

CARE AND MAINTENANCE GUIDE FOR EDTS10-843-() MODELS



DAYTON-GRANGER, INC.
3299 SW 9 Avenue
Fort Lauderdale, FL 33315
(954) 463-3451
sales@daytongranger.com

SAFETY INFORMATION

WARNING

1. High voltage is used in the operation of this equipment.
2. Serious injury or death may result if personnel fail to observe safety precautions.
3. Be careful not to contact high voltage connections when operating this equipment.
4. Before disassembling the equipment for inspection, repair or pack-up, turn power off and ground all points of high voltage potential before touching them.
5. Potentially dangerous voltages may be present on panel terminals.
6. Follow all warnings in this guide when operating or servicing this instrument.
7. Always set the high voltage "OFF" before connecting or disconnecting components.
8. Potential for fire hazard.
9. Do not operate this unit in the vicinity of flammable substances.

INTRODUCTION

1. **DG Nameplate**, located on the front panel.
2. **Front Panel**
3. **Handle**, to access handle, pull it up.



Figure 1 EDTS Protective Case, Front



Figure 2 EDTS Protective Case, Bottom

4. **Bottom of Unit**
5. **Stacking Foot, Male (4)**. Located on the bottom of the unit on all 4 corners. When attached, units may be stacked.
6. **Screws (4)**: Located on the bottom of unit, reinforces the HV power supply. **DO NOT UNSCREW!**

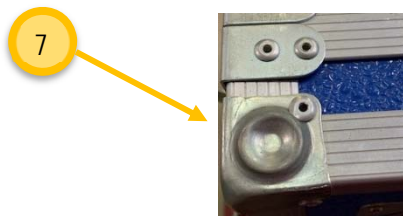


Figure 3 Surface Mount Female Steel Stacking Foot

7. **Stacking Foot, Female (4)**: Located on the top of the unit on all 4 corners. When attached, units may be stacked

NOTE: It is also a good indicator that the door is in the proper up position when attached to the box.

SECURING UNIT

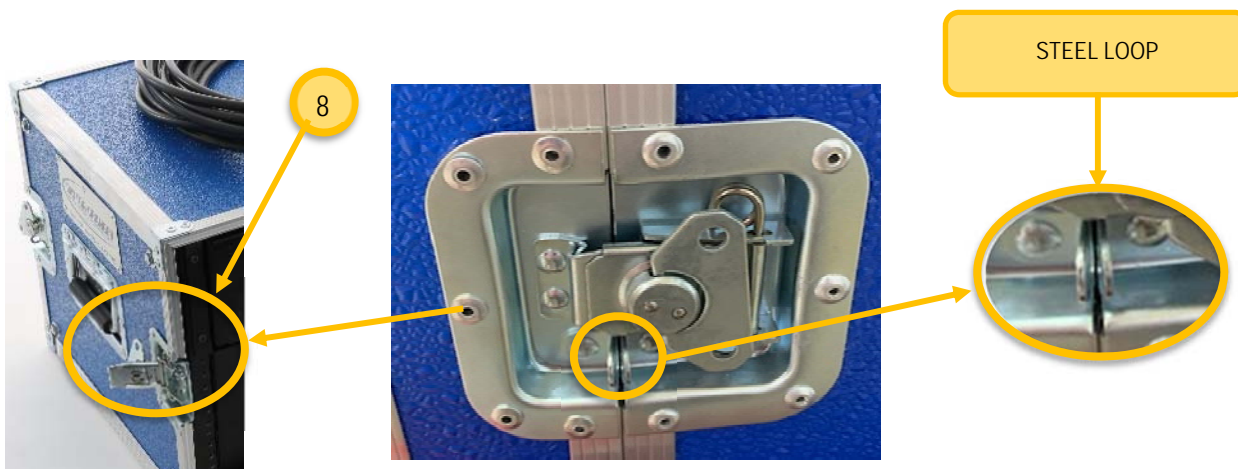


Figure 4 Large Recessed Twist Catch

8. Attached to the main body of the box units there are 4 latches that allow the doors to be secured during transport and stowage.

