PRODUCT SERVICE BULLETIN NO. 16

February 4, 1972

REVERSE RELAY CHECK LIST

As part of our continuing test and evaluation program, will you please assure that the attached check list is filled out if there are any failures of the reverse relay on the El5 tractor. Several copies of the check list are enclosed. Please fill this check list out completely and return it to us.

LIFT STRAP GUARD S and a contract of bedrupes at the address and a line area to do to

A recent audit and survey of warranty claims indicates a sharp reduction in the number of lift straps replaced on tractors having lift strap guards installed. Moreover, investigation of the strap claims received shows that most failures occurred on tractors not having a guard installed. If you have unused guards in inventory, please install them on all units encountered. If additional guards are needed, requests will be honored and sent at no charge until August 1, 1972. Refer to Product Service Bulletin No. 7 for part numbers and ordering information.

CRIMPING TOOL

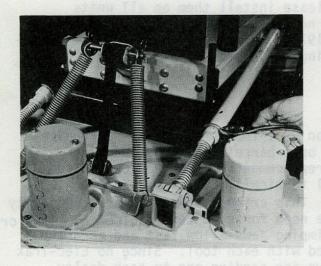
In order to provide good service on Elec-Trak tractor wiring repairs, a crimping tool is needed for crimping open-barrel terminals, such as used on Cards 1 and 3. This is not a replacement for the yellow-handled crimper, which is used for close-barrel terminals, but is an addition to the Elec-Trak Service Kit, 112L795. This crimper produces machine-quality crimps for use in the field without the need for strippers, soldering iron or pliers. The built-in strippers and crimping jaws allow fast and accurate work. Instructions for use are supplied with each tool. Since no Elec-Trak mechanic should be without this tool, we are sending one to each dealer. (cost \$11.50). Additional tools can be ordered at this price if necessary. The part number is 243A4510P2.

MOWER ARM WEAR SLEEVES

Future production of 26AA42 Rotary Mowers (Front Mounted) will include wear sleeves which are installed on each mower mounting arm in the area of the tractor's front bumper. These sleeves prevent wear to the arms where they contact the front mower guide in cases where rough or hilly terrain causes excessive wear of the arms. These sleeves are inexpensive and easy to replace.

Three sets of these sleeves and retaining rings are being sent to each dealer at no charge and are to be installed on all new front mounted mowers and on delivered units where arm abrasion may become a problem. Reasonable numbers of sleeves and rings requested before August 1, 1972 will be sent at no charge.

Refer to Figure 1 and install one retaining ring, #244A7216P1, on each arm 1/2 inch from the lower end of the main tube. This is easily done by marking the tube at the 1/2 inch point and pushing the ring over the tube with pliers while the arm is mounted to the tractor. The arm should be removed from the tractor and one sleeve, #244A7215P1, pushed over its main tube to the ring on each arm. (Figure 2)



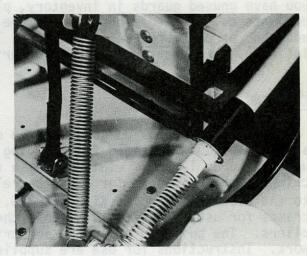


Figure 1 Marshall Mar

This check list is provided to enable the Elec-Trak mechanic to rapidly find the cause of burned reverse relay contacts. Please complete and attach to the warranty claim. These forms should be kept in a convenient place for the mechanic's use. For instance, they might be kept with your new relays in inventory.

Replaced parts involved with the failed relay should be properly tagged and returned collect to Product Service to aid in our analysis.

Should any problems or unusual conditions arise, please call Product Service on the "hot line". Many thanks for your efforts in this matter. Tractor Serial No. Failure Date Check List Are reverse relay contact leaves abnormally bent? What was the operating condition when failure 2. Is there any evidence of harness wiring interfering with relay actuation? Yes No Are there any loose wire terminals on Card #1 or Card #3? Yes No Is Card #1 marked with the latest revision, 211A3160G1-R6? Yes No If no, change to the latest revision. 5. Is the reverse switch on the speed control positively held actuated in all reverse positions? Yes No 6. Can the throttle be rotated manually to start the drive motor in either the left or right neutral positions? To test this, advance throttle to maximum speed forward (gear selector in neutral) and quickly return throttle to neutral. If drive motor continues to run, throttle cam has over-traveled. Repeat on reverse side. ____ Yes ____ No

