

Crestline® Altra™ Series Dampener

Installation Instructions

Hamada 555, 665, 775, E47S, SU47S

New Style Satellite Unit



A Pamarco Technologies Inc. Company

PRINTERS PARTS
800-543-1117 201-935-9595
fax 800-392-4072 201-935-5333
www.ppsnj.com

X88-65
01/2001
Rev-B
2592

GENERAL INFORMATION

ATTENTION CRESTLINE® ALTRA™ SERIES DAMPENER OWNER!

Accel Graphic Systems provides parts and service through its authorized distributors and dealers. Therefore, all requests for parts and service should be directed to your local dealer.

The philosophy of Accel Graphic Systems is to continually improve all of its products. Written notices of changes and improvements are sent to Accel Graphic Systems' Dealers.

If the operating characteristics or the appearance of your product differs from those described in this manual, please contact your local Accel Graphic Systems Dealer for updated information and assistance.

Always update your dampener when improvements are made available, especially those related to safety.

YOUR AUTHORIZED CRESTLINE® ALTRA™ SERIES

DEALER IS:

PRINTERS PARTS

800-543-1117 201-935-9595

fax 800-392-4072 201-935-5333

www.ppsnj.com

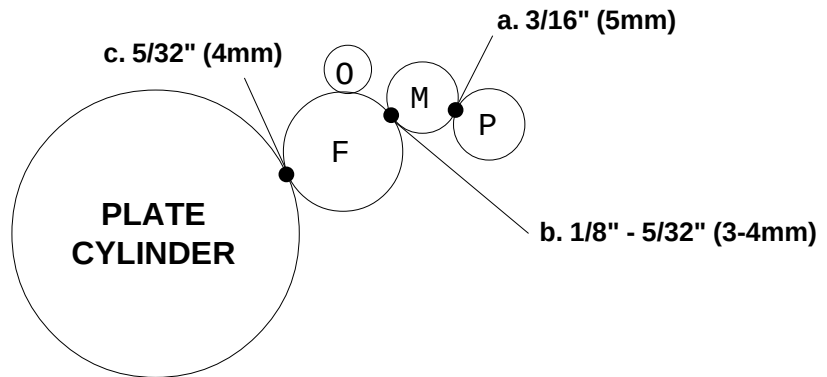
THE SERIAL NUMBER OF YOUR CRESTLINE® ALTRA™ SERIES DAMPENER(S) IS:

SAFETY INFORMATION

FOR YOUR SAFETY, DO NOT DISENGAGE OR REMOVE ANY GUARDS FROM THE CRESTLINE® ALTRA™ SERIES DAMPENER. THE DAMPENER CONTAINS SOME INWARD ROTATING ROLLER NIPS THAT CAN CAUSE INJURY IF LEFT UNGUARDED.

GENERAL INFORMATION

BASIC CONFIGURATION OF CRESTLINE® ALTRA™ SERIES



Adjustments

- a. Metering to Pan
- b. Form to Metering
- c. Form to Plate

Roller Descriptions

- F** = Form
- O** = Oscillator
- M** = Metering
- P** = Pan

TERMINOLOGY	OPS	=	Operator's Side
	NOPS	=	Non Operator's Side

TECHNICAL ASSISTANCE

For technical assistance during the installation, please contact:

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Crestline® Altra™ Series is covered by U.S. Patents and Patents Pending

GENERAL INFORMATION

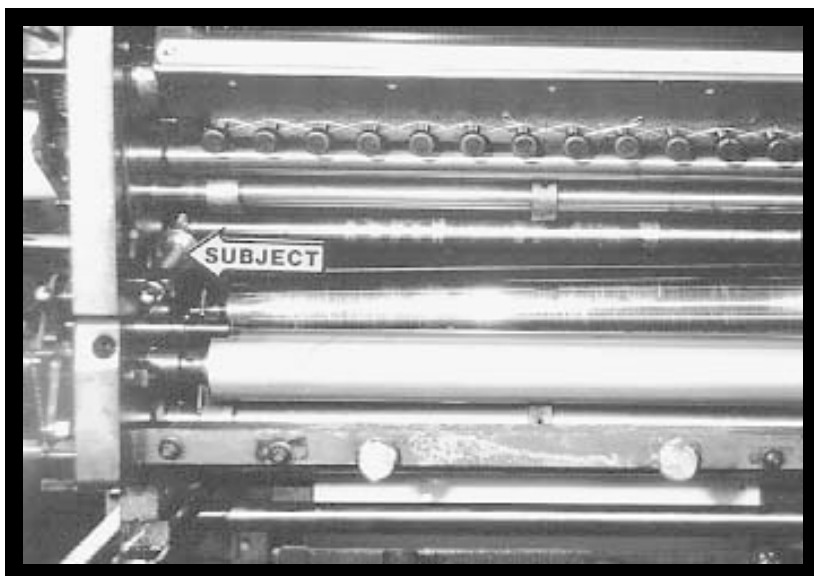
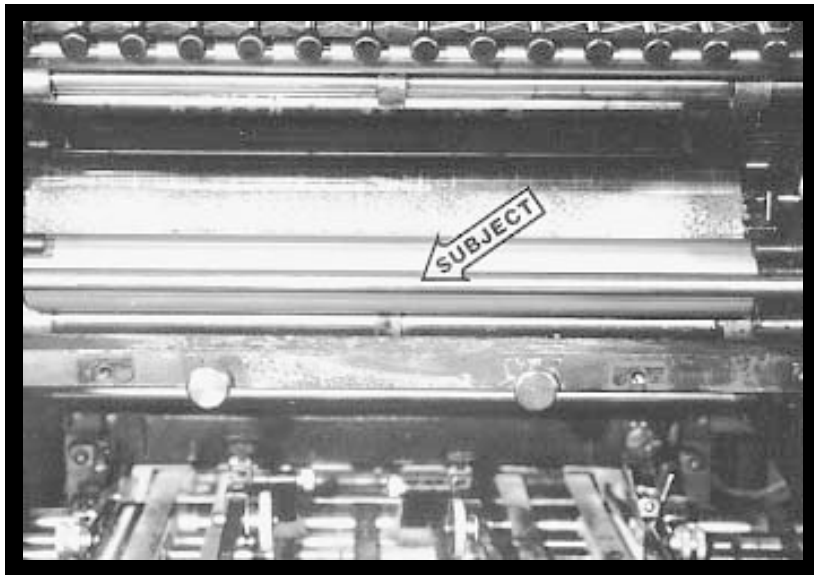
REQUIRED TOOLS

1. Phillips Screwdriver
2. Standard Screwdriver
3. 3/32" Allen Wrench
4. 5/32" Allen Wrench
5. 10 mm Open End
6. 13 mm Open End
7. 7/16" Open End Wrench
8. 2.5 mm Allen Wrench
9. 3 mm Allen Wrench
10. 1/8" Punch
11. 3/32" Punch
12. Hammer
13. 1/4" Punch
14. 5mm Allen Wrench
15. 4mm Allen Wrench
16. Snap Ring Pliers - External

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PRE-INSTALLATION INFORMATION

1. Cut the ties holding the rollers and examine rollers for gouges, scratches, or nicks.
2. Check box and parts board to make sure all pieces are present and nothing has broken in shipping.
3. Check the dampener for parallel. (Cutter bed works best.) If dampener rocks, it needs to be realigned. Loosen tie bar bolts at OPS and align the frames on the flat surface. Retighten bolts.



DISASSEMBLY

1

NOTE: For Hamada SU47S with Kompac® Dampening see separate disassembly instructions.

Remove side covers from OPS & NOPS on second color unit. Remove ductor roller. Remove form roller and save shaft for reinstallation. Drain the water pan and remove it from the press.

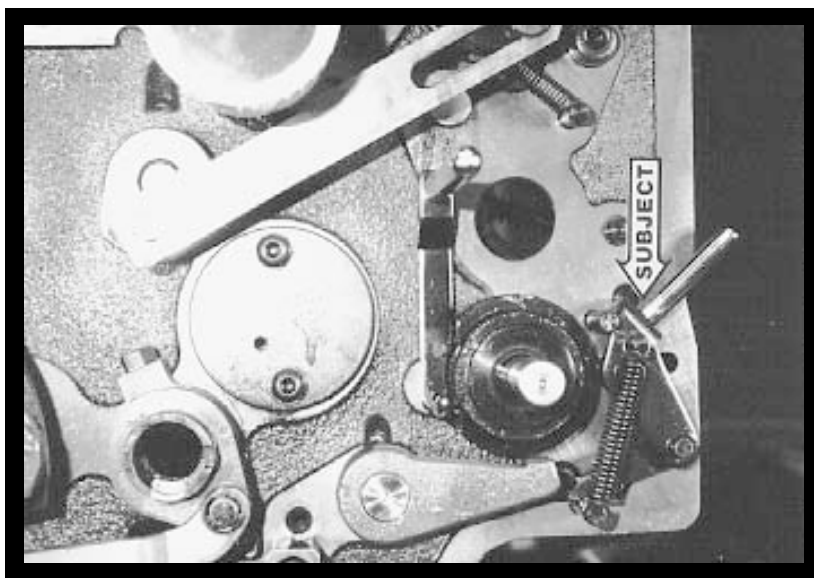
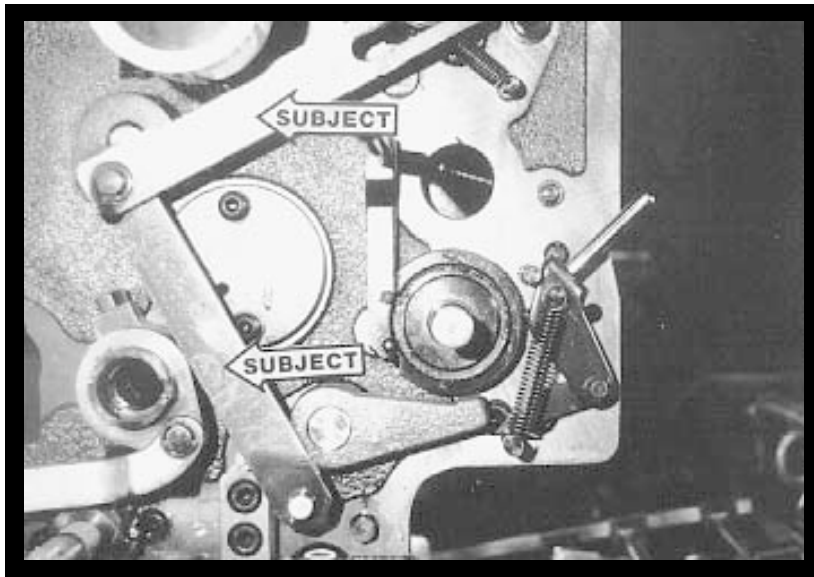
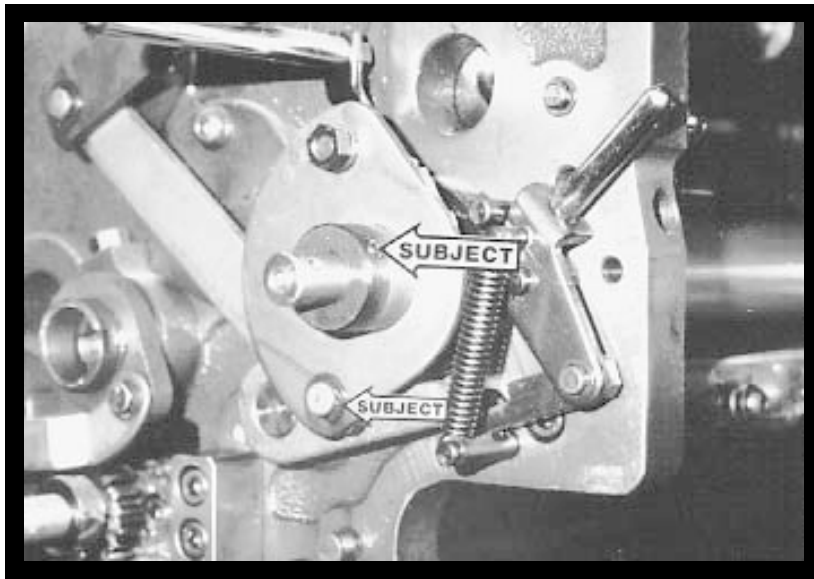
2

Remove bar (subject arrow) from press. Bar is held in place by two button head screws at the OPS & NOPS in the tie bar.

3

Pull back spring assemblies at OPS & NOPS (subject arrow) and remove chrome oscillator roller. Remove the spring assemblies by punching out the stud at OPS & NOPS.

7



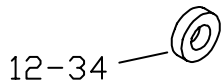
DISASSEMBLY

4

Completely remove Allen screw from collar (subject arrow) and slide the collar off the shaft at the OPS. Take off "E" clip (lower subject arrow) and pull off the large cam.

5

Take off screw stud and "E" clip from arm at OPS (upper subject arrow) and remove arm. Next, remove arm (lower subject arrow). Reinstall upper arm by first installing provided spacer behind arm on ductor shaft.

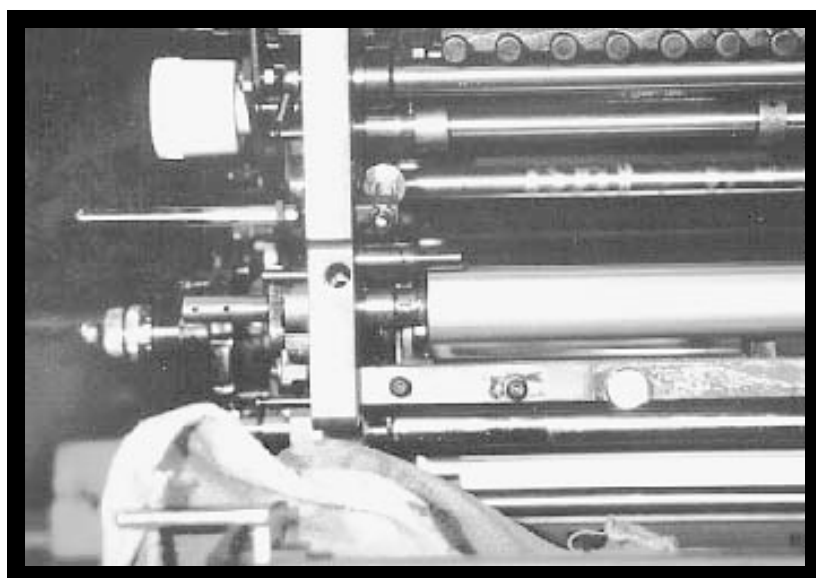
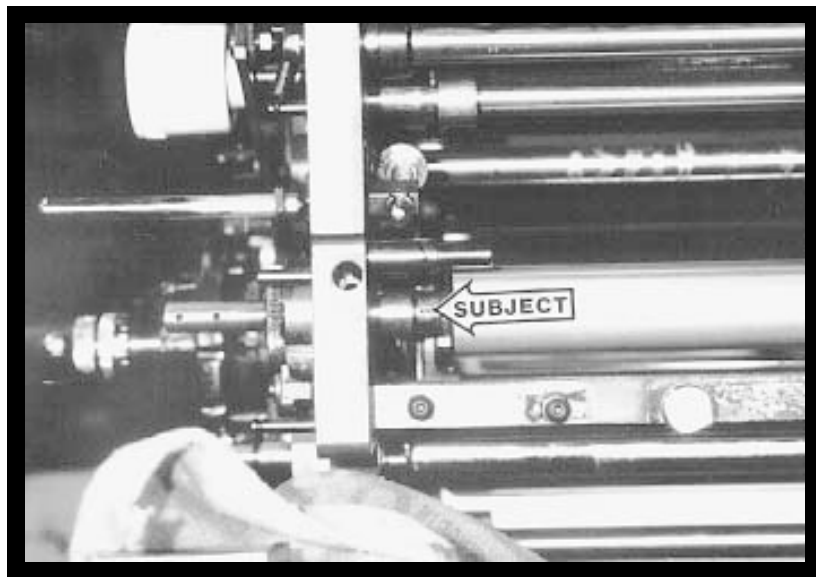


Note: If satellite head comes from Japan without a dampener installed, this spacer may already be installed.

6

Remove spring and arm assembly (subject arrow) from the OPS. Assembly is held by a nut inside the second color head frame.

9



DISASSEMBLY

7

Locate the holes at OPS & NOPS indicated by the subject arrows. Remove the button head screw at OPS, set screw at NOPS.

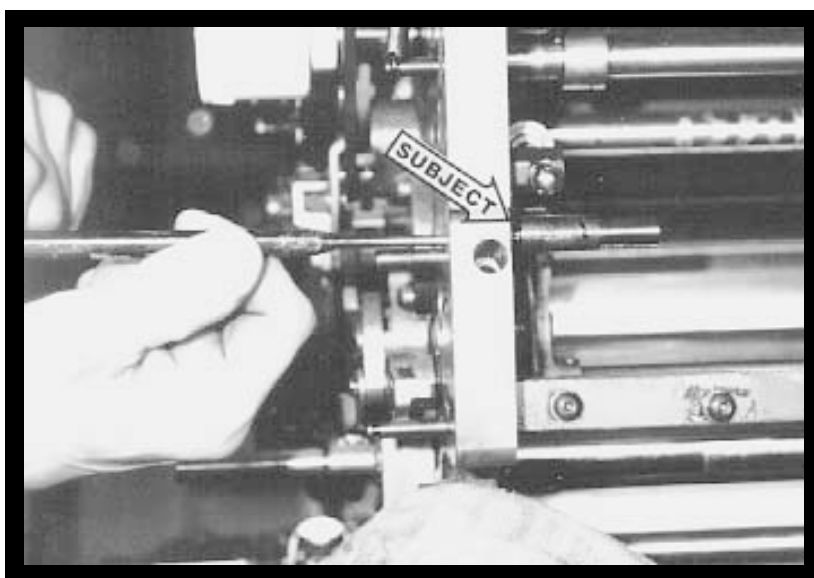
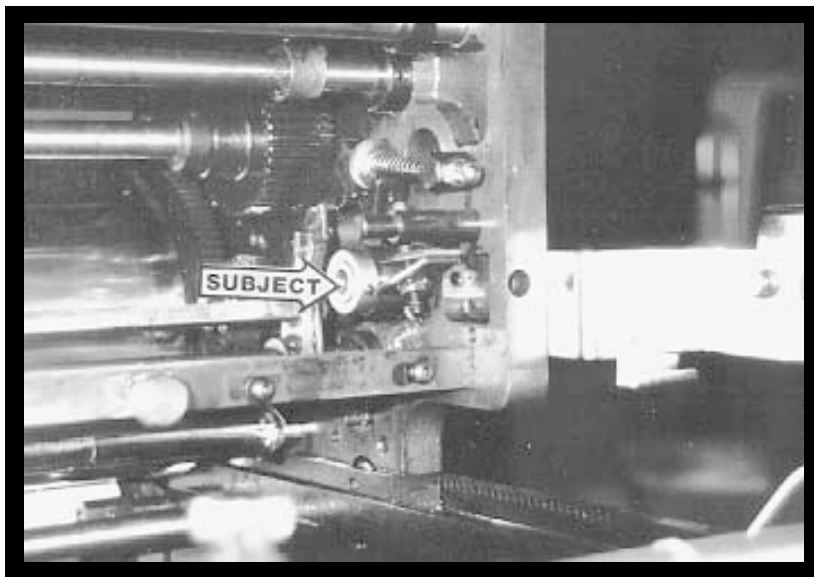
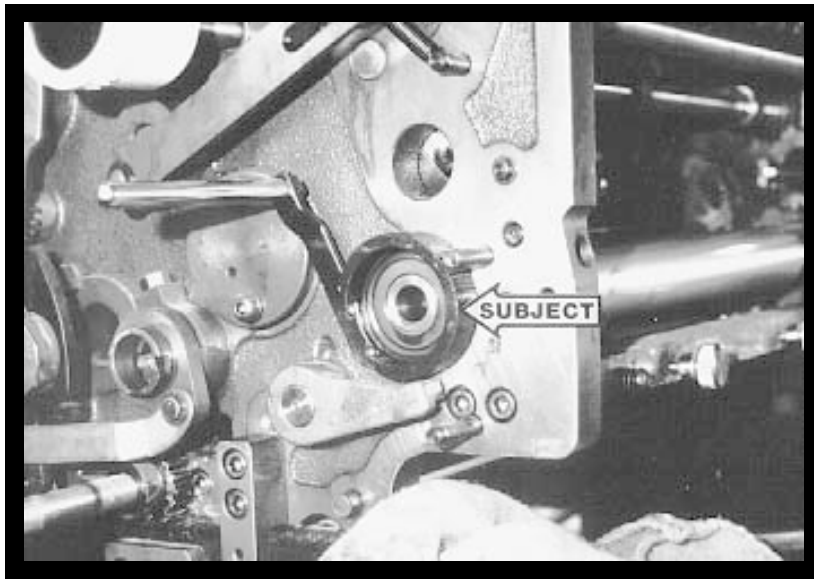
8

Remove the set screw on the water pan roller shaft, at the OPS (near subject arrow). Set screw holds a drive collar.

9

Pull shaft extension out at OPS and remove drive collar. Extension shaft can be pulled all the way out and remove the shaft. (Ratchet gear and spring remain on shaft.)

