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FISCHBEIN BAG CLOSER

Instruction & Parts Manual  
Model 91

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# INSTALLATION

## MOTOR RECOMMENDATIONS

A 1 H.P. 1725 RPM motor is capable of operating this head up to 1800 RPM. Beyond 1800 RPM a 1-1/2 H.P. 3450 RPM motor is required. The variable pulley on the sewing head permits speed adjustments. Changing motor pulley diameter may be required. Sewing head pulley must rotate clockwise. It is necessary to mount this head securely. Maximum RPM is 2200.

## INITIAL LUBRICATION

Individual heads are shipped with a screw in the vent plug opening. This must be removed before running machine. (Sewing heads shipped as part of a system do not have the screw.)

The sewing head is shipped from the factory oil filled. At the beginning of each day or shift check that oil is visible in the oil level window prior to start-up. Turn the machine on. After 30 seconds, the oil pressure gauge should read in the normal 20 to 40 pound range. Maintain oil at the level line during operation. **Never run machine if the oil pressure gauge is below 10 pounds P.S.I.**

## COOL AREA OPERATION

In cool areas allow the machine to warm up by running steadily for a few minutes before closing any bags. Failure to do this, especially with units running on single phase current, can result in slow starting and running of the sewing head. This can cause mis-synchronization with the speed of the conveyor belt which will break thread and cause sewing problems until the sewing head warms-up and attains proper speed.

If the temperature is approximately 35 degrees Fahrenheit or below, it may be necessary to warm the sewing head at the bottom with an auxiliary heat source such as a heat lamp.

## RUNNING AFTER PROLONGED SHUT-DOWN

After prolong shut-down periods, the sewing head oil should be pumping properly and the sewing head warmed up before closing any bag. This is easily accomplished by running the sewing head in short 2 - 3 second cycles until the oil pressure gauge reads in the normal 20 - 40 pound range.

# ADJUSTMENTS

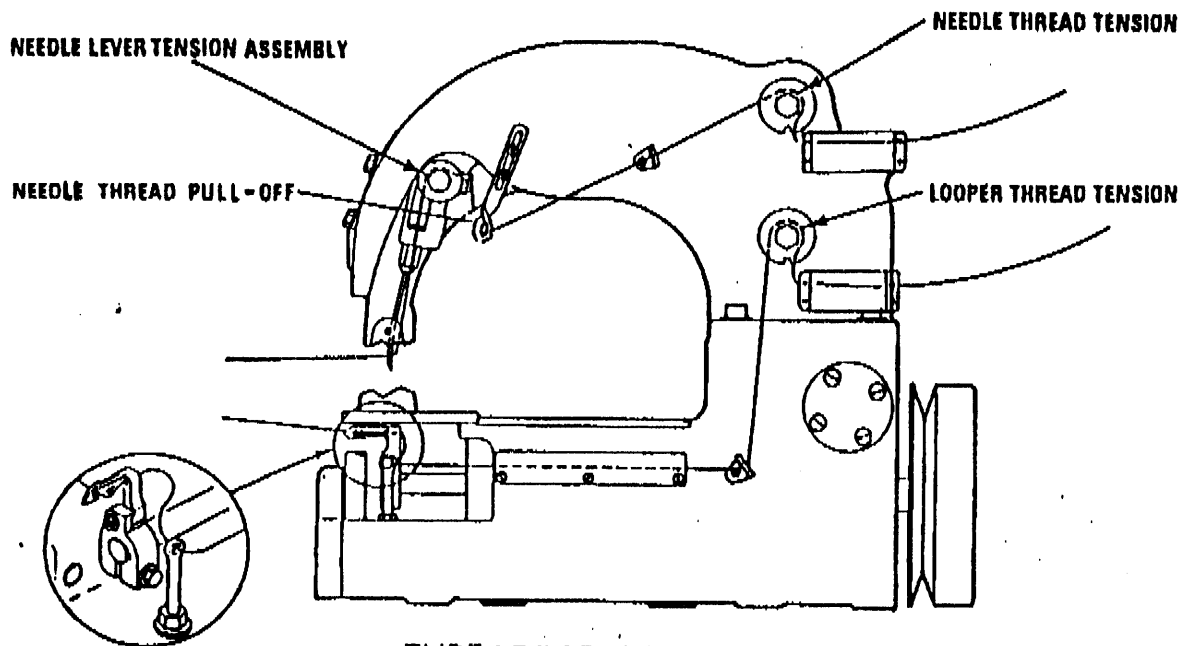
## THREADING

First be sure the machine is turned off and the power source is disconnected. To thread the machine properly follow the diagram (see Drawing 1 or diagram on the side of the machine). The thread goes into the needle from the side where the bag enters the machine.

The looper thread should pass up and over the looper thread tension. As with the needle lever tension, there should be only a very slight pull on the thread. The thread is then routed down and through the thread guide, behind the plate, through the thread pull-off and then through BOTH HOLES of the looper.

The machine is now ready to sew. A model 91 tape sewing head must have tape between the pressure foot and feed dog to operate. Check the looper and make sure no thread has massed around it. Disregard references to looper thread on single thread model 91.

## DRAWING 1



THREADING DIAGRAM

## TENSIONS

The looper tension must be very light, barely discernible when pulling the thread by hand.

The needle thread tension should be very firm and put a noticeable drag on the thread.

The tension assembly, located on the needle lever, must put only light pressure on the thread, about the same as the looper tension. This tension assembly is not adjustable.

## NEEDLE THREAD PULL-OFF

This adjustment can vary with different lengths of stitches, bag thickness, and type of thread. The normal setting for a two thread machine is 1-1/4 inches from the center of the thread hole to the first fastener screw.

The normal setting for a single thread machine is when the needle thread pull-off is raised all the way.

If the stitching on the bag is noticeably loose, raise the pull-off;  
if it is too tight, lower the pull-off.

## NEEDLE REPLACEMENT

A good needle is essential for optimum performance of the machine. If the needle becomes bent, dull or worn, it should be replaced.

To replace the needle, first, loosen the needle set screw using the small needle wrench provided with the machine. **CAUTION:** Use the small needle wrench only. A larger wrench will apply too much pressure on the needle set screw, damaging the screw, the needle chuck, or both.

Remove the old needle. Insert the new needle into the needle chuck. Be sure it is inserted as far as it will go. Using the needle wrench again, lock the needle set screw against the flat of the needle shank.

## NEEDLE CHUCK

If the needle chuck has been removed for any reason, it is important to make sure that the depth of the chuck and the rotation of the chuck are correct.

The depth of the chuck is correct when the bottom of the eye of the needle is 1-1/8" above the throat plate at the highest point for the 91 models. You can verify this distance with the gauge supplied by Fischbein in the tool kit.

Rotation of the chuck is correct when the head of the screw is parallel with the side of the housing.

## STITCH LENGTH

The stitch length may be adjusted from 2 to 3.5 stitches per inch. Stitch length must be appropriate for the content of your bags. Stitches which are closer together than necessary weaken the bag, consume more thread, and increase the speed of the sewing head.

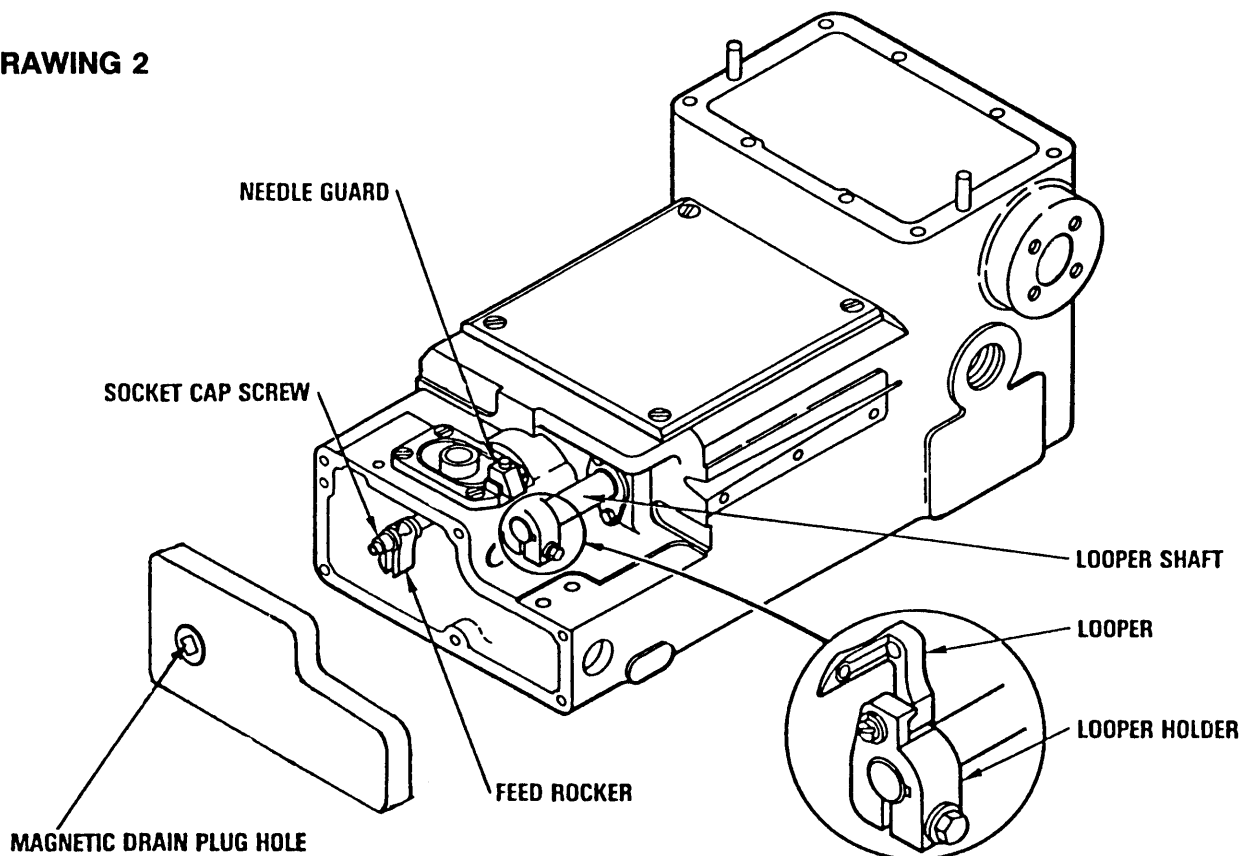
Whenever the stitch length is changed, the speed of the machine must also be changed.

Turn the machine off and disconnect the power source. Remove the machine from the pedestal and place on a table or bench. Tip it up so that the oil does not run out when removing the drain plug. Remove the magnetic drain plug on the bottom cover. Reach through the drain plug hole with a 3/16 inch allen wrench and loosen the socket cap screw on the feed rocker. DO NOT COMPLETELY REMOVE CAP SCREW (See Drawing 2).

To shorten the stitch length, slide the loosened cap screw towards the throat plate.  
To lengthen the stitches, slide the cap screw away from the throat plate.

Make sure adjusting screw is securely re-tightened.

DRAWING 2



## LOOPER TIMING

The looper timing is set at the factory using pointed set screws. It cannot be altered.

If you need to replace the looper, do so without changing the position of the looper holder. The looper should pass the scarf of the needle with about  $1/64"$  (.015) clearance. (See Drawing 3)

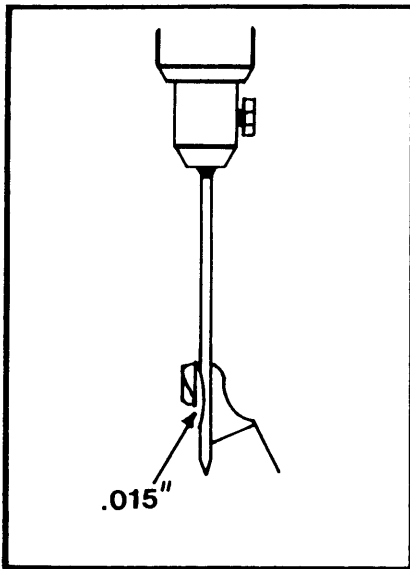
## LOOPER HOLDER

If the looper holder has been moved and needs resetting, it must be positioned on the looper shaft so that the point of the looper is  $3/16"$  from the center of the needle when the looper is at its farthest point back (towards the pulley end of machine). (See Drawing 4)

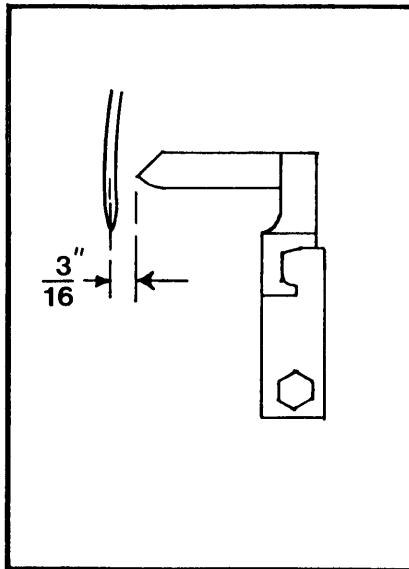
## NEEDLE GUARD

The needle guard is stationary and needs no adjustment. If it is replaced, due to excessive wear or damage, it should be set so that the needle clears it by about .005". (See Drawing 5)

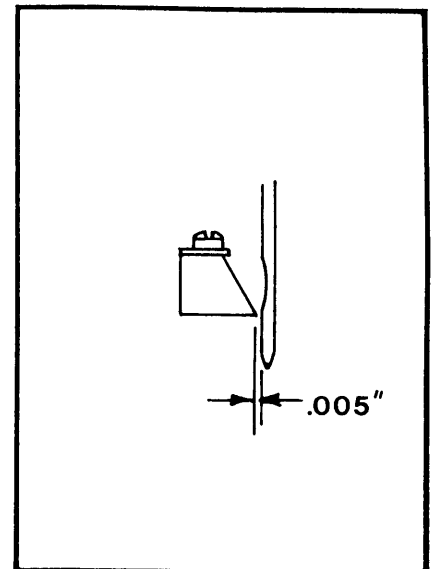
DRAWING 3



DRAWING 4



DRAWING 5





## **PRESSER FOOT SPRING PRESSURE**

The spring pressure is the strength with which the presser foot forces the bag against the feed dog. Improper spring pressure causes improper bag feeding.

To adjust the presser foot spring pressure, turn the hex adjusting screw on top of the lever housing.

Turning the screw clockwise will increase the pressure.

Turning the screw counter-clockwise will decrease the pressure.

Be careful not to loosen this adjusting screw too far or further maintenance will be required.

If all spring pressure is lost or unknown, turn the adjusting bolt clockwise all the way. Do not force it. Then back it off approximately 5 turns. The machine must have control of the bag.

## **LEVELING THE PRESSER FOOT**

Whenever the feed dog height is changed due to wear, adjustment or replacement, it is necessary to level the presser foot. The presser foot must be level with the feed dog.

To level the foot, shut the machine off and disconnect the power source. Turn the pulley until the feed dog teeth are at the highest point, remove any thread or tape from between the foot and feed dog. Loosen the screw and locknut at the rear of the presser foot so the screw has no contact with the base of the foot. Then loosen the front leveling screw in the hinge block of the presser foot. The spring pressure will force the foot evenly against both rows of teeth of the feed dog. Tighten the front leveling screw.

Next adjust the rear screw with the locknut. Push down on the back of the foot raising the front of the foot to allow a fifteenth thousandths (.015 in.) gauge to pass half way across the feed dog without interference from the foot.

## **FEED DOG REPLACEMENT**

After turning off the machine and disconnecting the power source, remove the head from the pedestal and place on a table or bench. Prop up or remove the presser foot. Remove the throat plate and then the feed dog. Now, install the feed dog and tighten the set screw on the center of the flat spot on the shaft. Reinstall the throat plate and verify that the feed dog teeth are 1/16th inch above the throat plate when at its highest point. Check the alignment of the feed dog in the throat plate slots. If adjustments are necessary see **Feed Dog Adjustment**.

## **FEED DOG ADJUSTMENT**

With the sewing head on a table or bench, drain the oil or tilt the sewing head backwards. then remove the bottom cover. With the feed dog at its highest point, loosen the feed dog carrier rod clamp, install the throat plate and raise the feed dog carrier rod until the feed dog teeth are at the required 1/16" above the throat plate. Now, align the feed dog in the throat plate slots before tightening the feed dog carrier rod.

## TAPE/THREAD CLIPPER ADJUSTMENT

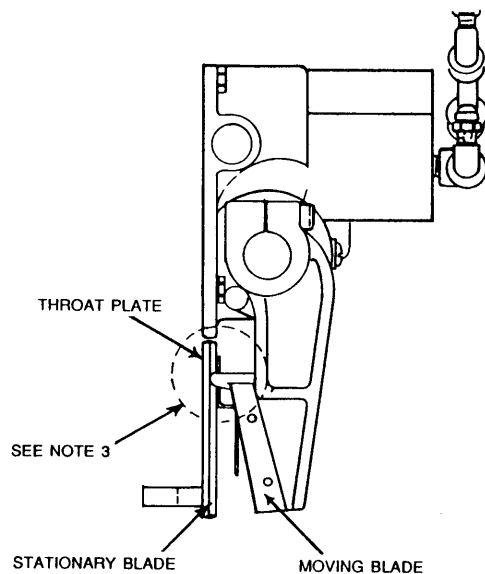
**NOTE:** Any time an adjustment or replacement is made to the clipper knives, feed dog or throat plate, Lock nut "A" must be loosened so set screw "B" can be turned clockwise until the stationary blade and the moving blade separate. (See Drawing 7)

To adjust the stationary blade, first remove the fence from the throat plate and loosen screw "C". Adjust the stationary blade so that it is parallel to the moving blade across the full surface of the blades. This will allow good shearing action. (See Drawing 7)

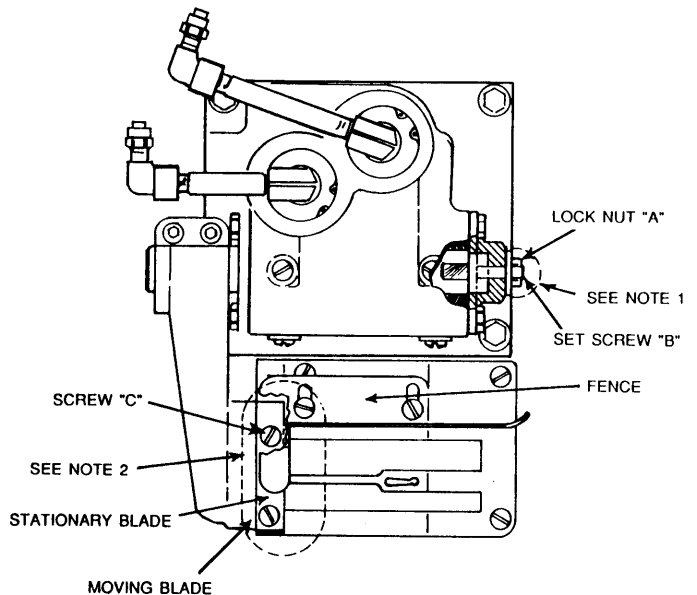
When the clipper air is on and the knife is at its highest point. The extension on the moving blade should be flush with the bottom of the stationary blade. (See Drawing 6)

After making any adjustment or replacement, be sure set screw "B" has been turned counter-clockwise until the stationary blade and the moving blade have made firm contact and lock nut "A" has been retightened. Set screw "B" is not intended for use during clipper operation.

