Video Script Title: Maintenance and Troubleshooting on the Model TLC 818 Container/Pallet Loader

Client: The Lantis Corporation

Author: Tom Rivelli

Running Time: 12 min. 15 sec.

LEGEND:

Source Tape Indicators for Video Shots

F1: 818 Factory Shots Tape #1
A2: 818 Atlanta Shots Tape #2
1-3a: 818 Emer. & Maintenance Shots at Factory, Tape #1 - Shot #3a

Camera Angle Indicators:

CG: Character Generator

MS: Medium Shot

CU: Close Up

MCU: Medium Close Up

MLS: Medium Long Shot

LS: Long Shot

SUPERED: Superimposed Over Video

Shot indicators are organized as follows at the top of each video column with details separated by slashes:

Shot # / Shot Time In Seconds / Source Tape # - Shot # On Tape

VIDEO	AUDIO
FADE UP VIDEO FROM BLACK	MUSIC FADES UP WITH VIDEO
1/6 sec. FADE IN OR WIPE Logo over black in time to cymbals.	MUSIC IN Channel 1
2/6 CG: (LANTIS LOGO) presents	MUSIC CONTINUES
3/32 Cochran Western Stock FADE IN Aircraft taking off. 3a/(14) CUT TO Aircraft on runway. (14 sec.)	MUSIC CONTINUES
USE NEXT SHOT TO COVER "CP AIR" PLANE WHEN IT'S LOGO COMES UP	
4/22-6/2-1 MLS Operator on unit	
FADE UP CG SUPERED: MAINTENANCE AND TROUBLE-SHOOTING THE MODEL TLC 818 CONTAINER/PALLET LOADER	
CG FADES OUT	MUSIC FADES SLOWLY UNDER, AFTER ANNOUNCER BEGINS ON CHANNEL 2
4 cont./-16(22)/	Welcome to The Lantis Corporation training video covering maintenance and trouble-shooting of the TLC 818. This video is meant to be used as a training

VIDEO	AUDIO
	study. Any actual maintenance or trouble-shooting procedures should be performed after referring to the unit manual.
5/6 CG OVER BLUE: PART I: MAINTENANCE PROCEDURES	Now let's begin Part I of our study with a discussion of maintenance procedures.
6/27 CG OVER BLUE: PREVENTIVE MAINTENANCE PAYS OFF: - Less Emergencies Improve Your Safety - Fewer Malfunctions Mean On-Time Operations - Maintenance Makes Good Mechanical Sense	Preventive maintenance will pay off for you in a number of ways. If equipment is well maintained fewer emergency situations will occur, and that means better safety for you and your crew. Preventive maintenance means fewer malfunctions, and that contributes significantly to on-time departures and arrivals. Also, a forward thinking technician takes pride in his performance, and knows that periodic maintenance just makes good mechanical sense.
7/9 CU Front cover of service manual with hand opening cover	With this in mind The Lantis Corporation strives to provide thorough coverage of maintenance

VIDEO	AUDIO
	guidelines within our support manual.
8/10 CU Maintenance chart on 2-2 page 4	A handy chart in the routine service and adjustment section of the manual outlines our recommended maintenance schedule in a convenient and easy to follow format.
9/14 CU Cuts to 300 hr./6 month/annual maintenance heading at top of chart	At the core of the schedule are the procedures outlined in the 300 hour service interval. In addition there are procedures recommended at both 6 month and Annual intervals. We'll review them now so you will be familiar with them.
10/14 CG YELLOW: SERVICE PRECAUTIONS: - Remove any load from the vehicle - Install elevator and bridge safety supports	But first some precautions for your safety: Always remove any cargo or other load from the vehicle before servicing. And be sure to install the elevator and bridge safety supports before entering any area beneath a raised platform.
11/6-(15)/1-1 MS Man installing last safety support...	This will both minimize the