11



DISASSEMBLY

10

Pull off drive ratchet and oil impregnated bearing in OPS side frame (subject arrow)

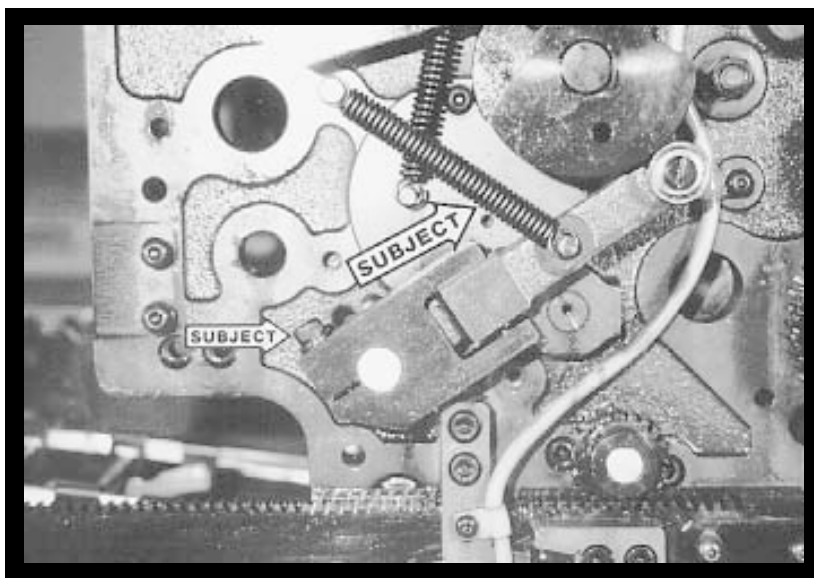
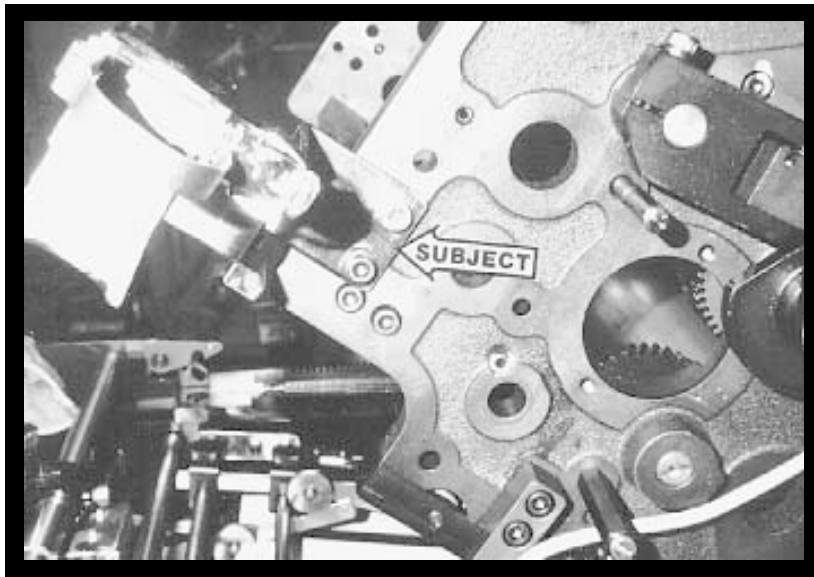
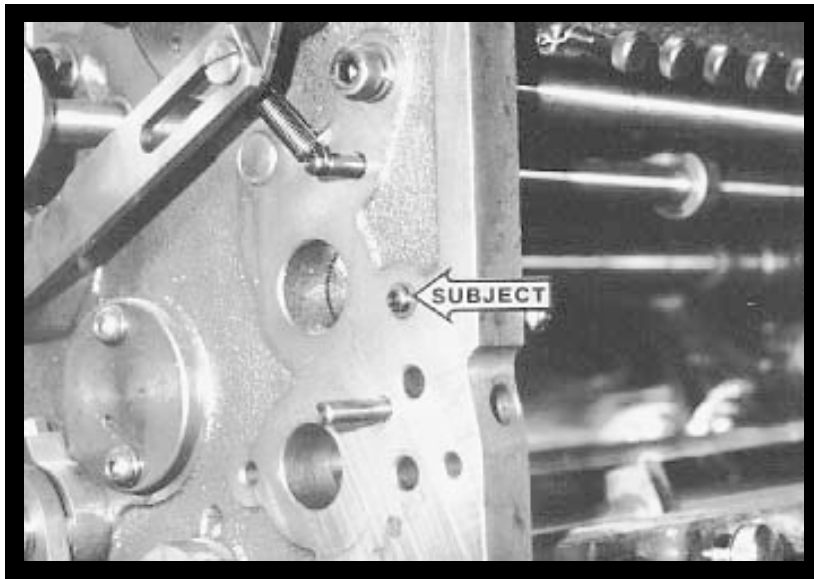
11

Slide the water pan roller to OPS and remove. Push the oil impregnated bearing and assembly (subject arrow) at NOPS towards the center of the printing head and remove. (Picture shows water pan roller removed.)

12

Knock out pin at OPS & NOPS with a punch.

13



DISASSEMBLY

13

Remove "E" clip (subject arrow) and take out spring assemblies at OPS and NOPS.

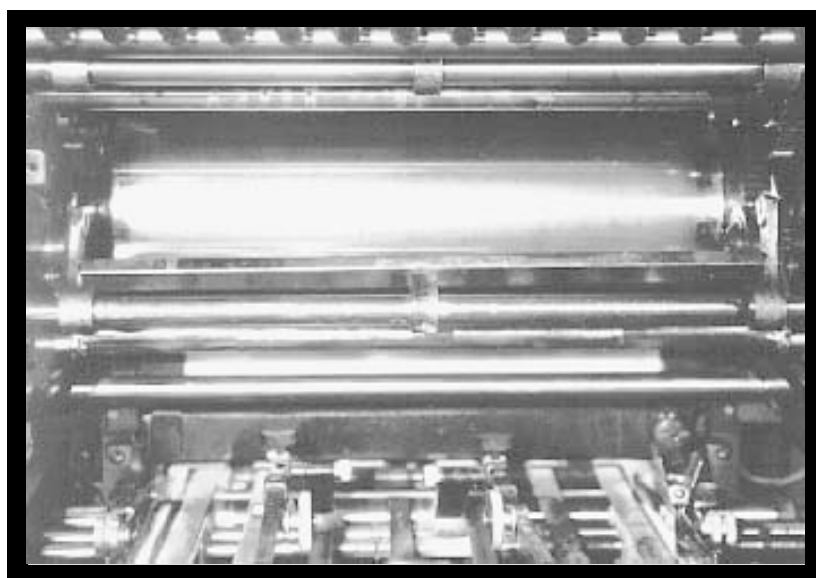
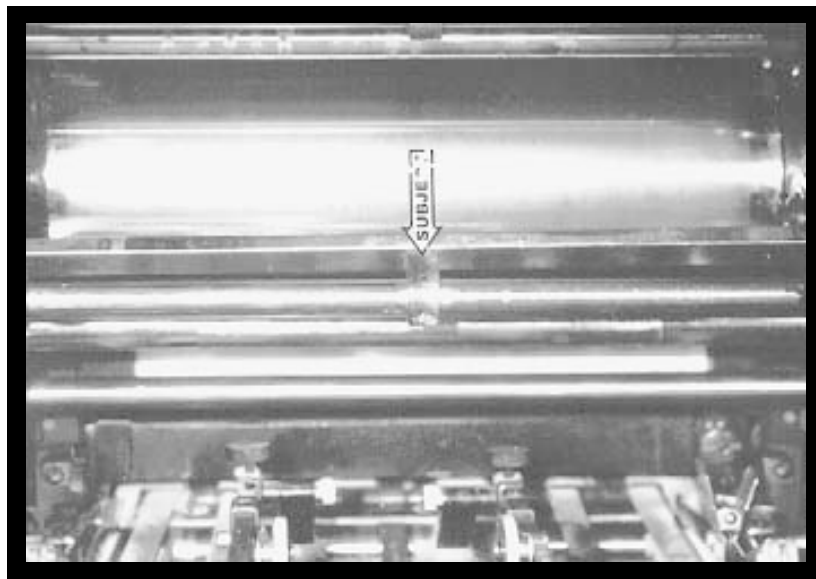
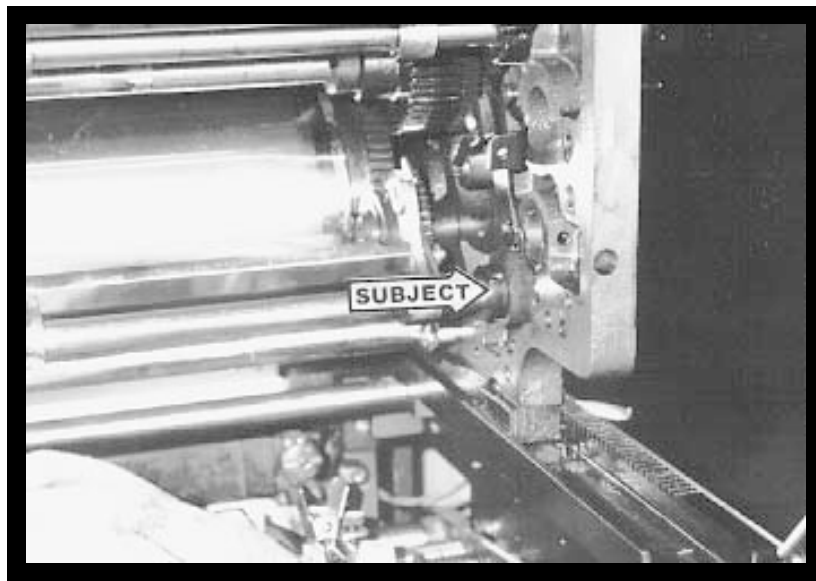
14

Remove water bottle cap assembly at NOPS to access the bolts holding the tie bar where the water pan mounts. Take out tie bar (tie bar held by bolts at OPS & NOPS).

15

Remove the spring indicated by the top subject arrow. Loosen the cap head screw (lower subject arrow) and remove the entire arm. The parts are at the NOPS.

15



DISASSEMBLY

16

Loosen set collar on water ductor shaft at NOPS (subject arrow).

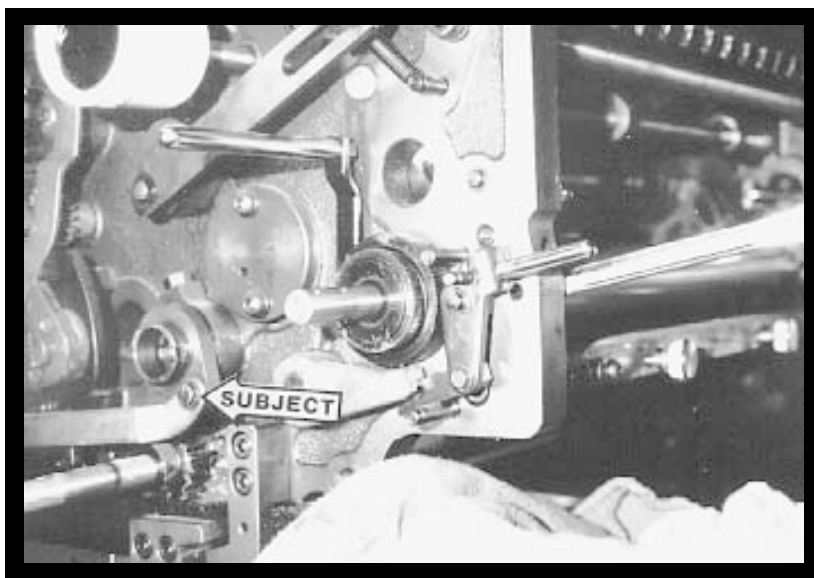
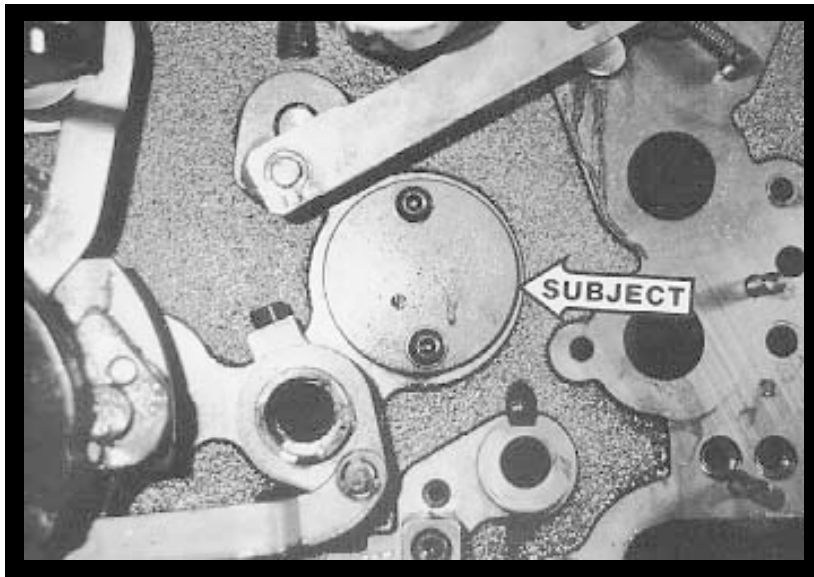
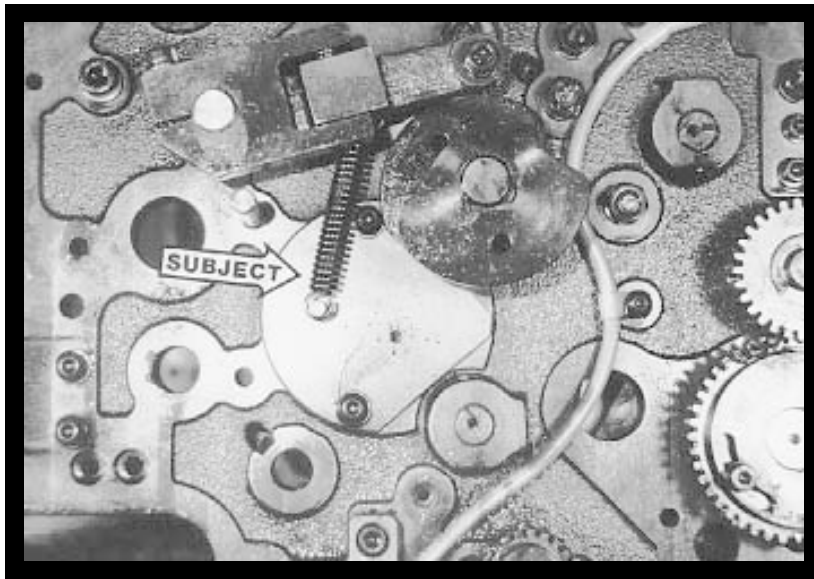
17

Punch out pin in the center brass arm of the ducting mechanism (subject arrow). Also, remove small clip at OPS & NOPS.

18

Remove shaft and ducting mechanism from the press. The shaft can be pulled out by holding the arm connected to it at the OPS.

17



DISASSEMBLY

19

Unhook spring & save for reinstallation from plate (subject arrow) at NOPS. Remove the two cap head bolts in the plate and push the plate out of the side frame.

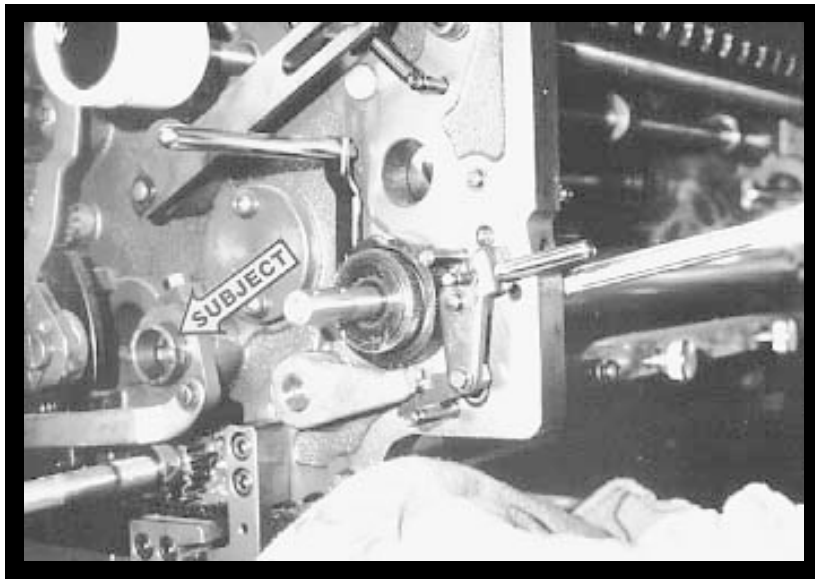
20

Repeat previous step with the plate (subject arrow) at OPS.

21

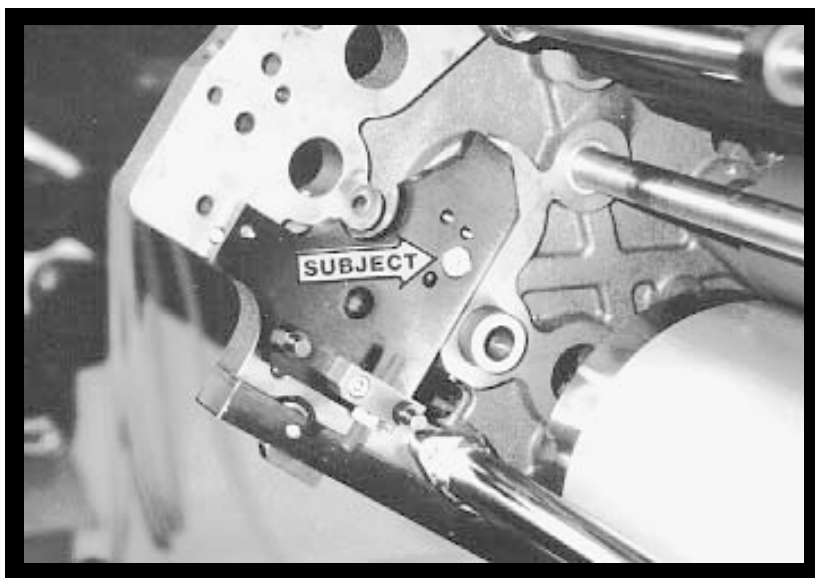
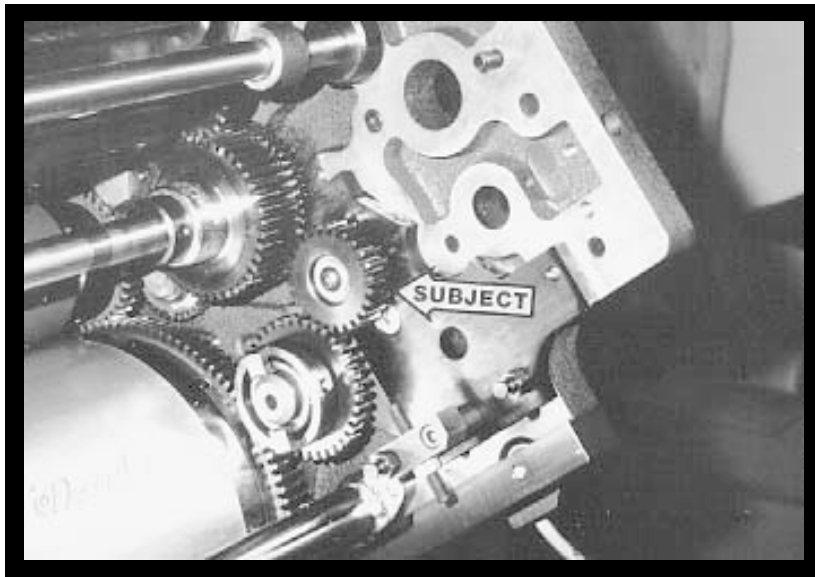
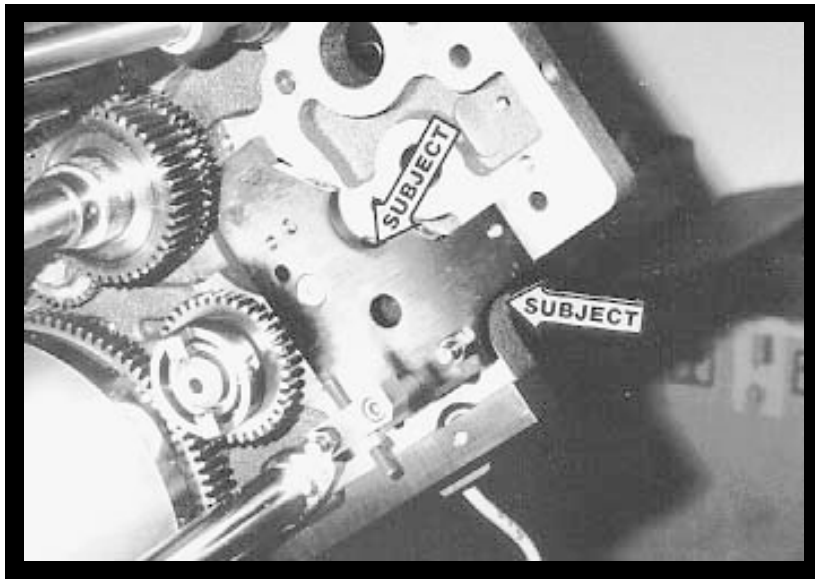
Remove snap ring (subject arrow) and drop link down. Link should remain on the press to be used on Crestline® Altra™ Series.

19



22

Rotate water form control block until tabs line up with notches. Pull on assembly to remove from frame.



INSTALLATION

1

For Hamada SU47S originally equipped with Kompac® Dampening see the separate "Crestline® pre-installation assembly" before proceeding with the Crestline® Dampening installation.

At NOPS install the provided dampener mounting frame. The NOPS frame will be the one with the large spring stud attached to the frame. Use the countersunk screw on the inside of the frame and the cap head screw on the outside to secure the frame to the press. Remove the caps from the bearing cradle and save for reinstallation later.

NOTE: The radius of the mounting plate should line up with the radius of the press frame (lower subject arrow).

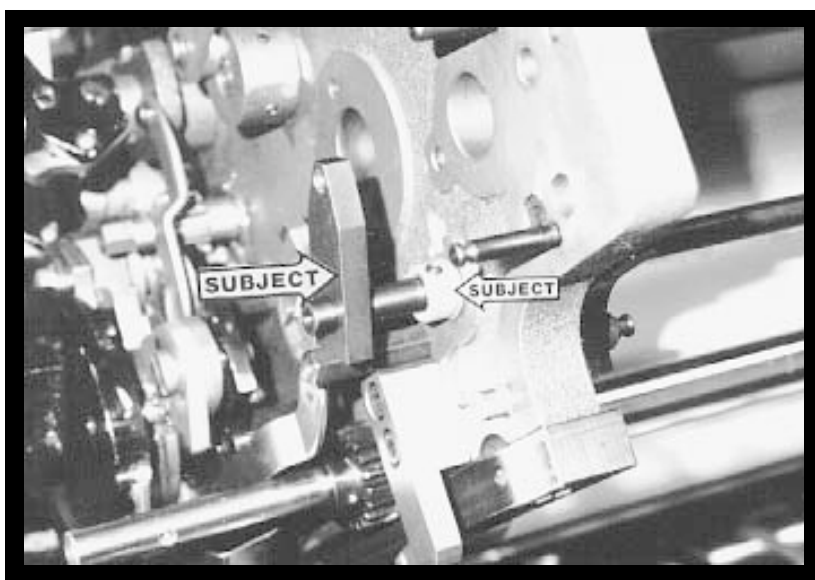
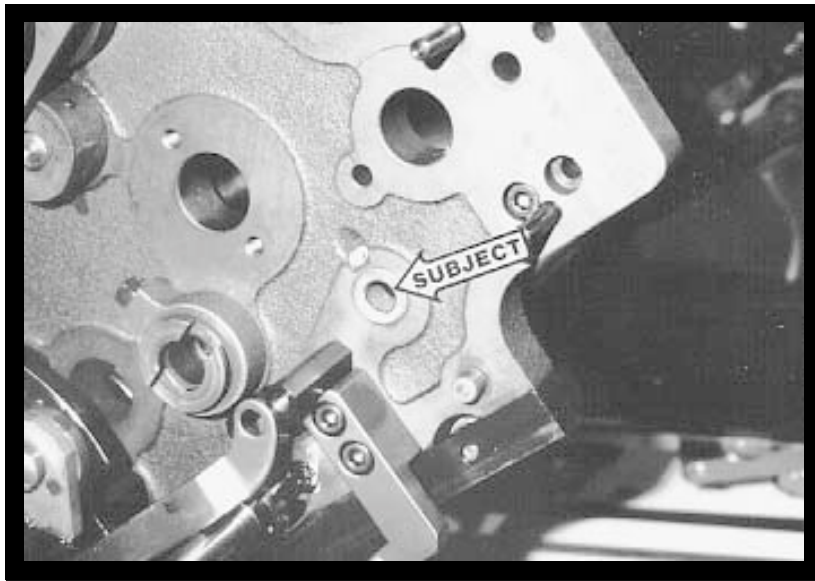
2

At the NOPS install the idler gear assembly on the NOPS mounting frame (subject arrow). The flanged spool slips inside the gear with the flange between the gear and mounting plate. Use a button head screw and washer to secure the gear to the frame.

