

# GALKIN AUTOMATED PRODUCTS

## GAP-X5 FLANGE MACHINE

### OPERATION MANUAL PARTS LIST

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The logo consists of the word "GALKIN" in a white, serif, all-caps font, centered within a solid black oval shape.

**GALKIN**

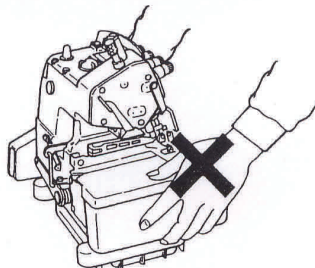
## FOR SAFE OPERATION



1. So as to avoid electric shock hazards, do not open the cover of the electrical box of the motor or touch any part inside the electrical box with the power to the machine turned ON.



1. To prevent possible personal injury, never operate the machine with the belt cover and the eye guard removed.
2. To protect against possible personal injury resulting from being caught in the motor, use a motor that is provided with a motor pulley cover.
3. To avoid electric shock hazards, never operate the machine with the ground wire for the power supply removed.
4. During operation, be careful not to allow your or any other person's head, hands or fingers to come close to the handwheel, V belt and motor so as to prevent possible personal injury that may occur when your hands/fingers are caught in the machine. Also, do not place anything close to them.
5. So as to avoid possible injury to your hands and fingers, do not put any of them near the cloth cutting knife and the needle when turning the power to the machine or while the machine is in operation.
6. To prevent possible injury to your hands and fingers, do not put any of them inside the eye guard while the machine is in operation.
7. To avoid electric shock hazards and accidents arising from damaged electrical components, be sure to turn OFF the power switch before inserting/detaching the power plug.
8. So as to protect against possible personal injury resulting from abrupt start of the machine, make sure to turn OFF the power to the machine when you leave your machine.
9. In the event of a power failure, be sure to turn OFF the power to the machine to protect against possible personal injury resulting from abrupt start of the machine.
10. So as to protect against possible personal injury resulting from abrupt start of the machine, remove the belt cover, motor pulley cover and the V belt after turning OFF the power to the machine and confirming that the sewing machine will not run even by depressing the start pedal.
11. Before inspecting, adjusting or cleaning the machine, threading the machine head or replacing the needle, so as to protect against possible personal injury resulting from abrupt start of the machine, be sure to turn OFF the power to the machine so as to prevent an accident and confirm that the sewing machine will not operate even when depressing the foot pedal of the sewing machine.
12. To protect against personal injury resulting from possible drop of the machine, do not carry your machine by holding the cloth plate cover by hand. Doing so may cause the cover to open or break resulting in drop hazards.



## IMPORTANT SAFETY INSTRUCTIONS

Putting sewing systems into operation is prohibited until it has been ascertained that the sewing systems in which these sewing machines will be built into, have conformed with the safety regulations in your country. Technical service for those sewing systems is also prohibited.

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
2. Read all the instructions, including, but not limited to this Instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
4. All safety devices must be in position when the machine is ready for work or in operation.  
The operation without the specified safety devices is not allowed.
5. This machine shall be operated by appropriately-trained operators.
6. For your personal protection, we recommend that you wear safety glasses.
7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
  - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
  - 7-2 For replacing part(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
  - 7-3 For repair work.
  - 7-4 When leaving the working place or when the working place is unattended.
  - 7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
8. If you should allow oil, grease, etc. used with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.

9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel.
11. General maintenance and inspection works have to be done by appropriately trained personnel.
12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel.  
Whenever you find a failure of any of electrical components, immediately stop the machine.
13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
14. Periodically clean the machine throughout the period of use.

15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.

17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures.

19. Warning hints are marked with the two shown symbols.



Danger of injury to operator or service staff



Items requiring special attention



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# OPERATING AND SETUP INSTRUCTIONS for GALKIN MODEL X5 SERGER FLANGER

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## 1. INTRODUCTION

### A. Machine Description

The Galkin 3350-X5 Serger Flanger was designed expressly for high speed attachment of flanging to mattress pads

### B. Galkin Customer Service

If you have any questions concerning the machine, or this manual, please feel free to contact Galkin Automated Products, either by telephone or by fax.

Telephone number.....(631) 643-5432  
Fax number.....(631) 643-1472

### C. Machine Specifications

Machine type.....	Overlock with safety stitch
Top feed.....	Patented Power Trac synchronized belt type
Stitch type (F.S.T.).....	516
Recommended sewing speed.....	4200 stitches per minute
Material thickness.....	Flat goods up to 6 inches (1 – 152mm)
Overall stitch width.....	15/16 inch (24mm) std. – 1-3/16 (30mm) option
Stitch length.....	4-5 stitches per inch (.2s/mm)
Over edging width.....	3/16 Inch
Distance to safety stitch.....	¾ inch (1” optional)
Needle size.....	135x7, #21
Needle height.....	.56 inch (14.2mm)
Electrical (standard).....	220V – 1phase – 60Hz – ½ HP
	Other voltages optional
Lubrication.....	Automatic lubrication (sump); separate feed belt oiler cartridge filter

## 1. SETUP

### A1. Power Connection

A sewing motor has been provided with the machine, consistent with your requirements (single or 3-phase, at the correct voltage). Provide a suitable electric power connection, as indicated on the specification plate on the motor controller. To ensure safety, always connect the green wire to ground. NOTE: Before running machine, make sure motor rotates in the correct direction (see page 6 Sect. C.

### A2. Air Connection

The Galkin 3350-X5 requires a compressed air supply with a minimum pressure of 60 p.s.i. To connect your machine to your factory's compressed air source, simply connect your factory air line to the make quick disconnect on the Galkin 3350-X5. The main air regulator has a low pressure shut off that will not allow the system to operate if pressure drops below 50 p.s.i.

## B. Lubrication

The sewing machine is equipped with an automatic oiling system. The oil reservoir was drained for shipment. CAUTION – Do not operate the sewing machine without filling the oil reservoir. Serious damage may occur if it is running without lubrication.

### 1) Sump

The oil filler cap and sight gauge are located on the top of the machine. Fill the sump, adding light machine oil, until the green indicator in the gauge rises to just below the upper red line. Do not over fill, as this may cause excess oil to spill, or to collect where it may damage work.

### 2) Top Feed Belt Oiler

To reduce wear on the top feed belt, a belt oiler has been included on the machine. Keep the belt oiler cup filled with the same oil used in the machine sump. The belt oiler wick, located under the top feed belt, should be checked frequently to be sure it remains in contact with the belt.

### 3) Additional Lubrication

Before running the machine, apply two or three (2-3) drops of oil at the needle Bars as indicated in Figure 02. Also apply oil to the upper looper guide, where shown in figure 03.

### 4) Oil and Filter change

For best operation, change sump oil monthly. To drain the sump, remove the sump plug, located at the right, front of the pan. A replaceable oil filter is located under the top cover of the sewing machine and should be replaced when changing the oil.



## B. Motor Rotation

The machine hand wheel must turn clockwise when viewed from the hand wheel end. The oil pump will not function when the machine operates in reverse rotation. To check rotation, turn on the motor and use the foot pedal to turn over the machine slowly, while checking direction. Do not run the machine for an extended period. If the hand wheel turns in the wrong direction, stop immediately. Turn off the motor and unplug power. Reverse motor direction by rewiring connections or reprogramming as appropriate. For single phase motors, a diagram may be found for reverse wiring, either on the specification plate or inside the wire connection access opening. For 3-phase motors, exchange connections of any two of the three “hot legs” Servomotors are reversed by programming. Check motor manual for method of programming rotation.

## C. Motor Speed

Maximum recommended sewing speed is 4200 stitches per minute. Pulley combination and or motor settings have been chosen to reflect this recommendation. The sewing machine is capable to speeds up to, 5800 stitches per minute. At such speeds; however, wear life of parts become a problem. Of particular concern would be wear to top feed parts; especially the top feed belt, clutches and eccentric tie rod ends.

## D. Threading

Thread the sewing machine as shown on the threading diagram, Figure 04.

## E. Flange Guide Adjustment

Adjust the flange guide to control the flange material. Material should be able to move freely from under the sewing machine stand, around the curved flange guard, and through The flange guide to feed straight into the machine. Referring to Figure 05, adjust the flange guide to control the flange. Set the panel guide to guide the pad into the sewing machine.

## F. Optional Flange Handling Equipment

### 1.) Flange Rack

An optional flange rack is available for the Galkin 3350-X5 Flanger. If this option has been purchased, it is to be mounted to the vertical supports of the machine stand. Note that, when held between the reel flanges, flange material should guide straight through the flange guide at the front of the table.

Flange rolls can be loaded to the rack by lifting one end of the shaft and sliding the roll into position making sure it does not restrict the flange material from feeding to the flange guide.

### 3. OPERATION

#### A. Presser Foot

An air operated cylinder keeps the front from lifting too far while sewing. This cylinder lifts in coordination with the foot, by heeling the foot treadle. This arrangement allows for very high lift when inserting work, while providing excellent control of the foot under heavy panel sewing loads.

#### B. Sewing Control

Sewing is controlled by the foot treadle. From this neutral position, toeing the treadle lightly will start the machine at slow speed. Increasing toe pressure will increase the speed up to maximum. Release the Treadle to stop sewing. As mentioned above, heeling the treadle will lift the presser foot, while releasing the foot hold down plunger.

The adjustable pad guide on top of the flange guide can assist in proper placement and guidance of the pad during sewing. Work may be inserted to the machine, either from the side or from the front.

There is no technical need to change sewing speed during sewing, either while sewing straight or curved portions of the pad. The only limit will be the operator's ability to control the pad while sewing.

### 4. ADJUSTMENTS

The following are standard adjustments for GAP3350-X5 sewing machine.

#### A. Fixed Stitch Count Setting

The 3350-X5 flanger is factory set for the minimum stitch count (maximum stitch length) of which it is capable. The minimum stitch count is five (5) stitches per inch. This setting is considered to be fixed (not adjustable). If adjustment to a higher stitch count (shorter stitches) is required contact Galkin Automated Products for guidance. Other feed adjustments which are factory set, and considered not adjustable are feed dog height and differential feed.

## B. Thread Tensions

Set all thread tensions at a light level of tension. When pulled by hand, thread should move freely through the needle, with little resistance. Make sure tensions are not over tight. Too tight tensions will cause gathering of material.

## C. Needle Height

See figure 09 (note: height specified in the diagram is for reference. Needle height should be adjusted as necessary to properly work with the loopers.

## D. Throat Plate Position

The throat plate should be set to the machine so that there is 1/16 inch (1.6mm) between the point of an entering needle and the front of the needle slot (figure 10). An incorrectly set throat plate may cause needle breakage and damage the feed dogs. To adjust, lift the presser foot. Swing out the cloth plate cover and remove the throat plate. This gives access to the hidden screw holding the throat plate base to the machine frame (figure 11). Now loosen the other three base plate screws and adjust the position of the throat plate. Tighten just the three available base plate screws to test the adjusted throat plate position. Once the setting is correct, and the three available screws are firmly tightened, remove the throat plate from the base. Tighten the last screw, and replace the throat plate.

## E. Lower Looper Adjustment

As shown in Figure 12, when the lower looper is at the extreme left of travel, set the distance (J) from the looper to the center of the needle at 9/64 inch (3.7mm). To adjust, loosen the pinch screw indicated, and turn the looper holder on its arm. If the distance is set to small or too large, skipped stitches may result when sewing with certain types of thread.

The lower looper should clear the upper looper by the thickness of a piece of paper (.004 inch or 0.1mm) as indicated on figure 13. Too large a clearance will break the needle or damage the looper.



## F. Upper Looper Position

### 1) Height Setting

Setting the upper looper too high, or too low, will result on the looper failing to catch the needle thread, or in the needle or thread breakage. To set the height, use a 5mm hex wrench on the screw at the end of the upper looper bracket to adjust looper height to  $17/32$  inch (13.7mm) above the throat plate, (Figure 13, dim D) when the upper looper is at the extreme left of its travel.

### 2) Protrusion

Set upper looper protrusion to  $13/64$  inch (5.1mm) to the needle (Figure 13, dim E).

### 3) Clearance Setting

See Section 4.F., above, for clearance between the upper and lower loopers.

## G. Chain Looper Adjustment

### 1) Looper Position

Looper position is set to ensure proper forming. Set the position so that, when the looper is at the leftward most point of its travel, the point is  $1/16$  inch (1.7mm) from the center of the needle (Figure 14, dim L).

### 2) Looper Clearance (Figure 14)

As the point of the looper passes behind the needle, it should just clear the back of the needle by about .004 inch (paper thickness). If not properly set, the looper may miss, picking up the thread, or it may hit the needle, breaking the needle or damaging the looper.

## B. Chain Looper Thread Takeup Cam (Figure 15)

Set the chain looper takeup cam so that, when the needles are all the way up, the flat of the cam is horizontal. At this setting, the cam should release the chain looper thread when the needles are 1/32 to 1/16 inch (1.0 to 2.0mm) below the needle plate.

## C. Looper Thread Takeups and Guides

Figure 16 shows adjustments of the looper thread takeups and guides.

## D. Edge Trimming Knives

### 1) Vertical Adjustment

#### a) Lower Knife height:

Loosen the set screw (2) indicated in Figure 17, and adjust lower knife (1) height to be flush with, or slightly below the top of the throat plate. Tighten screw (2).

#### b) Upper knife Height (Figure 17)

Loosen set screws (4) and set upper knife height so that when it is at the lowest point of travel, it overlaps the lower knife by between 1/64 and 1/32 inch (0.5-1.0mm). Tighten set screws (4).

### 2) Overedge Width Adjustment (Figure 17)

Overedge width is slightly wider than the knife cut width. To adjust loosen screws (5) and push the lower knife (1) all the way to the left, and tighten screw (5). Loosen set screw (6) and position the upper knife (3) to the cut width required. Tighten screw (6), loosen screw (5) and move the lower knife to the right until it contacts the upper knife. Tighten screw (5) firmly to prevent the internal spring from moving the lower knife during operation. If screw (5) is not tight the knives will break.

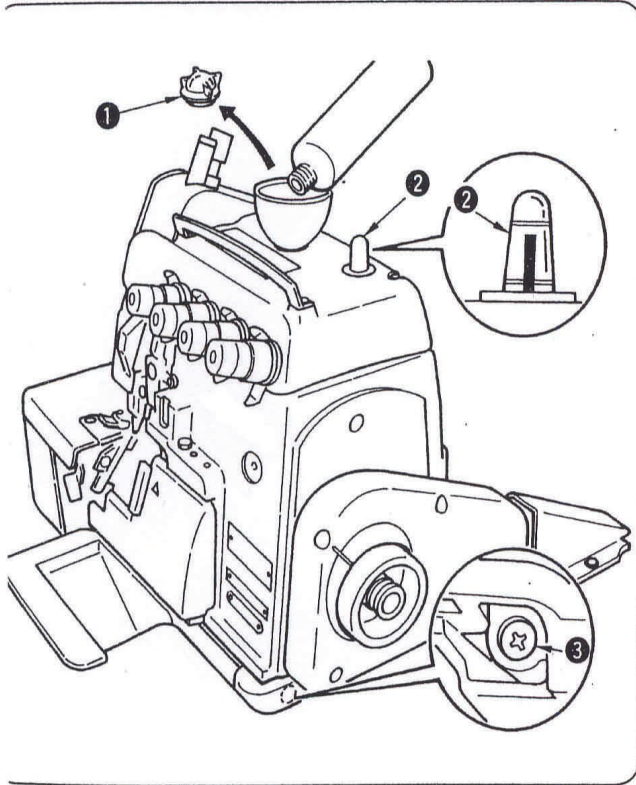
### 3) Knife Sharpening

The lower knife may be resharpened when it dulls. Figure 18 shows the correct sharpening angles for the lower blade. The upper knife has a cemented carbide edge which is considered ungrindable. Replace the upper knife when it becomes dull.

## K. NEEDLE GUARDS

Incorrect needle guard settings are probably the single most common cause of thread, looper and needle breakage, and of stitch skipping. Be certain needle guard settings are measured properly, as indicated in Figure 19. Needle guards should be set to eliminate excessive play or deflection of needles. If guards are set too tight to needles, breakage of threads, needles and/or loopers will occur. If settings are too loose, stitches will skip.

# Lubrication :



- 1) Remove oil cap ❶.
- 2) Pour Machine Oil 18 into the oil reservoir.
- 3) Supply oil until the pointer bar almost reaches the upper red marker line when oil gauge ❷ is observed from the side.



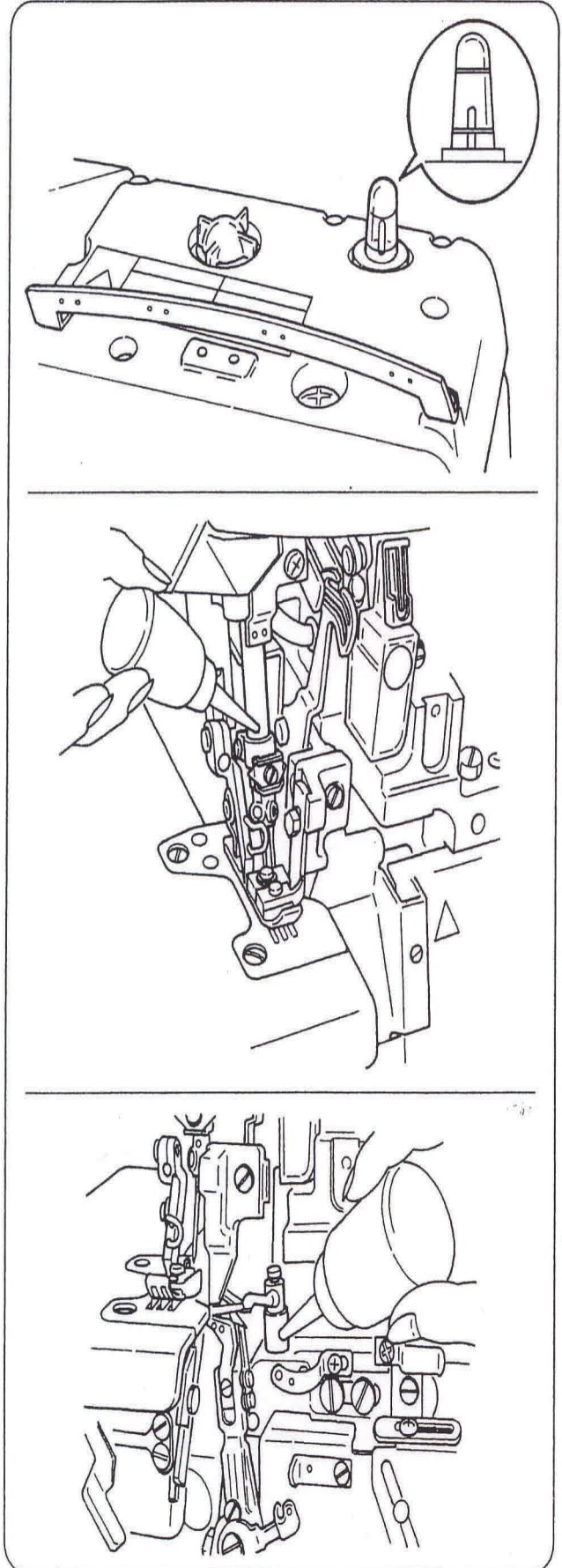
Be careful not to exceed the upper red marker line, or else troubles due to excessive lubrication may result.

- 4) Remove oil drain cap ❸ when draining the oil reservoir.



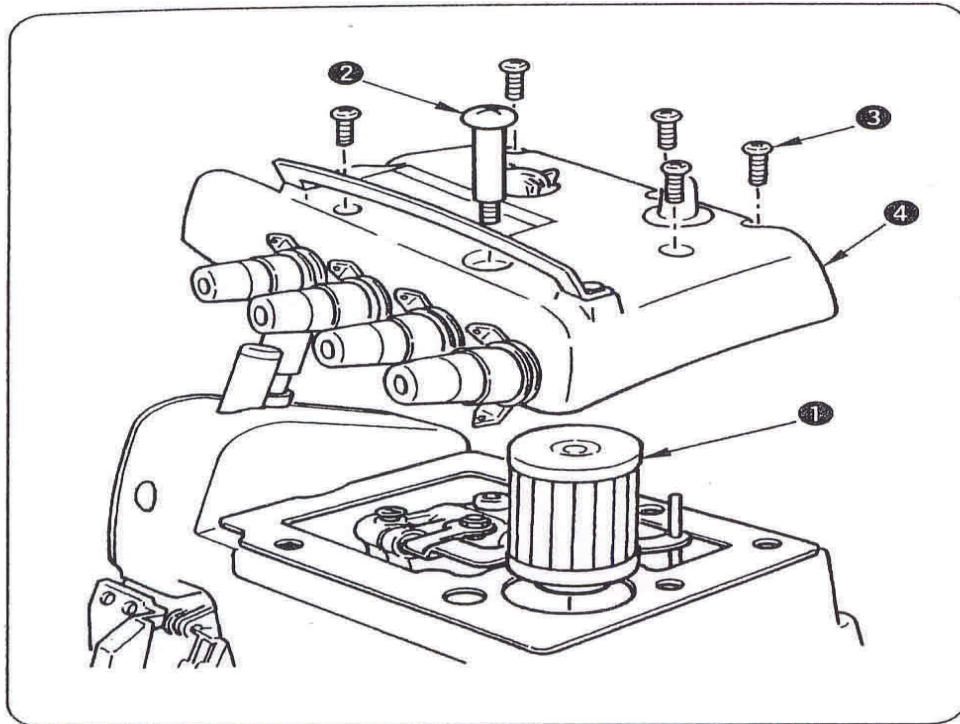
Change oil when one month has passed after the first set-up of the sewing machine. Then, change oil every six months.

- If the pointer bar of the oil gauge comes down under the lower marker line when observing the oil gauge from sideward, supply oil.
- Apply two or three drops of oil to the needle bar and upper looper guide when operating the machine for the first time after setup of after a long period of disuse.





