

# Crestline® Altra Series™ Dampener

## Installation Instructions

Heidelberg GTO

**ACCEL** ®  
*Graphic Systems*

# GENERAL INFORMATION

**ATTENTION  
CRESTLINE®  
ALTRA SERIES™  
DAMPENER  
OWNER!**

Accel Graphic Systems provides parts and service through its authorized distributors and dealers. 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 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:**

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**The serial number of your Crestline® Altra Series™  
Dampener(s) is:**

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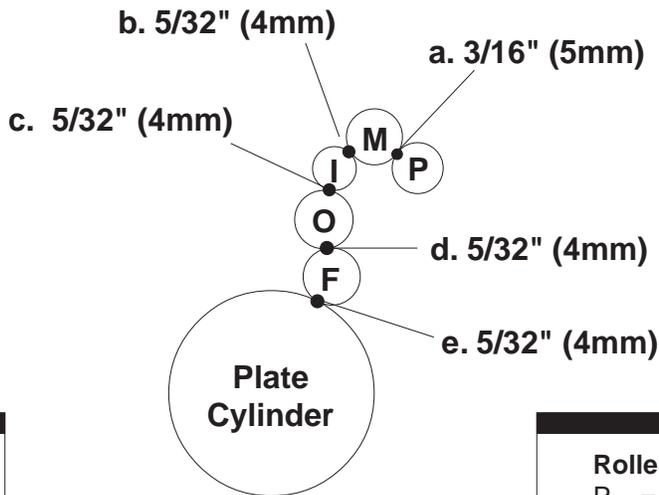
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**SAFETY  
INFORMATION**

**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

## CRESTLINE® ALTRA SERIES™ CONFIGURATION



Adjustments
a. Pan to Metering
b. Metering to Intermediate
c. Intermediate to Oscillator
d. Oscillator to Form
e. Form to Plate

Roller Description
P = Pan
M = Metering
I = Intermediate
O = Oscillator
F = Form

### TERMINOLOGY

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

### TECHNICAL ASSISTANCE

For technical assistance during the installation, please contact:

**ACCEL GRAPHIC SYSTEMS**  
 11103 Indian Trail  
 Dallas, TX 75229  
 PHONE (972) 484-6808  
 FAX (800) 365-6510  
 E-MAIL [accel@dallas.net](mailto:accel@dallas.net)  
 WEB SITE [www.accelgraphicsystems.com](http://www.accelgraphicsystems.com)

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

# GENERAL INFORMATION

## REQUIRED TOOLS

1. Standard Screwdriver
2. 10mm Open End Wrench
3. 11mm Open End Wrench
4. 13mm Open End Wrench
5. 19mm Open End Wrench
6. 3mm Allen
7. 5mm Allen
8. 8mm Allen
9. 1/2" Open End Wrench
10. 1/8" Allen
11. 3/32" Punch
12. 1/8" Punch
13. 5/32" Punch
14. 3/16" Punch
15. Hammer
16. Spring Hook Tool
17. Snap Ring Tool
18. Fly Wheel Puller\*
19. 6mm x 1 tap

\* Obtained from Accel. Special tools that are made specifically for Heidelberg dismantle and installation.

## PRE-INSTALLATION INFORMATION

Check box and parts board to make sure all pieces are present and nothing has broken in shipping. 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 a flat surface. Retighten bolts.



# DISASSEMBLY

1

**NOTE: Dismantling units on 1c, 2c & 4c presses is the same.**

Remove molleton covered rollers and chrome rider roller from existing dampening system. Remove the pan roller by sliding the spring loaded NOPS shaft collar towards the NOPS and lifting the pan roller out.

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2

Remove OPS side cover from press. This requires detaching all levers, knobs and handles. Detach and remove water pan.

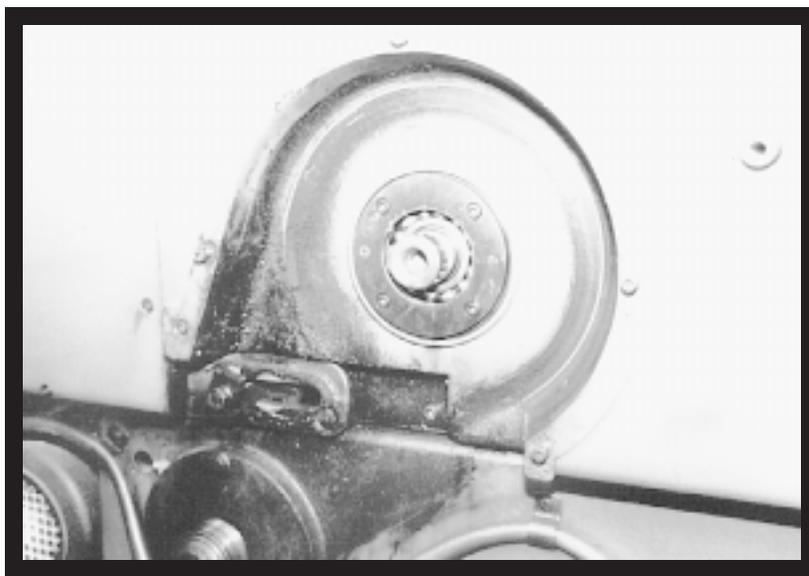
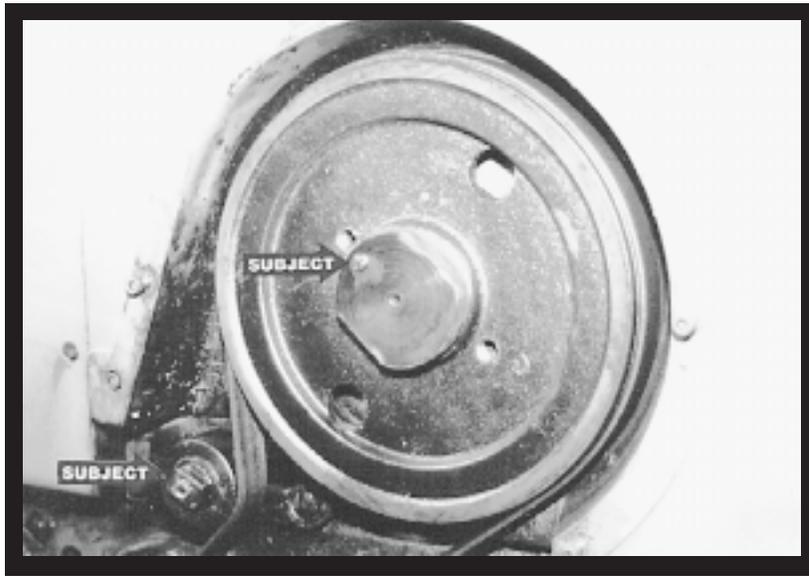
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3

Remove NOPS cover from press. This requires removing the hand crank from the NOPS as well as the powder sprayer canister and hoses. (Hand cranks held in by taper pins.)

**On some GTO's this also requires removing the large drive pulley at the NOPS. If this is the case, proceed to the next step. Otherwise, proceed to step 7.**

7



## DISASSEMBLY

4

Remove tension wheel (subject arrow, lower left hand corner.) Next, loosen small set screw (subject arrow, center) and spin off large plate in the center of the picture. It may be necessary to hit edge of plate with a hammer to loosen it.

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5

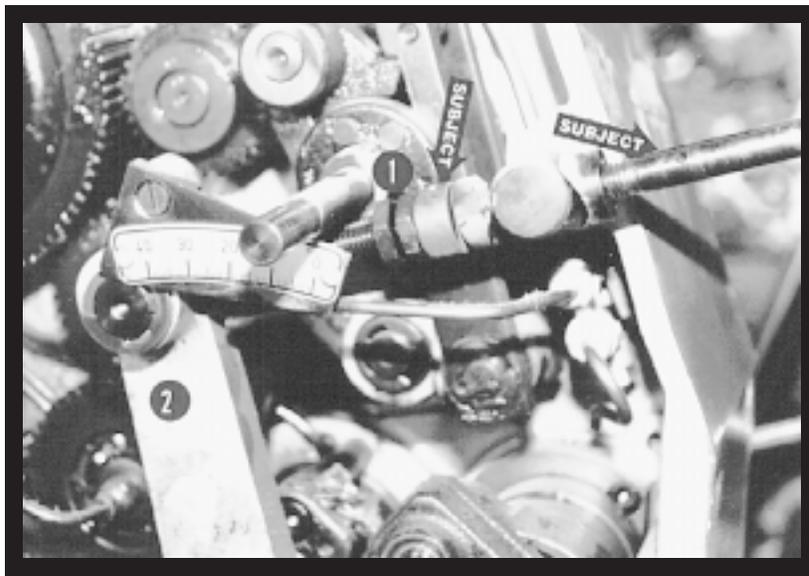
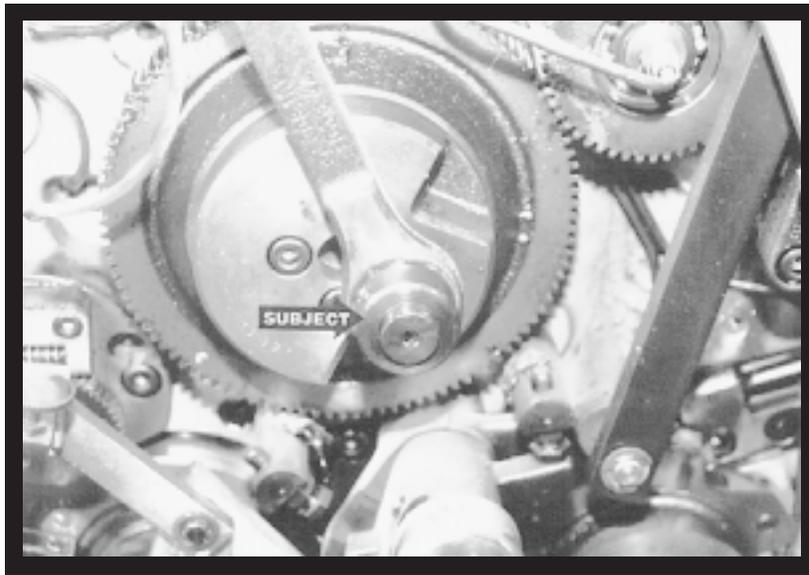
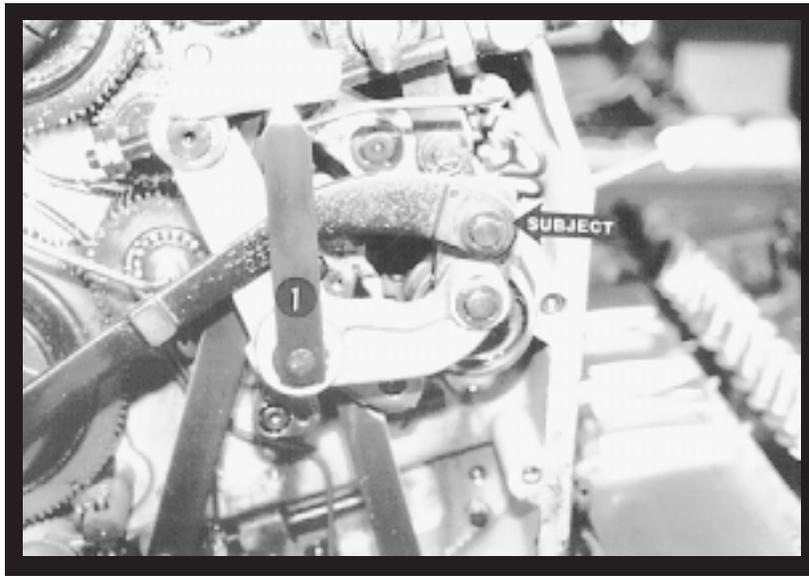
Install the drive pulley remover as shown. A spacer is used to protect the threads in the center of the drive pulley (subject arrow). To remove the drive pulley, tighten the outer bolts. Then, SLOWLY, tighten the center bolt to remove the drive pulley.

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6

The NOPS should look like this. The side cover can now be removed. Remember to reinstall the side cover before putting on the pulley. (This is done during the Crestline® Altra Series™ installation.)

9



7

Remove the water level pointer ( #1) and horizontal drive arm (subject arrow) at OPS. The pointer is held on by a flat head screw, the horizontal arm by an "E" ring on one end and a snap ring on the other.

8

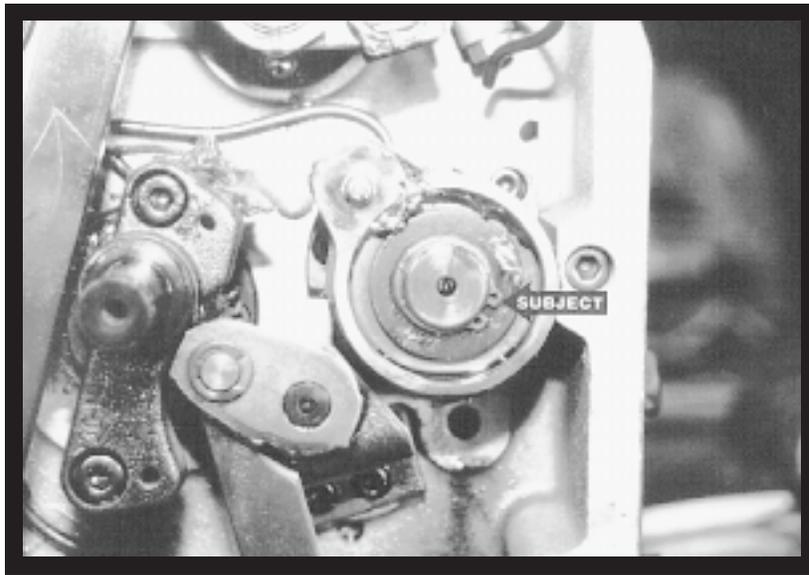
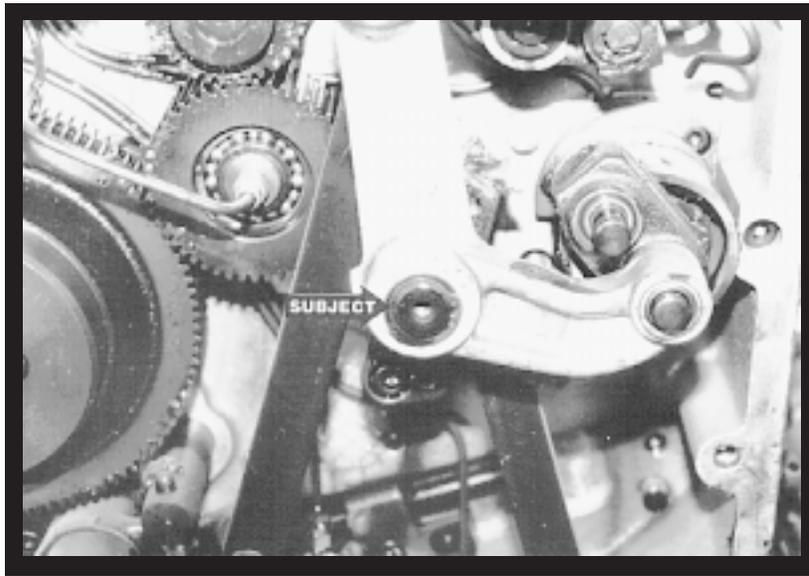
Install the provided set collar (subject arrow) to retain the remaining arm on the shaft (arm previously held on by piece removed in step 7).

**Note: when tightening set collar, do not push collar tightly against drive arm or binding may result.**

9

Completely remove existing water adjustment (right hand subject arrow) by:

- A. Removing the two nuts at the end of the threaded shaft (not visible).
- B. Knocking the taper pin out of the collar (left hand subject arrow).
- C. Loosen the two nuts (#1, center of picture) and spinning the threaded shaft until it is free from vertical arm (#2).
- D. Continue to spin second set of nuts off the end of the shaft. The entire threaded shaft can now be removed.



## DISASSEMBLY

**10**

Behind the pointer that was removed in step 7 is a small snap ring (subject arrow). Remove the snap ring and pull off the water adjustment assembly.

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**11**

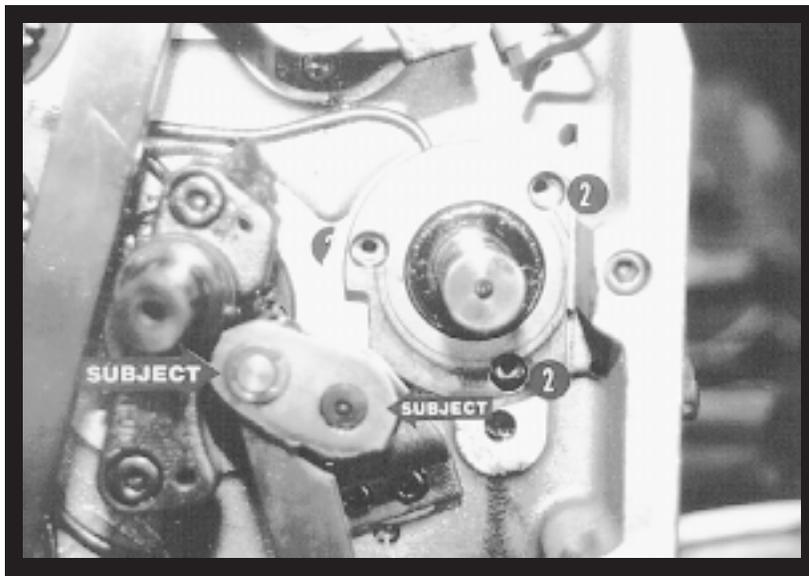
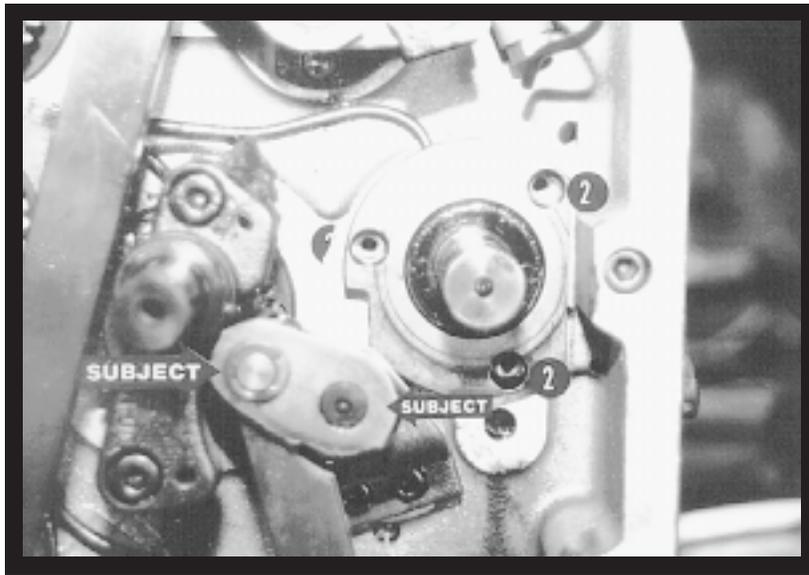
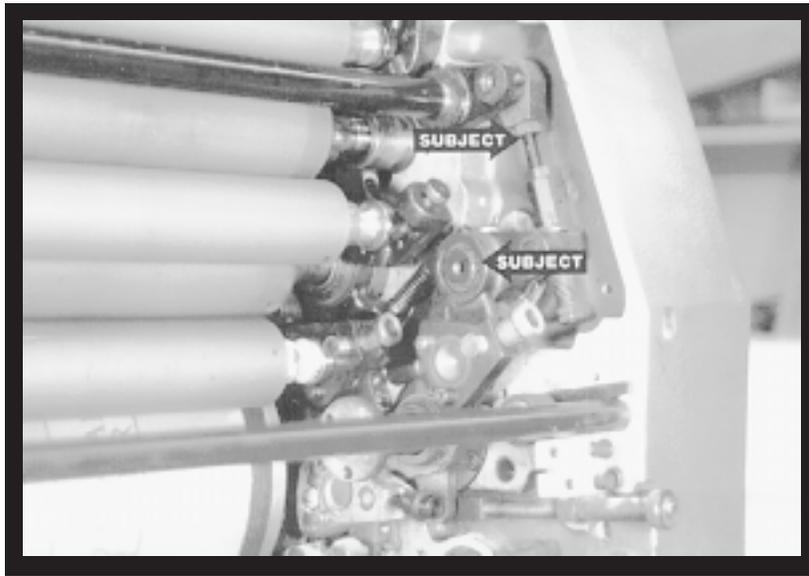
Remove snap ring from large collar (subject arrow) and pull collar out of press. The collar has a keyway holding it to the shaft so it may be a little tight.

