



# *Design & Manufacturing*

*Specialty Model Train Tools*

[www.pedesignmanuf.com](http://www.pedesignmanuf.com)

EBay: PE\_Design

Facebook: PE Design

"If we don't make it yet, Lets us know & we will"



The tools may vary a little as we do small run & are always making improvements. Also, these tools are not made on a CNC but are made with high standards in our small shop. Look on our Facebook page for How-to Videos using some of our tools.

[Now Free Shipping on most Tools](#)

# About Us

PE Design is a small Father & Son shop. My father with over 50 years Machining & Tool Making experience & Me with over 20 years in CADD & Design Engineering. My father has been Designing, Building, & Selling these restoration tool for many years at local Train shows in the Tennessee & Georgia areas with many happy customers. Now is selling out of Connecticut. These tool where made because he wanted these tools for restoring & maintaining his collection of mostly Pre & Post war Lionel Trains. People at the shows & online have ask for other tools they want, well look thru the catalog and see what we have come up with so far.



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# Display / Test Station in O Gauge

These kits gently lift the engines so the drive wheels run without touching the tracks. Can be use on work bench as test/service station or as a running stationary display up above the fireplace on the mantle.



- Use after servicing your Engine to test operation.
- Blow off extra oil after oiling so it does not end up on your layout.
  - Smoke, Whistle & Rail sounds will work
    - O-Gauge tubular style track only.
    - Lifts machined from solid Aluminum.
- The kit version you will need at least 2 sections of track tubular style O-Gauge with the center ties removed. This is so the lifts can slide in & out for adjustment. 2 Sections of track is enough for most engines. Add additional section of track for cars, about 1 section per car.
- Works for many Steam & Diesel O-gauge Engines but NOT all. Unfortunately, we only have so many Engines we can test with. Our collection is mostly Pre & Post war Lionel Trains & and have been test to work on all of them.
  - Will NOT work on fast or O27 track.
- Some Engines with plastic tops may require a jumper wire to the chassis ground.
- Dual motor Diesels or Diesels where the power pick-up and drive wheels are the same wheels will work but may require a jumper to the chassis ground.
- Articulating Steam Engines where the drive wheel float separately from the chassis such as a BIGBOY will **NOT** work, **Unless** you buy the Add-on kit for Articulating Steam Engines. These types of engines require an addition lift in the center of the engines

## Direction

- When adjusting the lifts. You are only trying to lift the drive wheels about an 1/8" off the rails but also leave the roller in contact with the center rail.
- Slide Lifts in or out so top of screws & pins line up like the pics below.
- See examples pics below for different ways to set-up Lifts

## Diesel Lift



8160



41



218



## Notes:

- Some Engines with plastic tops may require a jumper wire to the chassis ground.
- Dual motor Diesels or Diesels where the power pick-up and drive wheels are the same wheels will work but may require a jumper to the chassis ground.

## Steam Lift



259



1666E



1656



194



229



646



671



2055



2026



8603 w/ Railsound

### Notes:

- Some Engines with plastic tops may require a jumper wire to the chassis ground.
- Dual motor Diesels or Diesels where the power pick-up and drive wheels are the same wheels will work but may require a jumper to the chassis ground.

## O-Gauge Display/Test Station Kit: \$54

You add the track & a nice piece of wood & you can make your own Display or Test station. For use on O-Gauge (old style) track. Typical setup requires 2 pieces of track with center tie removed on both for the Engine & 1 piece of track per car on display.

### Kit Includes:



- 1 - Front Lift
- 1 - Rear Lift
- 1 - Diesel Lift Block
- 2 - Terminal Pins

## O-Gauge Display/Test Station Pre-mounted 3 sections: Starting at \$95

Display / Test Station pre-mounted on a stained piece of wood with 3 sections of track. That will typically hold a Steam Engine, Tender & 1 Car or A Diesel Engine & 2 Cars. Shown



## O-Gauge Display/Test Station Pre-mounted 4 sections: Starting at \$105

Display / Test Station pre-mounted on a stained piece of wood with 4 sections of track. That will typically hold a Steam Engine, Tender & 2 Car or a Diesel Engine & 3 Cars. Same as above with 1 more section of track.