## Checking the cartridge filter and replacing it :



1. After a long period of usage, cartridge filter ❶ may become clogged with dust.  
If the machine is left in this state, the dirty oil may fail to pass through cartridge filter ❶, and the machine may wear out abnormally, or a seizure may result.  
\* Cartridge filter ❶ should normally be checked once every six months, and cleaned or replaced accordingly.
2. How to inspect the cartridge filter and replace it.
  - 1) Remove first oil discharging screw ❷.
  - 2) Remove screws ❸, and lift top cover ❹ just above until it comes off.



**If top cover ❹ is shifted sideward, the oil amount pointer bar and the cartridge filter may be damaged.**

- 3) Remove cartridge filter ❶ and check it. If the filter is found to be abnormal, clean the relevant components, or replace cartridge filter ❶.
- 4) Re-insert cartridge filter ❶ into its proper position and return the cover. Do not forget to put back the setscrews and tighten them up.

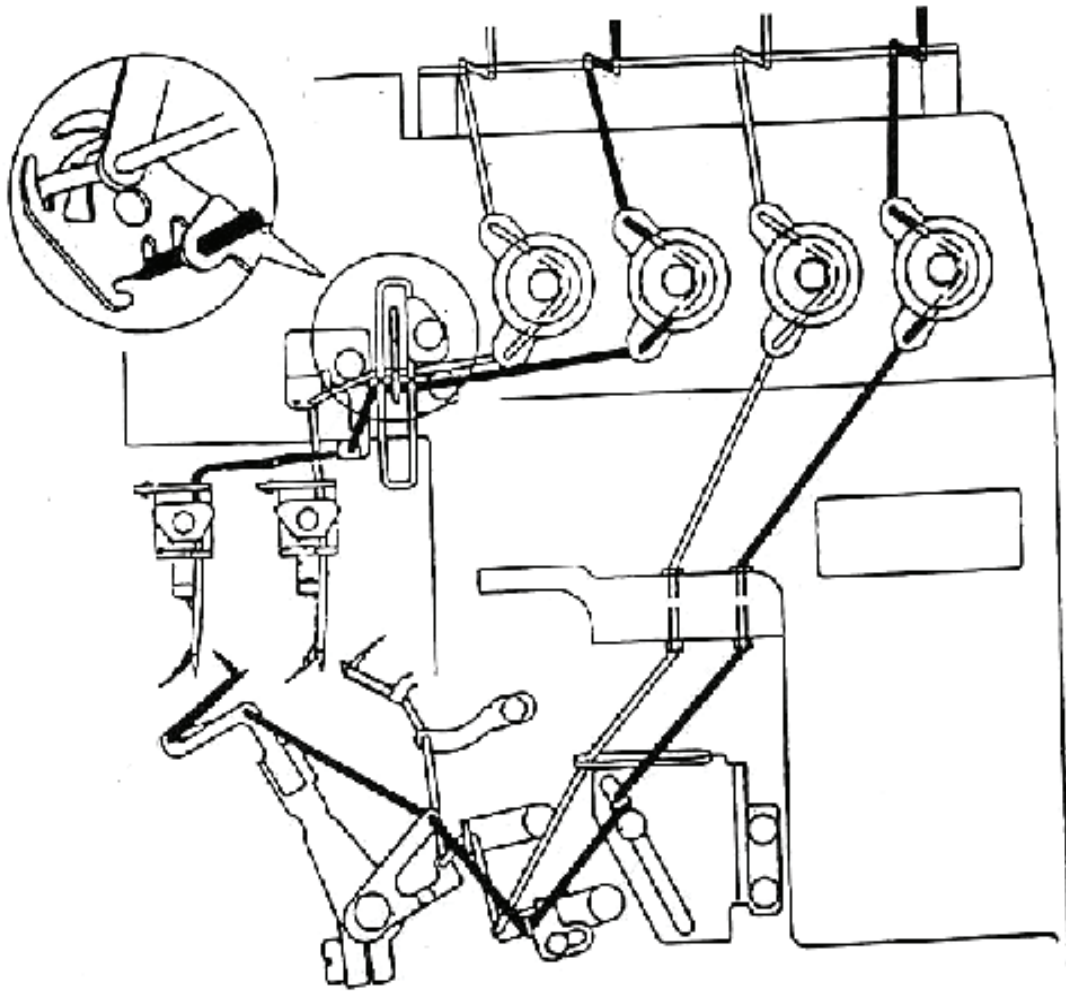
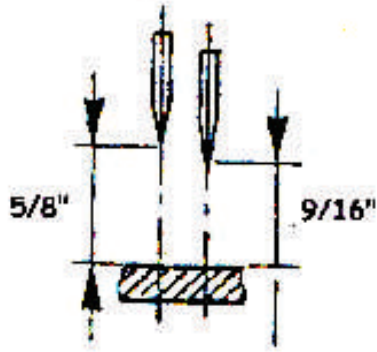
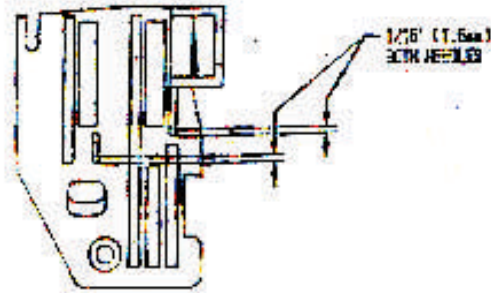


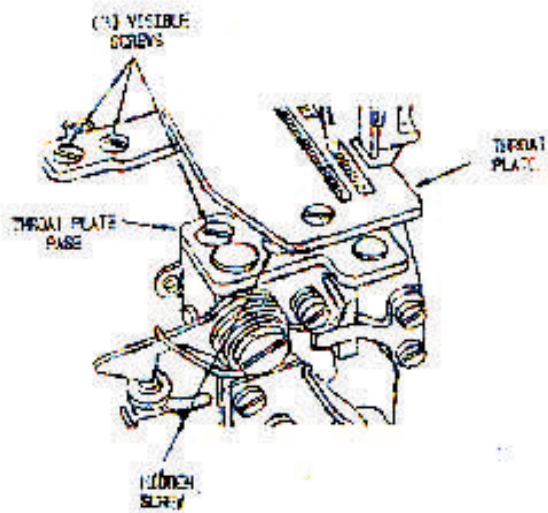
FIGURE 04  
THREADING  
DIAGRAM



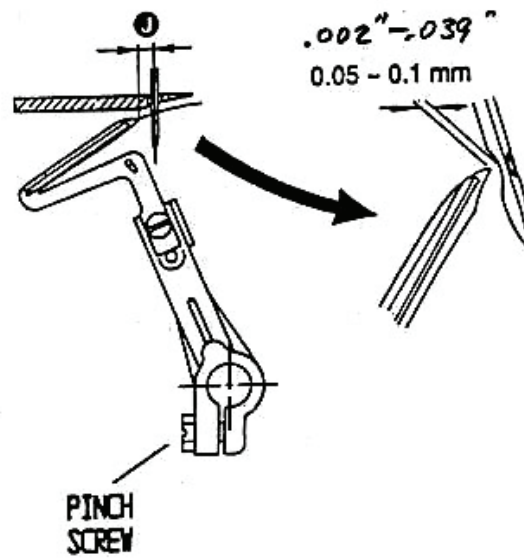
**FIGURE 09**  
**NEEDLE HEIGHT**  
**SETTING**  
**X5 ONLY**



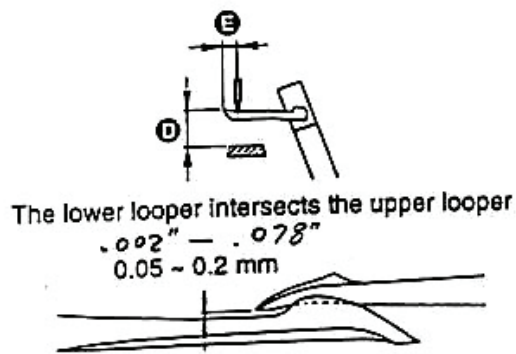
**FIGURE 10**  
**THROAT PLATE**  
**POSITION**



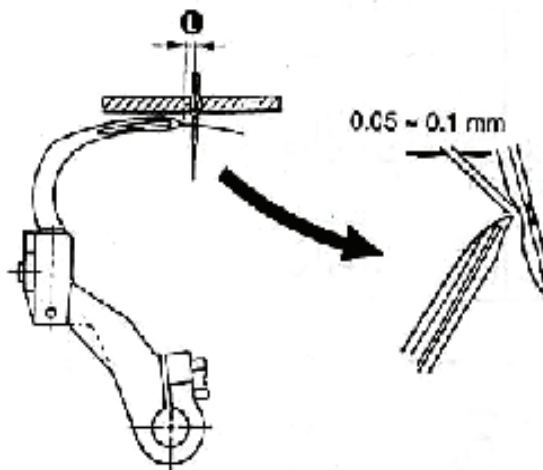
**FIGURE 11**  
**THROAT PLATE**  
**ADJUSTMENT**



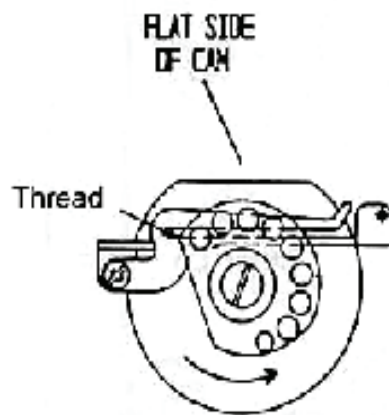
**FIGURE 12**  
**LOWER LOOPER**  
**SETTING**



**FIGURE 13**  
**UPPER LOOPER**  
**SETTING**

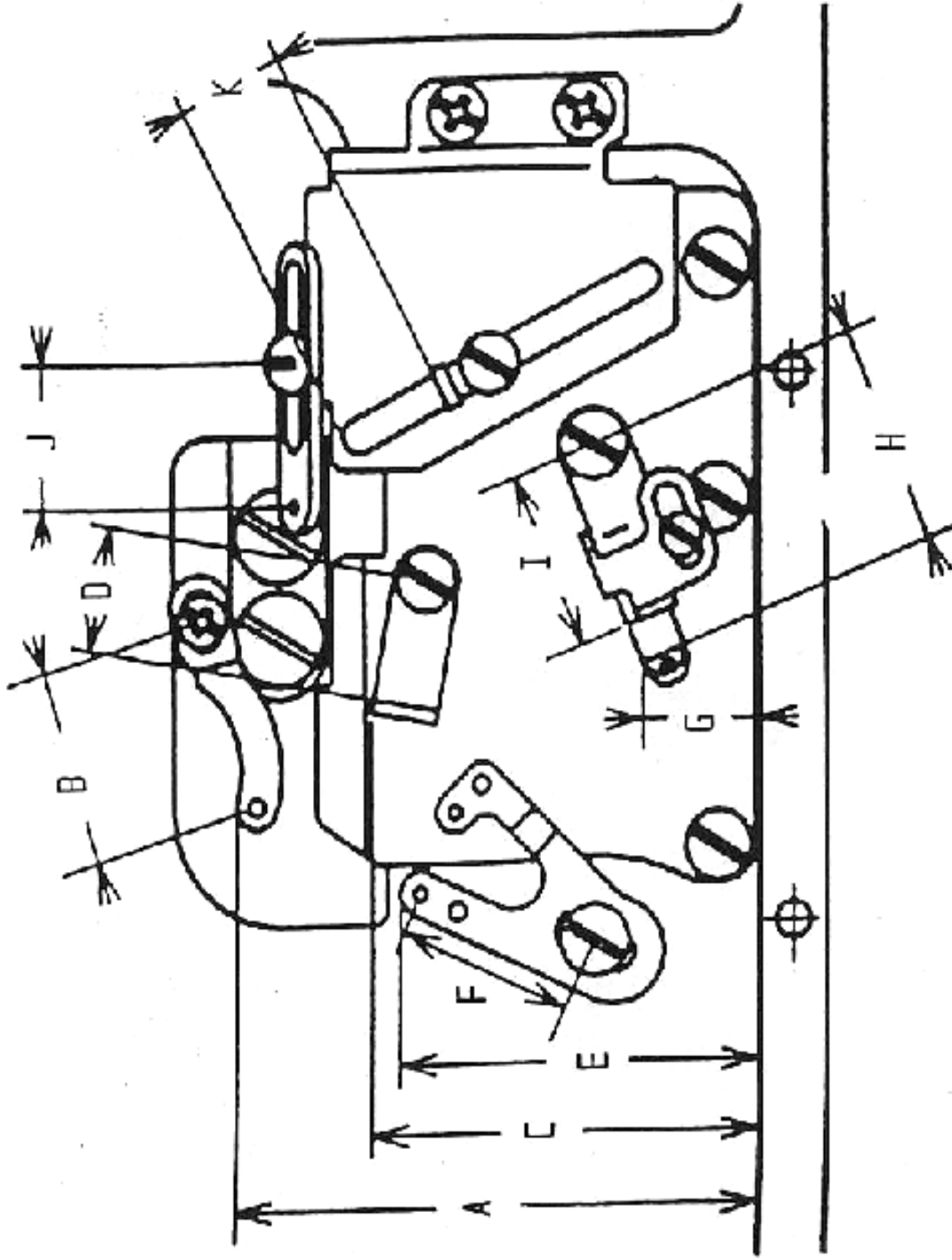


**FIGURE 14**  
**CHAIN LOOPER**  
**SETTING**



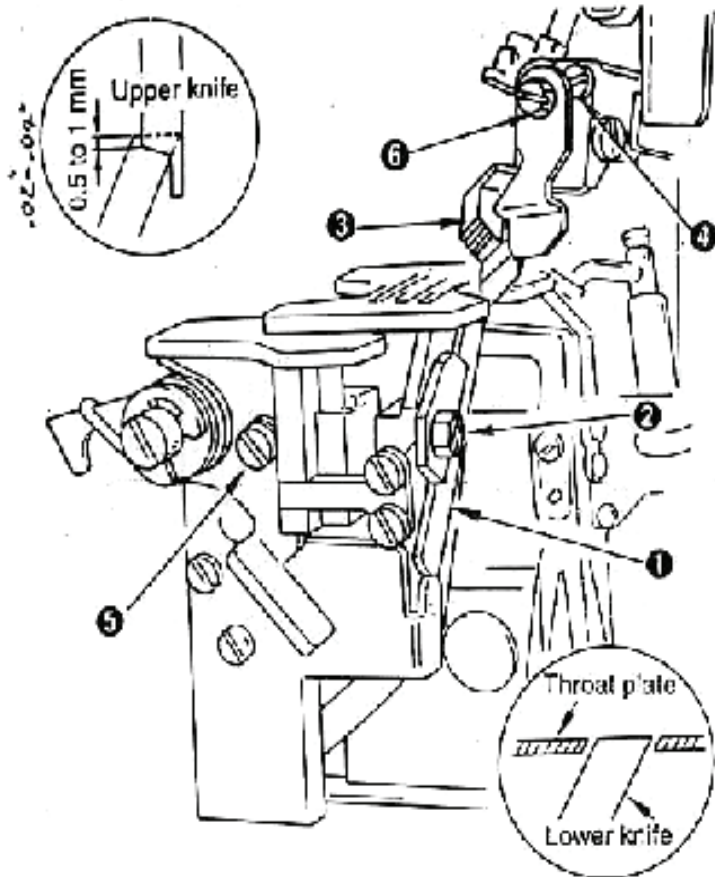
**FIGURE 15**  
**CHAIN LOOPER THREAD**  
**TAKEUP CAM SETTING**



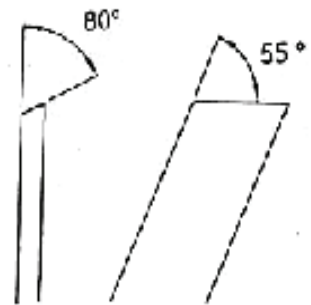


	INCH	MM
A	2-3/4	70
B	7/8	22
C	1-7/8	48
D	23/32	18
E	1-11/16	43
F	7/8	22
G	7/16	11
H	1-1/16	27
I	29/32	23
J	23/32	18
K	7/8	22

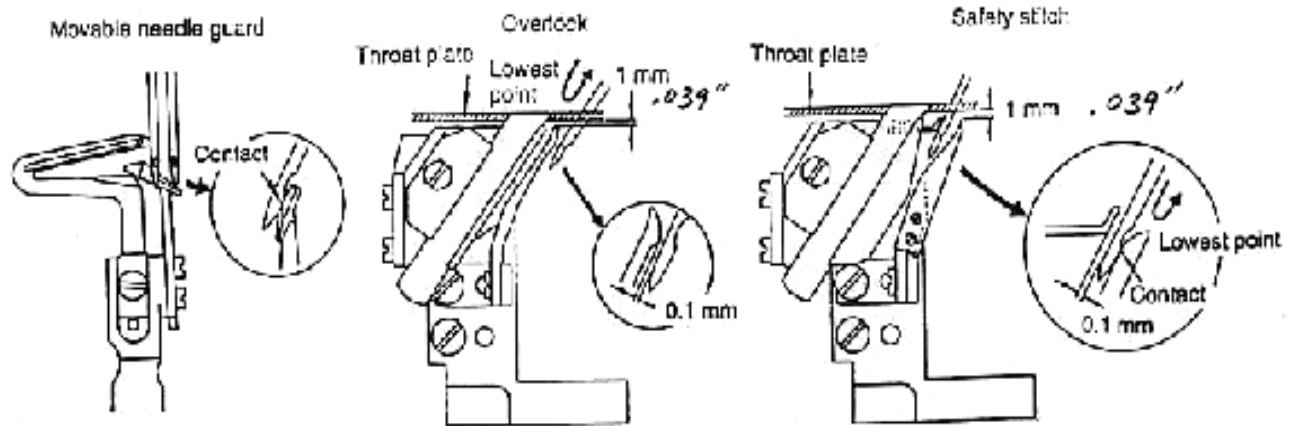
**FIGURE 16**  
**LOOPER THREAD TAKEUPS**  
**AND GUIDES SETTING**



**FIGURE 17**  
EDGE TRIMMING  
KNIFE ADJUSTMENT

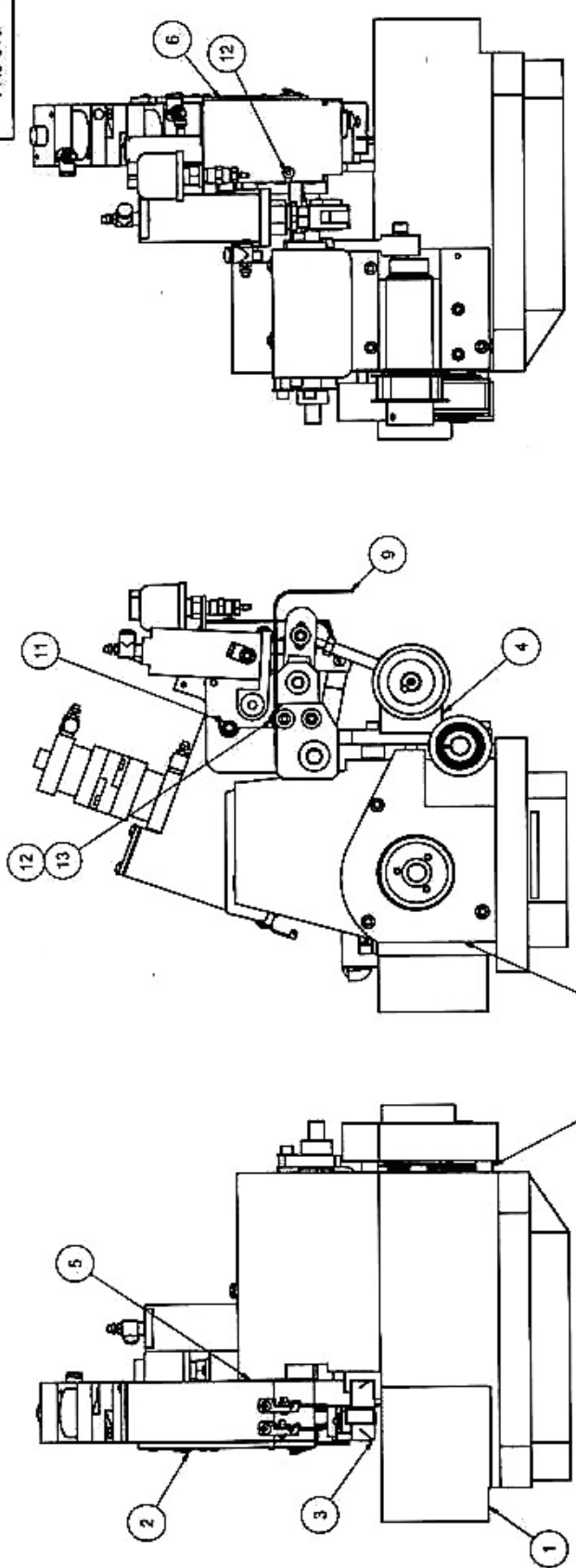


**FIGURE 18**  
EDGE TRIMMING LOWER  
KNIFE SHARPENING



**FIGURE 19**  
NEEDLE GUARDS  
SETTING

PX5-010



Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	A3350-418	SEWING MACHINE ASSY
2	1	A3350-386	NEEDLE DRIVE ASSY
3	1	A3350-423	PRESSER FOOT AND BELT DRIVE ASSY
4	1	A3350-349	ECCENTRIC DRIVE ASSY
5	1	C3350-411	SHIM HOUSING
6	1	C3350-312	COVER BELT DRIVE
7	1	C3350-326	BELT COVER
8	3	CB1567	SPACER PLASTIC UNTHREADED
9	1	C3350-428	REAR COVER
11	2	C311816SCS	SOCKET CAP SCREW
12	4	C102406BHS	BOTTOM HD SCREW
13	2	C10STW	#10 FLAT WASHER
14	3	CB1701	SOCKET CAP SCREW

FINISH FOR ALUMINUM USE BLACK ANODIZE UNLESS OTHERWISE NOTED IN FIELD  
 FOR STEEL USE BLACK OXIDE

TOLERANCE EXCEPT AS NOTED  
 2 PLACE DECIMAL + 010  
 FRACTIONS + 1/64  
 ANGLES + 1/2  
 BREAK ALL EDGES 005

GALVIN AUTOMATED PRODUCTS  
 37 DEB STREET WEST BOBOLTON NY 13026

DATE 4/18/005  
 SCALE  
 SHEET 1 OF 1

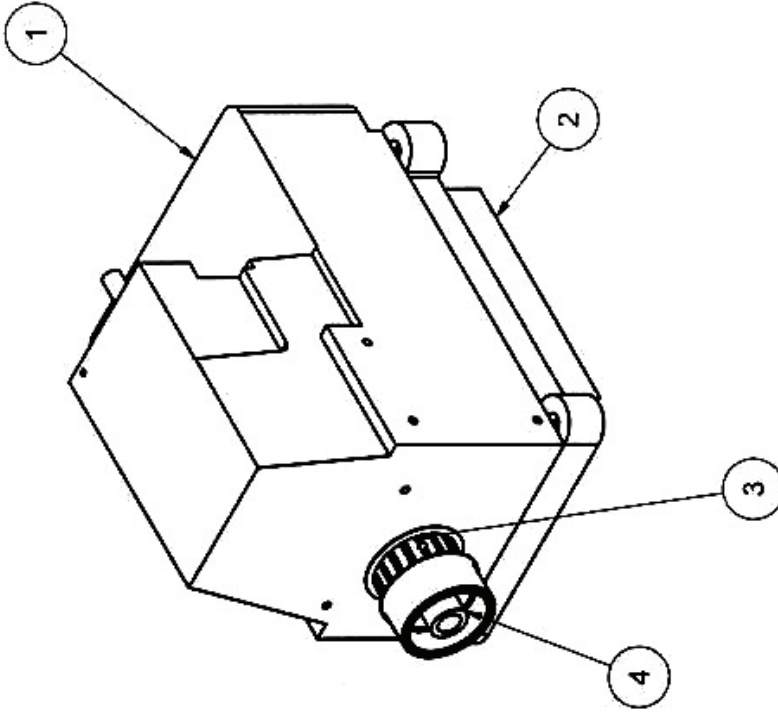
DRAWN JCV/AMM  
 APPROVED  
 QTY/UNIT

NAME FLANGER HEAD ASSY  
 PART NUMBER PX5-010

RTV

NOTE:  
 1. SHIM AS REQ'D BETWEEN ITEM 3 AND 4  
 USING C3350-352, C3350-352-1  
 AND C3350-352-2.  
 2. SHIM BETWEEN ITEM 1 AND ITEM 2 WITH  
 ITEM 5 NEEDLES TO BE CENTERED IN  
 THROAT PLATE.