VIDEO	AUDIO
	likelihood of a mishap, and make your job run more smoothly.
12/6 CU Pencil points across chart to Pressure Lubrication	The first item listed within the 300 hour service schedule is Pressure Lubrication.
13/8 CU Pressure Lube Chart	Each lubrication point is listed on the Pressure Lube Chart and also identified by position on a separate reference figure.
14/9/1-6 MS Man applying pressure lubrication	At the lubrication fittings be sure to use a lithium base, multipurpose grease containing molybdenum additives, as specified in the service manual.
15/6 CU Pencil points across chart from Linkage Lubrication to items	When applying Linkage Lubrication to the points listed, use the appropriate lubrication.
16/6/1-21 MS Man applying lubrication to door latches and then inspecting for proper operation	Always inspect all components being lubricated for proper mechanical operation.
16a/6/3-13 MS Man pointing to a filter element to be changed	Replace the elements in the Primary and Secondary pressure filters and the Return filter.
16b/CG CG SUPERED: REPLACE	

VIDEO	AUDIO
FILTER ELEMENTS 16c/7/1-12 MS Man looking into hole	By looking through the appropriate viewing hole you can quickly identify a filter ready for replacement
16d/3/1-12 CU Indicator through hole	when the indicator has turned red.
17/24.5 CG: GENERAL INSPECTION CHECK LIST: - Hydraulic Components - Electrical Components - Mechanical Components - Engine Components	Potential maintenance problems may go unnoticed by equipment operators on the ramp who are preoccupied with hectic cargo moving schedules. The 300 hour interval is the ideal time for a trained technician to carefully inspect a checklist of critical system components. In this way you are doing your part to greatly reduce the chance of an equipment failure developing into an emergency situation.
18/4.5/1-2 CU Hand on fluid line looking for leaks	Inspect the hydraulic system for any leaks in fluid lines and connections...
19/4.5/1-11 CU Looking for leaks around drive wheel and motor installation	or leaks around the drive wheel or motor installation.

VIDEO	AUDIO
20/8/1-20 MCU Zooming into hydraulic fluid level gauge	It's also important to check the hydraulic fluid level and test the operation of the brake and accelerator systems.
21/6/1-26 CU Wrench tightening connections on battery post	In the electrical system, clean any corrosion from the battery posts and tighten the connections.
22/4.5/3-12 CU Checking covers and connections of Stabilizers Limit Switches	Check the covers and connections of the Stabilizers Limit Switches.
22a/4.5/2-9a CU Quick cuts of meters and gauges	Check all meters and gauges for loose or broken glass.
23/8/2-9c CU Indicator lamp lights	Insure that all indicator lamps are functioning. This can also be done later during operational tests of the unit.
24/9/3-1 MCU Checking the attachment of bridge sliding walk ways and the rubber bumpers for damage	A general mechanical inspection begins with checking the attachment of the bridge sliding walk ways and also checking the rubber bumpers for damage.
25/9/1-13 MCU Checking something related to alignment of drive shafts, couplers,	Check the alignment of drive shafts, couplers and hydraulic

VIDEO	AUDIO
and hydraulic motors	motors. Most other mechanical components should have been inspected during lubrication.
26/7 CU General Mechanical Inspection heading, 2-2 pg. 7 of manual	A glance at the General Mechanical Inspection section of the manual is a good way to see if anything was missed.
27/8.5/1-23 MCU Checking engine mounting bolts, and skid...	Engine Installation Service involves checking the condition and tightness of: the engine mounting bolts, both engine and skid,
28/3/1-23 radiator and hoses	the radiator and radiator hoses,
29/3/1-23 the exhaust system	the exhaust system,
30/7/1-23 the fan and alternator belts	and the fan and alternator belts.
31/CG FADE UP CG SUPERED: FURTHER ENGINE SERVICING FOLLOWS MANUFACTURERS' RECOMMENDATIONS	Further servicing of the engine should follow manufacturers recommendations.
32/13.5/1-24 MS Man operating or performing a function indicative of a test	Operational testing of the loader should always be performed upon completion of any periodic inspection,
33/CG CG SUPERED:	or after any maintenance in which

VIDEO	AUDIO
OPERATIONAL TESTING, Performed After Any Maintenance	components have been either disassembled, or repaired, or replaced.
34/18 CU Service manual heading "Operational Tests"	The service manual outlines a series of operational tests which greatly simplify
35/CG FADE UP CG: VERIFY LOADER FUNCTIONS then TROUBLE-SHOOT ACCORDINGLY	insuring that all operational and safety features are functioning properly. If necessary, you can then trouble-shoot accordingly using procedures outlined later in this video and in the service manual.
36/11 CG OVER BLUE: SEMIANNUAL AND ANNUAL SERVICE SCHEDULE	That concludes the 300 hour service schedule. At the Semiannual and Annual servicing, the following respective procedures should also be performed as outlined in the service manual:
37/9/1-3 MCU Lubricating clutch cable with WD-40	Control cables should be lubricated with the proper
38/CG CG SUPERED: LUBRICATE CABLES WITH PROPER LUBRICATION	lubricant, when installed, and then at the semiannual service.

