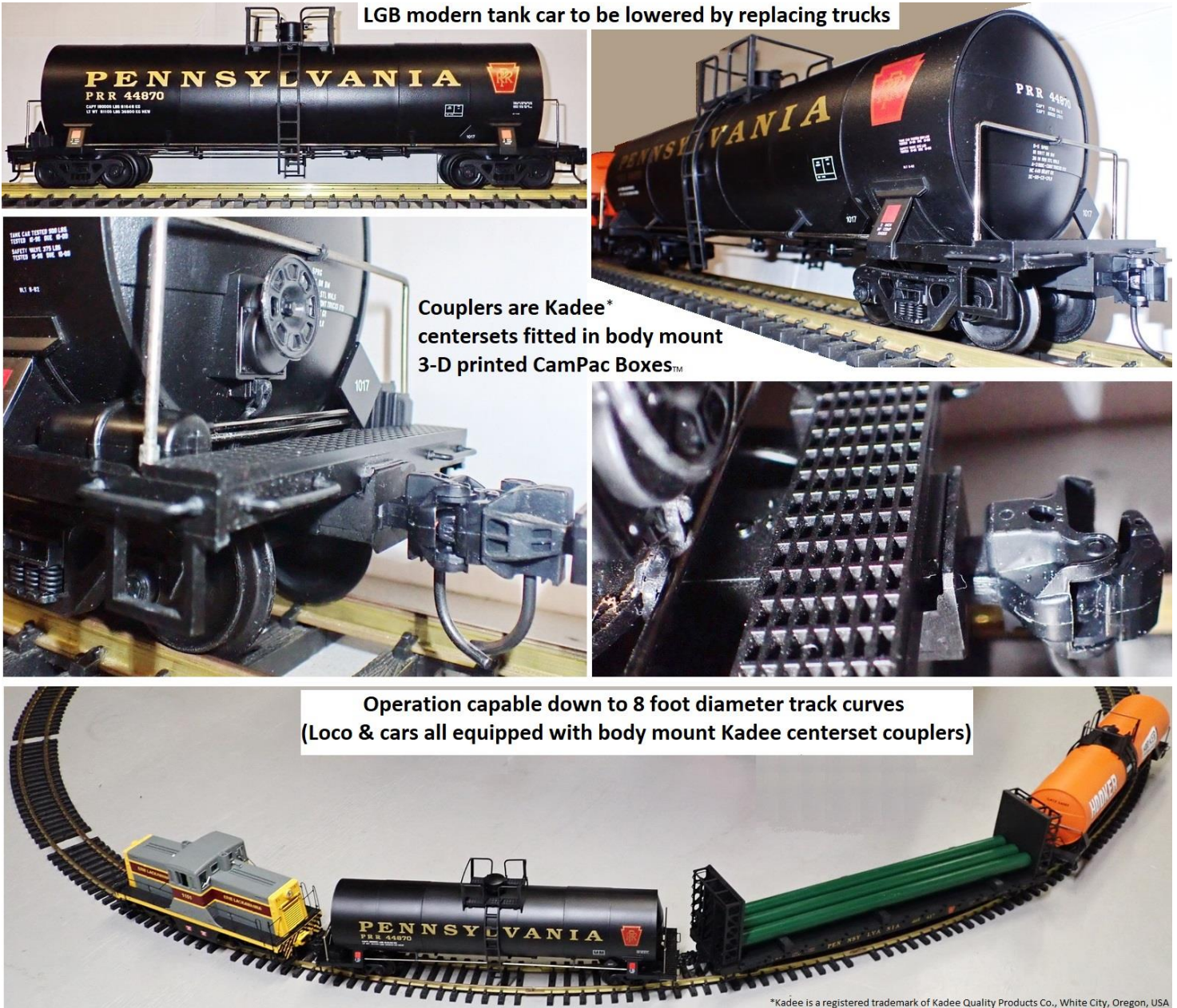


# LGB Modern Tank Car CamPac Box™ Install Guide

*Ted Doskaris, 6/4/2021*



## Preface

LGB trucks do not appear to accurately replicate prototypes that this 1/29 scale modern tank car is modeled from. This car could represent a transitional era car possibly having “hot box” or “roller bearing” type trucks. The LGB “roller bearing” trucks that come with the car (shared with other American LGB cars, including 40 footers) have an intrinsic design that raises the car high off the railhead. Accordingly, these trucks are to be replaced with more realistic trucks serving to lower the car about 0.160 inch for a more realistic height from the railhead that’s, also, behooving to do when employing body mount centerset couplers. In this regard, the factory truck mount hook & loop couplers along with the trucks are done away with - being replaced by direct fit body mount 3-D printed CamPac coupler boxes which accept more realistic Kadee\* centerset (no offset) “G” scale AAR E type knuckle couplers.