NOTE: Steel Loop holes allow for a small lock to be installed to keep insides secure.



Figure 5 Probe Extension Storage Straps (Front Access Door)

9. The two Velcro straps inside the front access door are used to stow the probe extensions. This prevents the probe extensions from causing damage to the front panel switches, knobs, and meters.

INTERNAL ITEMS

10. 50 ft. HV cable is **NOT** detachable from the EDTS box. It must be inspected before and after each use and be free of cuts, tears, and nicks in the cable. Clean the cable with a cloth rag after each use.
11. The probe assembly wand must be tucked under the HV cable.
12. DG recommends that the Velcro straps be used to hold the cable assembly in a neat organized fashion.



Figure 6 HV Probe Assembly Cable (Rear Access Door)



Figure 7 Warnings, Cautions, and Power Input

13. The Shock Watch sticker will turn red once the unit has been dropped. There are two indicators on the EDTS units.
14. Pay attention to the power input. If the unit is taken outside of the USA, it will need a power converter to operate in other countries.
15. The circuit breaker will trip when there has been a current overload or a short. Once circuit has been corrected the push button will allow it to be reset.

INTERNAL ITEMS

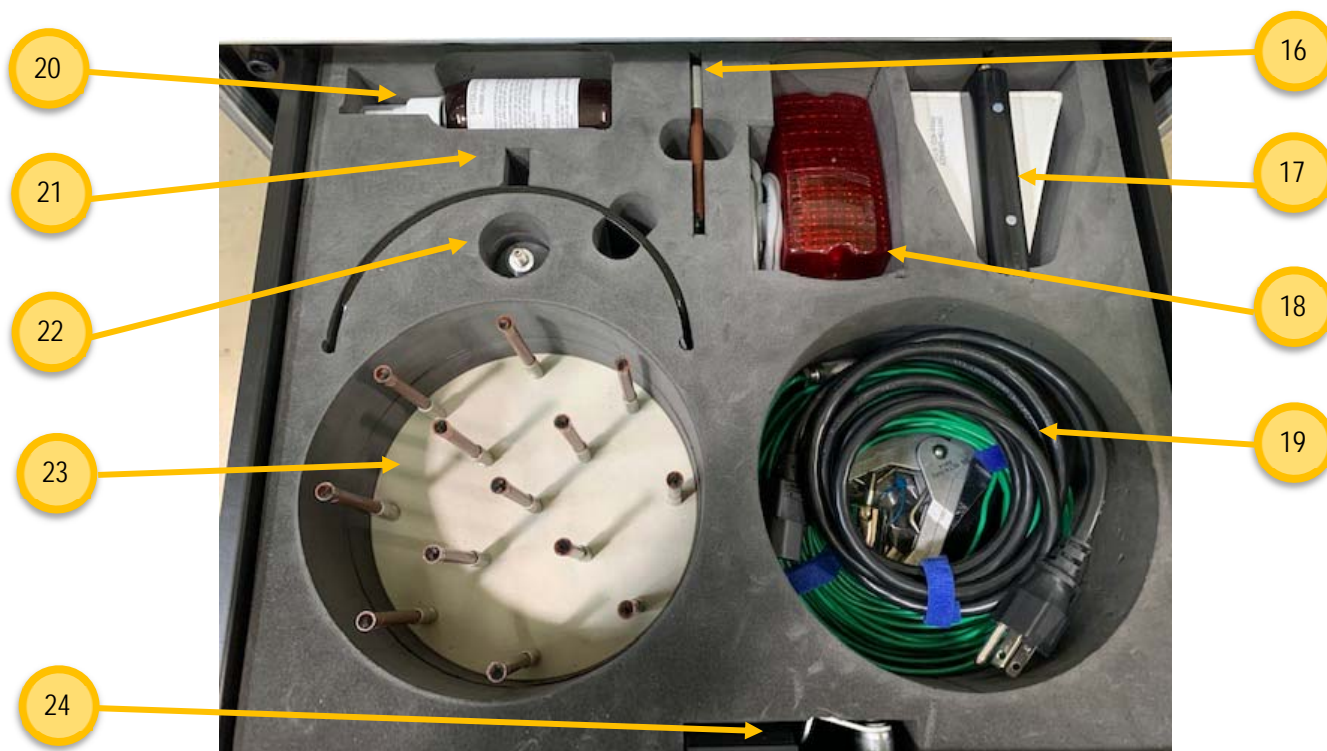


Figure 8 Components and Assessories Drawer

ITEM	INFORMATION
16. Extra Ion Streamer Dischargers	(3x)
17. Probe Meter	Attachment end facing up
18. EDTS Warning Light	Illuminates and flashes when EDTS is turned on
19. Anti-static Spray	Read the instruction label on bottle
20. Input Power cord and Grounding Cable	Check for nicks, cuts, damage to cables
21. Collector Dish	Check for damages, measure before use
22. Corona Ball	Keep surface smooth and free of nicks
23. Ion Streamer	Keep dischargers free of all surface contacts, use impact screwdriver to remove and replace damaged dischargers
24. Drawer latch and lock	Keys are available inside drawer when unit is received

