



Stolle Machinery Company, LLC

Stolle Advanced Technology Operations (SATO)

Technical Bulletin Number: 003

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Necker (E-NCKR) Light Tester Detector Maintenance

Serial Numbers Affected:

All Existing Neckers are Effected

1.1 Overview

The Stolle Necker (E-NCKR) Light Test module requires that the Light Detecting Sensor be isolated from light at all times. To maintain a light seal between the Sensor Housing and a rotating Turret Disc a wear pad is used on the Light Test Shoe Sub-assembly. The Wear Pad provides a light seal without damaging either the Sensor Housing or the Turret Disc.

1.2 Issue

The Wear Pad on the Light Test Shoe Sub-assembly is designed to be a consumable wear component that needs to be inspected monthly. There is also a sensor that monitors the pad wear, and will send a signal to the HMI system that the Sub-assembly needs to be replaced. The sensor needs to be tested weekly to ensure it is functional and monitoring pad wear. If the pad is not replaced scoring may occur on the inboard side of the Turret Disc that jeopardizes the ability of the Light Test module to function correctly. Refer to Figure 1-1.



Figure 1-1. Scoring on the Back of the Turret Disc

1.3 Correction

The best way forward with this issue is to implement new maintenance procedures. A weekly sensor test must be implemented to ensure the sensor is operational. A monthly inspection of the Light Test Shoe Sub-assembly must be undertaken, and the unit must be replaced if it is worn.

WARNING!

Stop the Die Necker. Depress the E-stop, and de-energize the electrical power to the blowers. Place the machine in a safe state by following End User's Lock-out/Tag-out procedure. Failure to do so may result in injury to personnel or damage to the machine.

1.4 Testing the Wear Pad Sensor

The sensor is a proximity switch attached to the Light Detector Mounting Plate. As the pad wears the distance from the sensor to the press fit button mounted on the Light Test Shoe Sub-assembly will increase. When the preset proximity is exceeded the sensor will trigger the alarm.

Testing the Wear Pad Sensor is a two person task. One will monitor the HMI for activation, and the other will pull the sensor away from the Light Test Shoe Sub-assembly. Loosen the inside nut on the proximity switch, and slowly pull the sensor towards the drive side of the machine until the alarms activate on the HMI.

1.5 Inspect and Replace the Light Test Shoe Sub-assembly

Perform the following steps to dis-assemble, replace, and re-install the Light Test Shoe Sub-assembly:

