



LFC-50 to LFC-500 Servicing Report

1. Introduction

This Servicing Report contains all the items to be checked on regular servicing of the LFC biodigester. This service should be performed every six to 12 months.

The items in this report are described in Appendix K of the LFC User's Manual (version 28bj or later). If any step in this Servicing Report is unclear please refer to the User's Manual.

If Power Knot has a previous Servicing Report on file for this LFC biodigester, you do not need to complete all the sections regarding current status. Put a line through those items and add a comment that there is no change from the previous report.

2. Location

LFC model	☐ LFC-50 ☐ LFC-70 ☐ LFC-100 ☐ LFC-200 ☐ LFC-300 ☐ LFC-500
Serial number	
Company name	
Company address	
Company contact name	
Company contact e-mail	
LFC location	
Serviced by company's name	
Serviced by individual's name	
Date and time of this service	YYY MMM DD HH MM

3. Customer Evaluation

Describe any unusual noises or other issues faced by the customer:

4. Site and Visual Inspection

Ambient room temperature	☐ °C ☐ °F
Exposed to elements	☐ Yes ☐ No
Distance around machine	Front Right Back Left ☐ cm ☐ in
Visual damage	☐ Yes ☐ No
Is outside clean	☐ Yes ☐ No
Is inside the drum clean	☐ Yes ☐ No
Does the drum have foreign objects	☐ Yes ☐ No
Does the inside have odors	☐ No smell ☐ Smelly ☐ Very smelly ☐ Awful smell
Feet are properly installed	☐ Yes ☐ No
Machine on pads ok	☐ Yes ☐ No
Metal pad covers installed	☐ Yes ☐ No
Wheels clear of floor by 10 mm	☐ Yes ☐ No
AC disconnect mechanism	☐ None, or remote ☐ Plug and socket ☐ Switch ☐ No switch
Flexible pipes on water inlets	☐ Yes ☐ No
Stop valve on water inlets	☐ Yes ☐ No
Pressure reducer on water inlets	☐ Yes ☐ No
One way valve on water inlets	☐ Yes ☐ No
Stop valve on waste water outlet	☐ Yes ☐ No
Outlet pipe slopes down	☐ Yes ☐ No
Total number of bends in pipe	45° 90°
Distance to drain	☐ m ☐ ft
Grade level drain	☐ cm ☐ in ☐ open drain ☐ closed drain
Is the display functional	☐ Yes ☐ No
Opening the door is detected	☐ Yes ☐ No

Are automatic door stoppers ok	☐ Yes ☐ No ☐ Not applicable
Add comments here	

5. LFC Diagnostics

Skip this section except for the first three questions if the LFC Cloud connection is active.

Customer connection to LFC Cloud	☐ Direct wire ☐ Wi-Fi client ☐ GSM modem ☐ None			
Use temporary GSM modem	☐ Yes ☐ No			
Is LFC Cloud connection active	☐ Yes ☐ No If yes, skip the remainder of this section			
Pressure of drum water	☐ kPa ☐ bar ☐ psi			
Pressure of washout water	☐ kPa ☐ bar ☐ psi			
Load cell status	1	2	3	4 ☐ all OK
Load cell weights	1	2	3	4 ☐ kg ☐ lb
Temperature of motor	☐ °C ☐ °F			
Temperature of drum water	☐ °C ☐ °F			
Temperature of drum	☐ °C ☐ °F			
Temperature of control box	☐ °C ☐ °F			
Motor currents	I1	I2	I3	(A)
Heater current	(A)			
System errors	☐ Yes ☐ No			
Current versions	Hardware	Software	Screenware	

6. Powerzyme and Powerchips

If the LFC biodigester is working and you need to supplement the Powerzyme or replace the Powerchips, you should activate the Powerzyme now.