CONTROLS

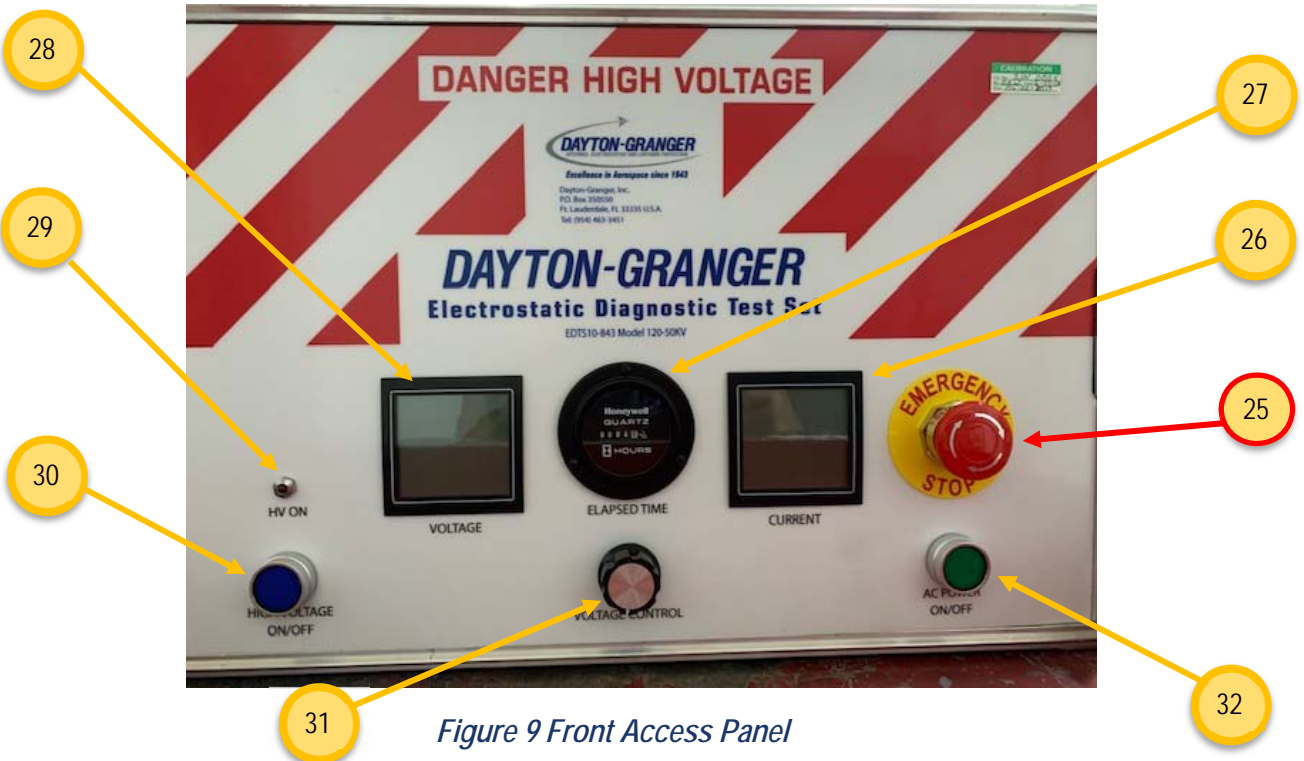


Figure 9 Front Access Panel

<i>CONTROL</i>	<i>PURPOSE</i>
25. Emergency Stop Button	Push to Halt HV unit immediately. Turn slightly clockwise to return back to normal state once emergency has been corrected.
26. Current Meter	Used to measure current on end of HV probe.
27. Hour Meter	Number of hours EDTS unit has been in use.
28. Voltage Meter	Used to measure voltage on end of HV probe.
29. HV Light	When illuminated HV is present on end of probe. The light will go off when the Emergency Stop Button is engaged.
30. HV ON/OFF Switch	Turns on the HV power supply.
31. Voltage Control Knob	Increases voltage on HV probe.
32. AC Power ON/Off Switch	Turns on AC power.

INSTRUCTIONS

33. The ion streamer is an ionized round plate with 13 static dischargers mounted on the end of the HV probe assembly cable of the EDTS.

- Inspect each individual static discharger to make sure it is free of debris.
