

# Installation Guide

## *USA Trains GE 44Tonner & CamPac Components*

*Ted Doskaris*

10/12/2020



It's somewhat uncommon for a 1/29 scale diesel loco to have factory truck mount couplers as does the USA Trains GE 44 ton loco. Accordingly, the factory couplers are replaced with body mount 3-D printed boxes which accept the more prototypical Kadee centerset (no offset) G scale type E couplers – shown below as installed on the loco.



*Installing 3-D Printed Components, including, pedestals (with integrated pilot plug) and coupler boxes*

## Overview

- Instructions are provided as a guide for the installer of 3-D printed *CamPac Box™* and components on the USA Trains brand GE 44 Ton “G” (1/29) scale Diesel locomotive<sup>1</sup>.
- What’s done to the front of the loco is also to be done to the rear. (Revisions to loco includes pilots’ cutout to accept coupler box and replacing the pairs of factory screws which fasten hoods at each end of the chassis with longer screws.)  
**Note:** Only the pilot cutout revision to accept CamPac boxes™ made to the loco are irrevocable, which will affect the resale value to the possible detriment or benefit of the loco.
- The installer is to have access to tools and have adequate skills to make cuts and do finish work.
- Tools needed include Phillips type P1, P2 screwdrivers, razor saw, sharp pointed scribe or pen to mark cut lines, medium & small size files. (Measuring tools include machinist scale, caliper preferred, and access to a Kadee 980 coupler height gauge.)
- *CamPac* 3-D printed components include coupler boxes (2); pedestals with integrated pilot plug (2); Other items supplied are #2-56 long pan head screw to mount boxes (2); and #2-56 flathead screw to fasten box lids (2); and self-threading M3 or #4 long screw to replace factory hood M3 screws (4).
- **This loco is intended to operate on 8 foot diameter, or greater, curves with CamPac parts installed.**
- Not included: The installer will need to supply a Kadee 907 kit (1) of which all (but plastic box & screw) will be fitted onto each *CamPac Box*. The kit’s capsule of 0.010 inch thick shims may or may not be needed for leveling couplers.

### Instructions are provided to accomplish: the following:

- ✓ Install Kadee kit parts onto CamPac Box™ (coupler box)
- ✓ Replace factory truck mounted couplers with body mount CamPac 3-D printed boxes
- ✓ Cut out notch in front & rear pilots to accommodate box
- ✓ Install CamPac integrated pedestal/pilot plug that partly covers factory opening on front & rear of loco’s pilots
- ✓ Install coupler box assembly on pedestals at both ends of loco

## Installation Steps:

### Step 1 – Preparation

#### Coupler Box Assembling

Install selected parts from the Kadee 907 Kit in the CamPac Boxes as shown.

Check coupler for free motion with lid fastened. Lid screw adjustment may affect this.

(Boxes to be fastened to pedestal & mounted later)



<sup>1</sup> **Caution:** When operating the locomotive, abrupt excess force (e.g. collision/yanking) to the coupler may result in damage to coupler, coupler box, or other components. Operating the locomotive coupled to a car with truck mount coupler on tight curve track can be incompatible- car can/will be pulled off track.



## Optional Painting

An example Erie Lackawanna loco is shown.

The CamPac parts can be painted to match the loco's livery. This is best done before installing them.

Be careful not to let paint get into coupler box pocket.

When paint dry, check coupler for free motion. Pushing knuckle side to side will expose paint on coupler shank that can be scraped off with razor knife, hopefully avoiding having to remove the coupler.



Example USA Trains GE 44 Ton Erie Lackawanna pre-painted CamPac Boxes™ and Pedestal Plugs Testor's 1169 flat yellow - close match to loco yellow