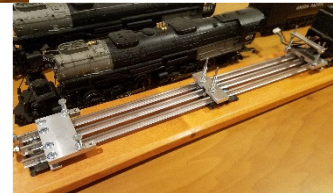
### Custom Display/Test Station

Ask about custom lengths, Woods, Finishes, & Arrangements such as my 4 level one shown with Mixed Gauges, Fuse holders, Switches & Connectors.



## O-Gauge Display/Test Station Add-on for Articulating Steam Engines

Want that Big Boy or Challenger engine to run on your desk. This Add-on adds a set of center lifts for these longer Articulating engines.



K-line 4-8-8-4 Bigboy 4015



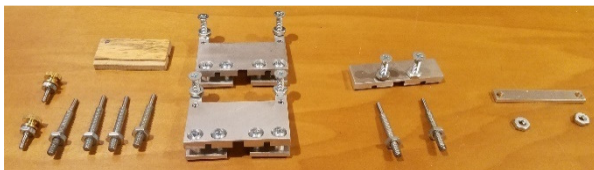
Lionel LionMaster 4-6-6-4 Challenger 6-28077



### Add-on for A.S.E. Includes: \$28

- 1 - Center Lift
- 1 - Rear Cross Lift

### Comb Kit Includes: \$79



- 1 - Front Lift
- 1 - Rear Lift
- 1 - Diesel Lift Block
- 2 - Terminal Pins
- 1 - Center Lift
- 1 - Rear Cross Lift

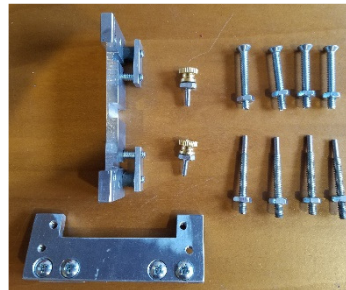
# Display / Test Station in Standard Gauge

These kits gently lift the engines so the drive wheels run without touching the tracks. Can be use on work bench as test/service station or as a running stationary display up above the fireplace on the mantle.



- Use after servicing your Engine to test operation.
- Blow off extra oil after oiling so it does not end up on your layout.
- Smoke, Whistle & Rail sounds will work
- Standard-Gauge tubular style track only.
- Lifts machined from solid Aluminum.
- Articulating Steam Engines where the drive wheel float separately from the chassis such as a BIGBOY will **NOT** work.
- The kit version you will need at least 2 sections of track tubular style Standard Gauge with the center ties removed. This is so the lifts can slide in & out for adjustment. 2 Sections of track is enough for most engines. Add additional section of track for cars, about 1 section per car.

- Works for many Steam & Diesel Standard-gauge Engines but NOT all. Unfortunately, we only have so many Engines we can test with. Our collection is mostly Pre & Post war Lionel Trains & and have been test to work on all of them.
- Some Engines with plastic tops may require a jumper wire to the chassis ground.



## O-Gauge Display/Test Station Kit: \$64

Kit Includes:  
2 - Front/ Rear lifts  
2 - Terminal Pins



Shown are a Lionel 385E & 10 engines





# Display / Test Station in S Gauge

These kits gently lift the engines so the drive wheels run without touching the tracks. Can be use on work bench as test/service station or as a running stationary display up above the fireplace on the mantle.

