Technical Bulletin

Please Distribute to all Sales and Service Personnel

Mettler-Toledo, Inc.
Scales & Systems

Number: MTFW-12-00
Date: 05-11-00
Model: 317
Subject: Applicator Information

There have been a number of issues with the 317 Printer applicators. These include:

- Crooked label positioning
- Frequent rehoming of the applicator.
- Applicator stopping part way up on the return stroke.
- Slow operation of the applicator on the return stroke.
- Applicator pinion wires coming apart where the inserts are pressed in.
- Binding of the applicator during turn or application of the label.
- Applicator getting caught on and tearing film on certain packages.

Many of these conditions have shown up as intermittent recurring problems.

The sources of these problems have been pinpointed to two areas:

- Software problems in the applicator and labelers.
- Fit and tolerance of pinion wire and applicator base in the applicator assembly.

Software Improvements:

G revision 317 Applicator Software:

- The step timing and ramping of the applicator motor during the return stroke was changed to improve the drive of the applicator motor and to eliminate stopping partway up when returning to the home position.

317 Printers built after 4/30/00 and beginning with SN 3090442-3EB are shipped with this software.

F revision 317 Applicator Software:

- A correction was made for a condition found in the E-revision software where if the applicator rehomed during a run it could begin overturning the label. The printer would have to be powered down and back up to correct this condition.

- When the D revision 706 software was released, which adds the faster speed operation, additional commands were added to the communications to the label applicator. These commands allow the applicator to pick, hold and position the label for apply prior to the package being positioned under the applicator. This change speeds up the label application process if the 706 Autolabeler is used with the 623 Belt Sealer in the semi-automatic configuration. If using D revision software in the 706 Autolabeler, the 317 applicator must have F revision or newer software.

317 printers built between 1/13/00 and 4/30/00 and beginning with SN 3088954-3AB are shipped with F-revision applicator software.
Note: Any printers with E revision applicator software should be updated with the current G revision software during your next visit.

Also note that service KOP's shipped prior to 1/13/00 included the E revision software.

H & J revision 705 Labeler Software

- The delay time for the price label to be applied was increased to allow the applicator to retract from the package before the conveyor belts would start to discharge the package. This prevents the applicator from getting hung up on shallow trays and prevents the film from being torn by the applicator. (Note: This change was introduced in the H Rev software.)
- The J revision software change concerned operation of the 702 Bottom Label Applicator. Reference technical bulletin MTFW 0200 for more details.