4  
A3350-416



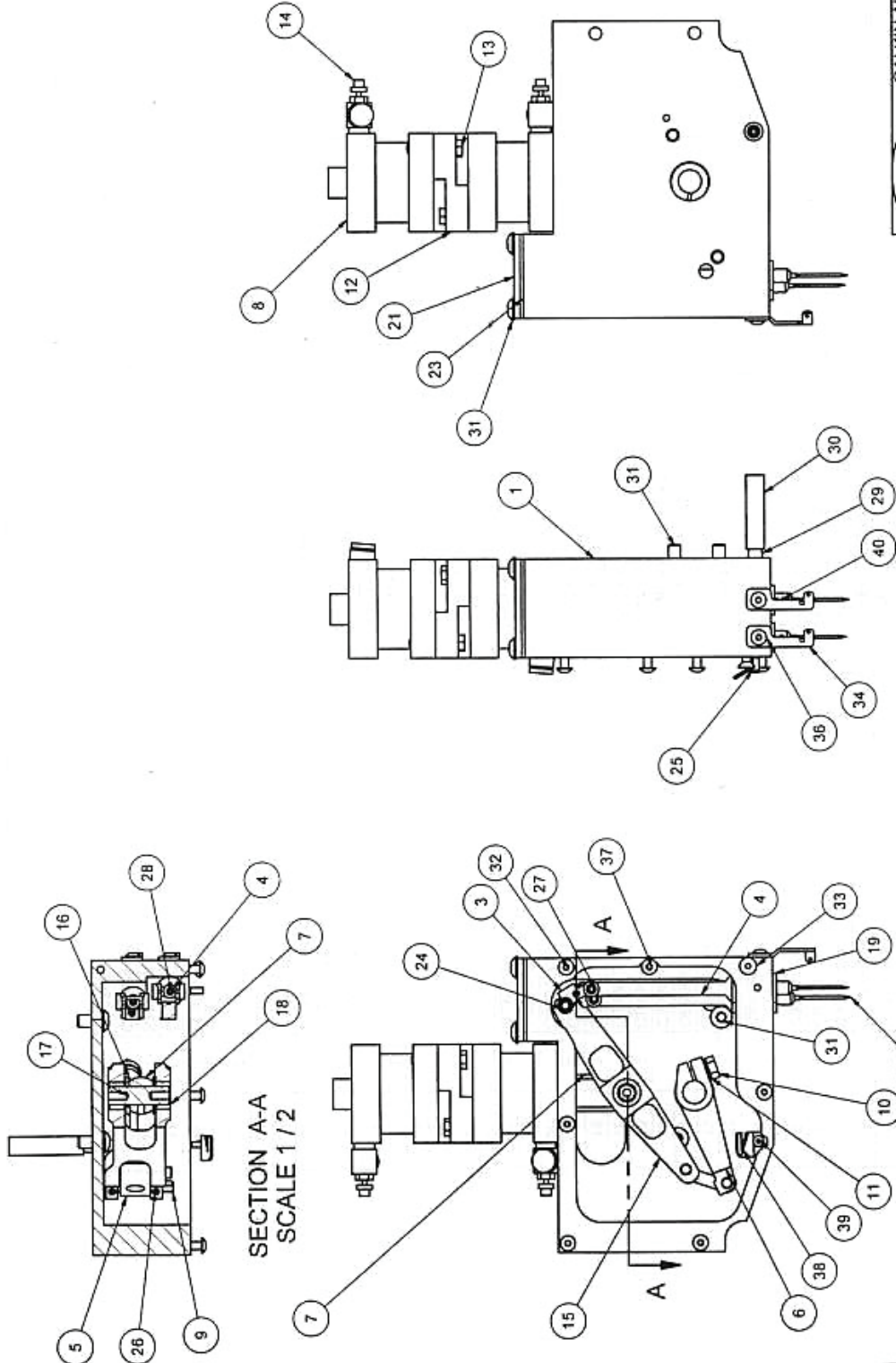
Parts List			
ITEM	QTY	PART NUMBE	DESCRIPTION
1	1	C3350-413	SEWING MACHINE
2	1	C3350-233	OIL PAN
3	1	C3350-194-1	PULLEY MOD
4	1	C119-56505	HAND WHEEL

<b>GALKIN AUTOMATED PRODUCTS</b> 97 OTIS STREET WEST BABYLON, NY 11704		DRAWN: JChristofor DATE: 11/23/2004	NAME: SEWING MACHINE ASSY
		APPROVED:	PART NUMBER: A3350-416
MATERIAL: FINISH: HARDNESS:	QTY/UNIT: 1	SHEET 1 OF 1	REV

TOLERANCE EXCEPT AS NOTED  
 3 PLACE DECIMAL ± .005  
 2 PLACE DECIMAL ± .010  
 FRACTIONS ± 1/64  
 ANGLES ± 1/2  
 BREAK ALL EDGES .005



A3350-386



		<b>GALKIN AUTOMATED PRODUCTS</b> <small>91 0715 STREET INEST BABYLON, ILLINOIS</small>	
DATE	8/23/2004	NAME	NEEDLE DRIVE ASSY
SCALE		PART NUMBER	A3350-386
SHEET	1	OF	2
REV			

DESIGNER	JCH/ndir
DRAWN	JCH/ndir
APPROVED	
QTY/UNIT	
MATERIAL	
FINISH	
HARDNESS	

TOLERANCE EXPERT AS NOTED  
 3 PLACE DECIMAL + 0.001  
 2 PLACE DECIMAL + 0.10  
 FRACTIONS : 1/64  
 ANGLES : 1/2  
 BREAK ALL EDGES .005

**NOTES:**  
 1. VIEW SHOWN LESS GASKET AND COVER ITEM 21 AND 23.  
 2. APPLY LOCTITE THREAD LOCK (BLUE) TO ITEM 37 (2) #8-32 SET SCREWS



Parts List			DESCRIPTION	
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	C3350-387	HOUSING	
2	2	135X7 #22	NEEDLE	
3	2	C132-08004	NEEDLE DRIVING LINK	
4	2	C3350-383	NEEDLE BAR	
5	1	C3350-240	LINK	
6	1	C132-09804	NEEDLE DRIVING ARM	
7	1	C3350-294	AIR CYLINDER SHAFT	
8	2	CB1519	AIR CYLINDER	
9	2	C3350-295	SHAFT LINK DRIVE	
10	1	CB1468	HEX HD	
11	1	CB1469	SERRATED BELLEVILLE WASHER	
12	1	C3350-305	SPACER AIR CYLINDER	
13	4	C102416HHS	FLOW CONTROL	
14	2	CB1504	LINK, NEEDLE BAR DRIVE LINK	
15	1	C3350-392	BRONZE THRUST WASHER	
16	2	CB1561	SHAFT AIR CYL. LINK DRIVE	
17	1	C3350-296-1	NEEDLE BRG	
18	2	CB111	BUSHING	
19	2	C123-72108	HOUSING COVER GASKET	
20	1	C3350-389	TOP COVER	
21	1	C3350-391	HOUSING COVER	
22	1	C3350-388	TOP COVER GASKET	
23	1	C3350-390	SHAFT LINK	
24	2	C3350-365	ROLL PIN	
25	1	C1204RLP	KNURLED SET SCREW	
26	6	CB1621	LINK PIN	
27	2	C132-09408	CONE POINT SET SCREW	
28	2	CB1629	OIL RETURN BARB	
29	1	C3350-412	OIL RETURN TUBE	
30	1	C3350-414	BUTTON HEAD SCREW	
31	4	C252008BHS	BUTTON HEAD SCREW	
32	5	C083208BHS	FLAT HEAD SCREW	
33	1	C083206FHS	THREAD GUIDE	
34	2	C121-72405	SET SCREW	
35	2	C083203SSS	BUTTON HEAD SCREW	
36	2	C083203BHS	BUTTON HEAD SCREW	
37	1	C083220BHS	THREAD TRIMMER	
38	1	B1528-804-000-A	BUTTON HEAD SCREW	
39	1	C044004BHS	SET SCREW NEEDLE	
40	2	CSS8080310TP		

A3350-386

**GALKIN AUTOMATED PRODUCTS**  
 87 0118 STREET WEST BARBOURTON, NJ 07004

DATE: 02/29/04  
 SCALE: \_\_\_\_\_  
 SHEET 2 OF 2

REV: \_\_\_\_\_

DRAWN: JCHINIDER  
 APPROVED: \_\_\_\_\_  
 QTY/UNIT: \_\_\_\_\_

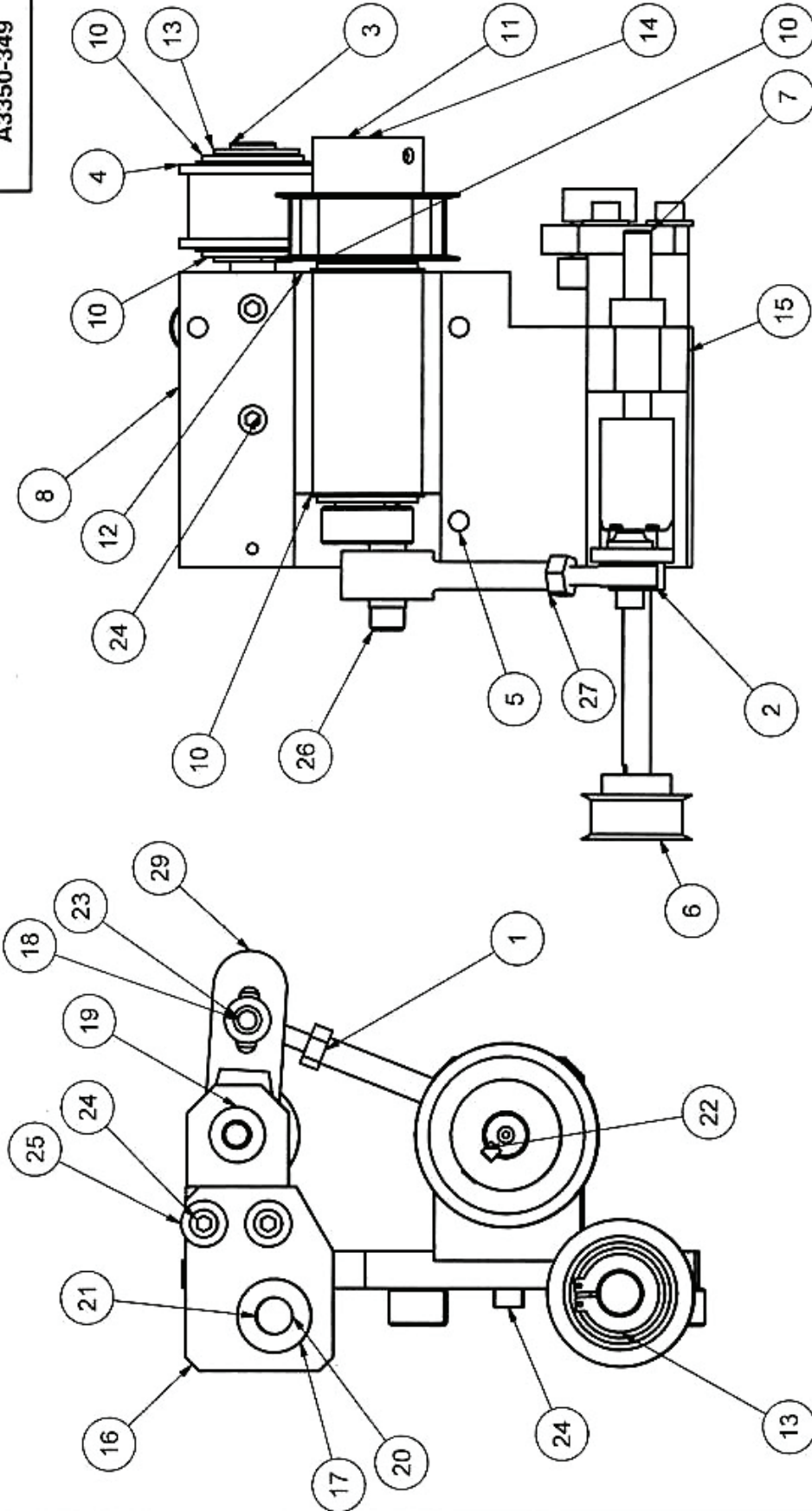
MATERIAL: \_\_\_\_\_  
 FINISH: \_\_\_\_\_  
 HARDNESS: \_\_\_\_\_

TOLERANCE EXCEPT AS NOTED  
 1 PLACE DECIMAL • 005  
 2 PLACE DECIMAL • 010  
 FRACTIONS • 1/64  
 ANGLES • 1/2  
 BREAK ALL EDGES 005

NAME: NEEDLE DRIVE ASSY  
 PART NUMBER: A3350-386



A3350-349



**GALKIN**  
**GALKIN AUTOMATED PRODUCTS**  
 8707E STREET WEST BARRINGTON, NY 11757

TOLERANCE EXCEPT AS NOTED		MATERIAL:		STOCK SIZE:		DATE:		NAME:	
3 PLACE DECIMAL ± .005		FINISH:		DRAWN: J. CHRISTOFOR		1/26/2004		ECCENTRIC DRIVE ASSY	
2 PLACE DECIMAL ± .010		HARDNESS:		APPROVED:		SCALE:		PART NUMBER: A3350-349	
ANGLES ± 1/2		BREAK ALL EDGES .005		SHEET 2 OF 3		REV		REV	



A3350-349

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	C3350-328	ROD END
2	1	CB133	TIE ROD END
3	1	C3350-278	SHAFT, MAIN DRIVE IDLER
4	1	C3350-279	PULLEY, IDLER
5	3	C3350-262	SPACER ECCENTRIC DRIVE SUPPORT
6	1	CB316	PULLEY
7	1	C3350-248	SHAFT, BELT DRIVE
8	1	C3350-247	PLATE, ECCENTRIC DRIVE SUPPORT
9	1	CB105	CLUTCH
10	4	CB1439	BALL BEARING
11	1	C3350-292	SHAFT ECCENTRIC DRIVE
12	1	C3350-291	HOUSING ECCENTRIC DRIVE
13	3	CB1473	RET RING
14	1	C3350-293	PULLEY
15	1	C3350-298	HOUSING, ECCENTRIC DRIVE
16	1	C3350-313	BLOCK-BEARING SUPPORT
17	1	CB1702	SELF ALIGNING BEARING
18	1	CB238	SLIDE WASHER
19	2	C375STC	COLLAR
20	1	C50STC	COLLAR
21	1	CB1474-1	SHAFT COLLAR
22	1	C4700-0013	SQ KEY
23	1	CB23C	SLIDE NUT
24	9	C252012SCS	SOCKET CAP SCREW
25	2	C25STW	FLAT WASHER
26	1	C311820SCS	SOCKET CAP SCREW
27	1	C2528STN	HEX NUT
28	2	C252006SSS	SET SCREW
29	1	A3350-429	HOUSING CLUTCH ASSEMBLY

**GALKIN AUTOMATED PRODUCTS**  
GALV. STEEL PULLEY BEARING HOUSING IDLER

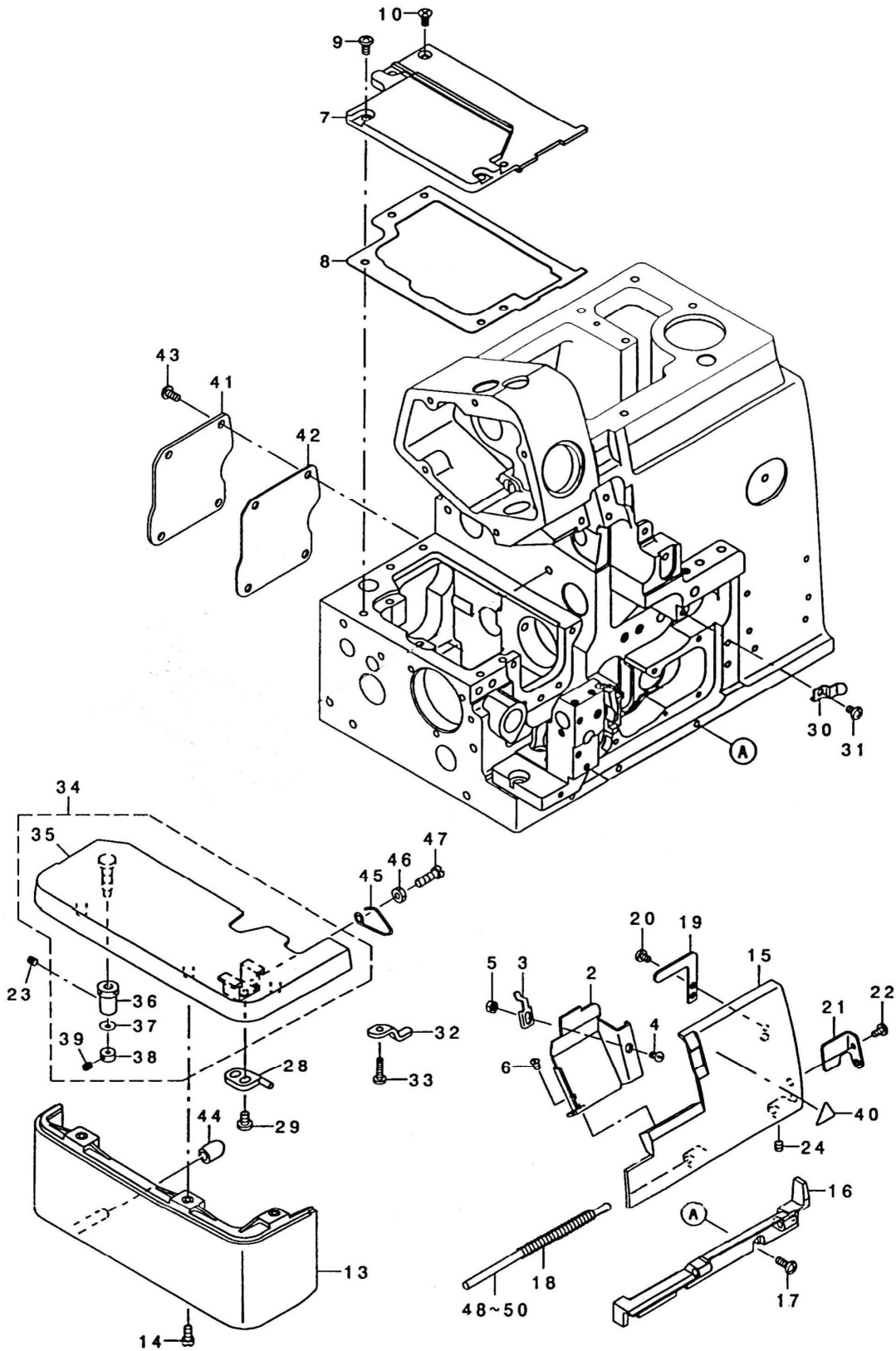
DATE: 10/20/04  
SCALE: 1:1  
SHEET 1 OF 3

NAME: ECCENTRIC DRIVE ASSY  
PART NUMBER: A3350-349

STOCK SIZE	DESIGNED BY	APPROVED
3 PLACE DECIMAL, 0.005	J. CHRISTOPHER	
2 PLACE DECIMAL, 0.010	DRGWR	
BREAK ALL EDGES 0.05	HARDNESS	

