

**State of Vermont**  
**Department of Public Safety**  
45 State Drive  
Waterbury, Vermont 05671-1300  
<http://dps.vermont.gov/>

## **Vehicle Installation Guidance for the TraCS / Spillman Configuration**

# **Standard Operating Procedure**

**Version:** 1.0

**Date of Publication:** 02-August-2019

## 1. Purpose

This document is intended to standardize the installation of e-ticketing hardware for the TraCS/Spillman configuration. The Ford Police Interceptor Utility Vehicle (2016-2019) has been used as the model vehicle for this Standard Operating Procedure. However, the SOP has been written generically to accommodate other models.

## 2. Contact Information

The Department of Public Safety e-ticket installation staff can be contacted via email at: [dps.help@vermont.gov](mailto:dps.help@vermont.gov) and by phone at: **802-655-0748**

## 3. General Overview

Installation of e-ticketing hardware occurs in four phases:

1. Create a safe environment for working.
  - a. Ensure adequate personnel
  - b. Turn-off the vehicle
  - c. Power-off all devices
  - d. Ensure adequate lighting
2. Install the brackets
  - a. Remove all devices in the console
  - b. Secure the mounting bracket over the console
  - c. Secure the printer bracket to the mounting bracket
3. Reinstall pre-existing equipment
  - a. Insert all pre-existing equipment
  - b. Insert the printer into the printer bracket
4. Provide power to the printer
  - a. Ensure adequate personnel
  - b. Select source of power
  - c. Ground the power-wire
  - d. Connect the power-wire to the printer
  - e. Confirm printer has power
  - f. Turn-on the vehicle
  - g. Power-on the devices

**All pre-existing and installed devices must be powered-on to complete the SOP.** This installation may take 2 to 4 hours, but after practice may take less than 2 hours to complete.

Once the hardware is installed and the printer has been turned on, the paper may be added to the printer. The installer is not required to provide or insert paper into the printer. The Vermont Law Enforcement Officer or Point-of-Contact will be responsible for installing and replacing the paper.

**4. Persons involved**

Installation of e-ticketing equipment is managed by the Vermont Law Enforcement Agency. The installer may be a member of the VT LEA (such as a fleet manager, or mechanic), a business partner, or a contractor.

<b>Position</b>	<b>Role</b>
Head of Department (Police Chief, Sheriff or equiv.)	<ul style="list-style-type: none"> <li>• Authorizes e-ticketing procurement, installation, connectivity, and user training</li> </ul>
E-ticket Point-of-Contact (PoC)	<ul style="list-style-type: none"> <li>• Coordinates e-ticketing procurement, installation, connectivity, and user training</li> <li>• Troubleshoots the hardware to confirm it is in working condition</li> <li>• Ensures e-ticketing hardware is securely installed and functional</li> </ul>
E-ticket user (Vermont Law Enforcement Officer)	<ul style="list-style-type: none"> <li>• Completes TraCS training offered by the VT LEA PoC</li> <li>• Issues e-ticket to Defendant</li> <li>• Notifies PoC of issues with hardware</li> </ul>
E-ticket installer	<ul style="list-style-type: none"> <li>• Installs e-ticket hardware per specifications of VT LEA</li> </ul>

**5. Pre-Conditions**

All Vermont Law Enforcement Agencies (VT LEAs) must ensure the following pre-conditions have been met prior to installing e-ticketing hardware.

- 1) The VT LEA Point-of-Contact must have installed TraCS on to the computer(s) used to issue e-tickets.
- 2) DPS e-ticket technical staff and the PoC must communicate to validate that a TraCS account for the VT LEA and LEO has been established.

Note: See *VT LEA E-Ticketing Procurement* for procurement guidance, *VT LEA Onboarding to TraCS* for specific hardware and software requirements, and to configure TraCS with DPS.

## 6. Terminology

The e-ticket hardware is composed of the following materials:

- Center Console
- MDC
- MDC Platform
- MDC Stand pole
- MDC Base (if applicable)
- Mounting Bracket
- Printer Bracket
- Driver's License Reader
- Power-wire

## 7. Create a safe working environment for the install

### Goal:

This is a preparatory step for installing the printer mount. The goal is to reduce and mitigate any hazards or barriers to successfully installing the e-ticket hardware. Some hazards may include unsecure firearms and the vehicle with ignition running. Barriers include inadequate personnel and complete availability of the vehicle for the duration of the install.