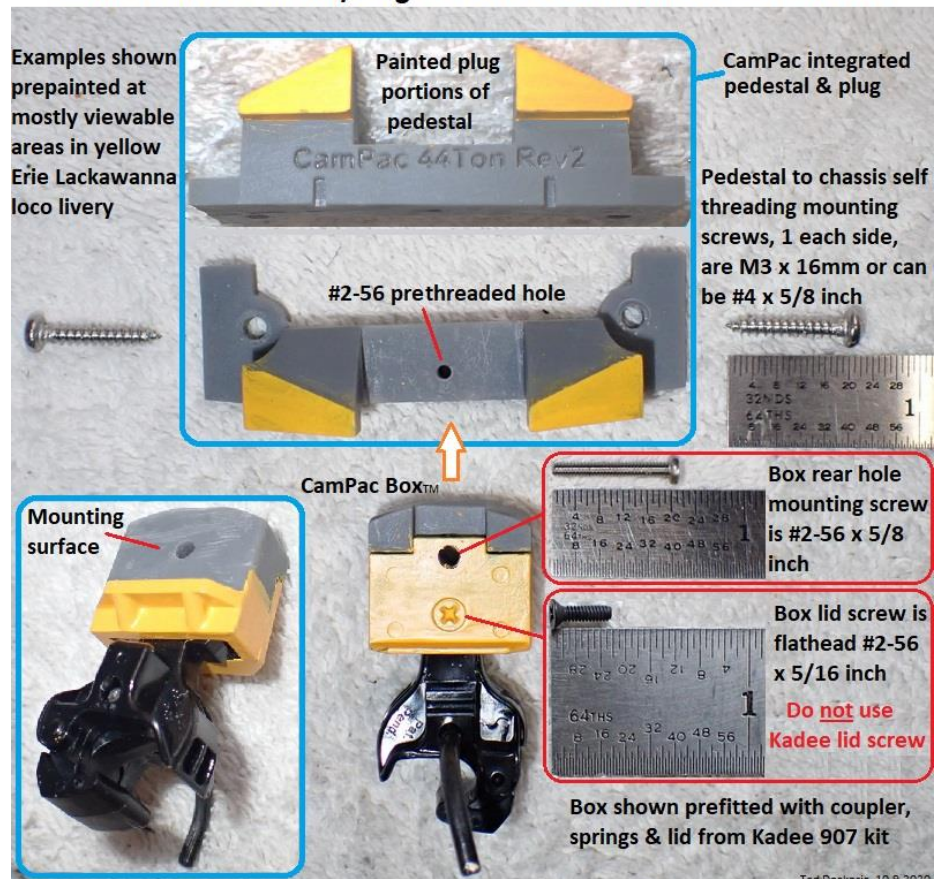
Ted Doskaris, 10-12-2020

## CamPac Pilot Pedestal/Plug & Box for USA Trains GE 44 Ton Loco

### CamPac Fasteners

Screw types and sizes employed for mounting boxes and pedestals are shown.

**Note:** For now, don't mount the box assembly on the pedestal. This will be done in Step 5.



Ted Doskaris, 10-9-2020



## Sept 2 – Parts Removal

This loco has factory truck mounted couplers which are to be removed and discarded.

Also, the trucks are to be temporarily unfastened to allow room for later work to be performed (cutting notches) on the pilots.

Follow steps A, B, C for each truck as shown.

Each truck is comprised of a motor block held captive in suspension by sideframes.

Unique to the USA Trains 44 tonner loco, its sideframes are fastened to an "A" frame with vertically (rather than horizontally) placed screws as shown.

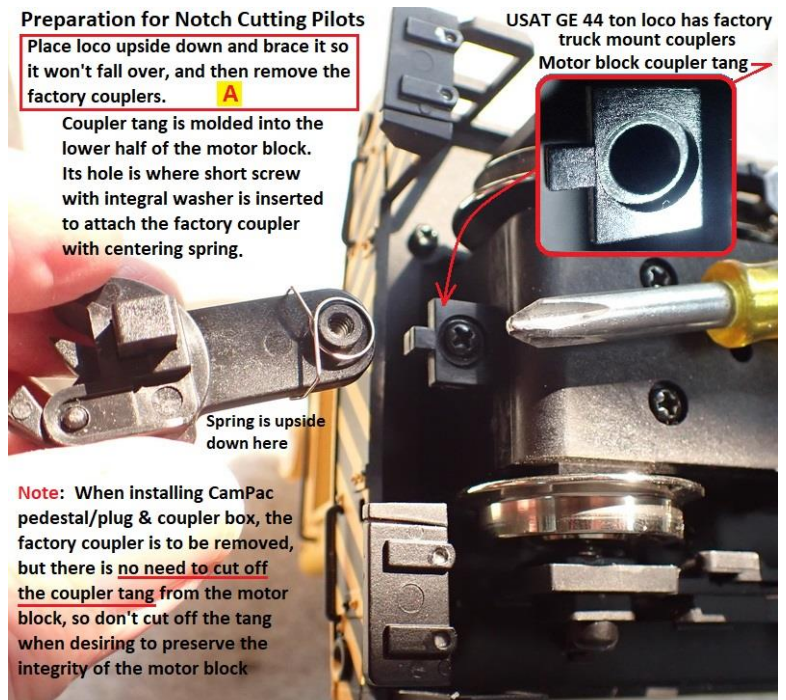
Once the screws are taken out, the truck with its side frames can be lifted away as shown. Wires can remain connected.