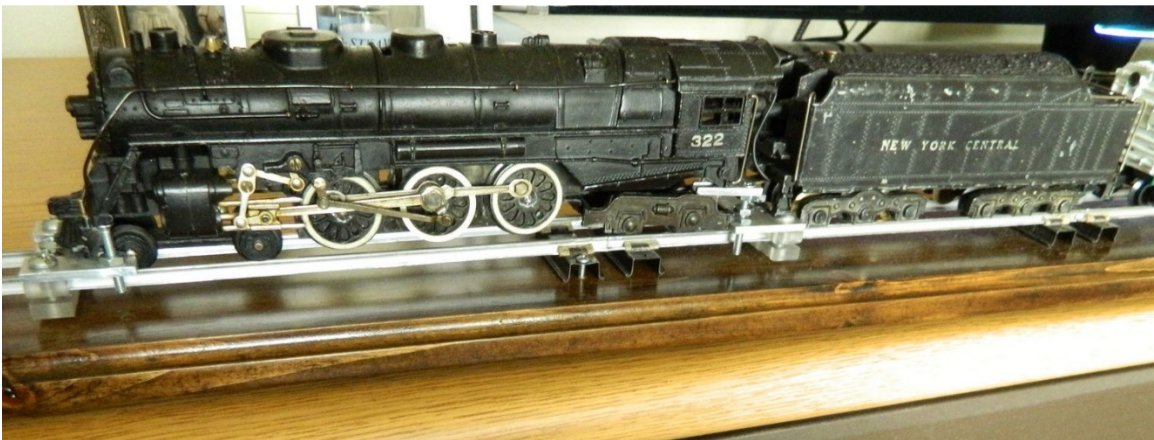


- Use after servicing your Engine to test operation
- Blow off extra oil after oiling so it does not end up on your layout.
  - Smoke & Whistle will work
  - S-Gauge American Flyer track only.
  - Lifts machined from solid Aluminum & Plastic.
- The kit version you will need at least 2 sections of S-Gauge American Flyer track with the center ties removed. This is so the lifts can slide in & out for adjustment. 2 Section of track is enough for most engines. Add additional sections of track for cars, about 1 section per car.
  - Will NOT work on Lionel Fastrack.
  - Works for many Steam & some Diesel S-gauge Engines but NOT all. Unfortunately, we only have so many Engines we can test with. Our collection is mostly Pre & Post war Lionel Trains but we do have a few American Flyers & and have been test to work on all of them.
- Steam or Diesels where the power pick-up and drive wheels are the same wheels will not work. Works on Steam Engines with the power pick-up on tender.
  - Dual motor Diesels will not work.
- Very Larger Steam where the drive wheels float separately from the chassis such as a BIGBOY will not work.

## Direction

- Install the rear cups need for your engine.
- When adjusting the lifts. You are only trying to lift the drive wheels about an 1/8" off the rails.
- Slide Lifts in or out so top of screws & pins line up like the pic below.
- See pic below for standard ways to set-up Lifts

## Steam Lift



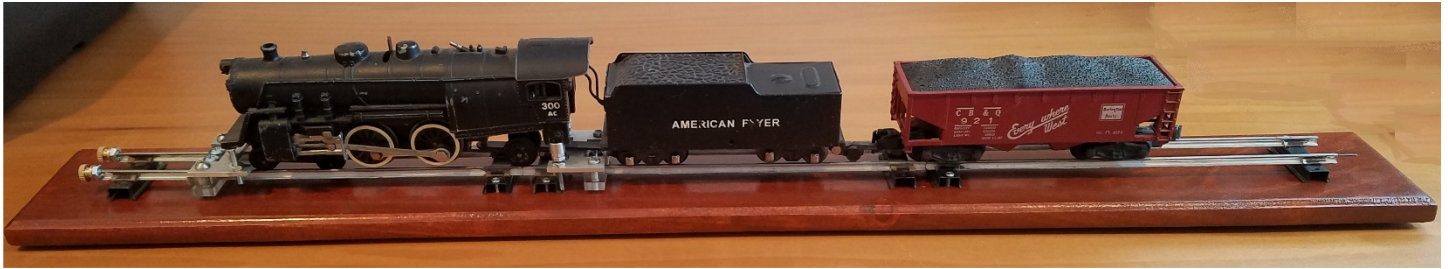
Shown with Rear Shelf Cups



Shown with Rear V Cups

### S-Gauge Display/Test Station Pre-mounted 3 sections: Starting at \$95

Display / Test Station pre-mounted on a stained piece of wood with 3 sections of track. That will typically hold a Steam Engine, Tender & 1 Car.