### Materials Involved:

- E-ticket hardware

### 7.1. Ensure adequate personnel

#### 7.1.1. For installing brackets:

Installers should have significant visual and dexterity skills. Installers must possess the dexterity to use standard repair tools (such as a screw driver), be familiar with some specialty materials (such as a Torx bit), be able to estimate angles, be able to work in the confined space of a fully-equipped law enforcement vehicle, have the strength to lift, maneuver, and fit a 4lbs H-shaped metal bracket over the center console of a fully-equipped law enforcement vehicle, have the strength to lift, maneuver, and secure a 5lbs metal printing mount to the metal bracket.

#### 7.1.2. For powering the printer:

The installer must also understand general principals of electricity and electrician skills; be familiar with concepts such as power and ground, the use and regulation of voltage, as well as the splitting and connecting of wires. Finally, the installer must be capable of securing long wires to prevent their dislodging, tangling, and entrapment while enabling any equipment or passenger movement.

### 7.2. Turn-off the vehicle

- 7.2.1. If the vehicle has not been turned off, ensure the vehicle is in Park, and use the vehicle's key to turn off the ignition

**7.3. Power-off all devices**

**7.3.1.** If the vehicle’s ignition is off and accessory power remains on, power-down all interior equipment (radios, computers, etc) and turn off the accessory power.

**7.4. Ensure adequate lighting**

**7.4.1.** Make sure your workspace is well-lit.

**7.4.2.** DO NOT use the vehicle’s interior lights for lighting.

**8. Install the brackets**

**Goal:**

After ensuring a safe workspace, the next step is to ensure a clear workspace. The goal here is to remove the MDC, its supporting structures and all existing devices in the console.

**Materials Involved:**

- Screwdriver: Torx (if Torx bit) or ¼ inch Hex head (if self-tapping screw)
- Driver’s License Scanner / Reader
- Mobile Printer
- Mounting Bracket
- Printer Mount

**Example Equipment:**

Equipment Type	Manufacturer	Make / Model	Mfg Part Number	Compatible With
Scanner	L-Tron	Microphone Style Driver License Reader Kit	4910LR-152-LTRK	Spillman
Printer	Brother Mobile Solutions	PocketJet 7	PJ 722	Spillman
Mounts	Havis	Printer docking cradle mounting bracket - black	DS-DA-238	Ford PI
Mounts	Havis	Mounting component (bracket) - steel - in-car	C-SM-SA	Ford PIU
Mounts	Havis	Printer mount	C-PM-109	Ford PI / PIU
Cabling	Brother Mobile Solutions	PocketJet 3, 3 Plus, 6, 6 Plus, RuggedJet 4030, 4040 Car Adapter - Wired - 14 Foot Length	LB3692	Brother PocketJet 7
Cabling	Brother Mobile Solutions	USB Cable - 6 foot length	LB3602	Brother PocketJet 7
Power Adapter	Pentax	Power adapter - car - 1 output connector(s)	LB3692	Brother PocketJet 7

## **Installation Procedure:**

### **8.1. Remove the MDC**

**8.1.1.** If not already removed from the vehicle, dislodge the MDC from the MDC Platform and hand it to the law enforcement officer.

### **8.2. Remove the MDC mount**

**8.2.1.** The MDC mount consists of a platform for the MDC, and a stand pole to support the platform. The stand pole may be secured to a base or to the console. Most MDC mounts can be removed via the knob on the stand pole, others can be removed by loosening the washer or hinge on the stand pole, some are directly secured to a base, and the entire unit is able to be removed by unbolting the stand from the base, or unbolting the base.

**8.2.1.1.** When this is not the case, the MDC mount may be secured underneath the front passenger seat at the seat bolts. The entire unit may be uninstalled by unbolting the MDC mount base from the seat bolts.

### **8.3. Remove console devices**

Depending on the model of the vehicle, you may need to remove the console devices or disconnect the devices and remove them.

**8.3.1.** Using an 11mm ratchet wrench, unbolt and remove all Carriage Bolts on both sides of the console.

**8.3.2.** Remove all radios from the center console.

**8.3.3.** Remove the siren box (if present).

**8.3.4.** Remove the lightbar control box.

**8.3.5.** Remove the DVR for the Forward-Facing Camera (if so installed).

### **8.4. Secure the mounting bracket**

**8.4.1.** Slide the mounting bracket over the center console. This may require some manual adjustment; you may need to tap the bracket over the console, expand or drill new hole(s) to secure it. The goal is to have the housing line-up on both sides to ensure the bracket mount can support the printer mount, while ensuring the ability to access other console devices is maintained.