3

At OPS install the provided dampener mounting frame. Use the countersunk screw on the inside of the frame and the cap head screw on the outside to secure the frame to the press. Remove the caps from the bearing cradle and save for reinstallation later.

NOTE: The radius of the mounting plate lines up with the radius of the press frame.



4

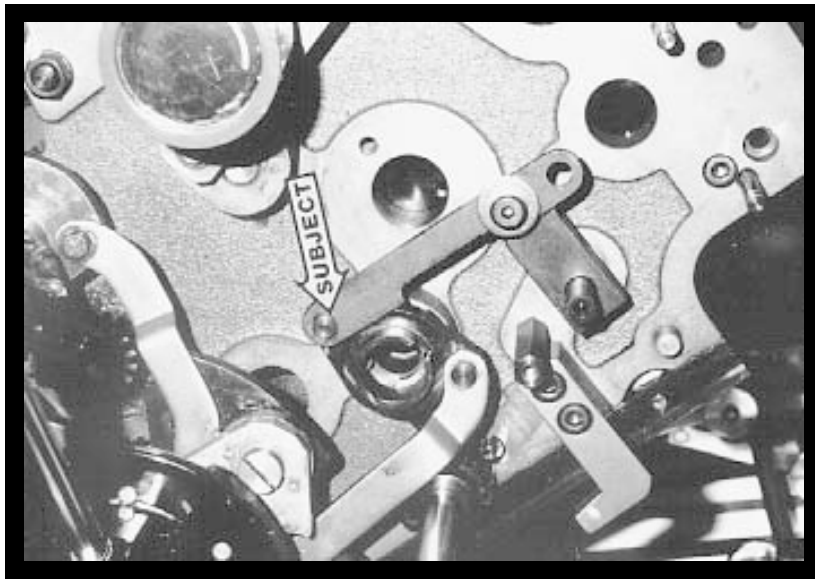
At OPS and NOPS press the flanged bronze bushings (as shown) into the press frame. The bushings press into the holes that originally housed the water ductor shaft. These bushings will be used for the dampener lift shaft. The flanged portion of the bushings should go on the outside of the press frames.

5

From the OPS, slide the lift shaft through the bushing installed in the previous step. After sliding the shaft approximately half way through the press install the two lift cams over the end of the shaft. The set screws on the cams should point toward the feeder and the rounded portion should be pointing downward. Continue sliding the shaft through the NOPS bushing. Tighten the set screws into the dimples in the lift shaft.

6

At OPS and NOPS install the provided set collars on the ends of the lift shaft on the outside of the press frame (small subject arrow). Do not tighten the set screws at this time. At OPS slip on the provided lift shaft control block but do not tighten at this time (large subject arrow).



7

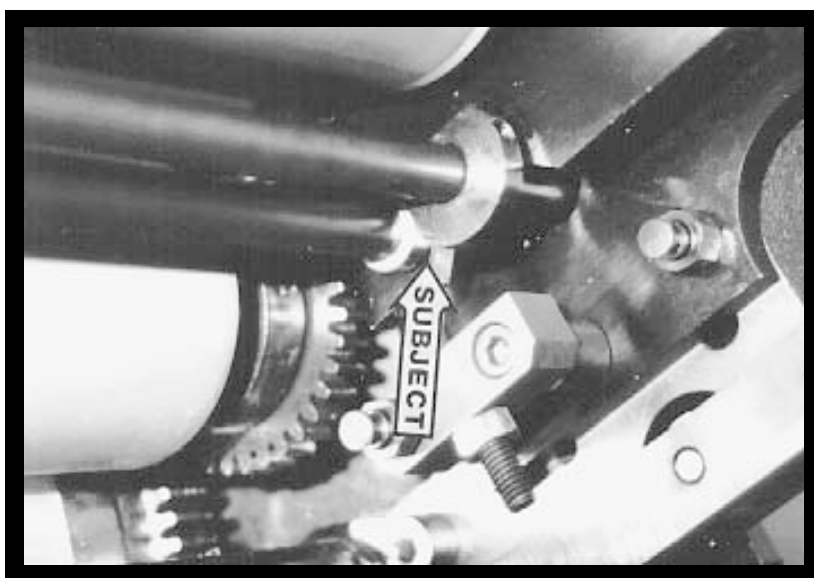
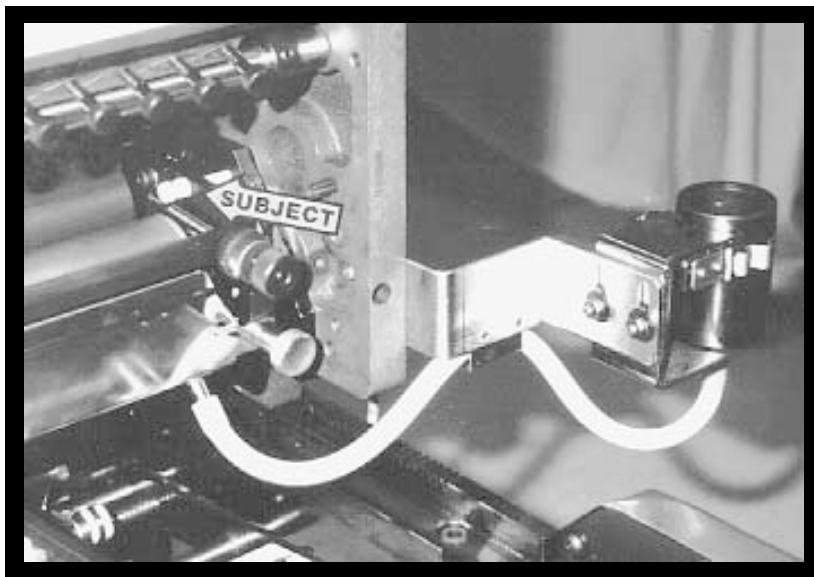
At OPS install the provided water form control block (as shown). The link on the top side of the control block connects to the lift shaft control block installed in the previous step. There are two holes in the link please make a note to use the hole closest to the water form control block. Use the shoulder bolt and washer provided to secure the link. Reconnect the lower link to the water form control block using the snap ring provided.

8

Install the new water form roller using the original water form shaft. This is done in the same manner as the original form roller and can be removed by the operator when necessary.

9

Place the oscillator roller in the dampener brackets before you install the dampener in the press. Check the side to side play and adjust if necessary.



10

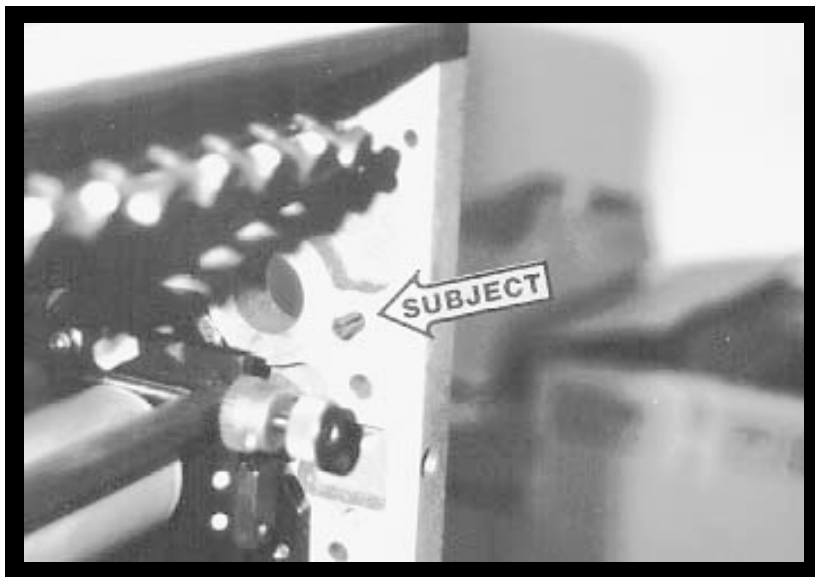
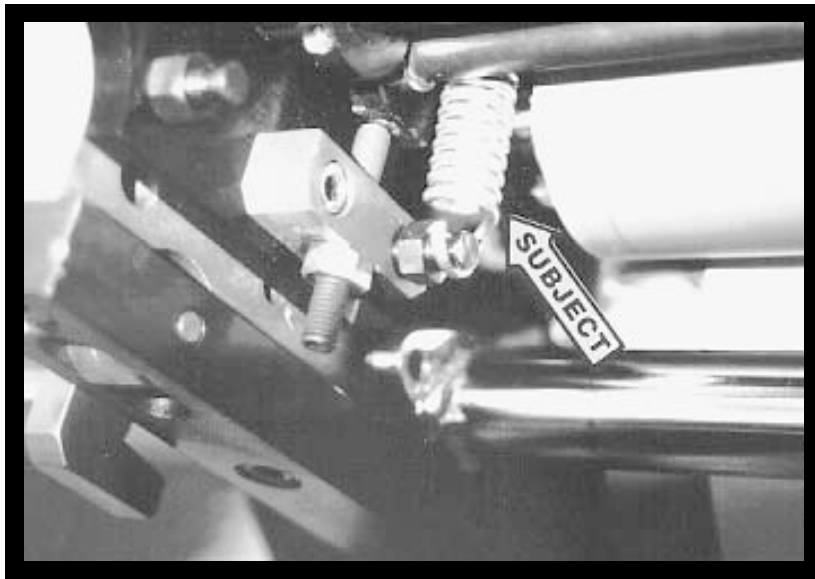
Place the dampener in the press, lining up the bearings in the bearing cradles on the mounting plates. Secure the dampener with the bearing caps. Tighten all four cap head bolts at this time.

11

At OPS and NOPS adjust the nylon screws on each side of the dampener out until they just slightly touch the frames. Secure this position with the nylon nuts.

12

Set the side to side position of the lift shaft so that the lift cams line up with the ball bearings on the front of the dampener frame (subject arrow). When positioned properly slide the collars on the OPS and NOPS lift shaft up against the flanged bushing and fully tighten at this time.



13

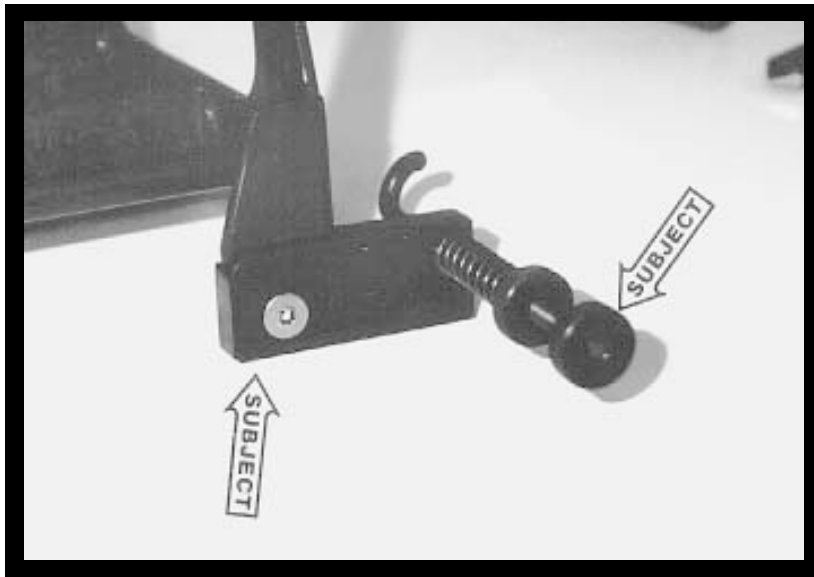
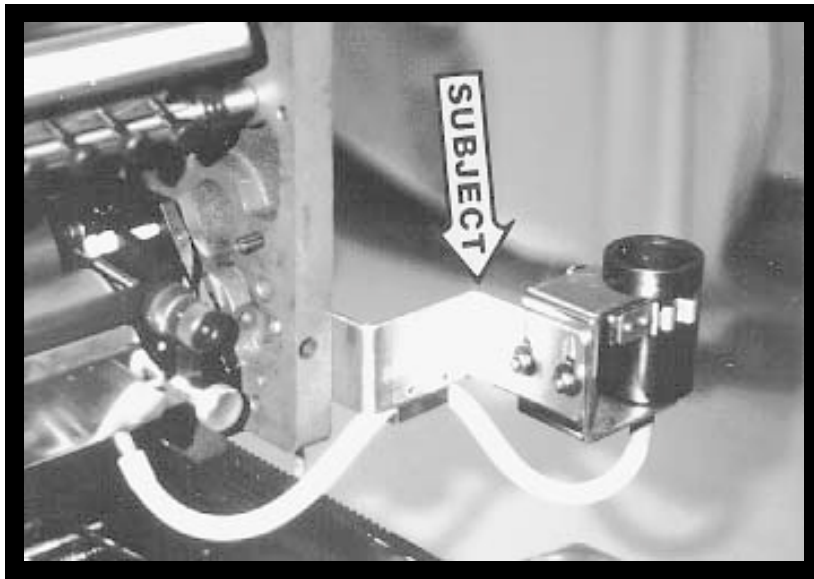
At OPS and NOPS install the extension springs (subject arrow) between the stud on the dampener frame and the stud on the mounting frame. **NOTE: It may be easier to install these springs with the single lever in the WATER ON position.**

14

At OPS and NOPS install the provided roll pins in holes (subject arrow). Flush the roll pins to the outside of the press frame. This should leave approximately 11mm protruding to the inside of the press.

15

At NOPS reinstall the ink ductor spring that was removed in disassembly step 12.



16

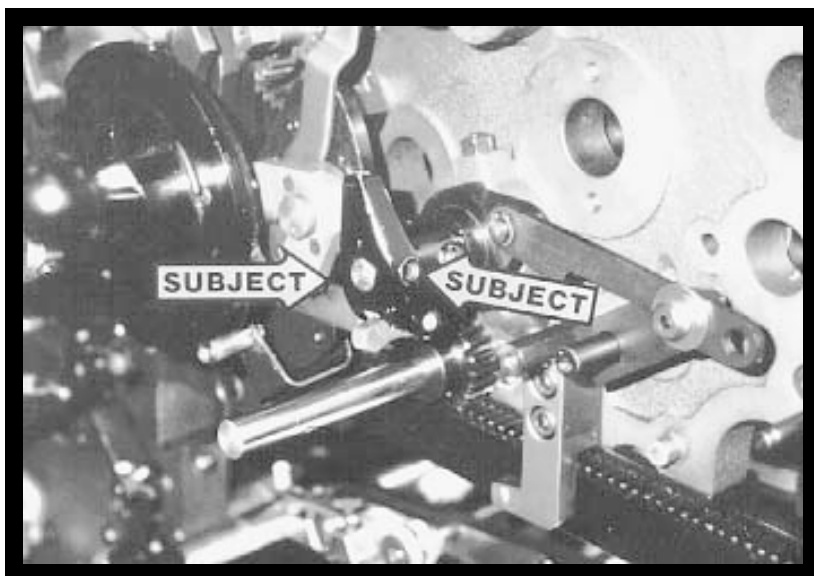
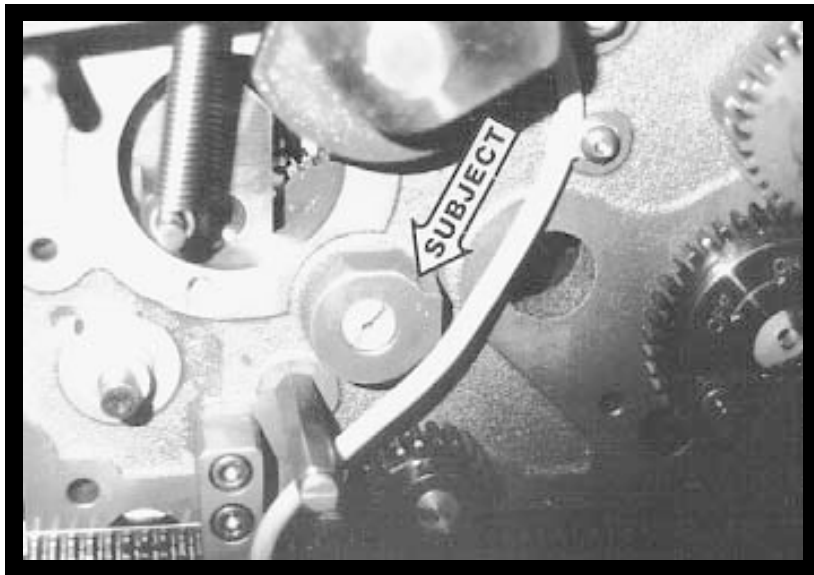
At NOPS reinstall the water bottle holder. Use the original hardware for installation.

NOTE: For Hamada SU47S originally equipped with Kompac® Dampening the water bottle bracket is provided by Hamada. See the parts list included with the "SU47S with Kompac® Dampening disassembly instructions."

17

Knock out the roll pin (right subject arrow) on each side of the wash up tray and remove the knobs. Thread the second knobs off of the threaded shaft. Remove the spring and the threaded, hooked shaft from the hole. Install the extension plates (left subject arrow) in this same hole using the countersunk screw, washer and nut. The longer of the two plates goes to the NOPS. Now slip the threaded, hooked shaft into the new hole. Replace the spring and then thread the knob on the end of the shaft. Reinstall the knob with the roll pin that was removed previously. Repeat this for both sides.

YOU ARE NOW READY FOR FINAL ADJUSTMENTS.



FINAL ADJUSTMENTS

1

INK UP THE DAMPENER

Make sure the dampener is in the WATER OFF position. Apply a small amount of ink on the dampener oscillator roller only. Turn on the press and run for 30-40 seconds and allow the ink to mill. Only the oscillator roller and form roller will ink up at this time.

2

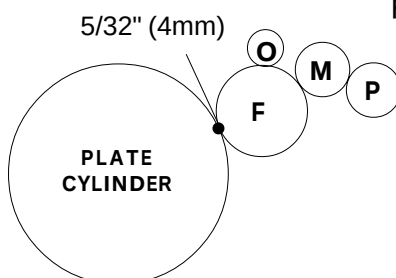
FORM ROLLER TO PLATE CYLINDER PARALLEL

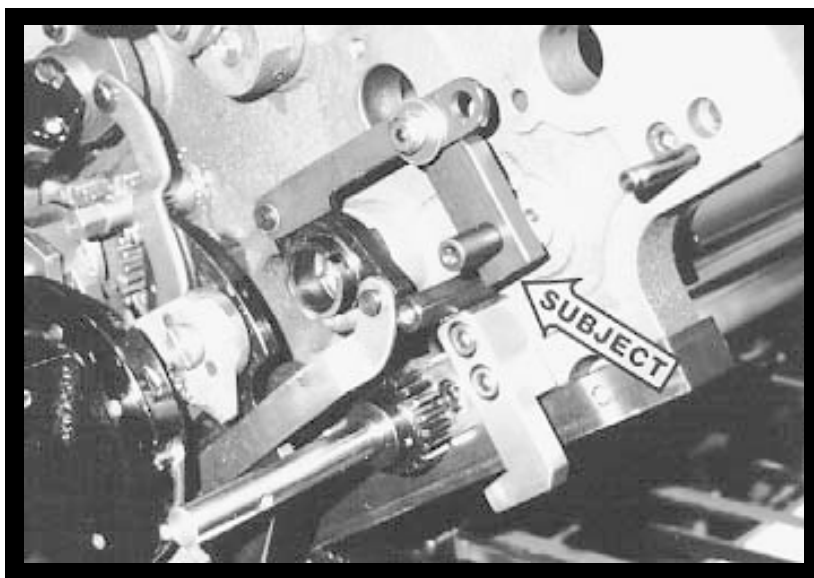
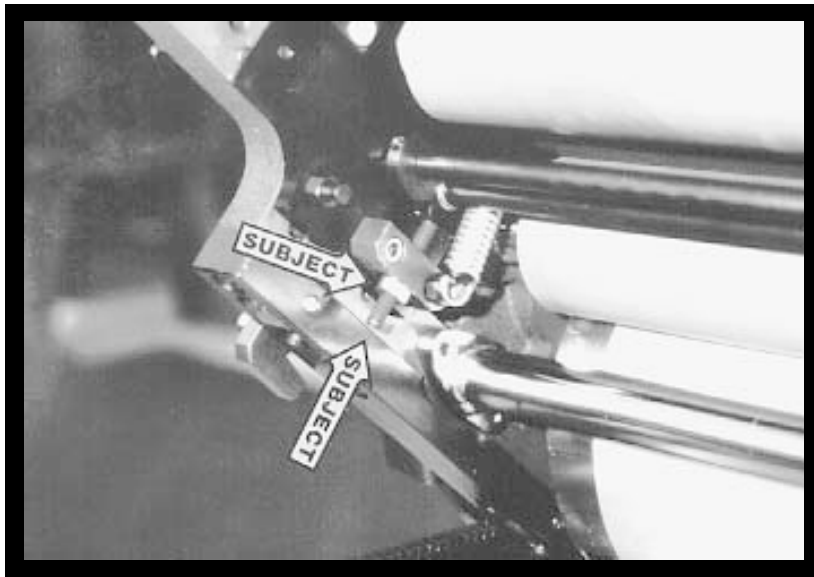
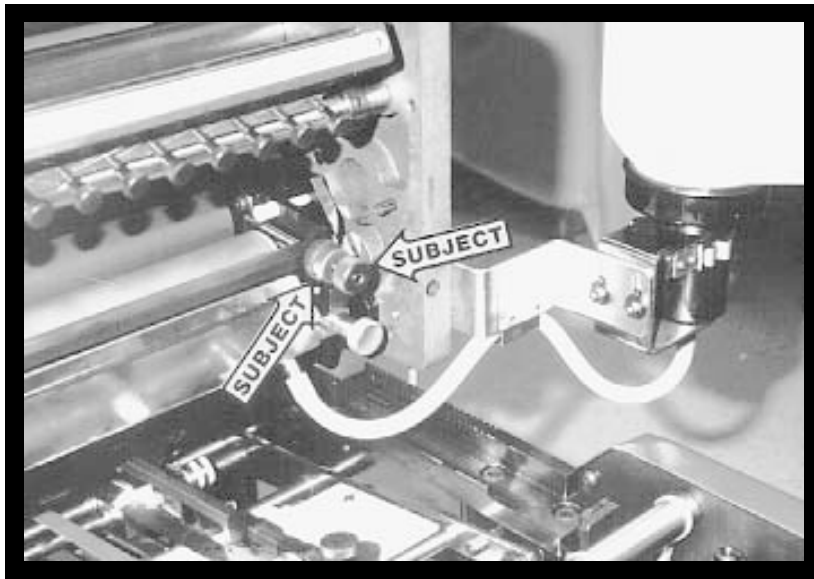
Drop the dampener form roller down to the plate and back to the OFF position. This will leave a stripe on the plate which should be even. This stripe is adjusted exactly as the original dampener. If the line is uneven it will be necessary to adjust the eccentric bushing at NOPS (subject arrow). To adjust first loosen the bushing locking screw and rotate the bushing very slightly using the slot in the center of the bushing for adjustment. This adjustment is complete when the width of the stripe is even at both ends. **NOTE: Form roller end play is also controlled by the eccentric bushing. Be sure to maintain a slight pressure on the bushing during adjustment.**

3

FORM ROLLER TO PLATE CYLINDER PRESSURE

After the form roller stripe is parallel it is necessary to adjust the overall pressure to the plate which should be $5/32"$ (4mm). Adjustment is made by loosening the OUTER locking screw (right subject arrow) in the shaft handle and turning the adjustment screw slot in the end of the shaft (left subject arrow). To decrease the overall pressure turn it clockwise.