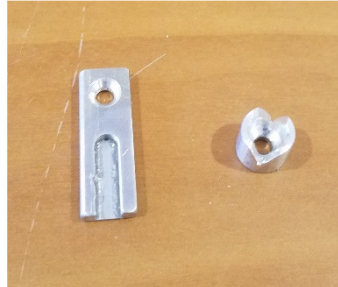
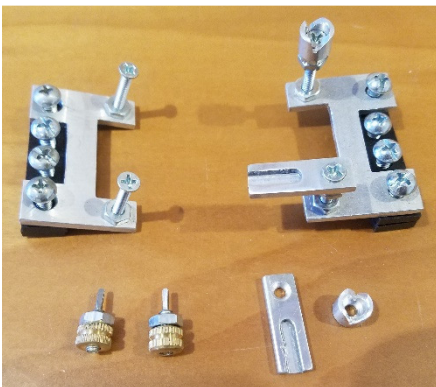


### S-Gauge Display/Test Station Pre-mounted 4 sections: Starting at \$105

Display / Test Station pre-mounted on a stained piece of wood with 4 sections of track. That will typically hold a Steam Engine, Tender & 2 Car.

### S-Gauge Display/Test Station Kit: \$54

You add the track & a nice piece of wood & you can make your own Display or Test station. For use on S-Gauge American Flyer track. Typical setup requires 2 pieces of track with center tie removed on both for the Engine & 1 piece of track per car on display.



#### Kit Includes:

1 - Front

Lift

1 - Rear Lift

2 - Rear

Shelf Cups

2 - Rear V Cups

2 - Terminal Pins

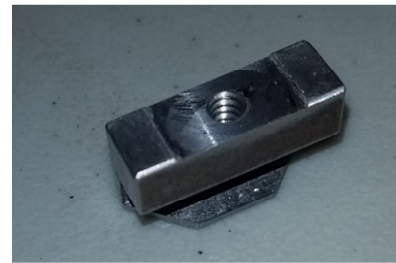
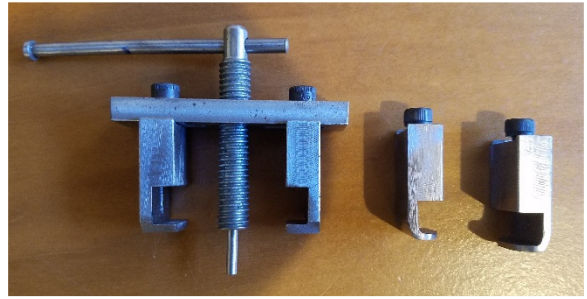
### Custom Display/Test Station

Ask about custom lengths, Woods, Finishes, & Arrangements such as my 4 level one shown with Mixed Gauges, Fuse holders, Switches & Connectors.



## Large - Gauge Wheel Puller

- This system of Wheel pullers are designed for Standard & O Gauge Engines
- Our jaws hook the wheel deeper in so they are pulling on the thicker part of the wheel, this will greatly decrease the chances of break old brittle wheels.
- It was design to work on most older Lionel engines but will work on many other ones as well.
- The tool is machined out of solid steel cross bar & jaws. With a Harden Steel replaceable pin
- All replacement parts are available.
- A standard feature in all wheel pullers is this alignment groove in the side hooks.
- requires 5/32" hex wrench



## Wheel Puller - Wheel Sizes

O Gauge Crossbar - Min/Max Wheel Diameter: 7/8" to 2"

Standard Gauge Crossbar - Min/Max Wheel Diameter: 1-3/4" to 3-1/4"



Standard Duty Jaws W/ Standard Crossbar.