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**12**

Remove press tie bar (subject arrow).

**13**



**13**

Remove assembly at OPS & NOPS as follows:

- A. Unlock screw and un-thread post from press (upper subject arrow).
- B. Remove snap ring (lower subject arrow). Entire assembly pulls out of press.

**NOTE:** On some models there is a bar running between these assemblies. If this is the case, remove the bar.

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**14**

Remove the three cap head screws (#2) that hold housing to press frame. (Housing is located behind collar removed in step 11. Picture shows screws removed.)

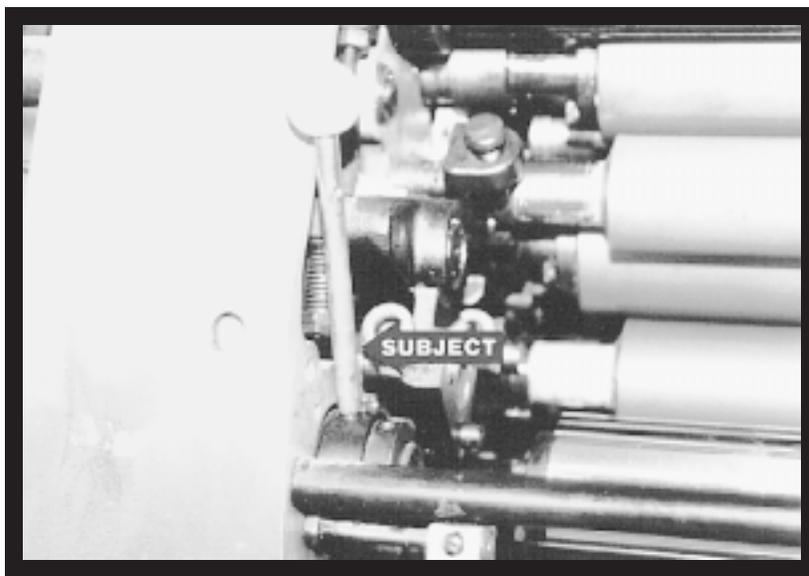
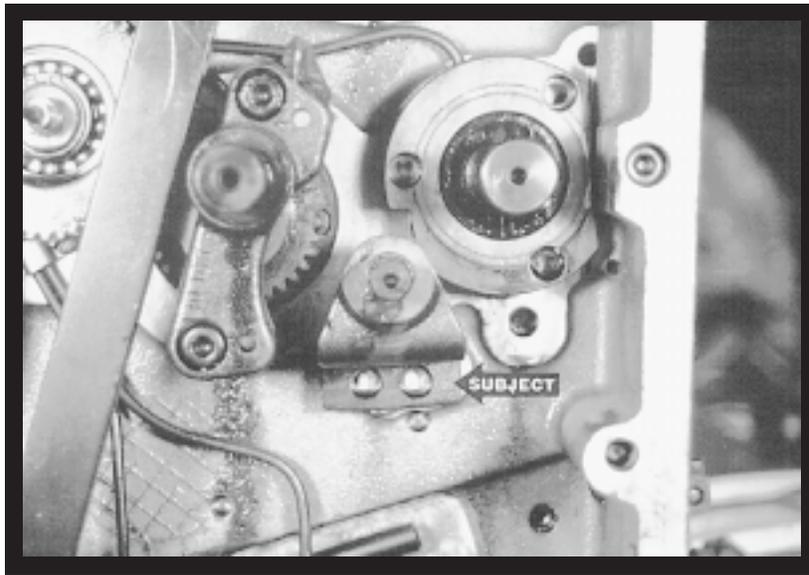
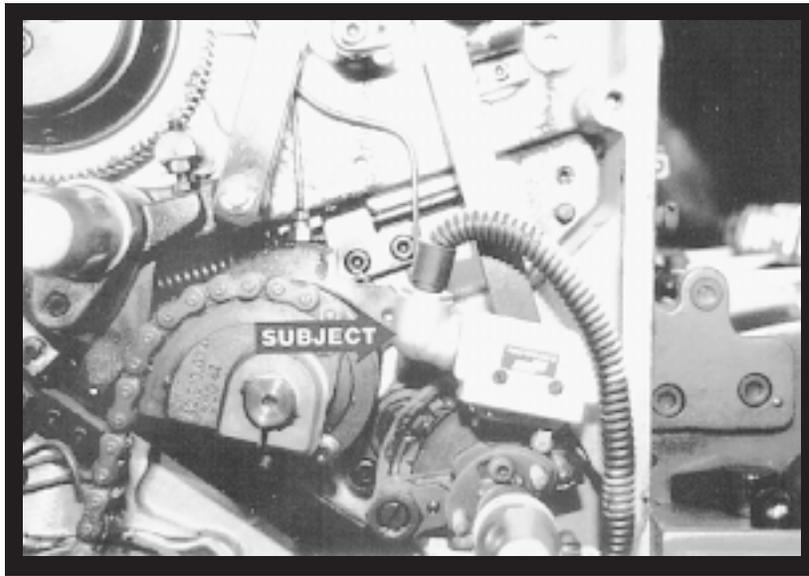
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**15**

Remove control block (right hand subject arrow) and the shaft connected to it (left hand subject arrow) as follows:

- A. Remove "E" ring (left hand subject arrow) and save for reinstallation later.
- B. The shaft on the block runs all the way to the NOPS of the press and is held in place by two eccentric collars. Each collar is mounted to the shaft against the inside of the press frame. The collars are pinned. To remove the shaft from the press, knock the pins out of the collars.
- C. Grasp the block and shaft and pull out of the press. Clean the shaft thoroughly before pulling it out of the press.

**15**



## DISASSEMBLY

16

Remove the solenoid (subject arrow) near the single lever mechanism. On 2c & 4c presses, the solenoid is only on the first printing unit. **Save for reinstallation.**

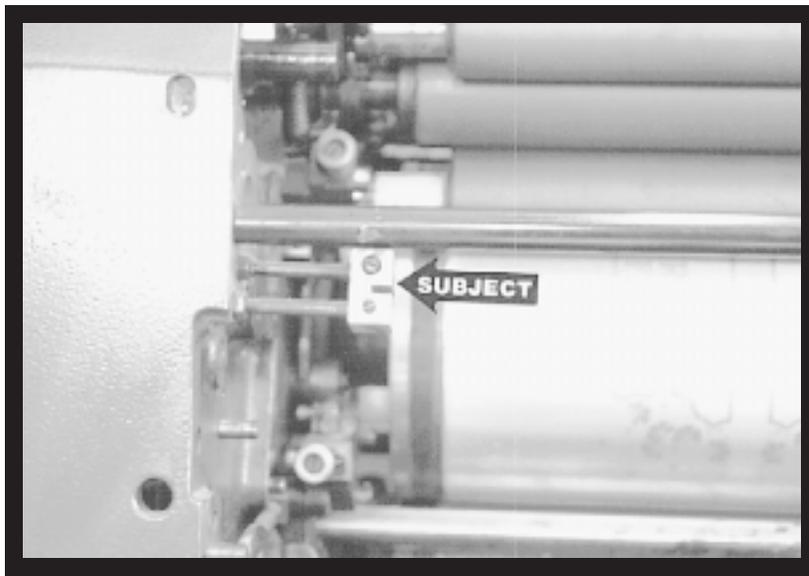
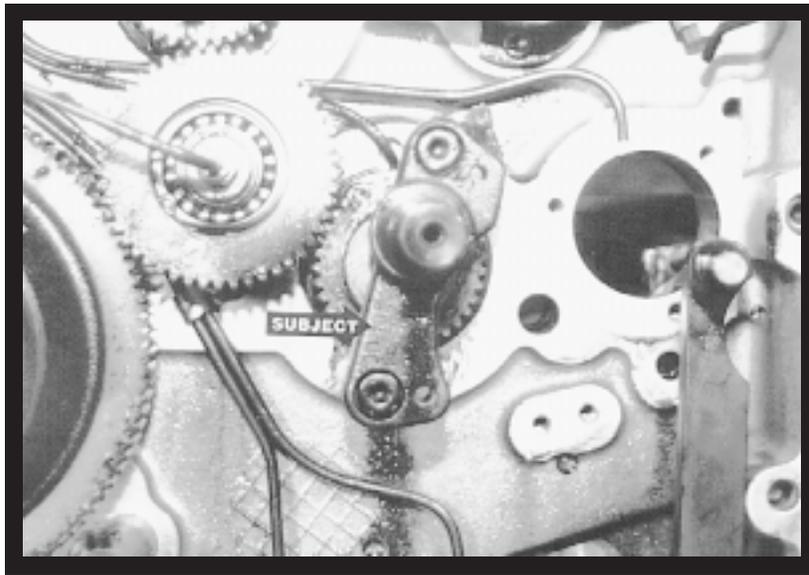
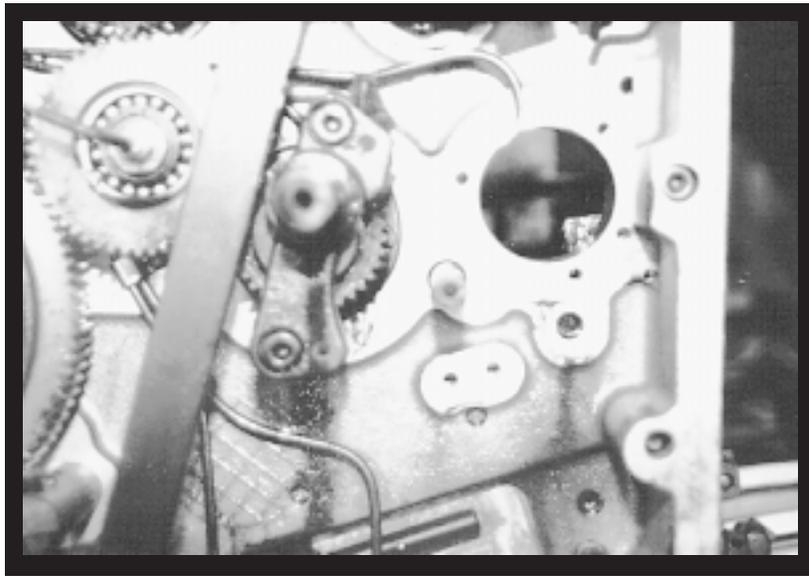
17

Loosen both bolts (subject arrow) in the shaft support bracket. Remove the bolt on the left hand side and allow the bracket to pivot down and out of the way. **Save the bolt for reinstallation.**

18

Remove the entire assembly (subject arrow) from the inside of the press by pushing it through the press frame.

17



**19**

Remove the housing that held the pan roller handle. Note the large hole at the right hand side of the picture.

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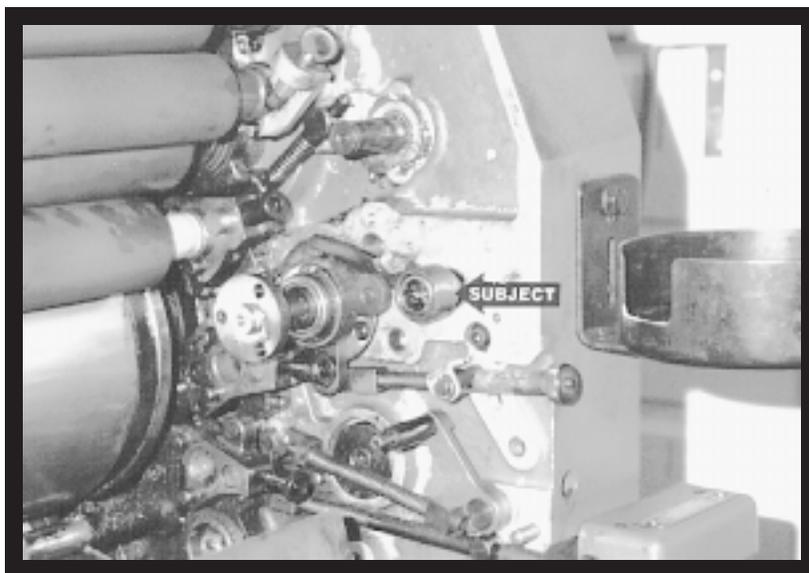
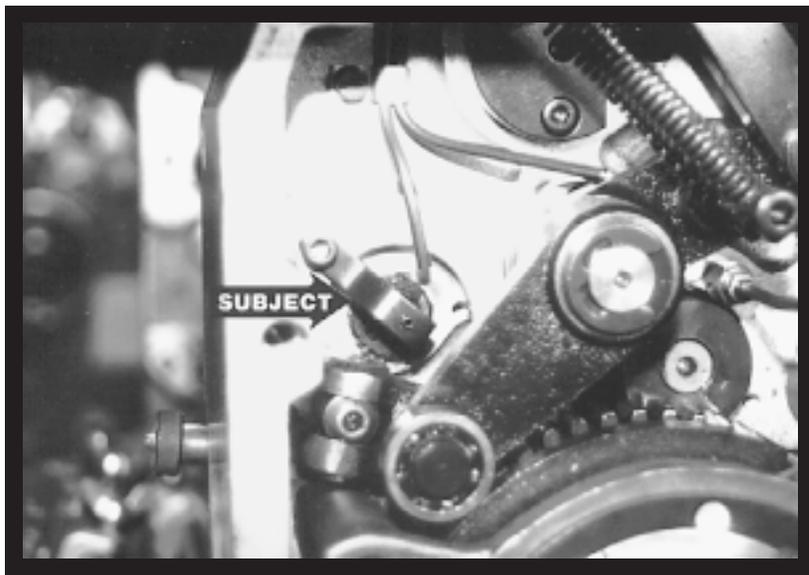
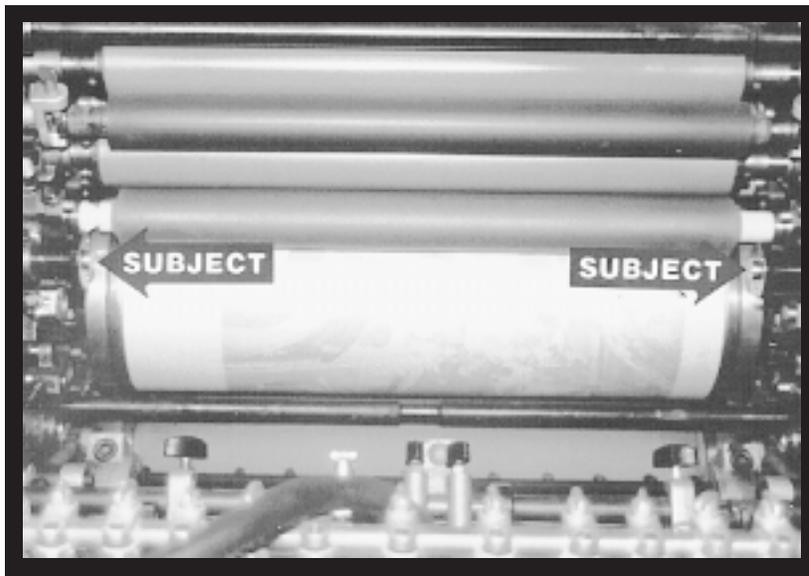
**20**

Remove bracket over gear (subject arrow).

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**21**

Remove mechanism that holds water pan (subject arrow). This may have several different designs but all are located in the same area.



**22**

Remove the water oscillator by loosening the three cap head bolts on each end of the chrome section and pull the roller out. (The roller is a hollow shell.) If necessary, rotate the press by hand to better position a bolt for removal. Subject arrows show where the cap head bolts are. Chrome section removed in picture.

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**23**

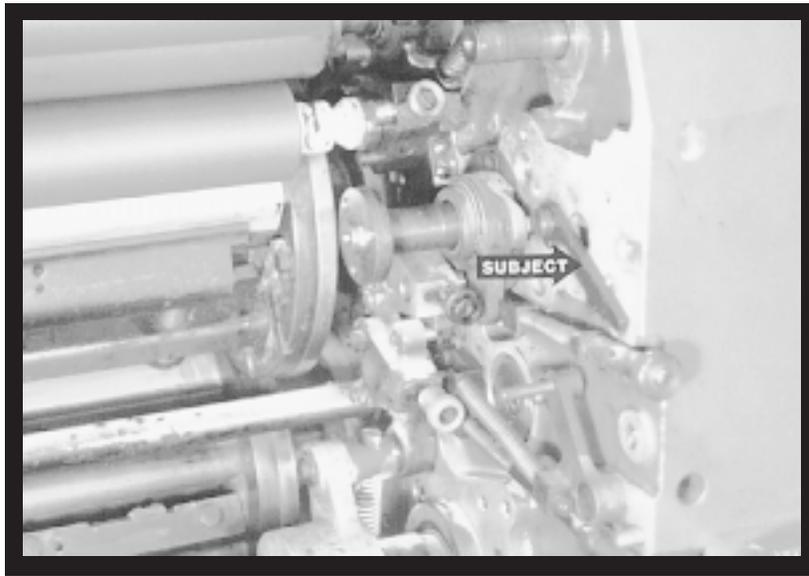
Remove small mechanism on the outside of the NOPS side frame. This includes the "E" ring that is not visible.

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**24**

Remove spring loaded bushing from press (subject arrow). Be sure to remove small spring behind these parts.

**21**



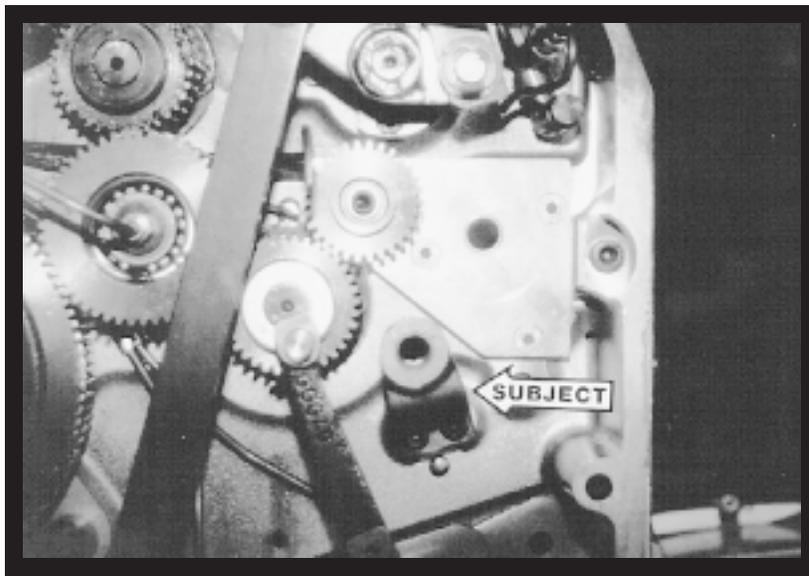
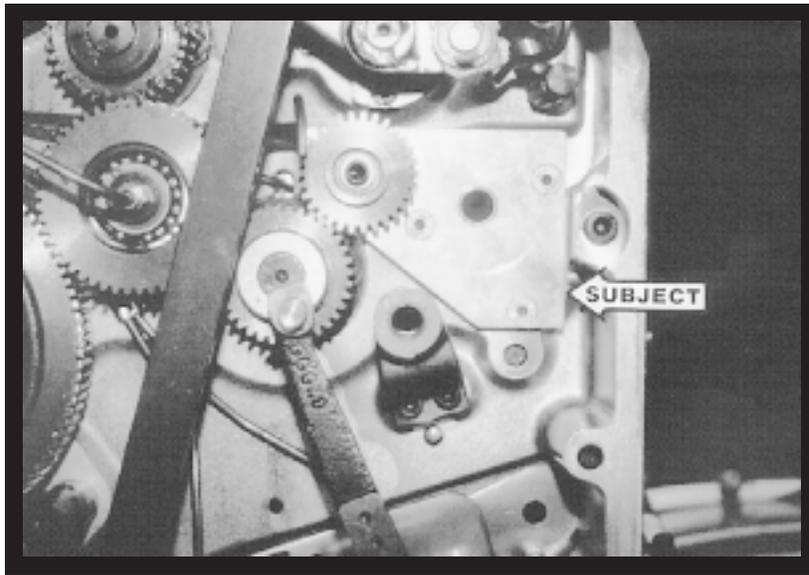
**25**

Tap out arm (subject arrow) at NOPS.