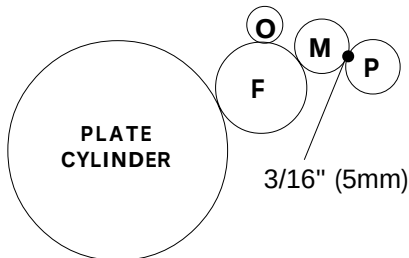


FINAL ADJUSTMENTS

4

MAXIMUM METERING TO PAN ROLLER PRESSURE

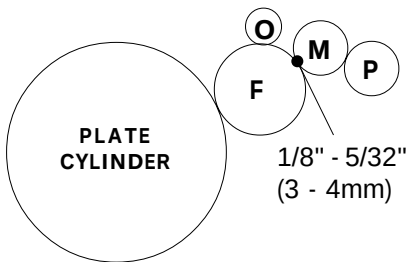
Place the single lever in the WATER ON position and allow the press to run 30-40 seconds to ink up the remaining rollers in the dampener. Stop the press and allow the rollers to sit still for 15-20 seconds. Jog the press forward and observe the stripe on the pan roller. It should be $3/16"$ (5mm). Turn the knurled metering knobs (right subject arrow) clockwise to increase the stripe or vice versa. When the proper stripe has been obtained, spin the ratchet gears (left subject arrow) down until they bottom out on the stud and secure the ratchet gear to the knurled knobs with the set screws.



5

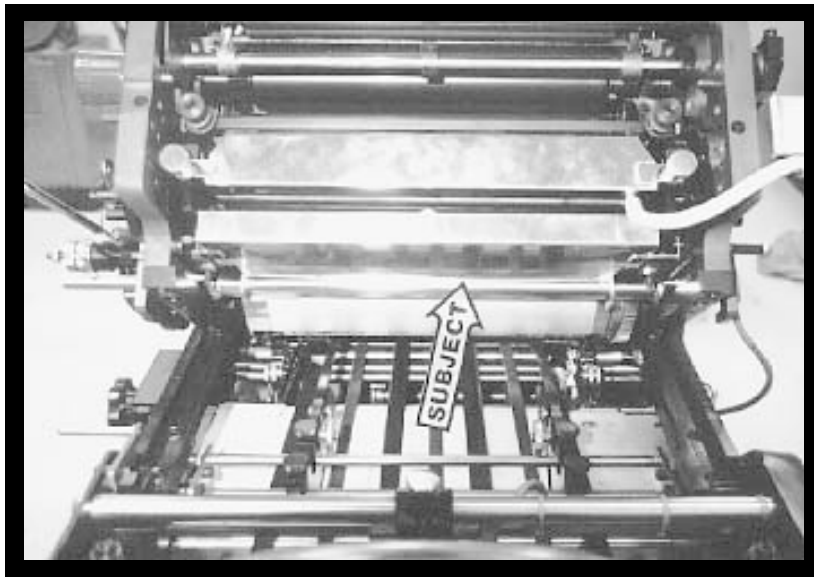
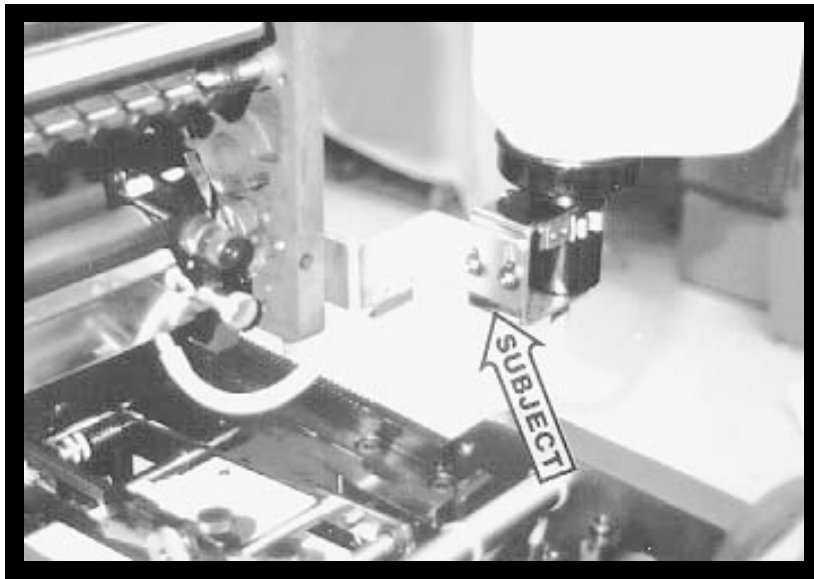
METERING TO FORM ROLLER PRESSURE

Place the single lever in the WATER ON position and allow the press to run 30-40 seconds. Stop the press and allow the rollers to sit still for 15-20 seconds. Jog the press BACKWARDS and observe the stripe on the metering roller. It should be in between $1/8"$ to $5/32"$ (3 to 4mm). Adjustment is made by turning the long set screws at the bottom of the dampener (lower subject arrow). By raising the set screw the stripe will be decreased. After proper position is obtained lock in place with the lock nut (upper subject arrow). NOTE: As a reference starting point it may be helpful to turn the adjustment screws up until they just touch the blocks in the WATER ON position. When making the adjustments turn each screw only a $1/4$ turn each until the proper stripe is obtained.



6

At OPS, place the single lever in the WATER ON position. Rotate the lift shaft by hand until the flats on the lift cams are horizontal and the set screws are facing straight towards the feeder. Tighten the set screw in the lift shaft control block (subject arrow) to secure this position. NOTE: To check for proper operation return the single lever to the OFF position and observe the gap between the metering and form rollers & form roller and plate cylinder.



FINAL ADJUSTMENTS

7

WATER LEVEL IN PAN

Install the water pan as shown. Place the bottle holder in the bracket. Set the water level in the pan by adjusting the bottle bracket using the two screws (subject arrow). The water level should be about half way up the pan.

8

Install the new drip tray provided (subject arrow). Be sure that the hooks on the front of the tray are seated on the large chrome tie-bar. The tabs with the hooks on each side should hook on the pins on each side.

9

Reinstall the covers on the press.

YOU ARE NOW READY TO PRINT.

BASIC OPERATION

START OF DAY

- A. Make sure the oscillator and metering rollers are in place.
- B. Spin knurled knobs until the shoulder on the ratchet stops against the stud bar.
- C. Mount plate to cylinder. Wipe down all plates before running. Pre-ink the Crestline® Altra™ Series dampener before running the plates with an extremely light coverage of ink. Dab the ink on the oscillator only.
- D. Place water bottle in bracket.

NOTE: Accel recommends using the proper fountain solution for the plate material being run on the press. A good acid/gum etch should be used with metal plates.

RUNNING DURING THE DAY

- A. In general, the Crestline® Altra™ Series Dampener should not have to be adjusted from job to job. The form roller setting should never be changed unless it has deviated from the factory specification of 5/32" to the plate.
- B. Adjustments to the amount of water fed to the plate are made by the knurled knobs that apply pressure to the metering roller. The dampener has been set up for minimum water. To increase the water to the plate, turn the knurled knobs counter clockwise 1 or 2 clicks at a time. This opens the gap between the metering and pan rollers and allows more water to the plate.
- C. In general, more water will only be required when going from a metal plate to an electrostatic or Silvermaster type plate.

CLEANING & MAINTENANCE

WASH UPS DURING THE DAY

1. Remove bottle and drain the excess water from the pan.
 2. Mount a metal plate to the press.
 3. Turn on the press and squirt a small amount of press wash on the ink rollers.
 4. Drop both the dampener and ink forms to the plate. It will be necessary to drop the forms manually rather than by the single lever. In general, the dampener will pick up enough roller wash off the plate to clean itself. Apply wash directly to the dampener only when necessary.
 5. Use wash up attachment as normal. The plate cylinder is being used as a bridge between the dampener and inker. Solution transfers from the dampener to the plate, plate to inker, and inker to wash up attachment.
 6. Remove water pan and clean any solution left in it.
 7. Be sure to wipe excess clean up solution from the ends of the dampener metering and pan rollers.
-

END OF THE DAY

1. Wash up dampener. Pay close attention to cleaning the ends of the pan and metering rollers that extend past the form rollers.
2. Spin the knurled knobs up until the metering roller can be removed.
3. Remove metering roller and wipe down thoroughly to remove any excess wash that may be on the roller.

CLEANING & MAINTENANCE

DEGLAZING THE DAMPENER

Periodic deglazing of water-soluble contaminants will be necessary with the Crestline® Altra™ Series. Typically, once every 2-3 weeks will be sufficient, unless you are running electrostatic plates on a daily basis whereas deglazing should be performed weekly. A 50/50 solution of household ammonia and hot water can be used for deglazing purposes. If you prefer a commercially available deglazer, avoid those containing pumice or gritty substances. Always follow deglazing with straight water and then roller wash. Accel offers a product called **COMPOUND X** that we recommend for deglazing our system. Contact your dealer or Accel for more information.

OILING AND GREASING THE DAMPENER

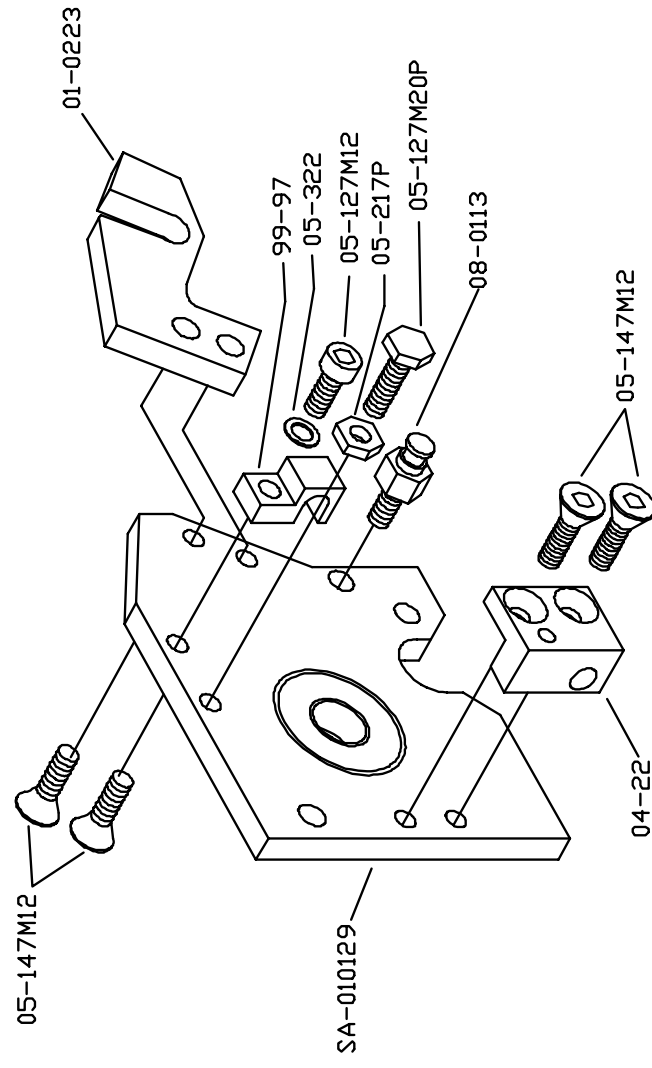
- A. Place a small amount of grease on the gears once a month.
- B. Inject grease into the oscillator grease fitting once a month.

CLEANING & MAINTENANCE

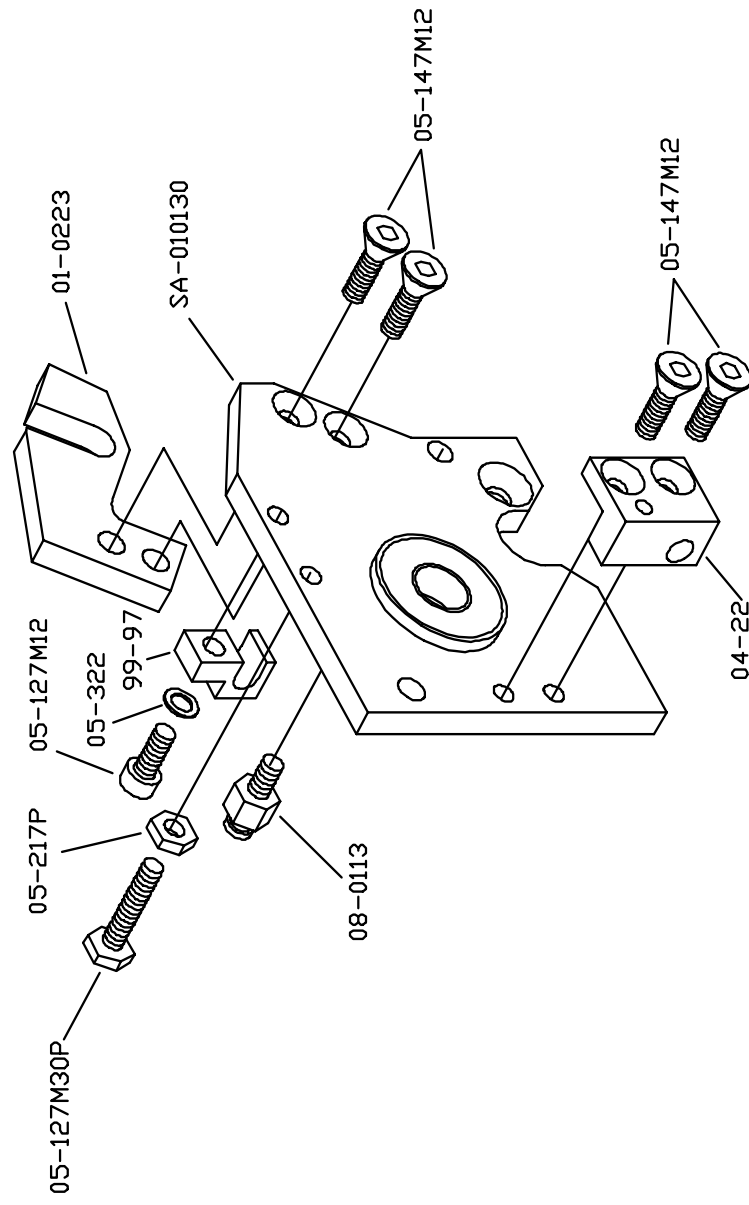
CRESTLINE® ALTRA™ SERIES CLEANING & MAINTENANCE CHART

	Daily	Weekly	Bi-Weekly	Monthly
Wash Rollers	✓			
Deglaze Rollers				
Metal Plate Users			✓	
Silvermaster Plate Users			✓	
Electrostatic Plate Users		✓		
Grease Gears				✓
Inspect Ball Bearings				✓
Check Roller Pressures				✓
Check Roller Surfaces				✓