**Note:** There is no need to remove the sideframes from the truck; however, they could inadvertently separate from the motor block.

### Preparation for Notch Cutting Pilots

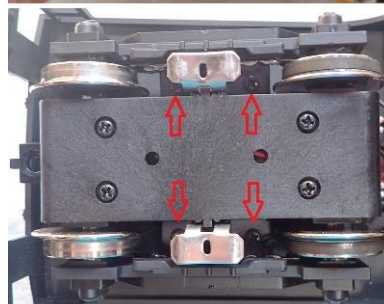
Place loco upside down and brace it so it won't fall over, and then remove the factory couplers. **A**

Coupler tang is molded into the lower half of the motor block. Its hole is where short screw with integral washer is inserted to attach the factory coupler with centering spring.

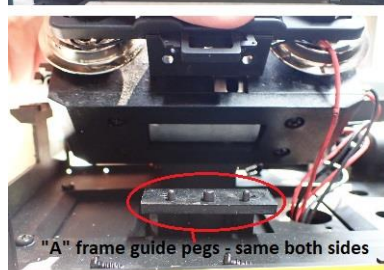


**Note:** When installing CamPac pedestal/plug & coupler box, the factory coupler is to be removed, but there is no need to cut off the coupler tang from the motor block, so don't cut off the tang when desiring to preserve the integrity of the motor block

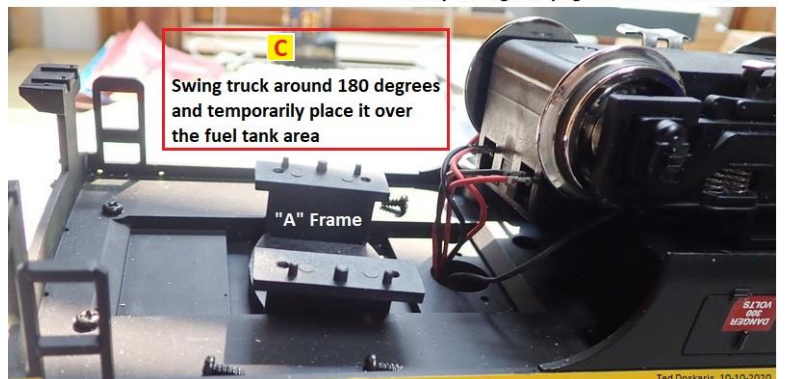
USAT GE 44 ton loco has factory truck mount couplers  
Motor block coupler tang



Temporarily remove trucks: First unfasten 2 screws from each side frame - accessible on either side of the skate shoes as shown **B**



Without pinching sideframes with too much force, rock & lift up truck, sideframes & all, away from guide pegs on the "A" frame