Is Powerzyme being supplemented	☐ Yes ☐ No
If supplementing Powerzyme, record volume of Powerzyme	☐ ml ☐ litre
If supplementing Powerzyme, record time of activation	☐ Not supplemented ☐ Activated at HH MM
Powerchips installed	☐ Black ☐ Green
Status of Powerchips	☐ Good ☐ Slightly worn ☐ Very worn
Are you replacing or supplementing Powerchips	☐ No change ☐ Replacing ☐ Supplementing
Empty drum and clean inside	☐ Yes ☐ Not applicable
Volume of new Powerchips	☐ bags ☐ litre
For new Powerchips, close stop valve and soak Powerchips	☐ Yes ☐ Not applicable
Add comments here	

7. Automatic Program Configuration

Skip this section if the LFC Cloud connection is active. Otherwise, access Setup | Automatic Program (password 3124)

	Upon Arrival	Changed
Flush before cycle	☐ On ☐ Off	☐ On ☐ Off
Motor reverse		
Drum water (reverse)		
Standby after reverse		
Motor forward		
Drum water (forward)		
Washout		

	Upon Arrival	Changed
Heater	☐ °C ☐ °F	☐ °C ☐ °F

8. Automatic Door Configuration

Applicable only for LFC-300, LFC-500, LFC-VIII biodigesters. Skip this section if the LFC Cloud connection is active.

	Upon Arrival	Changed
Opening time, s		
Opening current, A		
Closing current, A		

9. Review Logs

Access the Log file and look back over the last 30 days for any of the following. Skip this section if the LFC Cloud connection is active.

Power On more than once per day	☐ Yes ☐ No
Any motor errors	☐ Yes ☐ No
Any load cell errors	☐ Yes ☐ No
Water pressure too low more than one per day	☐ Yes ☐ No
Water pressure too high more than one per day	☐ Yes ☐ No
Describe repairs and recommendations here	

10. Electrical and Electronic Service

Use LFC Manual Mode (password 1485) for some of these items. Remove front panel.

Inspect ac power cord	☐ Good condition ☐ Nicks and scratches
Reboot machine and verify no errors on boot up	☐ No errors ☐ Errors

Stop the machine if it was running	☐ Yes
Verify the LED and display from Diagnostics 4	☐ No errors ☐ Errors
For manual door, open it slowly. Record gap before open	☐ mm ☐ in
For manual door, close it slowly. Record gap at closure	☐ mm ☐ in
If there is an NFC card reader, verify its operation	☐ No errors ☐ Errors
Remove cover for display box; inspect for moisture	☐ Dry ☐ Moist ☐ Not applicable
Open Control Box; inspect for moisture	☐ Dry ☐ Moist
Replace electronic hardware	☐ Not changed ☐ Replaced (record notes below)
Restore the factory data	☐ Not changed ☐ Restored
Update the software	☐ Not changed ☐ Updated to:
Update the screenware	☐ Not changed ☐ Updated to:
Verify Control Box fan operates	☐ Yes ☐ No
Verify Motor fan operates	☐ Yes ☐ No
Describe repairs and recommendations here	

11. LFC-300 and LFC-500 with Automatic Door

Applicable only for LFC-300, LFC-500, LFC-VIII biodigesters. Skip this section otherwise.

Use NFC card to open the door	☐ No errors ☐ Errors
If overload error adjust current and document in §8	☐ No change ☐ Changed
Verify door opens & stops <2 mm from rubber stoppers	☐ No errors ☐ Errors
Verify linear motor on door has free movement	☐ Yes ☐ No

Use NFC card to close the door	☐ No errors ☐ Errors
Verify door stops flush with the top panel	☐ Yes ☐ No
Verify linear motor on door has free movement	☐ Yes ☐ No
If overload error adjust current and document in §8	☐ No change ☐ Changed
Describe repairs and recommendations here	

12. Plumbing Service

Remove the right side panel and use LFC Manual Mode (password 1485).

Turn off water; remove and clean Drum Water Y filter	☐ Filter had particles ☐ Filter was clean
Turn off water; remove and clean Washout Water Y filter	☐ Filter had particles ☐ Filter was clean
Restore water. Check condition of coiled hose pipe	☐ Pipe ok ☐ Pipe damaged
Verify operation of hose tap	☐ Shuts water off completely ☐ Water flows when off
Verify operation of hose trigger	☐ Nozzle ok and water flows well ☐ Nozzle damaged
Is hose clip retrofitted; if not install 89-58000	☐ Yes ☐ No
Turn on Drum Water; does water flow	☐ Yes ☐ No
Is the Drum Water flowing through all nozzles uniformly	☐ Yes ☐ No
Are all nozzles clear and properly directed	☐ Yes ☐ No
Are there leaks on the Drum Water system	☐ Yes ☐ No
Turn on Washout Water; does water flow correctly	☐ Yes ☐ No
Are there leaks on the Washout Water system	☐ Yes ☐ No