**You are now ready to install Crestline® Altra Series™ .**

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# INSTALLATION

1

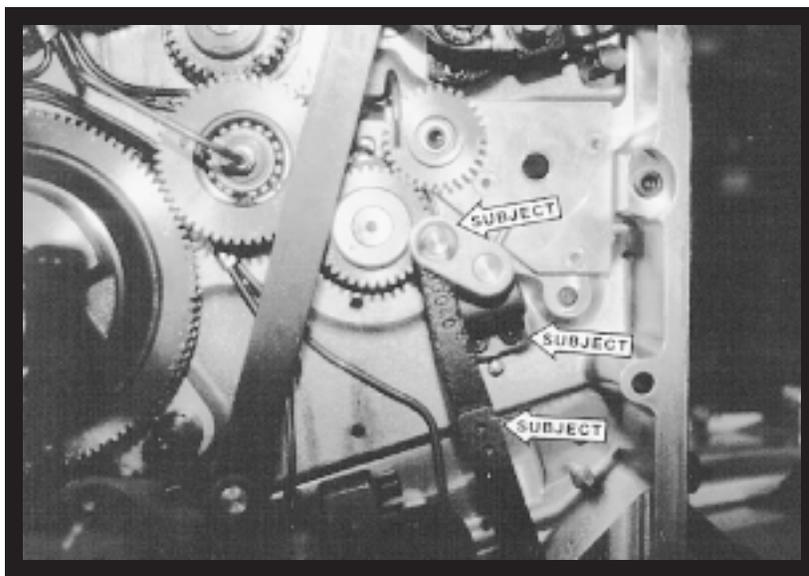
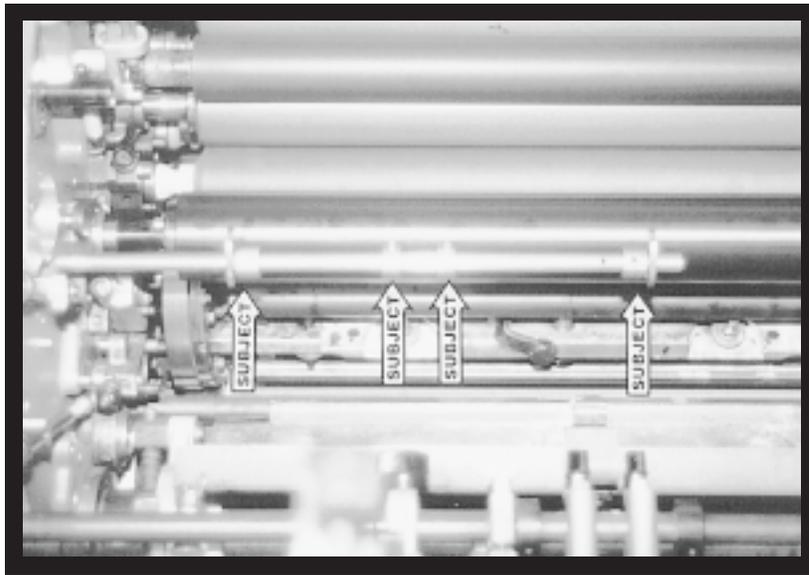
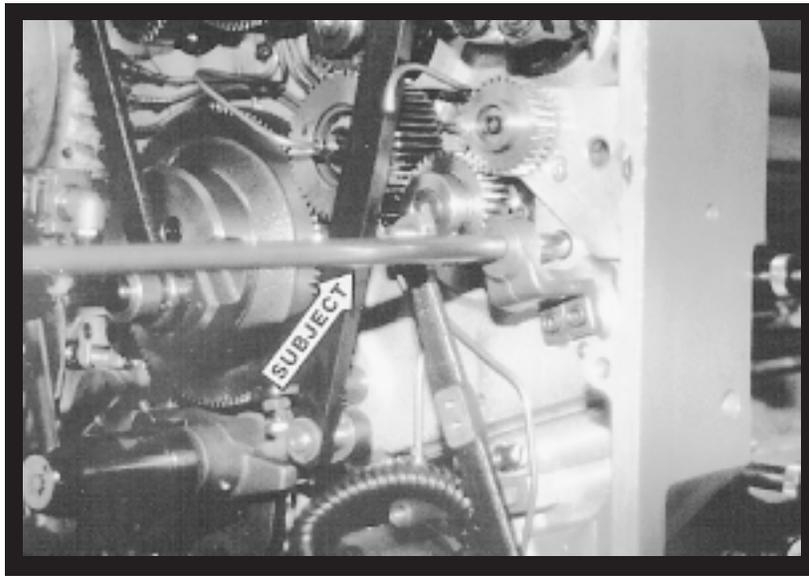
Install new water oscillator (subject arrow). It bolts to the same mechanisms as the original chrome oscillator (see disassembly step 25). **Use provided cap screws, lock washers and Loctite® to secure the new oscillator in place.**

2

Form oil line to clear plate on front side. Mount gear plate (subject arrow) to the outside of OPS frame. The gear on the plate meshes with the gear on the water oscillator. Install the plate with the provided 6mm x 25mm flat head screws.

3

Reinstall shaft support (subject arrow) that was removed in disassembly. Do not fully tighten bolts at this time.



4

Insert new control shaft (subject arrow) through support and about 1/3 of the way into the press.

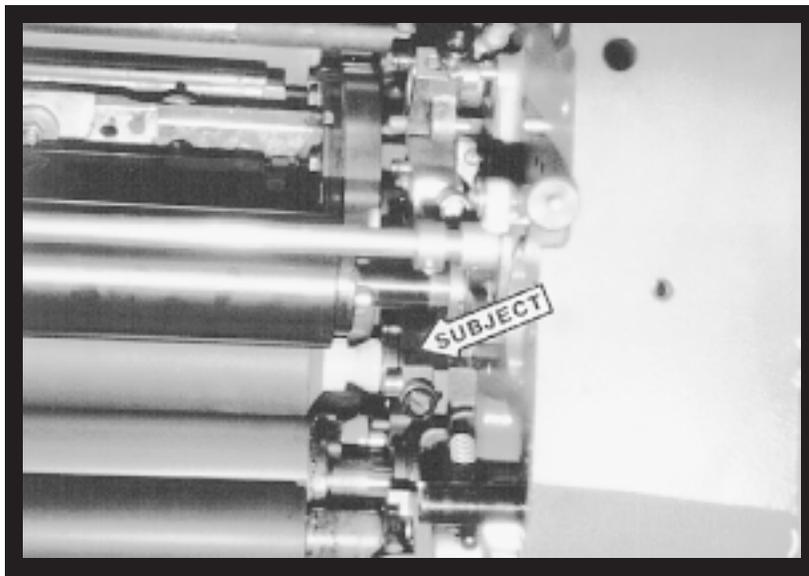
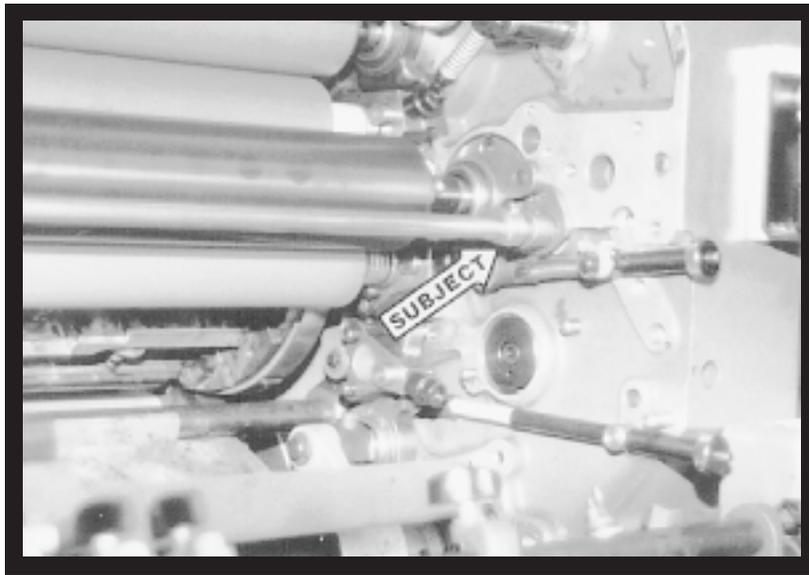
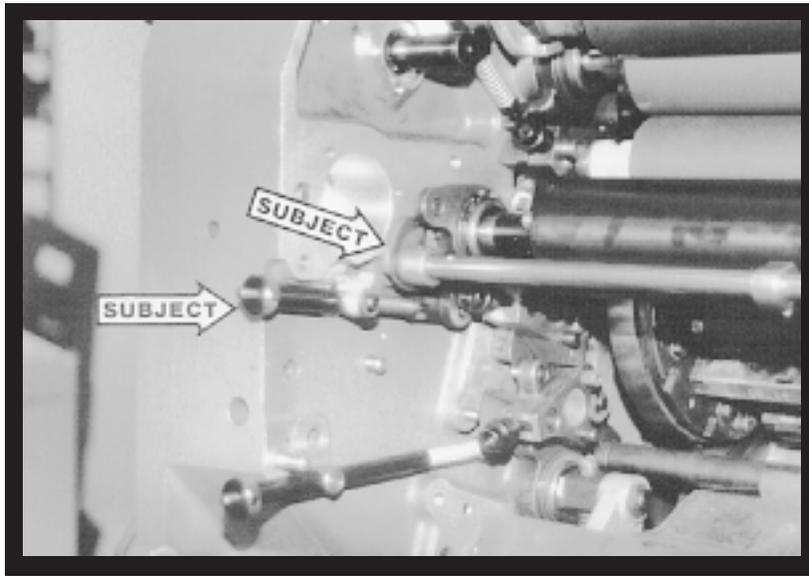
5

Slip the following pieces over the end of the shaft in the order listed. **NOTE: do not push the shaft completely in until you proceed to the next step.**

- A. OPS water form lift cam (left subject arrow). This was removed from the original shaft in disassembly step 15B. Make sure eccentric side of the cam faces towards the feed end of the press.
- B. New intermediate roller lift cams (middle subject arrows). Notice the set screw holes in these cams are at an angle relative to the "flats" of the cams. When viewing these cams with the "flats" pointing towards the floor, the set screw holes should angle towards feed end of press.
- C. NOPS water form lift cam (right subject arrow). See "A" above for explanation.

6

At OPS reinstall link arm (lower subject arrow) that was removed in disassembly step 17. After the pieces from the previous step have been slipped over the shaft, push the shaft all the way toward NOPS until it enters NOPS shaft bushing. The control block slips over the stud on the link arm. Reinstall washer and E-ring (upper subject arrow). Fully tighten bolts in shaft support (middle subject arrow).



# INSTALLATION

7

Place single lever in the "OFF" position (all the way toward delivery end of the press). Using a screw driver or punch temporarily reinstall single lever to do this. Spin water form adjustment knobs (left subject arrow) at OPS & NOPS all the way down. This makes it easier to pin the water form lift cams. Position OPS lift cam (right subject arrow) as shown and line up hole in cam with hole in shaft. At this point, install new roll pin provided into cam and shaft. Repeat this procedure at NOPS. When finished, back-off the water form adjustment screws 4 or 5 turns. **To test for proper installation**, move single lever to the next position (RUN). The water form housings should still remain off. Next move the single lever one more position to "WATER". The water form housings should then drop down **toward plate cylinder**. When finished, return single lever to "OFF".

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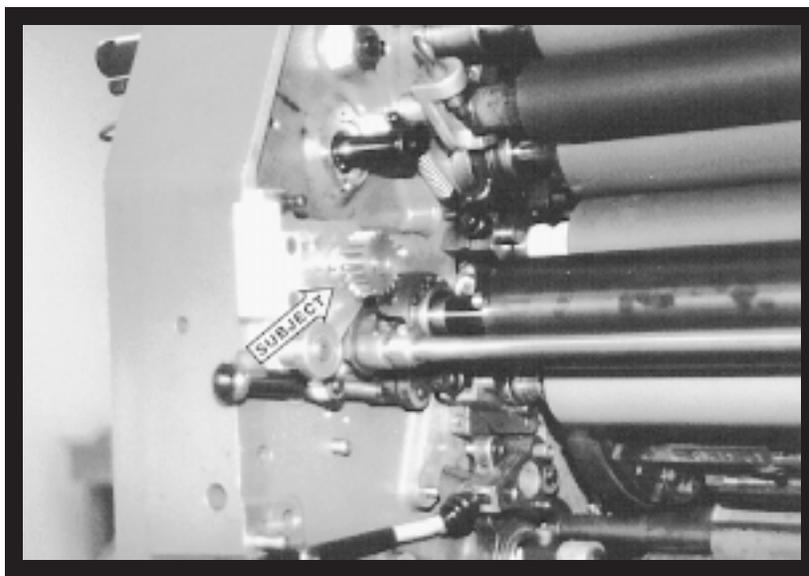
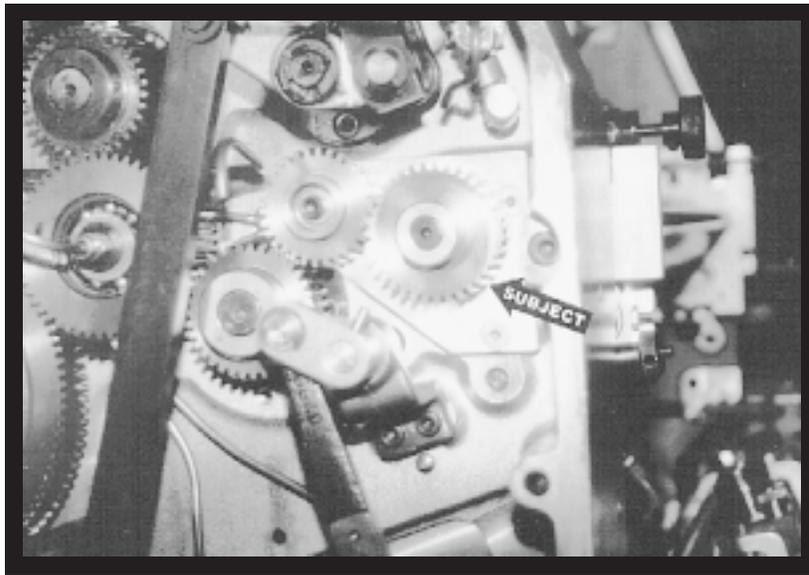
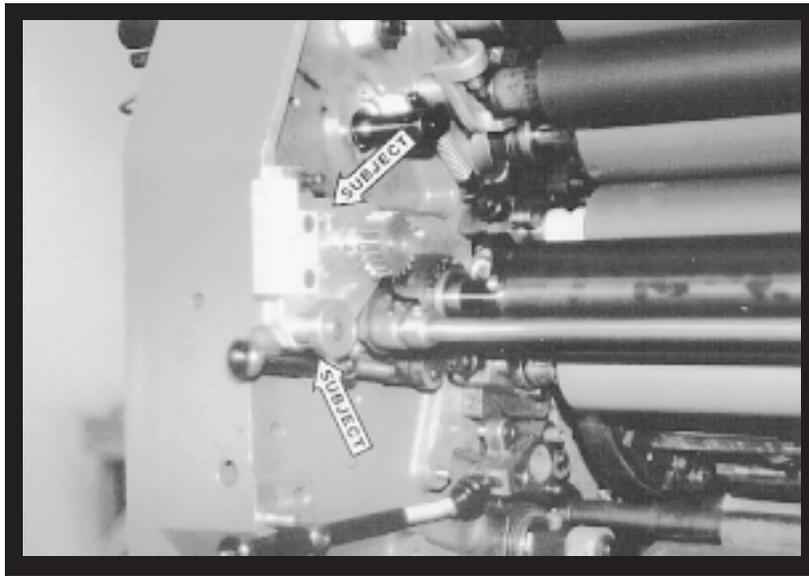
8

Line up the intermediate roller lift cams (subject arrow) at OPS & NOPS as shown with the remaining two holes in the shaft and secure with provided set screws. Set screws point up as shown.

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9

Install new water form provided into the upper water form housings as shown (subject arrow).



**10**

Install OPS mounting block assembly using provided 6mm x 25mm flat head screw for top hole (upper subject arrow) and, for large hole at bottom, slip ball bearing stud into hole and secure with 6mm x 50mm flat head screw (lower subject arrow). Both screws should be finger tightened only at this time.

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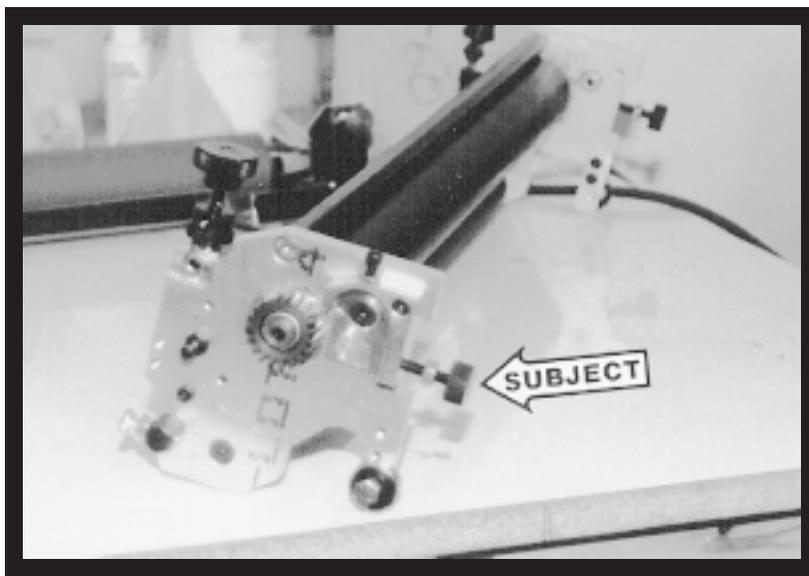
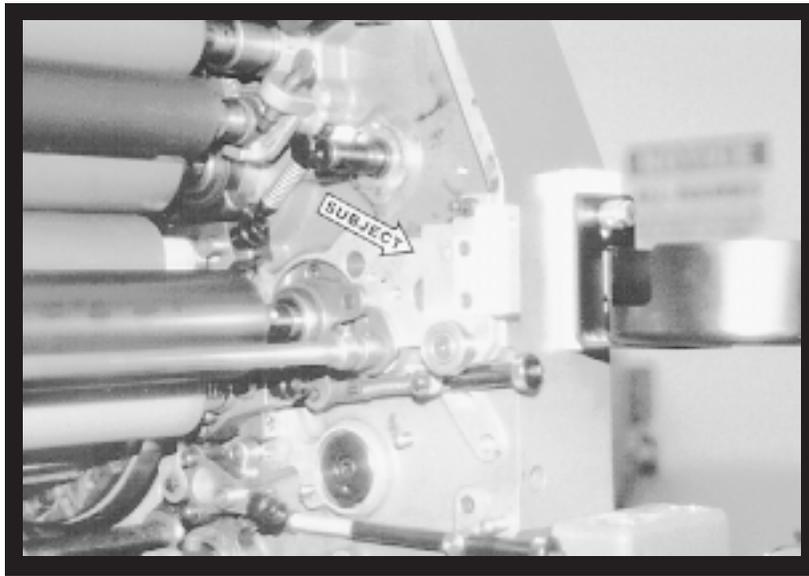
**11**

Slip the new drive shaft through the gear plate on the outside of OPS frame (subject arrow shown with gear already installed). Push the shaft all the way in and through the ball bearing on the OPS mounting block which was installed in the previous step. Rotate the shaft by hand, making sure it is not binding. Slowly tighten the 2 flat head screws on the OPS mounting block with 4 mm Allen wrench while continuing to spin the shaft and checking for binding. Also make sure the 3 flat head screws on the gear plate are now fully tight.

---

**12**

Slip the 2 washers and thin set collar over the end of the drive shaft that is protruding toward the inside of the press (Washers go between the ball bearing in OPS mounting block and set collar). With shaft pushed all the way in, butt washer and set collar against OPS mounting block and tighten collar. Rotate the drive shaft until the keyway is pointing up. Insert the provided shaft key and slip the new drive gear over the end on the drive shaft until it is flush with the end of the drive shaft. Tighten set screw in gear at this point.



13

Install NOPS mounting block (subject arrow) in the same manner as OPS and fully tighten screws.