- Measure each static discharger with a Megohm meter (Spec: 6-120 MOhms)
- Replacement dischargers can be installed with an impact screwdriver and a pair of pliers.
- Ion Streamer should never touch the aircraft skin.
- When grounding the ion streamer touch the side of the round plate to grounded surface.
- Never ground using the tips of the dischargers.

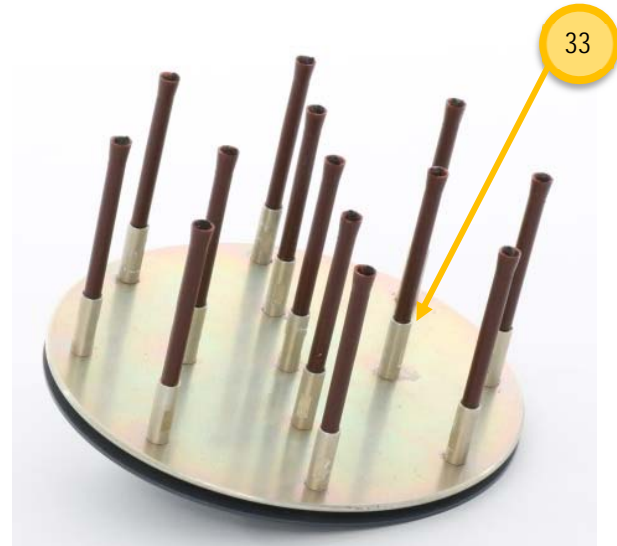


Figure 10 Ion Streamer



Figure 11 Collector Dish

34. The collector dish is constructed of fiberglass with a resistive coating to give the operator the capability to apply concentrated high voltage fields near or at the leading edge of antennas, trailing edges of small aircraft, and static dischargers.

- Measure using a Megohm meter and a wet sponge before every use. (Spec 6-120 Mohms)
- Check for cracks, chips, and any issues that would prevent the collector dish from functioning properly.