VIDEO	AUDIO
39/13/3-14a MCU Removing filler plug on the main drive wheel	At the filler plug on the main drive wheel,
39a/CG CG SUPERED: MAIN DRIVE WHEEL OIL SERVICE	
40/??/3-14b CU Removing plug and replacing	top off the oil level with SAE 80-30 hypoid gear oil at the semiannual period,
Cont. MCU 39, end of replacing plug	and change the oil annually.
41/13.5/1-22b MCU Adjusting flow control valve with respective chain in view	At the semiannual service, adjust both bridge and elevator conveyor chain
42/CG CG SUPERED: ADJUST CONVEYOR CHAIN SPEED & TENSION	speed using the appropriate flow control valves. Chain tension is adjusted at the appropriate take-up bearing.
43/7 CG IN YELLOW: WARNING: ALWAYS ADJUST THE ELEVATOR CONVEYOR CHAIN TENSION WITH THE CHAINS FULLY RAISED	Always adjust the elevator conveyor chain tension with the chains fully raised.
44/11/1-25 MCU Radiator overflow tank, if possible with tube and radiator in view	Semiannually check the radiator and overflow tank for fluid level and antifreeze content. Flush the
45/CG CG SUPERED: FLUSH RADIATOR ANNUALLY	radiator annually using standard

VIDEO	AUDIO
	automotive procedures.
46/16 CG RED OVER BLUE: (Same as audio)	If the engine is hot, do not open the cap without hand protection. Turn the cap slowly counterclockwise to the first detent, allow pressure to escape, and then turn the cap to the second detent and remove it. Do not add coolant to an overheated engine.
47/13.5 CG OVER BLUE: SERVICE ANNUALLY: - Main Hydraulic Oil Tank Service - Steering Arm Service	Perform these remaining procedures as outlined within the annual service schedule: The main hydraulic oil tank should be drained and cleaned; and the steering arm mechanism should be lubricated.
48/9 CG OVER BLUE: PART II: TROUBLE-SHOOTING TECHNIQUES FOR THE TLC 818	This concludes the Maintenance Training portion of our video. Now we'll begin Part II, TROUBLE-SHOOTING TECHNIQUES FOR THE TLC 818.
49/16 CG OVER BLUE: OPERATION AND SERVICE MANUAL: - Operating Instructions - Technical Descriptions - Trouble-Shooting	The Lantis Corporation has provided comprehensive trouble-shooting support material

VIDEO	AUDIO
Charts	within the TLC 818 service manual. Detailed operational and technical data describe all circuits and components as a back up to the trouble-shooting section.
50/9 CG OVER BLUE: GENERAL INFORMATION ON TROUBLE-SHOOTING: -Gasoline Engine -Electrical Circuits -Hydraulic Circuits	The General Information heading in the Trouble-Shooting Section offers a brief overview of the various 818 systems from a trouble-shooting standpoint.
51/7 CG: ENGINE ? BRAKE SYSTEM ? STABILIZER SYSTEM ? BRIDGE LIFT SYSTEM ? POWER STEERING ?	Solving a complicated problem begins by identifying the overall system in which the malfunction is occurring. *** (pace narration slowly to allow reading of CG) ***
52/3 (CG REMAINS, BRIDGE LIFT SYSTEM TURNS RED)	Once the malfunctioning system has been identified, such as the Bridge Lift System,
53/4 CU Heading of Chart 9, BRIDGE LIFT TROUBLE-SHOOTING, 2-3 pg 31	the appropriate trouble-shooting chart will suggest a logical
54/4 CU "MALFUNCTION" Heading and #1 Malfunction on chart	sequence of component checks. If you follow this logical
55/6	