\*Kadee is a registered trademark of Kadee Quality Products Co., White City, Oregon, USA.

## Replacement Trucks

The installer can choose from, and is to obtain, one of the following replacement brands of trucks:

- USA Trains Bettendorf plastic [“hot box” truck #2033](#) – pair needed *If willing to slightly modify; [wheels #R2093](#) not included & sold separately; OR.*
- Aristo-Craft Bettendorf plastic “hot box” truck pair #ART-29101 - may not be available; OR
- Aristo-Craft 100 ton plastic roller bearing truck pair #ART-29100 - may not be available; OR
- [Kadee 70 ton #973](#), all metal roller bearing truck pair that includes metal wheels; OR
- [Kadee 100 ton #974](#) (preferred) all metal roller bearing truck pair that includes metal wheels; OR
- USA Trains Intermodal car plastic [roller bearing truck #R2034](#) – pair needed - [wheels #R2093](#) not included & sold separately. (**Note:** The LGB metal clad oversize wheels, *though light weight*, which may or may not come with the car can be fitted in the Intermodal truck to save on cost if already in possession.)

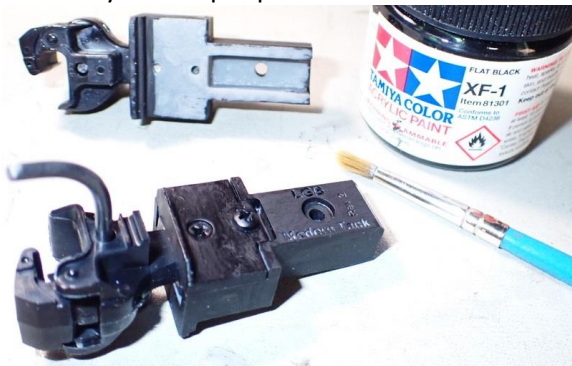
## CamPac Kit Parts

When choosing USA Trains Intermodal truck, Wheels used must be specified at time order:

- When using Intermodal truck, regardless of wheel choice, the CamPac kit is to add two (2), *one per truck*, chassis post extender washers, #4 size, 0.062 inch thick, [DigiKey P/N 36-3358-ND](#).
- If using LGB large diameter metal wheels, the CamPac kit is to further add eight (8) axle tip spacer washers, #4 size, 0.047 inch thick, [DigiKey P/N 36-345-ND](#), and add two (2) truck spacer washers, 0.032 inch thick, [DigiKey P/N RPC10115-ND](#). OR:
- If using USA Trains metal wheels, the CamPac kit is to add two truck spacer washers (2) 0.062 inch thick, [DigiKey P/N RPC10185-ND](#)

The CamPac kit, regardless of truck brand, includes two (2) 3-D printed direct fit (no spacers needed) CamPac coupler boxes, **AND** two (2) 3-D printed caps to fit over the LGB chassis bolsters.

The installer is to obtain the Kadee 907 kit and assemble the boxes as illustrated. They can be pre painted to desired color.



The CamPac kit also includes screws to fasten lid and mount boxes on the car along with hardware specific to the installer's chosen trucks at time of order.



The CamPac assembled coupler boxes and bolster caps will be installed later



### Car Preparation

An orange colored car is shown here for better contrast to see how the typical dark colored small chassis end frames can be removed.

Though end frames could be left in place, it's much easier to do the required simple modification when they are removed with less risk of damaging the car.

