



FRAMECAD Services Machine
Maintenance Package

Innovation Integration Sustainability

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This document defines a comprehensive machine maintenance package recommended for all FRAMECAD machines after six months or 1,000 hours of operation.

The aim is to provide regular service checks that avoid any unplanned downtime to the machines due to wearing parts, poor setup of machinery or lack of operator training.

It includes maintenance procedures and replacement of available parts but will also identify any issues that cannot be rectified while the technician is on site but that need either urgent or future attention.

The maintenance package includes:

- FrameCAD approved Engineer onsite for 1 day per machine.
- Safety, self service and training option recommendations
- Official FrameCAD Thousand Hour Maintenance Certificate
- Comprehensive maintenance schedule: (see Appendix A below for full list)
- Change out of worn or failed parts if available on site (proxies, dimples, springs etc)
- Change out of consumables (hydraulic oil, lube) if available on site.
- Full machine check, clean and calibration
- Upgrade of all FrameCAD software versions if required
- Full Report

Package does not include:

- Travel, accommodation and sustenance if required.
- Labour to rectify any problems identified that cannot be rectified by swapping out parts available on site or that require the additional time on site beyond the one day allowed for each machine in this package.
- Cost of replacement parts.

PRE MAINTENANCE CHECK LIST

Printers quality/cotton Rags
Solvents
Cleaners
Hydraulic oil
Brushes
Bucket
Funnel
Grease gun
Oil can with extra long
Check COMPLETE onsite toolbox
Compressed air available (optional)
Requested photos of factory/machine etc.
Confirm availability of machine operator
Check machine availability
Complete:
- FrameCAD approved Toolbox
- Electrical spares
- Mechanical spares



MAINTENANCE TASK	COMMENTS
INTELLIGENCE	
Pre ops meeting, run through pre maintenance check list with customer	This will include site induction, customer briefing, etc.
Check any known essential upgrades	
Check customers toolbox	
Check FrameCAD Factory machine control version	Upgrade if required
Check all FrameCAD software versions	Upgrade if required
Check consumables being used	
MACHINE	
Observe machine running	
Check maintenance log	
Note machine total punch operations to date	
Note machine total meterage to date	
Note machine number and de-coiler number	
Check alignment of De-coiler to machine, realign if req'd.	
Check lube functionality	
Check hydraulic oil pressure	
Clean machine - probably to be done by operator/staff	
Change hydraulic oil and filter	
Check for leaks	
Tighten/lube chains	
Check/purge/clean print heads - ensure customer knows routine	
Check/replace shear blade	
Replace any dimple punch after recommended ops (e.g. 250k for 350)	
Check all push buttons and electrical wiring & switches	
Check/tighten electrical terminations inside electrical cabinets	
Check encoder mechanical belts working ok	
Check encoder earth	
Check & tighten all comms cables	
Blow out dirt from PC cabinet	Check door seals and fan filters

MAINTENANCE TASK	COMMENTS
MACHINE SETUP CHECKS	
Check Punch tooling operation	
Run test piece through machine & operate every tool	
Run blank length through machine	
Check sharpness of punches by examining product	Check for obvious ware as seen in product & make recommendation for spares
Check the following product specs with actual product:	
Profile checking using test piece:	
• Size of lips	
• Width of flanges	
• Width of web	
• Straightness - bow	
• Camber	
• Check dimple height	
• Punch offsets are correct	
• Check swage	Check for over or under swaging
• Check shear	Check for deformation e.g. flaring
• Height pre-form punch cluster on F300	
• Height of guides on F300	
Calibration and re-calibration if needed	
Check that the customer knows how to correct for deviation from spec re product	
Machine operator must be available to assist	
Give customer environmental feedback	
Note whether further training required/interested	
Customer signoff of service	
Check assembly techniques, offer training/advice	
Check fasteners used in assembly, note any issues	
Check factory layout and tools for assembly	
Check toolbox - ensure all tools are there	
Check spare parts - do they need to order more?	
Check coil loading methods	
Check steel coil used on machine	
Post maintenance monitoring	Check that the machine runs correctly during normal operations

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