

Star Trek the Next Generation, Laser Cannon Kit:

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(Patent Pending)

<http://mickspinball.com>

Kit includes:

- 2 New Enhanced Playfield Cannons with Built in Laser Mount
- 2 Lasers and Component Wiring Harness
- 4 Small Plastic Ties
- 8 Long Cannon Mounting Screws, (if needed)
- 2 Black Plastic Cannon Base Wire Bushings
- Assorted Nylon Cannon Adjustment Spacers, (if needed)

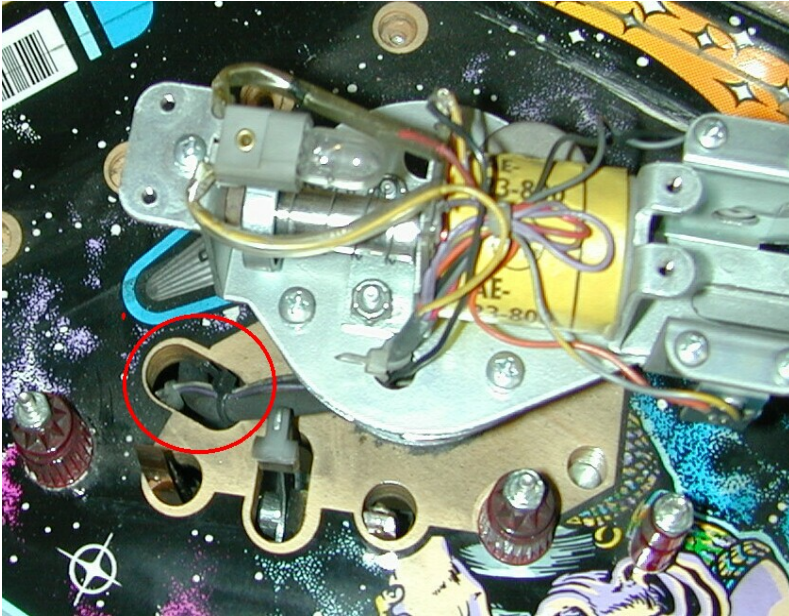
All components were inspected and tested before shipping.

PLEASE READ THROUGH THESE INSTRUCTIONS FIRST BEFORE STARTING INSTALLATION, GROMMET SEQUENCE AND CORRECT LASER HANDLING ARE IMPORTANT.

NO NOT PULL OR TWIST THE LASER WIRES, kit was fully tested before shipment, some people have pulled the laser leads out during installation, please be very careful..!!!

1. Remove glass, balls, and anything loose etc. and pull playfield straight back, leave down in horizontal position.
2. Remove both cannons.
3. The removal of the slingshot plastics are not necessary, (optional) just be careful when routing the laser harness up and through the cannon base, and try to not move or bend the slingshot blade switches.
4. Lift up the playfield and place in upright resting position.

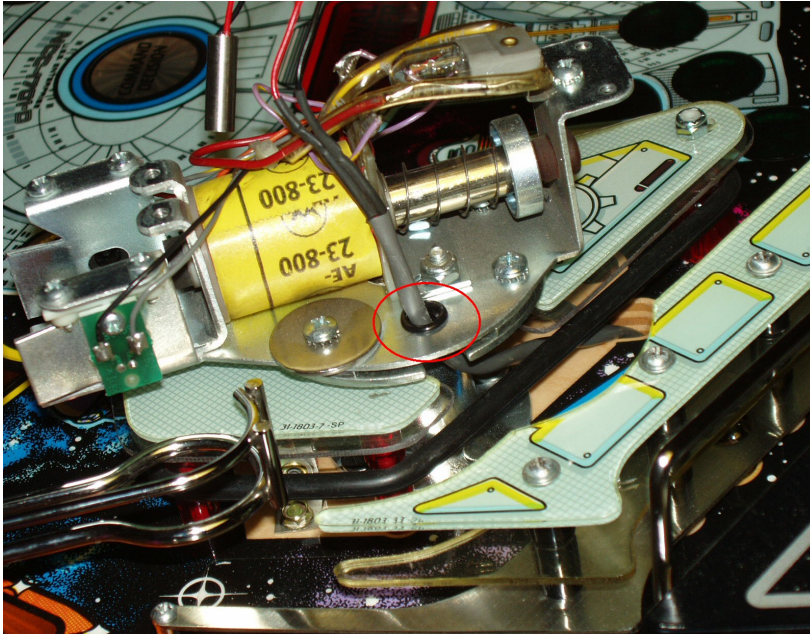
5. Look for the left entrance hole for the existing wiring harness that goes up to the cannon area, (from bottom) as shown with the red circle in this playfield top view picture shown below.