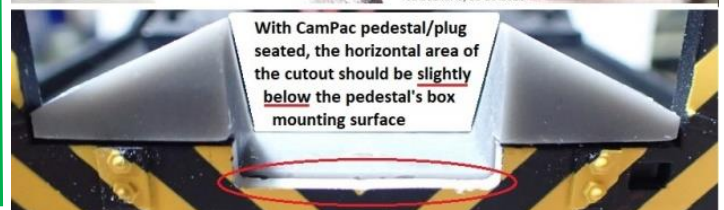
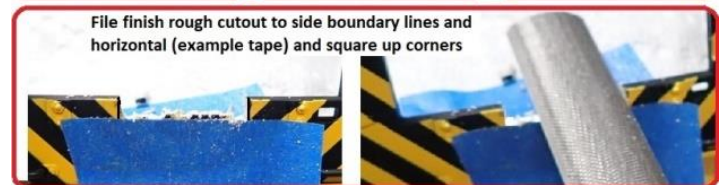
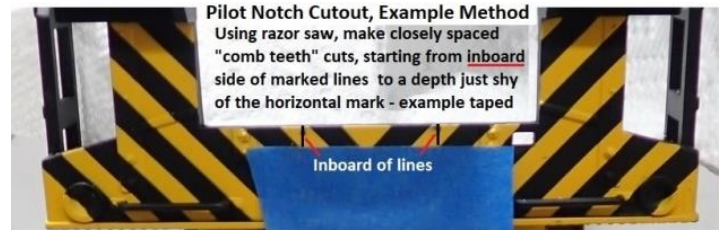
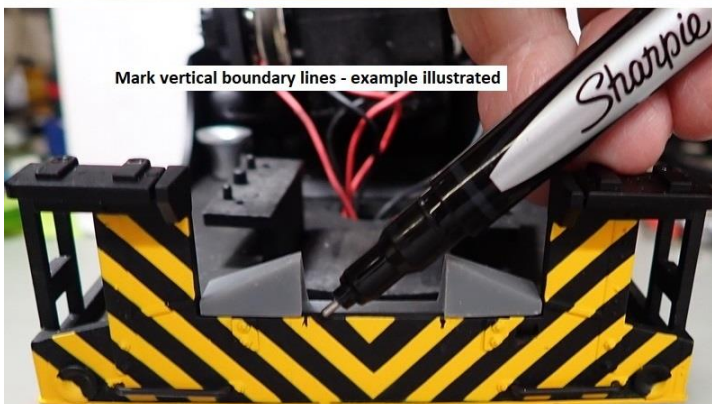




**Step 3 –Pilot Notch Cutouts:** Notch pilots to target value - example locating & cutting methods shown below.



#### Example Method to Establish Centering of Pilot Notch Cutout

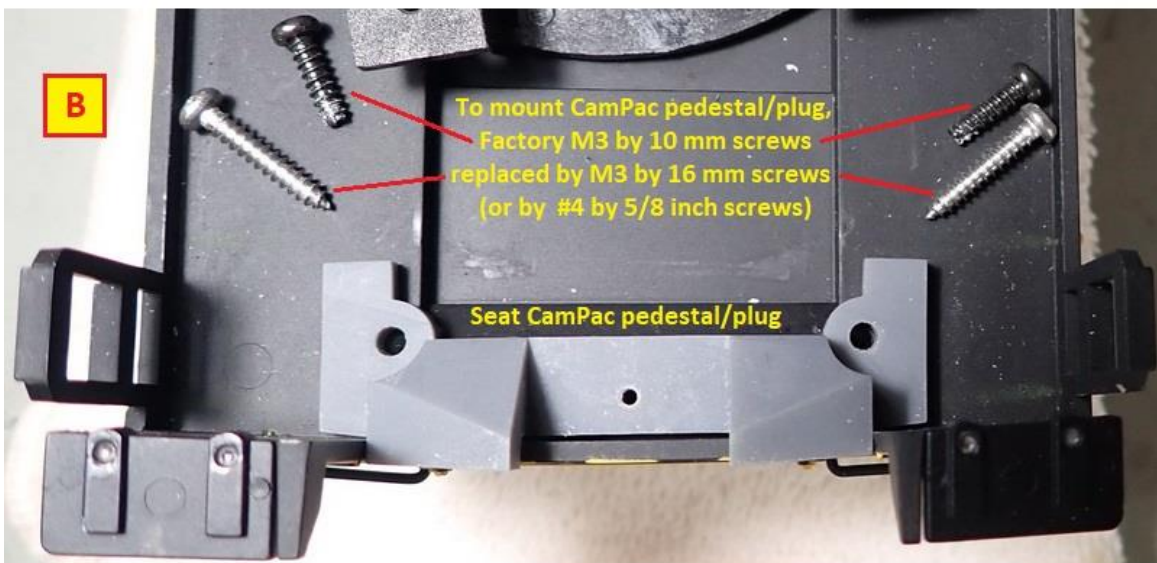
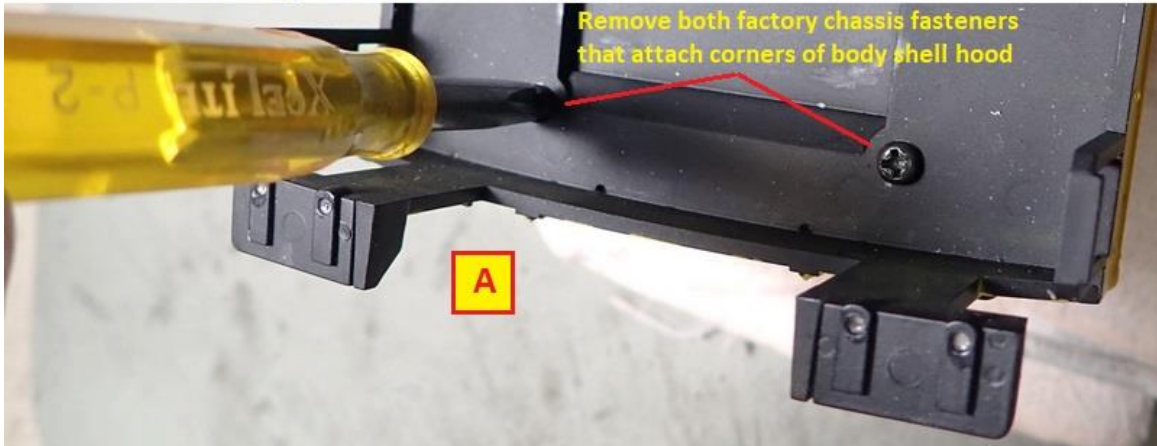