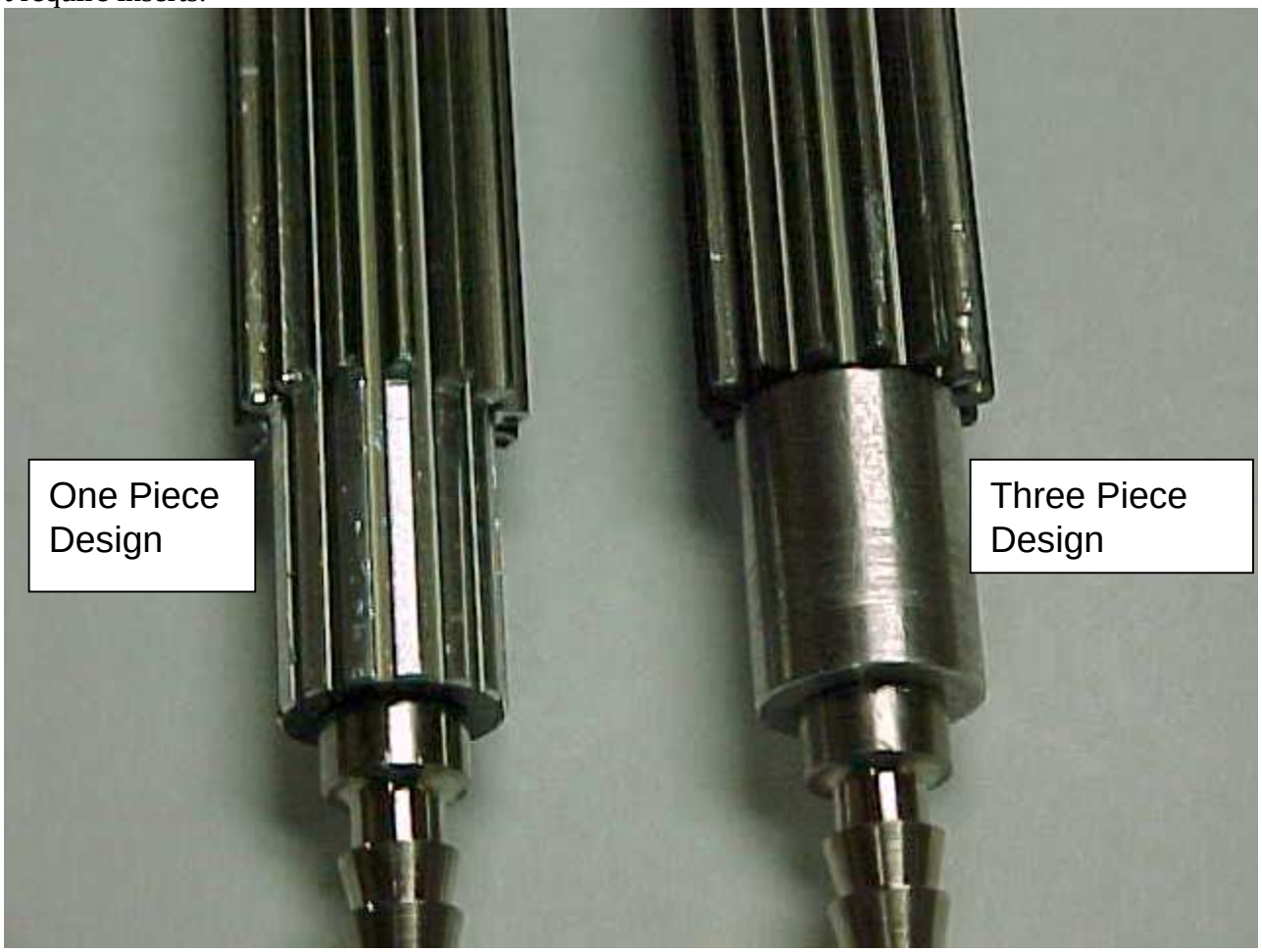
705 Autolabelers built after 1/12/00 and beginning with SN 3088937-3AB are shipped with J revision software. *Note:* The J revision software was included in the 702 upgrade KOP.
705 Autolabelers built between 9/16/99 and 1/12/00 and beginning with SN 3086537-3JA were shipped with H revision software.

Hardware Changes

Applicator Pinion Wires

The applicator pinion wire (P/N 82807700A) was changed on 4/1/98 from a one-piece design to a three-piece design for manufacturing purposes. Two problems that developed from this are that the concentricity of these pinion wire assemblies varied greatly from one part to another which created binding in the applicator assembly on some units and some instances of the pressed inserts falling out.