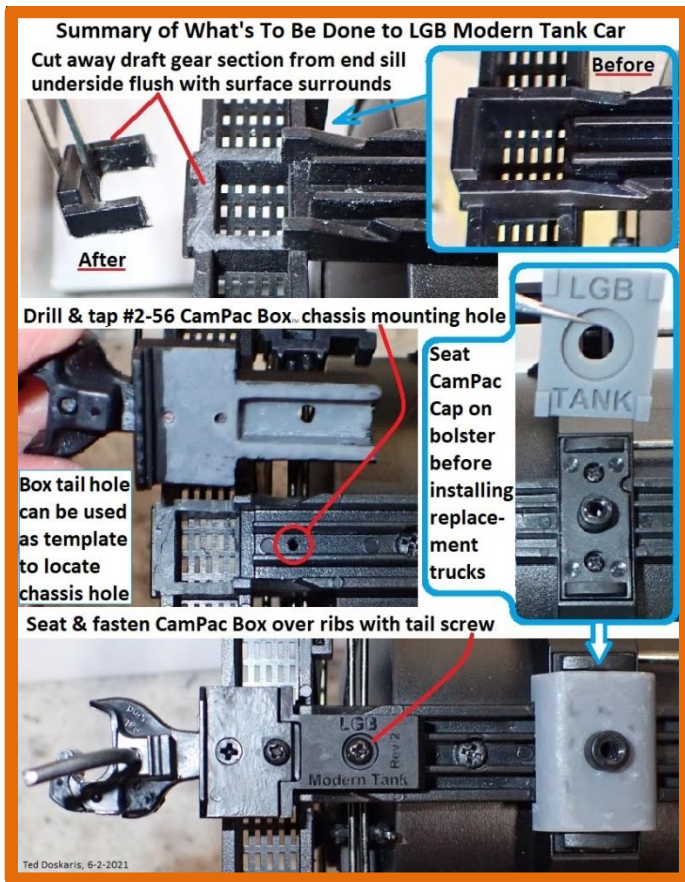
Remove the trucks and end frames as illustrated. The trucks will be discarded.

When removing trucks, save the LGB screws & washers; one or both may be used to mount replacement trucks. If the trucks have metal wheels, they can be