TOLERANCE EXCEPT AS NOTED  
3 PLACE DECIMAL, 0.005  
2 PLACE DECIMAL, 0.010  
BREAK ALL EDGES 0.05

# FRAME COMPONENTS (1)

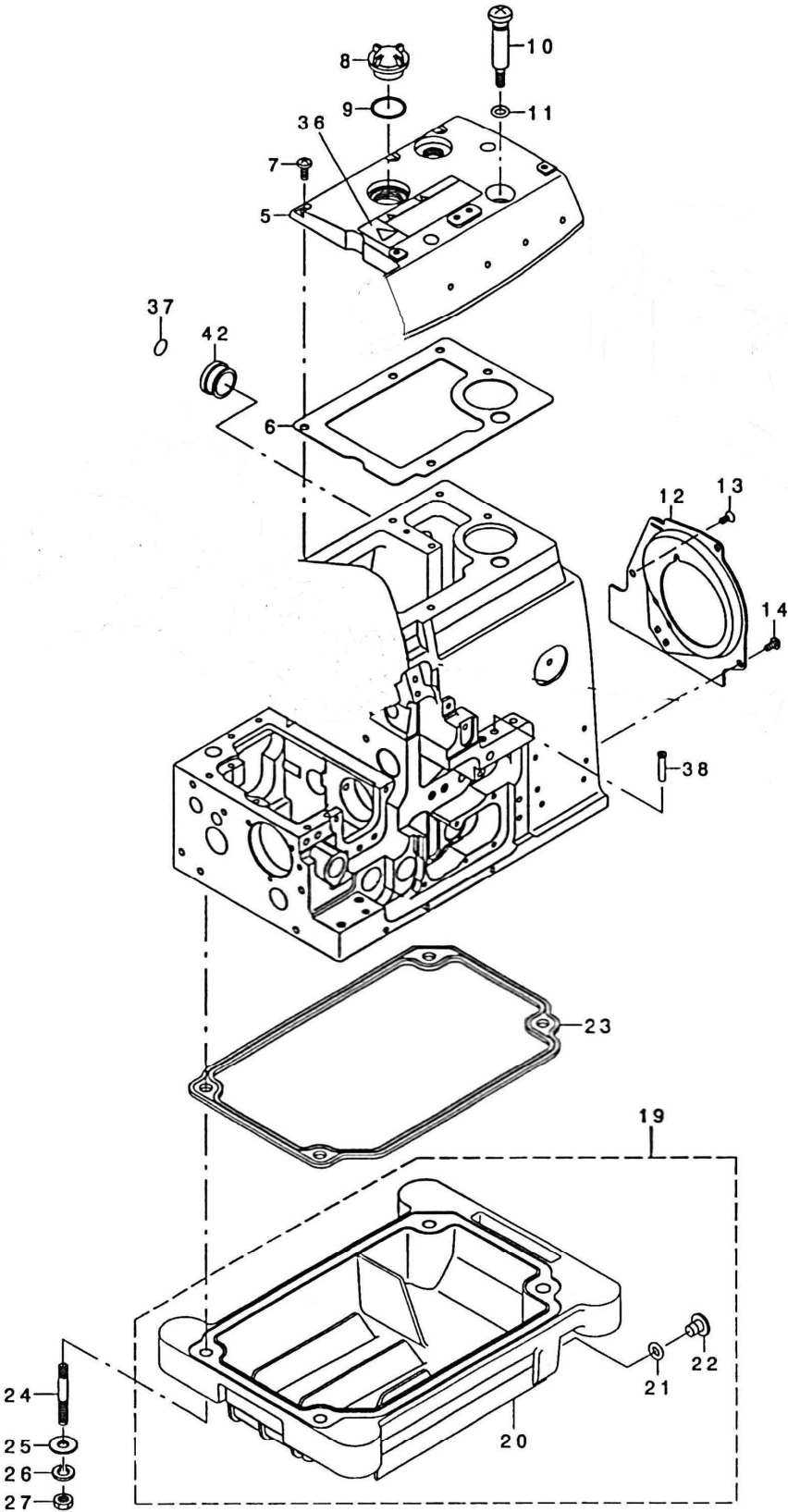




# FRAME COMPONENTS (1)

Reference Nos.	Part Number	Description	Quantity
2	C123-79608	Cloth Waste Cover	1
3	C131-02405	Cloth Waste Cover Stopper	1
4	CSS-2090520-SL	Screw	1
5	CNS-6090310-SN	Nut	1
6	CSS-3090610-SP	Screw	2
7	C132-00704	Feed Mechanism Cover	1
8	C132-00803	Feed Mechanism Cover Gasket	1
9	CSM-4040855-SP	Screw	4
10	CSM-1040801-SC	Screw	1
13	C131-03809	Cloth Base Cover	1
14	CSS-4091015-SP	Screw	2
15	C131-00904	Looper Cover	1
16	C131-00805	Looper Cover Bracket	1
17	CSM-4041055-SP	Screw	3
18	C131-01209	Looper Cover Spring	1
19	C131-01407	Looper Cover Presser Plate	1
20	CSS-7090530-SP	Screw	1
21	C131-01001	Looper Cover Guide Plate	1
22	CSS-7090610-SP	Screw	1
23	CSS-8110410-TP	Screw	1
24	CSS-8110410-TP	Screw	1
27	CSS-7110510-SP	Screw	2
28	C121-03305	Cloth Base Switch- Type Stopper	1
29	CSS-7110710-SP	Screw	2
30	C131-01308	Looper Cover Presser Spring	1
31	CSM-4040655	Screw	1
32	C131-01803	Cloth Base Support Plate	1
33	CSS-7091410-SP	Screw	1
34	C121-05359	Cloth Base Assly.	1
35	C121-02752	Cloth Base Assly.	(1)
36	C115-01301	Eccentric Bushing	(1)
37	CWZ-0420350	Disc Spring	(1)
38	CCS-0400671-SD	Thrust Holder	(1)
39	CSM-8040302	Setscrew	(1)
40	CCM-3002000-01	Attention Seal	1
41	C132-01504	Adjusting Hole Cover	1
42	C132-01603	Adjusting Hole Cover Gasket	1
43	CSM-4040855-SP	Screw	4
44	C131-04302	Cloth Base Cover Rubber Plug	1
45	C131-02207	Cloth Base Switch- Type Spring	1
46	CHS-6110420-SP	Nut	1
47	CSS-6111440-Sp	Screw	1
48	C132-40007	Looper Cover Hinge Shaft A	1

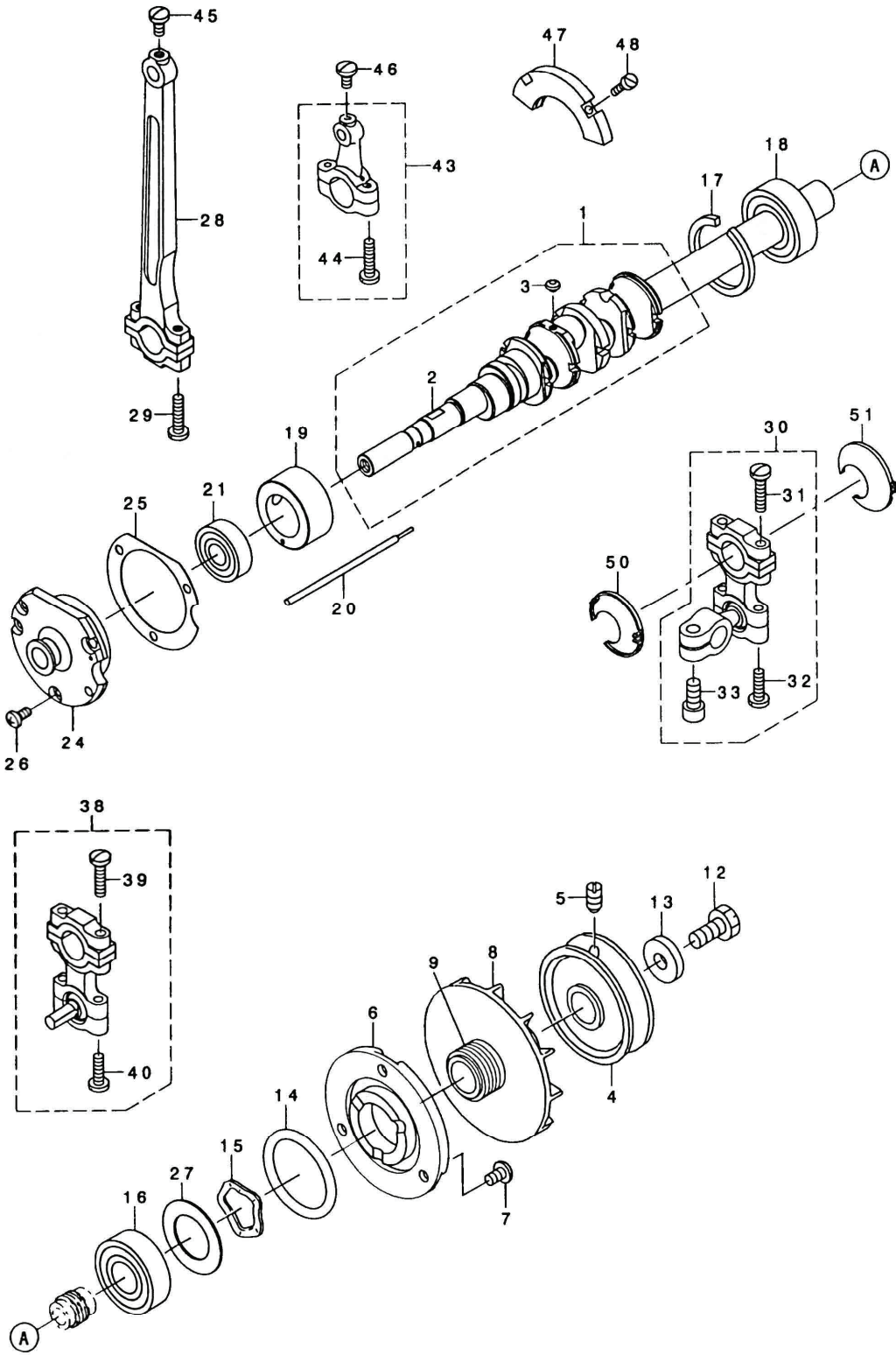
# FRAME COMPONENTS (2)



## FRAME COMPONENTS (2)

Reference Nos.	Part Number	Description	Quantity
5	C132-00407M	Upper Cover	1
6	C132-00605	Upper Cover Gasket	1
7	CSM-4051255-SP	Screw	5
8	C229-24708	Oil Sight Window	1
9	C131-70006	Rubber Ring	1
10	C131-04500	Oil Drain Screw	1
11	C131-70204	Rubber Ring	1
12	C132-01009	Cooling Fan Plate	1
13	CSM-1040801-SC	Screw	1
14	CSM-4040855-SP	Screw	2
19	C131-02553	Oil Reservoir Assembly	1
20	C131-02504	Oil Reservoir	(1)
21	C131-70105	Rubber Ring	(1)
22	C131-71004	Drain Screw	(1)
23	C131-02603	Oil Reservoir Gasket	1
24	C131-03908	Screw Stud	4
25	CWP-0751576-SD	Washer	4
26	CWS-0822010-KP	Spring Washer	4
27	CNS-6680410-SP	Nut	4
36	CCM-3002001-B1	Safety Label 12	1
37	C229-01805	Ground Mark	1
38	C131-02900	Thread Guide, Large	2
42	CTA-2050805-RO	Rubber Plug	1

# CRANKSHAFT COMPONENTS

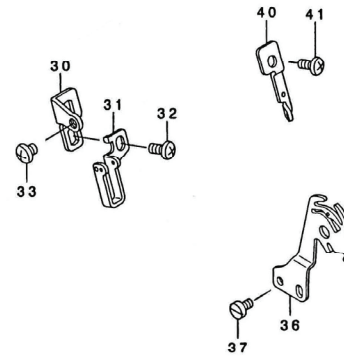
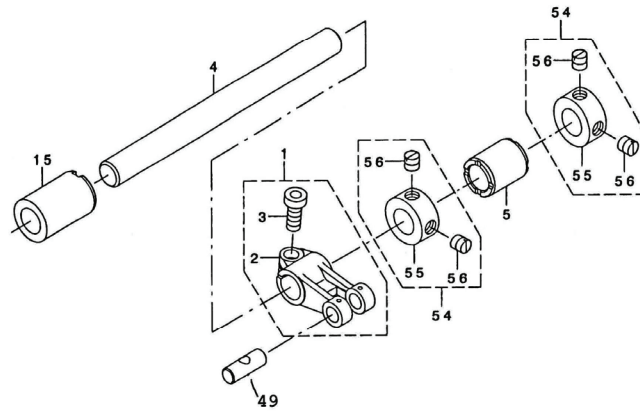


# CRANKSHAFT COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	C132-05554	Crankshaft Assembly	1
2	C132-05505	Crankshaft	(1)
3	SS-5080212-TP	Screw	(5)
4	C120-02606	Handwheel A	1
5	CSS-8151150-TP	Screw	2
6	C131-07800	Thrust Collar	1
7	CSM-4050855-SP	Screw	3
8	C118-11619	Cooling Fan	1
9	C131-08501	Crankshaft Oil Shield	1
11	CSS--7111810-TP	Screw	3
12	CSS-9681610-TP	Screw	1
13	CWP-0764016	Washer	1
14	C131-70303	Rubber Ring	1
15	CWZ_2640310-KH	Wavy Washer	1
16	C131-08600	Crankshaft Ball Bearing B	1
17	CB1212-704-000	Bearing Retainer	1
18	C131-08600	Crankshaft Ball Bearing B	1
19	C132-05406	Crankshaft Bushing C	1
20	C131-04906	Oil Adjusting Bar	1
22	C131-08907	Crankshaft Ball Bearing D	1
24	C131-08105	Crankshaft Bushing D	1
25	C121-08403	Crankshaft Bushing D Gasket	1
26	CSM-4040855-SP	Screw	3
27	C131-08303	Bearing Holding Plate	1
28	C123-72603	Connecting Rod	1
29	CSS-7111810-TP	Screw	2
30	C123-75051	Upper Looper Arm Assembly	1
31	CSS-7111810-TP	Screw	(2)
32	CSS-7111410-TP	Screw	(2)
33	CSM-6061202-TP	Screw	(1)
38	C123-75259	Lower Looper Arm B Assembly	1
39	CSS-7111810-TP	Screw	(2)
40	CSS-7111410-TP	Screw	(2)
41	C132-20801	Looper Rod Center Rest, Left	1
42	C132-20900	Looper Rod Center Rest, Right	1
43	C121-32155	Knife Driving Rod Assembly	1
44	CSS-7111810-TP	Screw	(2)
45	CSS-7110840-SP	Screw	1
46	CSS-7110840-SP	Screw	1
47	C132-05901	Balancer	1
48	CSS-6081210-TP	Screw	2
50	C132-21007	Looper Rod Center Rest, Left	1
51	132-21106	Looper Rod Center Rest, Right	1



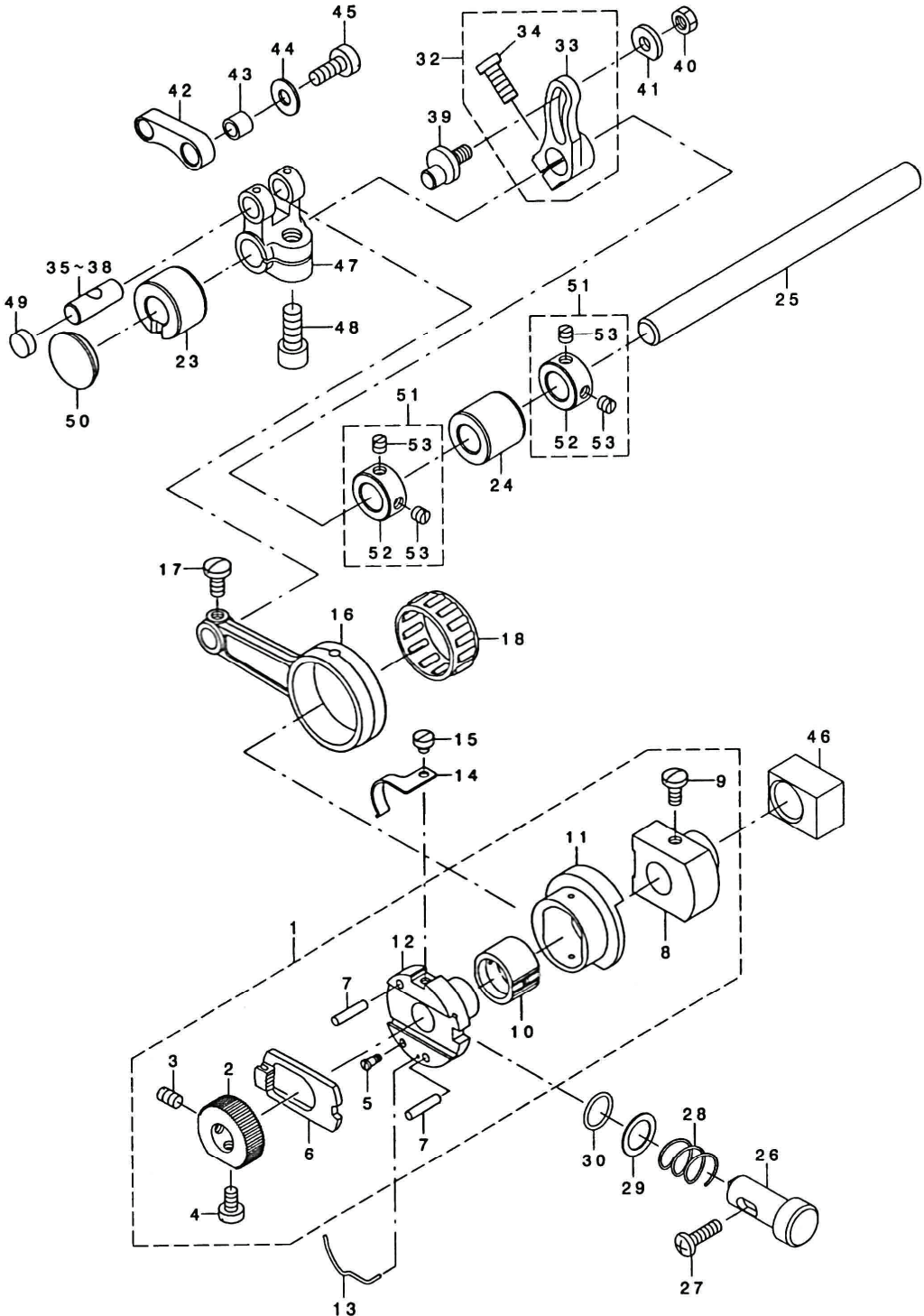
# NEEDLE DRIVING SHAFT COMPONENTS



# NEEDLE DRIVING SHAFT COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	C131-10556	Feed Forked Crank Assembly	1
2	C131-10507	Needle Driving Branch Crank	(1)
3	SM-6061402-TP	Screw	(1)
4	C131-10606	Needle Driving Shaft	1
5	C122-80301	Bushing, Rear	1
15	C131-10002	Bushing, Rear	1
30	C132-08707	Needle Thread Guide Base	1
31	C123-86603	Thread Guide Chain Looper	1
32	CSM-4040855-SP	Screw	2
33	CSS-4110515-SP	Screw	1
36	C123-72207	Thread Take up Lever	1
37	CSS-6090670-TP	Screw	2
40	C123-72405	Chain Loop	1
41	CSM-4040855-SP	Screw	1
49	C131-22007	Feed Branch Crank Pin A	1
54	C131-72754	Thrust Collar Assembly	2
55	C131-72705	Thrust Collar	(1)
56	CSS-8660610	Screw	(2)

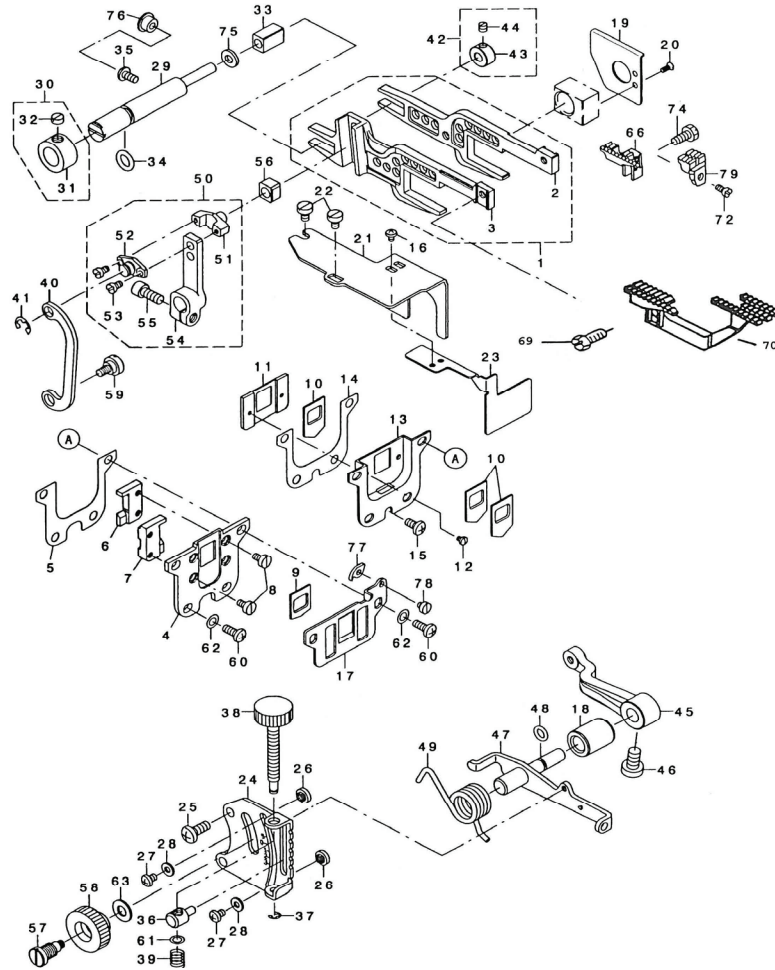
# FEED MECHANISM COMPONENTS (1)