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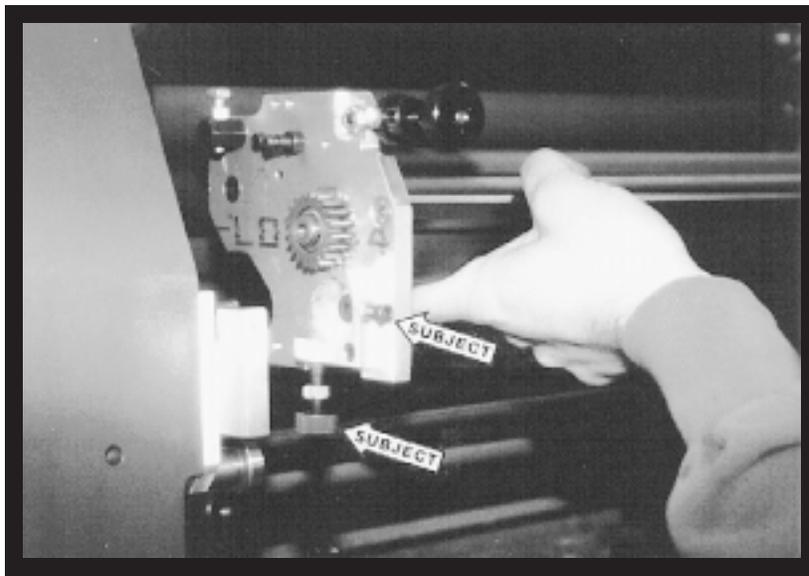
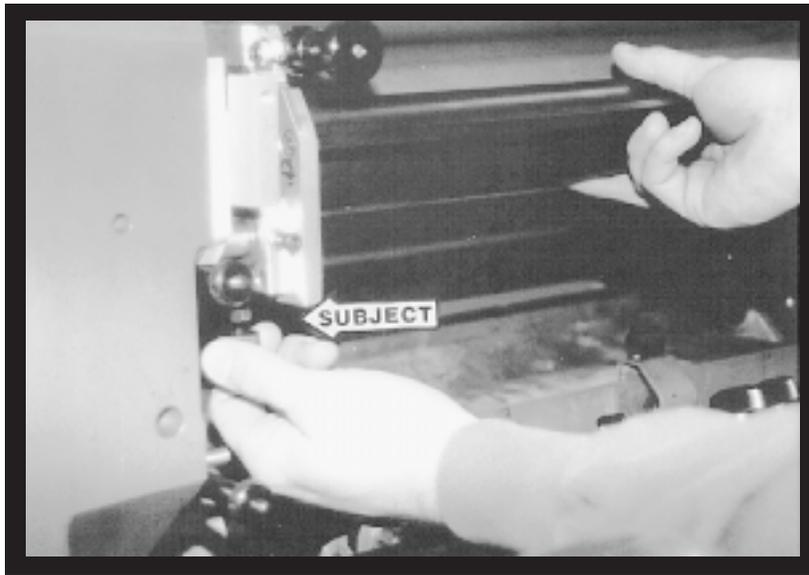
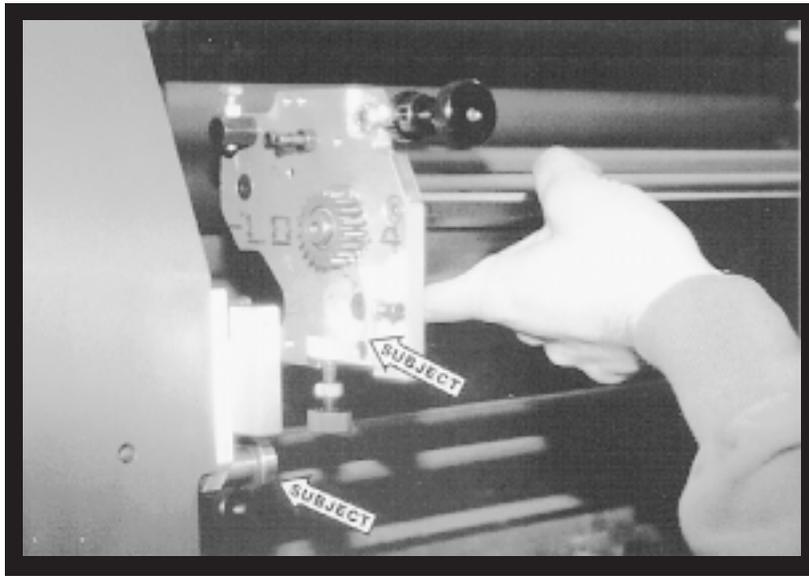
14

At OPS & NOPS, slip large collar provided over the large black pin protruding toward the inside of the press (subject arrow). Do not tighten collar at this time. **NOTE: Photo shows dampener already installed.**

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15

Remove metering roller from Crestline® Altra Series™ dampener. If they have not already been installed, thread the small knurled knob with lock nut through bottom of pivot block at OPS & NOPS (subject arrow). Make sure the tip of the knob does not protrude into the notch of the pivot block.



**16**

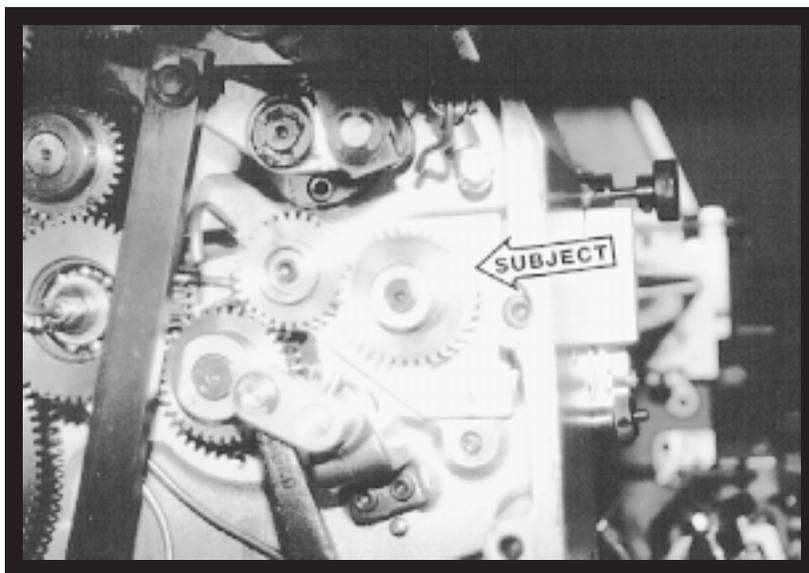
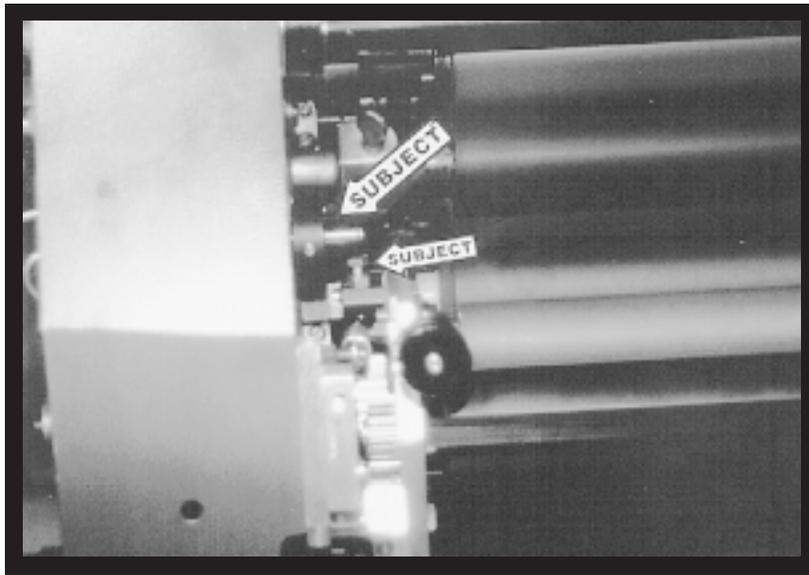
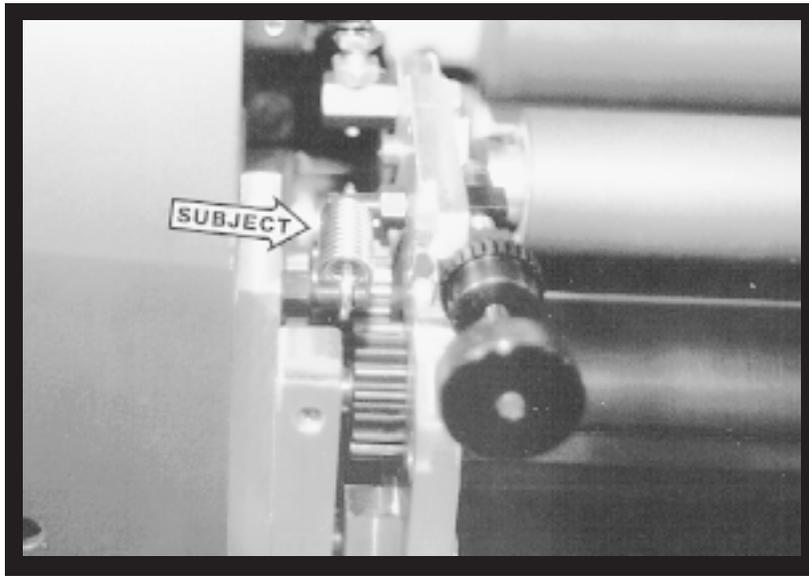
Place dampener into the press. The ball bearings that are protruding from the mounting blocks (lower subject arrow) fit in the notch in the pivot block (upper subject arrow). Start the dampener into the press much higher than the ball bearing stud to clear other parts (see photo). Once the front of the dampener is clear of all parts, drop the dampener down until the ball bearings engage the notches in the pivot blocks.

**17**

Push the dampener forward until the bearings "bottom out" at the back of the pivot blocks. Center the dampener in the press and finger tighten small knurled knobs as shown (subject arrow). The small ball bearings mounted to the front of the dampener assembly should be just beneath the intermediate roller cams on the lift shaft.

**18**

**Check to see that the gear on the dampener pan roller meshes properly with the drive gear.** Grasp the outside end of drive shaft and rotate clockwise. The two gears should spin freely. If not, the mesh is too tight and must be adjusted as follows: At OPS only, slowly back off the knurled knob (subject arrow) a very small amount. Loosen lock nut on cap screw (subject arrow) at back of pivot block and turn cap screw clockwise until it is tight. Check gear mesh again. If further adjustment is needed, back off knurled knob a little more and turn cap screw clockwise a little more. Keep doing this adjustment a little at a time until proper mesh has been achieved. After proper mesh is achieved, secure knurled knob at OPS & NOPS by tightening lock nut against pivot block. Also tighten lock nut on small cap screw in OPS pivot block.



**19**

Install extension spring at OPS & NOPS between spring studs as shown.

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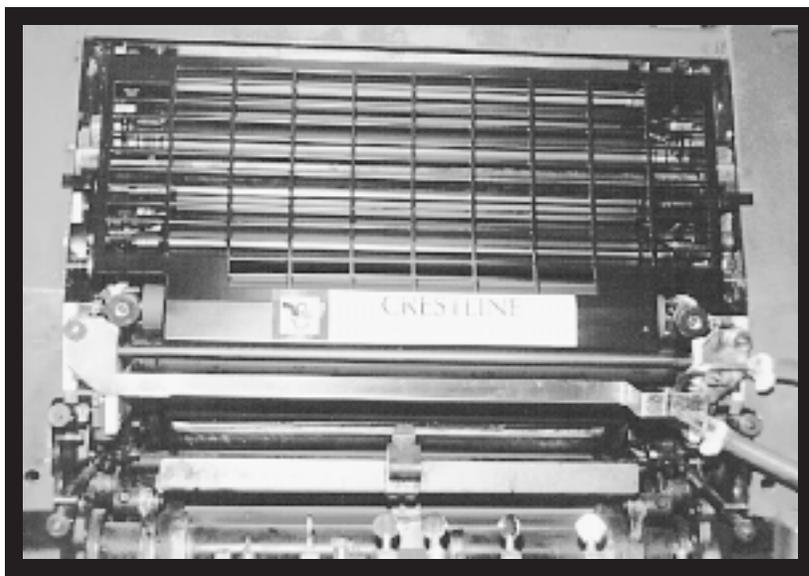
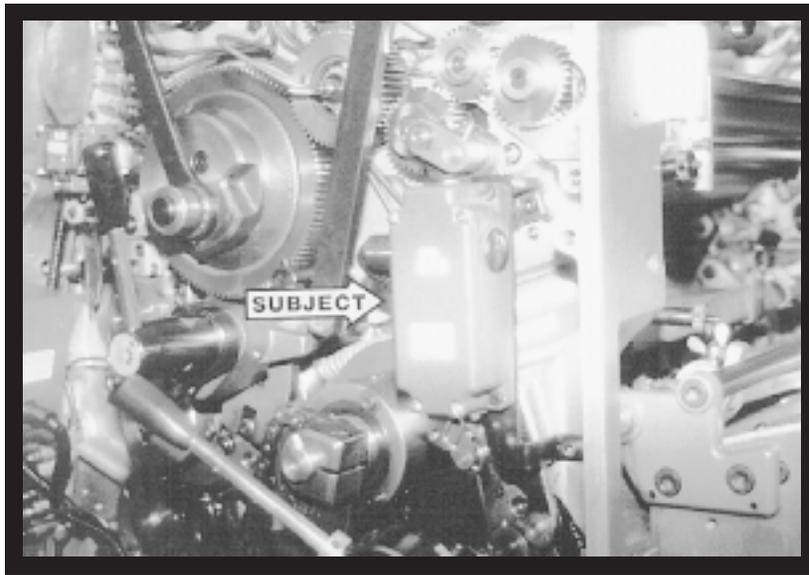
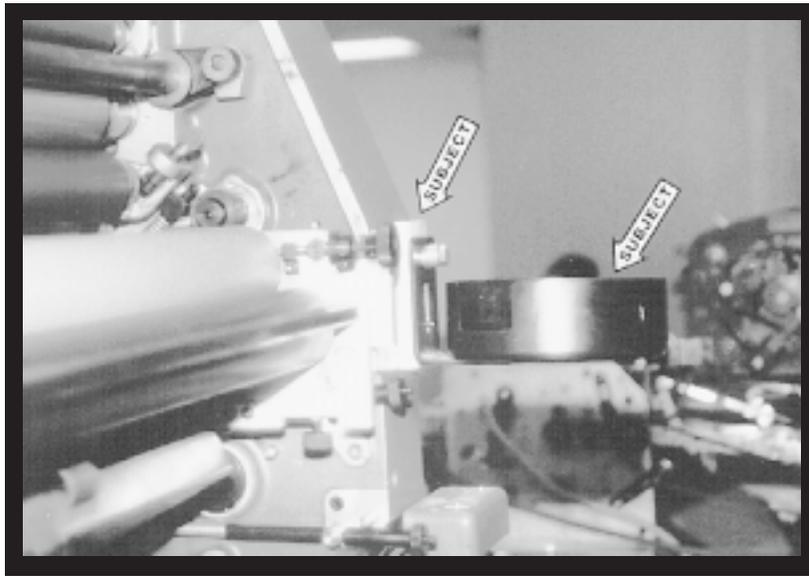
**20**

Make sure the single lever is in the "OFF" position and check the clearance between the dampener oscillator and intermediate roller. This is best accomplished by looking underneath the dampener with a flash light. This gap should be parallel and no more than .040 (1mm) wide. This gap is adjusted with the hex bolts shown in the photo (lower subject arrow). Turning the bolts up decreases the gap and vice-versa. When proper gap is obtained, secure bolts with lock nuts. Also push collars (upper subject arrow) over and against head of hex bolt and tighten. This stabilizes the dampener and prevents side-to-side movement.

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**21**

Install the large washer and then the gear (subject arrow). Check to see that the stamped letters on the clutch bearing are facing outward. Secure the set collar on the end of the shaft.



**22**

Remove black water bottle tray from NOPS frame. Take the provided adapter (left subject arrow) and secure to the frame with provided bolt. Reattach bottle tray (right subject arrow) to adapter with original bolt.

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**23**

Reattach the solenoid to its original position. The position is critical because the solenoid controls the on & off of the press.

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**24**

Replace original sheet metal safety cover with the new one provided. It attaches exactly as the original. Make sure the microswitch at NOPS activates properly.



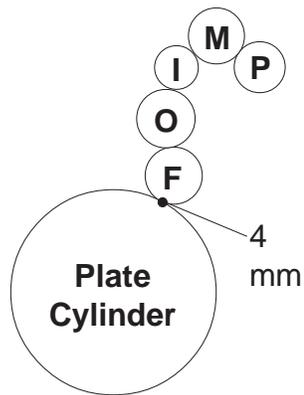
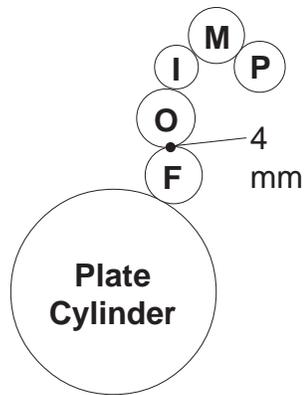
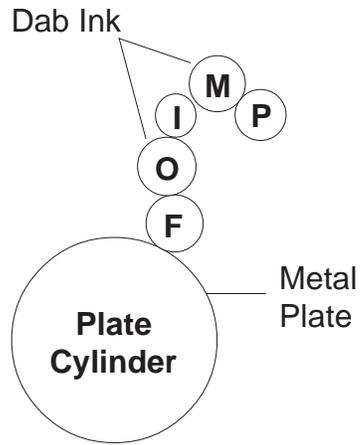
**25**

Reinstall dampener metering roller and turn knurled knobs (upper subject arrows) until you can feel pressure being applied against the metering roller. Close the drip tray (lower subject arrow) underneath the dampener. It clips to the lift shaft.

**You are now ready to make final adjustments.**

---

---



# FINAL ADJUSTMENTS

1

## **Ink up dampener**

Mount a metal plate to plate cylinder and dab ink on dampener metering roller and oscillating rollers. Place single lever in "RUN" position and allow press to idle 20-30 seconds or until ink is smoothly distributed. Return single-lever to "OFF" position and proceed to set pressures in the sequence below.

---

2

## **Water oscillator to water form pressure**

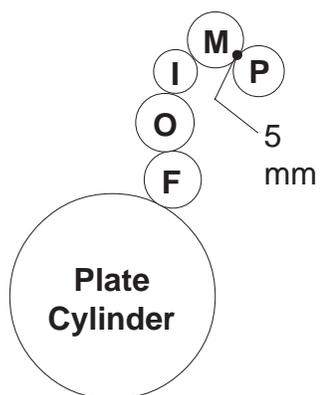
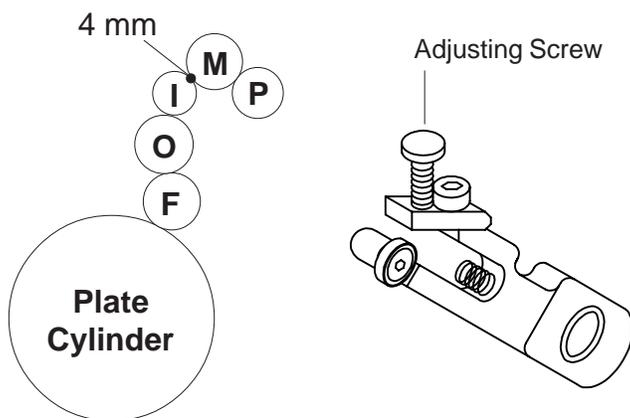
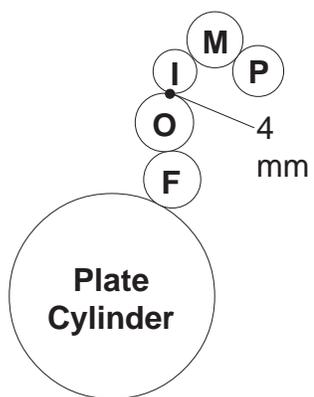
Drop drip tray down and engage hand crank at NOPS. Rotate the press forward slightly to see the stripe between the oscillator and water form, which needs to be  $5/32$ " (4mm). The stripe is adjusted by a slotted set screw in the water form roller housing. Turning this screw in decreases the stripe and vice-versa.

---

3

## **Water form to plate pressure**

With dampener safety cover open, place the single lever in the "DAMPEN" position, and then immediately back to "OFF". Rotate the press forward and observe the stripe left on the pate. It should be  $5/32$ " (4mm). It is adjusted exactly as the original water form roller with the upper set of black knobs attached to the press frames. Turning knobs clockwise decreases the stripe and vice-versa. If you experience a substantial amount of bounce when the press is running in the "Water On" position, then you may readjust the pressure so that there is only a slight bounce.