7.	Determine that 36 V D.C. is present between pads 7 and 12 of Card $\#1$ with the drive motor running.
	No manufacture and Yes are 11 No manufacture as a first behavior to eauto and but
8.	Is the drive motor field resistance approximately 16 ohms?
	Yes No
9.	Does the L contactor stick shut occasionally as verified by the drive motor continuing to run with the speed control in neutral.
	NOTE: Determine first that this symptom is not produced by speed control cam overtravel as described in Item 6.
	Yes No
Add	itional Information
Wha	t was the operating condition when failure occurred?
1.	Stopping (speed control returning to neutral)
2.	Changing direction:
	Forward to Reverse
	Reverse to Forward
3.	Failure occurred during impact (dropped over curb, in hole, snow/dozer blade snapped up, etc.)
	Explain
4.	Other conditions
	TEMPETER POSTEROR SENSESS LIE

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	Tractor Serial No.	Failure Date	
Che	eck List		
1.	Are reverse relay contac	ct leaves abnormally bent?	
	Yes	No	
2.	Is there any evidence of	f harness wiring interfering with relay actuation	
	Yes	No	
3.	Are there any loose wire	e terminals on Card #1 or Card #3?	
	Yes	No	
4.		the latest revision, 211A3160G1-R6?	
	Yes	Nontsigx3:	
	If no, change to the lat	test revision.	
5.	Is the reverse switch or all reverse positions?	n the speed control positively held actuated in	
	Yes	No	
6.	the left or right neutra to maximum speed forward	ated manually to start the drive motor in either al positions? To test this, advance throttle d (gear selector in neutral) and quickly return f drive motor continues to run, throttle cam has on reverse side.	
	Yes	No	

7.	Determine that 36 V D.C. is present between pads 7 and 12 of Card $\#1$ with the drive motor running.
	Yes No
8.	Is the drive motor field resistance approximately 16 ohms?
	Yes No
9.	Does the L contactor stick shut occasionally as verified by the drive motor continuing to run with the speed control in neutral.
	NOTE: Determine first that this symptom is not produced by speed control cam overtravel as described in Item 6.
	Yes No
Add	itional Information
Wha	t was the operating condition when failure occurred?
1.	Stopping (speed control returning to neutral)
2.	Changing direction:
	Forward to Reverse Reverse to Forward
3.	Failure occurred during impact (dropped over curb, in hole, snow/dozer blade snapped up, etc.)
	Explain
4.	Other conditions
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over-traveled. Repeat on reverse side.

Yes No

7.	Determine that 36 V D.C. is present between pads 7 and 12 of Card $\#1$ with the drive motor running.		
	Yes No		
8.	Is the drive motor field resistance approximately 16 ohms?		
	Yes No		
 Does the L contactor stick shut occasionally as verified by the motor continuing to run with the speed control in neutral. 			
	NOTE: Determine first that this symptom is not produced by speed control cam overtravel as described in Item 6.		
	Yes No		
Add	itional Information		
Wha	t was the operating condition when failure occurred?		
1.	Stopping (speed control returning to neutral)		
2.	Changing direction:		
	Forward to Reverse		
	Reverse to Forward		
3.	Failure occurred during impact (dropped over curb, in hole, snow/dozer blade snapped up, etc.)		
	Explain		
4.	Other conditions_		

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Yes No

7.	Determine that 36 V D.C. is present between pads 7 and 12 of Card $\#1$ with the drive motor running.		
	Yes No		
8.	Is the drive motor field resistance approximately 16 ohms?		
	Yes No		
9.	Does the L contactor stick shut occasionally as verified by the drive motor continuing to run with the speed control in neutral.		
	NOTE: Determine first that this symptom is not produced by speed control cam overtravel as described in Item 6.		
	Yes No		
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	itional Information		
Wha	t was the operating condition when failure occurred?		
1.	Stopping (speed control returning to neutral)		
2.			
	Forward to Reverse		
	Reverse to Forward		
3.	Failure occurred during impact (dropped over curb, in hole, snow/dozer blade snapped up, etc.)		
	Explain		
4.	Other conditions		