SIDE FRAME ASSEMBLY-OPS
HAMADA 555 ALTRA

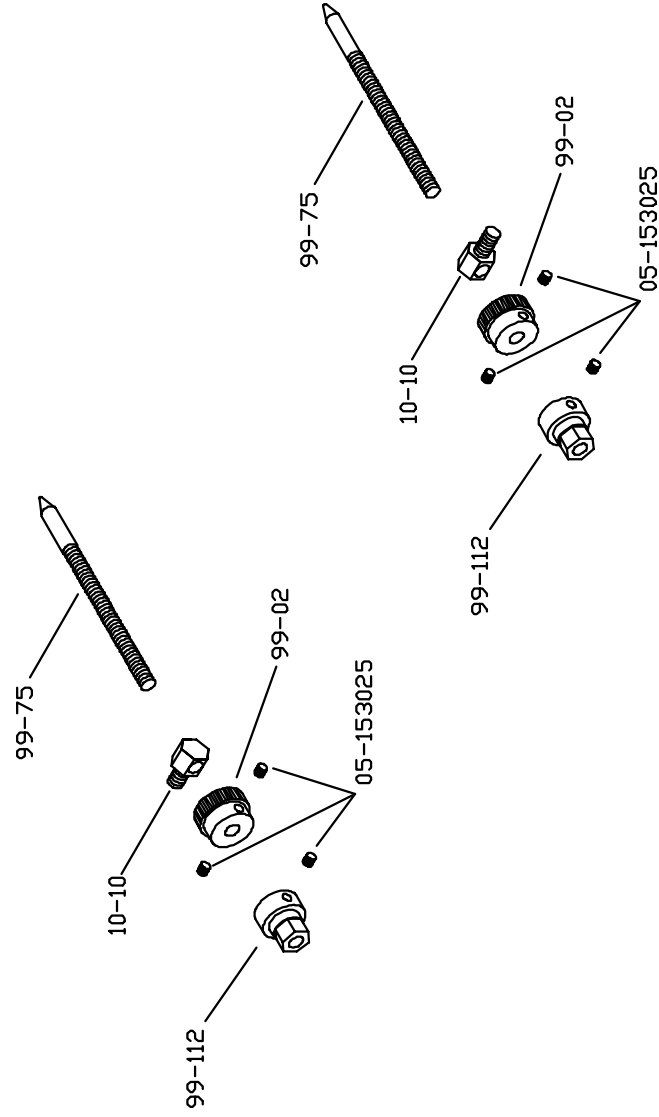


SIDE FRAME ASSEMBLY-NOPS
HAMADA 555 ALTRA



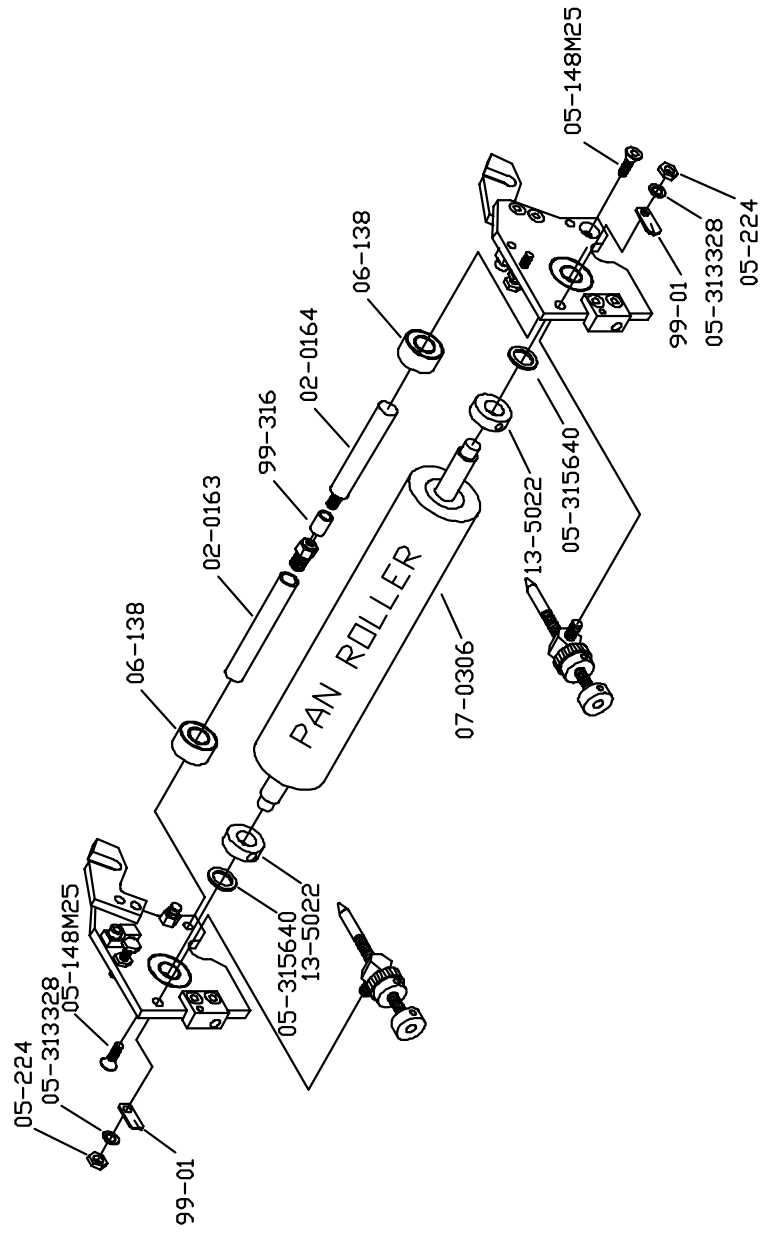
555C02, 3-3-97

TIE BAR/METERING ADJUST ASSEMBLY
HAMADA 555 ALTRA



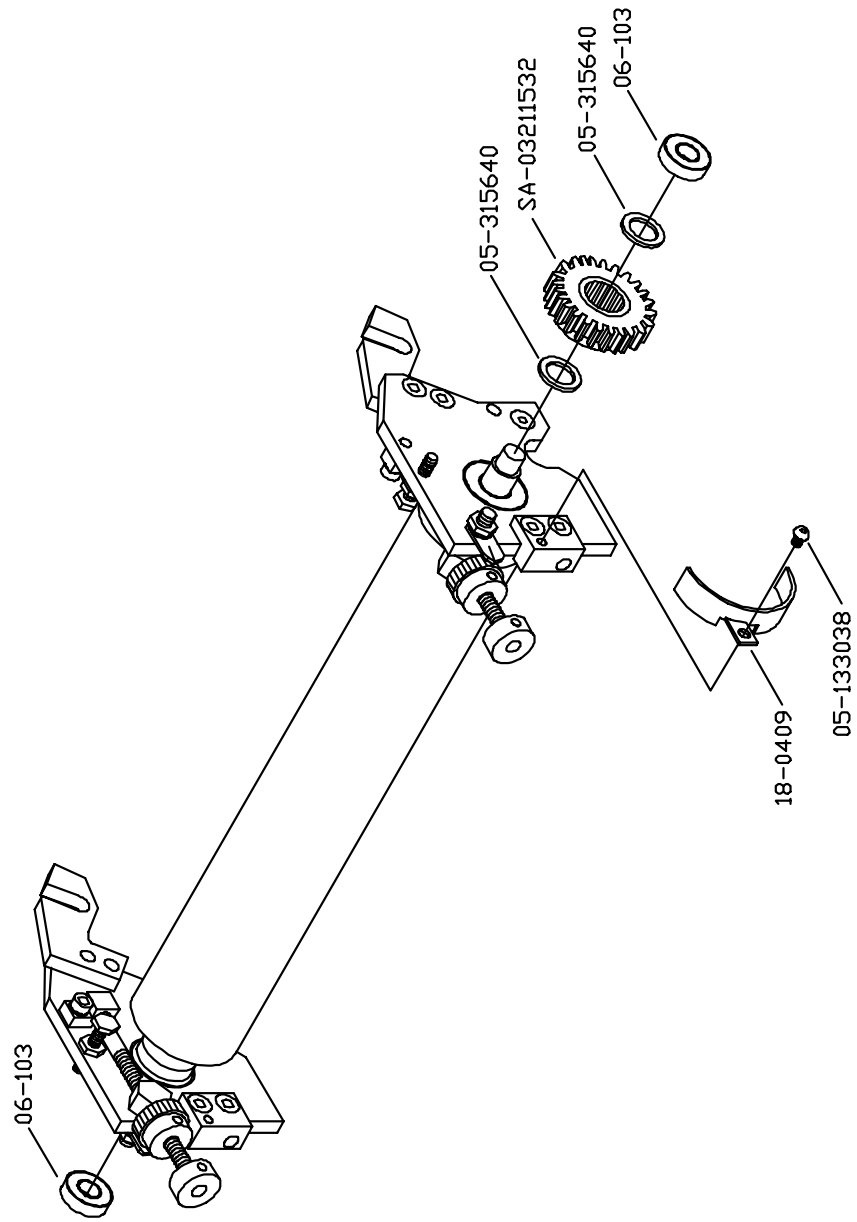
555C03, 5-22-97

DAMPENER ASSEMBLY - PAN ROLLER
HAMADA 555 ALTRA



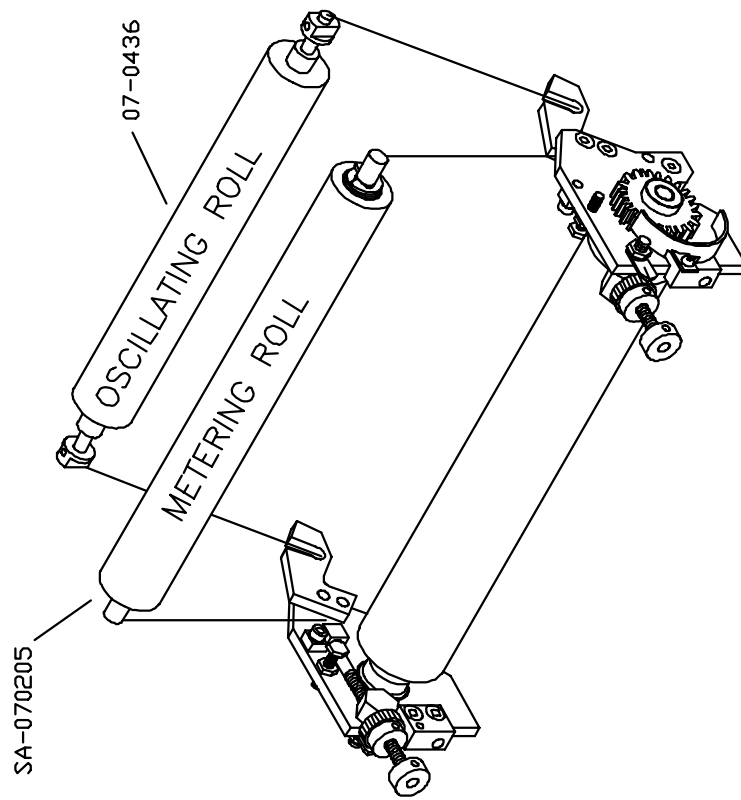
555C04, 5-22-97

DAMPENER ASSEMBLY - DRIVE GEAR
HAMADA 555 ALTRA



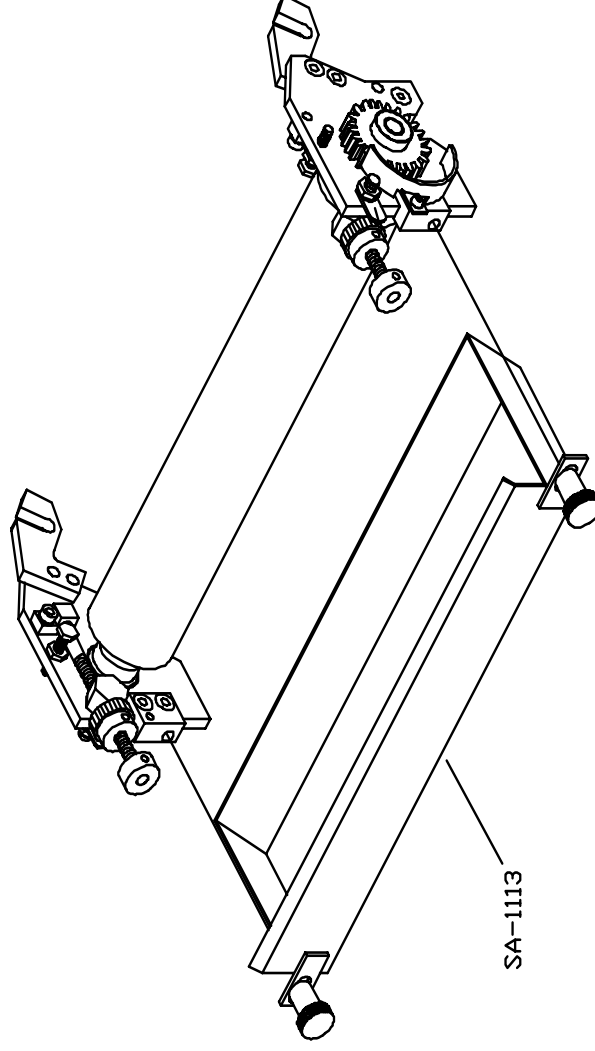
555C05, 5-22-97

METERING & OSCILLATOR ROLLER ASSEMBLIES
HAMADA 555 ALTRA

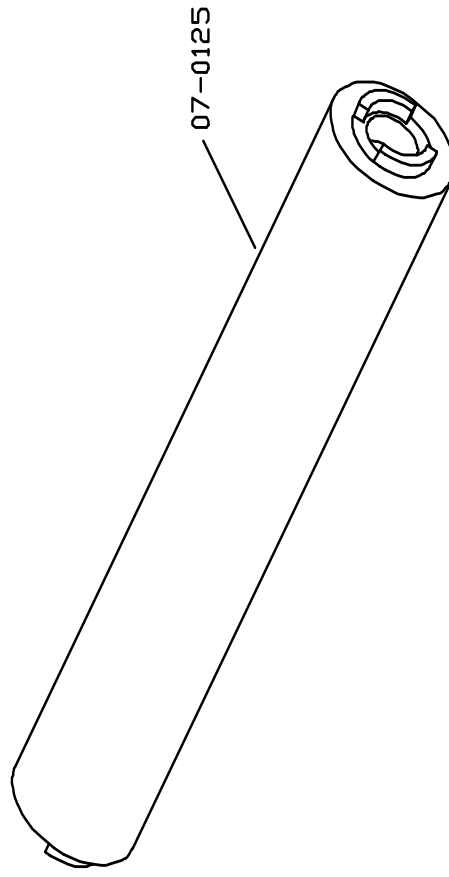


555C06, 5-22-97

WATER PAN ASSEMBLY
HAMADA 555 ALTRA

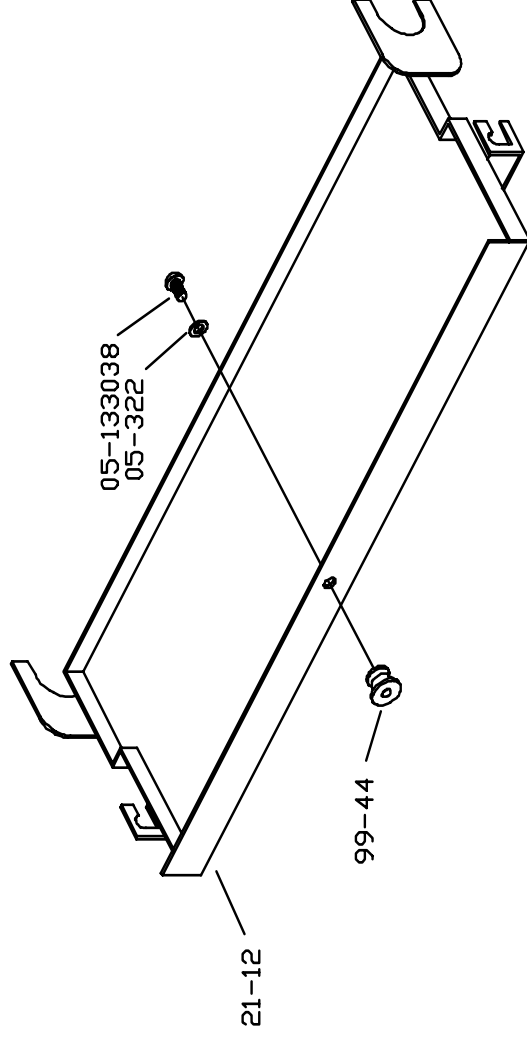


WATER FORM ROLLER ASSEMBLY
HAMADA 555



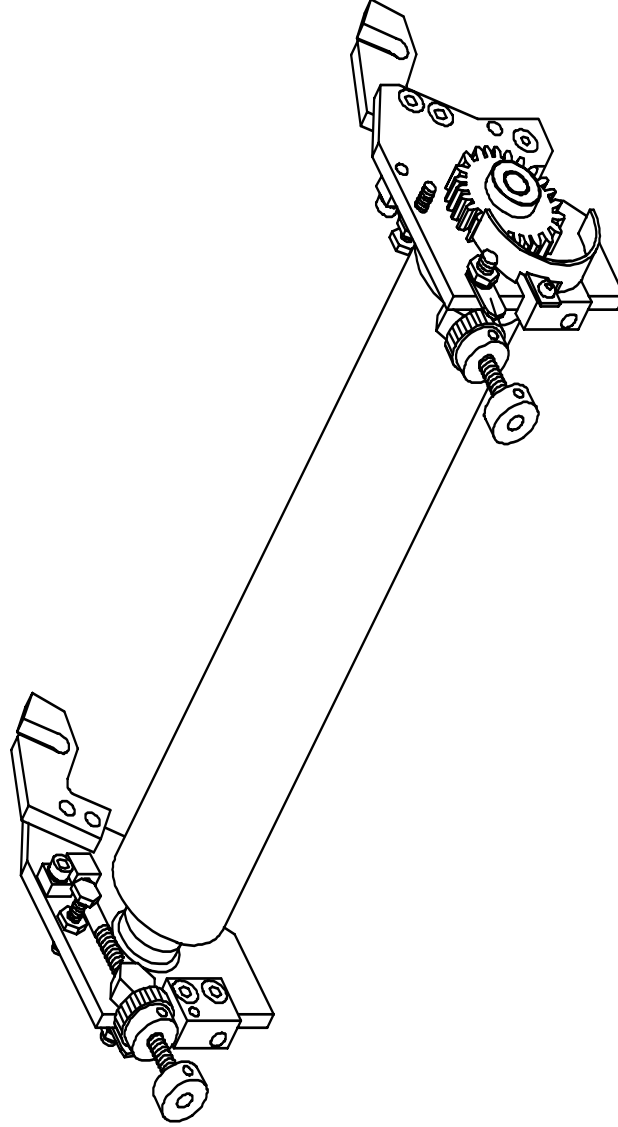
555C08, 3-4-97

DRIP TRAY ASSEMBLY
HAMADA 555



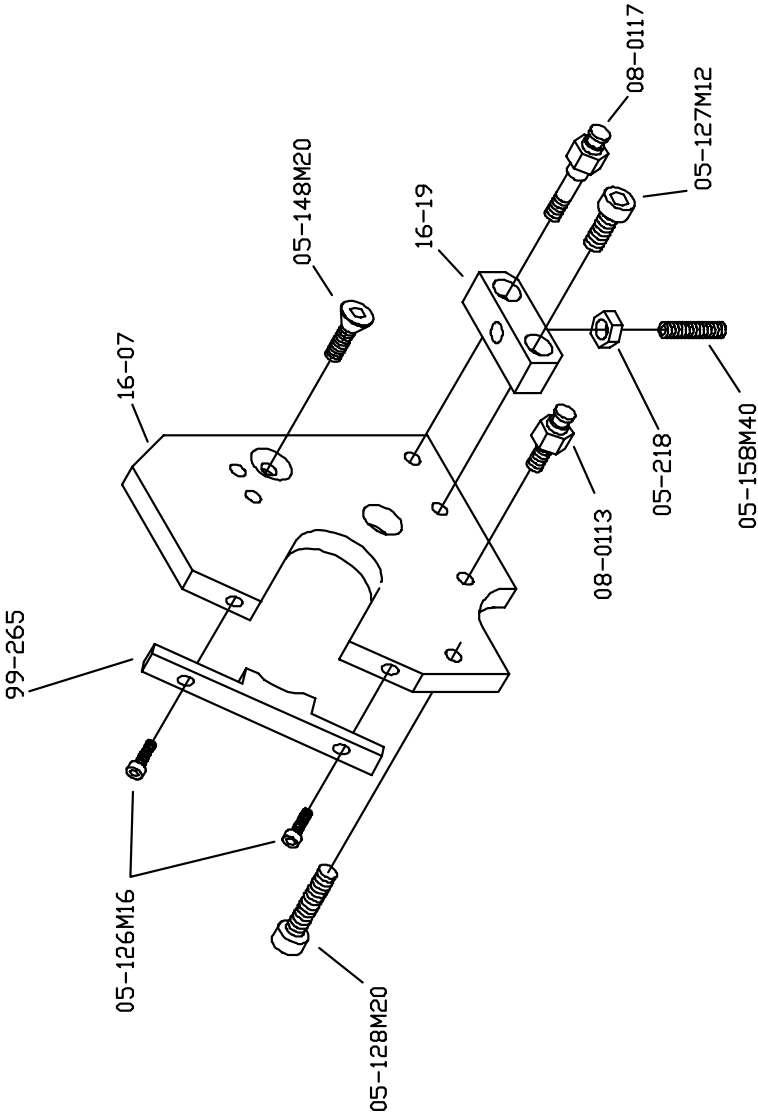
555C09, 3-4-97

DAMPENER ASSEMBLY
HAMADA 555 ALTRA



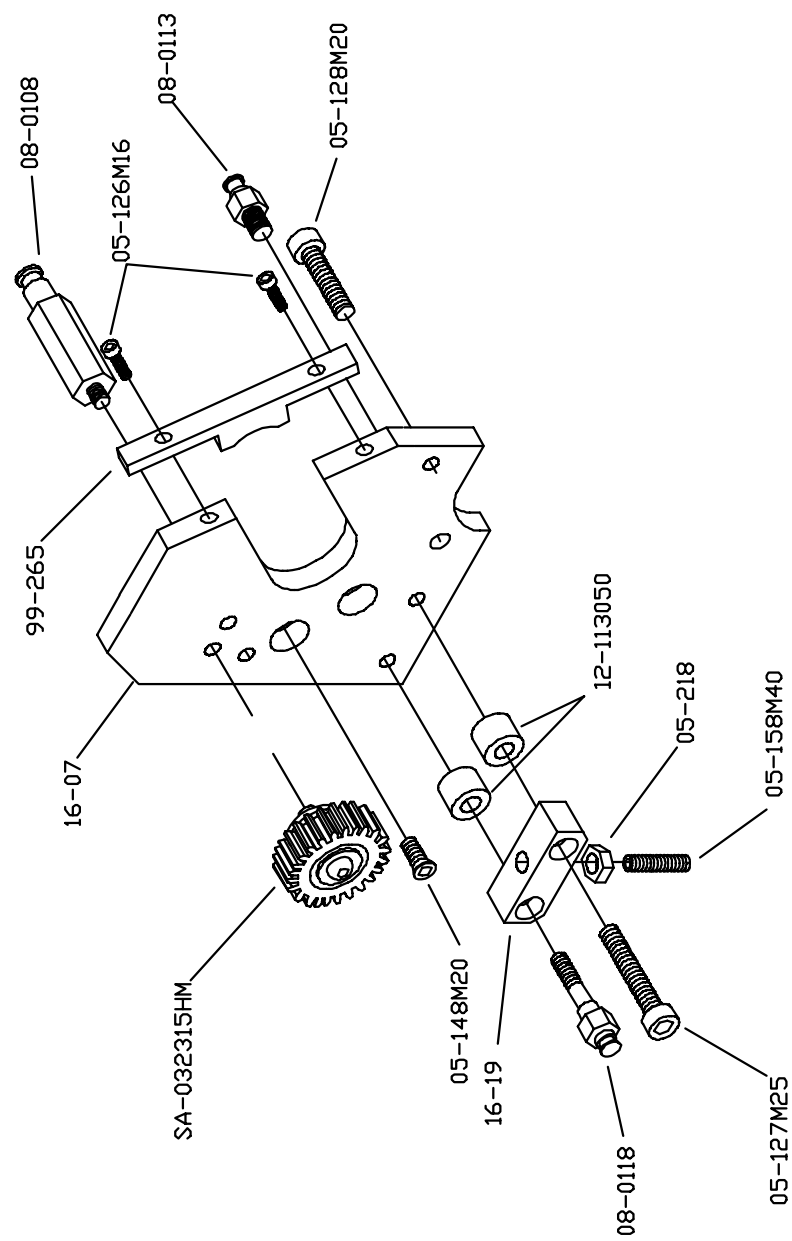
555C10, 5-22-97

ROUTING FRAME ASSEMBLY- OPS
HAMADA 555



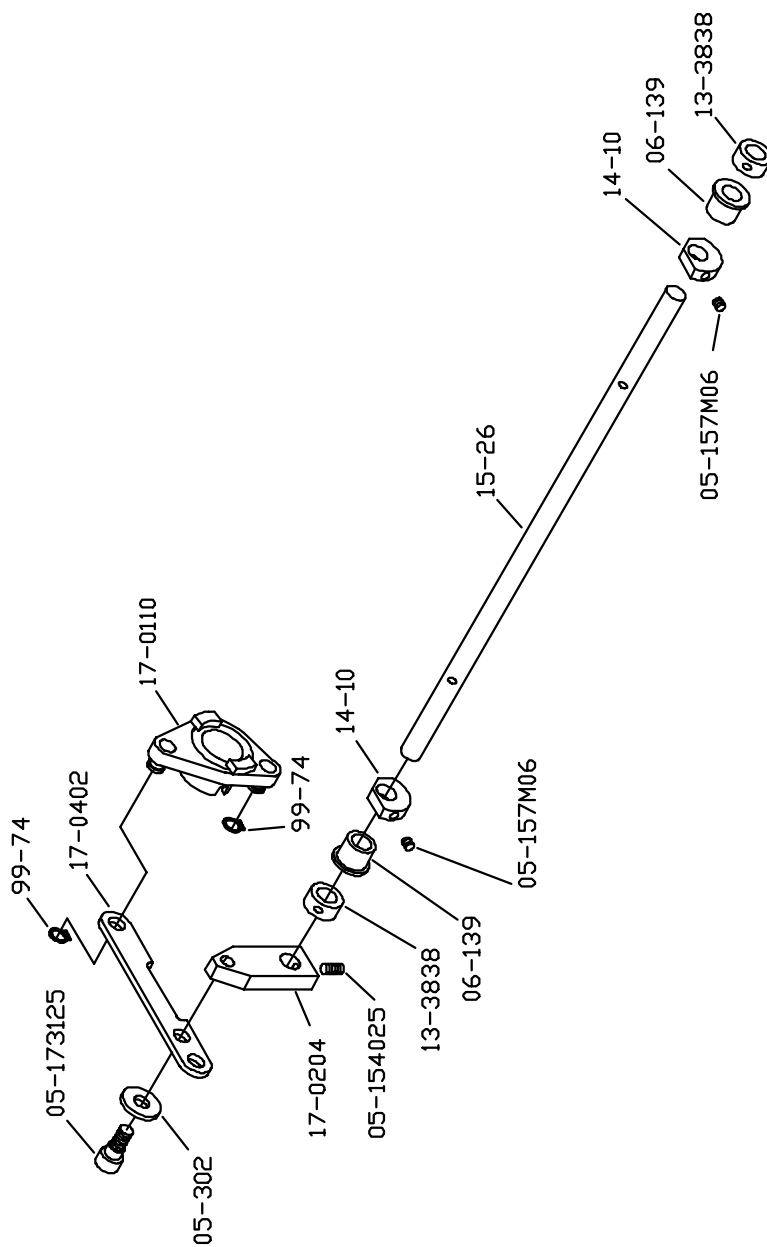
555C11, 3-5-97

MOUNTING FRAME ASSEMBLY-NOPS
 HAMADA 555



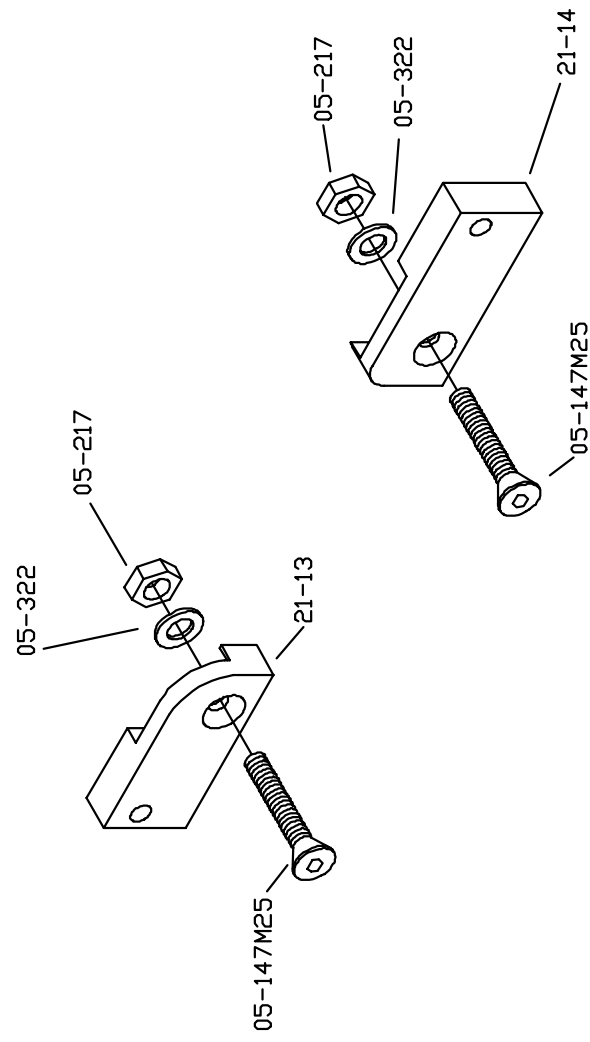
555C12, 3-5-97

LIFT SHAFT ASSEMBLY
HAMADA 555 ALTRA



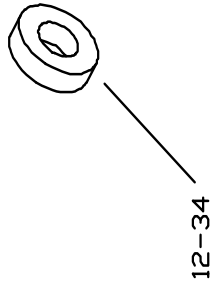
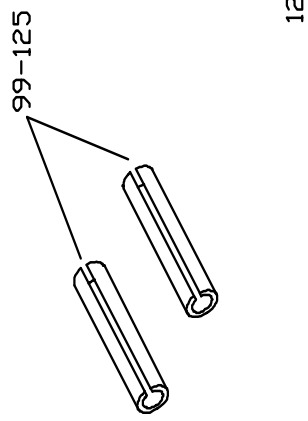
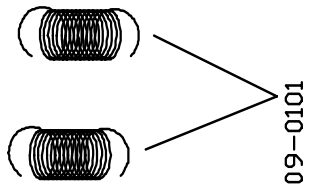
555C13, 3-5-97