VIDEO	AUDIO
QUICK CU "PROBABLE CAUSE" Heading and A. If Stabilizer system operates...	sequence of checks, it should quickly lead you to any malfunctioning components.
56/4 CU (3) Control switch defective. (SW18 or SW19)	In this case the third check would lead to a defective control switch.
57/4 CU REMEDY Heading	The remedy column on the chart specifies to
58/4 CU Heading (a) Repair or replace as appropriate	repair or replace the switch, whichever is appropriate. (*** End of synchronized, paced narration ***)
59/18/F2-14 MS Zooming into PC Board	To facilitate checking the electrical control circuitry associated with loading functions, The Lantis Corporation has designed a self contained diagnostic system into the TLC 818 PC Board. The PC Board centralizes all loading function electrical control circuitry.
60/22.5/F1-13 CU LEDs lighting	Maintenance personnel can quickly and conveniently monitor the current flow in the electrical system that controls all loading

VIDEO	AUDIO
	functions by watching indicator light emitting diodes, or LED's, at one centralized location.
61/CG FADE UP CG SUPERED: ANY LOADING FUNCTION CHECK STARTS AT PC BOARD	When trouble-shooting any loading function problem, start by checking the status of the appropriate LED indicators on the PC board.
62/18/F2-14 MCU Placard with board in view	This can be done conveniently by referring to the overlay placard attached to the unit. As an example, let's check the Elevator Rear Conveyor operating in reverse.
63/CG FADE UP CG SUPERED: TEST IN LOAD MODE STABILIZERS DOWN ENGINE RUNNING	All testing should be done in the load mode, with the stabilizers down, and the engine running.
64/20 CU Placard legend, Elevator Rear, Reverse, Wire A	First find on the placard the description of the function to be checked, listed in the Control Description Box. Next to the control description, the box will indicate the related input wire which controls the loading function in question; in this

VIDEO	AUDIO
	case Elevator Rear, Reverse indicates input Wire A.
65/7 CU Placard upper right hand corner "Wire A, and LED D1	Now look to the upper right corner of the placard and find that input Wire A is monitored by LED D1.
66/18 CG OVER BLUE: ELEVATOR REAR, REVERSE: - Input Diode D1 Lights Indicating Current At Input - If Not Lit Check Control Switch And Connections	When the control is operated for elevator rear, reverse, D1 should light, indicating current flow to the input. In a situation such as this, if an input indicator does not light, check the control switch and the connections both at the control and the board.
67/9 CU Heading "Input/Output Connections	If the input indicator does light, the next step is to check the output by noting on the input/output legend which output diodes should light.
68/4.5 CU D1 box	The legend indicates that input current at D1 should light D56, D62, and D70.
69/9 CU Output Signal Lights heading and D62, SV-32, D60, SV-37	These diodes monitor the control status of their respective

VIDEO	AUDIO
	solenoid valves, listed under Output Signal Lights on the placard.
70/20 CG OVER BLUE: INPUT LIT, OUTPUT NOT LIT...FAULT IS IN PC BOARD INPUT AND PROPER OUTPUTS LIT... FAULT IS BEYOND PC BOARD, CONSULT TROUBLE-SHOOTING CHART	If the input signal is lit, and the output lights are not lit, the fault is in the PC Board and it should be replaced. If both the input and proper output lights are lit, the fault is beyond the PC Board. In this case, check connections beyond the board, then proceed according to the appropriate trouble-shooting chart.
71/7 CG IN YELLOW: CAUTION: BE SURE NEVER TO SHORT OUTPUT WIRES TO GROUND. THIS WILL DESTROY THE PC BOARD	As a caution, be sure never to short output wires to ground. This will destroy the PC Board.
	MUSIC FADES UP SLOWLY UNDER ANNOUNCER
72/22.5/2-1 MS Announcer facing camera with TLC 818 in background	That concludes our review of maintenance and trouble-shooting techniques for The Lantis Corporation TLC 818 Container/Pallet Loader. Following the procedures we've

VIDEO	AUDIO
	recommended, will make your job a whole lot easier. We hope this video will contribute to a more efficient "on-time" operation at "your" shop. MUSIC IS FULL UP
73/ SHOT 73 DELETED	
74/ CUT TO LANTIS LOGO	
*** VIDEO FADES TO BLACK WITH MUSIC ***	