CREO

Creo Products Inc.

# Engineering Change Order

**ECO#: C547**

**Originator: SMON** **Page:** 1

**Department: ENG** **Date: 11/19/98**

## Engineering Changes

| Part # | Rev/Status From | To | Description | Product | ECRs | Back Comp? | Reason for chg. | Serv. Class | Prod. Class |
|---|---|---|---|---|---|---|---|---|---|
| 50-1451A | H | J | KIT,MECH,ENGINE,AUTOLOADER,TS | TS-A | | Y | 1 | N/A | 4 |
| 50-1701A | PRE | A | KIT, MECH, FILM GUIDE,TS-A | TS-A | C069 | Y | 1 | N/A | 4 |
| 57-5797A | PRE | A | FAB, MOUNT, GUIDE, LEC | TS-A | | Y | 1 | N/A | 4 |
| | | | | | | | | | |
| 72-0026A | E | F | TRACK AS #10 ON 100 LABEL | Ts-auto | | Y | 4 | N/A | 5 |
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| Copies To: | Title: | Signature: | Date: | Code Descriptions | | | |
|---|---|---|---|---|---|---|---|
| | Design Eng. | Scott Montague | 18/Oct/1998 | Status | Service | Production | Reason |
| | Production Eng. | | | AC - ACTIVE<br>IN - INACTIVE<br>OB - OBSOLETE<br>PR - PREREL. | R-RETROFIT<br>S-NEXT CALL<br>F-NEXT FAIL<br>T-THEIR COST<br>N-NOT UP-GRADABLE<br>NA-NOT APPL. | 1-RETROFIT ALL UNITS<br>2-FINISHED GOODS<br>3-WIP<br>4-FUTURE<br>5-DOCUMENT ONLY | 1-DESIGN<br>2-MANUFACT<br>3-ASSEMBLY<br>4-DOCUMENT<br>5-COST<br>6-MAINT.<br>7-RELAIBIL.<br>8-SOFTWARE<br>9-OTHER |
| | Field Service Eng. | | | | | | |
| | Project Eng. | | | | | | |
| | Project Manager | | | | | | |
| | Product Manager | | | | | | |

## Details of Problem and the Changes

The Autoloader has intermittent problems pulling 0.012” plates out of the LEC (leading edge clamp) on the unload cycle.

The symptom is, the rotator does not make it all the way to the rotate position on the first try. Instead it has to pause and jog at 1mm steps until it makes it there. In extreme cases, where more than 4 jogs are required, the autoloader will suspend.

The cause is, the reclined unload angle does not allow the plate to be pulled out of the LEC because of binding of the plate between the drum and the LEC.

The solution is, to open the LEC wider on the UNLOAD cycle only. This is achieved by over rotating the drum so that the LEC backbone does not contact the clamp in its recessed groove, but rather, on the back edge of the clamp. This over rotation caused the film guide to bind on the LEC and therefore a new film guide mount has been designed. This sheet metal part combined with a nylon spacer as the wearing surface, replaces the CNC’d delrin mount.

The risk to the autoloader is that the film guide is now 5-7mm higher in the load cycle position and may cause scratching of the plate emulsion. Under normal operation of the autoloader the plate contacts the drum and stays clear of the film guide. Loading film through the manual bypass is not a concern because film has a protective layer.

New Autoloader Firmware is required for this change which will be released as Version 1.10

Track this change with #10 on the 100 label

## Documentation Changes

| Part # | Rev/Status | | Documents | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | From | To | Type | Status/Resp. | Type | Status/Resp | Type | Status/Resp | Type | Status/Resp |
| 50-1701A | Pre | A | AD | AT/SMON | | | | | | |
| 57-5797A | Pre | A | DD | AT/SMON | | | | | | |
| | | | | | | | | | | |
| 72-0026A | E | F | SP | AT/PAUM | | | | | | |
| | | | | | | | | | | |

Status Codes: AT- Udated document is attached RL- Redlined document is attached UP- No document attached, update will follow NC- No changes required to document
Resp.: NAME-four letter Creo employee who is/was responsible for updating the document

## Field Service Implementation

Field Upgrade Kit: 05-0070 Description: KIT,UPGRADE,EC0 C547,FILM GUIDE,TS-A
For units:ALL

| Part No. | Description | Qty | Std. Unit Cost | Total Cost |
|---|---|---|---|---|
| | | | | |
| 50-1701A | KIT,MECH,FILM GUIDE,TS-A | 1.00 | | $0.00 |
| | | | | $0.00 |
| | | | | |
| | **Material Cost:** | | | **0.00** |
| | | | | |
| | | **Hours** | **Rate** | **Total** |

***Field Upgrade Intructions:***

Turn the LEC Backbone “on” through diagnostics. Remove the plug from the solenoid so that the LEC backbone is in the out position. Remove the film guide. Adjust both film guide clevises on the backbone 3 half turns towards the drum. Remove the black delrin mounts from the film guide. Attach the new mounts 57-5797A-A to the film guide using the small slots and the supplied m3 screws. Adjust the mount so that the film guide is as close to the other holes in the part as possible. Attach the white nylon spacer 52-4204 on the outside of each mount. Use the supplied m4 nut and washer on the inside of the mount and the m4 screw on the outside of the nylon spacer. Install the film guide but leave off the spring clips. Rotate the drum by hand to line up the recess in the clamps with the

backbone. Push the plug back into the solenoid (watch your fingers). The gap between the drum and the film guide should be 2-3mm, adjust by removing the film guide and turning the clevises. (note: ½ turn will move the film guide by 1.5mm or more) Don't forget to install the spring clips after the final adjustment.

If the film guide contacts the drum roller, adjust the roller cylinder rod ends so that there is 2mm of full diameter shaft protruding out of the cylinder end cap (ie 2mm of stroke left in the cylinder) when the roller is on the drum. This should be approximately 6 half turns out from the rod ends fully in position.

Install the new firmware Version 1.10.

Cycle a plate through loading and unloading. On the unload cycle, the backbone should be contacting the back edge of the LEC. If the displacement value is too small (factory set at 125) the backbone will jump back into the clamp recess. If the displacement value is too large the clamp will fall off of the backbone and press against the film guide. This is not obvious, test for it by trying to push the film guide towards the drum.