**DRAWING 6**



**DRAWING 7**



## INSTALLING NEW BLADES

Before beginning work on the machine turn the machine off, disconnect the power source and remove the air.

1. Loosen locknut "A" and turn clockwise set-screw "B" to separate blades. (See Drawings 6 & 7)
2. Remove knife lever and change moving blade being sure the flat head screws tighten to below the blade surface.
3. Remove fence from throat plate and change the stationary blade. Make the stationary blade fasteners snug.
4. Turn set-screw "B" counterclockwise until it is not contacting the end of the knife shaft. The screw will feel loose or free in the threads.
5. Turn set-screw "B" clockwise until it touches the end of knife shaft. A slight resistance will be felt.
6. After the screw touches, turn clockwise an additional one turn.
7. With the clipper air on, install knife against the stationary blade. Align the moving blade extension with the bottom (backside) of the stationary blade. (See Drawing 6)
8. Tighten the knife lever bolts.
9. With the clipper air off, push knife lever to its closed position.
10. With screw "C" snug make the stationary blade parallel with the moving blade. Move the stationary blade side to side at screw "C".
11. Back-off set-screw "B" and tighten locknut "A". Set screw "B" should not contact knife shaft during clipper operation.
12. Tighten all screws and replace fence.
13. The tape clipper works best with a minimum 90 P.S.I.
14. A small amount of oil or grease on the moving blade extension is recommended.

## THE GAUGE

The Gauge is a necessary tool for adjusting model 91. The following should be used as a reference for your machine. The gauge (part #10230) has three important dimensions for three separate measurement functions.

The gauge thickness, 1/16", is used to check the height of the feed dog above the throat plate at the top of the stroke. The measurement is made with the presser foot on the machine and no thread or tape between the foot and the feed dog. The gauge should just fit between the plate and presser foot. If it does not fit the feed dog should be checked for wear and replaced if needed. If the feed dog is not worn then adjust to the 1/16" height. (See Drawing 9)

Standing the gauge on edge, check the height of the needle stroke. The needle height should be 1-1/8" (See Drawing 8). The throat plate must be on the machine for this check because the measurement is made from the throat plate to the bottom of the eye of the needle. This dimension is a very critical adjustment. Be sure the needle is in the chuck all the way. The cut away portion, 1/4" x 1-1/13", allows this check to be made when the feed dog is on the machine. The needle and feed dog will be at the top of the stroke at this point.

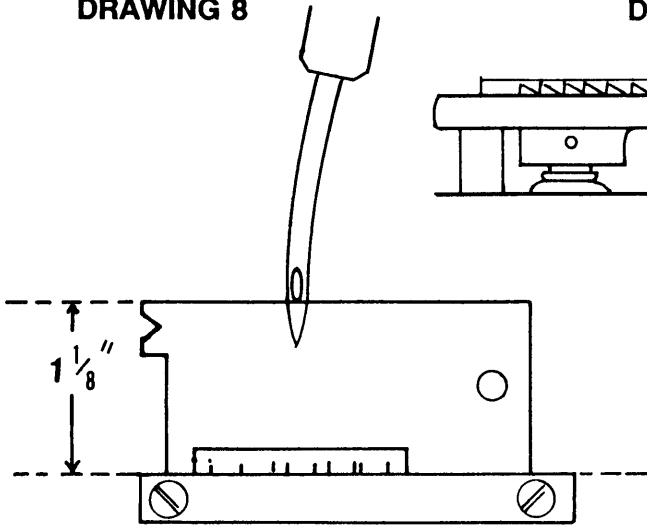
The third use of the gauge is to check the stroke or timing of the looper. (See Drawing 10) With the looper to the right of the needle as far as it will travel or with the looper retracted into the machine as far as it will go, measure from the center of the needle to the tip of the looper. The moving parts should be well oiled inside the machine at this point to reduce free travel or excessive movement of the looper. The small "V" in the gauge is now placed on the needle. The looper can be adjusted so the gauge clears the looper and that the looper is right up to the gauge.

#### Other Uses for the Gauge

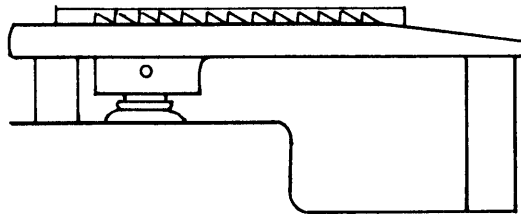
The gauge is exactly 3" long at the longest point. This can be used as a gauge to measure stitch length.

The gauge is also a good straight edge to check the rotation of the needle chuck. It should be parallel with the machine. To check, place it on the needle clamping screw. When held firmly on the screw, it should seek a straight line parallel with machine.

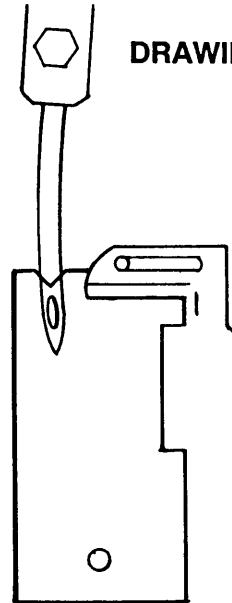
**DRAWING 8**



**DRAWING 9**



**DRAWING 10**



# MAINTENANCE

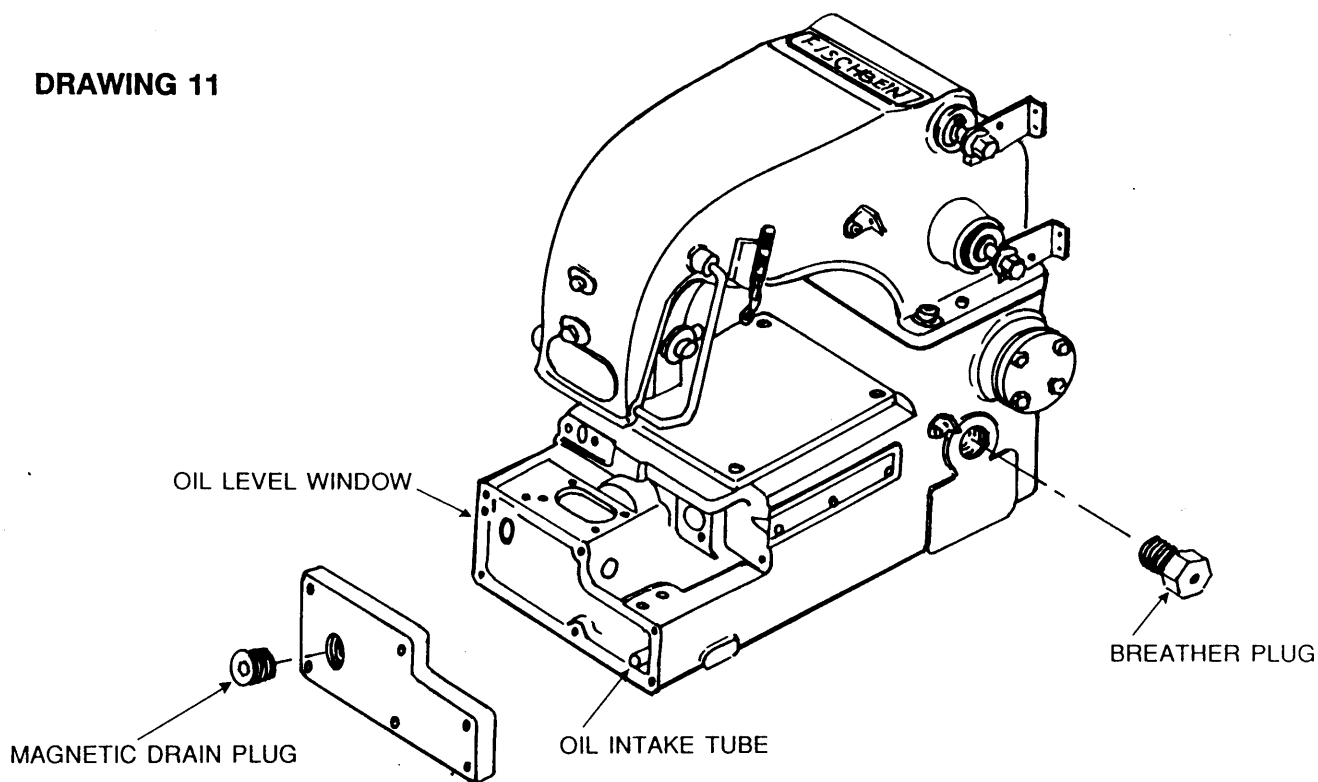
## OIL

Use the Special Lubricating Oil for all Model 91 sewing heads (Part # 10200). This has H2 approval by the U.S.D.A. It is available from FISCHBEIN authorized distributors. It has the lubricating specifications necessary for optimum performance. Other oils may have improper viscosity, lack U.S.D.A H2 approval and may contain additives which could cause seal damage. In addition, it is non-foaming and leaves no internal residue. In an emergency, a quality 20W motor oil may be used temporarily. 24-30 ounces of oil will fill the machine.

The model 91 has an external adjustable oil pressure relief valve. It controls the amount of pressure used to lubricate the machine. It is set at the factory and should never need adjusting. Normal range is from 20 to 40 pounds.

When adding or changing oil, remove the breather plug, located on the side of the machine. Pour oil directly into the breather plug hole until the oil reaches the "oil level" on the oil window. Then run the machine adding oil until oil level is maintained. **Never run the machine if the oil pressure gauge reads below 10 pounds P.S.I.** (See Drawing 11) Always use a clean funnel to keep foreign material out of the machine.

DRAWING 11



## **CHANGING THE OIL**

To drain oil, first be sure the machine is turned off and the power source is disconnected. Remove drain plug and allow oil to drain. Change oil every **3 months** or **500 hours** of operation whichever comes first. Dirty, dusty conditions may require more frequent changes.

At oil change intervals, remove breather plug and check for free passage of air. Replace the breather plug when necessary.

Oil filters should be changed annually or more often under dirty conditions.

When changing the oil, it is a good time to clean the magnet in the bottom cover. Dirt particles can accumulate here and it is important to get rid of them.

Also recommended is periodic oiling of the pressure foot hinge bolt and surfaces of the cutting knives.

## **SEALS**

All seals must be handled with extreme caution. Even a small amount of damage in handling or installation will permit leakage. When replacing a seal, lubricate both it and the shaft thoroughly with oil before assembling. Never install a dry seal over a dry shaft.

## **CLEANING**

Keeping the machine clean and free of excessive lint and dust is very important. The looper area, in particular, must always be kept clean. If permitted to accumulate lint for long periods of time, it can set up a wicking action which will absorb oil from the machine. Occasionally blow off or scrape such exposed parts as the Feed Dog, Throat Plate and Presser Foot.

# TROUBLE SHOOTING

## SYNCHRONIZATION

If the machine is not sewing correctly, be sure that it is synchronized with the conveyor belt. Synchronization means the proper relationship among the speeds of the conveyor, the infeed and the sewing head. When tape is being sewn on bags, sewing head, conveyor, and infeed synchronization is critical.

The most accurate method of checking synchronization is to use a tachometer which reads both the "feet per minute" and the "revolutions per minute". You can check directly the speeds of the conveyor belt and the infeed belt in feet per minute. Checking the tape reel as it turns will give feet per minute of the sewing head.

On a 91 head one complete revolution equals one stitch or twelve (12) revolutions equal twelve (12) stitches. The number of stitches in one foot times the conveyor speed equal the number of revolutions the machine must run.

### Conveyor Speed

The system is synchronized when the sewing head turns exactly the number of revolutions to match the speed of the conveyor belt. The conveyor belt usually runs at a fixed speed. The sewing head and the infeed must be adjusted to the conveyor.

### Infeed Speed

The infeed should run at the same speed as the conveyor or slightly faster. The infeed is adjusted by using a variable speed pulley on the infeed motor. The infeed should never hold the bag back from the sewing head.

### Sewing Head Speed Adjustment

A model 91 sewing head should run the same speed as the infeed and conveyor. Sewing thick bags may require slightly faster head speeds, but no more than 2-3 feet per minute faster than the conveyor and infeed. A variable speed pulley is used to adjust the sewing head speed by changing the diameter of the pulley. Up to approximately 10 feet per minute of adjustment in the synchronization with the conveyor is available.

When changing the diameter of the pulley, make sure the set screws are tightened on flat spots of the pulley threads. Adjustments are made at 1/4 turns.

Increasing the diameter of the sewing head pulley, slows the machine down; decreasing it speeds the machine up.

### Synchronization Variations

It is common and necessary to make adjustments to the synchronization of sewing heads and infeeds to conveyors.

Wear of the belts, pulleys and feed dog may require synchronization adjustments.

When a machine is cold, because of the slow starting and running of the sewing head, there can be synchronization differences. Run the machine steadily for a few minutes before closing any bags. In very cold environments see cold weather operation.

## Pneumatic Controls

The clutch brake on the sewing head motor and the tape cutting knife assembly are both pneumatically operated. Difficulties with the taping system mechanism can often be traced to the pneumatic system. Keep these rules in mind as you investigate;

The maximum clutch brake regulator is 50 p.s.i. Average 40 p.s.i. Higher pressure can cause overheating of motor and excessive wear to the clutch brake.

The minimum tape clipper regulator is 90 p.s.i. Higher pressure can improve cutting.

Clean dry air for long-term performance is recommended.

## Oil

Check oil daily. Do not allow machine to run low. If the oil pressure gauge needle does not remain above the 10 pounds P.S.I. while machine is running, stop immediately. Refer to the maintenance area of the manual.

Remove accumulations of lint and dirt from oiler area.

## SKIPPED STITCHES or BROKEN THREAD

Examine the needle. If it is bent, replace it.

Verify that the needle and looper are threaded properly. Tweezers are provided with your machine; use them to thread the back of the looper.

You may need to lubricate the thread. If your needle shows a build-up of glue, plastic or ink, or if the bobbin are treated with an anti-skid coating, you need to use Fischbein 5-102 thread lubricant. To buy, get the name from local Fischbein distributor.

Make sure there are no obstructions in the thread between the cone, the needle and looper.

Check for proper needle guard adjustments.

## LOOSE or TIGHT STITCHES

Check the needle with thread pull-off. If the stitch appears to be loose, cause the pull-off; if it looks too tight, lower the pull-off.

Check to see that all thread tensions are correct. Make sure that the looper tension and the



## **UNEVEN STITCHING**

Check the feed dog teeth. If they are worn and dull, replace the feed dog.

Check the presser foot spring pressure. It is pre-set at the factory at about 40 lbs.

Check that the height of the feed dog is set correctly.

Check the tension of the sewing head drive belt, and verify that the sewing head, power infeed, and conveyor are properly synchronized.

## **WEAR ON ESSENTIAL PARTS**

If the looper or throat plate has any wear or nicks, replace them.

If the ~~outside~~ rows of teeth on the feed dog look worn or dull replace the feed dog.

Monitor the looper and needle guard adjustments.

## **FREQUENT NEEDLE BREAKS**

Sewing too close to the contents of the bag can put undue stress and tension on the needle.

Is the operator pulling the bag through the machine, rather than allowing the bag to pass through at its own speed.

Make sure the needle is aligned in the presser foot slot in such a way that the needle does not rub on the presser foot.

Check the synchronization of sewing head to conveyor and infeed to sewing head.

Knives which are not cutting the thread cleanly between bags can cause needles to break. Adjust and/or replace the knives.

Make sure the needle guard is in place and adjusted properly.

## **TAPE SCUFFING**

If your tape is scuffing, you will want to check the tape real drag. If it is too tight, the tape will scuff.

Check the width of your tape and make sure it isn't too wide for the folder.

Check the alignment between the folder and the sewing head, or between the tape reel and the folder.

Make sure that your feed dog is not dull.

Check the synchronization of the sewing head, power infeed and conveyor.

Check the presser foot pressure.

If there is too much drag through folder, an application of paraffin (wax) can reduce drag.

Check if the folder is bent or damaged.

Check the adjustment of feed dog and presser foot.

Is the bottom of presser foot rough or sticky?

### **TAPE BINDING**

When there is binding between the reel holder and tape folder, check that the tape is on the tape reel holder correctly.

### **UNEVEN TAPING ON BAG**

If the taping on your bag is uneven, more than 1/8", the tape may be loaded incorrectly in the folder.

The tape may be too narrow for the folder.

The folder guides may need adjusting.

The tape reel and/or folder may be misaligned with the head.

The folder blades may need to be adjusted.