# FEED MECHANISM COMPONENTS (1)

Reference Nos.	Part Number	Description	Quantity
1	C121-16174	Feed Eccentric Body Assembly	1
2	C121-18808	Ratchet Gear	(1)
3	CSS-8110750-SP	Screw	(1)
4	CSS-6110710-TP	Screw	(1)
5	CSD-0260271-SP	Hinge Screw	(1)
6	CB1604-704-000	Ratchet Pawl	(1)
7	CPS-0300132-KH	Spring Pin	(2)
8	C121-16117	Feed Eccentric Body	(1)
9	CSS-7110810	Screw	(2)
10	C121-16307	Feed Cam Block	(1)
11	C121-16216	Feed Cam	(1)
12	C121-16406	Feed Adjusting Cam	(1)
13	C131-22502	Ratchet Pawl Spring	1
14	C131-19300	Ratchet Gear Spring	1
15	CSS-6080320-SP	Screw	1
16	C131-18708	Feed Crank Rod	1
17	CSS-7110910-TP	Screw	1
18	C121-16604	Needle Bearing	1
23	C131-19409	Feed Shaft Metal, Front	1
24	C131-19508	Feed Shaft Metal, Rear	1
25	C131-19607	Feed Shaft	1
26	C132-16809	Push Button Shaft	1
27	CSM-4041455-SN	Screw	1
28	C132-16601	Push Button Spring	1
29	C132-16700	Push Button Shaft Washer	1
30	C132-44108	Rubber Ring	1
32	C131-19953	Main Feed Arm Assembly	1
33	C131-19904	Main Feed Arm	(1)
34	CSM-6051202-TP	Screw	(1)
35	C131-22007	Crank Pin A	1
36	C131-22106	Crank Pin B	1
37	C131-22205	Crank Pin C	1
38	C131-22304	Crank Pin D	1
39	C131-19706	Main Feed Arm Pin	1
40	CNS-6620320-SP	Nut	1
41	C131-20001	Washer B	1
42	C131-19805	Main Feed Link	1
43	CB1620-804-000	Pin Collar	1
44	C131-20605	Washer	1
45	CSS-6121220-TP	Screw	1
46	C132-17807	Slide Block A	1
47	C121-19210	Forked Crank	1
48	CSM-6061402-TP	Screw	1
49	CTA-1030402-RO	Rubber Plug	1
50	CTA-2050416-RO	Rubber Plug	1
51	C131-72556	Feed Shaft Thrust Collar Assembly	2
52	C131-72507	Feed Shaft Thrust Collar	(1)
53	CSS-8110410-TP	Screw	(2)

# FEED MECHANISM COMPONENTS (2)



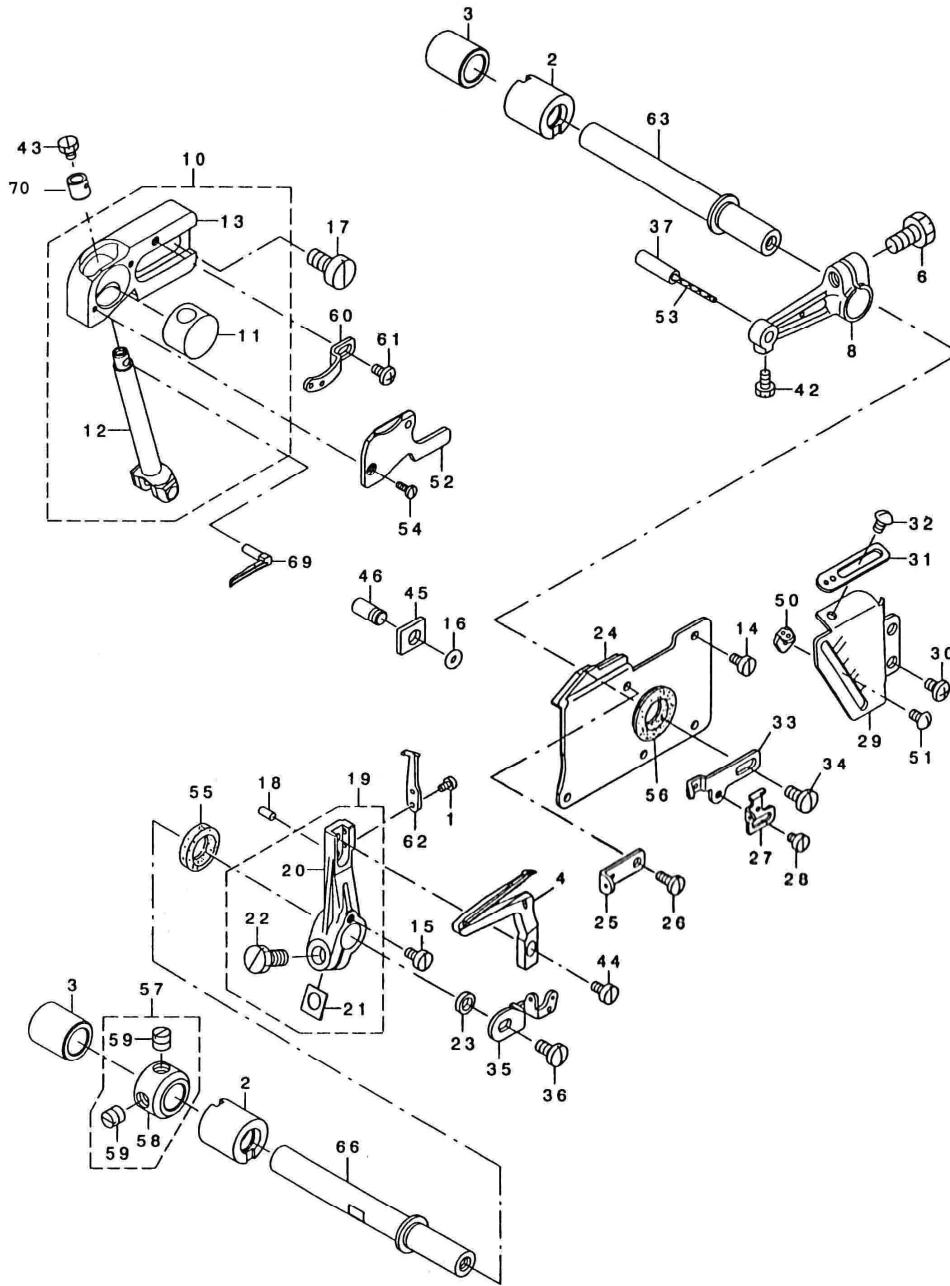
Reference Nos.	Part Number	Description	Quantity
1	C132-15157	Feed Rocker Assembly	1
2	C132-15108	Main Feed Bar	(1)
3	C132-15207	Differential Feed Bar	(1)
4	C132-15306	Rubber Case	1
5	C132-15405	Rubber Case Gasket	1
6	C132-15504	Feed Bar Support Right	1
7	C132-15603	Feed Bar Support Left	1
8	CSS-6090620-TP	Screw	4
9	C121-18303	Dust-Proof Rubber	1
10	C121-18204	Oil Shield Rubber	3
11	C132-15702	Rubber Holding Plate	1
12	CSS-7060310-SP	Screw	2
13	C132-15900	Oil Shield Case	1
14	C132-16007	Oil Shield Case Gasket	1
15	CSM-4040855	Screw	1
16	CSM-4030455-SP	Screw	2
17	C132-17104	Throat Plate Support	1
18	C131-22700	Adjusting Shaft Metal	1
19	C132-16106	Oil Shield Plate	1
20	CSS-1060610-SP	Screw	2



## FEED MECHANISM COMPONENTS (2)

Reference Nos.	Part Number	Description	Quantity
21	C132-16205	Feed Cam Oil Shield Plate	1
22	CSM-6040600-SP	Screw	2
23	C132-16304	Oil Shield Plate	1
24	C131-22809	Differnetail Feed Graduation	1
25	CSM-4051255-SP	Screw	2
26	C131-21405	Adjusting Stopper	2
27	CSS-4090515-SP	Screw	2
28	CWP-0371016-SD	Washer	2
29	C131-20902	Support Shaft	1
30	C131-21058	Thrust Collar Assembly	1
31	C131-21009	Thrust Collar Assembly	(1)
32	CSS-8660330-SP	Screw	(1)
33	C131-20803	Slide Block	1
34	C131-70204	Rubber Ring	1
35	CSM-4040855-SP	Screw	1
36	C132-17708	Differential Feed Block	1
37	CRE-0300000-KO	E Ring 3	1
38	C132-13012	Adjusting Screw	1
39	C131-23302	Differential Feed Screw Spring	1
40	C131-21306	Adjusting Link	1
41	CRE-0500000-KO	E Ring 5	1
42	C131-21256	Support Shaft Collar Assembly	1
43	C131-21207	Support Shaft Collar	(1)
44	CSS-8110410	Screw	(1)
45	C131-21900	Differential Feed Rocker	1
46	CSS-6661110	Screw	1
47	C132-17351	Rocker Shaft Assembly	1
48	C131-70501	Rubber Ring	1
49	C131-21603	Adjusting Lever Spring	1
50	C132-18052	Differential Feed Arm Assembly	1
51	C118-25304	Differential Feed Pin	(1)
52	C118-26401	Differential Feed Pin Cover	(1)
53	CSS-6080410-SP	Screw	(2)
54	C132-18003	Differential Feed Arm	(1)
55	CSM-6051202-TP	Screw	(1)
56	C132-18102	Slide Block	1
57	C132-17401	Differential Feed Hinge Screw	1
58	C132-17500	Differential Feed Locknut	1
59	CSD-0720271-SP	Hinge Screw	1
60	CSM-4041055	Screw	4
61	CWP-0460556-SD	Washer	1
62	CWP-0480856-SP	Washer	4
63	CWP-0621016	Washer	1
66	C123-82503	Main Feed Dog	1
69	SS7112420-SP	Screw	1
70	A18060	Differential Feed Dog	1
72	CSS-4080620-TP	Screw	1
73	CSS-9111010-SP	Screw	1
74	CSS-9111050-SP	Screw	1
75	C131-21108	Washer	1
76	CTA-0800504-RO	Plug	1
77	C132-00902	Feed Mechanism Cover Presser	1
78	CSS-6080340-SP	Screw	1
79	C115-28502	Auxiliary Feed Dog	1

# UPPER AND LOWER LOOPER COMPONENTS

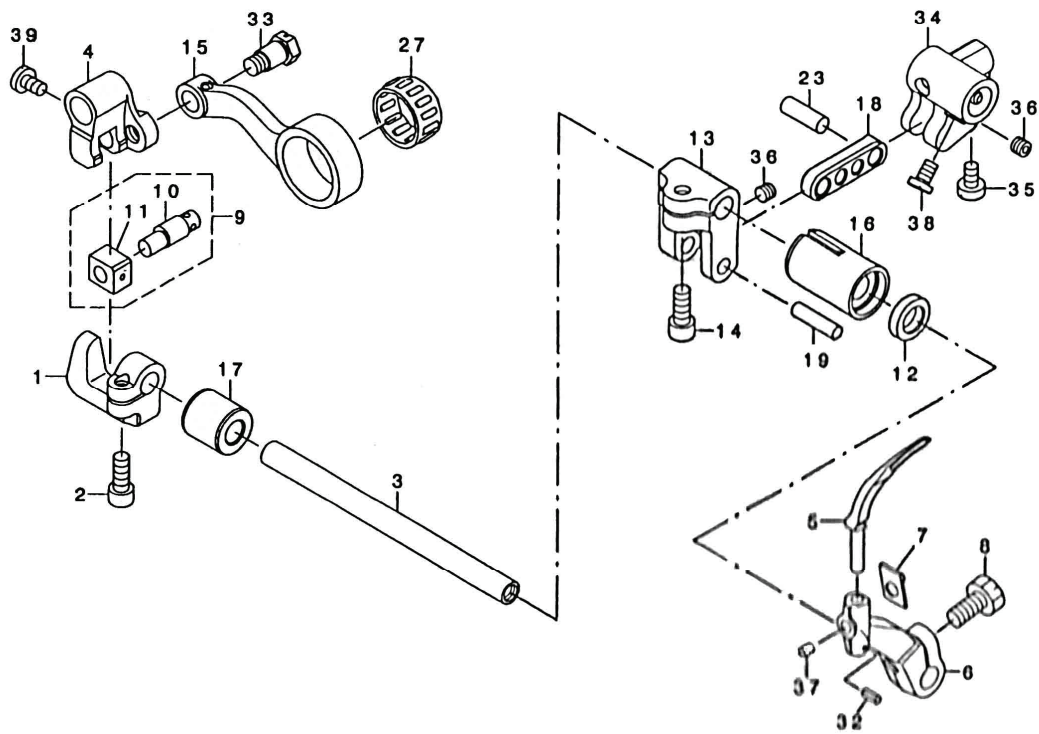


Reference Nos.	Part Number	Description	Quantity
1	CSS-6060440-TP	Screw	2
2	C121-22511	Looper Shaft Front Bushing	2
3	C132-22708	Looper Shaft Rear Bushing	2
4	C123-84202	Lower Looper	1
6	CSS-9151210-TP	Screw	1
8	C132-21304	Upper Looper Arm	1
10	C132-23656	Upper Support Assembly	1
11	C132-22005	Upper Looper Guide	(1)
12	C132-23805	Upper Looper Holder B	(1)
13	C132-23904	Upper Looper Guide Support	(1)

# UPPER AND LOWER LOOPER COMPONENTS

Reference Nos.	Part Number	Description	Quantity
14	CSS-6090630-TP	Screw	4
15	CSS-6090630-TP	Screw	1
16	C131-70600	Rubber Ring	1
17	CSM-6061200-SP	Screw	2
18	CPS-0300062-KH	Spring Pin	1
19	C131-32550	Lower Looper Support Arm Assembly	1
20	C131-32501	Lower Looper Support Arm	(1)
21	C131-29309	Washer	(1)
22	CSS-9151210-TP	Screw	(1)
23	C131-32600	Collar	1
24	C123-75952	Oil Shield Assembly	1
25	C123-40600	Upper Looper Thread Guide	1
26	CSS-7090850-Sp	Screw	1
27	C123-740709	Lower Looper Thread Take Up	1
28	CSS-6080410-SP	Screw	1
29	C132-22401	Looper Thread Take Up Cover	1
30	CSM-4040655-SP	Screw	2
31	C123-40303	Thread Guide, Right	1
32	CSS-3090610-SP	Screw	1
33	C123-40402	Thread Take Up Right	1
34	CSS-7110840-SP	Screw	1
35	C123-75705	Looper Thread Take Up, Left	1
36	CSS-7110840-SP	Screw	1
37	B1422-804-A00	Pin A	1
42	CSS-9090610-TP	Screw	1
43	CSS-9090410-TP	Screw	1
44	CSS-6090620-TP	Screw	1
45	C115-45100	Gauge	1
46	C131-31800	Gauge Fixing Pin	1
47	C131-72853	Thrust Collar Assembly	1
48	C131-72804	Thrust Collar	(1)
49	CSS-8660610-TP	Screw	(2)
50	C123-40808	Thread Guide	1
51	CSS-3090610-SP	Screw	1
52	C132-24001	Upper Looper Guide Cover	1
53	CCQ-2020000-00	Oil Wick	.05
54	CSS-7060610-Sp	Screw	2
55	CB2508-704-000	Oil Seal	1
56	CB2530-704-000	Upper Looper Shaft Rubber Ring	1
57	C131-72853	Thrust Collar Assembly	1
58	C131-72804	Thrust Collar	(1)
59	CSS-8660610-TP	Screw	(2)
60	C123-40501	Thread Guide Upper	1
61	CSS-4090615-SP	Screw	1
62	C118-90001	Traveling Needle Guard	1
63	C132-21403	Upper Looper Shaft A	1
69	C123-83501	Upper Looper	1
70	APT251634	Looper Collar	1

# CHAIN LOOPER COMPONENTS

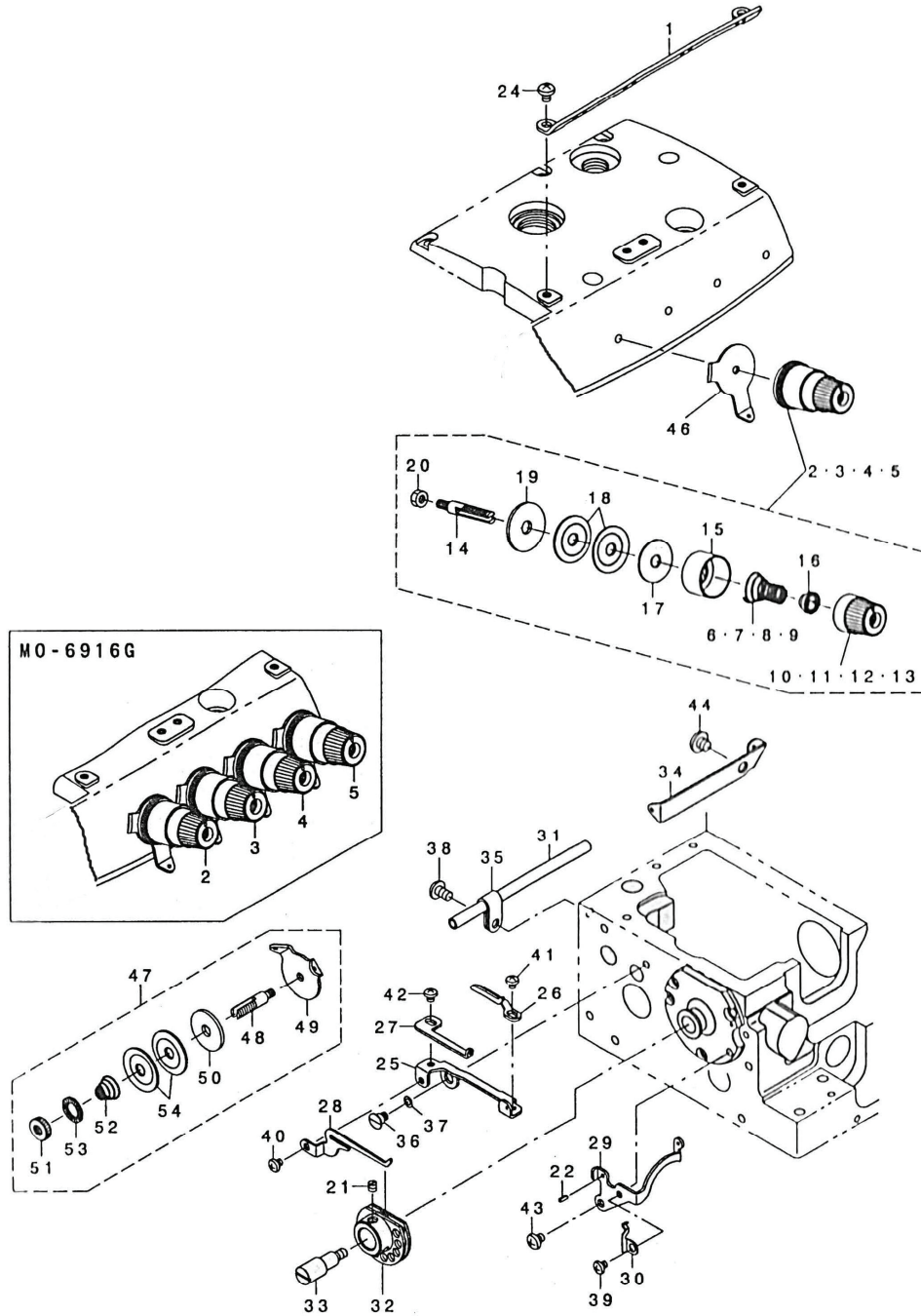


# CHAIN LOOPER COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	C121-20416	Bracket	1
2	CSM-6051202-TP	Screw	1
3	C131-26909	Chain Looper Shaft	1
4	C131-26008	Front and Rear Arm	1
5	C123-84400	Chain Looper	1
6	A118-29314	Chain Looper Driving Arm	1
7	CB2531-704-000	Washer	1
8	CSS-9151210-TP	Screw	1
9	C131-26354	Slide Block Pin Assembly	1
10	C131-26206	Chain Looper Slide Block Pin	(1)
11	C131-26305	Chain Looper Slide Block	(1)
12	CB2525-352-000	Oil Seal Ring	1
13	C123-74104	Driving Arm	1
14	CSM-6051202-TP	Screw	1
15	C132-20009	Chain Looper Rod	1
16	C131-28103	Bushing, Front	1
17	C131-27006	Bushing, Rear	1
18	C123-74203	Driving Link	1
19	C131-26503	Pin, Long A	1
23	C131-27204	Pin, Short A	1
27	CB2119-816-A00	Bearing A	1
32	CPS-0200062-KH	Spring Pin	1
33	CSD-0720803-TH	Step Screw	1
34	C132-201108	Driving Ball Arm Bracket	1
35	CSM-8050602-TP	Screw	1
36	CSM-8050402-TP	Screw	2
37	CSS-8110422-TP	Screw	1
38	CSS-6110710-TP	Screw	2
39	CSS-7110720-TP	Screw	1