saved, too, as they could be transplanted in a USA Trains Intermodal car truck choice.

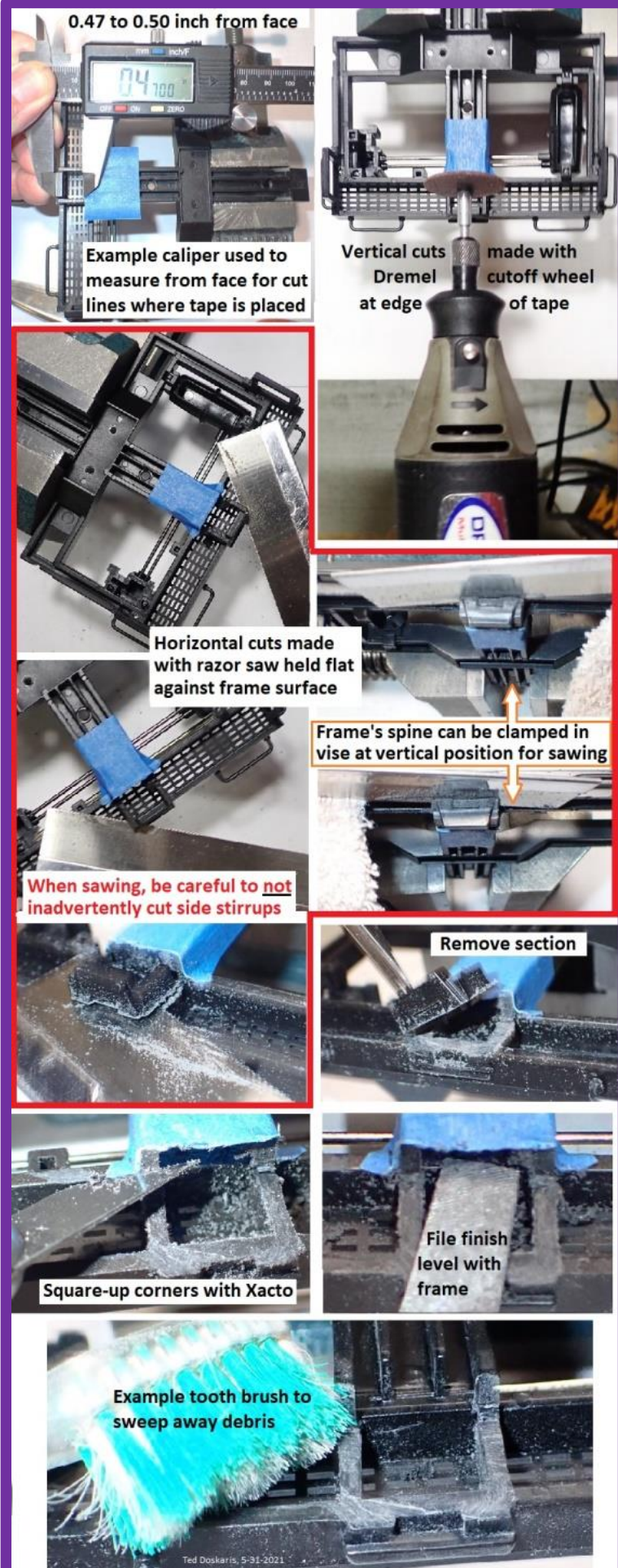
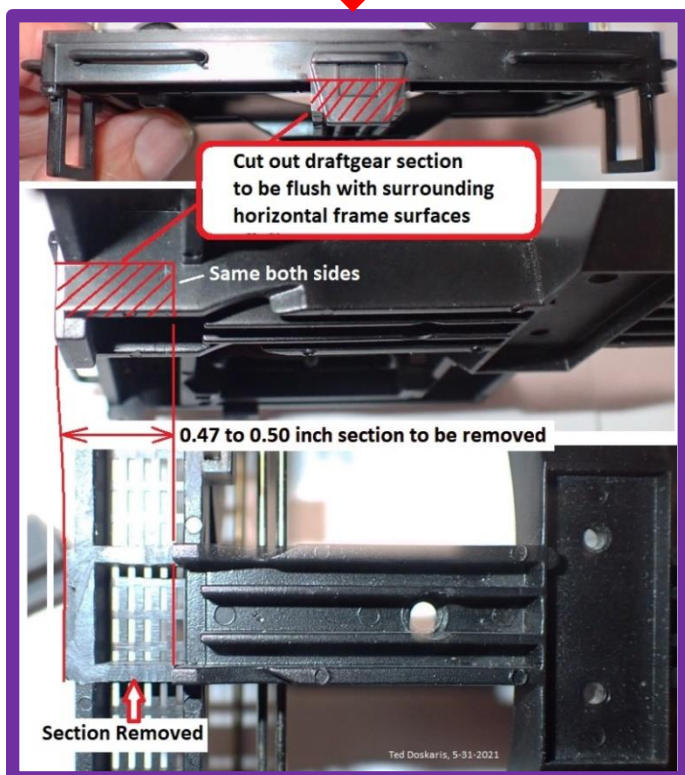
When removing an end frame, sometimes the saddle cradle will come off the tank with it; that's Okay.