### **TAPE WRINKLING**

If the tape is wrinkling as it is applied to the bags, you first need to check the folder and make sure it is aligned with the sewing head. The system may need synchronizing.

A rough or sticky build-up on the bottom of the presser foot can cause the tape to "hang up" or wrinkle. Clean the presser foot or replace as necessary.

The tape fence guide maybe too far from the presser foot.

Application of paraffin (wax) can reduce wrinkling.

Adjustment of feed dog and presser foot may be needed.

## TAPE NOT TIGHT ACROSS TOP OF BAG

The sewing head, power infeed, and/or conveyor may not be in synchronization.

Check the alignment of the bag top trimming knives.

The folder may need adjusting.

The sewing head, folder, infeed and conveyor must be parallel.

**A 46 MINUTE SERVICE VIDEO IS AVAILABLE FROM YOUR FISCHBEIN DISTRIBUTOR TO FURTHER HELP SERVICING ALL STATIONARY FISCHBEIN MODELS.**

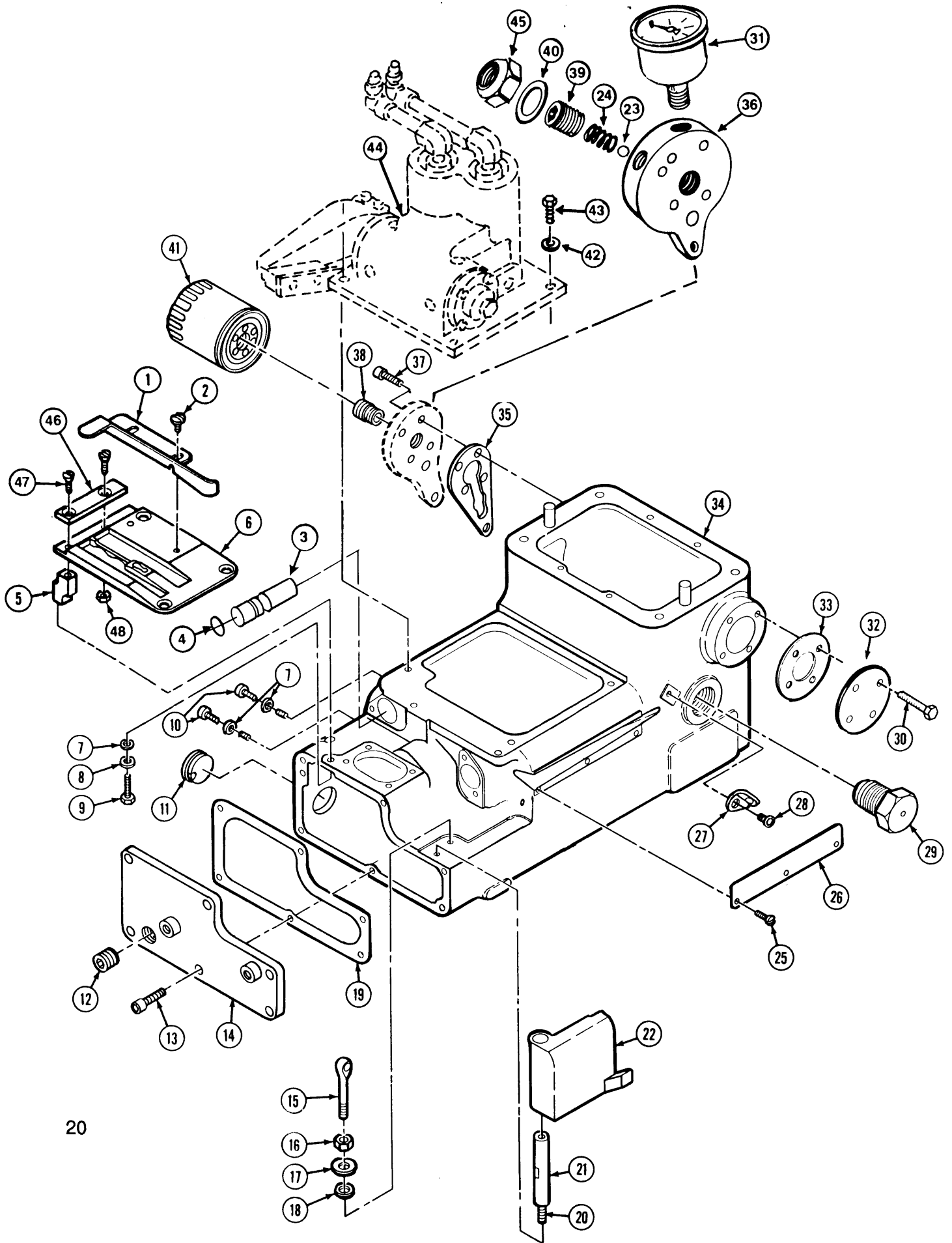
## SYNCHRONIZED SEWING HEAD OPERATING SPEED\* Stitch Length

CONVEYOR SPEED	2 ST/IN	2½ ST/IN	2¾ ST/IN	3 ST/IN	3.3 ST/IN	3½ ST/IN
30 FT/MN	720 RPM	900 RPM	990 RPM	1080 RPM	1200 RPM	1260 RPM
35 FT/MN	840 RPM	1050 RPM	1155 RPM	1260 RPM	1400 RPM	1420 RPM
40 FT/MN	960 RPM	1200 RPM	1320 RPM	1440 RPM	1600 RPM	1680 RPM
45 FT/MN	1080 RPM	1350 RPM	1485 RPM	1620 RPM	1782 RPM	1890 RPM
50 FT/MN	1200 RPM	1500 RPM	1650 RPM	1800 RPM	1980 RPM	2100 RPM
55 FT/MN	1320 RPM	1650 RPM	1815 RPM	1980 RPM	2178 RPM	—
60 FT/MN	1440 RPM	1800 RPM	1980 RPM	2160 RPM	—	—
65 FT/MN	1560 RPM	1950 RPM	2145 RPM	—	—	—
70 FT/MN	1880 RPM	2100 RPM	—	—	—	—
75 FT/MN	1800 RPM	—	—	—	—	—

These RPM are for a 1:1 ratio. Usually the proper speed for each machine will vary slightly.  
A Model 90 head should run the same speed as the conveyor or up to 5% faster.  
A Model 91 head should run approximately 10% faster than the conveyor.

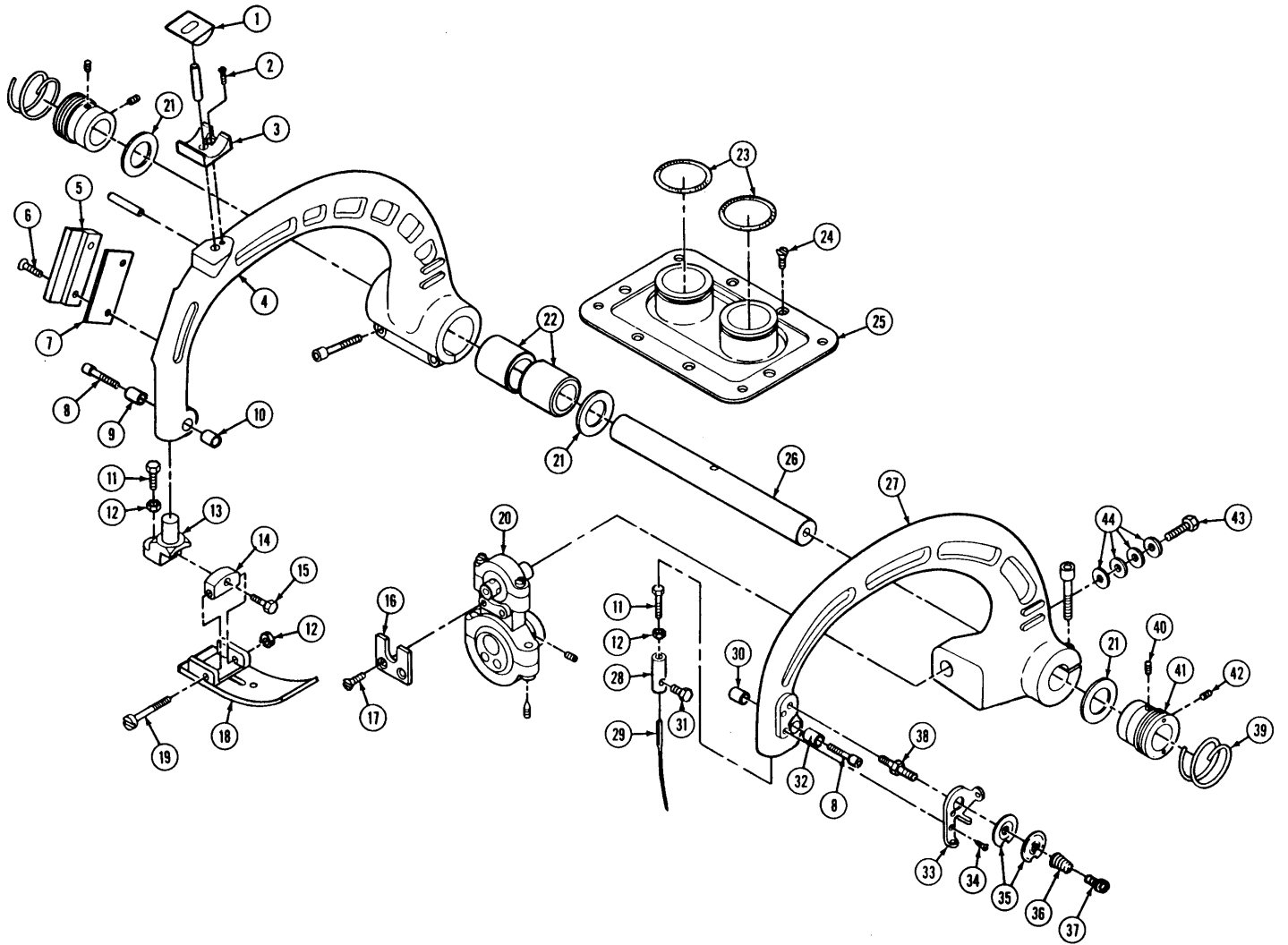
\* To calculate R.P.M.s, convert stitches per inch to stitches per foot and multiply by conveyor speed. To calculate stitch length, divide R.P.M.s by conveyor speed. To calculate conveyor speed, divide R.P.M.s by stitch length.

# FISCHBEIN



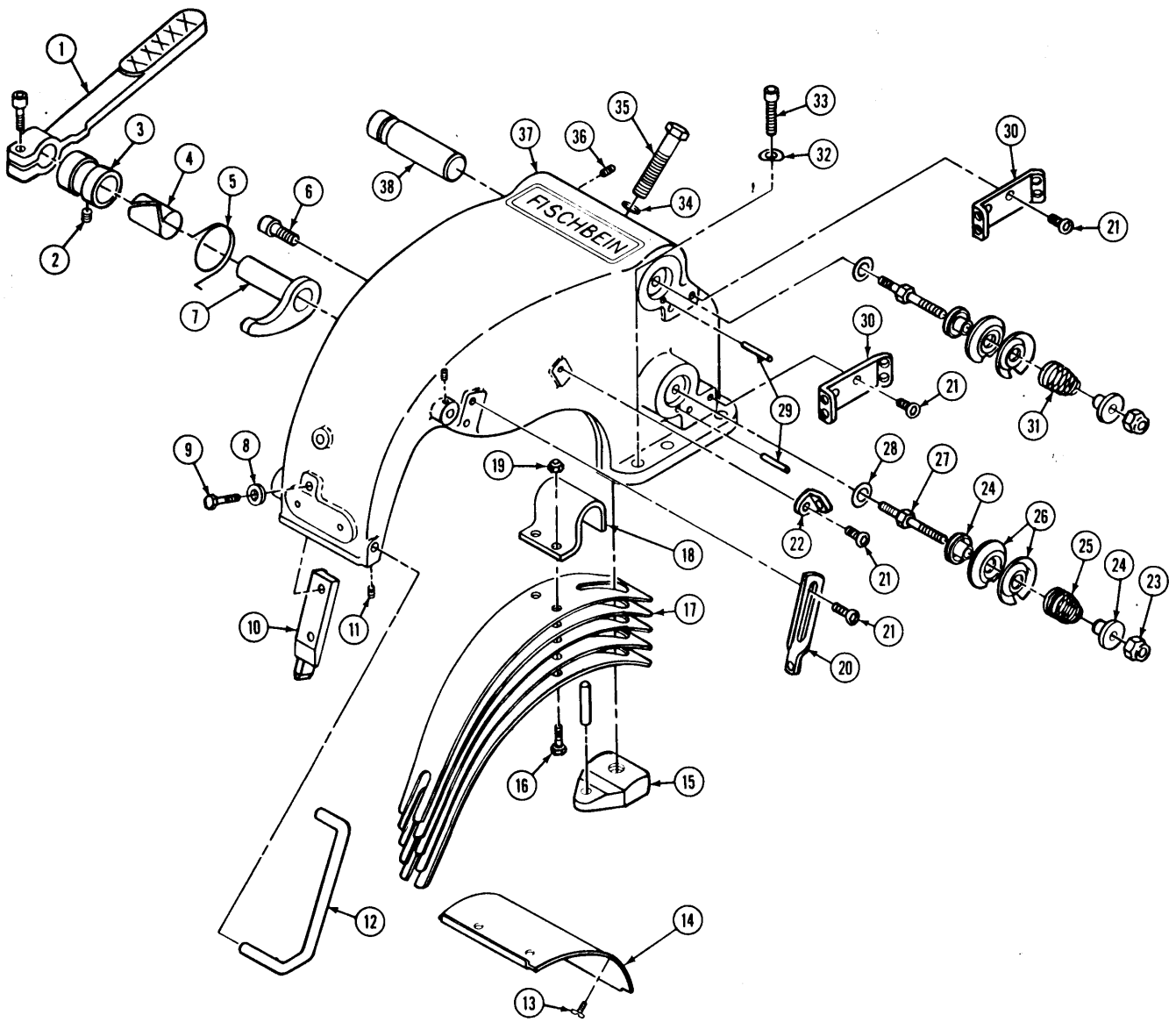
## MAIN HOUSING

<u>ITEM</u>	<u>QUAN.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	10449	FENCE
2	2	B103214	SCREW, BINDING HD #10-32 x 1/4
3	1	10442	PLUG
4	1	10441	O - RING
5	1	10434	POST, OFFSET
6	1	10485	PLATE, THROAT (1 7/8" - 2 1/2" TAPE)
7	3	WN8	WASHER, NYLON #8
8	1	WF10	WASHER, FLAT #10
9	1	H103212	SCREW, HEX HD #10-32 x 1/2
10	2	B103214	SCREW, BINDING HD #10-32 x 1/4
11	1	10112	WINDOW, OIL LEVEL
12	1	10111	PLUG, DRAIN - MAGNETIC
13	6	SC103258	SCREW, SOC. CAP #10-32 x 5/8
14	1	15072	COVER, BOTTOM
15	1	10170	PULL-OFF - LOOPER THREAD
16	1	NH1420	NUT, HEX #1/4 x 20
17	1	WF14	WASHER, FLAT #14
18	1	10052	WASHER - NYLON
19	1	10093	GASKET, COVER - BOTTOM
20	1	SS10321	SCREW SOC. SET #10-32 x 1
21	1	10016	POST, LONG - THROAT PLATE
22	1	10005	DOOR, LOOPER
23	1	15069	BALL, CHROME
24	1	15078	SPRING, PRESSURE
25	3	B632316	SCREW, BINDING HD #6-32 x 3/16
26	1	10098	COVER, GROOVE - THREAD
27	1	10164	EYELET, THREAD - SHORT
28	1	SB103212	SCREW, SOC. BUTTON #10-32 x 1/2
29	1	10116	ASS'Y, PLUG - BREATHER
30	4	H103212	SCREW, HEX HD #10-32 x 1/2
31	1	15053	GAUGE, OIL PRESSURE #60
32	1	15079	PLATE, COVER - SIDE
33	1	10094	GASKET, MAIN SHAFT SEAL
34	1	15002	HOUSING, MAIN
35	1	10095	GASKET, COVER - MANIFOLD
36	1	15056	MANIFOLD, FILTER
37	5	SC103234	SCREW, SOC. CAP #10-32 N.C. x 3/4
38	1	15062	NIPPLE, FILTER - OIL
39	1	15064	PLUG, ADJUSTING - MANIFOLD
40	1	15074	SEAL, NYLON
41	1	15054	CARTRIDGE, OIL - FILTER
42	4	10438	WASHER, COMPRESSION
43	4	H103258	SCREW, HEX HD #10-32 x 1/2
44	1	10401	ASS'Y, CLIPPER
45	1	11268	NUT, LOCK #3/8 - 24 NYLOCK
46	1	10446	KNIFE, BED
47	2	F83212	SCREW, FLAT HD #8-32 x 1/2
48	1	NH832	NUT, HEX #8-32