# FINAL ADJUSTMENTS

4

## Intermediate to oscillator pressure

With dampener guard open, place single-lever in the "DAMPEN" position and then immediately back to "OFF". Rotate the press slowly forward and observe the stripe on the intermediate roller. It should be 5/32" (4mm). It is adjusted by eccentrics on the bottom front of the Crestline® Altra Series™. If viewed from the outside of the press, rotating the OPS eccentric clockwise increases the stripe and vice-versa. On the NOPS, rotating the eccentric counterclockwise increases the stripe and vice-versa. When the proper stripe is obtained, secure the eccentrics with the lock bolts.

---

5

## Metering to intermediate pressure

Turn on the press and place the single lever in the "DAMPEN" position. Run in the ink until it is smooth. Stop the press and engage hand crank. Return single lever to the "DAMPEN" position. Next, rotate the press in reverse until you see the stripe on the metering roller. The proper pressure should be 4.0 mm. Adjustments are made by turning the adjustment screw in the hanger cap clockwise to increase the pressure and vice versa.

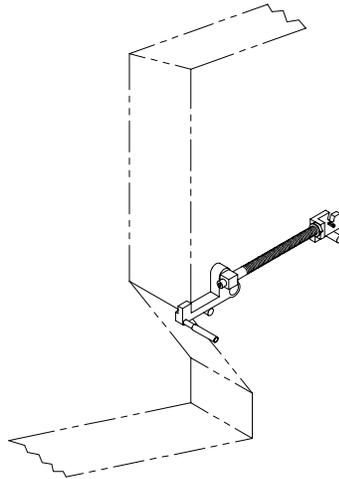
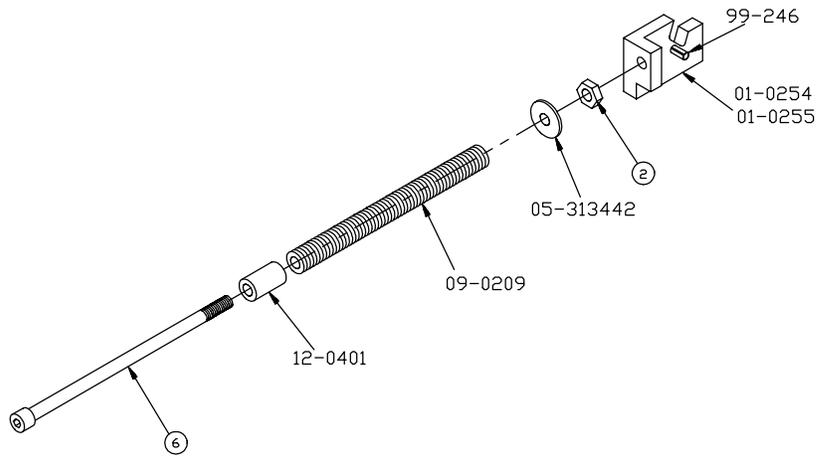
**NOTE: In order to observe the stripe between these 2 rollers, it is essential that the single lever be placed in the "DAMPEN" position. If you rotate the press in reverse in the "OFF" position, the Crestline® Altra Series™ will not rotate in reverse.**

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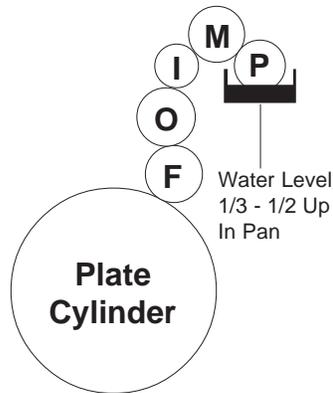
6

## Metering to pan pressure

Rotate the press forward by hand and observe the stripe. It should be 3/16" (5mm). It is adjusted by large black knurled knobs attached to the top of the dampener. Turning the knobs clockwise increases the stripe and vice-versa. After the proper stripe has been obtained, spin the ratchet gear (they are not yet locked to the knurled knobs) until they bottom out. You may have to hold on to the knurled knob with one hand to keep it from moving while spinning down the ratchet gear. At this point, secure the ratchet gears to knurled knobs by tightening the two set screws in each ratchet gear.



HES2-18, 9-96



# FINAL ADJUSTMENTS

7

## Auxiliary oscillator

On original Heidelberg molleton dampener auxiliary oscillator bracket assembly, loosen nut (2) and unscrew long bolt (6) from bracket. Remove nut from end of bolt.

In place of the original spring, slip on the new spacer (12-0401), spring (09-0209) and washer (05-313442). Replace nut on end of bolt.

On end of the bolt, attach the new bracket (01-0254 or 55). Thread bolt through the bracket until one or two threads protrude through the back-side. **Do not tighten lock nut at this time.** (Note: the bracket with the roll pin goes to the OPS.)

8

Place new oscillator into the new bracket assembly. It may be easier to do this if the press lever is temporarily placed in the "Water On" position. The oscillator has a roll pin in one end and a set collar on the other. The roll pin goes to the OPS.

With the roller in place, push it slightly toward OPS. Push set collar up against NOPS bracket and tighten collar. Check to make sure the roller activates without binding by pushing the lever forward (toward the delivery end of the press) to engage and then back to disengage.

With the press lever in the off position and the oscillator lever disengaged, check to see that there is a small gap between the auxiliary oscillator and the water form roller. If necessary, adjust the long bolt and tighten lock nut (2). Once again, check the operation of the roller.

9

## Water level in pan

Attach water pan to dampener and place filled fountain bottle into the bottle tray. Open the bottle valve and check the water level in the pan when it stops filling. The water level should be between 1/3 and 1/2 way up in the pan. Adjust the level by running the bottle tray up or down the slide in the bracket. If a water ring appears on both ends of the pan roller as the press is running, the water level is sufficiently high.

**You are now ready to print.**

## BASIC OPERATION

### START OF DAY

- A. Make sure all rollers are in place.
- B. Spin knurled knobs until the shoulder on the ratchet stops.
- 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.
- D. Place bottles in brackets, or if applicable, adjust circulator flow to water pans.

**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. Accel offers two fountain concentrates called **FC 1000** (for metal plates) and **MP 1000** (for multi-purpose use) that we recommend. Contact your Accel dealer for more information.

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### 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" (4mm) to the plate.
- B. Adjustments to the amount of water fed to the plate is made by altering the pan roller pressure. Less pressure equals more water.
- 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 water bottles, or if applicable, shut the circulator off. 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. In general, the dampener will pick up enough roller wash off the plate to clean itself.
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.

## 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.

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### OILING AND GREASING THE DAMPENER

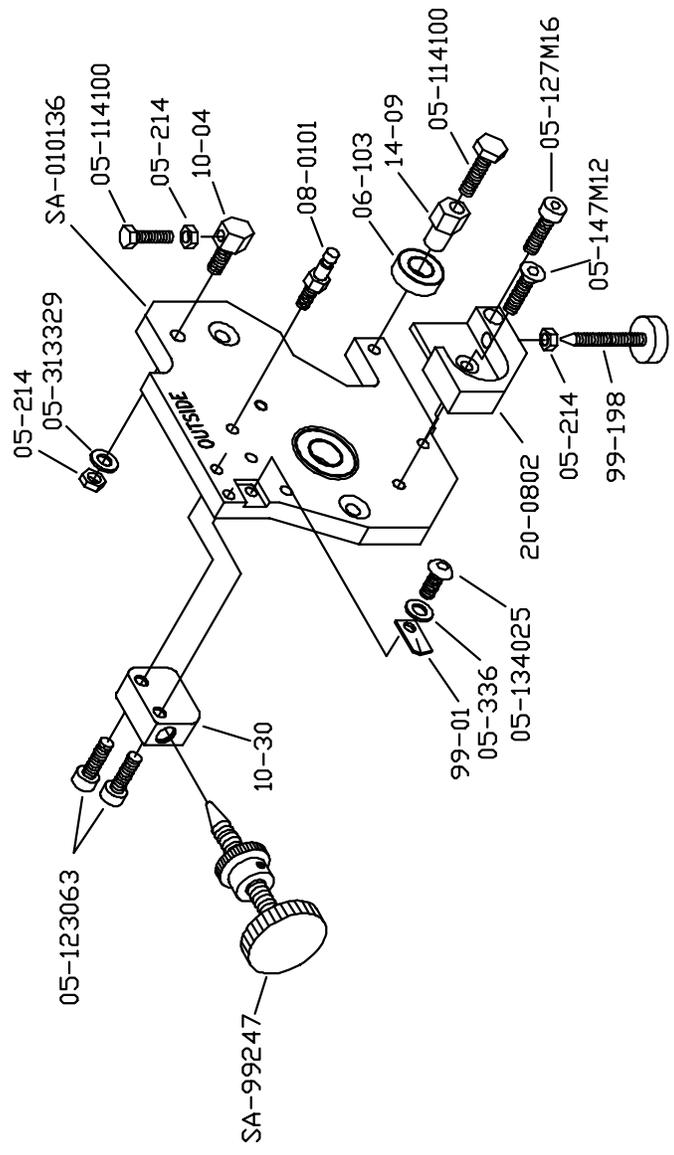
- A. Place a small amount of grease on the gears once a month.
- B. Inject grease into the oscillator grease fitting once a month.

# CLEANING & MAINTENANCE

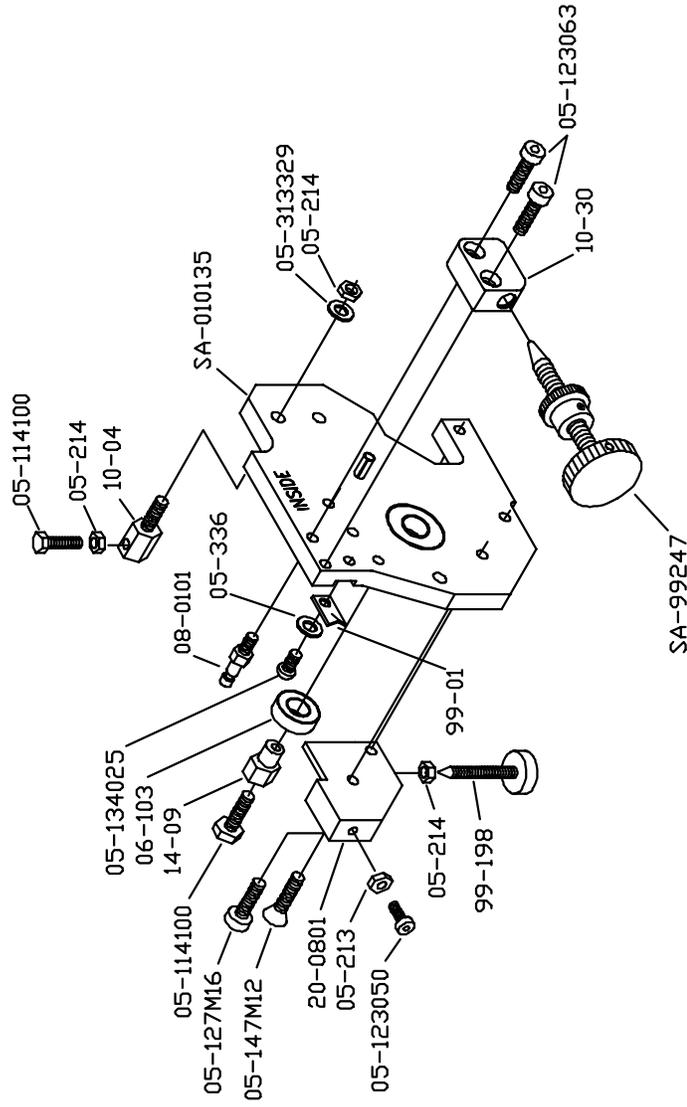
## CRESTLINE® ALTRA SERIES™ CLEANING & MAINTENANCE CHART

	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-NOPS  
HEIDELBERG GTD 52 ALTRA

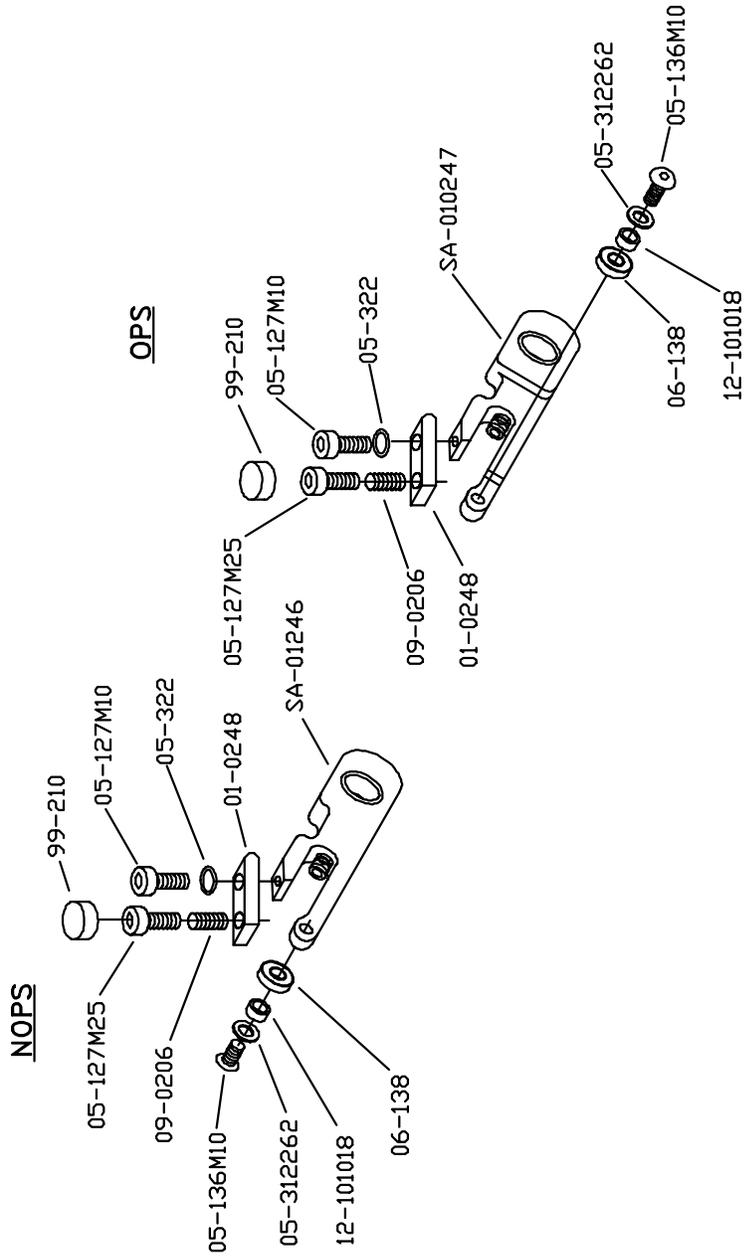


SIDE FRAME ASSEMBLY-OPS  
HEIDELBERG GTO 52 ALTRA



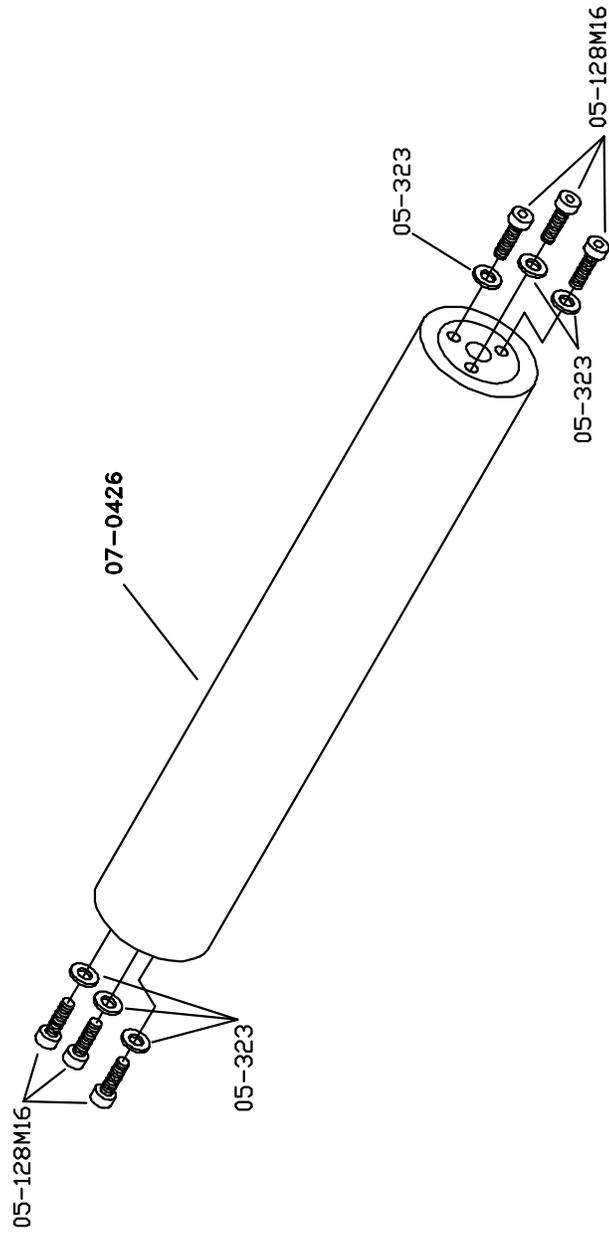
GTO52C02, 3-25-97

HANGER ASSEMBLY  
HEIDELBERG GTO 52 ARLTRA



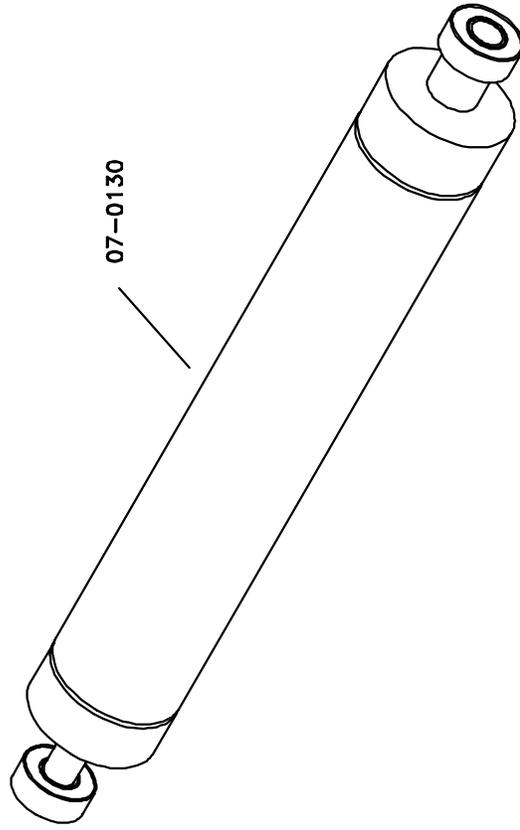
GT052C03,3-25-97

OSCILLATOR ROLLER ASSEMBLY  
HEIDELBERG GTO 52 ALTRA



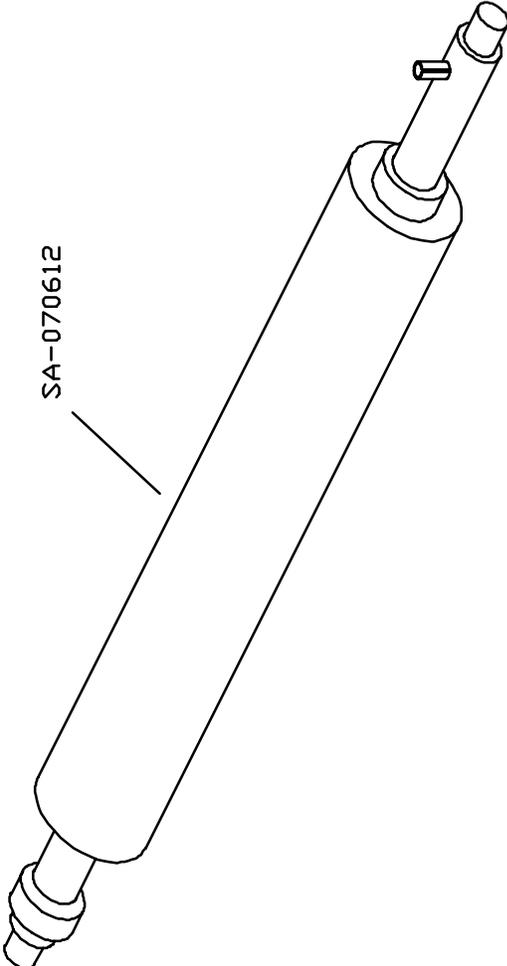
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FORM ROLLER  
HEIDELBERG GTO 52 ALTRA