Describe repairs and recommendations here

13. Mechanical Service

Disconnect ac power. Remove left side panel

Condition of main sprocket	☐ Very worn; needs replacing ☐ Worn ☐ OK			
Are grub screws tight and socket key in place	☐ Yes ☐ No			
Condition of gearbox sprocket	☐ Very worn; needs replacing ☐ Worn ☐ OK			
Are grub screws tight and socket key in place	☐ Yes ☐ No			
Condition of chain	☐ Rusted ☐ Some grease ☐ Well greased			
Record movement of chain slack, S	☐ cm ☐ in			
Adjust chain if required. Record new chain slack	☐ cm ☐ in ☐ not adjusted			
If chain is too loose, what is the remedy	☐ Remove one link ☐ Remove ½ link ☐ Replace chain			
Apply grease to chain	☐ Yes ☐ No			
Are sprockets aligned	☐ Yes ☐ No misaligned by ☐ mm ☐ in			
Align sprockets and record distance moved	☐ Main sprocket ☐ Gearbox sprocket			
Are there leaks on the DE main shaft seal	☐ Significant ☐ Minor ☐ None			
Are there leaks on the NDE main shaft seal	☐ Significant ☐ Minor ☐ None			
Are there leaks from the gearbox	☐ Significant ☐ Minor ☐ None			
Examine door hinges	☐ All good ☐ One or more is damaged			
Examine load cells; check the gap and nothing loose	1	2	3	4
Verify feet are in center of pads and pads are not worn	1	2	3	4

Restore ac power and use Manual Mode	
Turn motor forward and verify chain tension	☐ Acceptable ☐ Requires further adjustment
Note any noises while motor turns forward	☐ Noisy motor ☐ Noisy gearbox ☐ None
Turn motor reverse and verify chain tension	☐ Acceptable ☐ Requires further adjustment
Note any noises while motor turns reverse	☐ Noisy motor ☐ Noisy gearbox ☐ None
Reset the service counter for Mechanical Service	☐ Yes ☐ No Next service months
Describe repairs and recommendations here	

14. Powerchips Replaced or Supplemented

Skip this section if you did not add any new Powerchips

How long have Powerchips soaked	HH MM
Thoroughly drain water	☐ Yes
Configure zero weight	☐ Yes ☐ No Total weight ☐ kg ☐ lb
Load cell weights	1 2 3 4 ☐ kg ☐ lb
Reset the service counter for Powerchips	☐ Yes ☐ No Next service months

15. Powerzyme Supplemented

Skip this section if you are not supplementing the Powerzyme

How long has Powerzyme been activated	HH MM
At least 25% waste food in drum	☐ Yes ☐ No
Rotate arms forward in manual mode	☐ Yes ☐ No

Pour in Powerzyme mixture slowly	☐ Yes ☐ No	<i>DANGER:</i> Avoid rotating arms
Reset the service counter for Powerzyme	☐ Yes ☐ No	Next service months

16. Deployment

Use LFC Manual Mode (password 1485).

If screenware was updated, remove SD card from display	☐ Yes ☐ Not applicable
Replace side panel on Display Box	☐ Yes ☐ Not applicable
Close Control Box and replace Control Box key	☐ Yes
Replace panels	☐ Left ☐ Right ☐ Front
Verify motor operation	☐ Forward ☐ Reverse
Verify water operation	☐ Drum ☐ Washout
If you adjust automatic program, put values in §7	☐ No change ☐ Changed
Start in Auto mode; record time	HH MM
If applicable, disconnect temporary GSM modem	☐ Yes ☐ Not applicable
Customer name	
Customer signature	
Time of completion of this service	HH MM
Service person's signature	

17. Notes

Please send a copy of this report to support@powerknotocean.com

Power Knot provides safe and economically sound solutions for commercial, industrial, marine, and military customers globally seeking to reduce their carbon footprint. The LFC® biodigester allows customers to reduce the expense, inconvenience, and mess of disposing of waste food that would otherwise be hauled to a landfill or dumped in the ocean. Power Knot, the Power Knot logo, the Power Knot mark, LFC, LFC Cloud, Powerchips, Powerzyme, SBT, and WEP are trademarks or registered trademarks of Power Knot LLC. All other trademarks used herein are the property of their respective owners. Copyright © 2009 ~ 2023, Power Knot LLC. All rights reserved. Document 96-01216-03, revised 2023-09-28.