## NEEDLE & PRESSER FOOT LEVER ASSEMBLIES

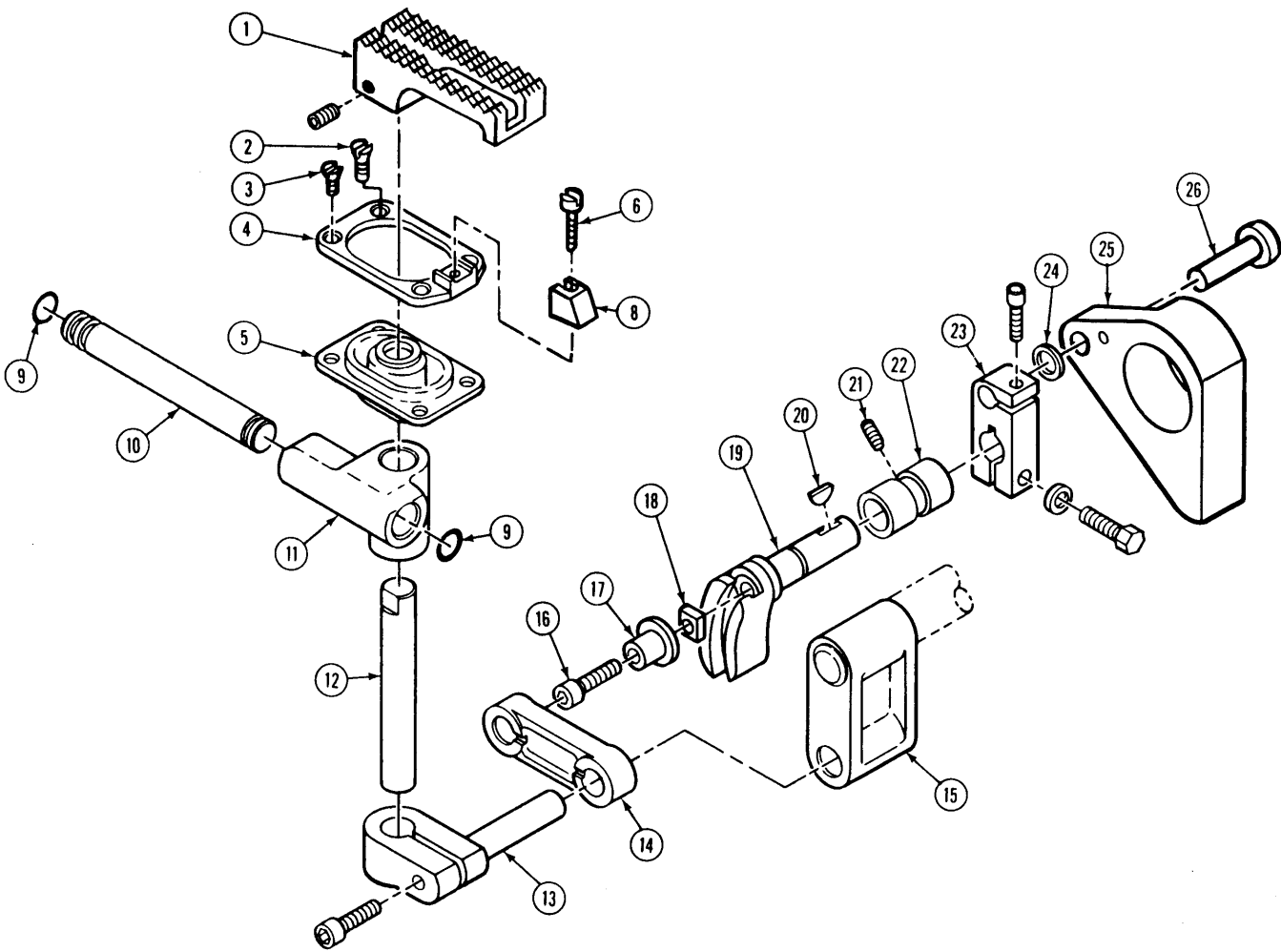
ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10190	PAD, SPRING - PRESSER FOOT
2	1	F63214	SCREW, FLAT HD #6-32 x 1/4
3	1	10189	CRADLE, PAD - PRESSER FOOT SPRING
4	1	10004	LEVER, PRESSER FOOT
	2	SC14201	SCREW, SOCKET HD CAP#14-20 x 1
	2	PS14112	PIN, ROLL
5	1	10163	CLAMP, BEARING - SHEET
6	2	F103258	SCREW, FLAT HD #10-32 x 5/8
7	1	10162	SHEET,BEARING-PRESS.FOOTLVR.GUIDE
8	2	SC63234	SCREW, SOCKET HD CAP #6-32 x 3/4
9	1	10213	PLUG, CLAMP-DRILLED (PRESS. FOOT)
10	1	10214	PLUG, CLAMP-TAPPED (PRESS. FOOT)
11	1	H103234	SCREW, HEX HD #10-32 x 3/4
12	3	NH1032	NUT
13	1	10155	SHANK,PRESS.FOOT(1 7/8"-2 1/2" TAPE)
	1	10498	SHANK,PRESS.FOOT(1 1/8"-1 3/4" TAPE)
14	1	10156	BLK.,HINGE-PRSS.FT.(1 7/8"-2 1/2") TAPE
	1	10497	BLK.,HINGE-PRSS.FT.(1 1/8"-1 3/4") TAPE
15	2	H103258	SCREW, HEX HD #10-32 x 5/8
16	1	10048	RETAINER, ROD - CONNECTING
17	2	F103238	SCREW, FLAT HD #10-32 x 3/8
18	1	10484	PRESSER FOOT (2" - 2 1/2" TAPE)
	1	10494	PRESSER FOOT (1 1/4"-1 3/4" TAPE)
	1	10562	PRESSER FOOT (1 7/8" TAPE)
19	1	10182	BOLT,HING'G-PRSS.FT.(1 7/8"-2 1/2") TAPE
	1	10499	BOLT,HING'G-PRSS.FT.(1 1/4"-1 3/4") TAPE
20	1	15018	ROD, CONNECTING - NEEDLE DRIVE
	1	SS142038CP	SCREW, SET - CONE POINT #14-20 x 3/8
	1	SS142014	SCREW, SET #14-20 x 1/4
21	3	T3129	WASHER, THRUST
22	2	10029	BUSHING, LEVER - PRESSER FOOT
23	2	10128	SPRING, GARTER - LEVER SEAL
24	4	F103238	SCREW, FLAT HD #10-32 x 3/8
25	1	10137	SEAL, LEVERS
26	1	10026	SHAFT, LEVERS
27	1	15073	LEVER, NEEDLE
	2	SC1420114	SCREW, SOCKET HD CAP #14-20 x 1 1/4
28	1	10031	CHUCK, NEEDLE
29	1	C100-S	NEEDLE
30	1	10212	PLUG, CLAMP-TAPPED (NEEDLE LEVER)
31	1	10011	SCREW, CLAMP NEEDLE
32	1	10211	PLUG, CLAMP-DRILLED(NEEDLE LEVER)
33	1	10166	GUIDE, THREAD-(NEEDLE LEVER)
34	2	F54038	SCREW, FLAT HD #5-40 x 3/8
35	2	10119	DISC, TENSION - SMALL
36	1	10009	SPRING, TENSION - (NEEDLE LEVER)
37	1	B103238	SCREW, BINDING HD #10-32 x 3/8
38	1	10113	STUD, TENSION - (NEEDLE LEVER)
39	2	10023	INSERT,THREAD-LEVERS SHAFT BUSHING
40	2	SS103238	SCREW, SET #10-32 x 3/8
41	2	10025	BUSHING, SHAFT LEVERS
42	2	SS1032316	SCREW, SET #10-32 x 3/16
43	1	H142812	SCREW, HEX HD #14-28 x 1/2
44	4	15076	WASHER, SPRING #1/4





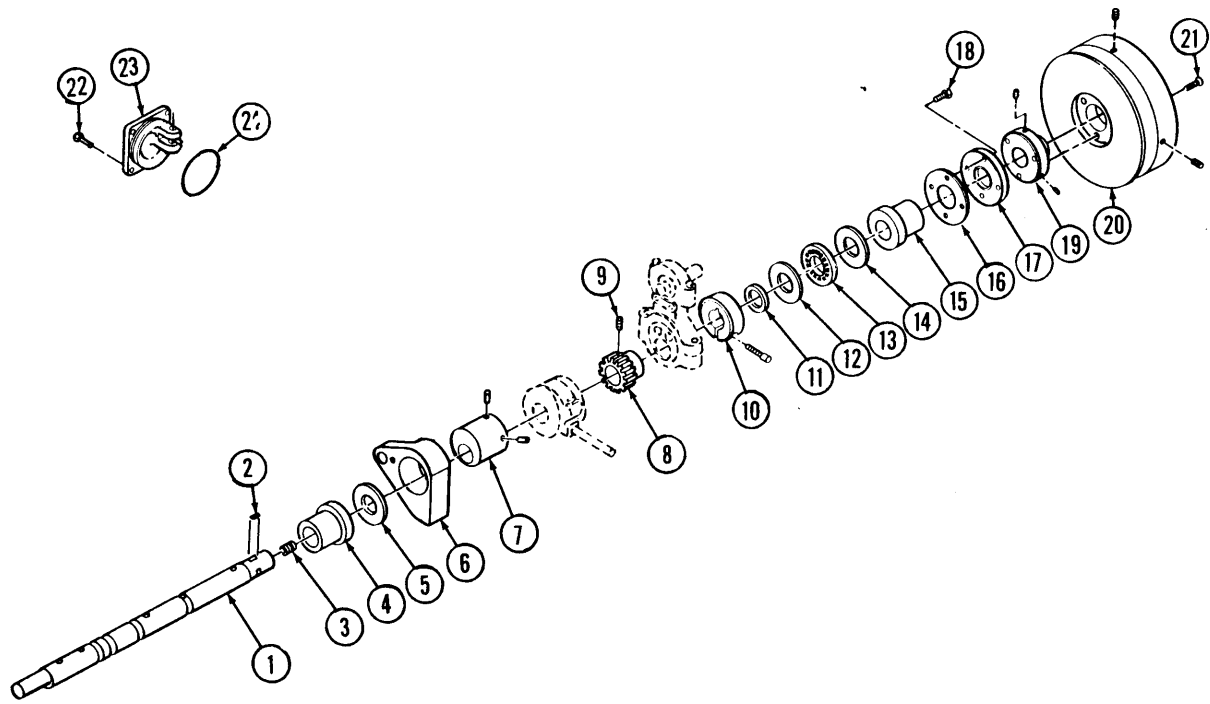
## LEVERS HOUSING ASSEMBLY

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10141	LEVER,LIFTER-PRESSURE FOOT
	1	SC142034	SCREW,SOC.CAP 1/4-20x3/4
2	1	SS142014	SCREW, SET #14-20x1/4
3	1	10139	BUSHING,LIFTER-PRESSER FOOT
4	1	10186	LINER,BUSHING-LIFTER LEVER
5	1	10187	SPRING, LIFTER LEVER
6	1	SC5161858	SCREW, STOP-LIFTER LEVER
7	1	10142	CAM,LIFTER-PRESSER FOOT
8	2	WS10	WASHER, SPRING #10
9	2	H103278	SCREW, HEX HD #10-32x7/8
10	1	10161	GUIDE, LEVER-PRESSER FOOT
11	2	SS1032516	SCREW, SET #10-32x5/16
12	1	10188	GUARD, TENSION-NEEDLE
13	2	B103238	SCREW, BINDING HD #10-32x3/8
14	1	10123	COVER, GUARD - LEVERS
15	1	10146	PLATE,PRESS. FT. SPRG.-TAPPED
	1	PS141	PIN, ROLL
16	2	H103234	SCREW, HEX HD #10-32x3/4
17	5	10145	SPRING, PRESSER FOOT
18	1	10144	CLAMP, SPRING-PRESSER FOOT
19	2	1-178	NUT, LOCK
20	1	10171	PULL-OFF, NEEDLE THREAD
21	7	SB103212	SCREW,SOC BUTTON 10-32x1/2
22	1	10164	EYELET, THREAD-SHORT
23	2	NH1428L	NUT,#14-28-LOCKING
24	4	10114	SLEEVE, TENSION
25	1	10008	SPRING, TENSION-LOOPER THREAD
26	4	10120	DISC, TENSION-LARGE
27	2	10115	STUD, TENSION
28	2	11120	WASHER, LOCK
29	2	PS18114	PIN,RETAINING-TENSION DISC
30	2	10165	EYELET, THREAD-LONG
31	1	10007	SPRING, TENSION-NEEDLE THREAD
32	4	10234	WASHER, SPRING
33	4	SC516181	SCREW, SOC.CAP #516-18x1
34	1	WF38	WASHER
35	1	H3824134	SCREW, ADJ.#38-24x1 3/4
36	1	SS142038	SCREW, SET #14-20x3/8
37	1	10002	HOUSING, LEVERS
38	1	10143	SHAFT, SPRING-PRESSER FOOT



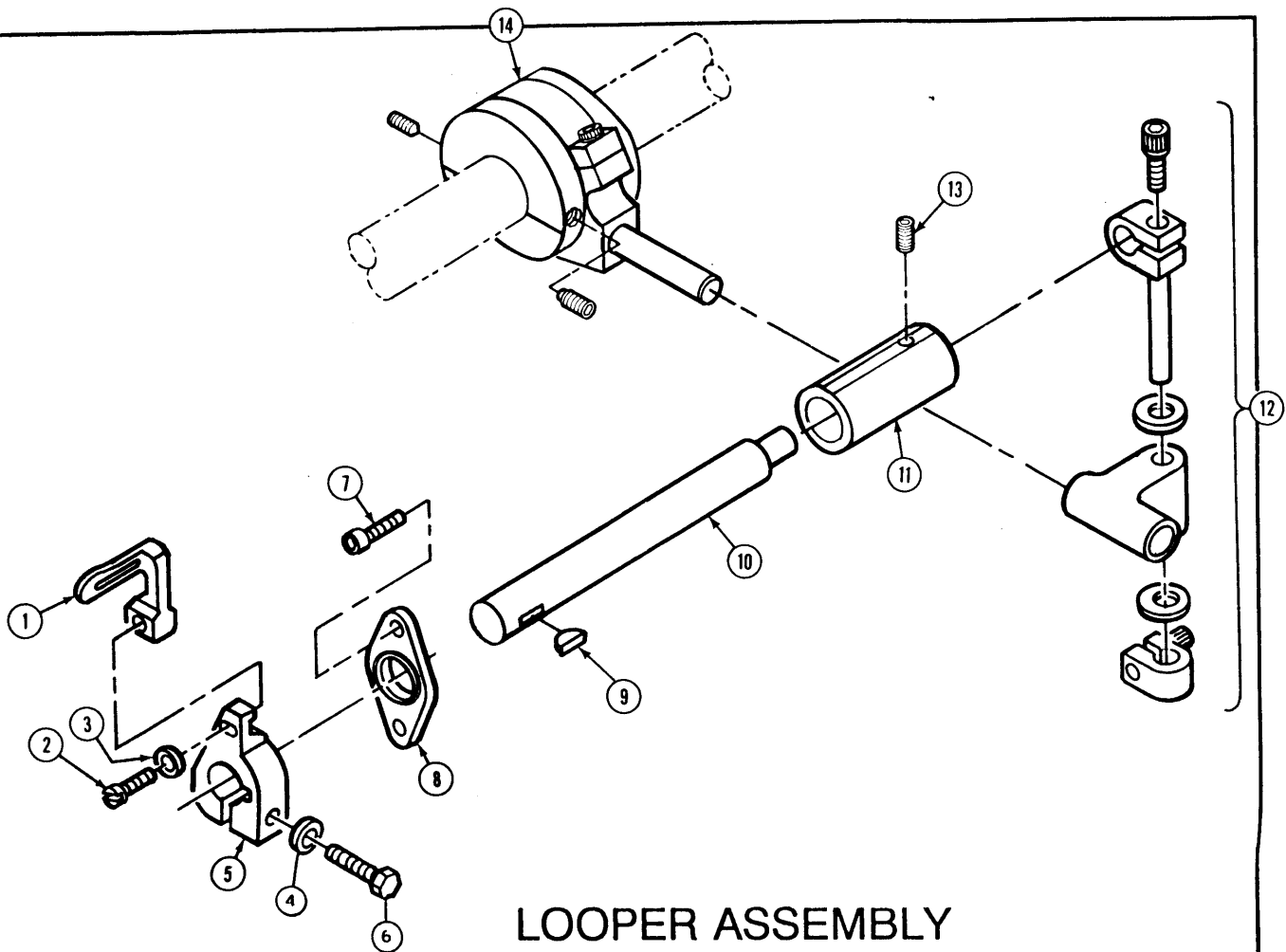
## FEED ASSEMBLY

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10486	DOG, FEED (2" - 2 1/2" TAPE)
	1	10496	DOG, FEED (1 1/4" - 1 3/4" TAPE)
	1	10565	DOG, FEED (1 7/8" TAPE)
	1	SS1032516	SCREW, SET #10-32 x 5/16
2	1	F103238	SCREW, FLAT HD #10-32 x 3/8
3	3	F103212	SCREW, FLAT HD #10-32 x 1/2
4	1	10177	HOLDER, GUARD - NEEDLE
5	1	10077	SEAL, DOG - FEED
6	1	P54034	SCREW, PAN HD #5-40 x 9/16
7	1	10174	GUARD, NEEDLE
8	2	10075	RING, "O"
9	1	10074	ROD, SLIDE - FEED
10	1	10073	SLIDE, FEED
11	1	10072	ROD, CARRIER - FEED DOG
12	1	10070	CLAMP, ROD - FEED DOG CARRIER
13	1	SC142078	SCREW, SOCKET HD
	1	10069	LINK, STROKE - FEED
14	1	10071	LINK, LIFT - FEED
15	1	SC142878	SCREW, SOCKET HD CAP #14-28 x 7/8
16	1	10068	PIVOT, ADJUSTING - FEED STROKE
17	1	10067	NUT, PIVOT - FEED STROKE ADJUSTING
18	1	10066	LEVER, SLOTTED - FEED ROCKER
19	1	T3192	KEY
20	1	SS1032516	SCREW, SET #10-32 x 5/16
21	1	10109	BUSHING, SHAFT - FEED ROCKER
22	1	10063	LEVER, PIN - FEED ROCKER
23	1	SC54012	SCREW, SOCKET HD CAP
	1	H103258	SCREW, HEX HD #10-32 x 5/8
	1	WF10	WASHER, FLAT #10
24	1	10215	WASHER, THRUST
25	1	15070	ROD,CONNECTING-PRIMARY FEED STROKE
25	1	10064	PIN, ROD-FEED STROKE CONNECTING