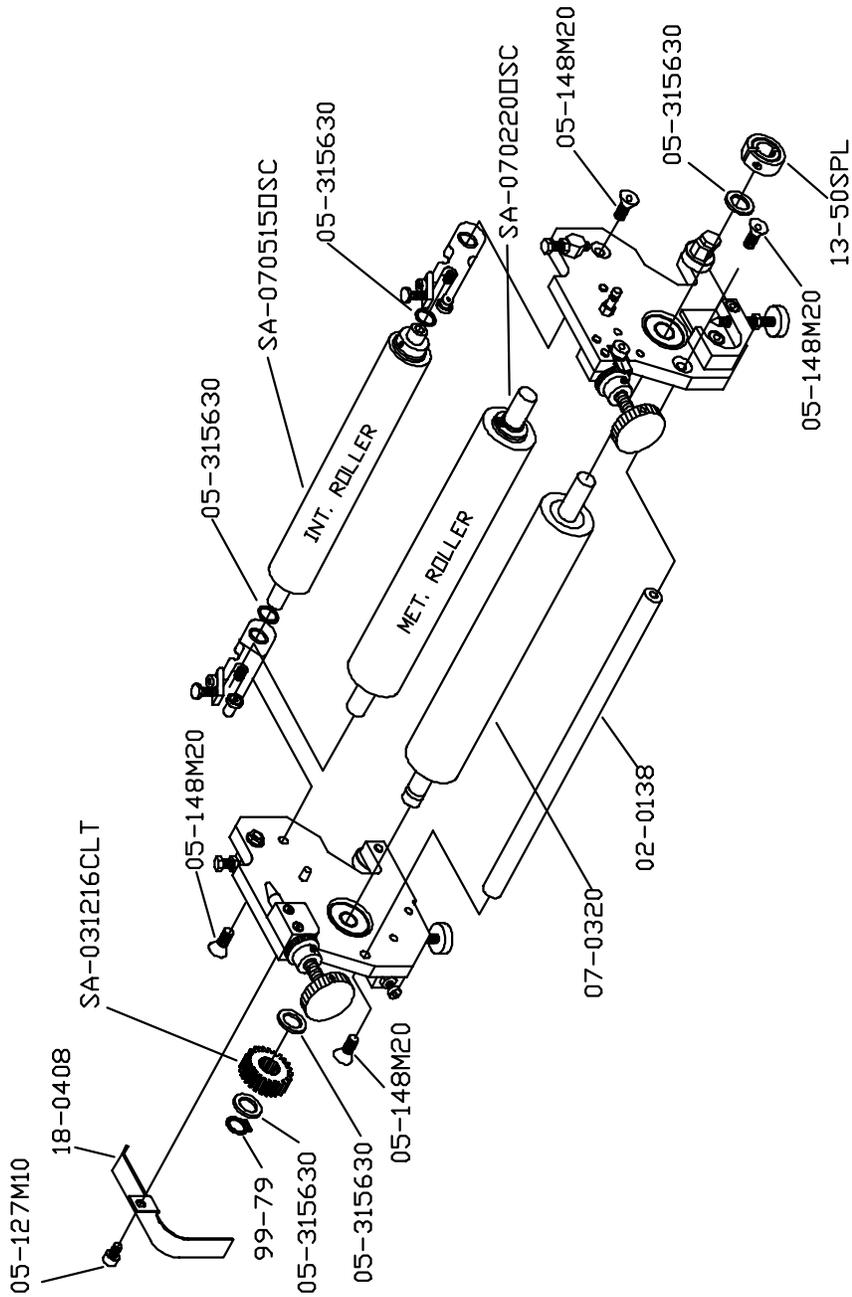
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RIDER ROLLER ASSEMBLY  
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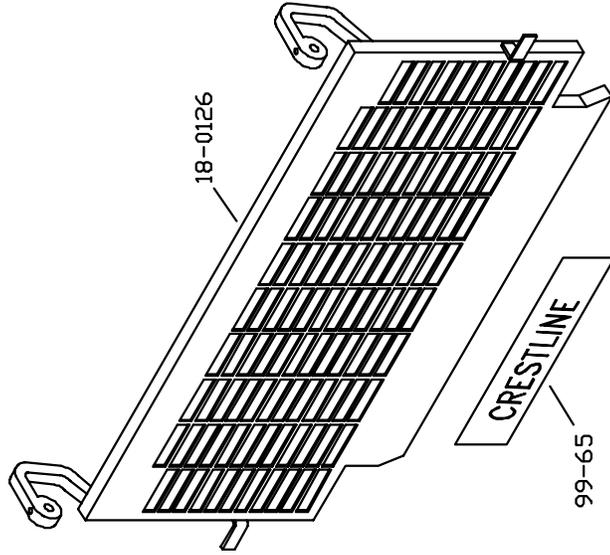


GT052C06, 10-7-97

DAMPENER ASSEMBLY  
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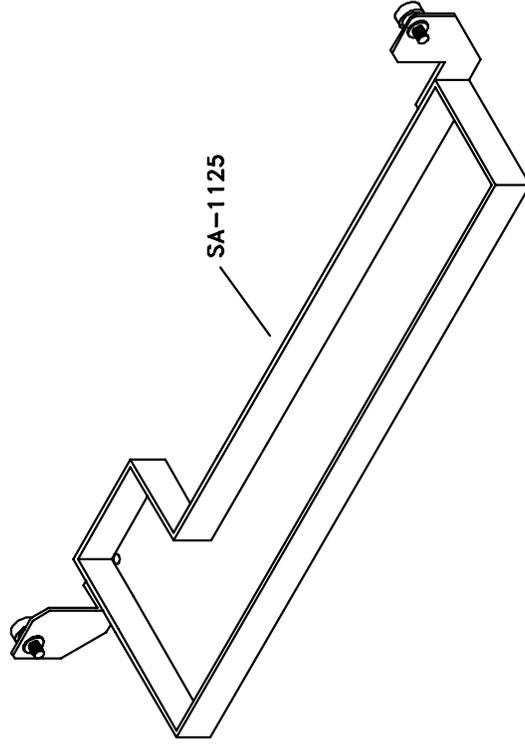


DAMPENER GUARD  
HEIDELBERG GTO 52 ALTRA

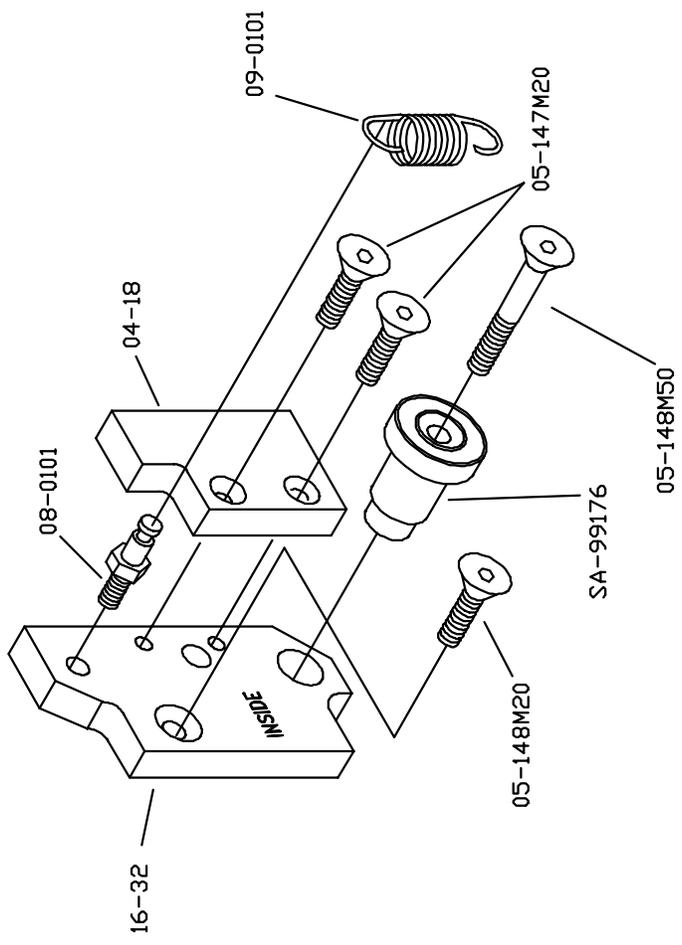


GT052C08, 3-25-97

WATER PAN ASSEMBLY  
HEIDELBERG GTO 52 ALTRA

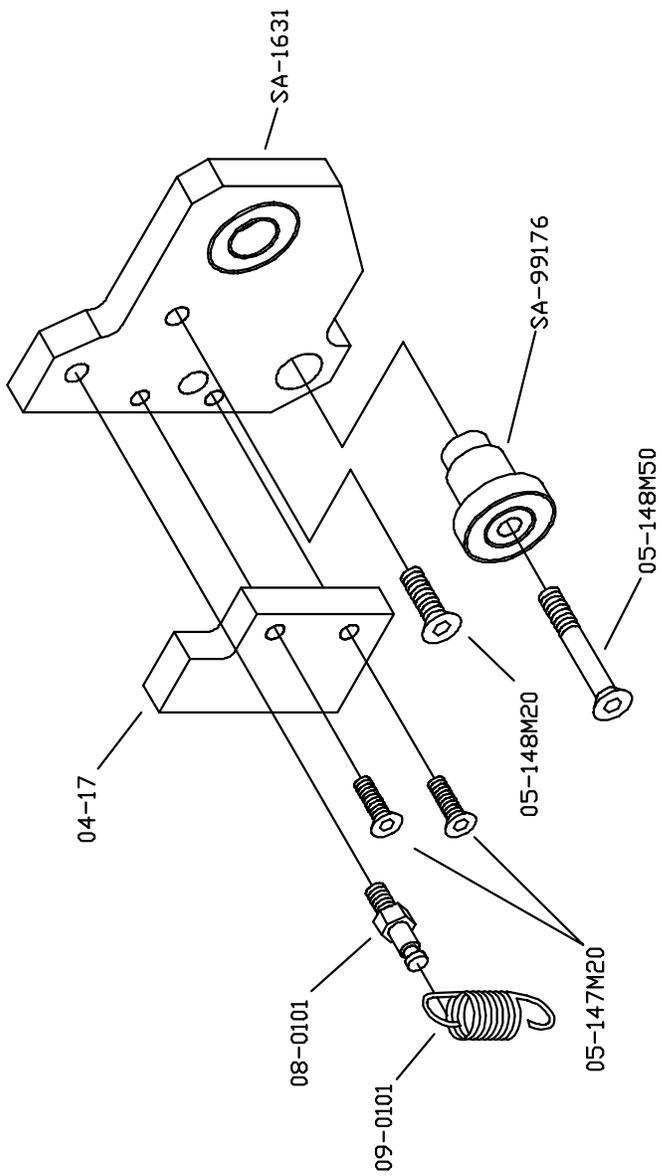


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HEIDELBERG GTO 52 ALTRA

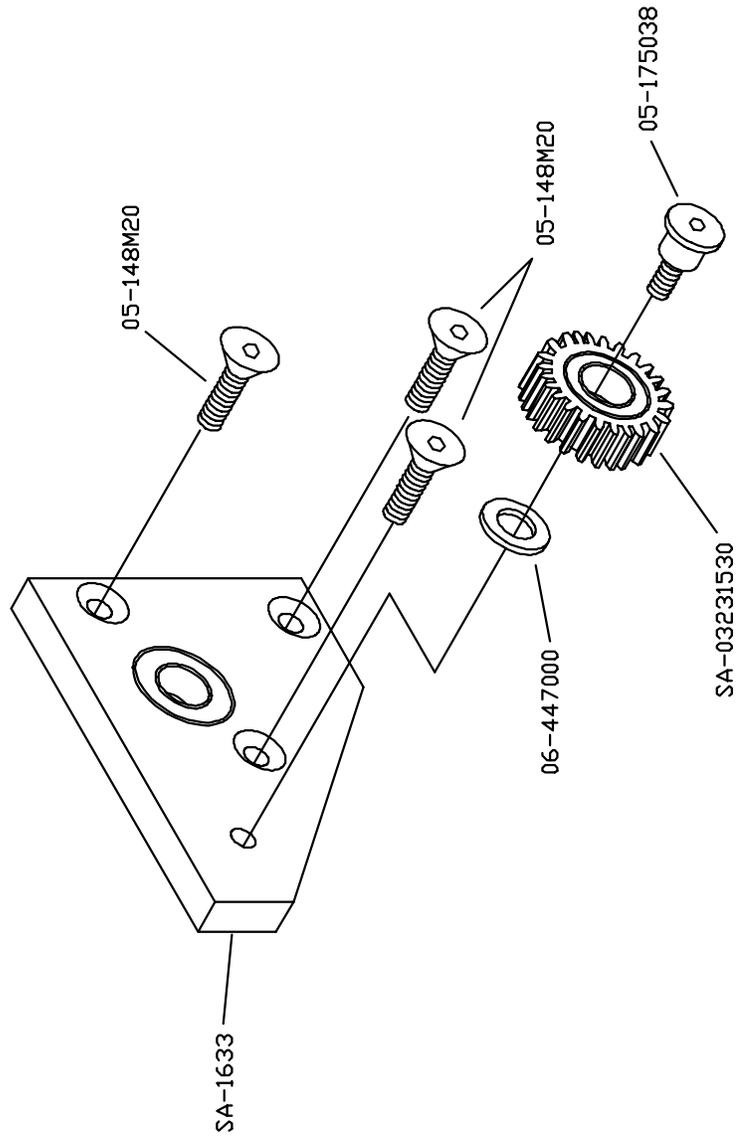


GTO52C10, 3-26-97

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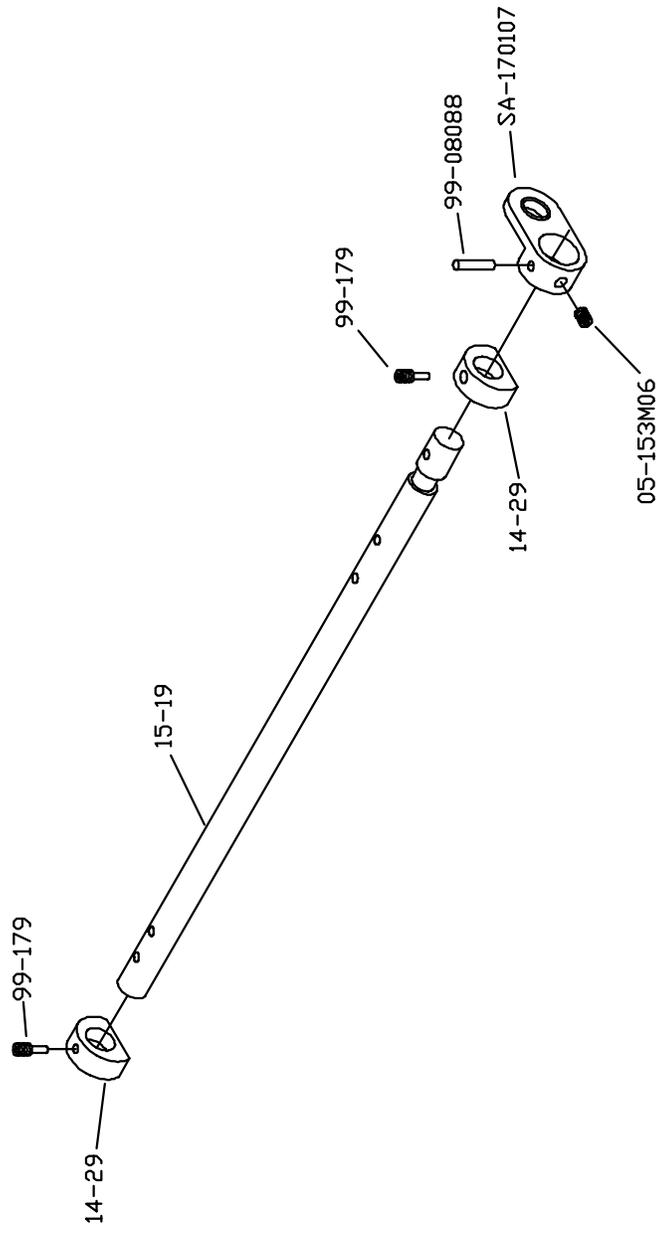


GEAR MOUNTING FRAME ASSEMBLY  
HEIDELBERG GTO 52 ALTRA



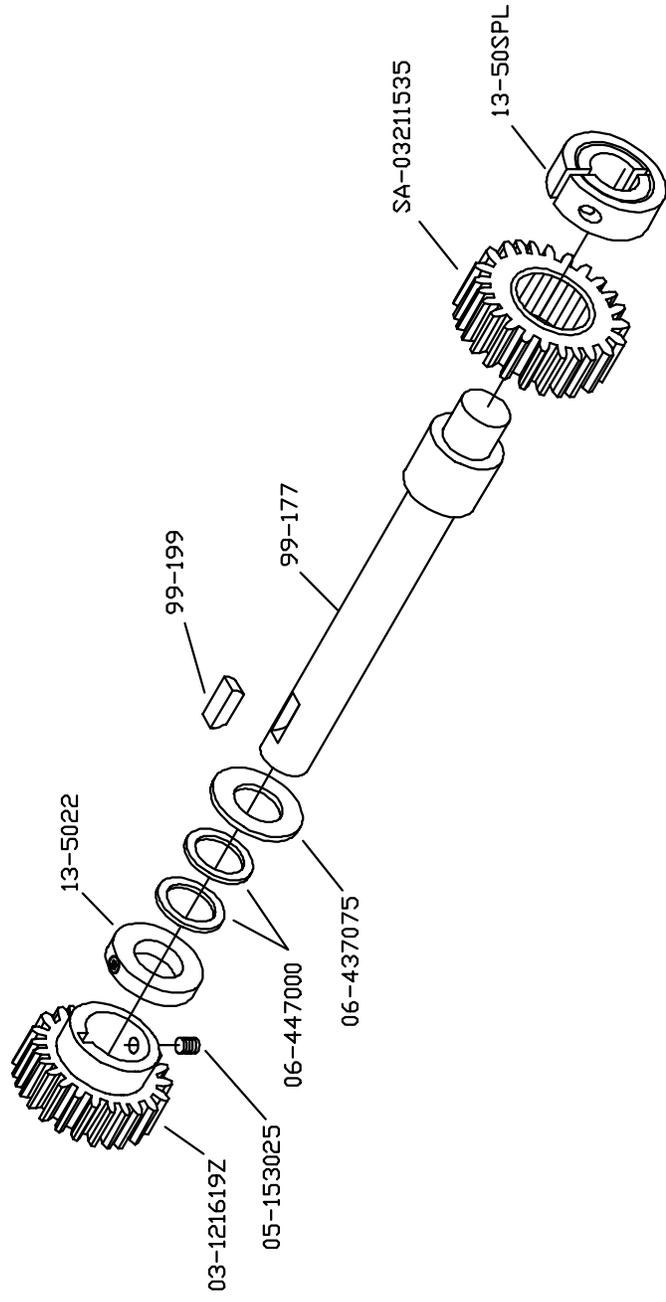
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LIFT SHAFT ASSEMBLY  
HEIDELBERG GTD 52 ALTRA