**8.4.2.** The mounting bracket must rest over the center console with at least 1/2 inch clearance.

**8.4.3.** Insert and tighten the Carriage Bolts on both sides of the console to secure the mounting bracket.

### **8.5. Secure the printer bracket**

**8.5.1.** Slide the printer bracket onto the mounting bracket. This may also some manual adjustment as described in section 8.4. The goal is to align the sides of the printer bracket with sides of the mounting bracket. In its final form, the printer bracket should rest at the same angle as the dashboard.

### **8.6. Install the printer**

**8.6.1.** Insert the printer into the printer bracket, ensuring that a power wire can be inserted from the back of the printer and printer bracket.

**8.6.2.** Ensure the printer is installed without excessive tightness or looseness.

## 9. Reinstall pre-existing equipment

### Goal:

The goal is to safely re-install center console equipment and the MDC apparatus.

### Materials Involved:

- Torx screwdriver (if Torx bit)
- ¼ inch Hex head (if self-tapping screw)
- Impact driver
- 11mm ratchet wrench
- Spacer

### Installation Procedure:

#### 9.1. Insert console devices

NOTE: There is no minimum space required between panels. The installer may use a pocket screwdriver as a spacer to ensure equal distance between console devices and to ensure console devices are aligned.

9.1.1. Re-install all radios into the center console.

9.1.2. Re-install the siren box.

9.1.3. Re-install the lightbar control box.

9.1.4. Re-install the DVR for the Forward-Facing Camera (if so installed).

9.1.5. Carefully line up each device and individually secure it to the center console.

9.1.5.1. This may require realignment, adjustment, and rearranging of console devices.

9.1.5.2. Use a spacer to adjust console devices.

9.1.6. Using an impact driver, or like tool, secure devices with self-tapping torque T-20 torx bit or other screw of similar strength.

9.1.7. Re-insert and secure carriage bolts using 11mm ratchet wrench

## 10. Provide power to the printer

### Goal:

The goal is to safely power the newly installed printer.

### Materials Involved:

- Wire cutter
- Wire stripper
- Flat screwdriver
- Electrical tape
- Connectors
- Zip ties
- Power supply from e-ticketing hardware

**10.1. Select power source**

NOTE: The MDC is often powered from a charge guard or from a red power wire connected to the vehicle's alternator or capacitor. Use one of these as the source of power for the printer. Typically, the power wire to be used will be the power wire used to power the MDC. The power wire will be a 12V alternating current red wire that can be split to make a 20V direct current power wire. Again, the vehicle should be turned off for this procedure.

**10.1.1.** Tap into charge guard or splice the power wire (12V line) originating from the power source of the MDC to create a 12V power line that will power the printer.

**10.2. Ground power wire**

Ground the printer using the computer ground. This wire will be a black.

**10.3. Connect power wire to printer**

**10.3.1.** Connect the red power wire, with a 10amp fuse in-line, to the e-ticketing power supply.

**10.3.2.** Plug the USB adapter of the power supply into the printer.

**10.4. Confirm printer has power**

**10.4.1.** Turn on the printer to confirm the printer has been powered. Depending on the make, model and configuration of the law enforcement vehicle, the vehicle may need to be turned on.

**10.5. Confirm console devices have power**

**10.5.1.** At this time, other console devices may also be turned-on to ensure they are powered and functioning.

**10.6. Secure the wires**

**10.6.1.** Zip-tie wires to the MDC stand, leave slack for wires from MDC platform to pivot

**10.6.2.** Ensure platform can function after installation, as before installation

**10.6.2.1.** For example, some MDC platforms rotate, the height can be adjusted, etc.

**10.7. Replace the MDC apparatus**

**10.7.1.** Reinstall the MDC components (Base, Stand pole, and Platform)

**10.8. Install the reader**

**10.8.1.** Install a bracket for the driver's license reader (this may or may not come with the kit)

**10.8.2.** Connect the driver's license reader to the MDC

**10.9. Put vehicle in service**

After this, return the vehicle to the law enforcement agency / officer. If the law enforcement agency / officer uses the TraCS application with the Spillman RMS, then the next step is for them to follow *Onboarding to TraCS / Spillman* and *JB Approval (Spillman / TraCS)*. The

officer will need to also follow their department's policy for incorporating e-ticketing into their operations. If the law enforcement agency / officer uses the Valcour RMS, they must seek additional guidance from their e-ticketing Point-of-Contact for training to issue e-ticket.