CLEAN UP TRAY MOUNTING BRACKET ASSEMBLY
HAMADA 555 ALTRA

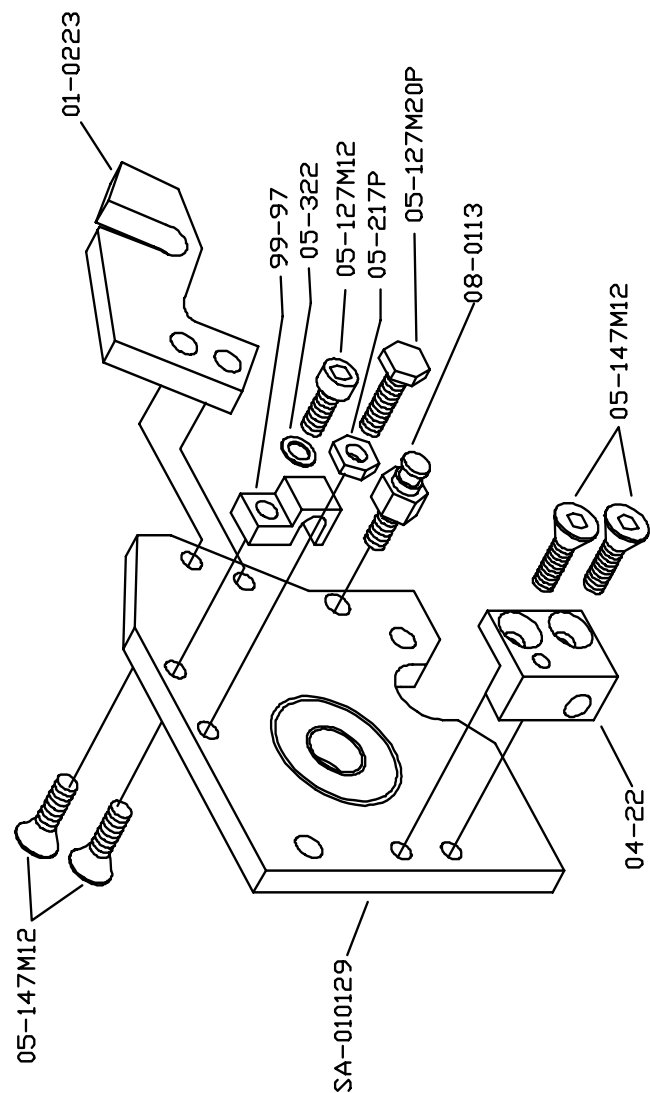


555C14, 3-4-97

MISCELLANEOUS PARTS
HAMADA 555 ALTRA

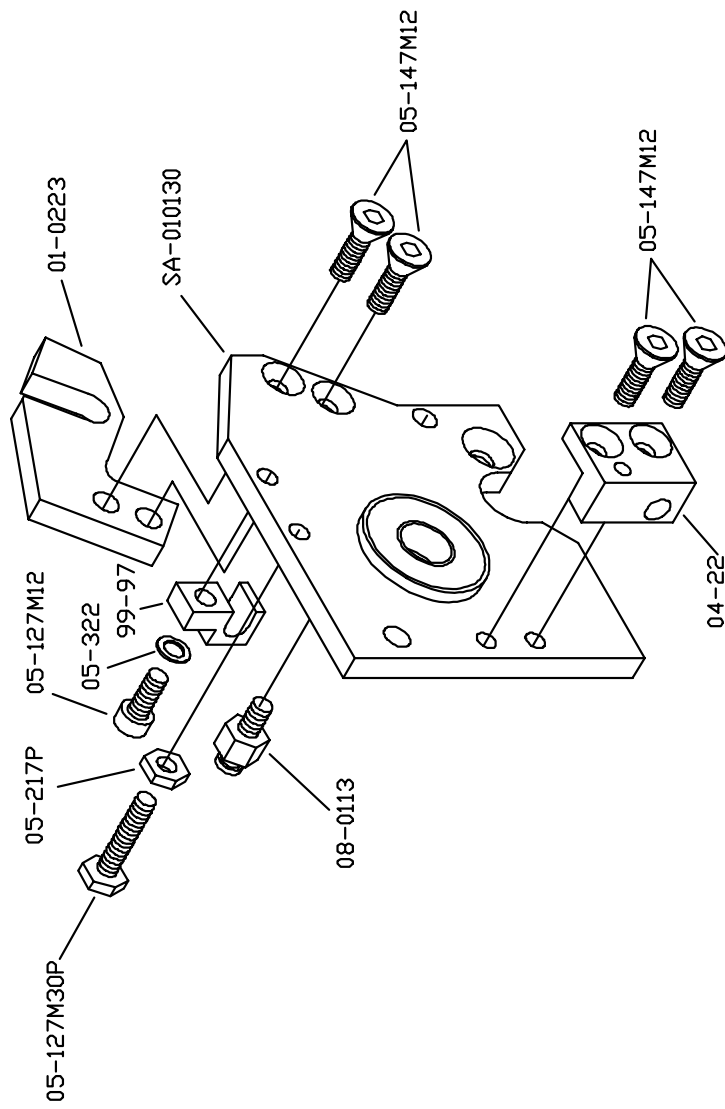


SIDE FRAME ASSEMBLY-OPS
HAMADA 665 ALTRA



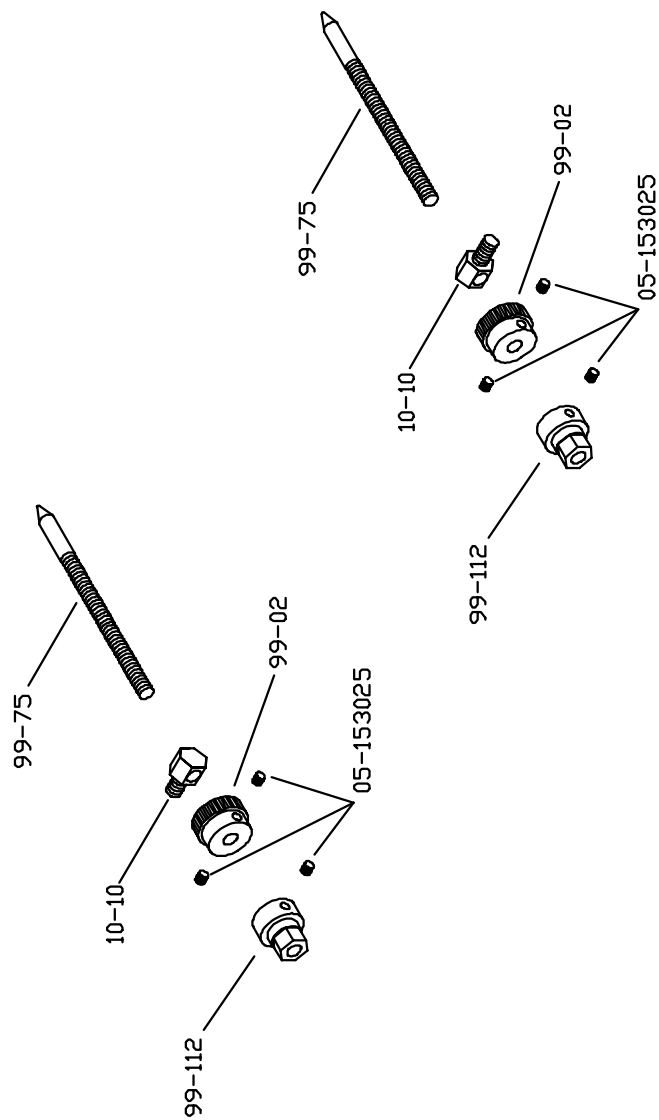
665C01, 3-6-97

SIDE FRAME ASSEMBLY-NOPS
HAMADA 665 ALTRA



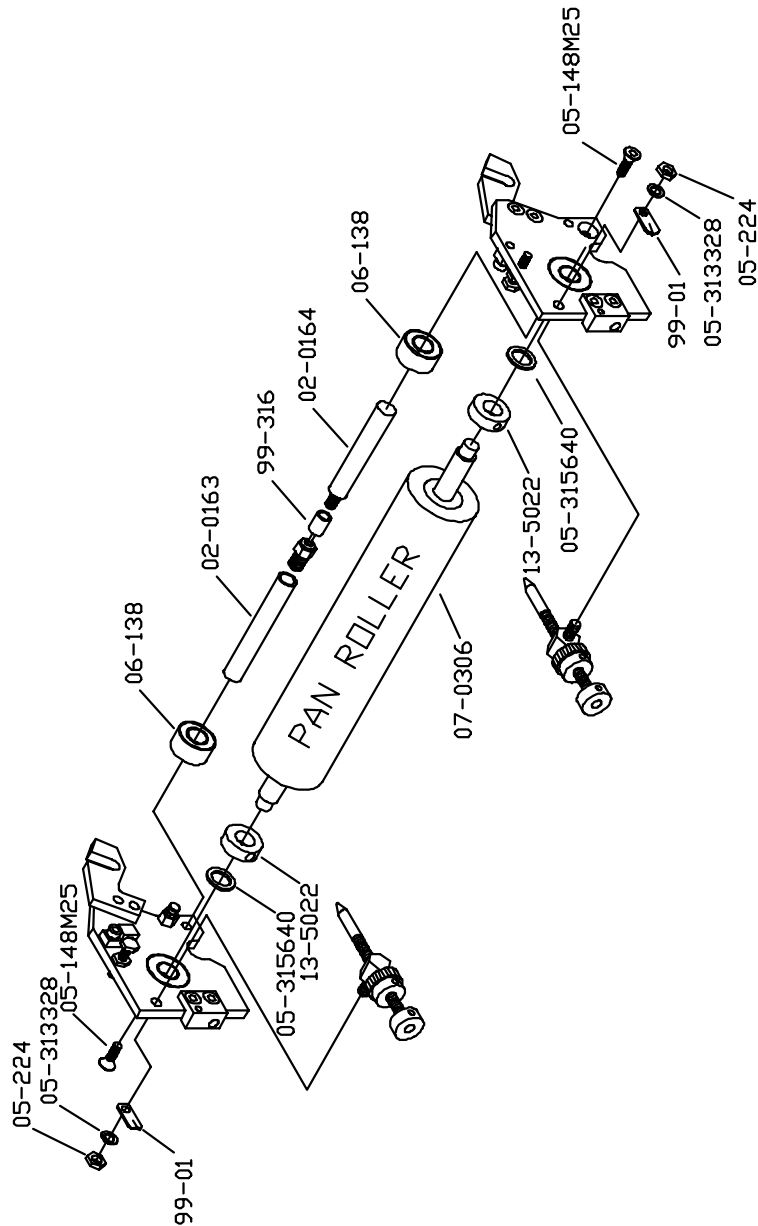
665C02, 3-6-97

TIE BAR/METERING ADJUST ASSEMBLY
HAMADA 665 ALTRA

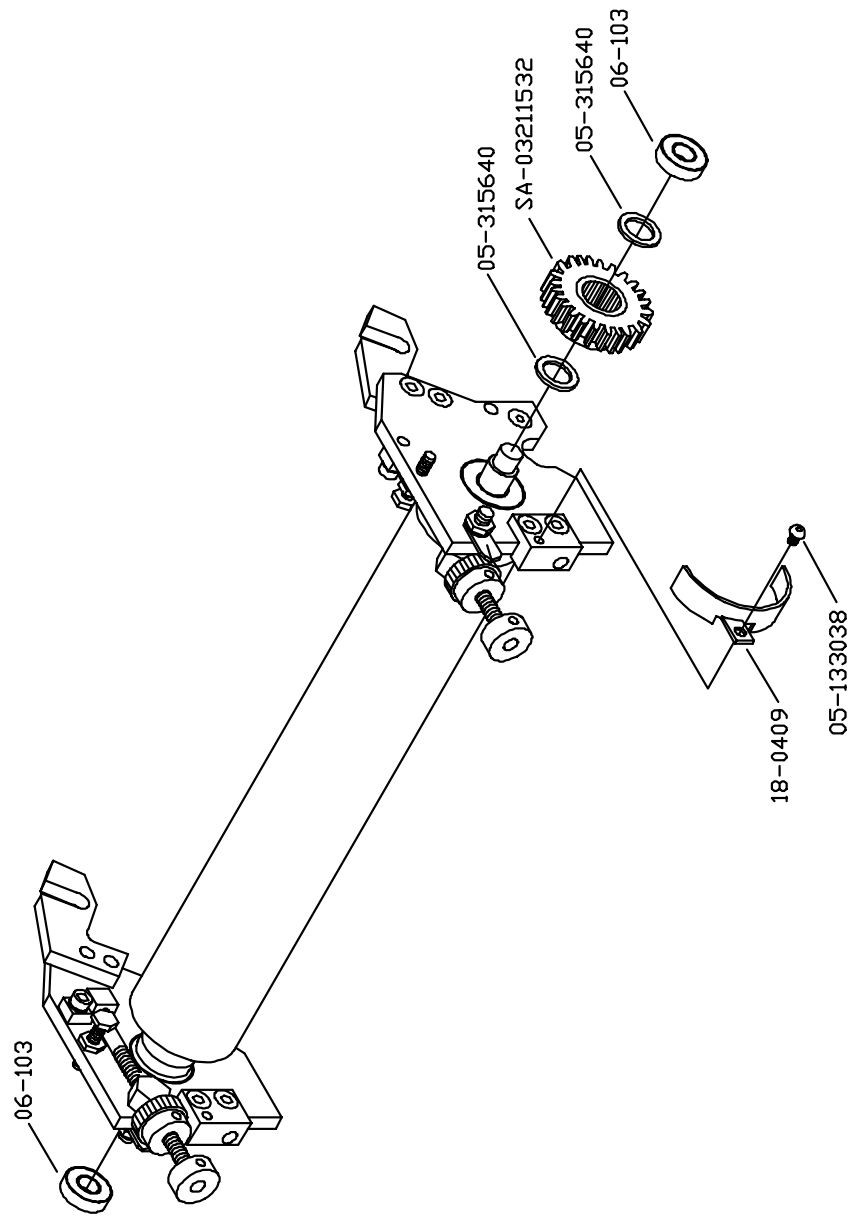


665003, 5-22-97

DAMPENER ASSEMBLY - PAN ROLLER
HAMADA 665 ALTRA

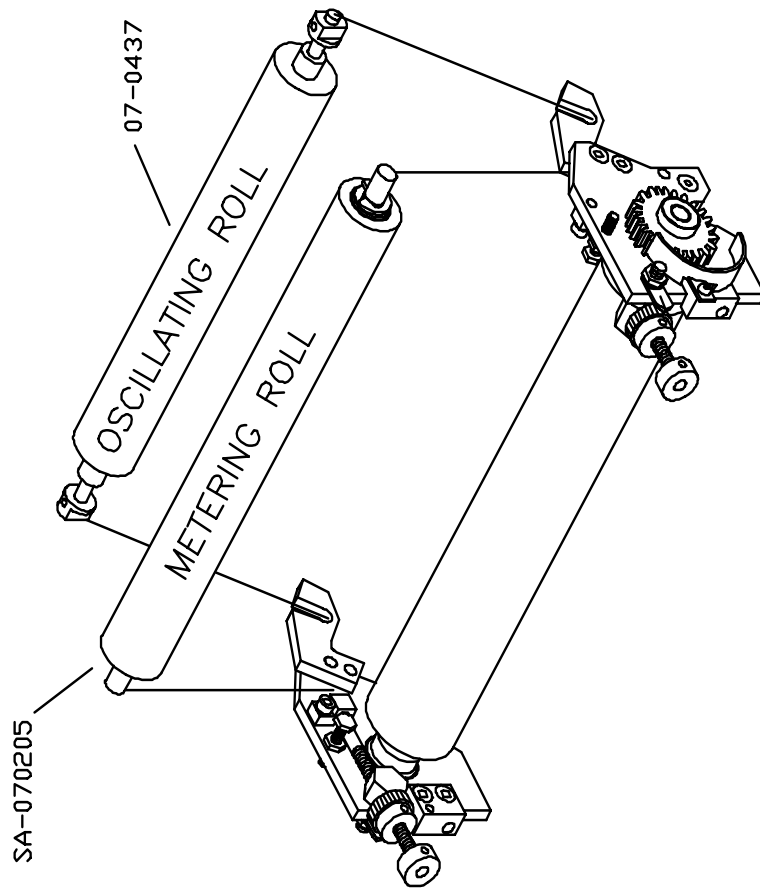


DAMPENER ASSEMBLY - DRIVE GEAR HAMADA 665 ALTRA



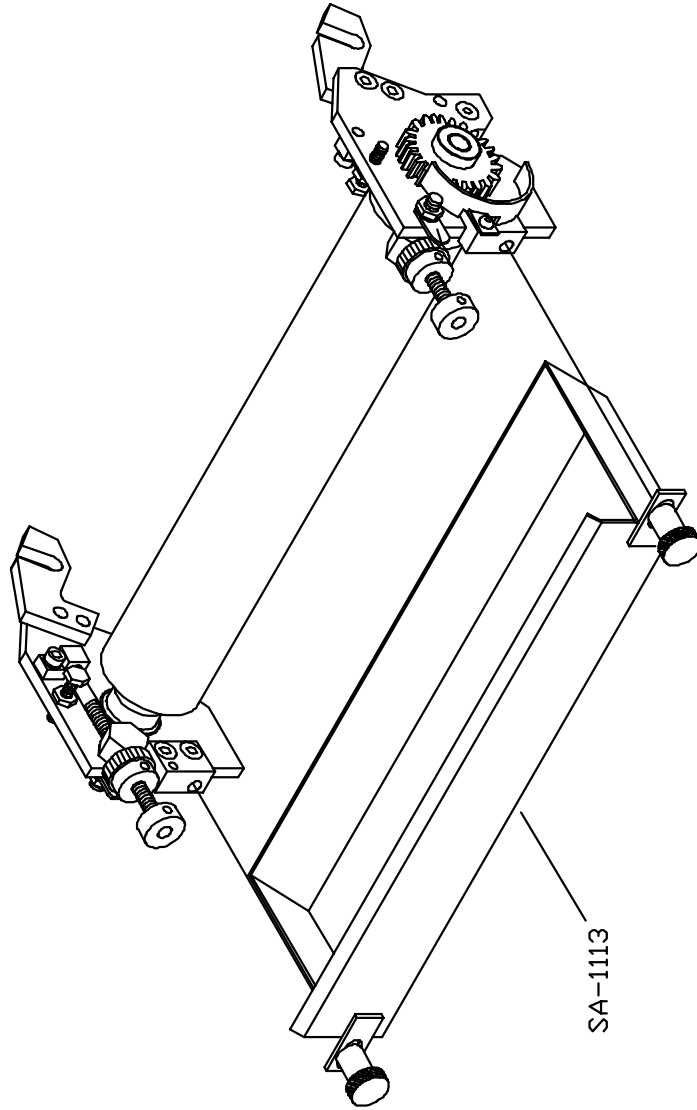
665C05, 5-22-97

METERING & OSCILLATOR ROLLER ASSEMBLIES
HAMADA 665 ALTRA



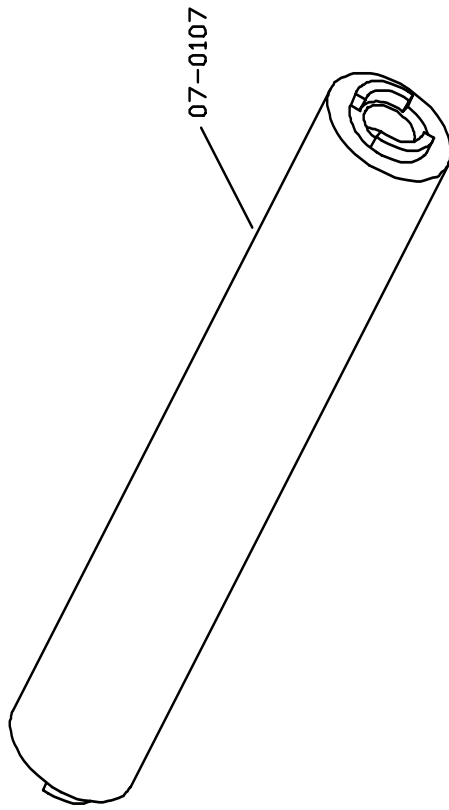