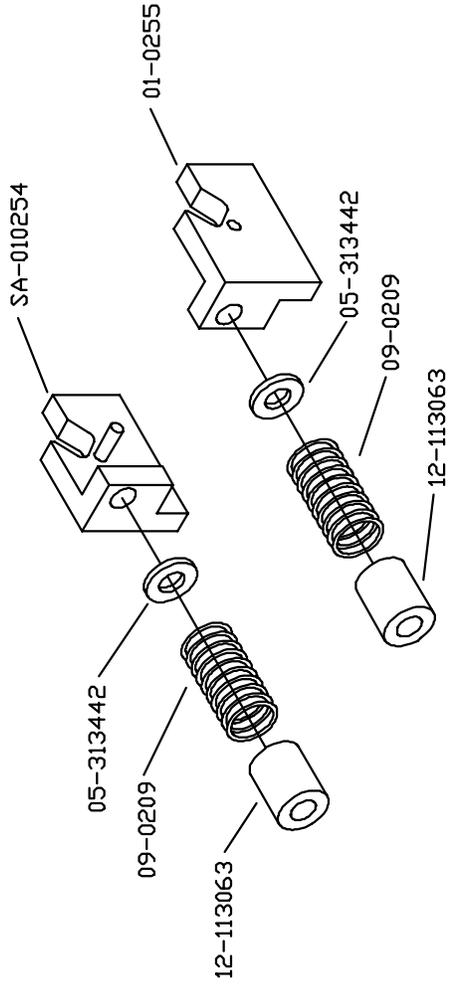
GTD52C13, 3-26-97

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HEIDELBERG GTO 52 ALTRA

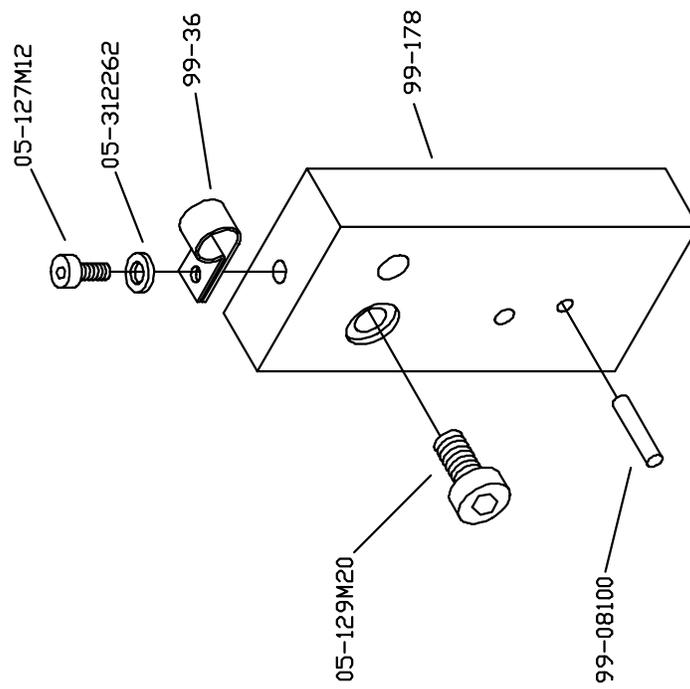


GTO52C14, 3-26-97

AUX. OSCILLATOR ROLLER MOUNTING ASSEMBLY  
HEIDELBERG GTO 52 ALTRA

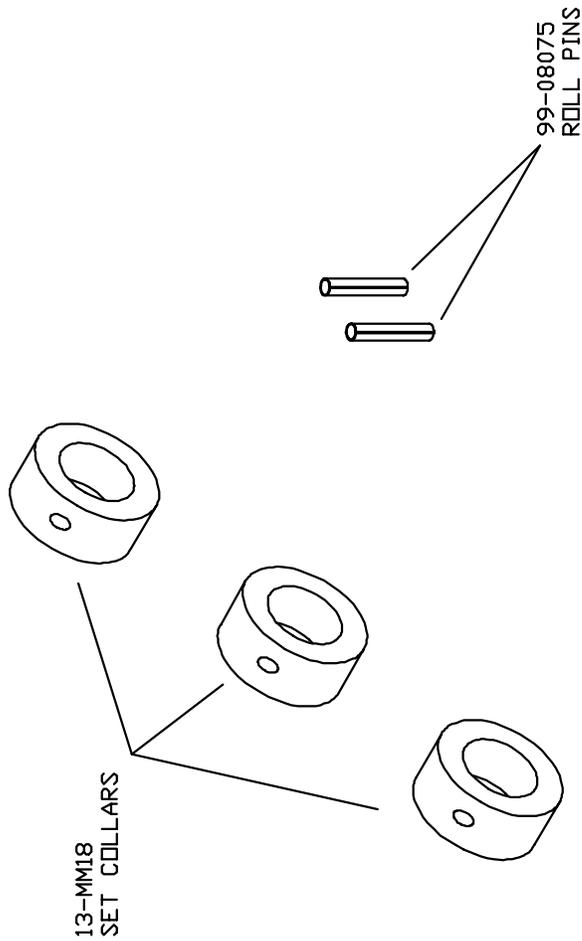


WATER BOTTLE ADAPTER ASSEMBLY  
HEIDELBERG GTO 52 ALTRA

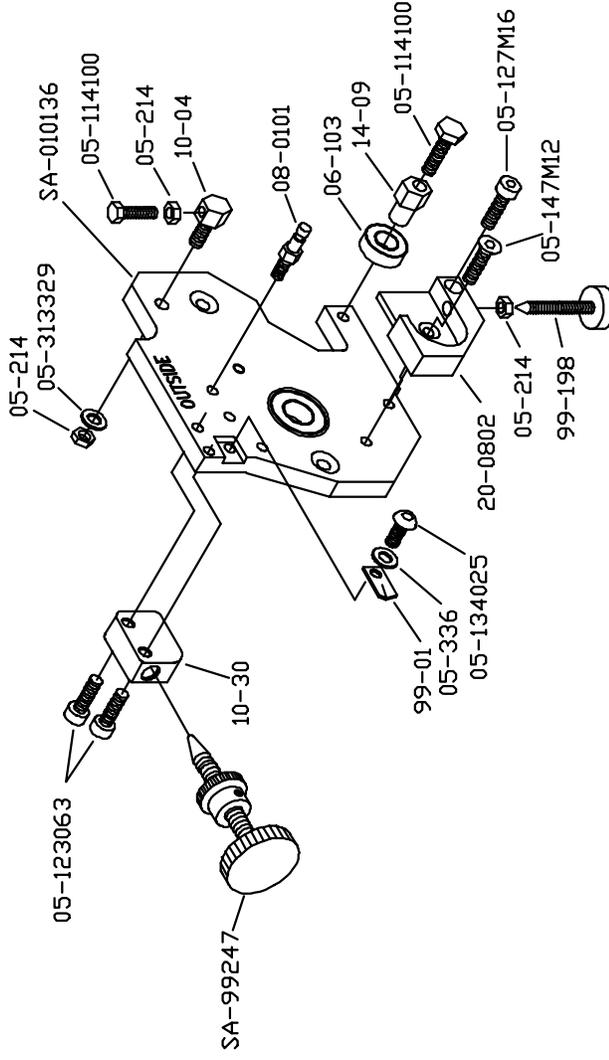


GT052C16, 3-26-97

MISCELLANEOUS PARTS  
HEIDELBERG GTO 52 ALTRA

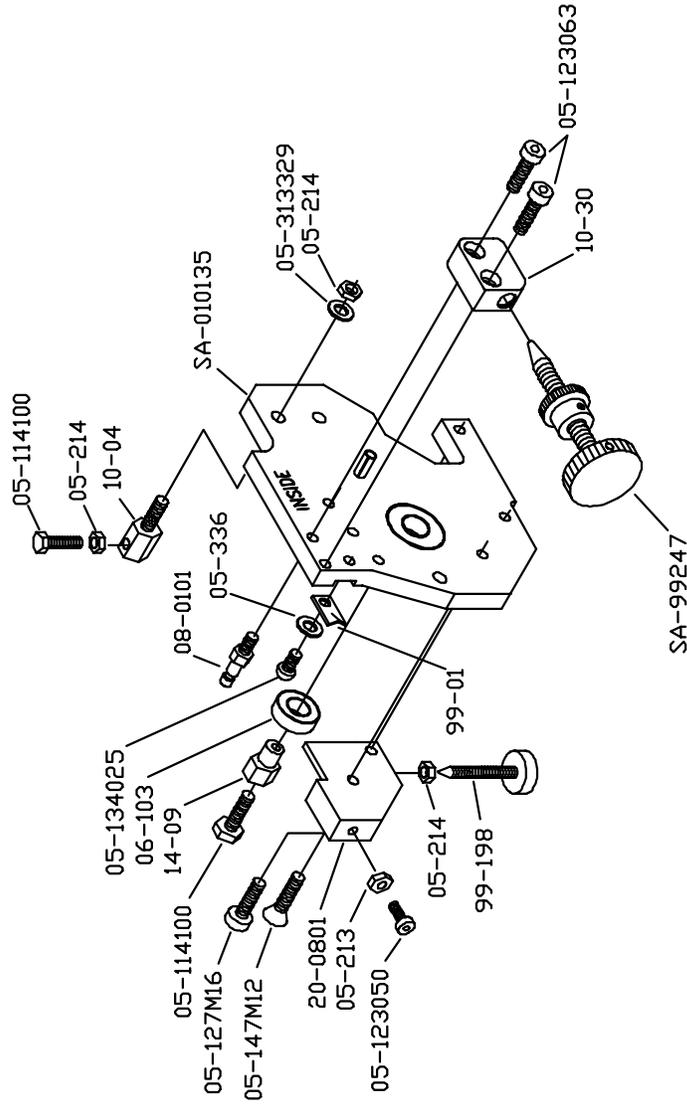


SIDE FRAME ASSEMBLY-NOPPS  
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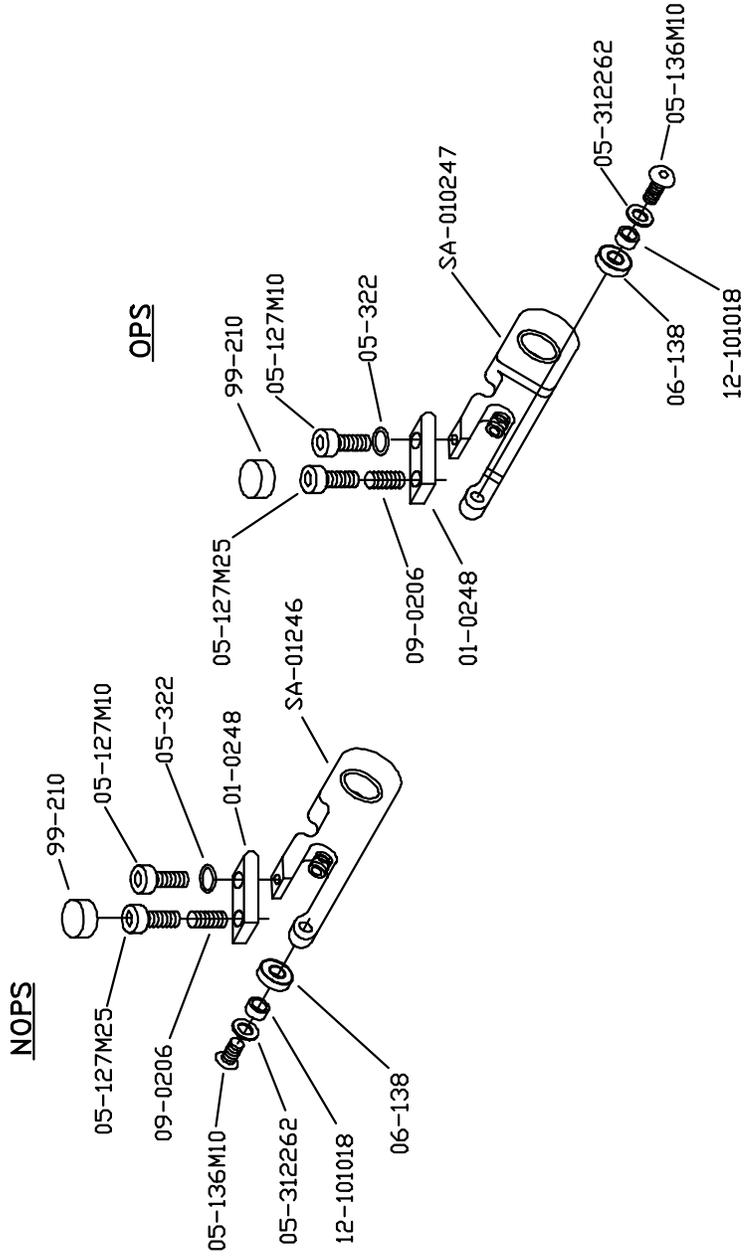


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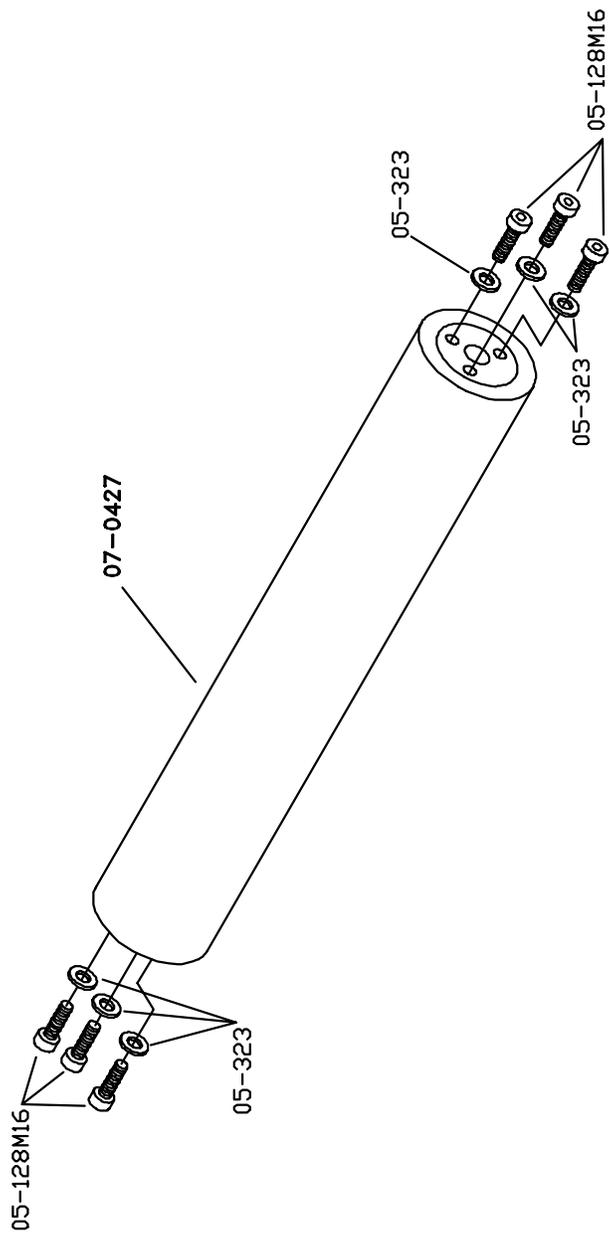


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HEIDELBERG GTO 46 ARLTRA

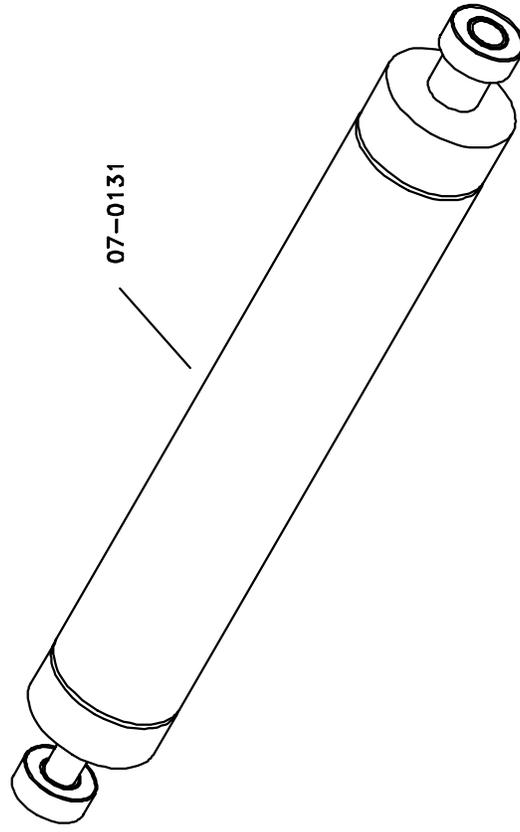


GTO46C03,3-25-97

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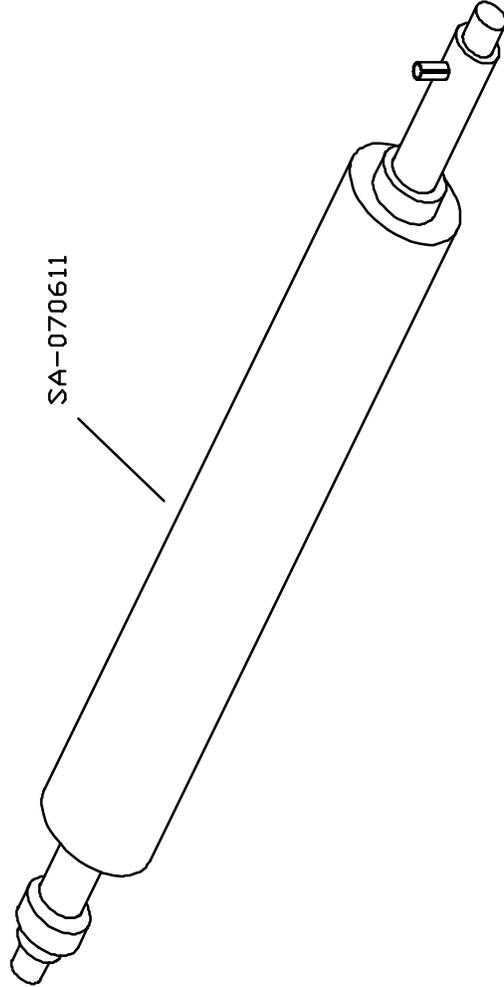


FORM ROLLER  
HEIDELBERG GTO 46 ALTRA

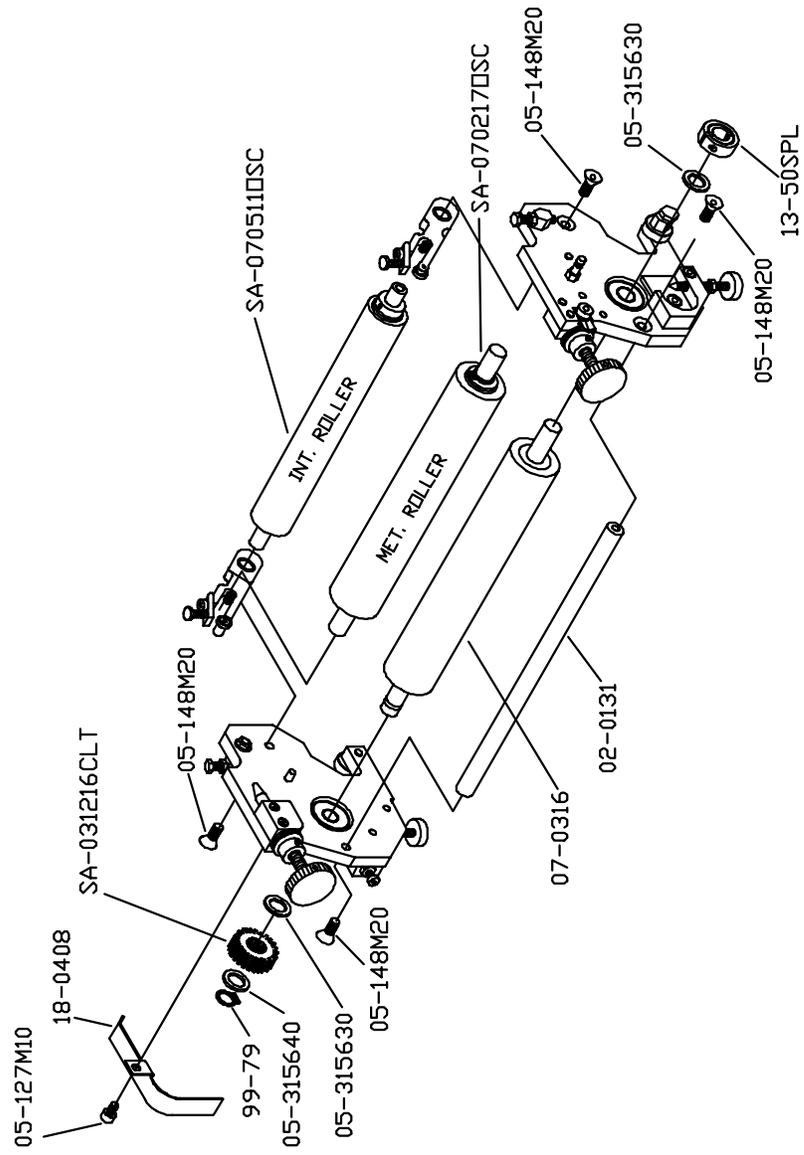


GTO46C05, 3-25-97

RIDER ROLLER ASSEMBLY  
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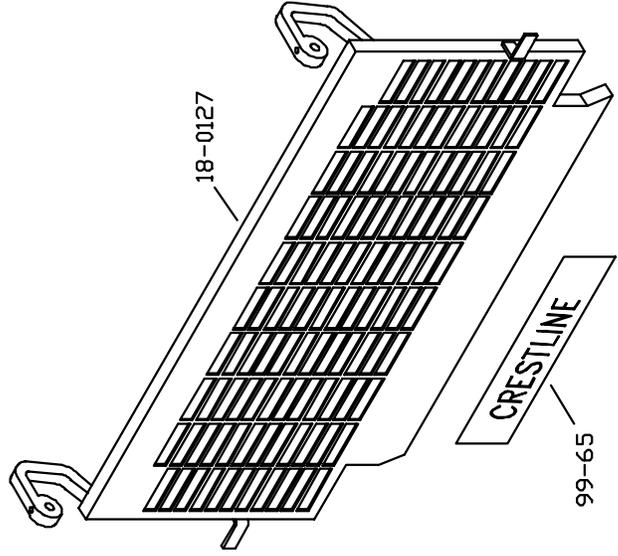