Standard Duty Jaws W/ Extended Crossbar

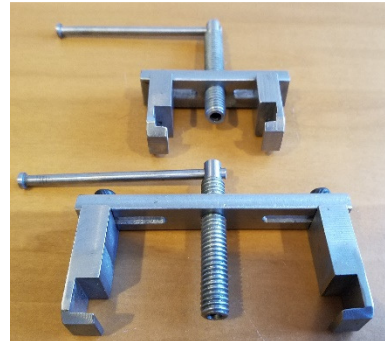


Large Center Pin: Design for axles 1/8" & larger (Drive Axles)

Small Center Pin: Design for axles 3/32" (Truck Axles)

## Standard-Gauge Crossbar

This Extend Crossbar can be use in replacement of our O Gauge crossbar to allow for larger wheel Diameters found on Standard Gauge engines.

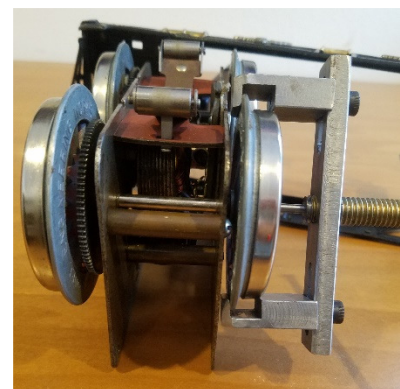
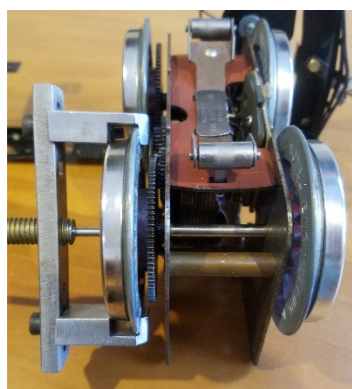
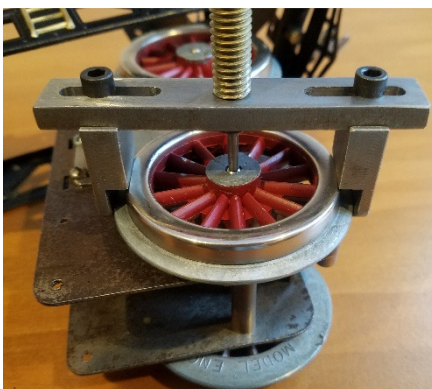


## Wheel Puller - Wheel Sizes

O Gauge Crossbar - Min/Max Wheel Diameter: 7/8" / 2"

Standard Gauge Crossbar - Min/Max Wheel Diameter: 1-3/4" / 3-1/4"

Lionel #10 Standard gauge engine



Tip: On spoked wheels recommend using the Tighten & Tap method (see Direction sheet) to reduce stress on the spokes when pulling wheel off.

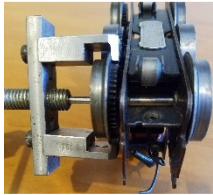
## Standard Duty Jaws

- Our Original Design

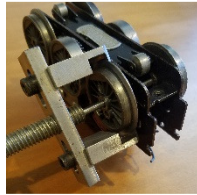
- Will pull wheel off axle on other side after removing it from case. Even if you used the Special Duty Jaws to remove the first wheel.

- Stronger Jaws because of thickness.

