1
18	22738 B	Screw, for presser foot chip guard -----	1
19	39530 P	Presser Foot Chip Guard -----	1
20	39526 AR	Differential Feed Dog, marked "FD", 16 t.p.i., for 695B054 -----	1
21	39505 AR	Main Feed Dog, marked "FC", 16 t.p.i., for 695B054 -----	1
22	39524 X	Throat Plate, marked "AR", for 695B054 -----	1
23	39520 FX	Presser Foot, marked "CR", for 3/8 inch (9.52 mm) wide seam, for 695B054 -----	1
24	87 U	Screw, for hinge spring -----	1
25	39530	Presser Foot Hinge Spring -----	1
26	28	Screw, for edge guide -----	1
27	39530 AB	Edge Guide, marked "S" -----	1
28	39530 AC	Presser Foot Bottom, marked "CA" -----	1

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THREAD STAND AND MISCELLANEOUS TOOLS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	21113 F	Thread Stand Eyelet and Support Rod, for all except 695B050 -----	3
2	21104 V	Pad, for thread cone -----	3
3	69 S	Spool Pin -----	3
4	21130 W-3	Cone Support -----	1
5	22650 CB-4	Screw, for thread stand eyelet -----	3
6	22650 CE-6	Screw, for thread stand rod -----	1
7	21104 AA	Thread Stand Rod -----	1
8	652 J-24	Washer -----	1
9	652 J-16	Washer -----	1
10	WA9 A	Lock Washer -----	1
11	651 A-16	Nut -----	1
12	SC333 A	Wood Screw, round head #9 x 5/8 inch (15.99 mm) long for 695B050 -----	3
13	39592 W	Tension Post Bracket, for mounting on tableboard for 695B050 -----	1
14	660-264	"S" Hook, for treadle chain -----	2
15	116	Wrench, for 9/32 inch (7.142 mm) nuts -----	1
16	39599 A	Threading Wire, for 695B050 -----	1
17	660-240	Thread Tweezers -----	1
18	21388 AU	Socket Wrench, for 3/8 inch (9.52 mm) nuts holding feed eccentrics -----	1
19	21227 BF	Cam Extractor -----	1
20	421 D-34	Treadle Chain, for presser foot lifter -----	1
21	21202	Screwdriver, 3/16 inch (4.78 mm) diameter, 10 3/4 inches (273.05 mm) long overall (not furnished) -----	1
22	21113 G	Thread Stand Eyelet and Support Rod, for 695B050 -----	3
23	22565 C	Screw, for tension post -----	1
24	39592 D	Tension Post, for 695B050 -----	3
25	109	Tension Disc (inverted), for 695B050 -----	6
26	39592 E	Tension Spring Pad, felt, for 695B050 -----	6
27	51292 F-1	Tension Spring, for 695B050 -----	3
28	107	Tension Post Ferrule, for 695B050 -----	3
29	108	Tension Post Nut, for 695B050 -----	3
		Container of Oil, 16 ounces -----	1
	652-24	Washer, for all except 695B050 (not shown) -----	8

ACCESSORIES AVAILABLE AS EXTRAS (Not Illustrated)

21377 BP	Tray, 1 3/4 inches (44.45 mm) high for semisubmerged installation.
21695 U	Finger Protector.
39556 M	Presser Arm Chain Cutting Knife.
605	Screw, for presser arm chain cutting knife (two required).
39598	Knife Grinder, complete.
51278 F	Chip Disposal Chute.

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