Do Draft Gear Cutout *Technique*



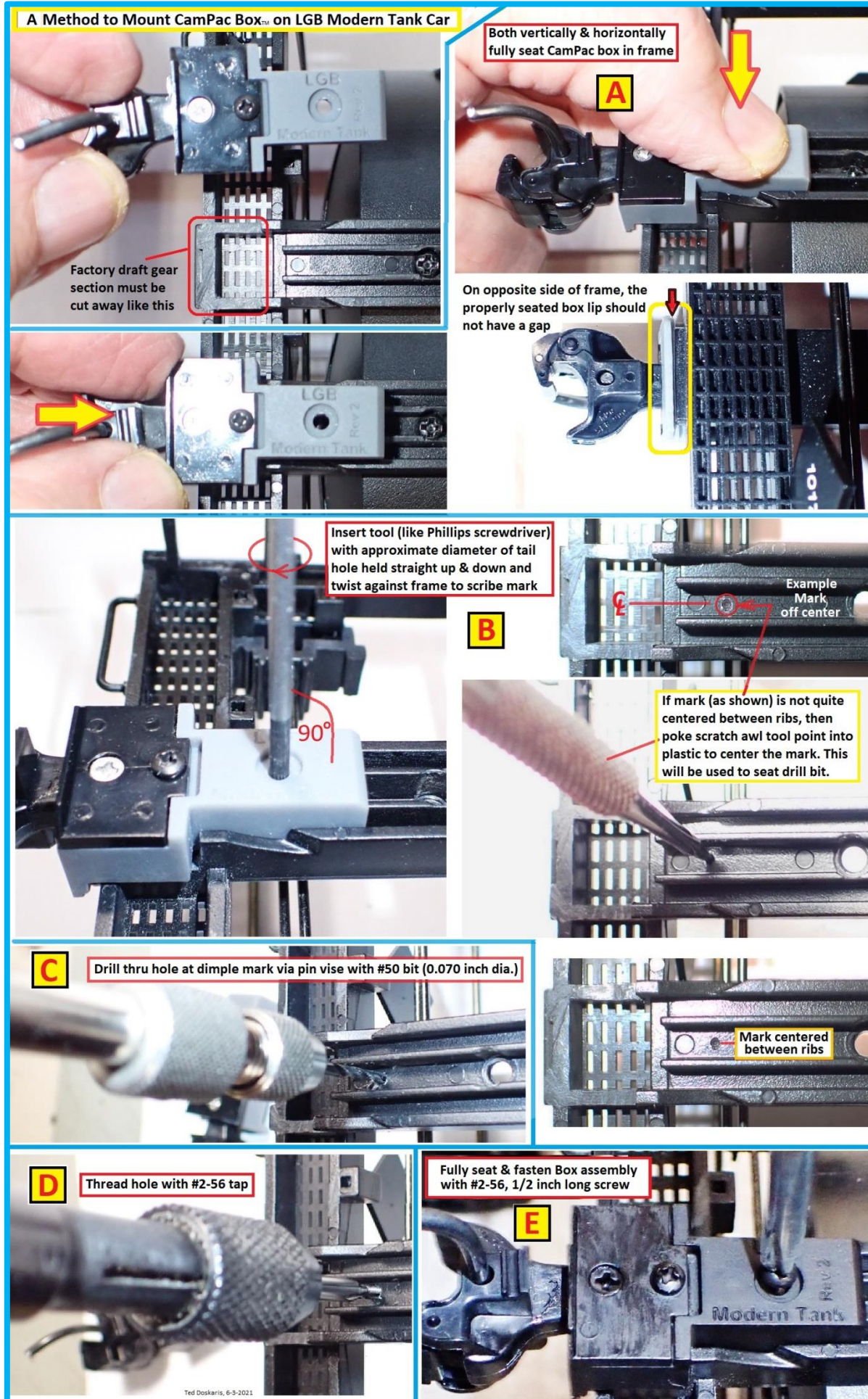


**Install CamPac Box™** —  
on both ends of car the  
same way

The box assembly can  
be mounted in the  
method as shown with  
or without end frames  
fastened to the tank.

The end frames are  
fastened to tank in the  
reverse order like they  
had been removed as  
previously shown.

Using the CamPac Box  
as a template, a hole is  
to be drilled & tapped  
for a #2-56 screw in the  
end frame, after which  
the box is mounted




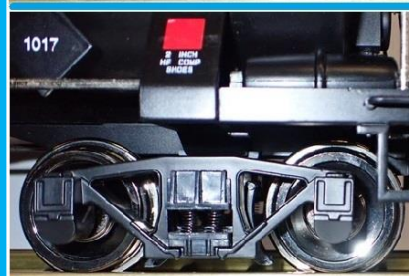







## Choose a Replacement Truck with Wheels

-from among the 7 selections shown.  
(This is required to lower car when body mounting CamPac Boxes™)

### Notes:

- Trucks having bolster coupler tangs must have them removed.
- Wheels other than described for a given truck that have different tread diameters will detrimentally alter coupler height from the railhead.

	<p>USA Trains Bettendorf Plastic Truck, each #2033 - pair needed, with required separately sold USA Trains metal wheels, #2093</p> <p>Requires truck bolster's 4 ribs to be shaved off</p> <p>"Hot Box" type truck</p>
	<p>Aristo Bettendorf Plastic Truck, pair #ART-29101, with required Aristo metal wheels #ART-2911B</p> <p>"Hot Box" type truck</p>
	<p>Aristo 100 ton "Roller Bearing" Plastic Truck, pair #ART-29100, with required Aristo metal wheels #ART-2911D</p>
	<p>Kadee 70 ton "Roller Bearing" all Metal Truck, pair #973, includes Kadee metal wheels</p>
	<p>Kadee 100 ton "Roller Bearing" all Metal Truck, pair #974, includes Kadee metal "36 inch" prototypical wheels for this car</p>
	<p>USA Trains Intermodal Car "Roller Bearing" Plastic Truck, each #R2034 - pair needed, with required separately sold USA Trains metal wheels, #R2093</p> <p>Requires truck spacer washer, 0.062 inch thick, &amp; #4, 0.062 inch thick, post extend washer</p>
	<p>USA Trains Intermodal Car "Roller Bearing" Plastic Truck, each #R2034 - pair needed, with LGB oversize, nearly prototypical for this car, metal clad wheels transplanted from LGB truck</p> <p>Requires truck spacer washer, 0.032 inch thick, &amp; #4, 0.062 inch thick, post extend washer</p>