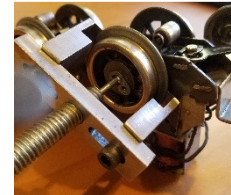
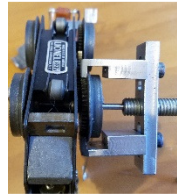
- **Need a min of 0.11" behind wheel to fit jaw**



Lionel Prairie Engine



Lionel Scout Engine

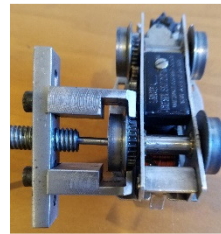


Lionel Pre War

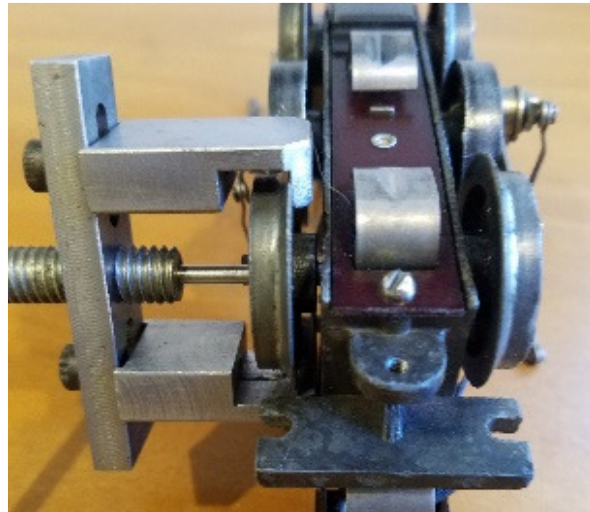
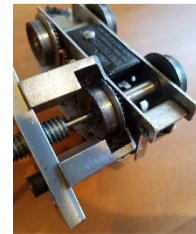


Lionel Prairie Engine

- Design for Wheels with the drive gears on the backside and is smaller than the overall wheel



Lionel Diesel



American Flyer 3 Rail

- Also design for wheels that have a larger gap between back of wheels & Motor case

## Special Duty Jaws - Ver 2

- Redesigned and using new tooling we have improved our Special Duty Jaw Design.



- Added radius to the inside & outside of jaws for addition strength.

- This jaw design was meant to fit in tighter places or where the wheels are recessed into the motor case some.

-The bottom part of jaw is also thinner and will fill behind wheel that are tight to the motor case.

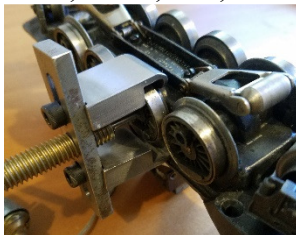
- Will work on many other engines as well.

- **Need a min of 0.065" behind wheel to fit jaw**

- Unfortunately, these jaws are a weaker design and can break.