INSTRUCTIONS

35. The Corona Ball is an aluminum ball used to sweep all areas of an aircraft to determine the integrity of bonding.

NOTE: Check for dents, chips, scraps, etc. that would interfere or cause a false testing results.

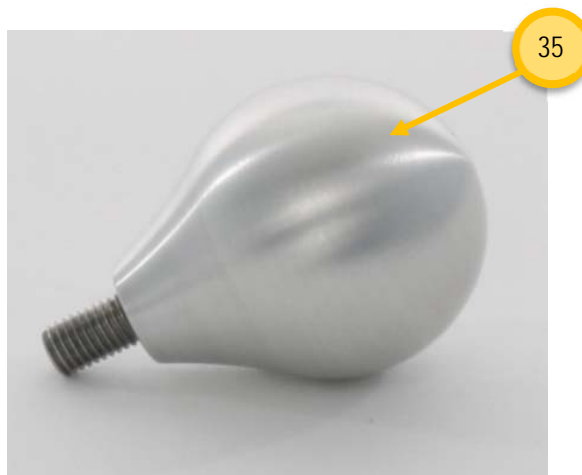


Figure 12 Corona Ball

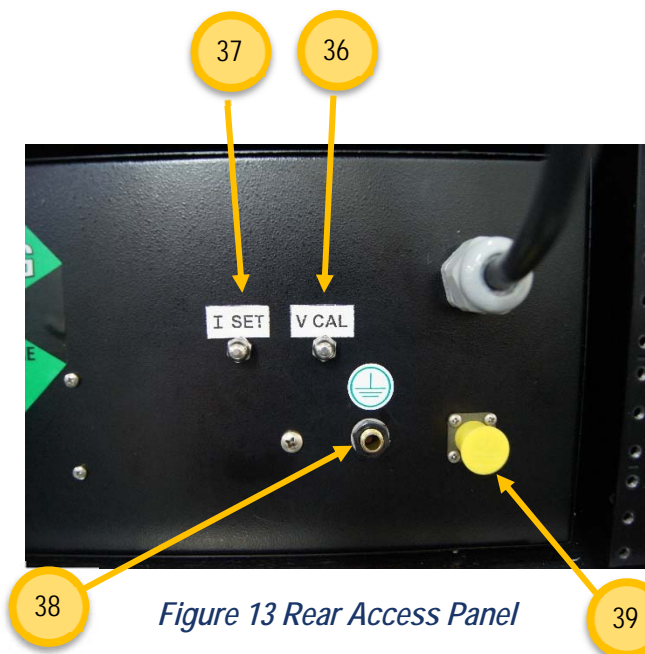


Figure 13 Rear Access Panel

36. The V Cal potentiometer is used to tune the voltage meter on the front panel. It has a locking nut that should remain locked after the unit has been calibrated.
37. The I Set potentiometer is used to tune the current meter on the front panel. It has a locking nut that should remain locked after the unit has been calibrated.
38. The ground plug is used to ground the unit using the grounding cable.
39. The HV light plug has a two pin connection that allows the light to be illuminated when the EDTS unit is on.

INSTRUCTIONS

40. The HV probe assembly cable is a vital part of the EDTS units. It needs to be taken care of and free of nicks and cuts. Inspect entire cable before operation of EDTS and clean with a cloth after each use.
41. The HV probe assembly cable is NOT detachable. Do not turn or loosen the cable grommet at any time.