Ted Doskaris, 6-3-2021



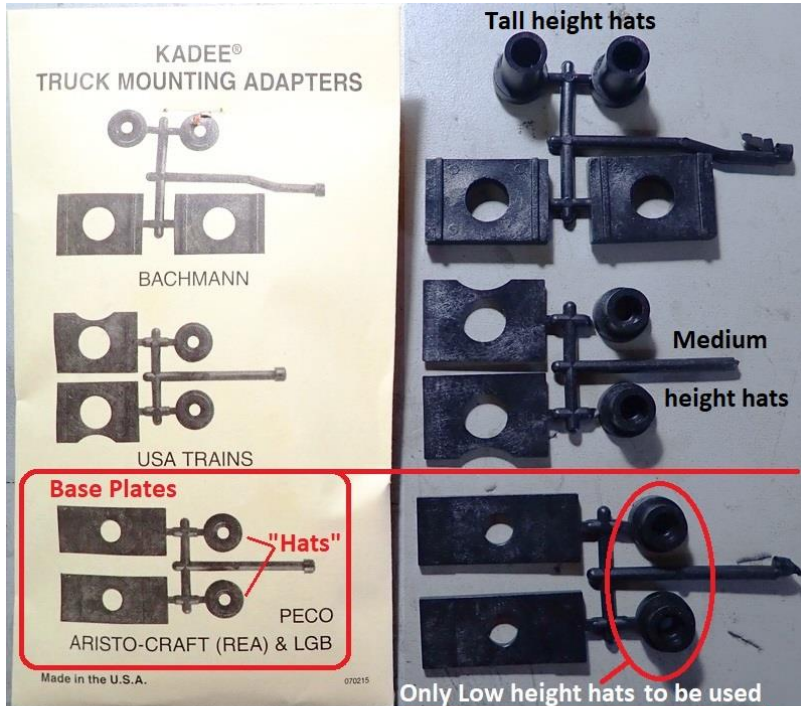
## Truck Choice Considerations

### If choosing USA Trains Bettendorf Truck:



### If choosing Kadee 70 or 100 ton Truck:

Use the Adapter kit 's LGB "Hats".



Lowest height hats to be used on LGB modern tank car with CamPac Boxes™ whilst CamPac bolster caps used instead of Kadee base plates.

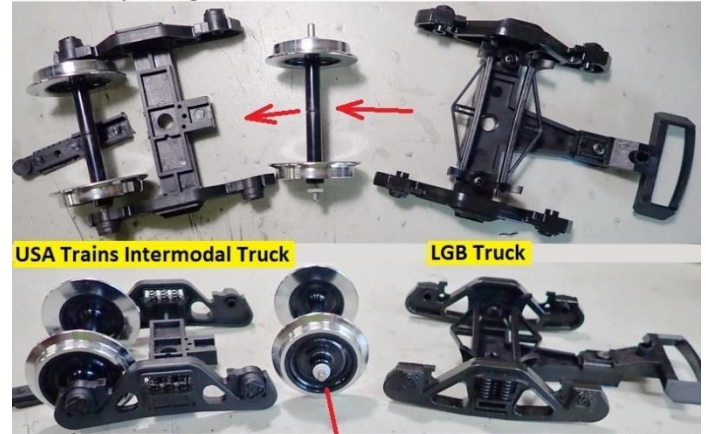
Ted Doskaris, 5-31-2021

### If choosing USA Trains Intermodal Truck:

Remove coupler tang

If using LGB metal clad wheel, see Illustration below.

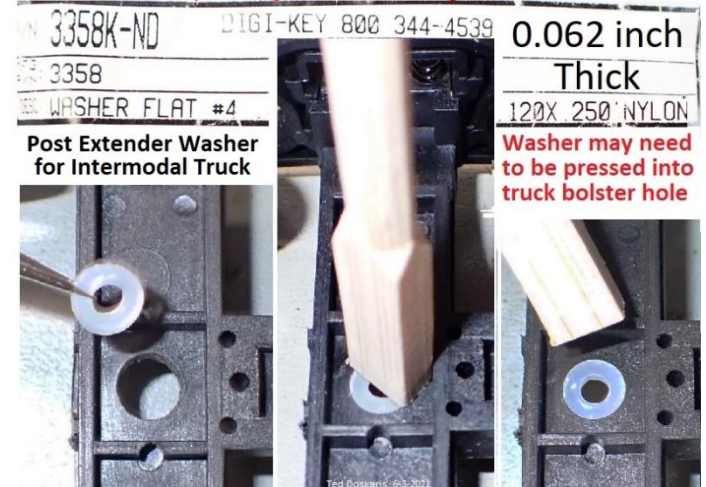
Transplanting LGB metal wheels to USAT Intermodal truck



0.047 inch thick washer needs to be placed on axle tips to prevent excessive lateral displacement