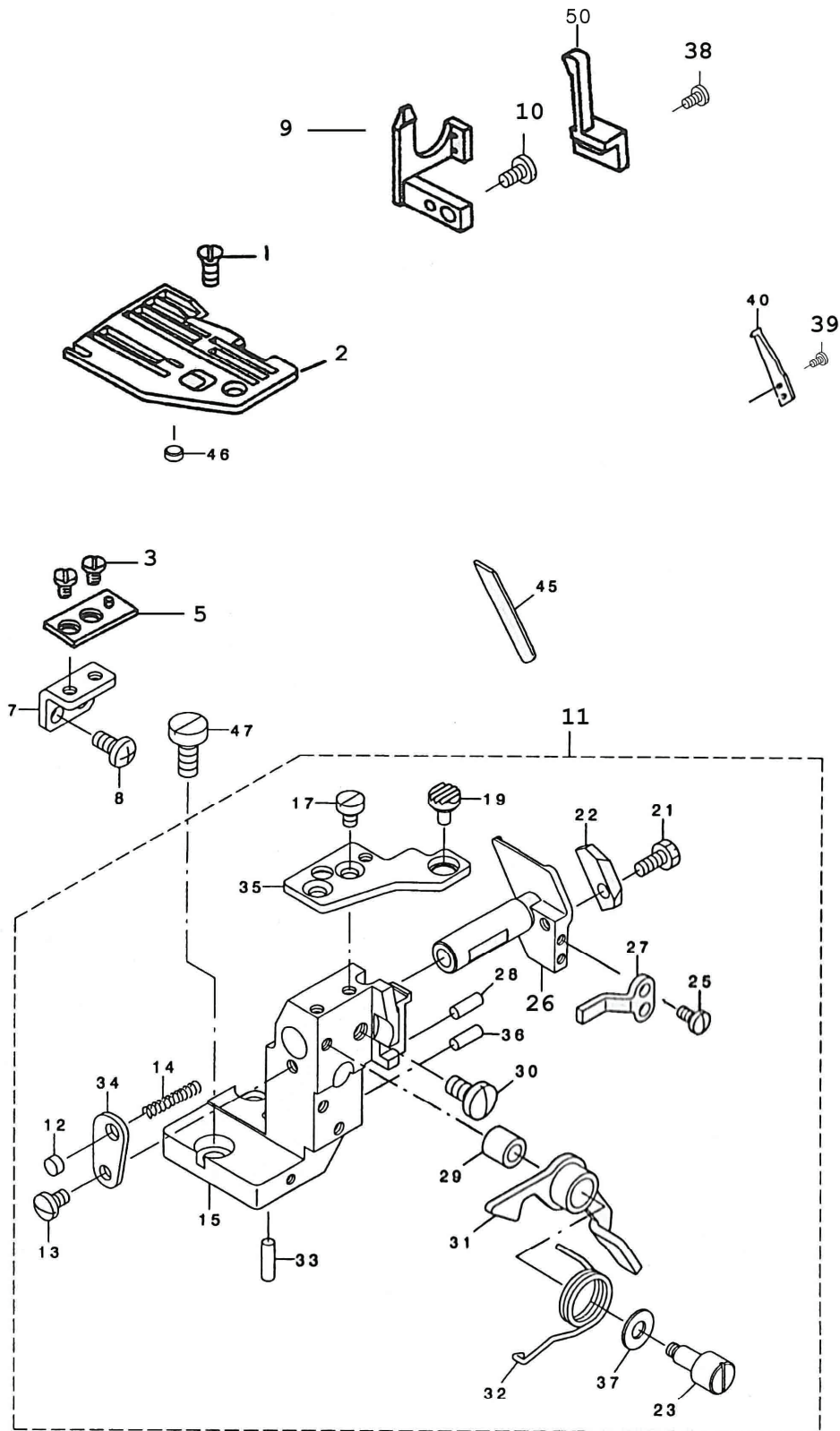
# THREAD TENSION COMPONENTS



# THREAD TENSION COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	C132-25008	Center Thread Guide	1
2	C131-37559	Thread Tension Spring Complete	2
3	C131-38359	Thread Tension Spring Complete	2
4	C131-40652	Thread Tension Spring Complete	1
5	C131-40355	Thread Tension Spring Complete	1
6	C131-38508	Thread Tension Spring (Yellow)	(1)
7	C131-37807	Thread Tension Spring (Red)	(1)
8	C131-40504	Thread Tension Spring (Green)	(1)
9	C131-40207	Thread Tension Spring (Purple)	(1)
10	C131-37708	Thread Tension Knob (Red)	(1)
11	C131-38409	Thread Tension Knob (Yellow)	(1)
12	C131-40405	Thread Tension Knob (Green)	(1)
13	C131-40108	Thread Tension Knob (Purple)	(1)
14	C131-38904	Thread Tension Bar	(1)
15	C131-37609	Thread Tension Disk Presser	(1)
16	C131-37906	Spring Bushing	(1)
17	C131-38102	Thread Tension Spring Felt	(1)
18	C131-38201	Thread Tension Disk	(2)
19	C131-38003	Thread Tension Rubber Washer	(1)
20	CNS-6110420-SP	Nut	(1)
21	CSS-8110410-TP	Screw	2
22	CPS-0200052-KH	Spring Pin	1
24	CSS-4110615-SP	Screw	2
25	C131-28202	Thread Cam Thread Guide Base	1
26	C131-28301	Thread Cam Thread Guide A	1
27	C131-28400	Thread Cam Thread Guide Base	1
28	C131-28509	Lower Thread Cam Hook	1
29	C131-28608	Lower Thread Guide	1
30	C131-28707	Thread Guide Base Spring	1
31	CB2401-816-000	Looper Thread Guide Tube	1
32	C131-29457	Lower Thread Cam Complete	1
33	C131-30000	Lower Thread Cam Shaft	1
34	C131-29101	Lower Thread Conduit Guide	1
35	CB3113-352-000	Mounting Bracket	1
36	CSD-0600341-TP	Hinge Screw	1
37	CWZ-0640312-KO	Waved Washer	1
38	CSM-4050855-SP	Screw	1
39	CSS-4090415-SP	Screw	1
40	CSS-4090415-SP	Screw	1
41	CSS-4090415-SP	Screw	1
42	CSS-4090415-SP	Screw	1
43	CSS-4110515-SP	Screw	1
44	CSS-5150510-SP	Screw	1
46	C132-25107	Tension Disk Thread Guide	4
47	C131-39555	Thread Tension Post Complete	1
48	C131-40009	Thread Tension Post Complete	(1)
49	C131-39605	Tension Disk Thread Guide	(1)
50	C131-39902	Thread Tension Spring Felt	(1)
51	C131-39803	Thread Tension Nut	(1)
52	C131-39704	Thread Tension Spring	(1)
53	C229-21407	Rotation Stopper	(1)
54	C131-38201	Thread Tension Disk	(2)

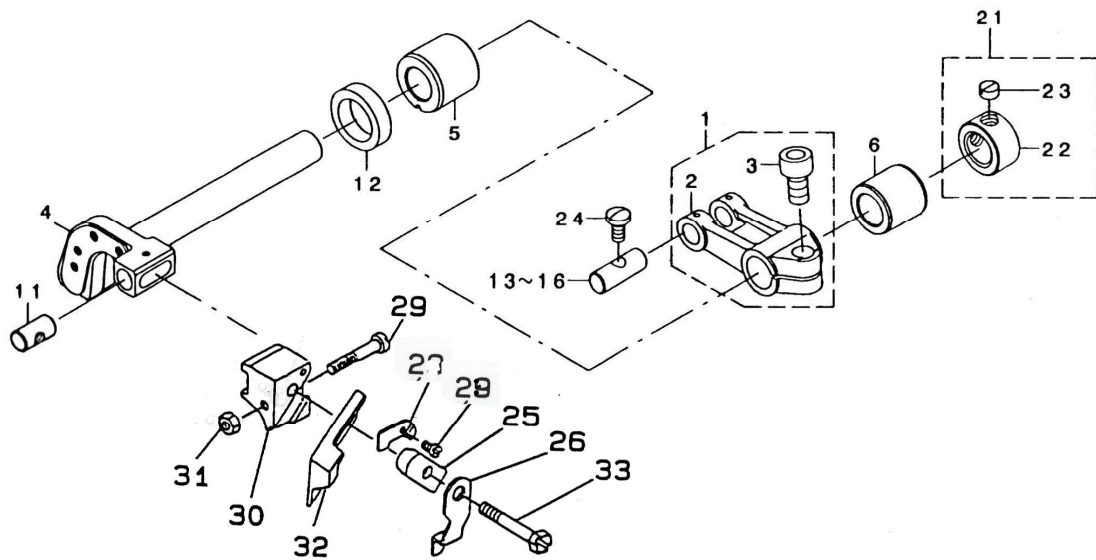
# LOWER KNIFE COMPONENTS



# LOWER KNIFE COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	CSS-2110710-SL	Screw	1
2	C18040N	Throat Plate	1
3	CSS-6110610-TP	Screw	2
5	APT251615	Throat Plate Base	1
7	C123-78303	Throat Plate Base B Retainer	1
8	CSM-4051055-SP	Screw	2
9	CPT251604	Needle Guard	1
10	CSS-7110840-SP	Screw	1
11	C123-77586	Lower Knife Bracket Assembly	1
12	C118-06304	Plug	(1)
13	CSS-7110720-SP	Screw	(1)
14	C118-46607	Spring	(1)
15	C121-32619	Lower Knife Bracket	(1)
17	CSS-6110610-TP	Screw	(2)
19	C121-03602	Rubber Plug A	(1)
21	CSS-9111010-SP	Screw	(1)
22	C123-77602	Lower Knife Presser	(1)
23	C123-78204	Lower Shaft	(1)
25	CSS-7090710-SP	Screw	(2)
26	C123-77800	Lower Knife Slide Shaft	(1)
27	C123-77909	Rotating Stopper	(1)
28	C118-46805	Holder Pin	(1)
29	C121-03107	Rubber Plug	(1)
30	CSS-7151120-SP	Screw	(1)
31	C121-02950	Lever Assembly	(1)
32	C123-78006	Spring	(1)
33	C121-33708	Holder Pin	(1)
34	C121-33211	Spring Stopper	(1)
35	C123-78105	Throat Plate Base A	(1)
36	C121-33708	Holder Pin	(1)
37	CWP-0621036-SP	Washer	(1)
38	CSS7060510-SP	Screw	2
39	C025604BHS	Screw	2
40	C118-90605	Needle Holder	1
45	C115-66502	Lower Knife	1
47	CSS-6151440-SP	Screw	2
50	C3311	Needle Guard Front	1

# Upper Knife Components

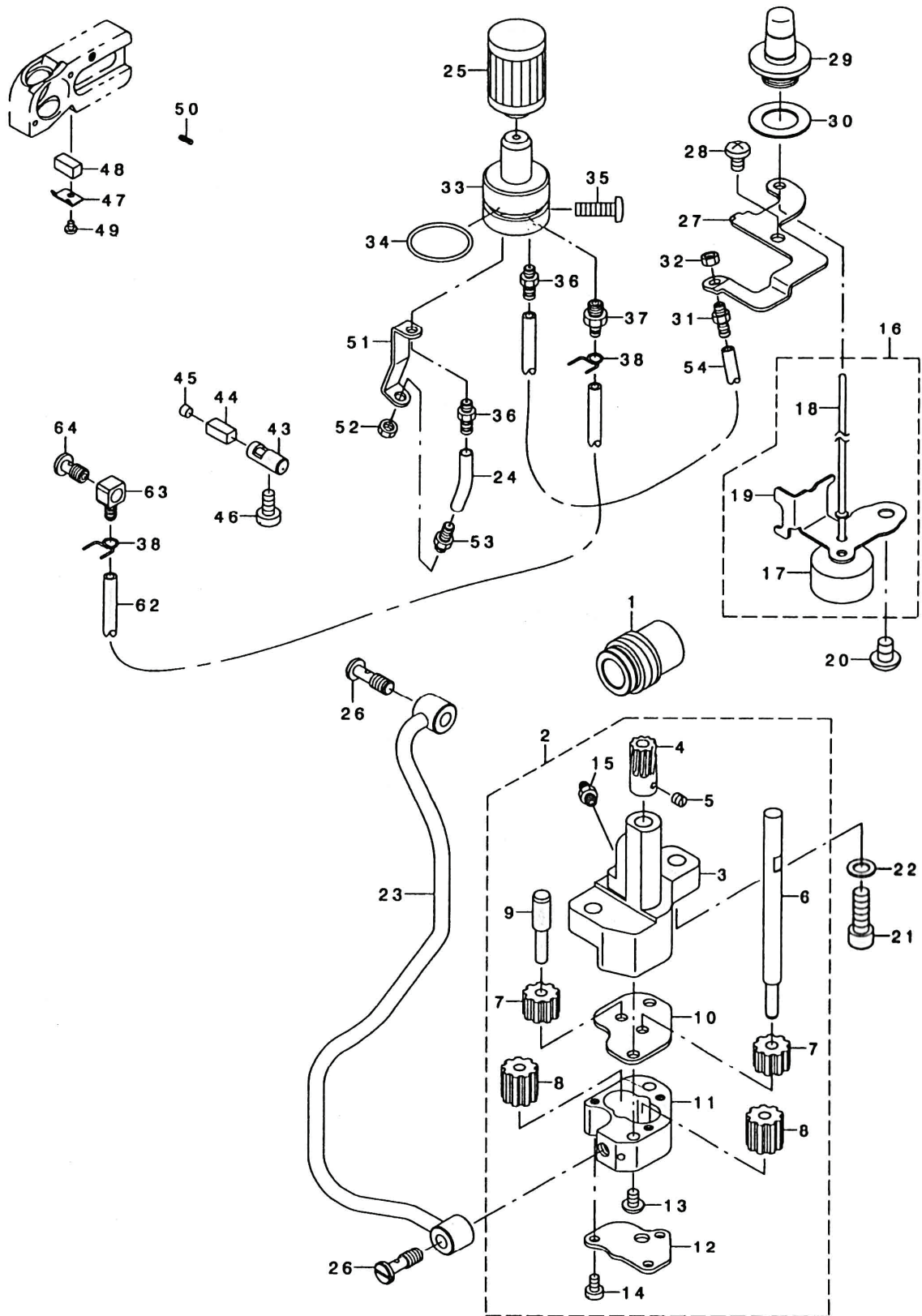




## Upper Knife Components

Reference Nos.	Part Number	Description	Quantity
1	C131-47558	Feed Forked Arm Assembly	1
2	C131-47509	Feed Forked Arm Assembly	(1)
3	CSM-6061402-TP	Screw	(1)
4	C131-51303	Knife Driving Arm Shaft	1
5	C131-50909	Bushing Front	1
6	C131-51006	Bushing Rear	1
11	C131-50800	Upper Knife Guide Shaft	1
12	C115-66809	Oil Seal	1
13	C131-22007	Crank Pin A	1
21	C131-72655	Thrust Collar Assembly	1
22	C131-72606	Thrust Collar	(1)
23	CSS-86603330-SP	Screw	(2)
24	CSS-7110840-SP	Screw	1
25	C115-65504	Upper Knife Presser Plate	1
26	C115-65603	Upper Knife Cover	1
27	C115-65702	Washer	1
28	SS-4060310-SP	Screw	1
29	SS-7092110-TP	Screw	1
30	C115-65405	Upper Knife Support	1
31	NS-6090310-SP	Nut	1
32	C115-65900	Upper Knife	1
33	SS-9112420-TP	Screw	1

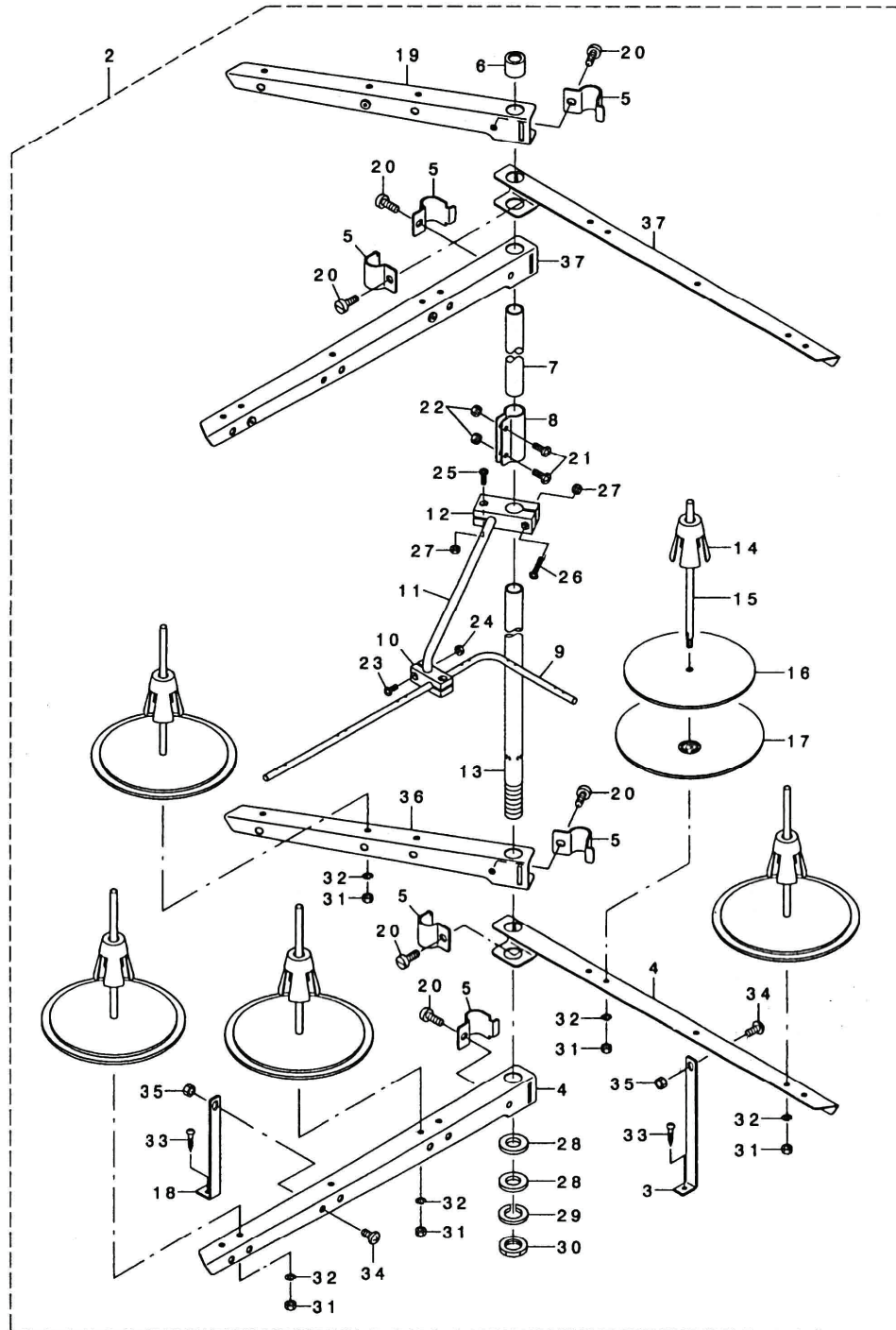
# LUBRICATION MECHANISM COMPONENTS



# LUBRICATION MECHANISM COMPONENTS

Reference Nos.	Part Number	Description	Quantity
1	C132-30305	Worm	1
2	C123-15958	Oil Pump Assembly	1
3	C123-15909	Oil Pump	(1)
4	C122-56103	Worm Gear	(1)
5	CSS-8110410-TP	Screw	(2)
6	C119-18109	Gear Pump Shaft Large	(1)
7	CB3534-352-000	Pinion Gear	(2)
8	C118-40303	Oil Pump Pinion	(2)
9	C123-17004	Gear Pump Shaft	(1)
10	C123-16006	Pinion Spacer	(1)
11	C123-16105	Casing	(1)
12	C123-16204	Cover	(1)
13	CSS-4112215-SP	Screw	(2)
14	CSS-6090650-SP	Screw	(3)
15	CSQ-1110401-MZ	Connecting Screw	(1)
16	C132-29356	Float Assembly	1
17	C121-29805	Float Assembly	(1)
18	C121-29904	Oil Gage Bar	(1)
19	C132-29307	Float Support	(1)
20	CSM-4060801-SE	Screw	1
21	CSM-6061802-TP	Screw	2
22	CWP-0651056-SD	Washer	2
23	C132-28655	Lubrication Mechanism Pipe Assembly	1
24	CBP-3000001-OR	Vinyl Pipe	.03
25	C118-43208	Cartridge Filter	1
26	CSQ-1150454-SD	Connecting Screw	2
27	C131-43805	Exhaust Port Support	1
28	CSM-4050855	Screw	1
29	C131-43300	Oil Gage	1
30	C131-44001	Oil Gauge Gasket	1
31	CSQ-1110451-MZ	Connecting Screw	1
32	CNS-6110310-SP	Nut	1
33	C131-42955	Filter Guide Assembly	1
34	C131-70808	Rubber Ring	1
35	CSM-4051601-SC	Screw	1
36	CSQ-1110451-MZ	Connecting Screw	2
37	CSQ-1150451-MZ	Connecting Screw	1
38	C131-42609	Oil Tube Holder	3
43	C131-43417	Oiling Pin	1
44	C121-30605	Oil Felt	1
45	C132-30107	Oil Plug	1
46	CSS-6121020	Screw	1
47	C132-30008	Oil Felt Presser	1
48	C121-30803	Oil Felt	1
49	CSS-7060310-SP	Screw	1
50	CCQ-2020000-00	Oil Wick	.06
51	C132-29208	Worm Exhaust Port Guide	1
52	CNS-6110310-SP	Nut	1
53	CSQ-1110451-MZ	Connecting Screw	1
54	C236-30007	Tube	.17
62	CBP-3000001-OR	Vinyl Pipe	.29
63	CSQ-0000451-MZ	Connecting Screw	1
64	CSQ-1150441-SD	Connecting Screw	1