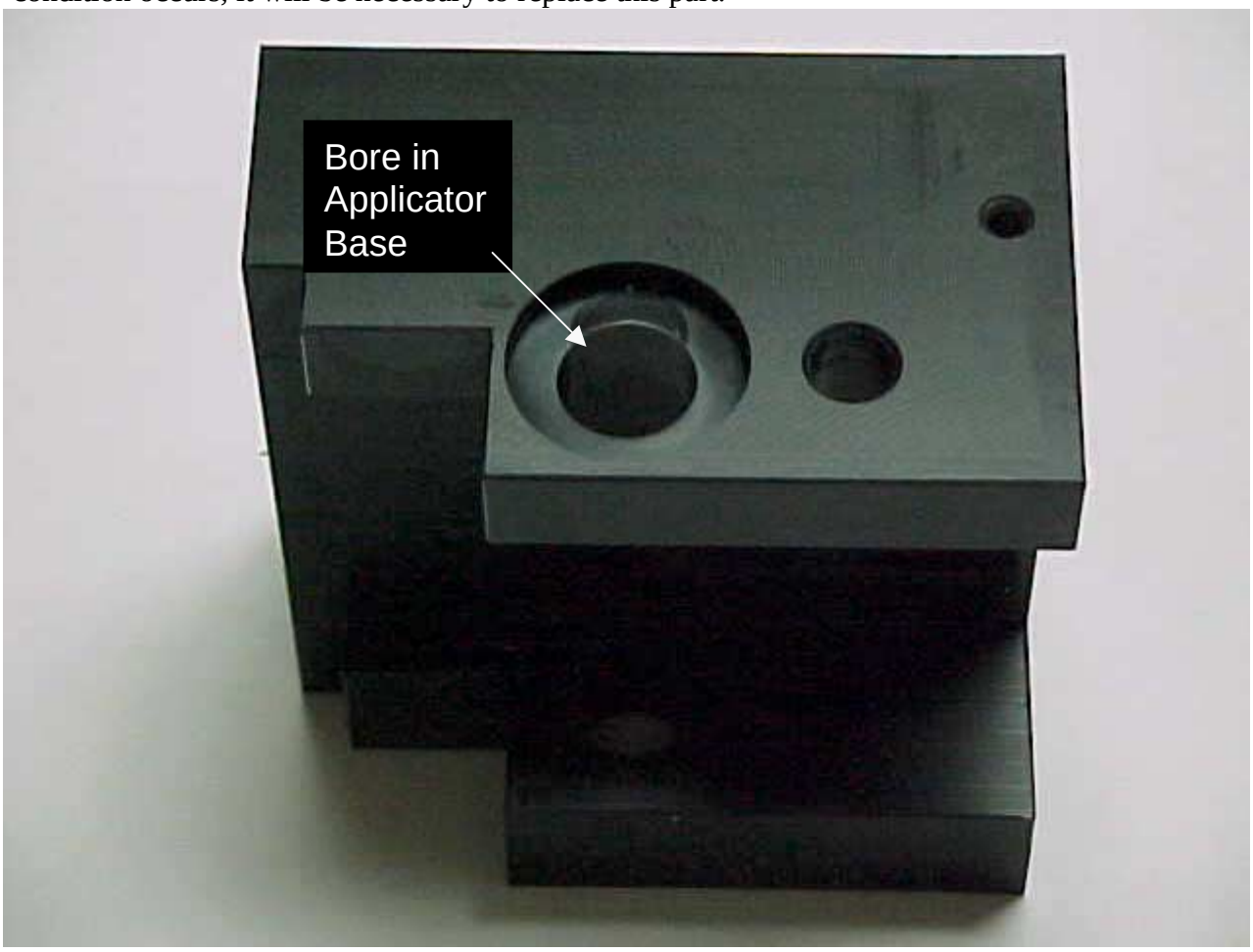
A one piece pinion wire (P/N B82807700A) was put into production on all 317 applicator printers built after 2/23/00 and beginning with S/N 3089545-3BB. The threaded end and bearing surfaces are machined into the part. This pinion wire holds its concentricity and straightness to within .010" and does not require inserts.



Applicator Base

Two issues had been found with the applicator base.

- In very cold environments a tolerance stackup between the applicator base and the pinion wire combined with the material properties of the applicator block can cause a binding condition with the pinion wire. On units built after 1/12/00 beginning with S/N 3088917-3AB the bore of the applicator base was opened to allow for the shrinkage.
- Over time, we have found that the pinion wire will wear grooves in the bore of the applicator base, which may create a catch when trying to turn the pinion wire. This is a bearing surface. If this condition occurs, it will be necessary to replace this part.