1. Raise the Light Test Unit to it's upper maintenance position. Refer to Figure 1-2.

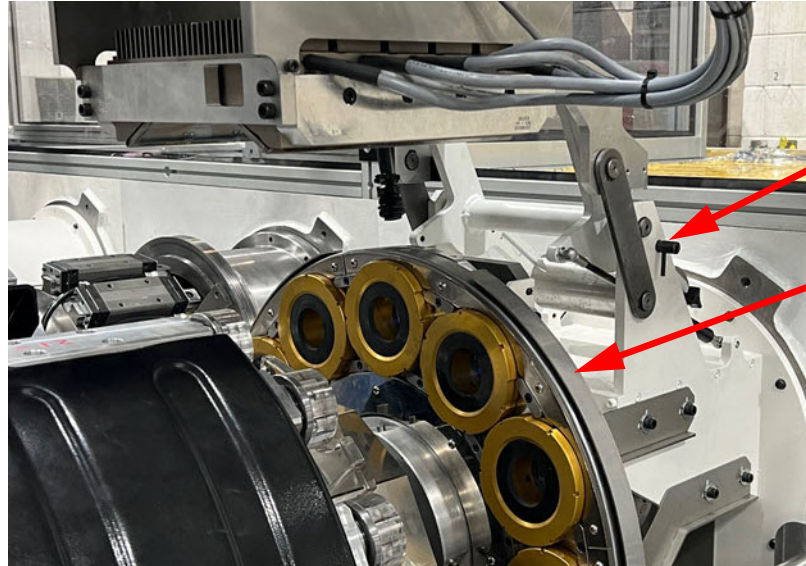


Figure 1-2. Light Test Unit in Upper Maintenance Position

2. Access the rear of the Turret Disc to remove the Light Tester Detector. Refer to Figure 1-3, page 1-3.

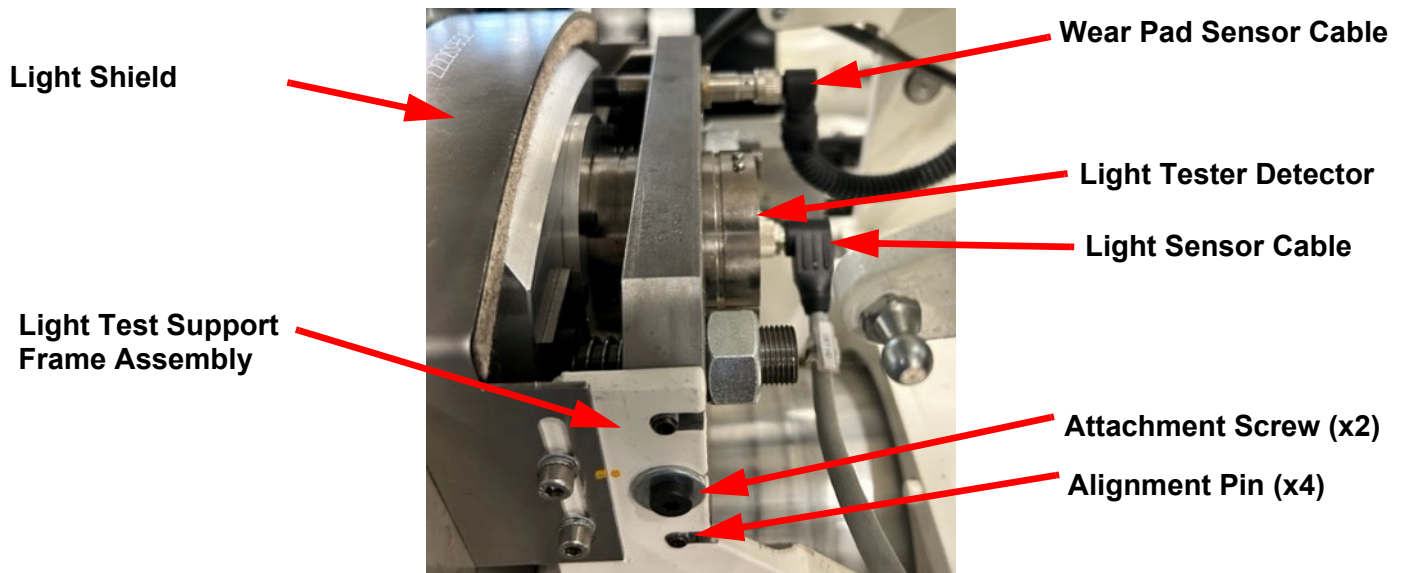


Figure 1-3. Light Tester Detector Location

3. Loosen and remove the four socket head caps screws on the Light Shield with a 5/32 inch hex tool.
4. Remove the Light Shield.
5. Disconnect the Wear Pad Sensor Cable and the Light Sensor Cable.
6. Loosen the two attachment screws using a 1/4 inch hex tool. Do not completely remove screws.
7. Carefully slide the Light Tester Detector Assembly free of the bracket, and place the assembly wear pad down on a stable, flat surface such as a workbench.
8. Loosen the two hex nuts with a 1 1/8 inch wrench. Refer to Figure 1-4.