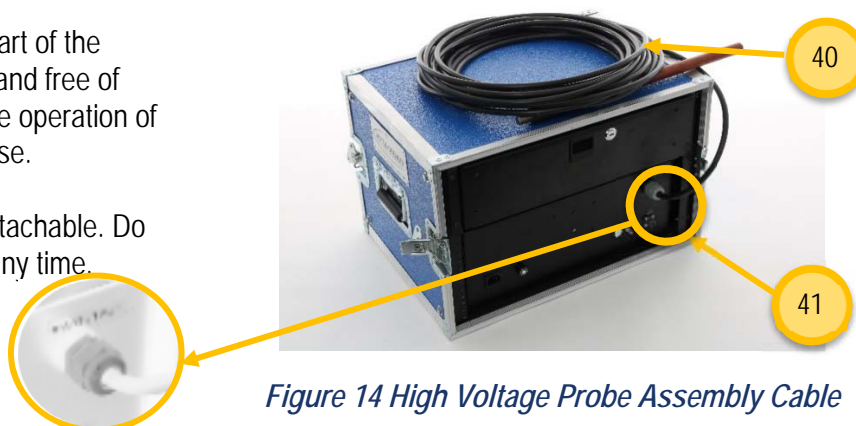


Figure 14 High Voltage Probe Assembly Cable

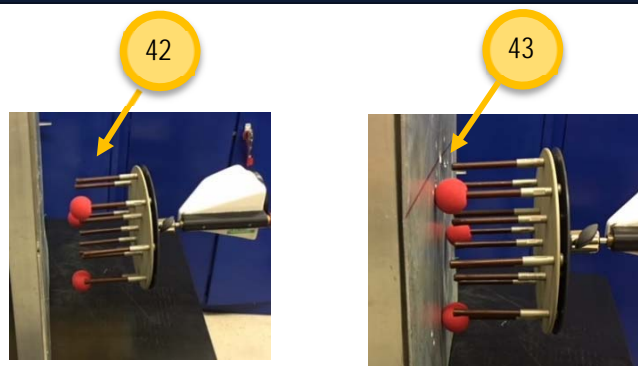


Figure 15 HV Head Component Attachments

42. When performing a HV test you want to keep approximately 2-3 inch distance from the surfaces on the aircraft. If you are not reaching the correct amount of current then you can turn the voltage control knob up.
43. Another technique is to find small foam balls that you can cut slightly and fit over a few of the static dischargers and then you would be allowed to get closer to the aircraft and safely test without worries of scratching the aircraft or causing an arc.

44. Changing out the head components needs to be done over a safe surface like a table or cart if available. Make sure all the heads are on snug but not overtighten. If using the knuckle make sure to position the head before testing begins. Position the heads to a degree that will allow the tester to test all parts of the aircraft with minimum change in posture. This allows testing in hard to reach areas on the aircraft.
45. The probe meter allows the tester to see the amount of current on the end of the probe wand and not be so close to the EDTS. The probe meter is calibrated before it is shipped and from then on out will only be used a reference for testing purpose. No calibration is required for the probe meter. Store all head components in their proper cut out in the EDTS drawer.



Figure 16 HV Head Component Attachments

INSTRUCTIONS



ITEM	PURPOSE
46. Milliohm meter:	Used to measure the resistance from the aircraft know ground point and static discharger retainers and antenna mounting points (screw heads).
47. Anti-static spray:	A transparent, high resistive, temporary coating for use on insulating surfaces to prevent streamering noise in precipitation static conditions. This is a temporary fix that will only last about 2-3 average flights.
48. Extra Static Dischargers:	Replacement static dischargers for ion streamer. Use impact screwdriver to remove and install damaged dischargers.
49. Plug Adapter:	Use this adapter with carbon tip discharger to allow your Megohm meter probe to attach to adapter and leave a free hand to push the test button on the meter.
50. Ball Joint Adapter:	Allows adjustments to the head components of the EDTS. Make sure the knob on the ball joint adapter is tight before testing.
51. Probe Meter	Measures the current and allows the tester to move away from the EDTS. The tester is able to continue testing the aircraft without having to look at the current meter on the front panel.
52. Megohm Meter:	Used to measure the current and allows the tester to move away from the EDTS. The tester is able to continue testing the aircraft without having to look at the current meter on the front panel.
53. EDTS14-843 Case:	Accessory kit case designed to hold all the accessories and make travel convenient.