#### Step 4—Install CamPac Pedestal/Plug

Factory screws that fasten the end corners of both body shell hoods to the chassis are to be replaced with longer screws because the pedestal uses the same screw locations for mounting - shown in steps A, B, C below.

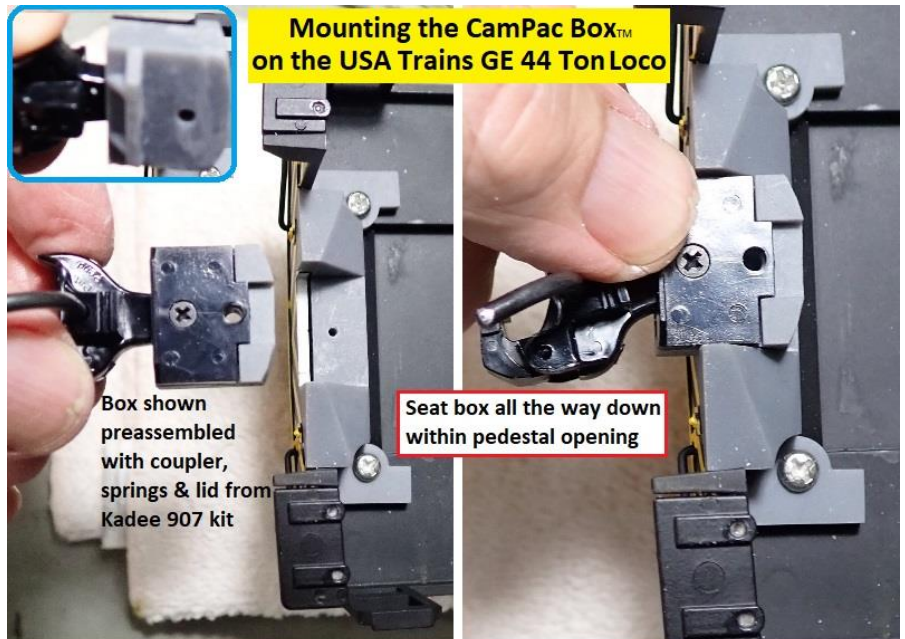
##### Mounting CamPac Pedestal/Plug on USA Trains GE 44 Ton Loco