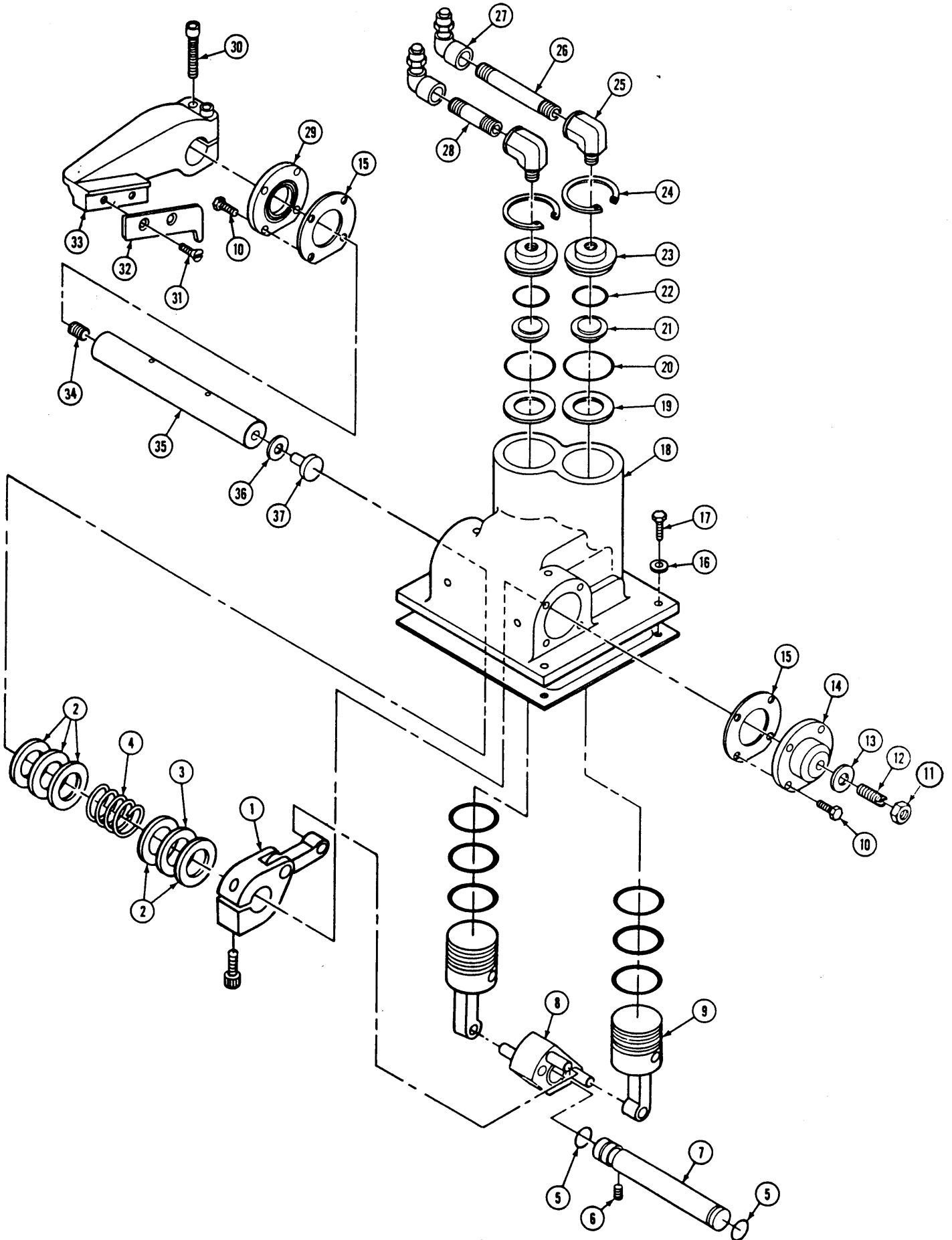
## MAIN SHAFT & KNIFE ASSEMBLY

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10045	SHAFT, MAIN
2	1	T3192	KEY
3	1	10125	PLUG, PIPE - MAINSHAFT
4	1	15042	BUSHING, MAIN SHAFT - NEEDLE END
5	3	T3129	WASHER, THRUST
6	1	15070	ROD,CONNECT'G-PRIMARY FEED STROKE
7	1	10061	ECCENTRIC, STROKE - FEED
	1	SS142038	SCREW, SET #14-20 x 3/8
	1	SS142038CP	SCREW,SET-CONE POINT#14-20x3/8
8	1	15016	GEAR, DRIVE - PUMP
9	1	SS832316CP	SCREW,SET-CONE POINT #8-32 x 3/16
	1	SS832316	SCREW, SET #8-32 x 3/16
10	1	15043	COLLAR, LOCK - MAIN SHAFT
	1	SC142858	SCREW,SOCKET HD CAP #14-28x5/8
11	1	15032	"O"- RING
12	1	P4024	BEARING, THRUST
13	1	15041	BUSHING, MAIN SHAFT - DRIVE END
14	1	10094	GASKET, MAIN SHAFT SEAL
15	1	10035	ASSEMBLY, SEAL - MAIN SHAFT
16	1	10038	HUB, PULLEY
	2	SS142038	SCREW, SET #14-20 x 3/8
17	1	10199	PULLEY, ADJUSTABLE
	2	SS142038	SCREW, SET #14-20 x 3/8
18	3	F103258	SCREW, FLAT HD #10-32 x 5/8
19	4	H103212	SCREW, HEX HD #10-32 x 1/2
20	1	10085	BRACKET, PIVOT KNIFE
21	1	10084	RING, "O"
22	4	SC103212	SCREW, SOCKET HD CAP #10-32 x 1/2



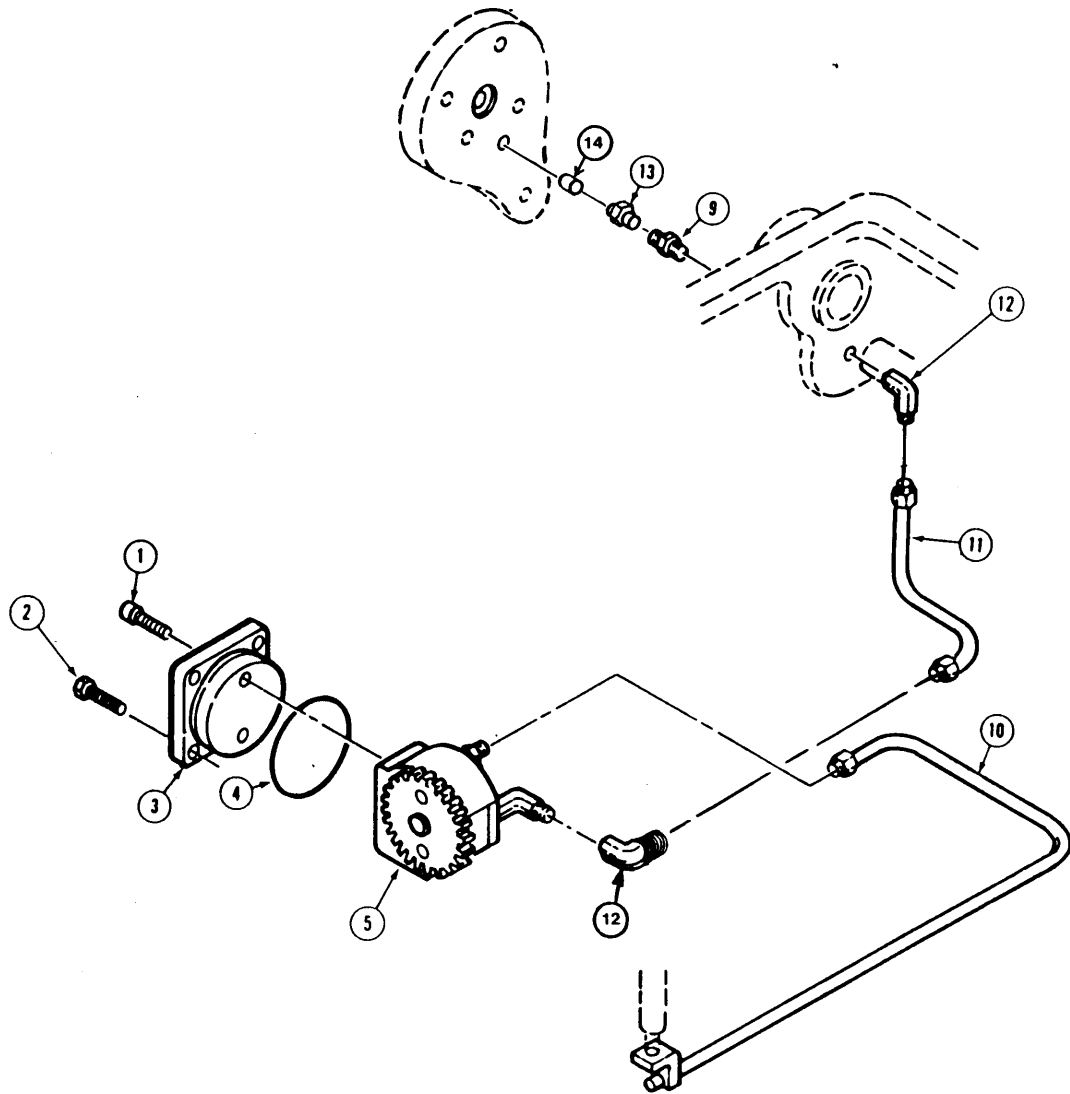
## LOOPER ASSEMBLY

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10060	LOOPER (TWO THREAD)
	1	10208	LOOPER (ONE THREAD)
2	1	P540916	SCREW, PAN HD.#5-40X9/16
3	1	WF5	WASHER #5
4	1	WF10	WASHER, FLAT #10
5	1	10159	HOLDER, LOOPER
6	1	H103234	SCREW,HEX #10-32x3/4 GRADE 5
7	2	H103212	SCREW,HEX HD#10-32x1/2
8			
9	1	T3192	KEY
10	1	10055	SHAFT, LOOPER
11	1	10056	BUSHING, SHAFT - LOOPER
12	1	10173	ASS'Y, PIVOT - LOOPER
	2	15066	THRUST WASHER
	1	15065	CLAMP
	1	15039	PIN, PIVOT - LOOPER
	1	10153	KNUCKLE, PIVOT - LOOPER
	1	H103258	SCREW,HEX HD#10-32x5/8
13	1	SS1032516	SCREW, SET #10-32x5/16
	1	WF10	WASHER, FLAT #10
14	1	10150	ASS'Y CAM - LOOPER
	1	SS103258CPL	SCREW,SET-CONE PT.#10-32x5/8
	1	SS103212L	SCREW,SET#10-32x1/2-NYLOC



# TAPE CLIPPER

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	10447	ASS'Y., LEVER CUTTER
	1	SC14201	SCREW,SOC.CAP#1/4-20 x 1 LOCK'G
2	5	T3129	WASHER, THRUST
3	1	P4024	BEARING, THRUST
4	1	10424	SPRING, COMPRESSION
5	2	10420	RING, "O" - CRANKSHAFT
6	1	SS1032316	SCREW, SET
7	1	10419	CRANKSHAFT
8	2	10404	ASSEMBLY, CRANK
9	2	10458	ASS'Y., PISTON - TAPE CLIPPER
	4	10398	RING, BACKUP
	2	10399	U-CUP
10	8	SB103214	SCREW, SOC. BUTTON #10-32 X 1/2
11	1	NH1428	NUT, HEX
12	1	10440	SCREW, ADJUSTING
13	1	10052	WASHER, NYLON
14	1	10430	PLATE, COVER
15	2	10429	GASKET
REF.	1	10092	GASKET, COVER - TOP
16	4	10438	WASHER, COMPRESSION
17	4	H103258	SCREW, HEX HD
18	1	10405	HOUSING, CUTTER
19	2	10406	WASHER, HEAD CYLINDER
20	2	10409	RING, "O" - CYLINDER HEAD
21	2	10407	PLATE, BUMPER
22	2	10408	RING, BUMPER
23	2	10410	HEAD, CYLINDER
24	2	10411	RING, SNAP
25	2	P4957	ELBOW, STREET
26	1	P4944	NIPPLE, LONG
27	2	P4962	ELBOW, FEMALE
28	1	P4943	NIPPLE, LONG
29	1	10403	ASSEMBLY, SEAL - SHAFT
30	2	SC1420114	SCREW, SOCKET CAP
31	2	F103212	SCREW, FLAT HD
32	1	10443	KNIFE, MOVING
33	1	10432	LEVER, KNIFE
34	1	10125	PLUG, PIPE - MAINSHAFT
35	1	10426	SHAFT, KNIFE
36	1	10428	WASHER, THRUST
37	1	10427	SHAFT, THRUST



## OIL PUMP ASSEMBLY

ITEM	QUAN.	PART NO.	DESCRIPTION
1	2	SC103234	SCREW,SOC.CAP #10-32x3/4
2	4	H103212	SCREW, HEX HD #10-32x1/2
3	1	15015	MOUNT PUMP
4	1	10084	RING "O"
5	1	15003	ASSEMBLY GEAR-PUMP
	1	15087	FITTING, ELBOW
	1	15059	FITTING, PIPE STRAIGHT
6	2	15059	FITTING, PIPE STRAIGHT
7	1	15050	OIL LINE, SUPPLY
8	1	15093	OIL LINE, PRESSURE
9	2	15092	FITTING, COMPRESSION ELBOW
10	1	15088	TUBING, COPPER
11	1	A1882	BUSHING, NEOPRENE



OPERATING INSTRUCTIONS  
FISCHBEIN SEWING PEDESTALS

1.) VERTICAL ADJUSTMENT OF SEWING HEAD:

RELEASE COLUMN LOCK "A" AND ROTATE CRANK "B" TO MOVE SEWING HEAD TO DESIRED HEIGHT ABOVE CONVEYOR BELT.

2.) HORIZONTAL ADJUSTMENT OF SEWING HEAD:

CENTERING THE SEWING HEAD IS EASILY DONE BY LOOSENING SCREW "C" AND SLIDING THE COMPLETE SEWING ASSEMBLY IN THE COLUMN CAP IN OR OUT AS NECESSARY.

3.) BELT TIGHTENING:

TO TIGHTEN THE SEWING HEAD DRIVE BELT, MERELY LOOSEN HANDLE "D" AND PUSH MOTOR AWAY FROM SEWING HEAD. MAINTAIN PRESSURE ON MOTOR WHILE RE-TIGHTENING HANDLE.

4.) ACCESS TO LOOPER:

LOOSEN HANDLE "D" AND PULL MOTOR TOWARD SEWING HEAD TO COMPLETELY LOOSEN DRIVE BELT. ROTATE HANDLE "E" AND PULL IT OUT AS FAR AS IT WILL GO. NOW SEWING HEAD MAY BE PIVOTED ASIDE FOR ACCESS TO LOOPER DOOR OR LIFTED COMPLETELY OFF THE TWO HINGE PINS FOR REPLACEMENT.

5.) DOLLY BASE:

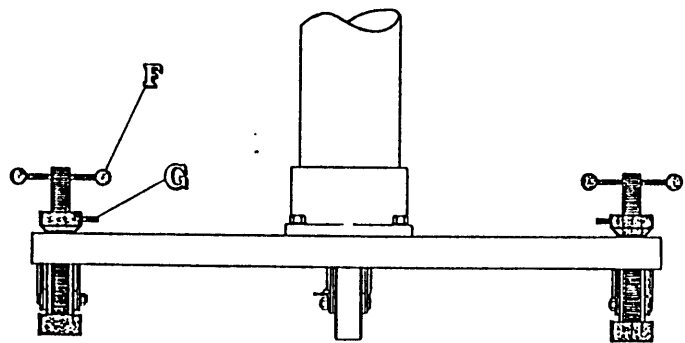
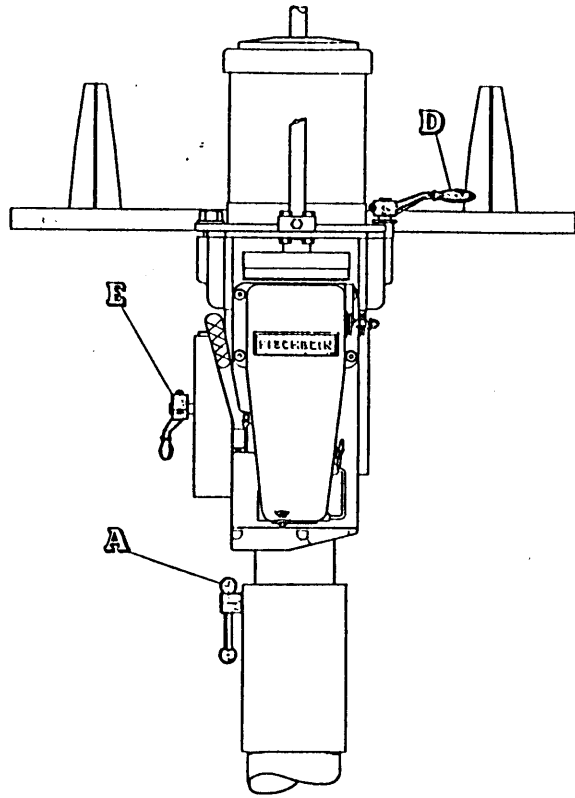
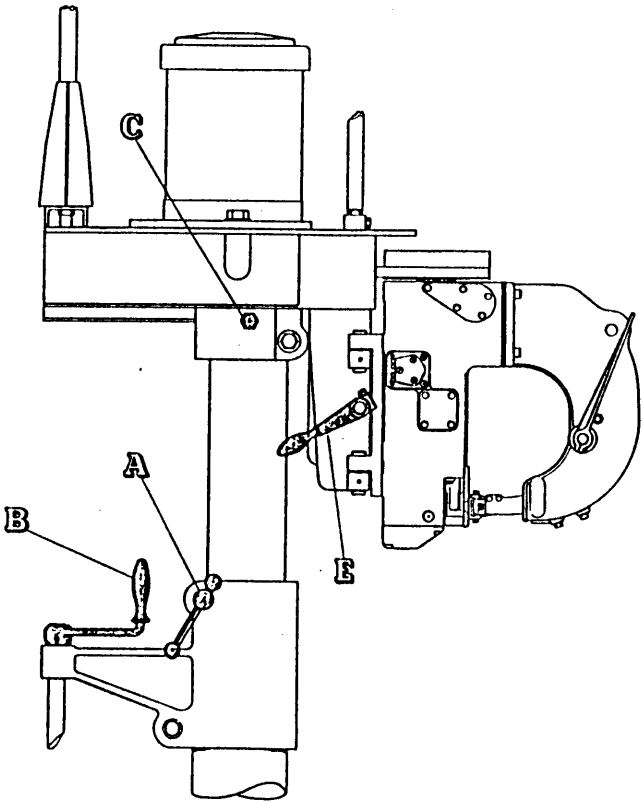
AFTER PEDESTAL IS PROPERLY LOCATED SO THAT THE SEWING HEAD IS CENTERED OVER CONVEYOR BELT. TURN THE TWO JACKS "F" SO THAT THE TWO REAR WHEELS ARE RAISED VERY SLIGHTLY OFF THE FLOOR. LOCK JACKS WITH HAND NUTS "G".