665C06, 5-22-97

WATER PAN ASSEMBLY
HAMADA 665 ALTRA



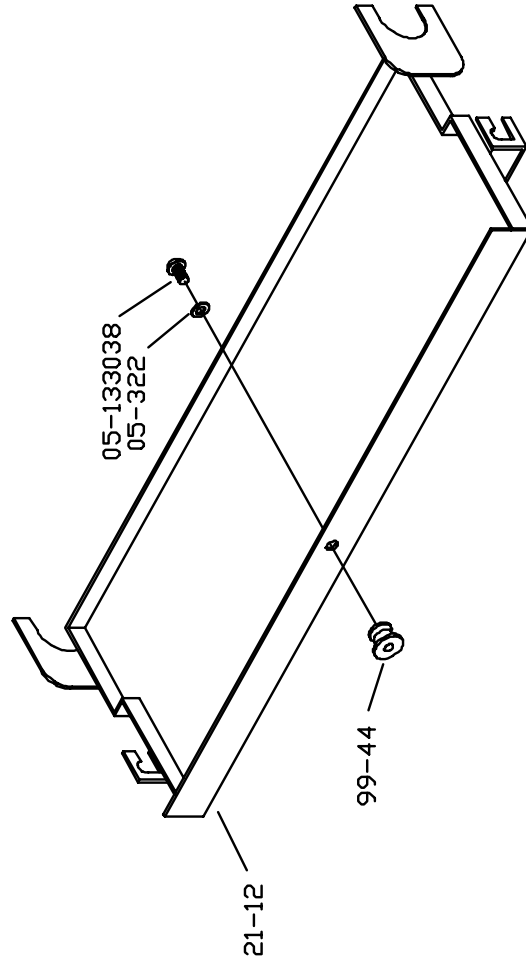
665C07, 5-22-97

WATER FORM ROLLER ASSEMBLY
HAMADA 665 ALTRA



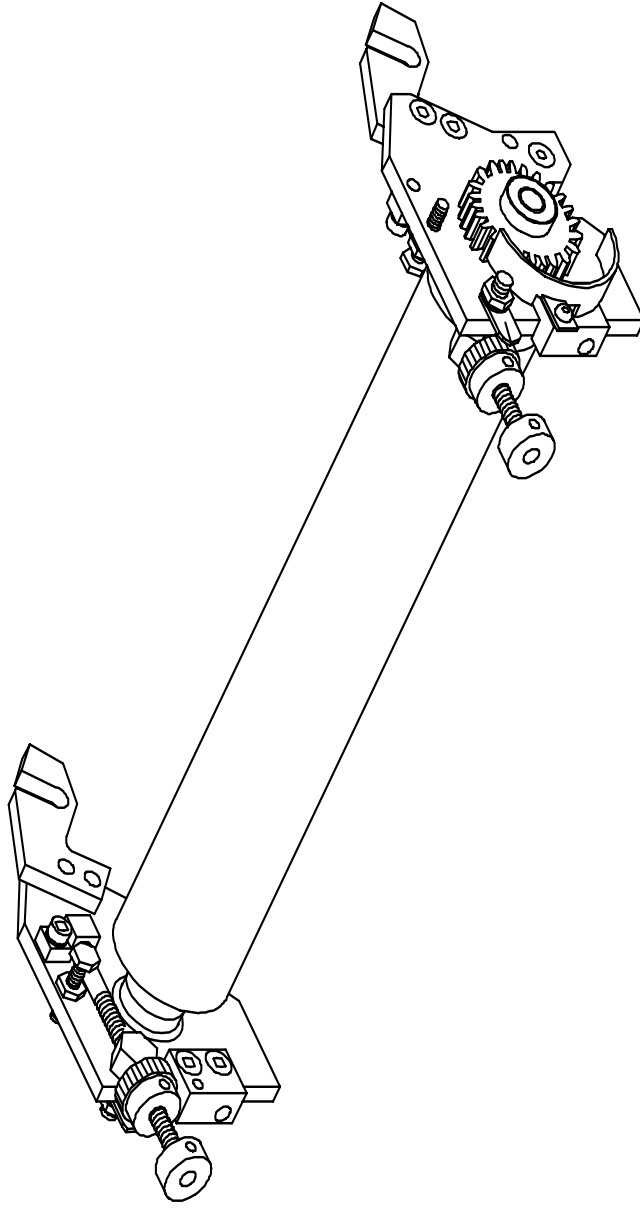
665C08, 3-6-97

DRIP TRAY ASSEMBLY
HAMADA 665 ALTRA



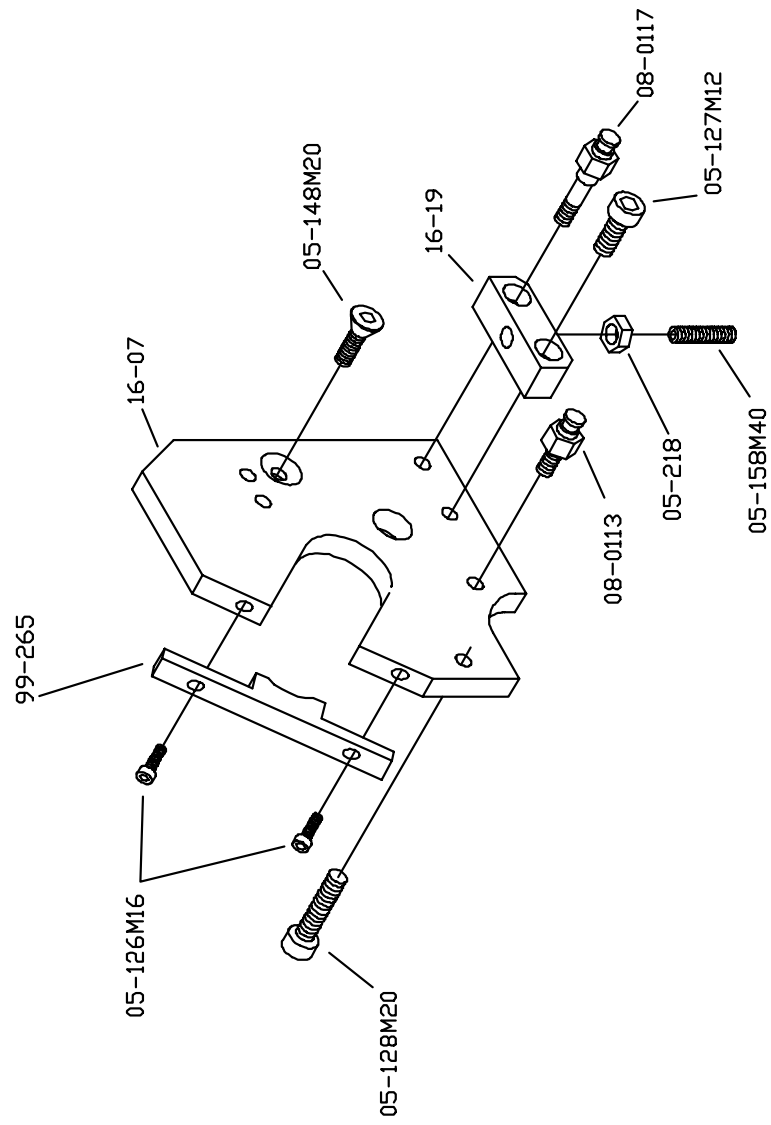
665C09, 3-6-97

DAMPENER ASSEMBLY
HAMADA 665 ALTRA



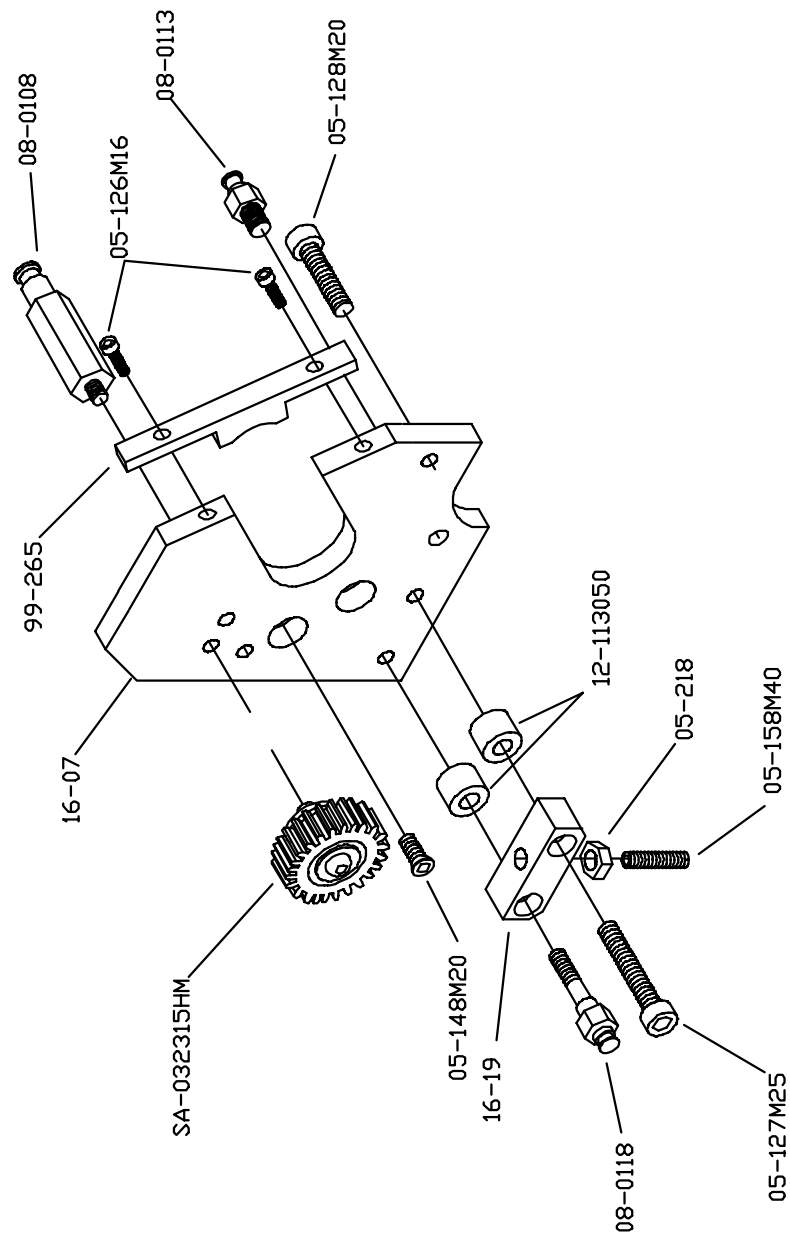
665C10, 5-22-9

MOUNTING FRAME ASSEMBLY- OPS
 HAMADA 665 ALTRA



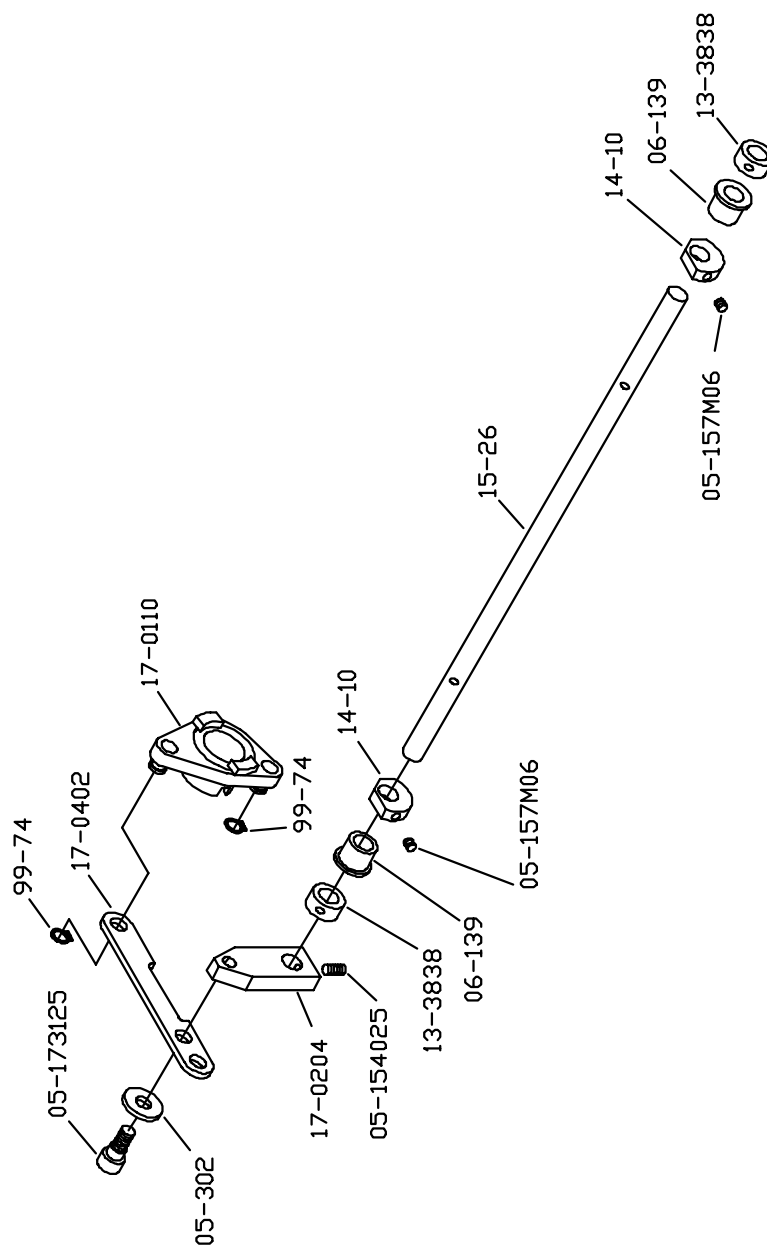
665C11, 3-6-97

MOUNTING FRAME ASSEMBLY-NOPS
HAMADA 665 ALTRA



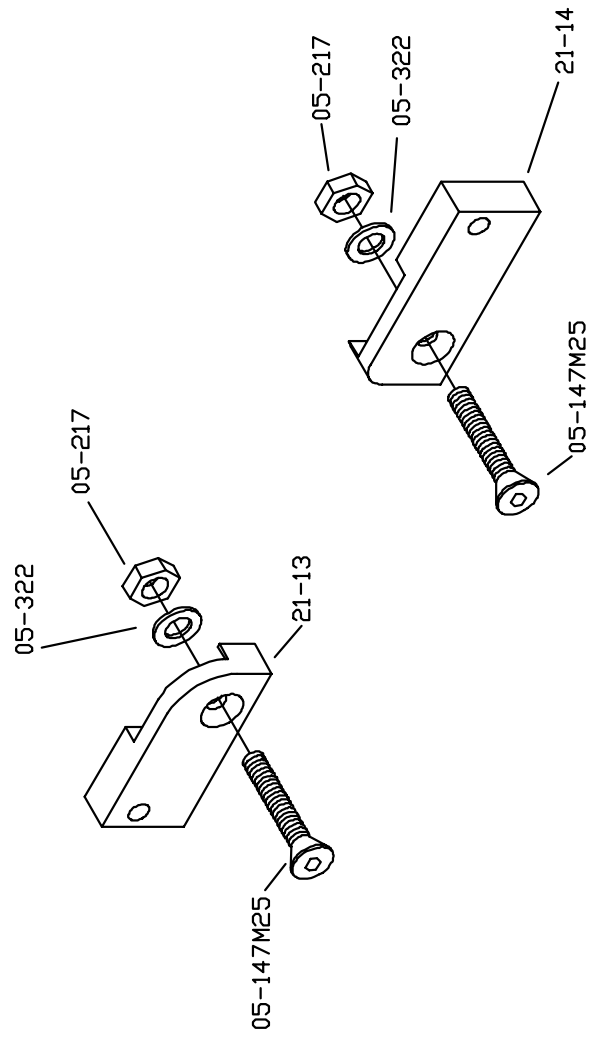
665C12, 3-7-97

LIFT SHAFT ASSEMBLY
HAMADA 665 ALTRA

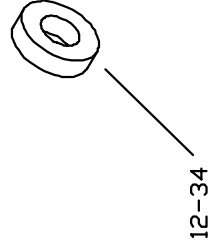
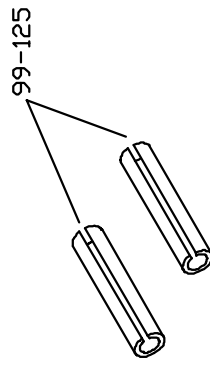
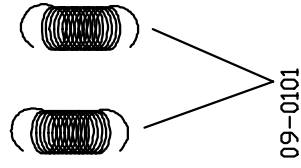