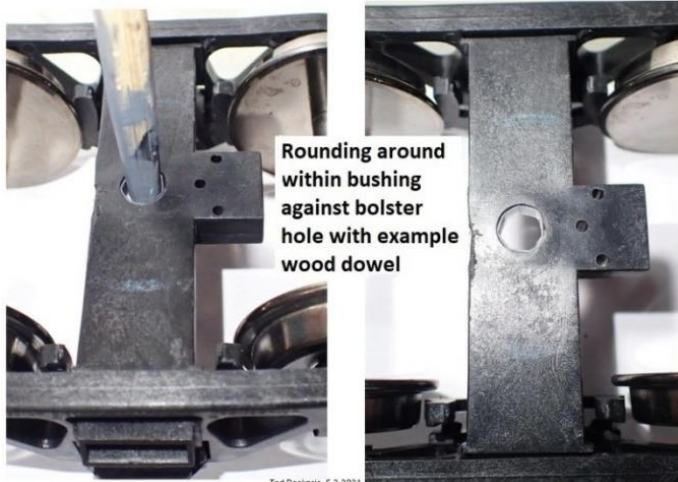
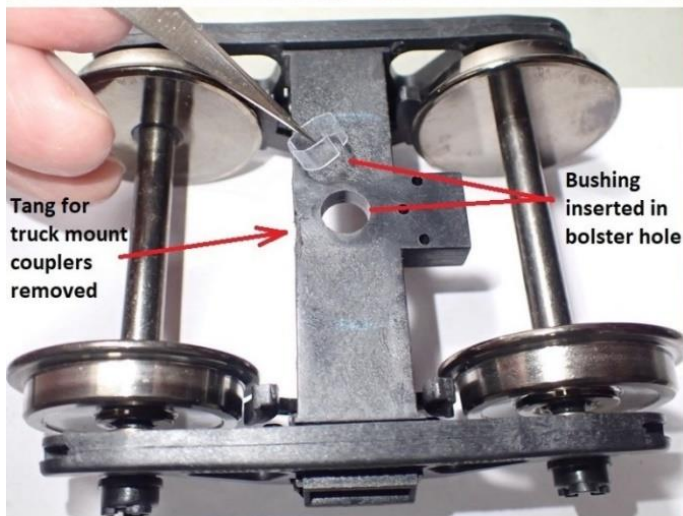
When using LGB or USA Trains wheels, this truck also needs washer to extend the chassis post height when mounting the truck, shown below



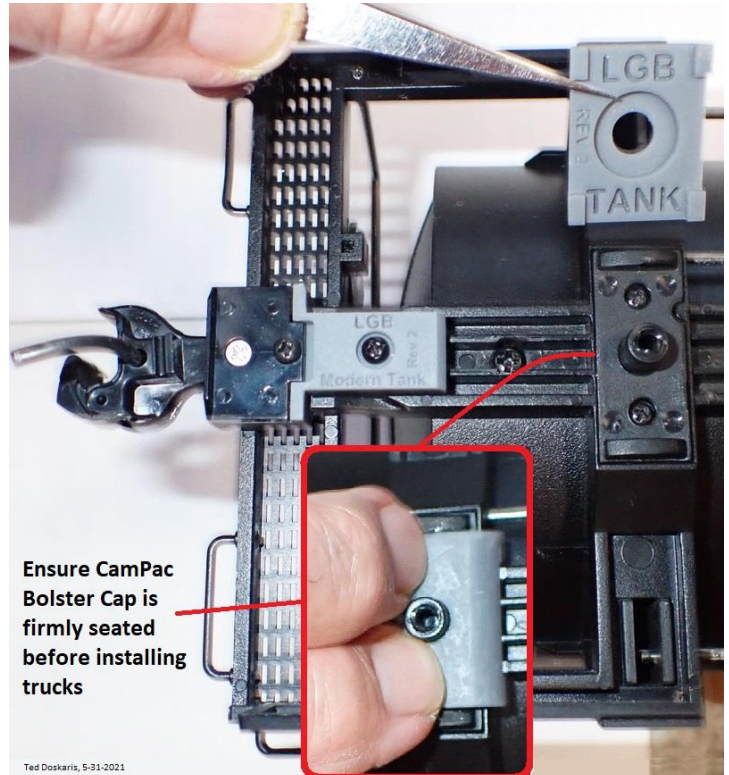


### If choosing Aristo-Craft 100 ton Truck:

Installation of Aristo-Craft 100 ton roller bearing truck on LGB modern tank car may need a thin bushing inserted into its bolster hole if there is excessive lateral movement when mounting over / on the car's chassis post. The bushing can be made using a Kadee plastic box package by cutting it to the dimensions as illustrated below.