6.) POWER BAG TOP FEED:

MODELS EQUIPPED WITH THIS ASSEMBLY REQUIRE ONLY THAT THE BAG GUSSETS ARE RE-FORMED BEFORE THE BAG TOP ENTERS IT. STARTING THE SEWING HEAD, CUTTING OFF THE CHAIN OF THREAD AT THE END, AND STOPPING THE SEWING HEAD ARE ALL PERFORMED AUTOMATICALLY.

7.) SYNCHRONIZATION:

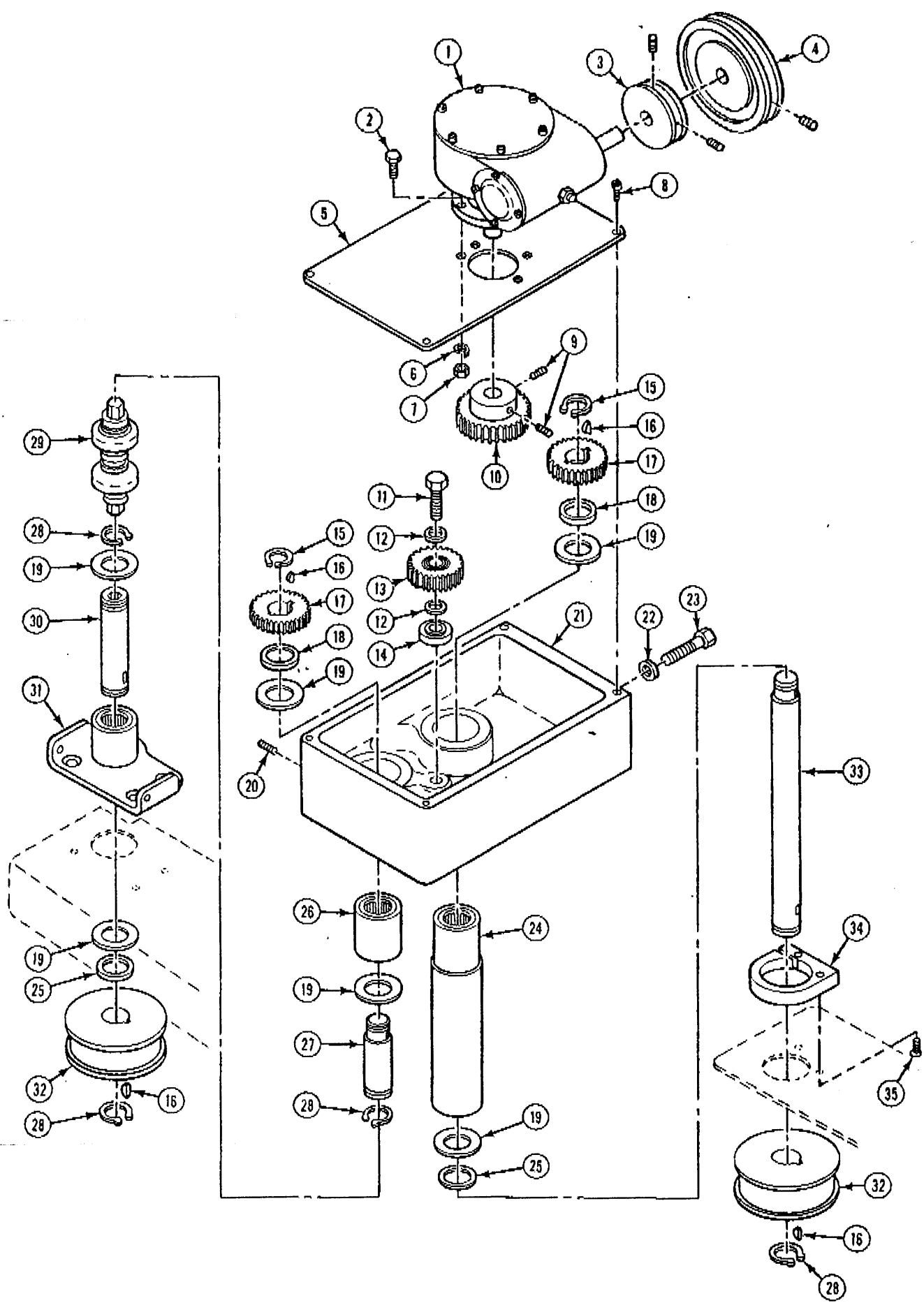
THIS IS CORRECTLY ADJUSTED ON ALL CONVEYOR MODELS AS SHIPPED FROM THE FACTORY. SEWING HEADS ORDERED SEPARATELY OR ON PEDESTAL MODELS FOR EXISTING CONVEYORS ARE EQUIPPED WITH A VARIABLE SPEED PULLEY SO THAT THEIR SPEED CAN BE SYNCHRONIZED WITH THE CONVEYOR. A VARIABLE PULLEY IS ALSO FURNISHED ON POWER BAG TOP IN-FEED ASSEMBLIES.



Model 2700 Super

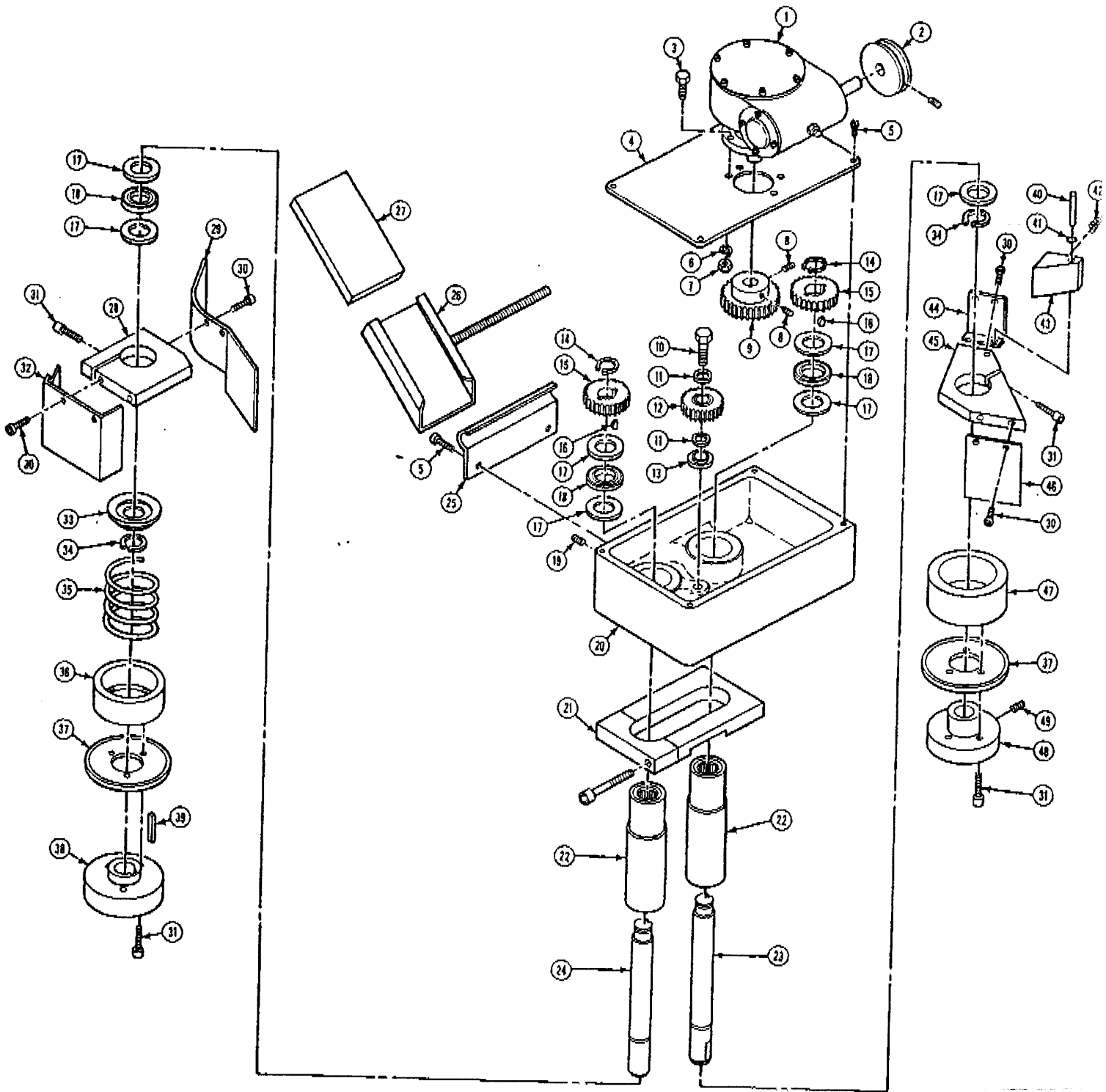
# REAR DRIVE - SERIES 400T

ITEM	QUAN.	PART NO.	DESCRIPTION
1	2	B-4273	BOX, GEAR
2	4	H103258	SCREW, HEX HD. - # 10-32 N.F. X 5/8"
3	1	P-2645	PULLEY (SCREW SOC. SET SS1032516)
4	1	P-2654	PULLEY (SCREW SOC. SET SS1032516)
5	2	A-2833	COVER, DRIVE
6	4	WL10	WASHER, SPRING - # 10
7	4	NH1032	NUT, JAM - # 10-32 N.F.
8	10	B103238	SCREW, BINDING - HD. # 10-32 N.F. X 3/8"
9	2	SS142038	SCREW, SOC. SET - 1/4 - 20 N.C. X 3/8"
10	2	A-4222	GEAR, DRIVE
11	2	H3816114	SCREW, HEX HD. 3/8" - 16 N.C. X 1 1/4"
12	8	75931	WASHER, IDLER
13	2	A-4298	ASSY., GEAR - IDLER
14	6	A-2811	SPACER STEP
15	2	V-254	RING, SNAP (5100-62)
16	7	T-3192	KEY, WOODRUFF (# 213)
17	4	T-3155	GEAR, DRIVEN (BOSTON 6A30)
18	2	A-4212	SPACER, GEAR
19	13	T-3129	WASHER
20	4	SS103258	SCREW, SOC. SET # 10-32 N.F. X 5/8"
21	2	C-2685	HOUSING, DRIVE
22	11	WS38	WASHER, SPRING - 3/8"
23	5	H38161	SCREW, HEX HD. - 3/8" - 16 N.C. X 1"
24	1	A-2804	ASSY., DRIVE SHAFT TUBE W/BEARING
25	2	A-4213	SPACER, PULLEY
26	1	A-4353	ASSY., TUBE W/BEARING - UPPER
27	1	A-4288	SHAFT, DRIVE - UPPER
28	8	T-3167	RING, SNAP (5100-75)
29	1	A-4269	JOINT, DOUBLE UNIVERSAL
30	1	A-4291	SHAFT, DRIVE - LOWER
31	REF.	A-2873	ASSY., PIVOT W/BEARING - LOWER REAR
32	2	A-2703	PULLEY, DRIVE
33	1	A-4285	SHAFT, DRIVE - BELT
34	3	A-2612	COLLAR, GUARD
35	2	F103212	SCREW, FLAT HD. # 10-32 N.F. X 1/2"



# FRONT DRIVE AND CUTTER—SERIES 400T

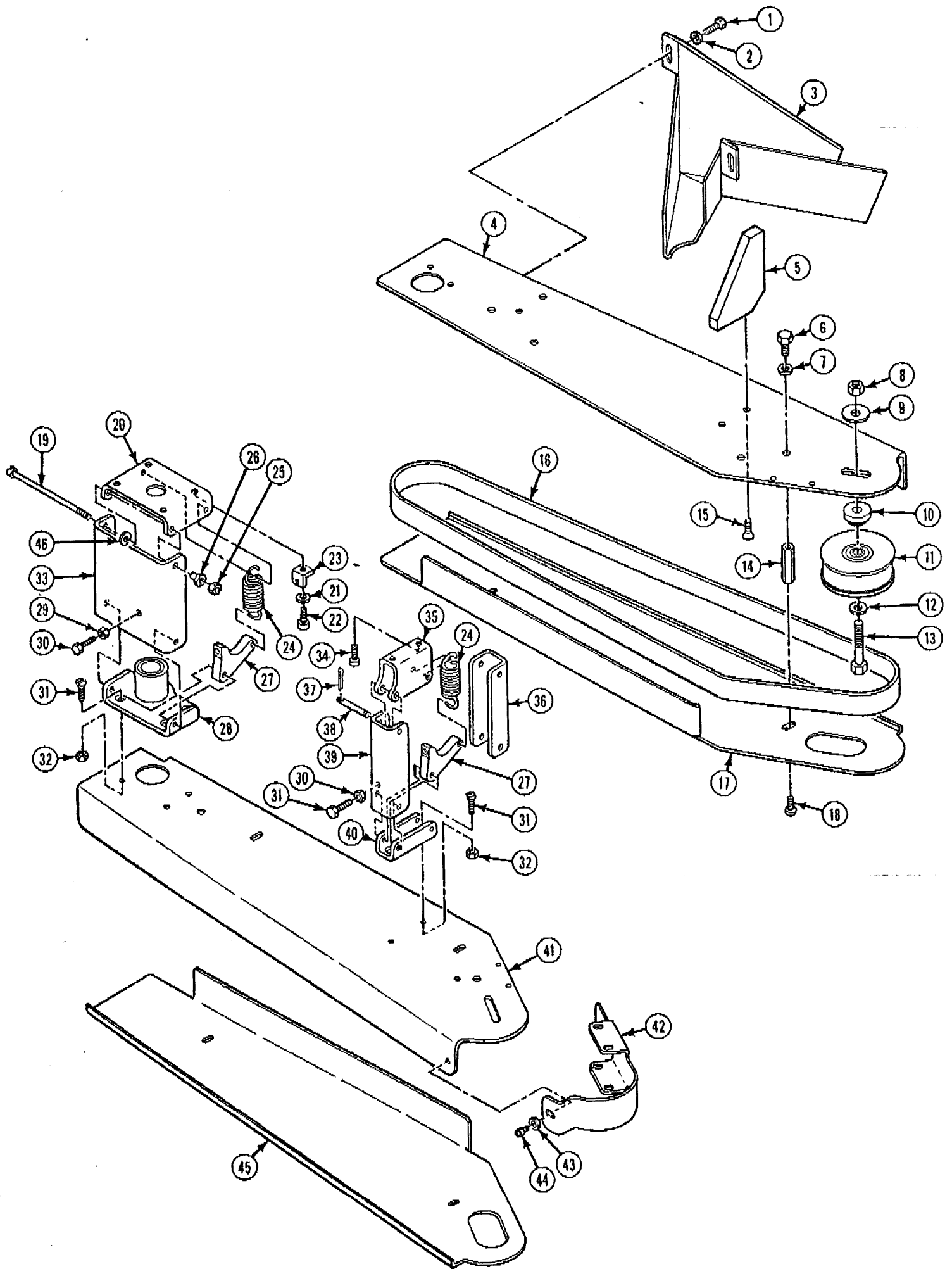
ITEM	QUAN.	PART NO.	DESCRIPTION
1	2	B-4273	BOX, GEAR
2	2	P-2645	PULLEY (SCREW SOC. SET SS 1032516)
3	4	H103258	SCREW, HEX HD. # 10-32 N.F. X 5/8"
4	2	A-2633	COVER, DRIVE
5	10	B103238	SCREW, BINDING—HD. # 10-32 N.F. X 3/8"
6	4	WL10	WASHER, SPRING—# 10
7	4	NH1032	NUT, JAM—# 10-32 N.F.
8	2	SS142038	SCREW, SOC. SET—1/4"—20 N.C. X 3/8"
9	2	A4222	GEAR, DRIVE
10	2	H3818114	SCREW, HEX HD. 3/8"—16 N.C. X 1 1/4"
11	8	75931	WASHER, IDLER
12	2	A-4298	ASSY., GEAR—IDLER
13	8	A-2611	SPACER, STEP
14	1	V-2542	RING, SNAP (5100-82)
15	4	T-3155	GEAR, DRIVEN (BOSTON GA30)
16	7	T-3192	KEY, WOODRUFF (# 213)
17	13	T-3129	WASHER
18	3	P-4024	BEARING, THRUST
19	4	SS103258	SCREW, SOC. SET # 10-32 N.F. X 5/8"
20	2	C-2605	HOUSING, DRIVE
21	1	B-2664	SUB—ASSY., RETAINER PLATES—DRIVE TUBES
22	2	A-2603	ASSY., KNIFE DRIVE TUBE W/BEARING
23	1	A-2609	SHAFT, KNIFE—RIGHT
24	1	A-2610	SHAFT, KNIFE—LEFT
25	1	A-2737	GUIDE, TAPE
26	1	A-2740	WELDMENT, SLIDE—TAPE WAXER
27	1	P-2741	WAX
28	1	A-2762	COLLAR, GUARD—LEFT
29	1	A-2763	GUARD, KNIFE—LEFT
30	8	SB83238	SCREW, SOC. BTN, HD. # 8-32 N.C. X 3/8
31	8	SC103278	SCREW, SOC. CAP—# 10-32 N.F. X 7/8
32	1	A-2765	GUARD, KNIFE—LEFT (SQUARED)
33	1	A-2629	SEAT, SPRING
34	6	T-3167	RING, SNAP (5100-75)
35	1	A-2630	SPRING, KNIFE
36	1	A-2764	PULLEY, FEED—LEFT
37	2	A-2628	KNIFE
38	1	A-2761	HUB, KNIFE—LEFT
39	1	A-2772	KEY
40	1	PO3162	PIN, DOWEL—3/16X2
41	2	11828	RING, "O"
42	2	A-2774	SPRING, BLOCK
43	1	A-2759	BLOCK
44	1	A-2780	BRACKET
45	1	A-2758	COLLAR, GUARD—RIGHT
46	1	A-2757	GUARD, KNIFE—RIGHT
47	1	A-2758	PULLEY, FEED—RIGHT
48	1	A-2755	HUB, KNIFE—RIGHT
49	1	SS142012	SCREW, SOC. SET.—1/4-20 N.C. X 1/2