665C13, 3-7-97

CLEAN UP TRAY MOUNTING BRACKET ASSEMBLY
HAMADA 665 ALTRA

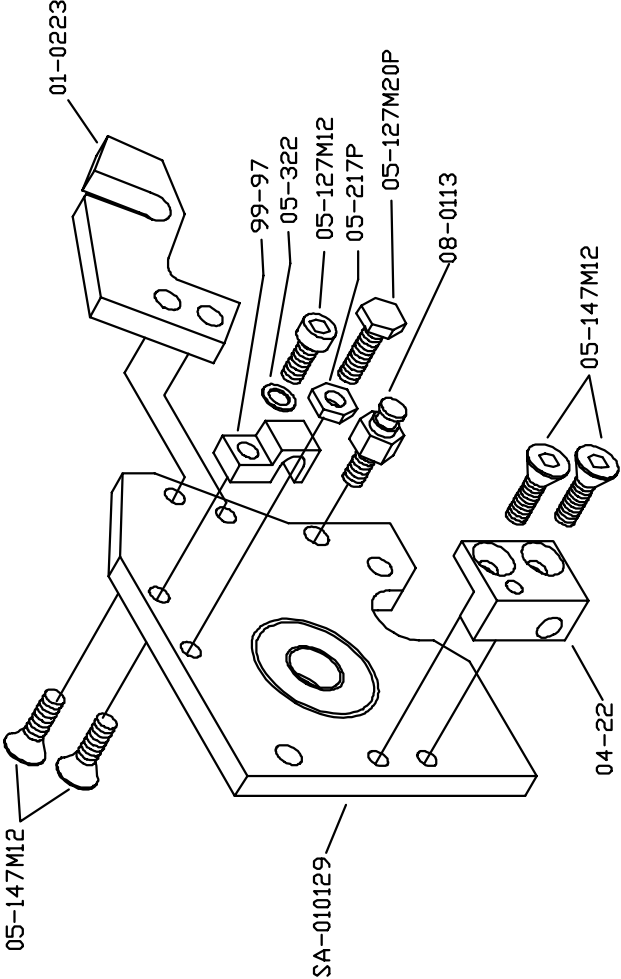


MISCELLANEOUS PARTS
HAMADA 665 ALTRA



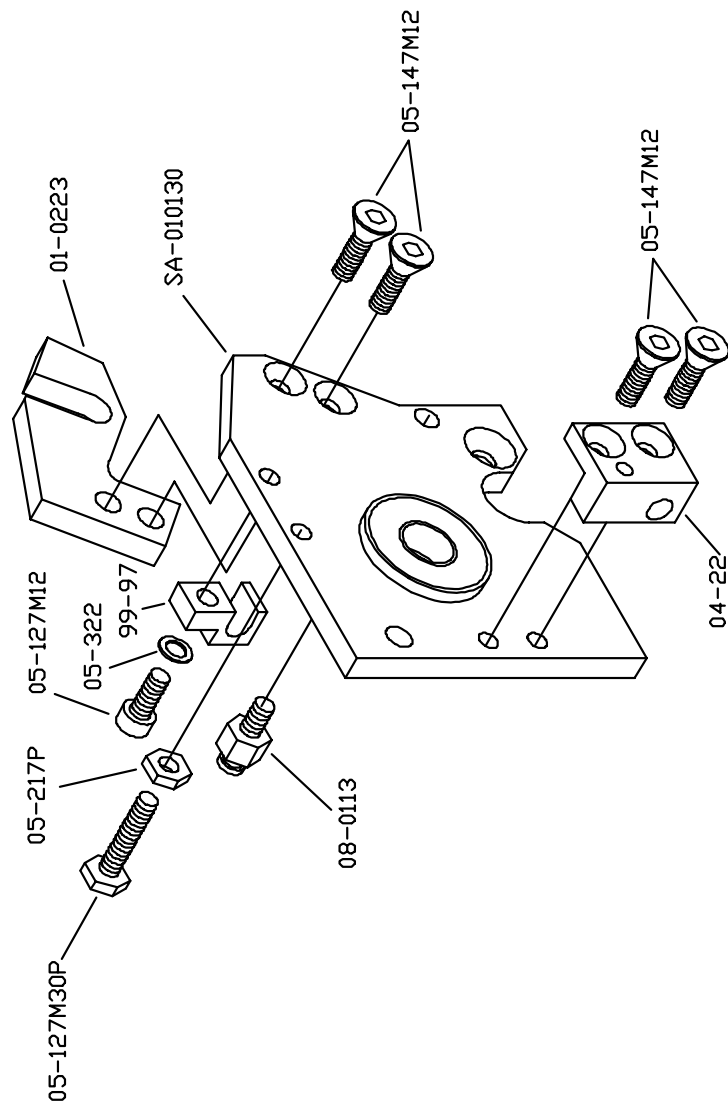
665C15, 3-7-97

SIDE FRAME ASSEMBLY-OPS
HAMADA 775 ALTRA



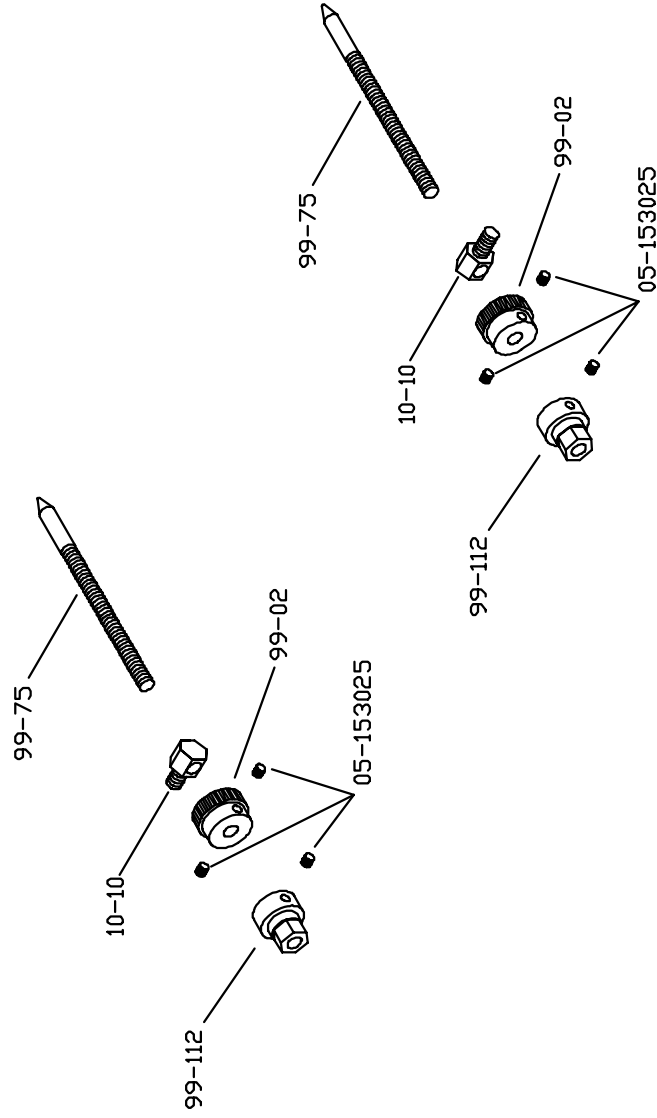
775C01, 3-7-97

SIDE FRAME ASSEMBLY-NOPS
HAMADA 775 ALTRA

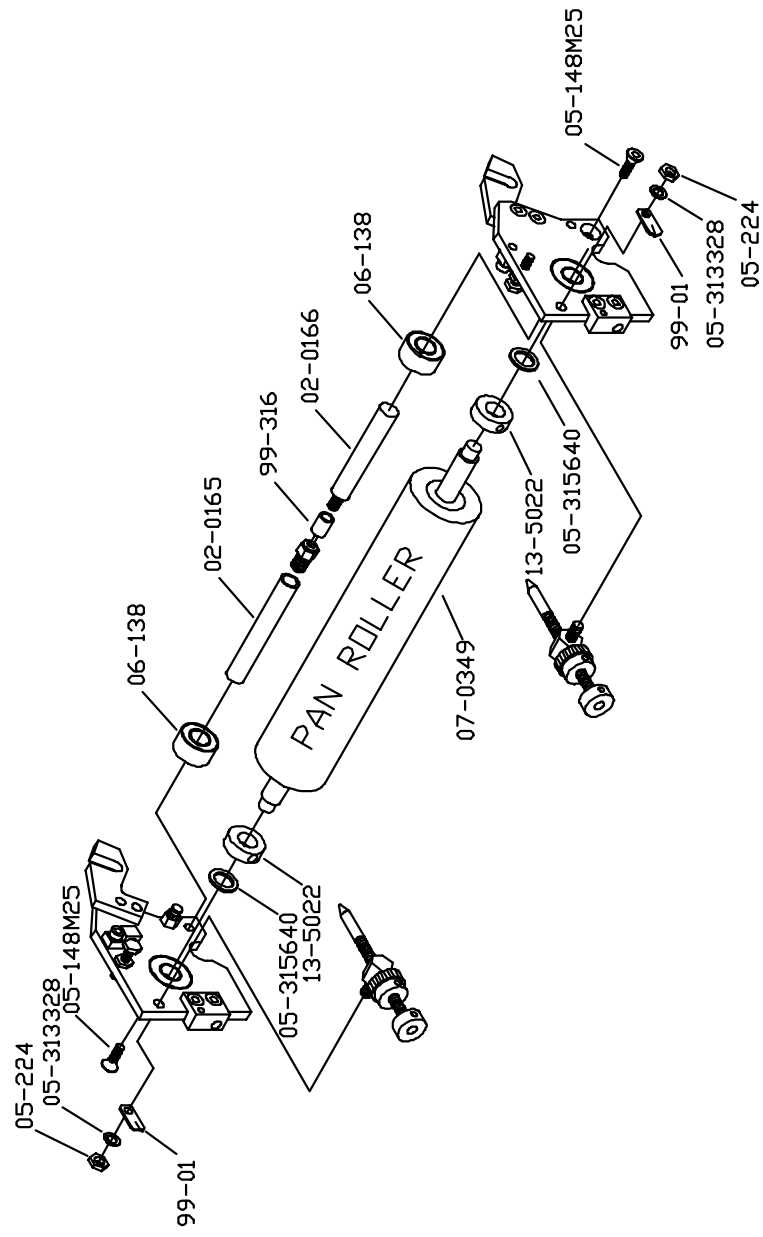


775C02, 3-7-97

TIE BAR/METERING ADJUST ASSEMBLY
HAMADA 775 ALTRA

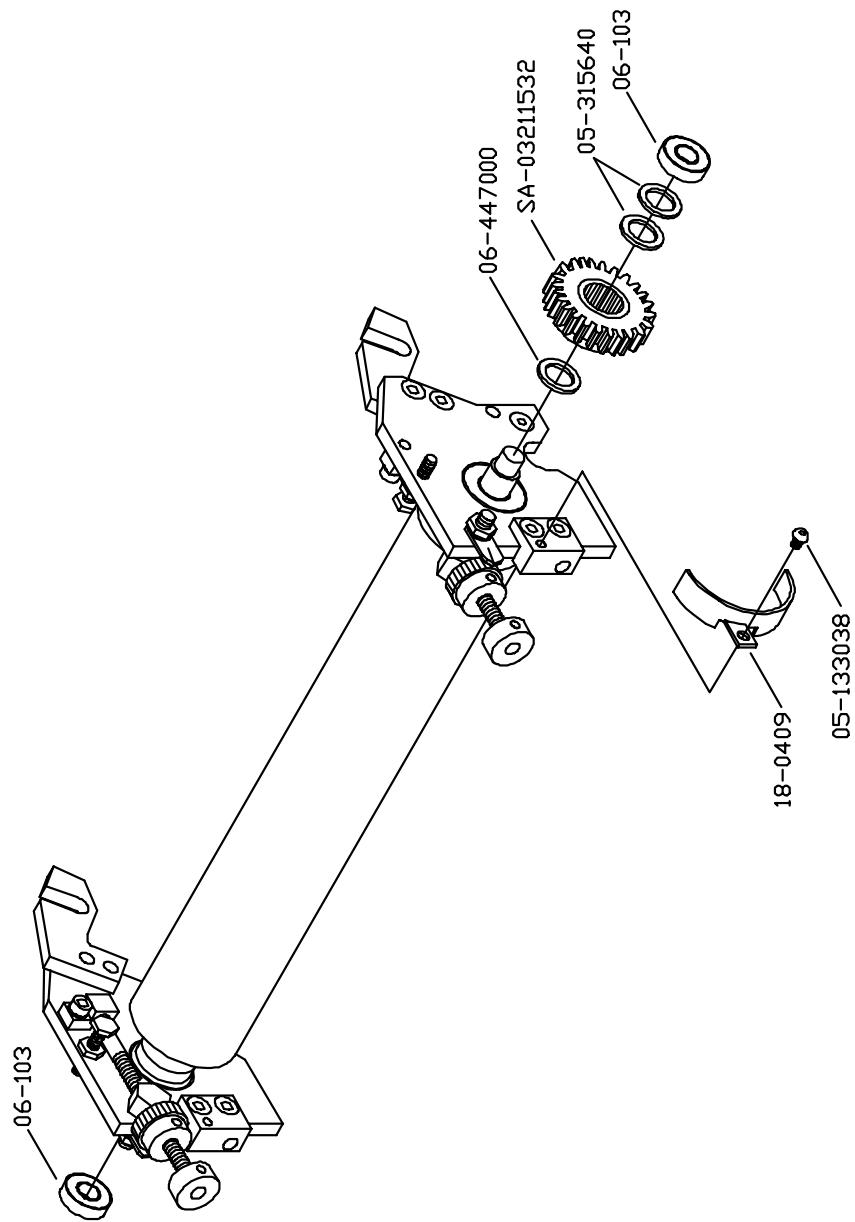


DAMPENER ASSEMBLY - PAN ROLLER HAMADA 775 ALTRA



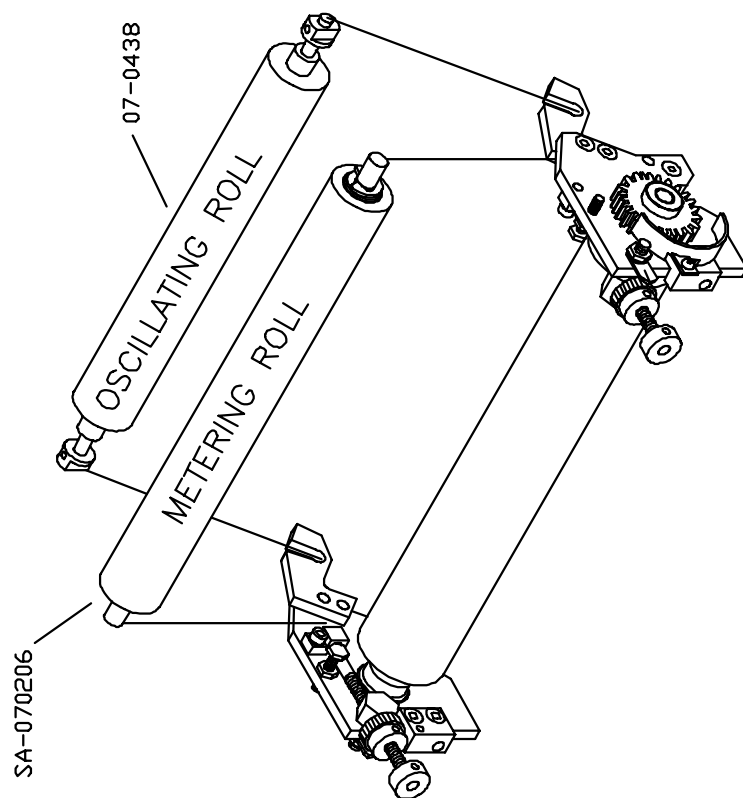
775C04, 5-23-97

DAMPENER ASSEMBLY - DRIVE GEAR
HAMADA 775 ALTRA



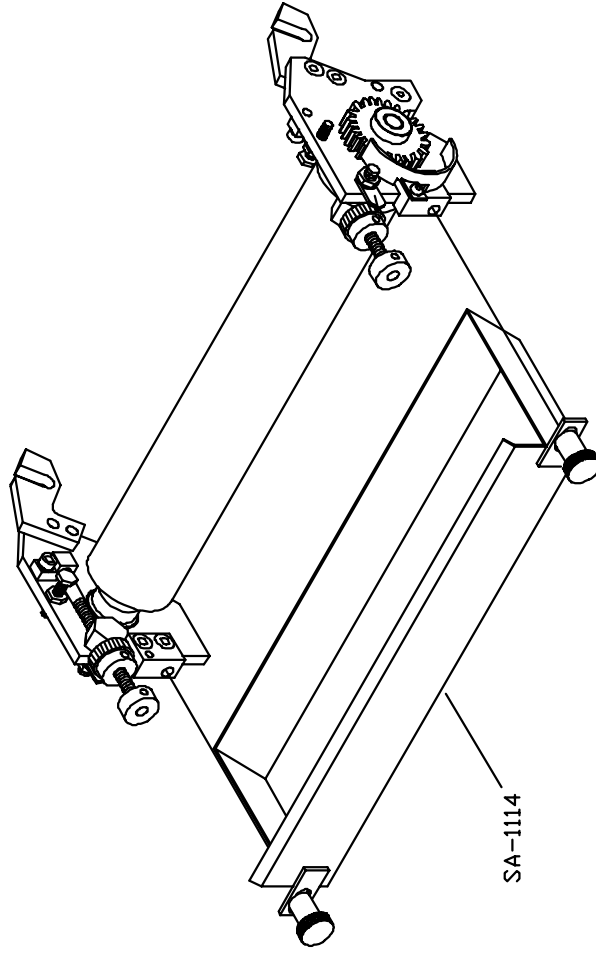
775C05, 5-23-97

METERING & OSCILLATOR ROLLER ASSEMBLIES HAMADA 775 ALTRA



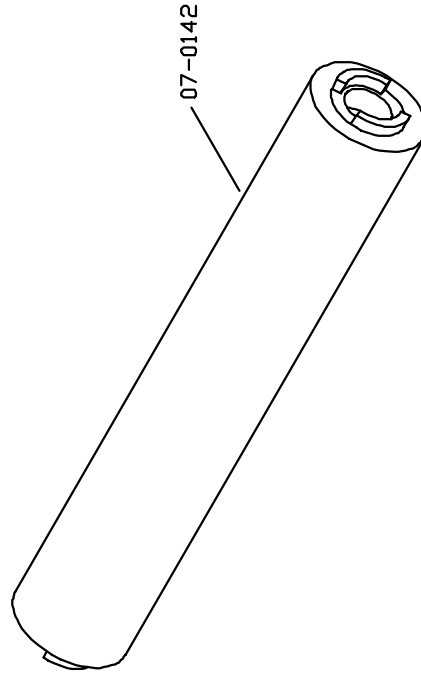
775C06, 5-23-97

WATER PAN ASSEMBLY
HAMADA 775 ALTRA



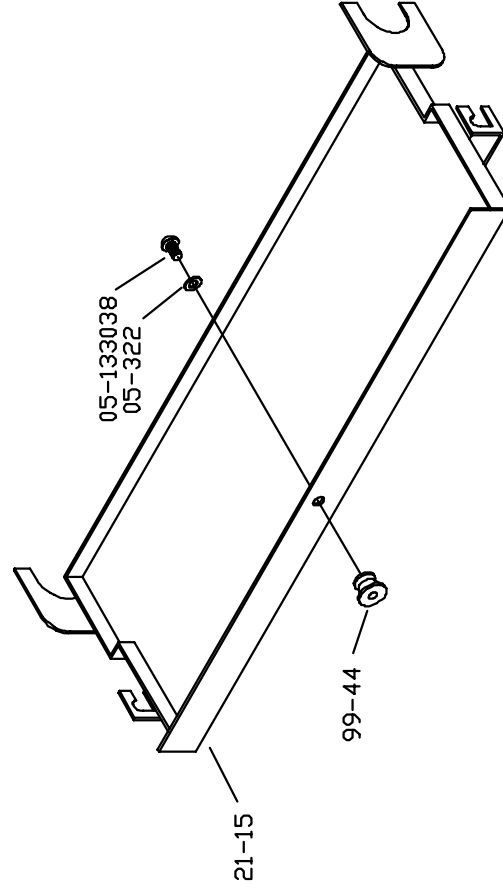
775C07, 5-23-97

WATER FORM ROLLER ASSEMBLY
HAMADA 775 ALTRA



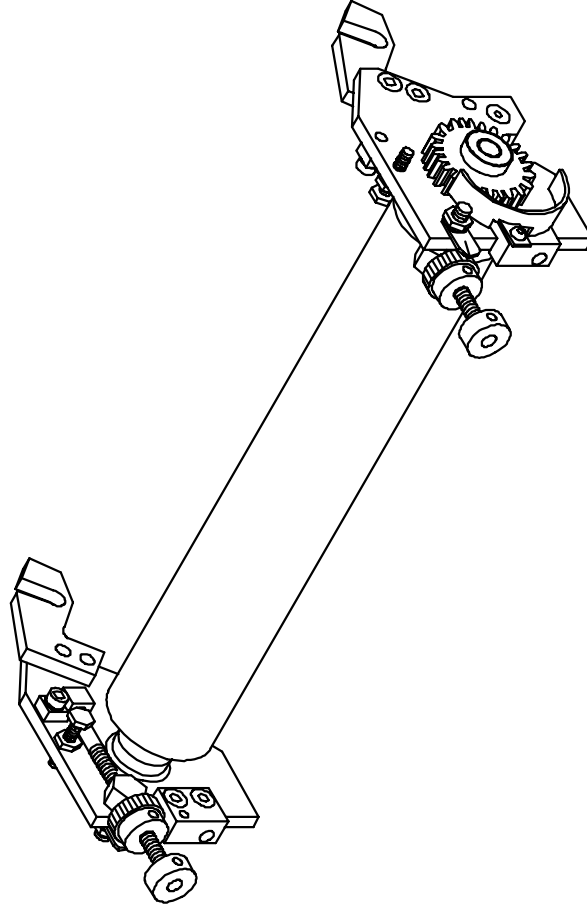
775C08, 3-7-97

DRIP TRAY ASSEMBLY
HAMADA 775 ALTRA



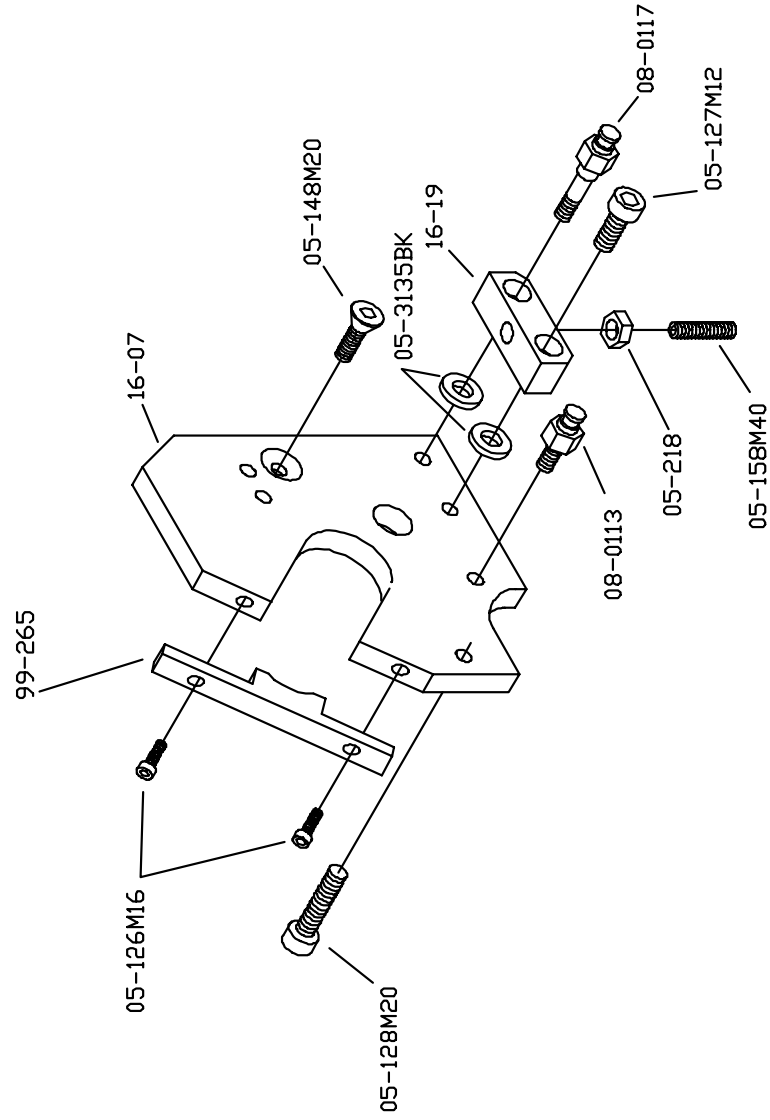
775C09, 3-7-97

DAMPENER ASSEMBLY
HAMADA 775 ALTRA



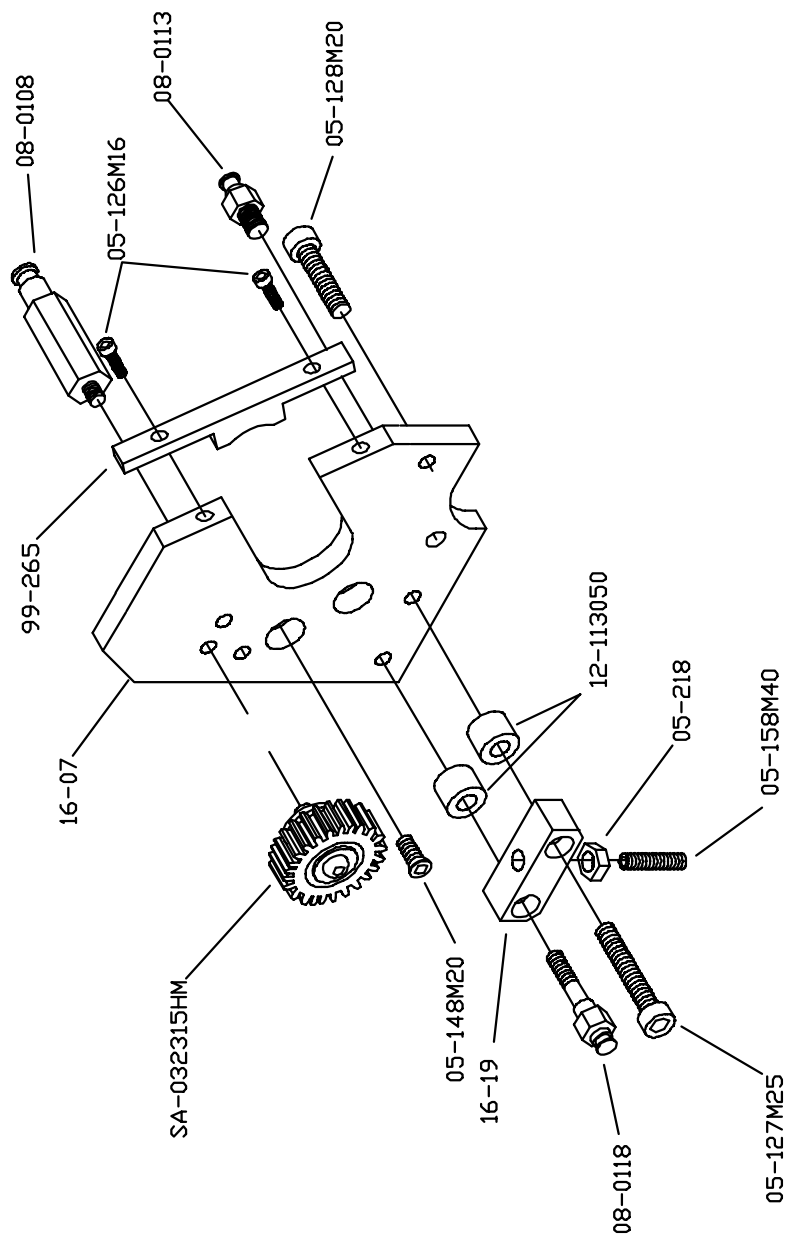
775C10, 5-23-97

ROUTING FRAME ASSEMBLY- DPS
HAMADA 775 ALTRA



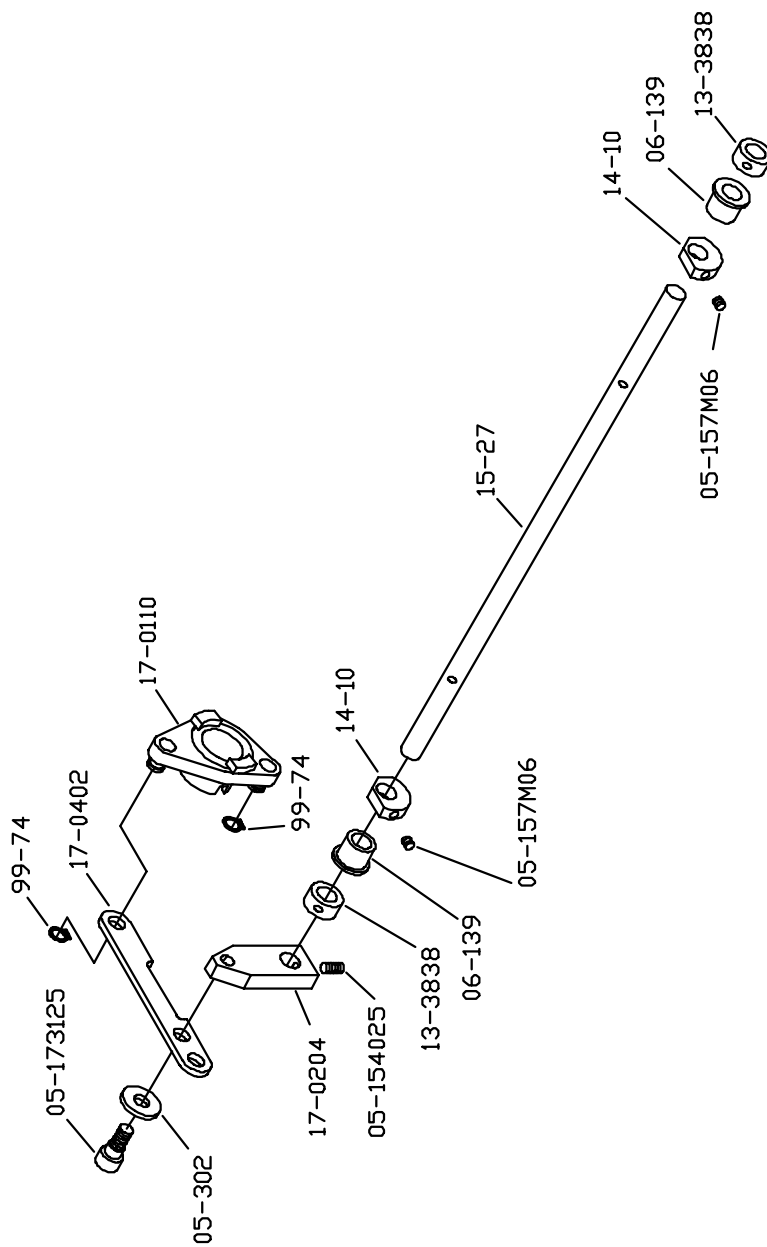
775C11, 3-7-97

MOUNTING FRAME ASSEMBLY-NOPS
HAMADA 775 ALTRA



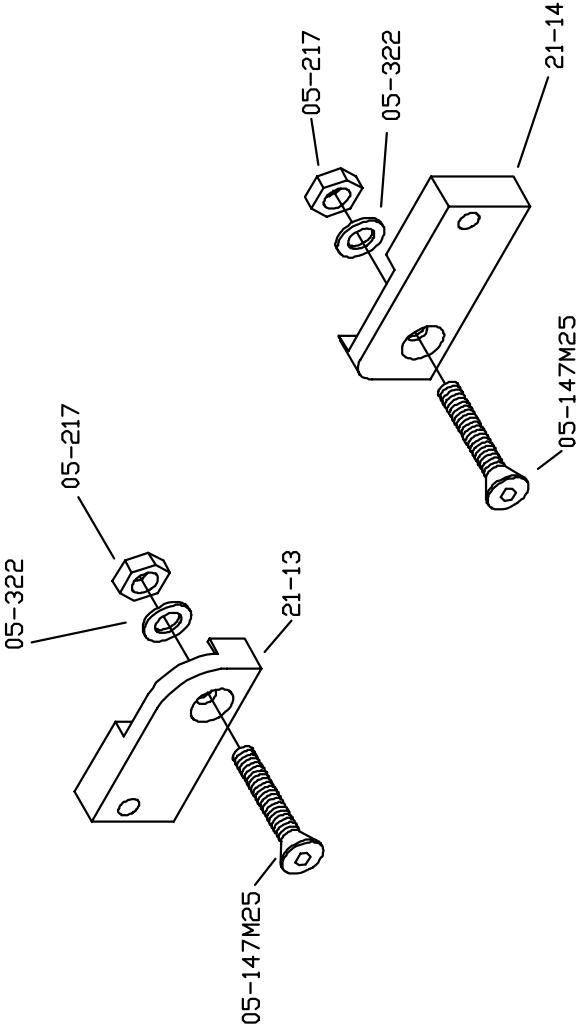
775C12, 3-7-97

LIFT SHAFT ASSEMBLY
HAMADA 775 ALTRA



775C13, 3-7-97

CLEAN UP TRAY MOUNTING BRACKET ASSEMBLY
HAMADA 775 ALTRA



775C14, 3-7-97

MISCELLANEOUS PARTS
HAMADA 775 ALTRA