6. Push up from the bottom of playfield the laser with attached gray cable, (about 6 inches) and then up through the empty hole in the metal cannon base, shown below. **DO NOT PULL ON THE LASER WIRE LEADS, AS THEY COULD PULL OUT!**



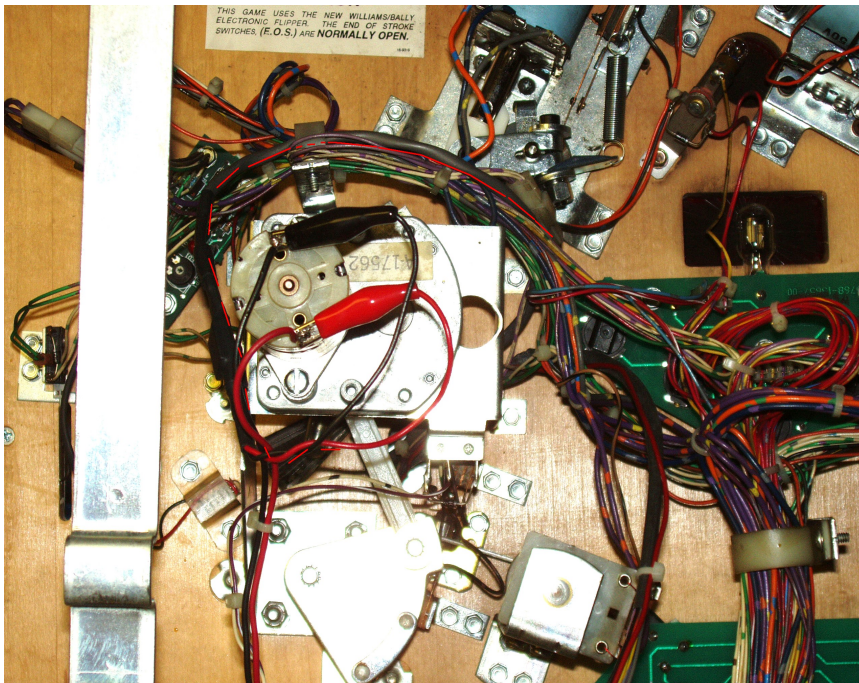
7. Repeat for right side.
8. Lower playfield back to down/horizontal position, keep an eye on the new cables that are hanging loose..!
9. Now you may snap in black plastic bushing/s, shown below.



10. Take new cannon cover, turn upside down and **CAREFULLY** insert front of laser (first) into cannon cover molded hole, **NOTE**, keep laser's wires parallel to wire slot, (see below picture) and very carefully push in the laser, then push down until fully seated.

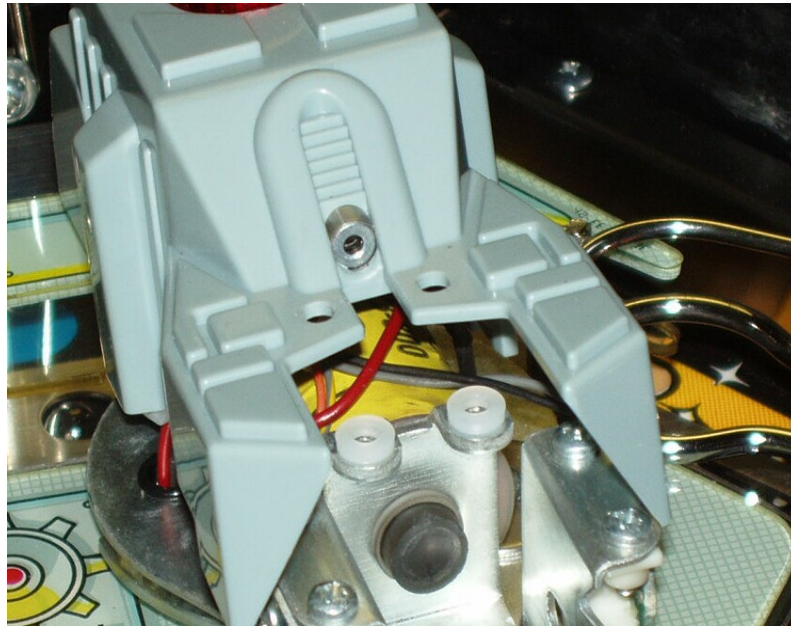


11. Complete the same operation for the other side.
12. Pull or remove slack of the cable harness & wires as needed and carefully place new cannon cover with installed laser back on base.
13. Screw down cannon covers.
14. Neatly place and carefully dress the new cable assembly (slack) down through playfield hole.
15. You are now done with the top portion of this installation.
16. Raise playfield and carefully route new wiring harness through existing wire retainers working your way to the cannon motor. Be very **CAREFULL** with the component, **(black heat shrink)** section of the cable harness, **DO NOT squeeze, twist or bend...!**
17. Either clip on, (option) or solder wires to the motor power wire input location, red-to-red, black-to-black, as shown below.



18. Use, (supplied) plastic ties to captivate & secure any loose wires.
19. Lower playfield and replace balls.
20. Turn on the machine to test the cannons, T.14 left and T.15 right to verify the laser alignment. The lasers light whenever the motor is on.
21. If you want to change the angle of the laser then loosen up the cannon mounting screws to determine if you want to raise the front or the rear of the cannon to adjust.

22. If you decide to change the angle, remove screws and insert the supplied nylon washers to maintain the desired angle, either front **or** rear, see below, (example) picture.



23. Replace and secure cannon mounting screws, use the longer screws if necessary, (4 each per cannon, furnished)
24. Replace glass.
25. Enjoy and please email me directly if there are any questions or comments.

Thank you, Mick Rogala

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