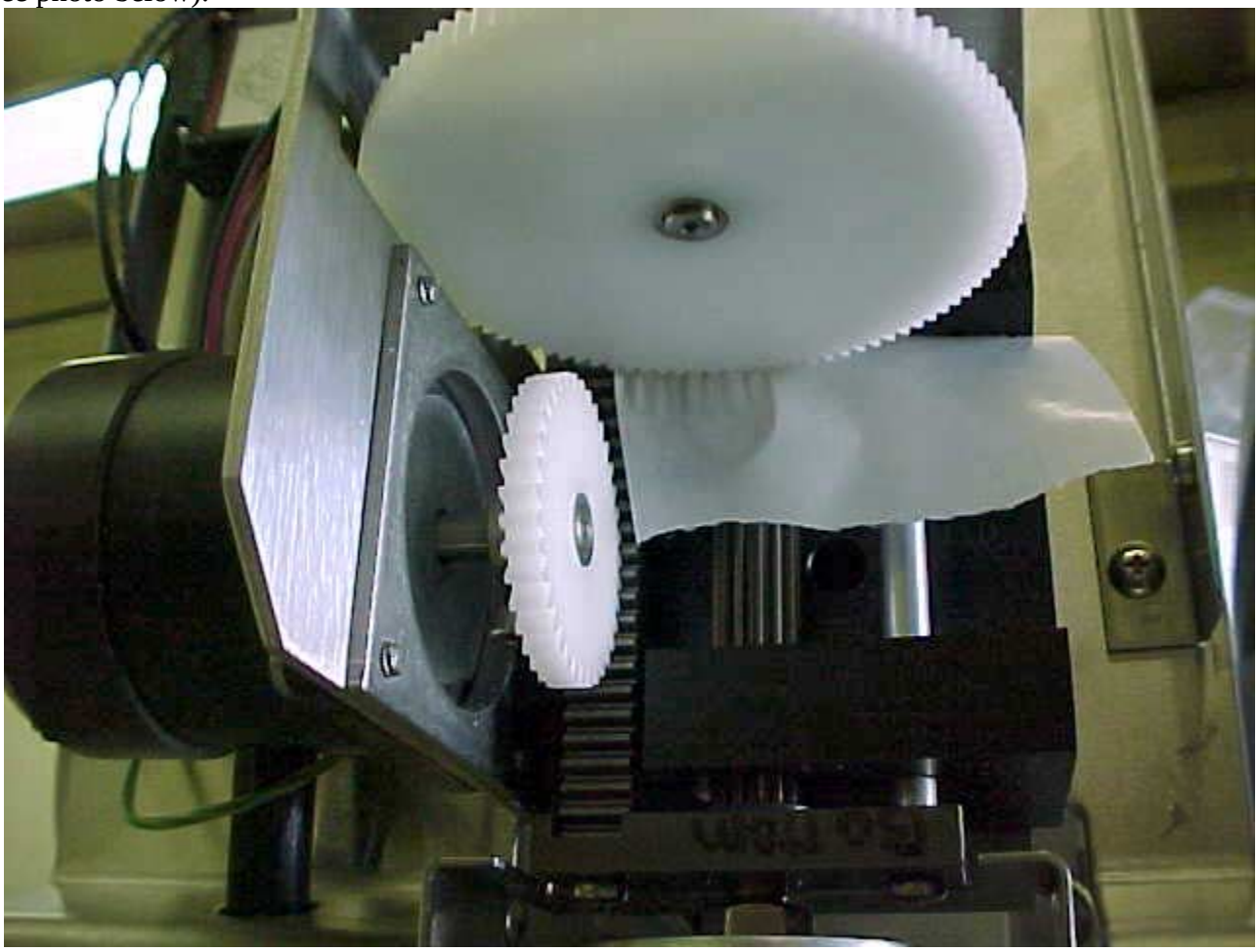


Due to all the recent changes to the applicator parts, the applicator KOP 83047200A referenced in bulletin MTFW-09-99 has been discontinued.

Listed below are recommendations for servicing 317 applicators:

Condition	Service Procedure
Applicator apply problems including: Applicator hesitation, Applicator stalling, Applicator stopping partway up the return stroke, Applicator hanging up on pack, Frequent rehoming of the applicator	If the 705 Autolabeler software is G Revision or older, replace it with J82818600A software. If 317 software is E revision or earlier, replace it with G82767700A software. If the pinion wire is a three-piece design, replace it with B82807700A. If the problem persists after making the aforementioned corrections and the printer was built prior to SN 3088917-3AB, replace the applicator base (PN 82637700A).
Crooked turn labels.	If 317 software is E revision or earlier, replace it with G82767700A software. Inspect the bore of the applicator base for wear. If grooves are found, replace the base (PN 82637700A). If the pinion wire is a three-piece design, replace it with B82807700A. If the problem persists after making the aforementioned corrections and the printer was built prior to SN 3088917-3AB, replace the applicator base (PN 82637700A).
Insert separates from the pinion wire.	Replace pinion wire with B82807700A.
No continuity through the pinion wire.	Replace pinion wire with B82807700A.

Following any of these procedures, set up the applicator following the procedure found on page 6-9 of the 317 manual. To set the lash between the pinion wire and the turn motor gear, first loosen the motor mount. Then roll a piece of label liner between the pinion wire and the turn gear to create the proper lash between the gears. Gently push the motor against the pinion wire and tighten the motor mount screws (See photo below).



Due to known bugs in the E revision software we recommend those 317 printers with the E-revision software be updated with the current G-revision during the next service visit. The part number of the current 317 software is G82767700A.

We also recommend those 705 autolabelers with G-revision or earlier software be updated with the current J-revision software during the next service visit. The part number of the current 705 software is J82818600A.

If these procedures do not correct the applicator problems contact Russ Wagner at MTFW at (262) 835-4411.