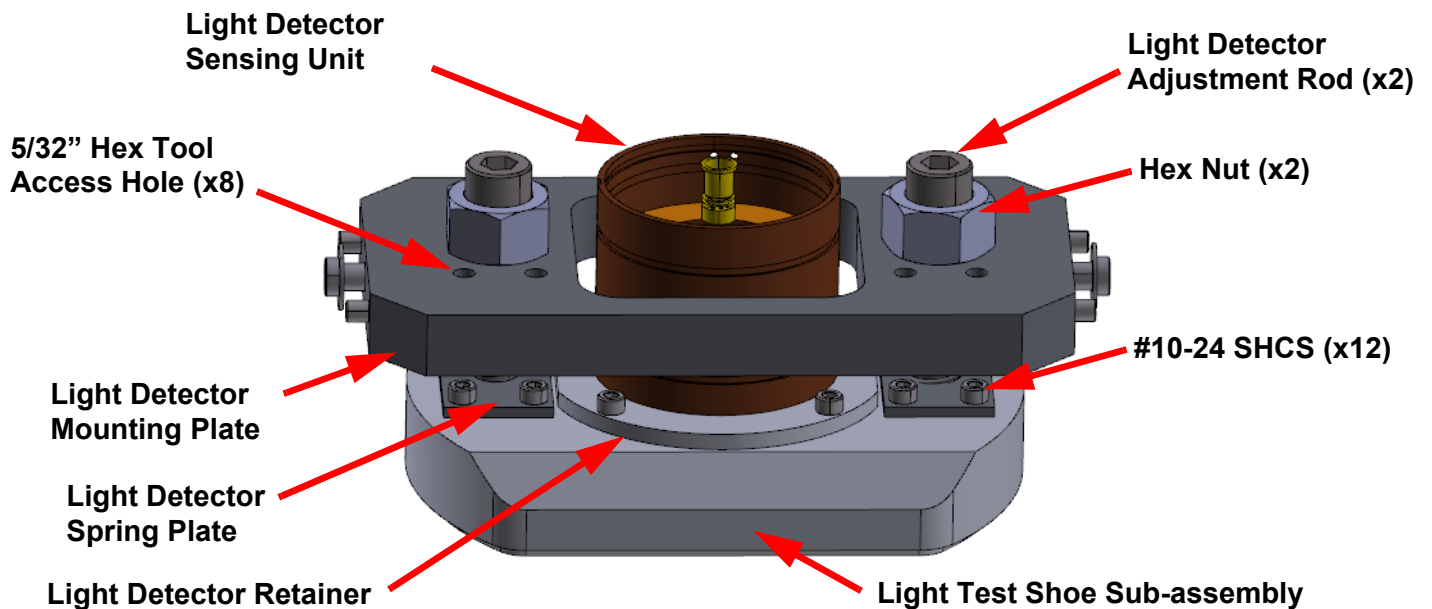


Figure 1-4. Light Tester Detector Assembly

9. Loosen the spring tension of the Light Tester Detector Assembly By turning the two Light Detector Adjustment Rods counter-clockwise with a 3/8 inch hex tool. Alternate loosening each side 1/4 turn at a time to prevent binding.

10. Remove the eight socket head cap screws holding down the two Light Detector Spring Plates with a 5/32 inch hex tool. The holes in the Light Detector Mounting plate allow for straight access to the screws with a long tool.
11. Remove Mounting Plate and adjustment components by lifting straight up. Set the parts to aside for reassembly.
12. Remove the four socket head cap screws holding down the Light Detector Retainer with a 5/32 inch hex tool.
13. Remove the Light Detector Retainer and Sensing Unit. Set the parts aside for reassembly.
14. Set the Light Test Shoe Sub-assembly aside to send for refurbishment. Refer to Figure 1-5.

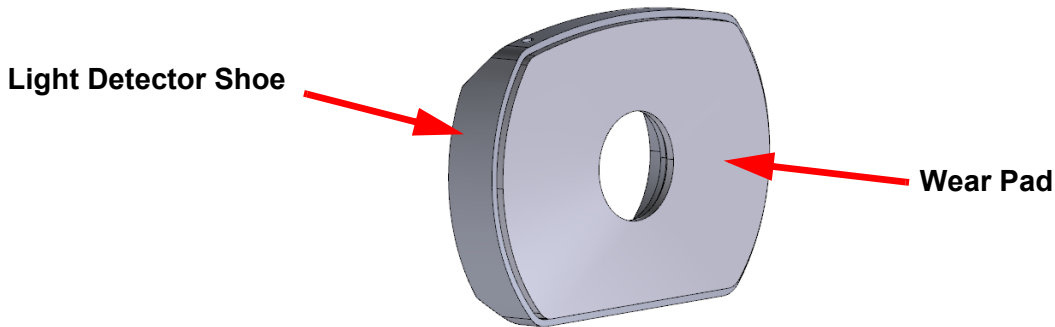


Figure 1-5. Light Test Shoe Sub-assembly

15. Place a new or refurbished Light Test Shoe Sub-assembly on a clean work surface, with the wear pad face down.
16. Replace the Light Detector Sensing Unit and Retainer on the Light Test Shoe Sub-assembly.
17. Replace the four socket head cap screws holding down the Light Detector Retainer using a 5/32 inch hex tool. Torque to 25 in/lbs (3 Nm).
18. Replace the Mounting Plate and adjustment components.
19. Replace the eight socket head cap screws holding down the two Light Detector Spring Plates with a 5/32 inch hex tool. Torque to 25 in/lbs (3 Nm).
20. Tighten down the two Light Detector Adjustment Rods by turning them clockwise with a 3/8 inch hex tool. Alternate loosening each side 1/4 turn at a time to prevent binding. The nominal installed position will allow a 2.06 inch measurement between the front of the wear pad and the closest face of the Mounting Plate.
21. Tighten the two hex nuts hand tight.
22. Reinstall the assembled Detector onto the Light Test Support Frame Assembly by sliding the unit into position, guided by the alignment pins. Tighten the attachment screws with a 1/4 inch hex tool. Torque the screws to 150 ± 5 in/lbs (17 ± 0.6 Nm)
23. Make necessary adjustments to optimize contact between the Turret Disc and the wear pad by turning the Light Detector Adjustment Rods.
24. Lock the assembly in place by tightening the two hex nuts on the Adjustment Rods. Torque the nuts to 25 ± 5 ft/lbs (33.9 ± 6.8 Nm).
25. Reconnect the sensor cables.
26. Re-install the Light Shield.
27. Remove the Lockout/Tagout and re-energize the Necker.
28. Begin operation as normal.

1.6 Design and Part Update

It is recommended that two Light Test Shoe Sub-assemblies, Stolle Part Number 222167720, be stored as recommended spare parts to minimize Necker downtime. When one is sent to Stolle Machinery for refurbishment, one will be installed on the unit and one stored as backup until the refurbished unit returns. It is recommended that the Light Test Shoe Sub-assembly be refurbished by Stolle Machinery and not by the customer.

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