# INFEED SECTION - SERIES 400T

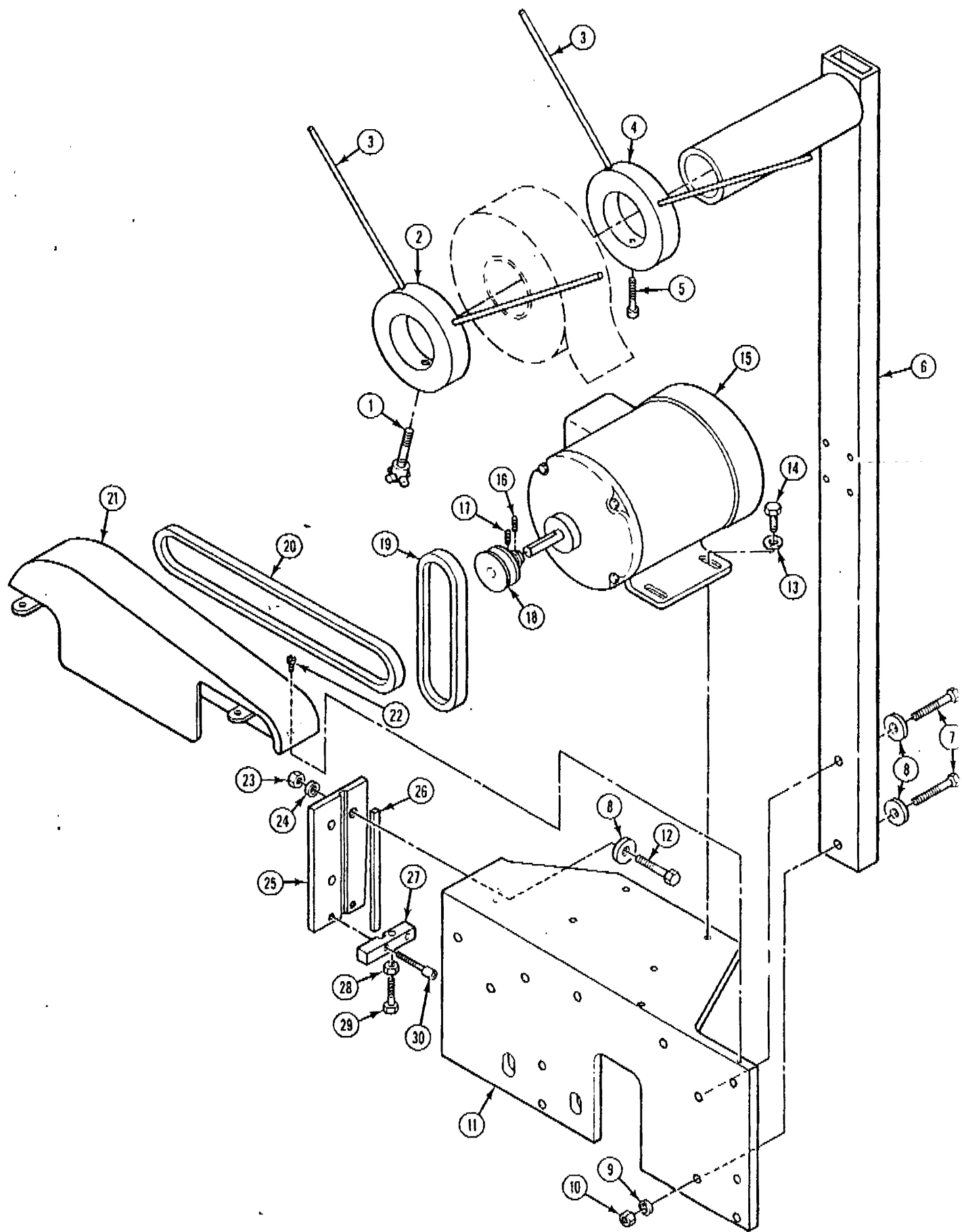
ITEM	QUAN.	PART NO.	DESCRIPTION
1	2	H103238	SCREW, HEX HD. - # 10-32 N.F. X 3/8"
2	2	WS10	WASHER, SPRING - # 10
3	1	B-2768	WELDMENT, CHUTE
4	1	B-2708	GUARD, TRIMMER
5	2	A-2602	BRACE
8	4	H142058	SCREW, HEX HD. - 1/4 - 20 N.C. X 5/8"
7	4	WS14	WASHER, SPRING - 1/4"
8	4	NH3816	NUT, HEX - 3/8" - 16 N.C.
9	11	WS38	WASHER, SPRING - 3/8"
10	6	A-2611	SPACER, STEP
11	4	A-2702	PULLEY, IDLER - SMOOTH
12	8	75931	WASHER, IDLER
13	4	H3816158	SCREW, HEX HD. - 3/8" - 16 N.C. X 1 5/8"
14	4	A-2624	SPACER, HEX
15	4	F142058	SCREW, FLAT HD. - 1/4 - 20 N.C. X 5/8"
16	2	A-2701	BELT, VARIABLE SPEED
17	1	C-2704	GUARD, UNDER - RIGHT
18	4	SB142038	SCREW, SOC. BTN HD. - 1/4 - 20 N.C. X 3/8"
19	2	A-2723	WELDMENT, ROD - PIVOT
20	1	A-2614	PIVOT, UPPER - REAR
21	7	WS14	WASHER, SPRING - 1/4"
22	3	SS142058	SCREW, SOC. CAP - 1/4 - 20 N.C. X 5/8"
23	1	A-2655	BRACKET, SPRING (HOOK)
24	2	A-2670	SPRING, EXTENSION
25	2	NJ1032	NUT, JAM - # 10-32 N.F.
26	2	A-2722	PIVOT, HEX
27	2	A-4294	LEVER, SPRING
28	1	A-2673	ASSY., PIVOT W/BEARING - LOWER
29	2	NH1032	NUT, HEX - # 10-32 N.F.
30	2	H10321	SCREW, HEX HD. - # 10-32 N.F. X 1"
31	4	F142012	SCREW, FLAT HD. 1/4 - 20 N.C. X 1/2"
32	4	NH1420	NUT, HEX - # 1/4 - 20 N.C.
33	1	A-4382	ASSY., CHANNEL - SWING (OUTER)
34	2	SC142058	SCREW, SOC. CAP 1/4 - 20 N.C. X 5/8"
35	1	A-2618	PIVOT, UPPER - FRONT
36	1	A-2819	CHANNEL, FRONT - INNER
37	8	P10319	PIN, COTTER
38	4	A-2621	ROD, PIVOT - FRONT
39	1	A-2620	CHANNEL, FRONT - OUTER
40	1	A-2622	PIVOT, LOWER - FRONT
41	1	B-2707	GUARD, LEFT
42	2	B-2695	GUARD, BELT - FRONT
43	10	WF10	WASHER, FLAT - # 10
44	10	SB103214	SCREW, SOC. BTN. HD. # 10-32 N.F. X 1/4"
45	1	C-2705	GUARD, UNDER - LEFT
48	4	WLIDHC	WASHER, LOCK - # 10 (HIGH COLLAR)





# REEL HOLDER

ITEM	QUAN.	PART NO.	DESCRIPTION
1	1	A4831	KNOB, HAND
2	1	A4828	CLAMP, REEL-TAPE (FRONT)
3	4	A4833	ROD, CLAMP
4	1	A4829	CLAMP, REEL-TAPE (REAR)
5	1	SC1420114	SCREW, SOC. CAP. - 1/4"-20 N.C. X 1 1/4"
6	1	B4826	SUPPORT, REEL-TAPE (WELDMENT)
7	2	H38162	SCREW, HEX HD. - 3/8"-16 N.C. X 2"
8	5	WF34	WASHER, FLAT - 3/4"
9	1	WL38	WASHER, LOCK - 3/8"
10	1	NH3816	NUT, HEX - 3/8"-16 N.C.
11	1	C2601	BRACKET, MOUNTING
12	3	H3816112	SCREW, HEX HD. - 3/8"-16 N.C. X 1 1/2"
13	4	WF518	WASHER, FLAT - 5/16"
14	4	H5161834	SCREW, HEX HD. - 5/16"-18 N.C. X 3/4"
15	1	A3625	MOTOR, 1/4 H.P. - 220 V - 3 PHASE - 60 HZ - T.E.F.C.
		OR	
		P3487	MOTOR, 1/4 H.P. - 220 V - SINGLE PHASE - 60 HZ T.E.F.C.
16	1	SS103218	SCREW, SOC. SET - # 10-32 N.F. X 1/8"
17	1	SS1032518	SCREW, SOC. SET - # 10-32 N.F. X 5/16"
18	1	A4335	PULLEY, ADJUSTING
19	1	P4229-130	BELT, DRIVE
20	1	P2653	BELT, V
21	1	C2640	GUARD, BELT-DRIVE
22	10	B103238	SCREW, BINDING HD. - # 10-32 N.F. X 3/8"
23	3	NH3816	NUT, HEX - # 3/8"-16 N.C.
24	3	WS38	WASHER, SPRING - 3/8"
25	1	A2647	PLATE, SHIM
26	1	A2648	KEY
27	1	A2649	BLOCK, JACK
28	1	NH51618	NUT, HEX - 3/8"-16 N.C.
29	1	H51618114	SCREW, HEX HD. - 5/16"-18 N.C. X 1 1/4"
30	1	SC1420112	SCREW, SOC. CAP - 1/4-20 N.C. X 1 1/2"



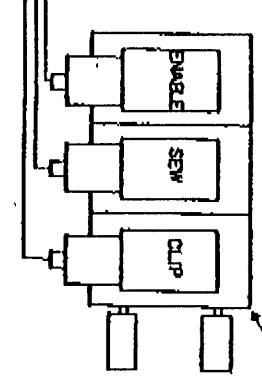
**AMPLIFIER SWITCH SETTINGS AND ADJUSTMENTS**

- SOURCES**
- Bank ON  CONT. ON
  - 912 MHz  447 MHz
  - DELAY  0.5 SEC
  - OFF 1  OFF 2
  - 1 SEC  10 SEC
- SENSITIVITY**
- SET SENSITIVITY TO APPROX. 70% MAX.
  - INCREASE SENSITIVITY IF BESTY INTERFERING
  - CONSTRUCTIONAL CAPSULES MUST BE ON
  - DECREASE SENSITIVITY IF SAC IS TOO
  - TRANSPARENT TO BREAK BEAM.

**TILT**

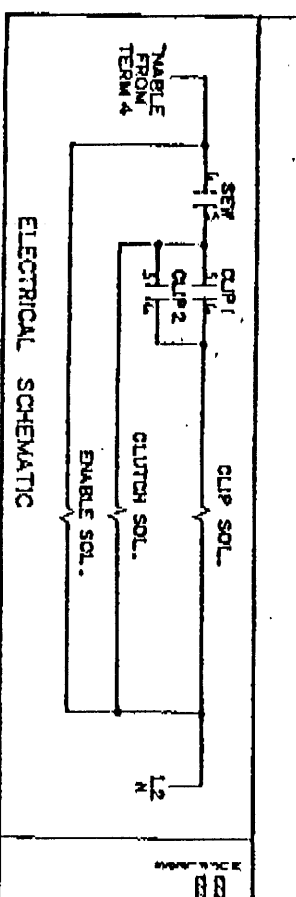
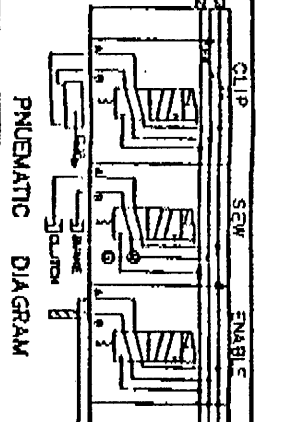
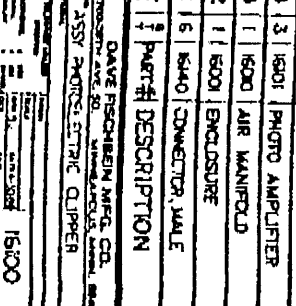
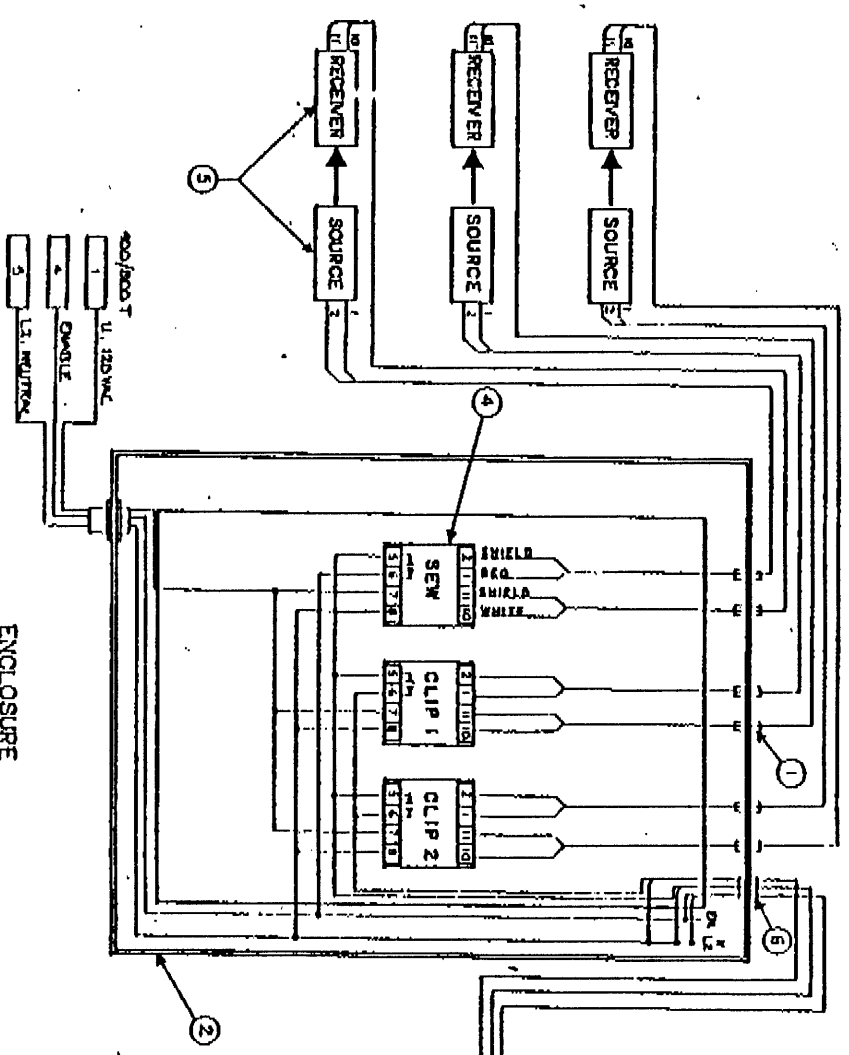
SET CLIP 1 AND CLIP 2 TO APPROX. 45 DEGREE  
 ADJUST SEW TO ALIGN ANEMOMETER VIB. INDICATOR  
 WITH MANOMETER AIR QUANTA.