DAMPENER ASSEMBLY  
HEIDELBERG GTD 46 ALTRA

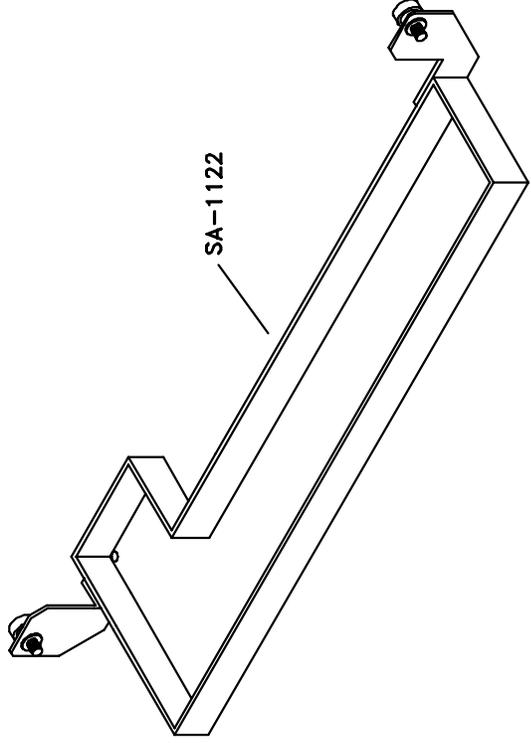


GTD46C07, 3-25-97

DAMPENER GUARD  
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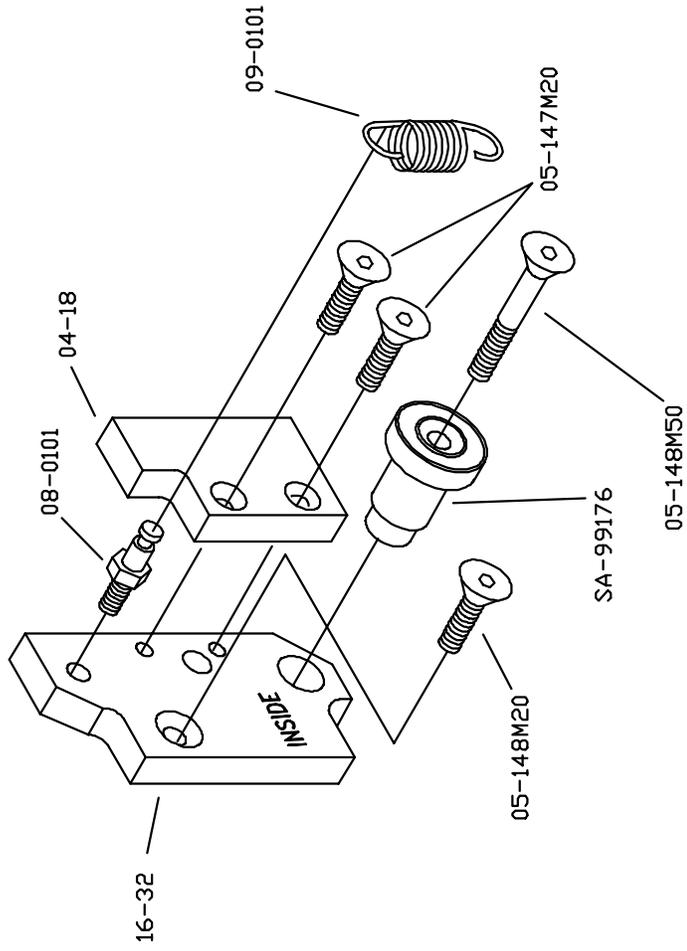


WATER PAN ASSEMBLY  
HEIDELBERG GTO 46 ALTRA

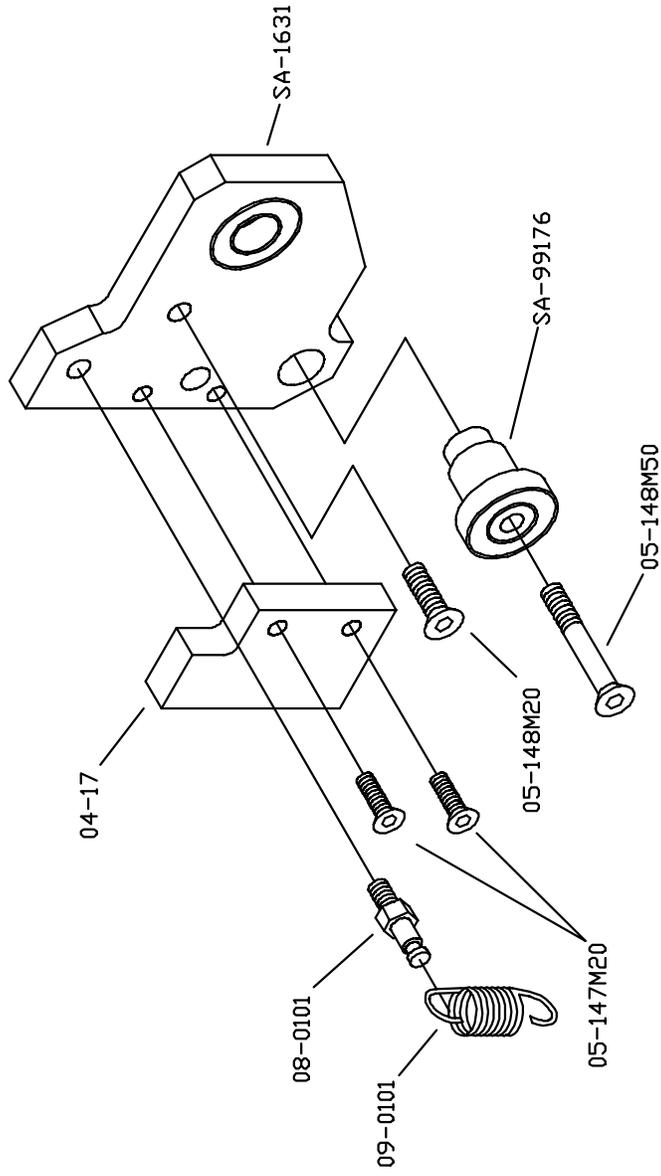


GTO46C09, 3-25-97

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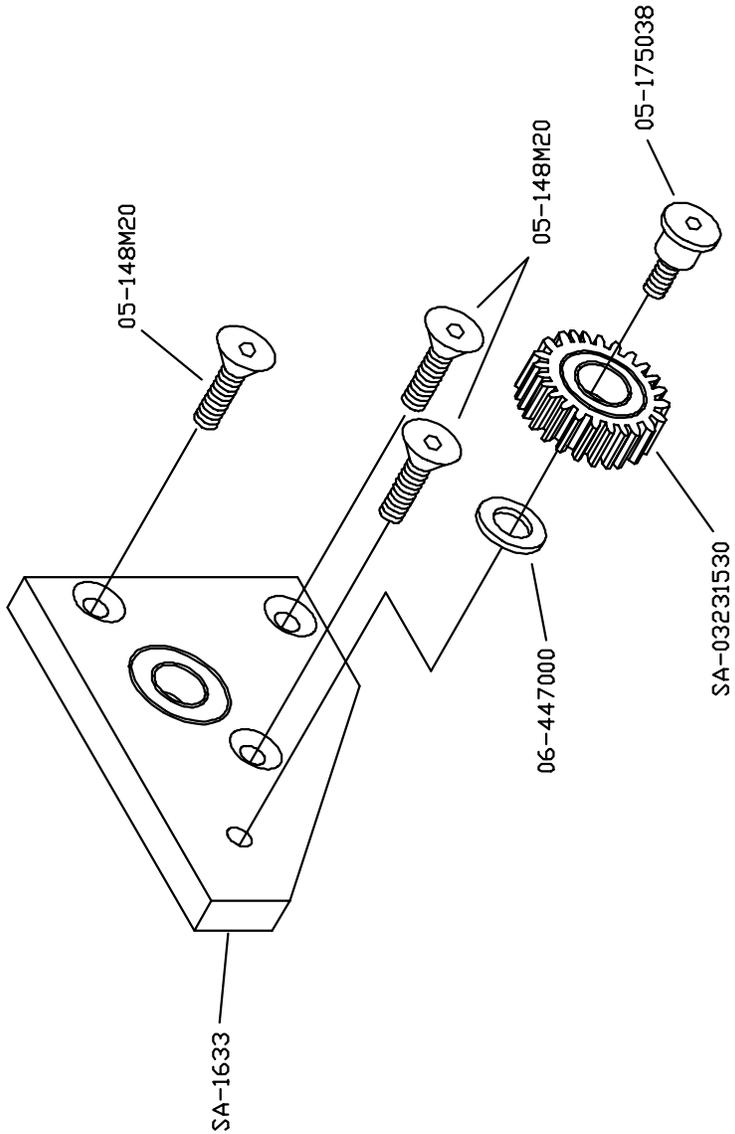


MOUNTING FRAME ASSEMBLY-NOPS  
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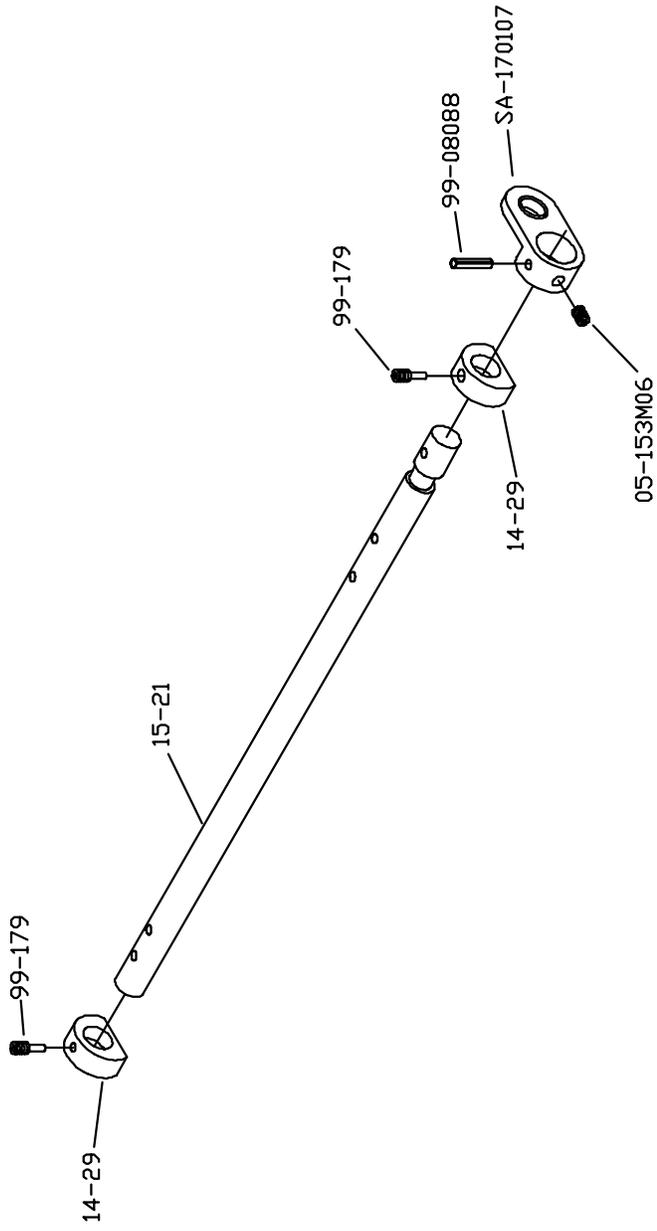


GTD46C11, 3-26-97

GEAR MOUNTING FRAME ASSEMBLY  
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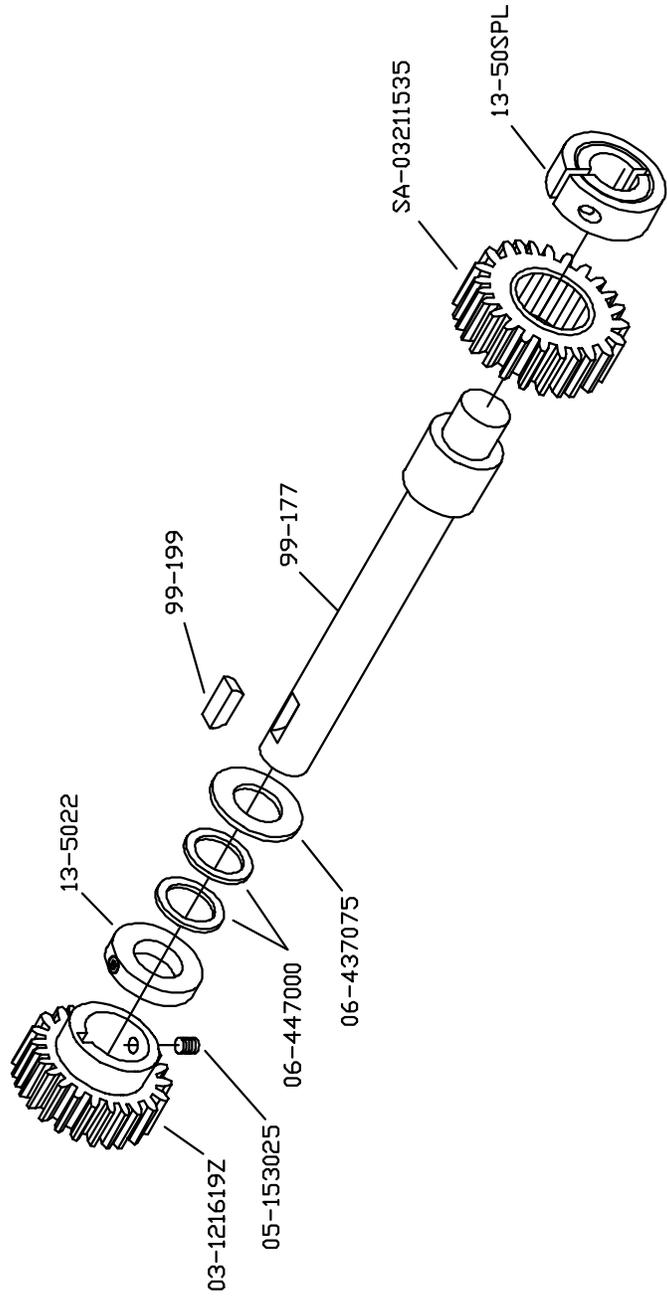


LIFT SHAFT ASSEMBLY  
HEIDELBERG GTD 46 ALTRA



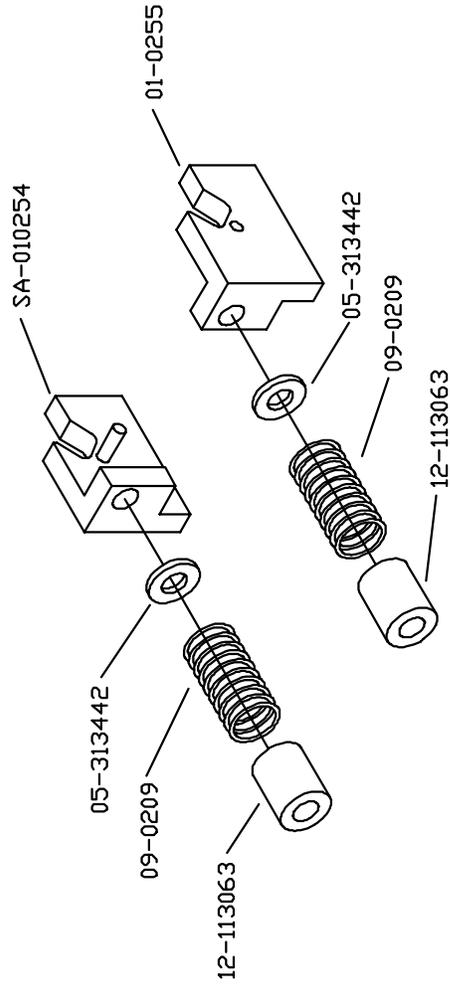
GTD46C13, 3-26-97

DRIVE SHAFT ASSEMBLY  
HEIDELBERG GTO 46 ALTRA



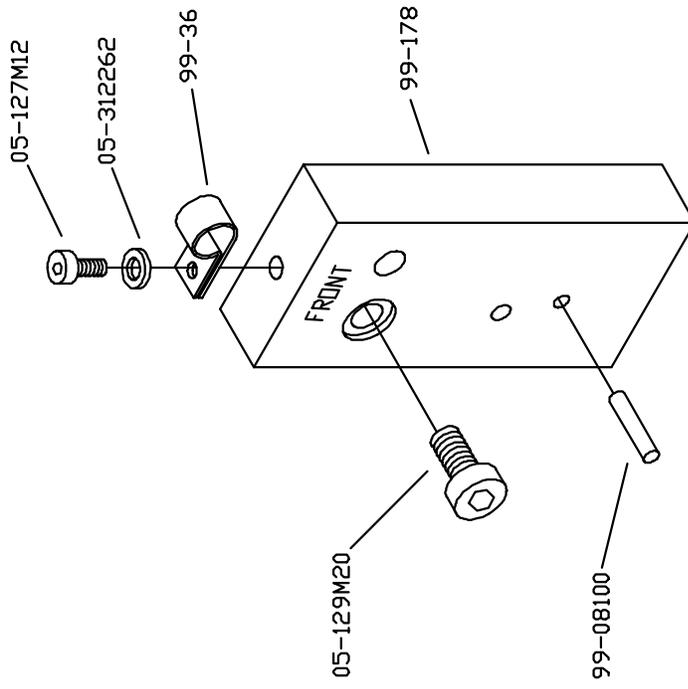
GTO46C14, 3-26-97

AUX. OSCILLATOR ROLLER MOUNTING ASSEMBLY  
HEIDELBERG GTO 46 ALTRA

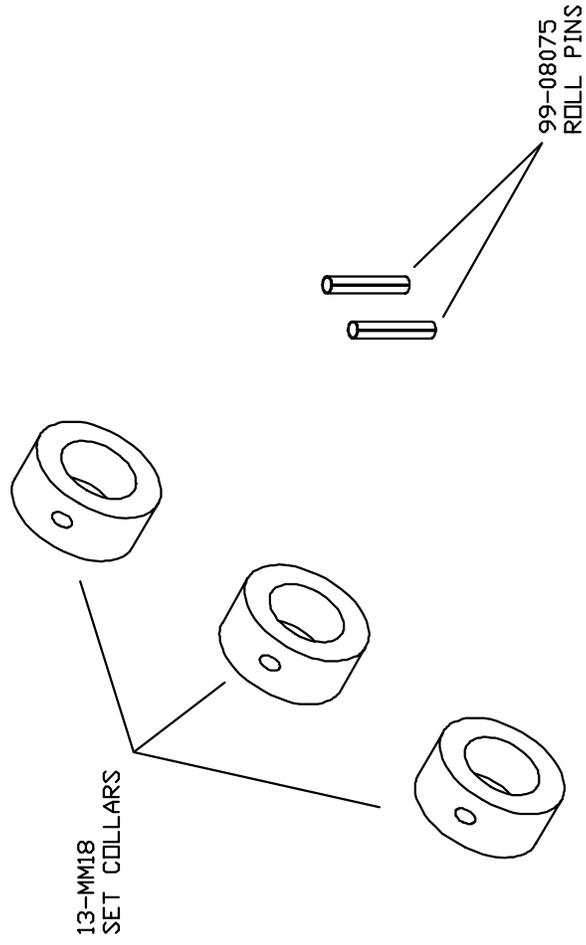


GTO46C15, 3-26-97

WATER BOTTLE ADAPTER ASSEMBLY  
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MISCELLANEOUS PARTS  
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GTO46C17, 3-26-97





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