Ted Doskaris, 10-8-2020

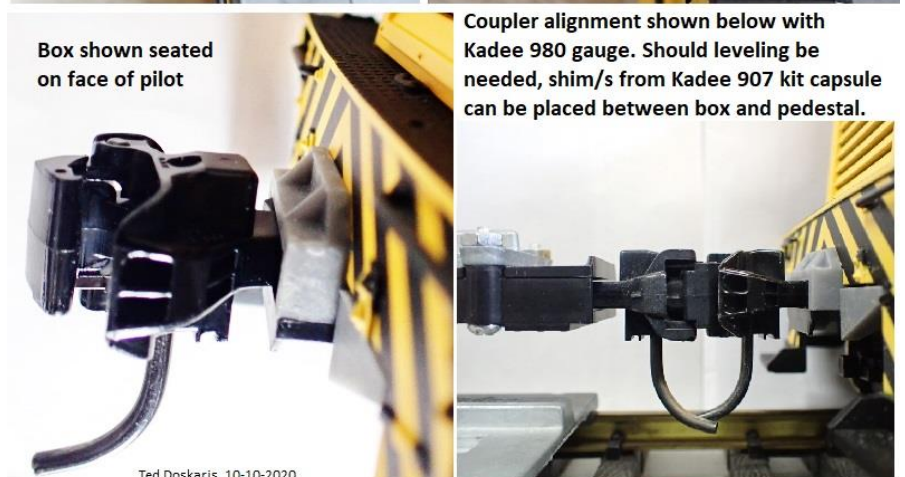
## Step 5—Install CamPac Box Assembly

Mount the CamPac preassembled coupler box at both ends of the loco the same way as shown.

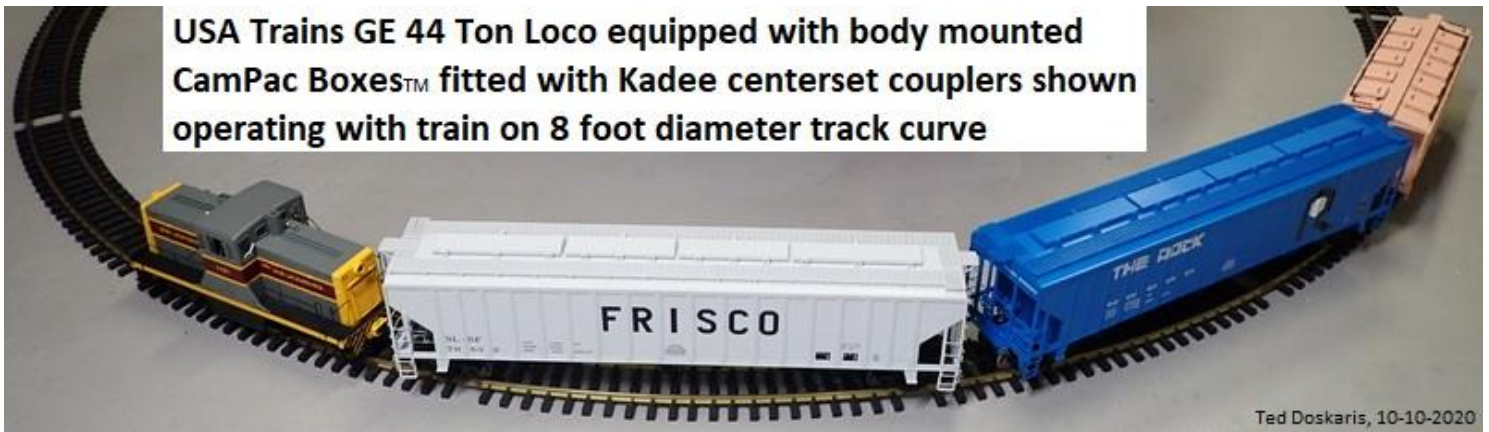


When done, reinstall the trucks in the reverse order as previously shown in step 2

**Note:** Should the need arise to remove the pedestal/plug with trucks in place, remove the coupler box first. Then unfastened the pedestal and withdrawn it whilst rocking and rotating the truck. (Likewise when reinstalling it)







#### Operational Advisory:

Layouts with "S" bends having tight curves of 8 foot in diameter and possibly greater are to have a straight track section the length of the longest car between opposite diverging paths or risk the car coupled to the GE 44 Tonner to derail.

# !!!*Done*!!!

#### Congratulations

The USA Trains GE 44 Ton loco with body mount coupler box now looks more like a prototype with capability to perform on 8 foot diameter or greater curves when coupled to other body mounted locos or rolling stock having *properly equipped* Kadee centerset type couplers.