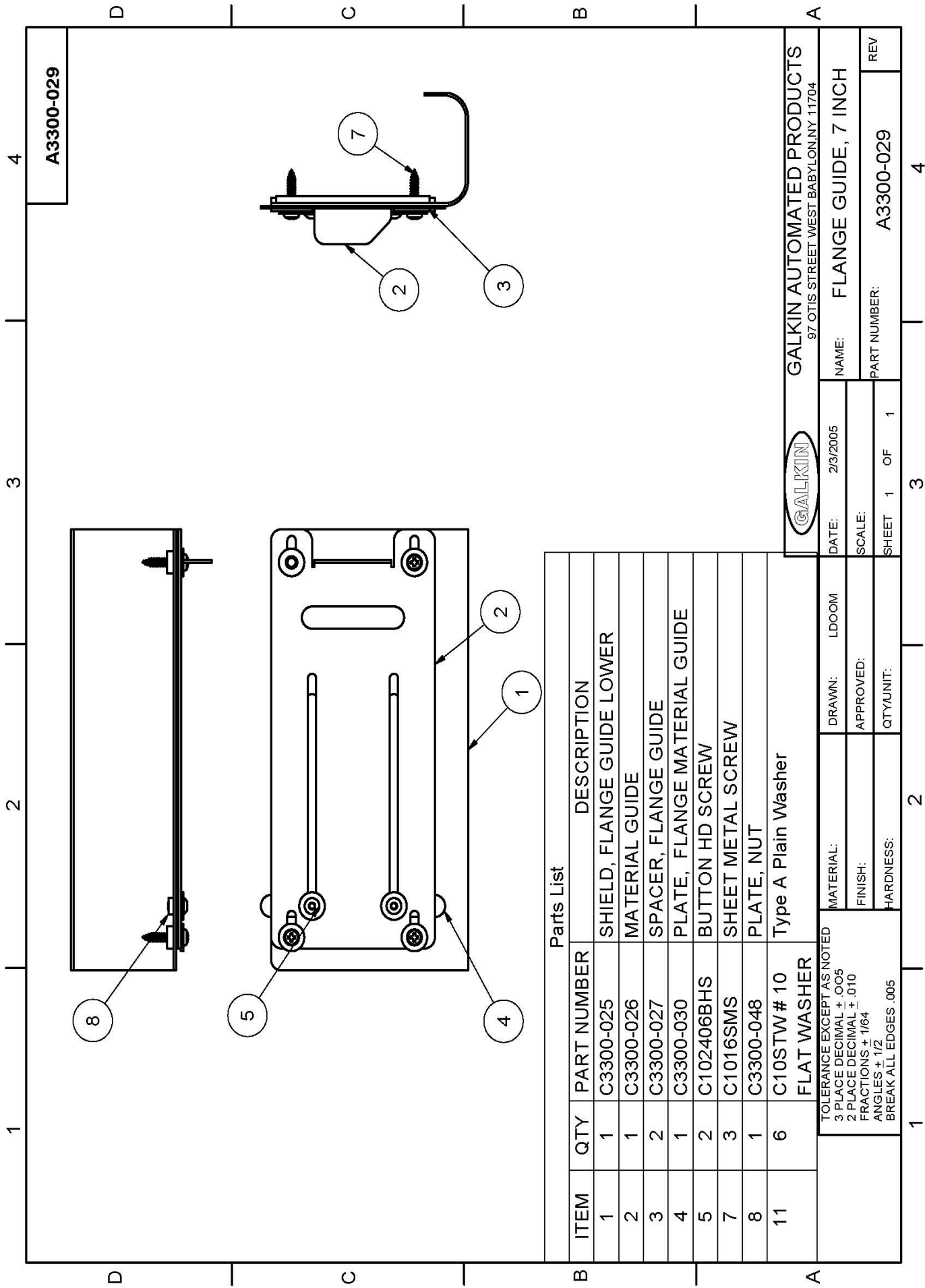
# THREAD STAND COMPONENTS



# THREAD STAND COMPONENTS

Reference Nos.	Part Number	Description	Quantity
2	C131-68752	Thread Standing Device Assembly	1
3	C131-68505	Thread Standing Arm Support B	(1)
4	C131-68802	Thread Standing Arm Long	(2)
5	C229-30705	Thread Guide Arm Joint	(6)
6	C229-31406	Thread Standing Rod Rubber Cap	(1)
7	C229-30408	Thread Standing Rod Upper	(1)
8	C229-31307	Thread Standing Rod Joint	(1)
9	C131-67903	Thread Standing Thread Guide	(1)
10	C131-68000	Thread Guide Base Lower	(1)
11	C131-68109	Thread Guide Arm Base	(1)
12	C131-68208	Thread Guide Arm Base	(1)
13	C229-30309	Thread Standing Rod Lower	(1)
14	C229-31109	Spool Retainer	(5)
15	C229-31000	Spool Pin	(5)
16	C229-30903	Spool Rest Cushion	(5)
17	C229-30804	Spool Rest	(5)
18	C131-68406	Thread Standing Arm Support A	(1)
19	C131-68950	Thread Standing Arm A Assembly	(1)
20	CSM-6061610-SC	Screw	(6)
21	CSM-4051405-SE	Screw	(2)
22	CNM-6050001	Nut	(2)
23	CSM-4041001-SC	Screw	(2)
24	CNM-6040002-SE	Nut	(2)
25	CSM-4041201-SC	Screw	(1)
26	CSM-4042001-SC	Screw	(1)
27	CNM-6040002-SE	Nut	(2)
28	CWP-1612616-SE	Washer	(2)
29	CWS-1643202	Spring Washer	(1)
30	CNM-6160511	Nut	(1)
31	CNM-6050001-SE	Nut	(5)
32	CWS-0510002-KN	Spring Washer	(5)
33	CSK-3382001-SE	Screw	(2)
34	CSM-4061201-SE	Screw	(2)
35	CNM-6060001-SE	Nut	(2)
36	C131-68901	Thread Standing Arm A Assembly	(1)
37	C131-68851	Thread Standing Arm Assembly Long	(2)





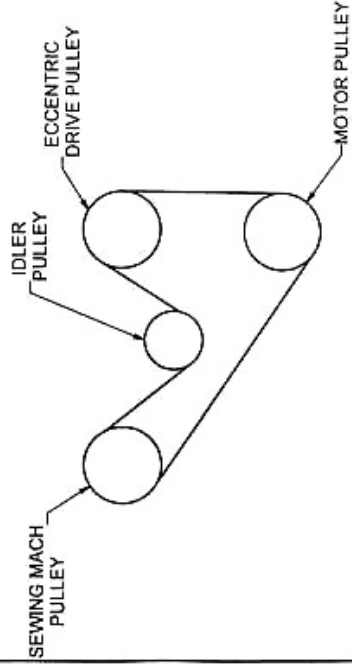
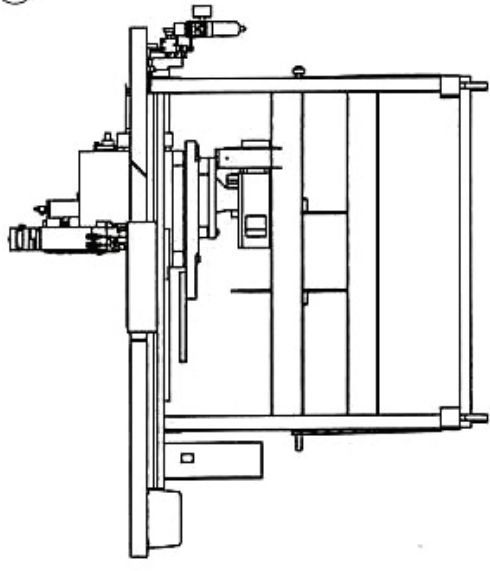
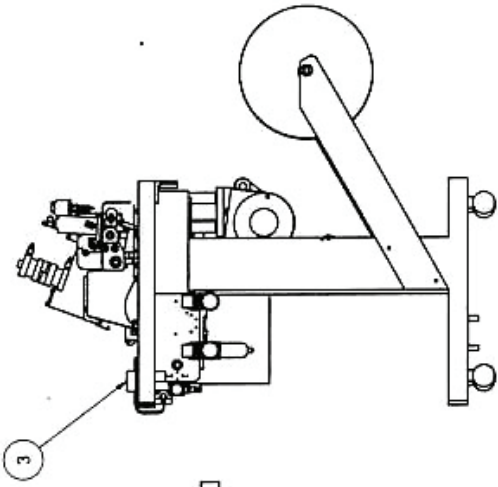
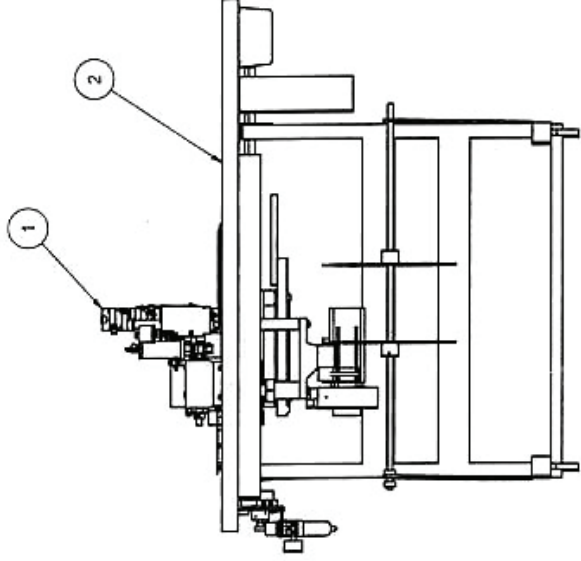
A3300-029

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	C3300-025	SHIELD, FLANGE GUIDE LOWER
2	1	C3300-026	MATERIAL GUIDE
3	2	C3300-027	SPACER, FLANGE GUIDE
4	1	C3300-030	PLATE, FLANGE MATERIAL GUIDE
5	2	C102406BHS	BUTTON HD SCREW
7	3	C1016SMS	SHEET METAL SCREW
8	1	C3300-048	PLATE, NUT
11	6	C10STW # 10 FLAT WASHER	Type A Plain Washer

<p><b>GALKIN</b></p> <p>GALKIN AUTOMATED PRODUCTS 97 OTIS STREET WEST BABYLON, NY 11704</p>		<p>DATE: 2/3/2005</p> <p>SCALE:</p> <p>SHEET 1 OF 1</p>	<p>NAME: FLANGE GUIDE, 7 INCH</p> <p>PART NUMBER: A3300-029</p>
<p>TOLERANCE EXCEPT AS NOTED</p> <p>3 PLACE DECIMAL ± .005</p> <p>2 PLACE DECIMAL ± .010</p> <p>FRACTIONS ± 1/64</p> <p>ANGLES ± 1/2</p> <p>BREAK ALL EDGES .005</p>		<p>MATERIAL: LDOOM</p> <p>APPROVED:</p> <p>QTY/UNIT:</p>	<p>REV</p>

GAP3350X5-015



MOTOR BELT ROUTING

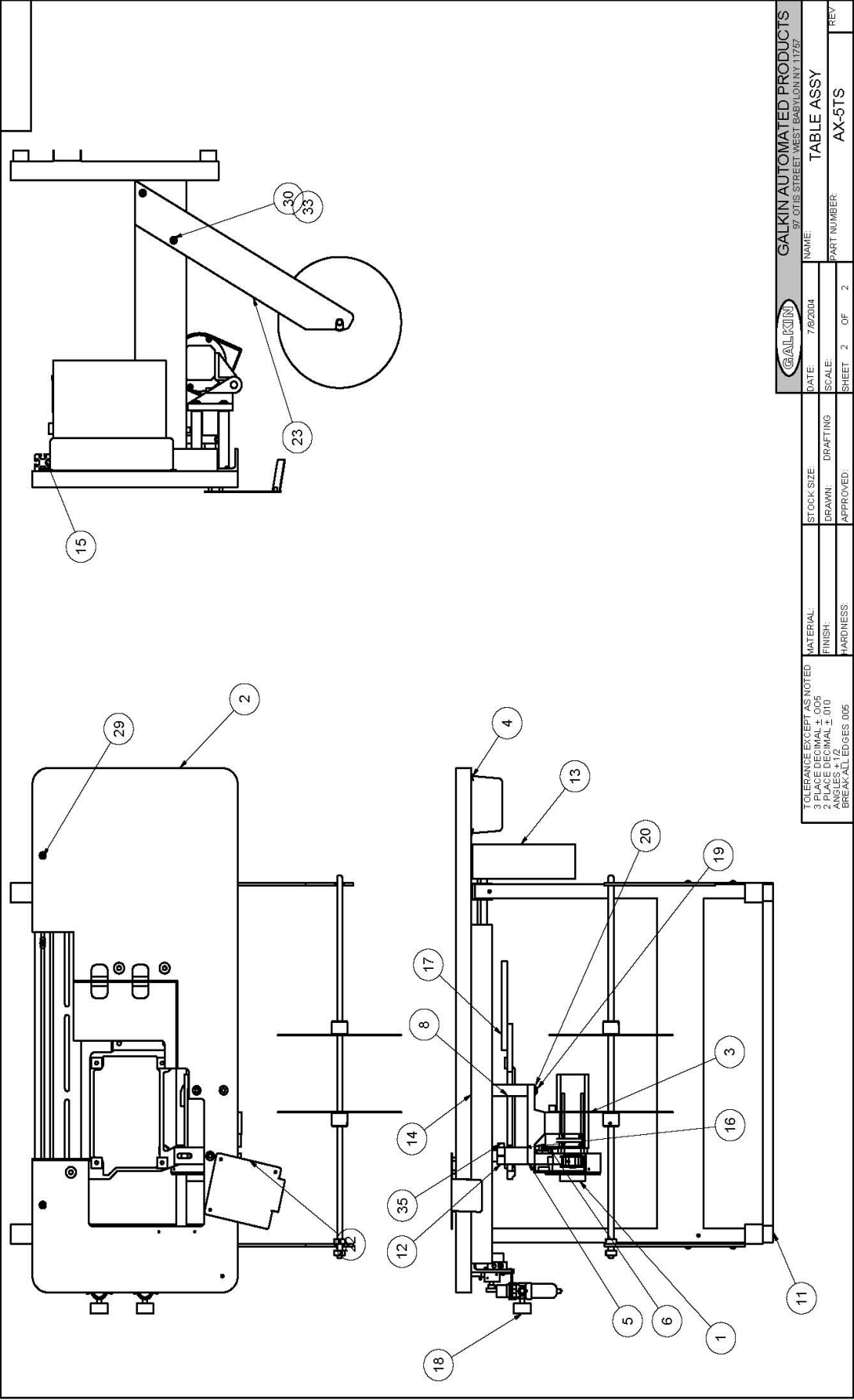
Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	PX5-010	FLANGER HEAD ASSY
2	1	AX-5TS	TABLE ASSEMBLY
3	1	A3300-029	FLANGE GUIDE, 7 INCH

		<b>GALKIN AUTOMATED PRODUCTS</b> 97-0215 STREET WEST BABYLON NY 11704	
DRAWN	J. Christian	DATE	4/18/2005
APPROVED		SCALE	
QTY/UNIT		SHEET	1 OF 1
MATERIAL FINISH HARDNESS		NAME <b>TOP ASSY</b> PART NUMBER <b>GAP3350X5-015</b>	

TOLERANCE EXCEPT AS NOTED  
 1 PLACE DECIMAL • 005  
 2 PLACE DECIMAL • 010  
 3 PLACE DECIMAL • 015  
 FRACTIONS • 1/64  
 ANGLES • 1/2  
 BREAK ALL EDGES • R5

AX-5TS



<b>GALKIN AUTOMATED PRODUCTS</b> 97 OTIS STREET WEST BABYLON NY 11757		NAME:	TABLE ASSY	
		DATE:	7/6/2004	PART NUMBER:
STOCK SIZE:		DRAWN:	DRAFTING:	SCALE:
MATERIAL:		APPROVED:		SHEET 2 OF 2
FINISH:		REV		
HARDNESS:		AX-5TS		

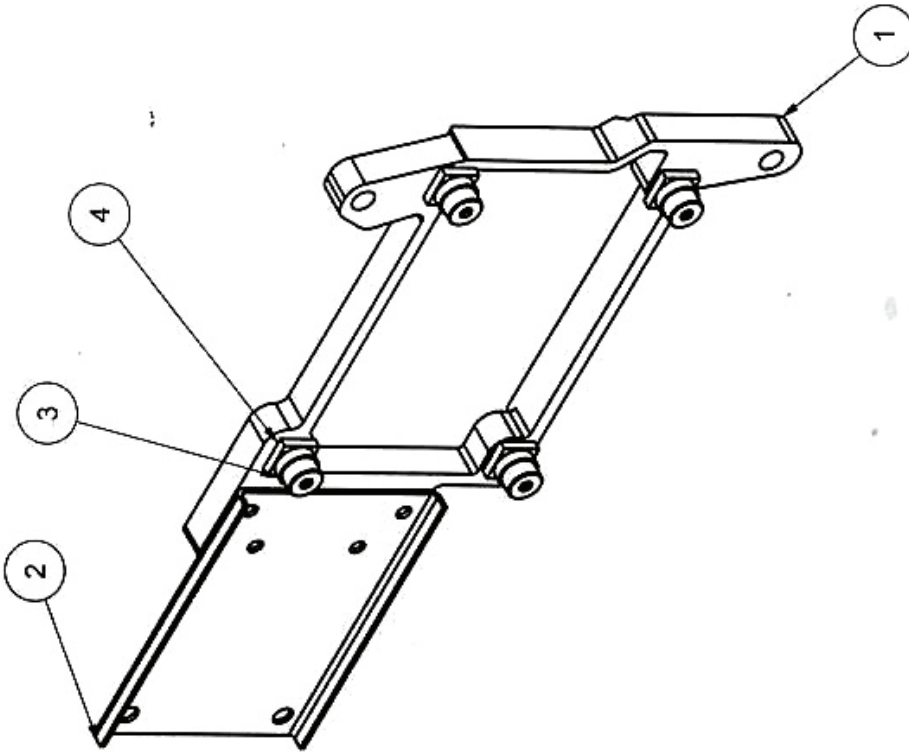
TOLERANCE EXCEPT AS NOTED  
 3 PLACE DECIMAL ± .005  
 1 PLACE DECIMAL ± .010  
 ANGLES ±1/2  
 BREAK-ALL EDGES .005

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	C296-229	MOTOR BELT GUARD ASSY
2	1	C3350-270	TABLE TOP
3	1	CT MOTOR-16	MOTOR 220 V 1 PHASE
4	1	CT333	TRAY
5	1	CT MOTOR-16	TABLE MOUNT
6	1	CT MOTOR-16	SWIVEL MOUNT
7	1	C296-169	PULLEY
8	3	C3300-020	SPACER, MOTOR SUPPORT
9	5	CB1494	WOOD THREAD INSERT
11	1	AT602	STAND
12	1	C3350-324	MOTOR MTG BLOCK
13	1	CTMOTOR-16P	CONTROL BOX
14	1	C3350-398	TABLE SUPPORT ANGLE
15	1	C3350-419	TABLE STIFFENER
16	1	C3350-420	SPACER, SEWING MACHINE SUPPORT
17	1	A3350-267	SUPPORT ASSEMBLY
18	1	A3350-362	AIR SYSTEM ASSY
19	3	C371620BHS	BUTTON HD SCREW
20	3	C37STW	FLAT WASHER
22	1	A3350-346	TABLE COVER ASSY
23	1	A3300-032	FLANGE RACK ASSEMBLY
29	3	C252032FHS	FLAT HEAD SCREW
30	10	C252012BHS	BOTTOM HD SCREW
31	4	C25LKW	LOCK WASHER
32	4	C2520STN	HEX NUT
33	8	C25STW	FLAT WASHER
34	3	CB2002	T-NUT
35	1	C371624SCS	SOCKET CAP SCREW
37	1	CB1551	BELT
38	2	3350-439	SPACER, BELT DRIVE COVER
39	3	C371636FHS	FLAT HEAD SCREW

<b>GALKIN</b>		<b>GALKIN AUTOMATED PRODUCTS</b>	
97 OTIS STREET WEST BABYLON NY 11757		NAME	
DATE: 7/6/2004	STOCK SIZE:	TABLE ASSY	
SCALE:	DRAWN: DRAFTING	PART NUMBER:	AX-5TS
SHEET 1 OF 2	APPROVED:	REV:	