### Install CamPac Bolster Cap on the chassis before mounting trucks – same at both ends



**Advisory:** When using LGB screw there may be insufficient thread penetration when mounting some replacement trucks on the car, if so, it's preferable to use slightly longer 1/2 inch self threading screw from the Kadee 907 kit



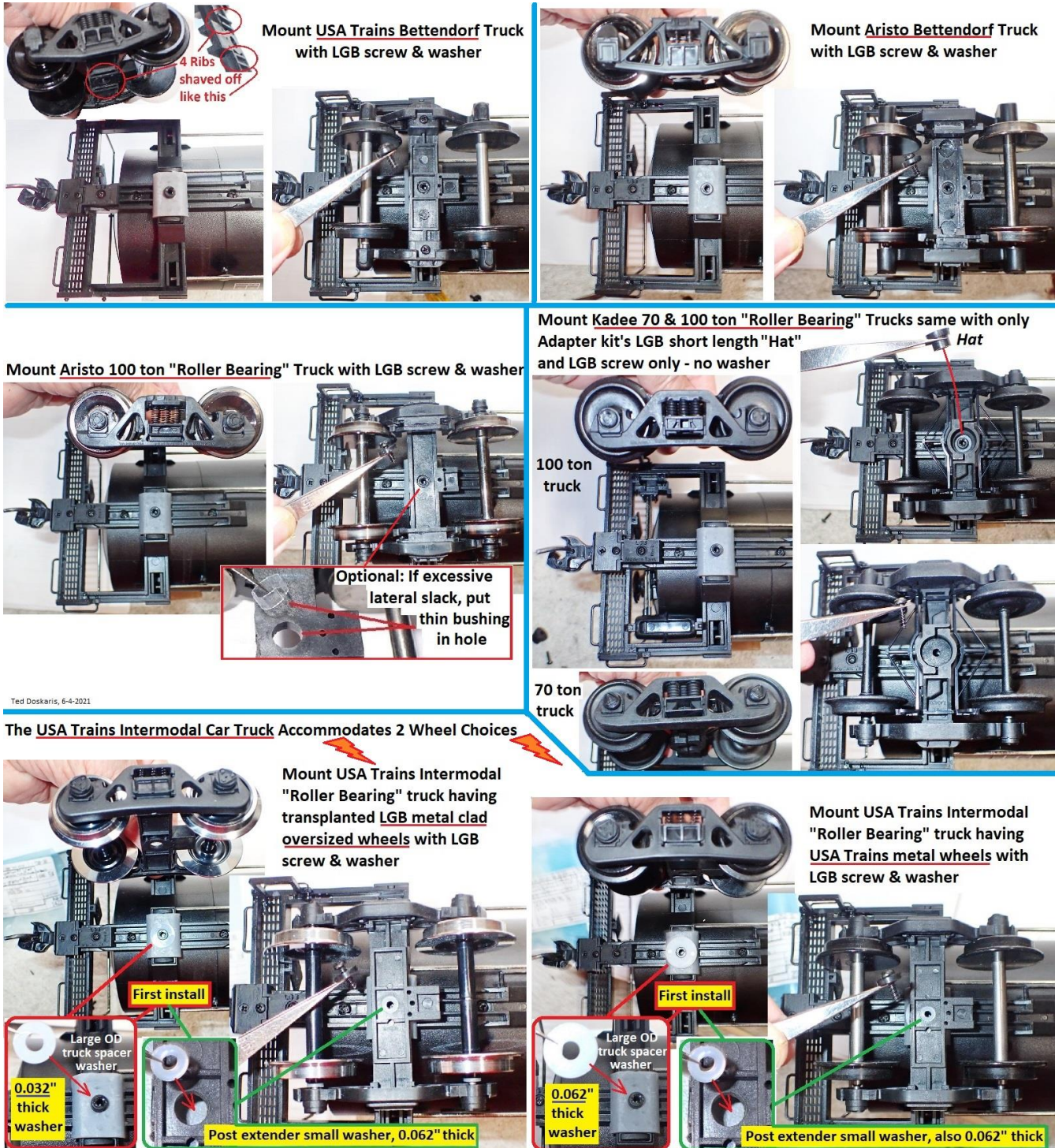


## Mount Truck of Choice

Each of the replacement brand choices of trucks is described in the below illustration.

### Notes:

- The CamPac chassis bolster cap is to be installed for all choices.
- For some choices, the LGB truck mounting screw may have insufficient penetration, in which case the slightly longer #4 by ½ inch screw from the Kadee 907 kit can be substituted.





## Coupler Alignment

Depending on tolerances and truck choices, couplers may need alignment “tweaking”.

### Example Coupler Alignment Shimming Method

Method shown is to cut a shim to friction fit between the sides of the CamPac Box™ crevasse to hold it when mounting the box. The shim will fit against the chassis frame's ribs