**MANIFOLD ASSEMBLY**



QTY	PART #	DESCRIPTION
1	1500	ENCLOSURE
1	1501	AIR MANIFOLD
1	1502	PHOTO AMPLIFIER
1	1503	PHOTO SENSOR
1	1504	FITTING, ANTI-SEAL
1	1505	CONNECTOR, MALE

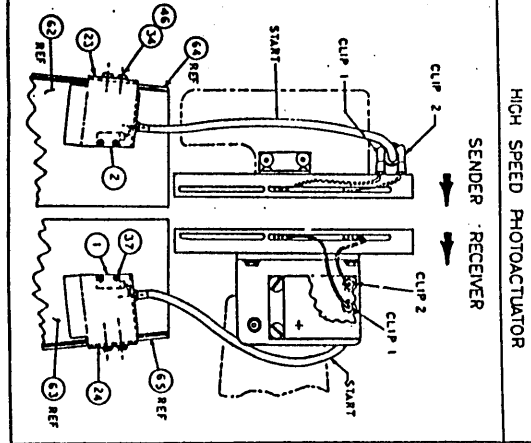
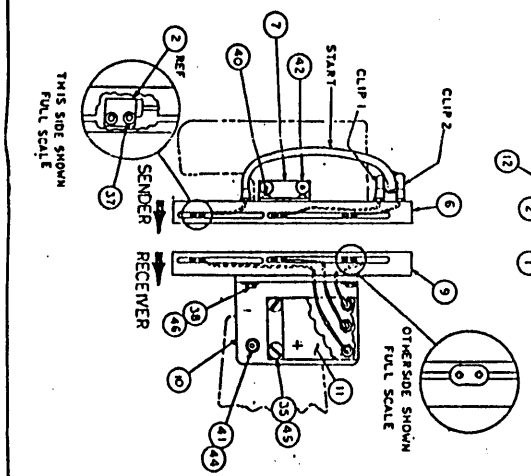
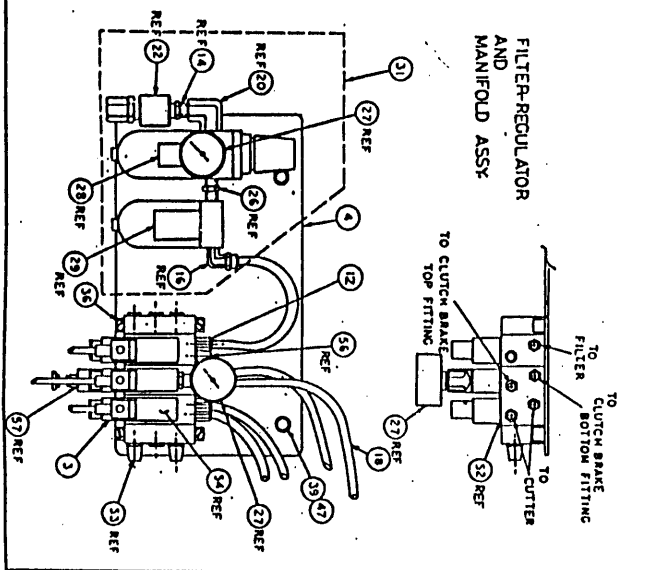
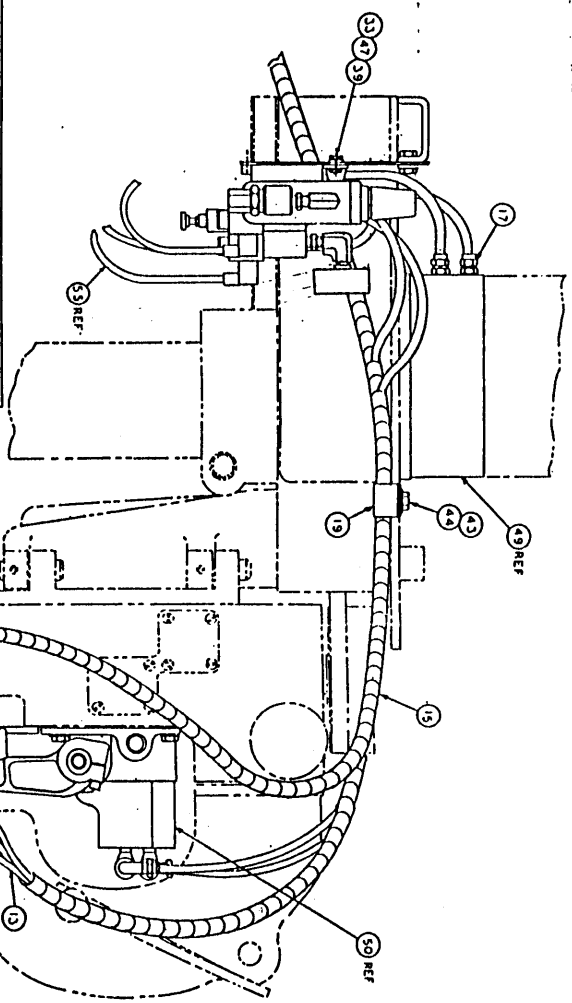
**ENCLOSURE FRONT VIEW**



**DAVE PROCEBEM MANIF. CO.**  
 2700 BAYVIEW AVE. S.W. ALPHARETTA, GA. 30201  
 404-487-1111 FAX 404-487-1112

**DAVE PROCEBEM ELECTRIC CLIPPER**

DATE: 10/15/00  
 DRAWN BY: J. J. JONES  
 CHECKED BY: J. J. JONES  
 15100



ITEM QTY	PART NO.	DESCRIPTION
70		
69		
68		
67		
66		
65	REF A2707	GUARD, LEFT
64	REF A2706	GUARD, RIGHT
63	REF A2705	GUARD, UNDER-LEFT
62	REF A2704	GUARD, UNDER-RIGHT
61		
60		
59	REF	SCREW
58	REF	SCREW
57	REF 16106	REGULATOR (REPL)
56	REF A5662	MUFFLER, 1/8 NPT (REPL)
55	REF A5660	CABLE (REPL)
54	REF A5658	VALVE, AIR (REPL)
53	REF P4973	MUFFLER, 1/4 NPT (REPL)
52	REF A1738	GASKET (REPLACEMENT)
51		
50	REF 10401	ASSY, CLIPPER-TAPE
49	REF A4790	CLUTCH-BRAKE
48		
47	4	WS14 WASHER, SPRING - 1/4
46	6	W1110 WASHER, INT TEETH-10
45	2	W1108 WASHER, INT TEETH-B
44	2	WS10 WASHER, SPRING-10
43	2	H103278 SCREW, HEX HD-10-32 x 1/8
42	2	SF103212 SCREW, SOCF, FLAT-10-32 x 1/2
41	2	SC103258 SCREW, SOCF, CAP-10-32 x 1/8
40	2	S8103214 SCREW, SOCF, BTM-10-32 x 1/4
39	4	H142038 SCREW, HEX HD-1/4-20 x 5/8
38	2	H103238 SCREW, HEX HD-10-32 x 1/4
37	12	SC4402 SCREW, SOCF, HD-4-40 x 1/2
36	4	B83258 SCREW, BDC, HD-8-32 NC x 1/4
35	2	P83214 SCREW, PAN, HD-8-32 NC x 1/4
34	4	B103228 SCREW, BDC, HD-10-32 x 3/4
33	2	NH1420 NUT, HEX-1/4-20 NC
32		
31	1	1614 B ASSY, FILTER-REGULATOR
30		
29	REF P1995	ELEMENT, FILTER
28	REF P1996	ELEMENT, PREFILTER
27	REF P1949	GAUGE, PRESSURE
26	REF P1911	NIPPLE, HEX - 1/4 NPT
25		
24	1	16152 BRACKET, SENSOR-L.H.(4,3)
23	1	16151 BRACKET, SENSOR-R.H.(4,3)
22	REF 10718	SOCKET, COUPLING
21		
20	REF P4987	ELBOW, STREET-1/2 F x 1/4 M
19	1	P4977 CLIP, NYLON
18	BT	P4968 TUBING, POLYURO - 1/4 O.D.
17	4	P4963 CONNECTOR, MALE - 1/4 x 1/4 P
16	REF P4961	ELBOW, MALE - 1/4 x 1/4
15	NOT	P4955 SPRING
14	REF P4945	COUPLER, MALE
13	567	16143 TUBG, POLYURO, QD (IMC)
12	114	P4913 CONNECTOR, MALE - 1/2 x 1/4 R
11	1	16137 GUARD, WIRE
10	1	16136 BRACKET, MTC-L.H. PAIL
9	1	16135 RAIL, LEVERS HOUSING
8	1	16130 PLATE, MTR-RAL BRACKET
7	1	16124 MOUNT, RAIL-THI PLATE
6	1	16123 RAIL, THROAT PLATE
5	6	16116 PLATE, THREADED
4	1	16105 PLATE, MOUNTING-FLR
3	1	16104 ASSY, MANIFOLD
2	3	16102 PHOTOSWITCH (RECEIVER)
1	3	16102 PHOTOSWITCH (SENDER)

REV	ECN	DATE	DESCRIPTION	BY
A		34469-10-90	ADD ASSY 1614 B	R85

16150 HIGH SPEED PHOTOACTUATOR

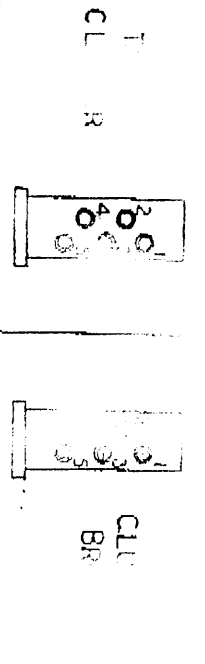
ITEM QTY	PART NO.	DESCRIPTION
1	3	16102 PHOTOSWITCH (RECEIVER)
2	3	16102 PHOTOSWITCH (SENDER)
3	1	16104 ASSY, MANIFOLD
4	1	16105 PLATE, MOUNTING-FLR
5	6	16116 PLATE, THREADED
6	1	16123 RAIL, THROAT PLATE
7	1	16124 MOUNT, RAIL-THI PLATE
8	1	16130 PLATE, MTR-RAL BRACKET
9	1	16135 RAIL, LEVERS HOUSING
10	1	16136 BRACKET, MTC-L.H. PAIL
11	1	16137 GUARD, WIRE
12	114	P4913 CONNECTOR, MALE - 1/2 x 1/4 R
13	567	16143 TUBG, POLYURO, QD (IMC)
14	REF P4945	COUPLER, MALE
15	NOT	P4955 SPRING
16	REF P4961	ELBOW, MALE - 1/4 x 1/4
17	4	P4963 CONNECTOR, MALE - 1/4 x 1/4 P
18	BT	P4968 TUBING, POLYURO - 1/4 O.D.
19	1	P4977 CLIP, NYLON
20	REF P4987	ELBOW, STREET-1/2 F x 1/4 M
21		
22	REF 10718	SOCKET, COUPLING
23	1	16151 BRACKET, SENSOR-R.H.(4,3)
24	1	16152 BRACKET, SENSOR-L.H.(4,3)
25		
26	REF P1911	NIPPLE, HEX - 1/4 NPT
27	REF P1949	GAUGE, PRESSURE
28	REF P1996	ELEMENT, PREFILTER
29	REF P1995	ELEMENT, FILTER
30		
31	1	1614 B ASSY, FILTER-REGULATOR
32		
33	2	NH1420 NUT, HEX-1/4-20 NC
34	4	B103228 SCREW, BDC, HD-10-32 x 3/4
35	2	P83214 SCREW, PAN, HD-8-32 NC x 1/4
36	4	B83258 SCREW, BDC, HD-8-32 NC x 1/4
37	12	SC4402 SCREW, SOCF, HD-4-40 x 1/2
38	2	H103238 SCREW, HEX HD-10-32 x 1/4
39	4	H142038 SCREW, HEX HD-1/4-20 x 5/8
40	2	S8103214 SCREW, SOCF, BTM-10-32 x 1/4
41	2	SC103258 SCREW, SOCF, CAP-10-32 x 1/8
42	2	SF103212 SCREW, SOCF, FLAT-10-32 x 1/2
43	2	H103278 SCREW, HEX HD-10-32 x 1/8
44	2	WS10 WASHER, SPRING-10
45	2	W1108 WASHER, INT TEETH-B
46	6	W1110 WASHER, INT TEETH-10
47	4	WS14 WASHER, SPRING - 1/4
48		
49	REF A4790	CLUTCH-BRAKE
50	REF 10401	ASSY, CLIPPER-TAPE
51		
52	REF A1738	GASKET (REPLACEMENT)
53	REF P4973	MUFFLER, 1/4 NPT (REPL)
54	REF A5658	VALVE, AIR (REPL)
55	REF A5660	CABLE (REPL)
56	REF A5662	MUFFLER, 1/8 NPT (REPL)
57	REF 16106	REGULATOR (REPL)
58	REF	SCREW
59	REF	SCREW
60		
61		
62	REF A2704	GUARD, UNDER-RIGHT
63	REF A2705	GUARD, UNDER-LEFT
64	REF A2706	GUARD, RIGHT
65	REF A2707	GUARD, LEFT
66		
67		
68		
69		
70		

DAVE FISCHBEIN MFG CO.  
2700 SOUTH MAIN ST  
MILWAUKEE, WISCONSIN 53204  
ASSY, PHOTOELECTRIC ACTUATOR

DATE: 10-90  
BY: R85

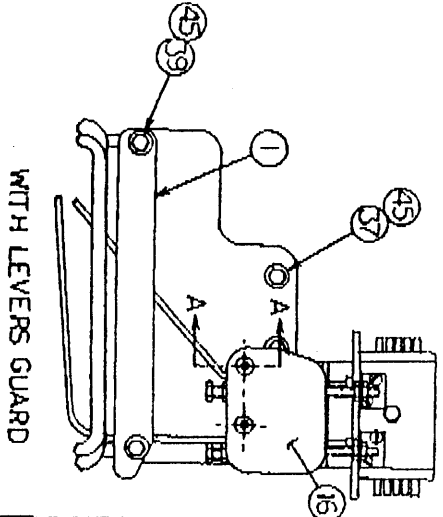
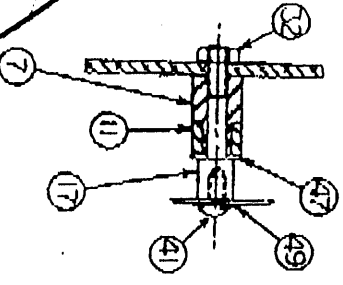
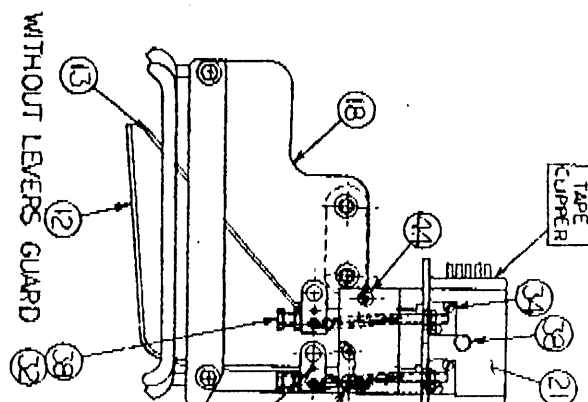
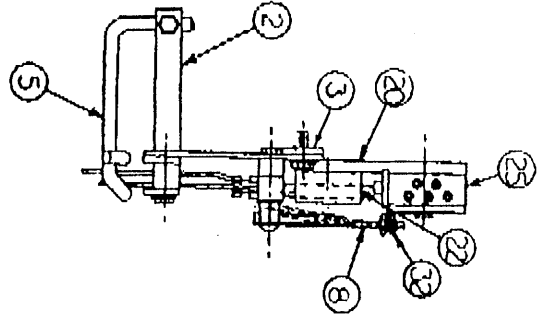
16100

4	INLET	
3	EXHAUST	
2	CLUTCH	
1	EXHAUST	



5	INLET	
4	TAKE	
3	CLUTCH	
2	EXHAUST	
1	EXHAUST	

VALVE-HOSE CONNECTIONS LAYOUT DIAGRAM FULL SCALE



50			
49	2	W110	WASHER, INT. TOOTH #10
48	6	W178	WASHER INT TOOTH #8
47	2	W110	WASHER, FLAT #10
46	4	W18	WASHER FLAT #8
45	4	W10	WASHER, SPRING LOOK #10
44	2	SF83236	SCREW, SOC. FLAT 1/8 x 3/8
43	2	SS63214	SCREW, SOC. SET 6-32 NC x 1/4
42	4	SF83212	SCREW, SOC. FLAT HD. 8-32 x 1/2
41	2	SF83214	SCREW, RD. HD. 10-32 NF x 1/4
40			
39	2	H103214	SCREW, HEX HD. 10-32 NF x 1/4
38	3	H10321	SCREW, HEX HD. 10-32 NF x 1
37	2	H10328	SCREW, HEX HD. 10-32 NF x 5/8
ITEM QTY	PART NO	DESCRIPTION	

1	1	A 1902	BAR, GUIDE
2	1	A 1904	POST, GUIDE-BACK
3	1	A 1912	SHIM
4	1	A 1921	POST, GUIDE-FRONT
5	1	A 1922	ROD, GUIDE
6	2	A 1924	ANCHOR, SPRING
7	2	A 1925	PIVOT
8	2	A 1926	SCREW, SPRING
9	2	A 1927	SPRING, TENSION
10	2	A 1928	PIN, ANCHOR - SPRING
11	2	A 1929	HUB, LEVER
12	1	A 1930	LEVER, START-STOP
13	1	A 1931	LEVER, CUT
14	2	A 1940	SPACER
15			
16	1	A 1954	GUARD, LEVERS
17	2	A 1955	SCREW, STAND UP
18	1	A 1959	PLATE, MOUNTING
19			
20	1	A 1975	PLATE, BASE
21	1	A 1976	PLATE, CLAMP
22	1	A 1972	BLOCK, SLIDE
23	2	A 1973	ASSY, PIN - PUSH
24			
25	2	A 1982	VALVE (W/ KERSON-MODIFIED)
26			
27			
28			
29	1	A 4907	PLATE, GUIDE
30			
31	4	NH832	NUT, HEX 8-32 NC
32	1	NH1032	NUT, HEX 10-32 NF
33	1	B5408	SCREW, HEX 10-32 NC x 5/8
34	1	B5408	SCREW, HEX 10-32 NF x 1/2
35	1	B5408	SCREW, HEX 10-32 NF x 1/4
36	1	B5408	SCREW, HEX 10-32 NF x 1/8
37	1	B5408	SCREW, HEX 10-32 NF x 1/4
38	1	B5408	SCREW, HEX 10-32 NF x 1/8
39	1	B5408	SCREW, HEX 10-32 NF x 1/4
40	1	B5408	SCREW, HEX 10-32 NF x 1/8
41	1	B5408	SCREW, HEX 10-32 NF x 1/4
42	1	B5408	SCREW, HEX 10-32 NF x 1/8
43	1	B5408	SCREW, HEX 10-32 NF x 1/4
44	1	B5408	SCREW, HEX 10-32 NF x 1/8
45	1	B5408	SCREW, HEX 10-32 NF x 1/4
46	1	B5408	SCREW, HEX 10-32 NF x 1/8
47	1	B5408	SCREW, HEX 10-32 NF x 1/4
48	1	B5408	SCREW, HEX 10-32 NF x 1/8
49	1	B5408	SCREW, HEX 10-32 NF x 1/4
50	1	B5408	SCREW, HEX 10-32 NF x 1/8

Rev. 06-10-57  
 Rev. 06-20-63  
 Rev. 06-20-70  
 Rev. 06-20-72

DAVE FISCHBEN MFG. CO.  
 2700-30TH AVE. SO.  
 MINNEAPOLIS, MINN. 55406

SCALE HALF  
 DATE 12-29-58  
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