TOLERANCE EXCEPT AS NOTED  
 3 PLACE DECIMAL ± .005  
 2 PLACE DECIMAL ± .010  
 ANGLES ± 1/2  
 BREAK-ALL EDGES .005

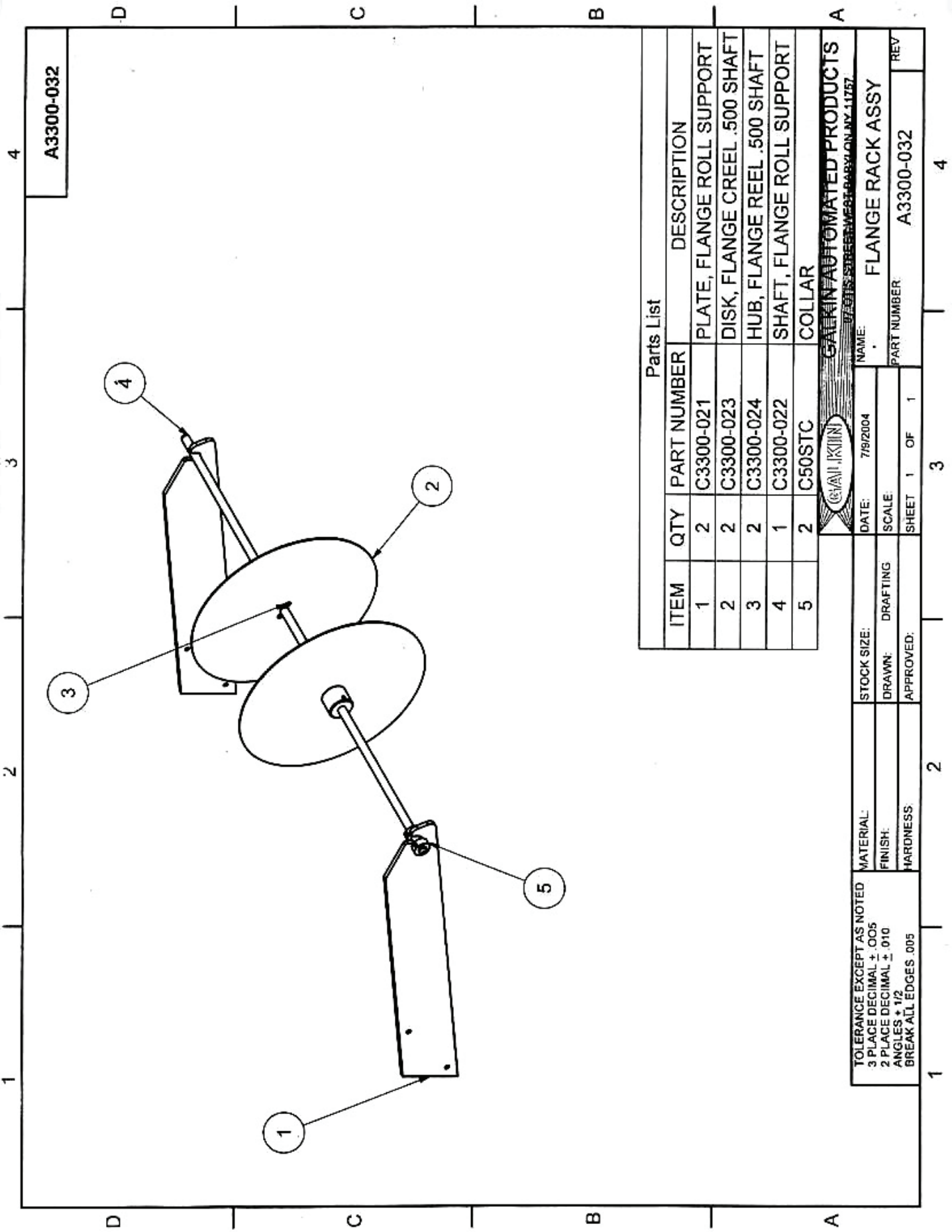
A3350-267



Parts List			
ITEM	QTY	PART NUMBE	DESCRIPTION
1	1	C118-49361	FRAME SUPPORT PLATE
2	1	C131-55304	FRAME HOLDING PLATE COUPLING
3	4	C3350-308	SPACER SEWING MACHINE MOUNTING
4	4	C3350-309	SPACER RUBBER SEWING MACH MOUNTING

		<b>GALINKIN AUTOMATED PRODUCTS</b> <small>170015 23RD STREET WEST - PLYMOUTH, MI 48175</small>	
		NAME: _____	DATE: 2/19/2004
MATERIAL: _____		STOCK SIZE: _____	SHEET 2 OF 2
FINISH: _____		DRAWN: J. CHRISTOFOR	REV
HARDNESS: _____		APPROVED: _____	PART NUMBER: A3350-267
TOLERANCE EXCEPT AS NOTED 3 PLACE DECIMAL ± .005 2 PLACE DECIMAL ± .010 ANGLES ± 1/2 BREAK ALL EDGES .005		SUPPORT ASSY	



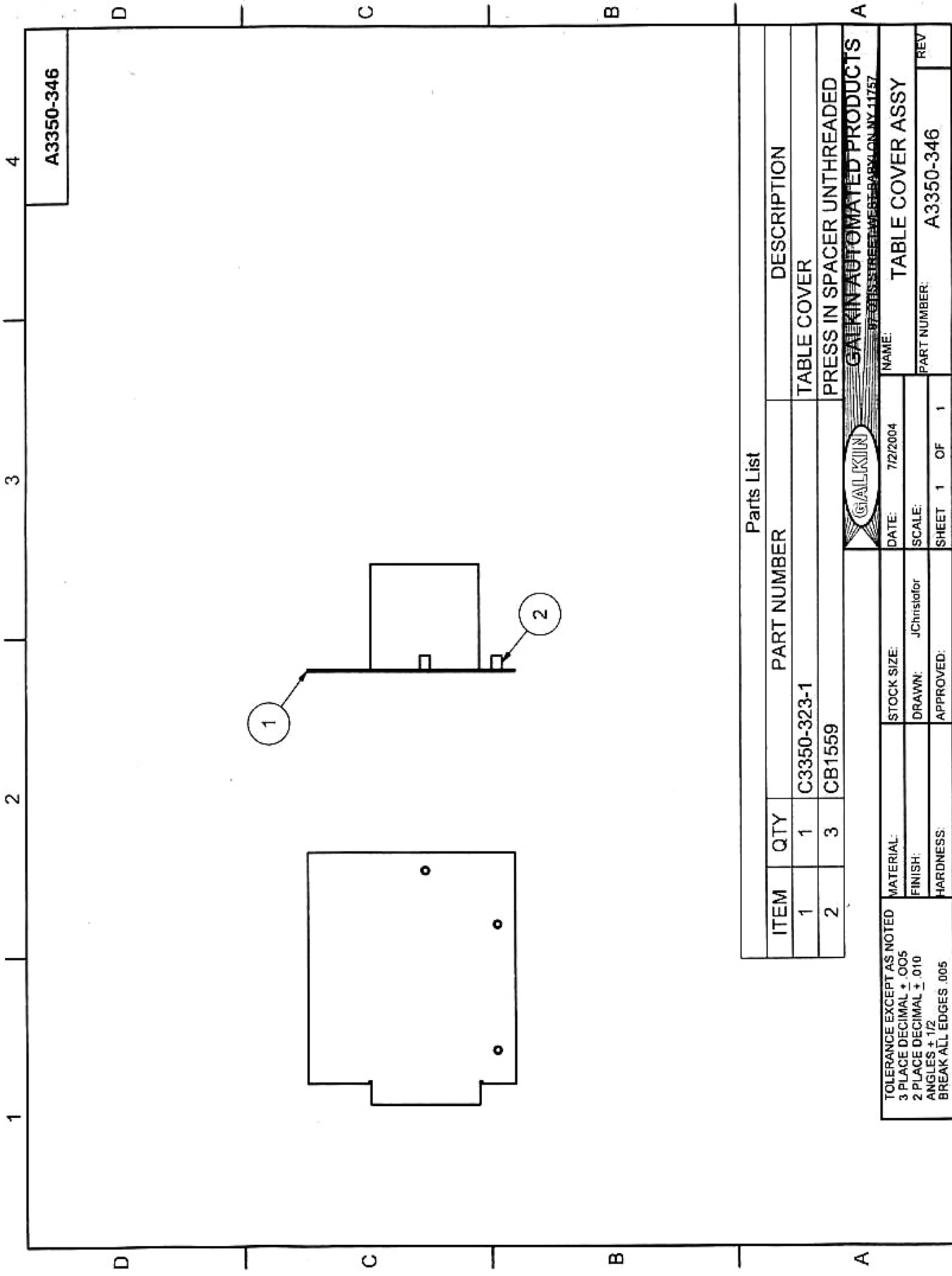


A3300-032

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	C3300-021	PLATE, FLANGE ROLL SUPPORT
2	2	C3300-023	DISK, FLANGE CREEL .500 SHAFT
3	2	C3300-024	HUB, FLANGE REEL .500 SHAFT
4	1	C3300-022	SHAFT, FLANGE ROLL SUPPORT
5	2	C50STC	COLLAR


<p><b>GALVIN AUTOMATED PRODUCTS</b>  <small>17701'S STREET WEST BAYLON, NY 11757</small></p>		<p>NAME: _____</p>	
<p>MATERIAL: _____</p>		<p>DATE: 7/9/2004</p>	
<p>FINISH: _____</p>		<p>SCALE: _____</p>	
<p>HARDNESS: _____</p>		<p>APPROVED: _____</p>	
<p>TOLERANCE EXCEPT AS NOTED            3 PLACE DECIMAL ± .005            2 PLACE DECIMAL ± .010            ANGLES ± 1/2            BREAK ALL EDGES .005</p>		<p>PART NUMBER: A3300-032</p>	
<p>SHEET 1 OF 1</p>		<p>REV _____</p>	

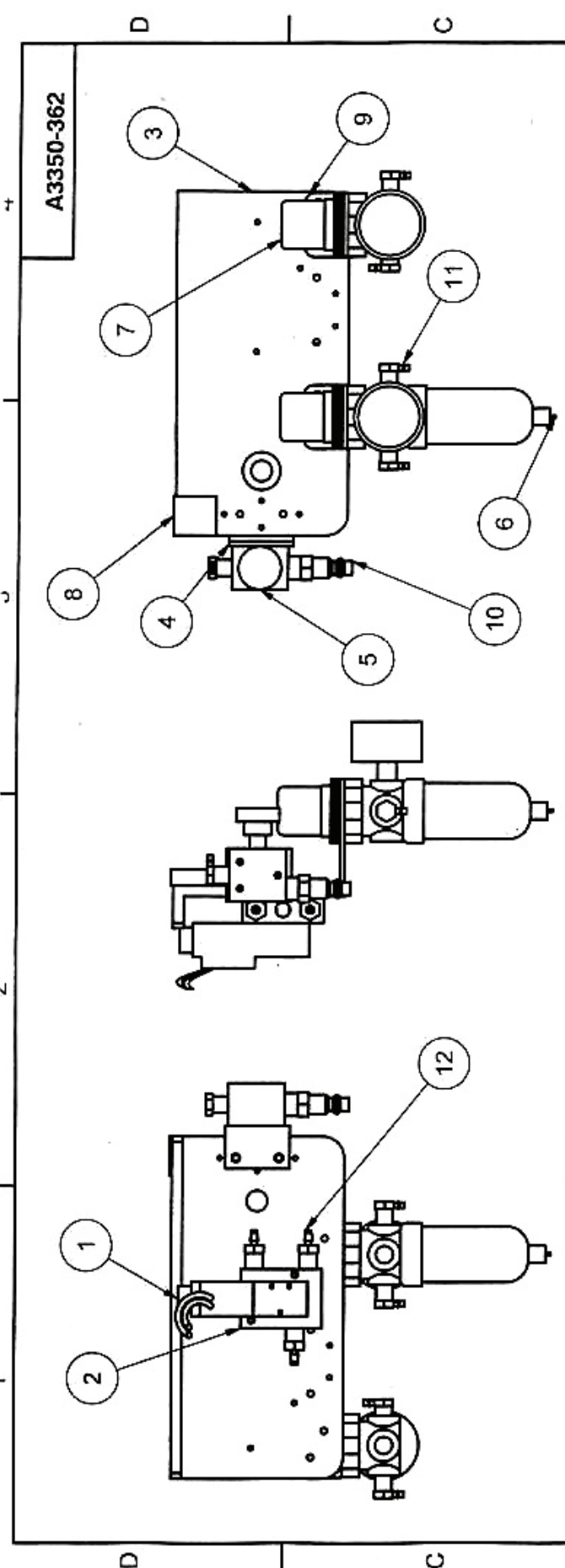


A3350-346

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	C3350-323-1	TABLE COVER
2	3	CB1559	PRESS IN SPACER UNTHREADED

		<b>GALSKIN AUTOMATED PRODUCTS</b> <small>97-0815 STREET, HERTFORD, ENGLAND</small>	
TOLERANCE EXCEPT AS NOTED 3 PLACE DECIMAL ± .005 2 PLACE DECIMAL ± .010 ANGLES ± 1/2 BREAK ALL EDGES .005		DATE: 7/2/2004 DRAWN: JChristoffer APPROVED:	NAME: TABLE COVER ASSY PART NUMBER: A3350-346 REV:
MATERIAL:	STOCK SIZE:	SHEET 1	OF 1
FINISH:	DRAWN:		
HARDNESS:	APPROVED:		



A3350-362

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	CB637	SOLENOID AC
2	1	CB623	SOLENOID BASE
3	1	C7000-808	ANGLE AIR MOUNTING
4	1	C7000-801	AIR VALVE ANGLE
5	1	CB517-1	ON OFF VALVE
6	1	AB589	AIR REGULATOR W FILTER
7	1	AB589NF	AIR REGULATOR
8	1	C3350-345	AIR SCHEMATIC
9	2	AB589NF	BRACKET
10	1	CB693	MALE AIR QUICK DISCONNECT
11	5	CB533	ELBOW NPT
12	3	CB569	PLASTIC FITTING

**GALKIN AUTOMATED PRODUCTS**  
 87 WILSON STREET, WEST BAYVIEW, N.Y. 11757

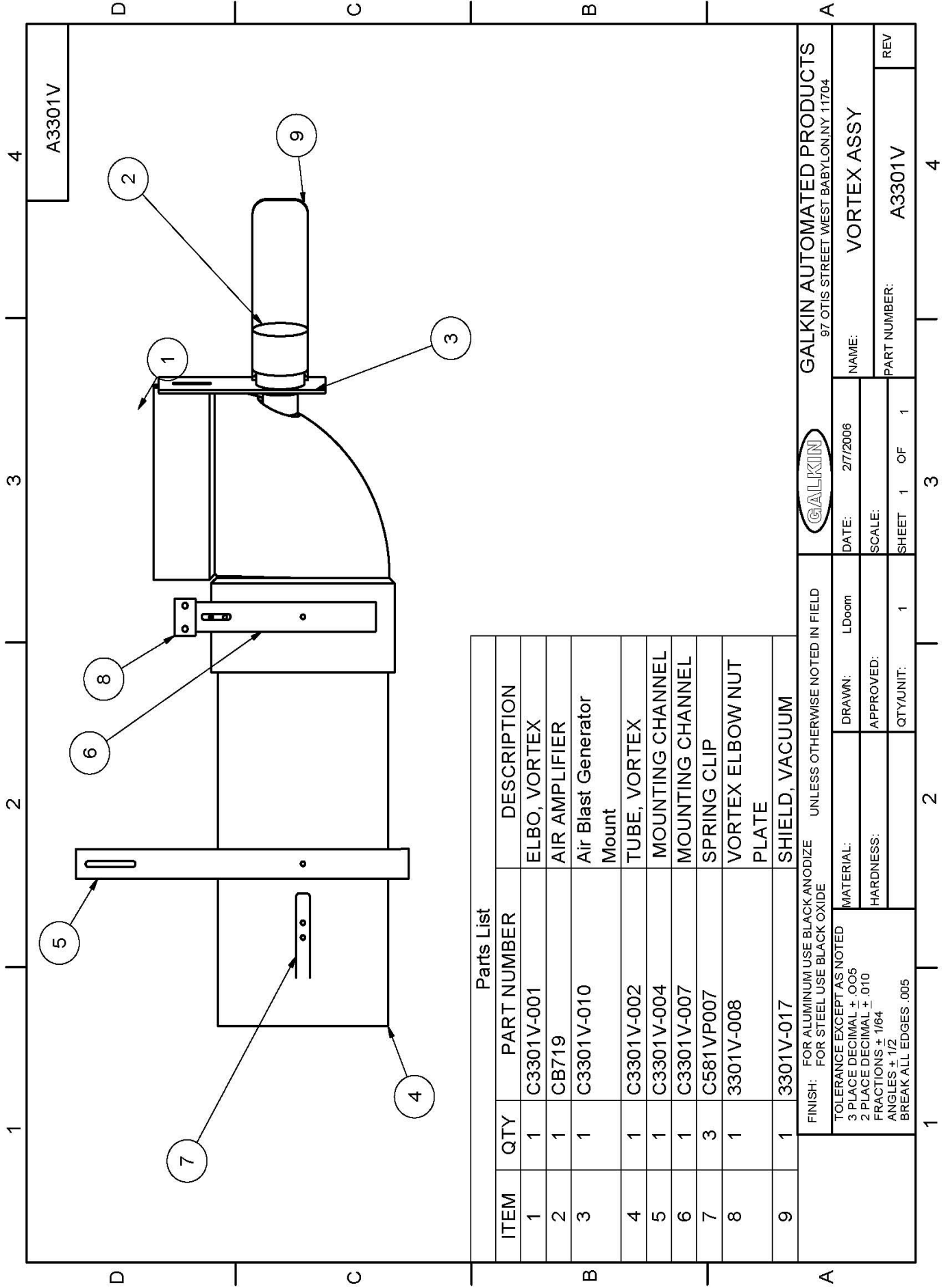
**AIR SYSTEM ASSY**

DATE: 7/12/2004  
 NAME: \_\_\_\_\_  
 DRAWN: J.Christofor  
 SCALE: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_

MATERIAL: \_\_\_\_\_ STOCK SIZE: \_\_\_\_\_  
 FINISH: \_\_\_\_\_  
 HARDNESS: \_\_\_\_\_

TOLERANCE EXCEPT AS NOTED  
 3 PLACE DECIMAL ± .005  
 2 PLACE DECIMAL ± .010  
 ANGLES ± 1/2  
 BREAK ALL EDGES .005

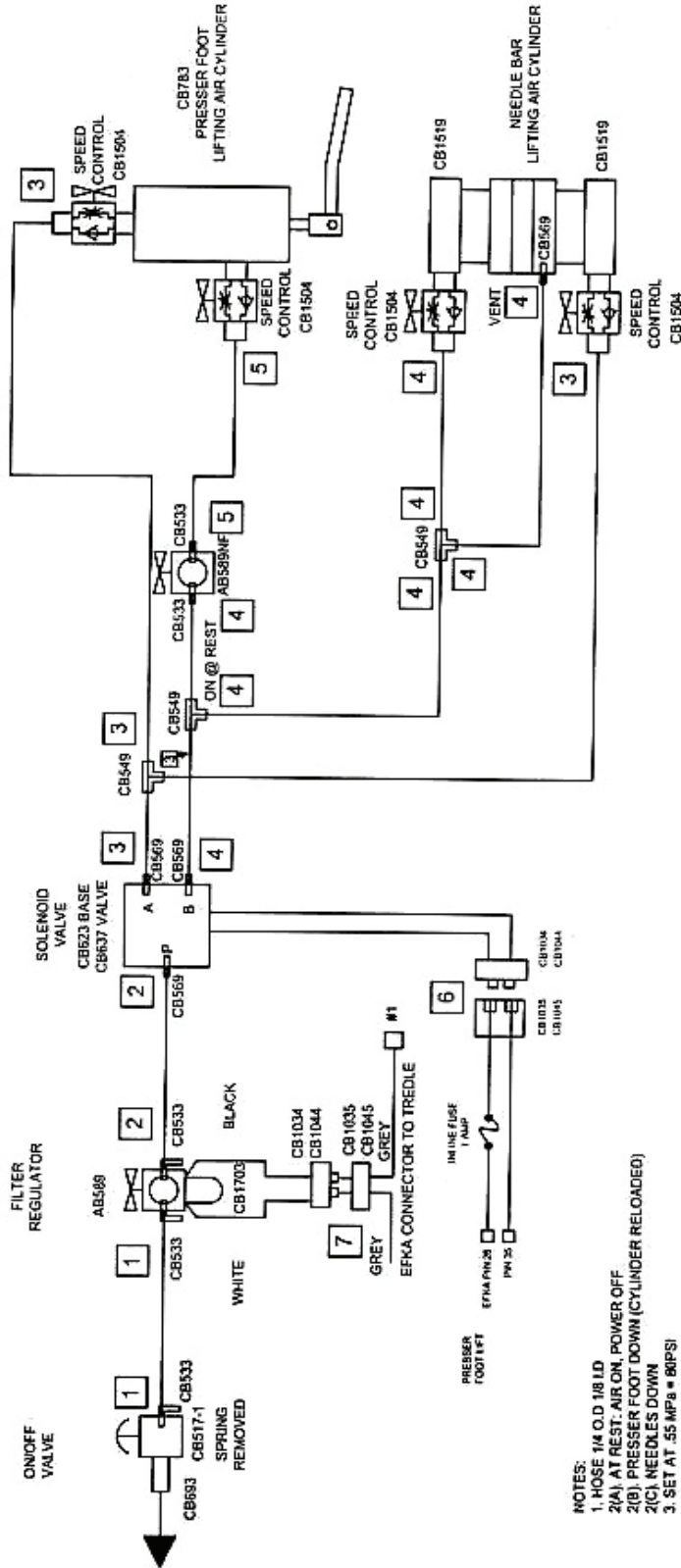
PART NUMBER: A3350-362  
 SHEET 1 OF 1  
 REV \_\_\_\_\_



Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	C3301V-001	ELBO, VORTEX
2	1	CB719	AIR AMPLIFIER
3	1	C3301V-010	Air Blast Generator Mount
4	1	C3301V-002	TUBE, VORTEX
5	1	C3301V-004	MOUNTING CHANNEL
6	1	C3301V-007	MOUNTING CHANNEL
7	3	C581VP007	SPRING CLIP
8	1	3301V-008	VORTEX ELBOW NUT PLATE
9	1	3301V-017	SHIELD, VACUUM

<b>GALKIN</b> GALKIN AUTOMATED PRODUCTS 97 OTIS STREET WEST BABYLON, NY 11704		NAME: VORTEX ASSY PART NUMBER: A3301V	
DATE: 2/7/2006	DRAWN: LDoom	REV	
SCALE:	APPROVED:	SHEET 1 OF 1	
QTY/UNIT: 1	1	3	
FINISH: FOR ALUMINUM USE BLACK ANODIZE FOR STEEL USE BLACK OXIDE		UNLESS OTHERWISE NOTED IN FIELD	
TOLERANCE EXCEPT AS NOTED 3 PLACE DECIMAL $\pm .005$ 2 PLACE DECIMAL $\pm .010$ FRACTIONS $\pm 1/64$ ANGLES $\pm 1/2$ BREAK ALL EDGES .005		1 2 3 4	



- NOTES:  
 1. HOSE 1/4 O.D. 1/8 I.D.  
 2(A). AT REST. AIR ON, POWER OFF  
 2(B). PRESSER FOOT DOWN (CYLINDER RELOADED)  
 2(C). NEEDLES DOWN  
 3. SET AT .55 MPa = 80PSI



NAME: AIR SCHEMATIC		STOCK SIZE:	
DATE:	DRAWN:	APPROVED:	
SCALE:	SHEET	OF	
PART NUMBER: 3350-345		REV	

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