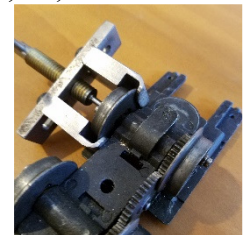
### Pennsylvania Steam Turbine 6-8-6

671, 671R, 681, 682

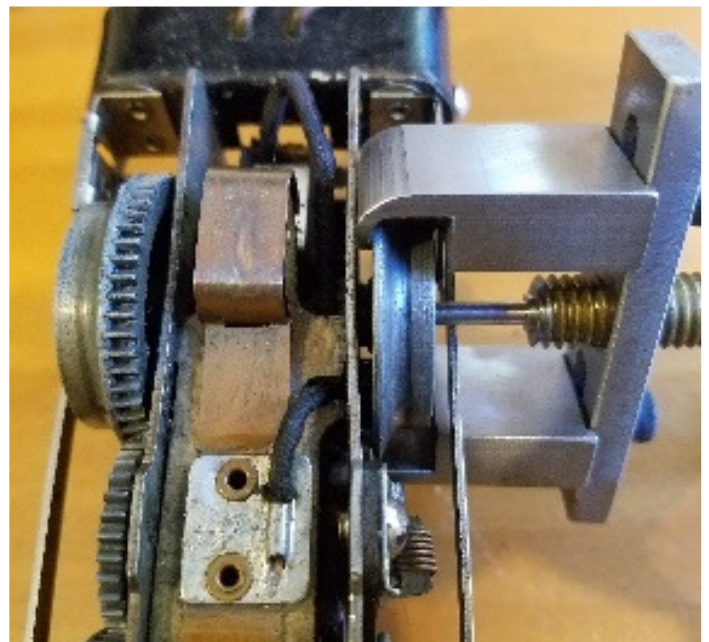
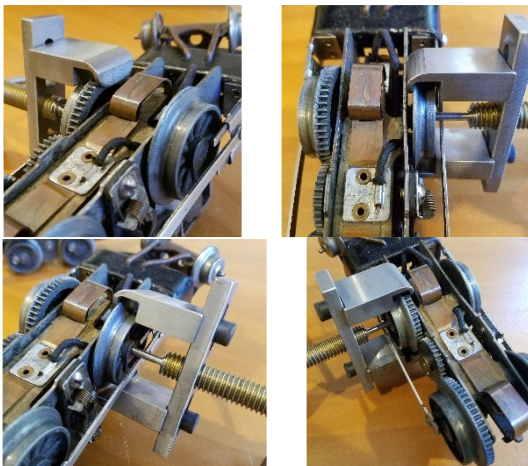


### Gas Turbine

41, 42, 51, 53, 57, 58 & 59



### Marx engine



## Large-Gauge Wheel Puller

Available in Standard, O & O27

O Gauge Crossbar - Min/Max Wheel Diameter: 7/8" / 2"

Standard Gauge Crossbar - Min/Max Wheel Diameter: 1-3/4" / 3-1/4"

"If we don't make it yet, Let us know & it could be our next Product."

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pedesignmanuf@gmail.com

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Facebook: PE Design

1. Install the appropriate jaws onto the puller crossbar.
2. Align pin with axle
3. Slide jaws in under the wheel. Make sure jaws are parallel with each other and tight against the wheel.
4. Tighten handle and press wheel off the axle.
5. Read Tech tips if you have to work hard to pull wheel off.
6. Once Wheel and axle are remove from engine, Standard duty jaws work on any wheels to remove axle.

### Standard Duty Jaws

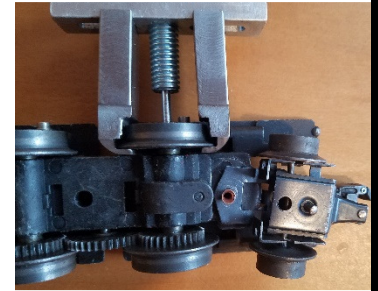


- Need a min of 0.11" behind wheel to fit jaw

PRO  
Stronger

CON  
Big space require for it to fit behind wheel.

### Special Duty Jaws



- Need a min of 0.065" behind wheel to fit jaw

PRO  
Tighter fitting space

CON  
Weaker Jaw design

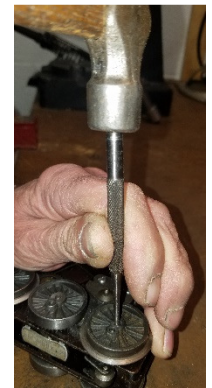
## Tech Tips

Please Read before using.

- If you have a wheel that's really tight but you can fully slide the jaws under the wheel lightly tight the puller then tap the end of the treaded rod (by handle) with a small hammer 2 or 3 times. Then tighten again & repeat with hammer until loose.
- If you have a wheel that's really tight or not enough space to fully slide the jaws under the wheel tap the axle with a punch & small hammer to get it started.



- If you have a wheel that's you need to break the axles free tap the axle with a punch & small hammer. The axles and wheel will rust together a little and my need to be broken free.
- These tips will help you prevent both wheel or jaw breakag





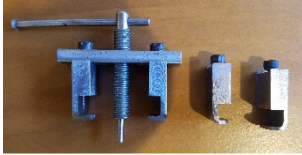
## STD & O-Gauge Wheel Puller w/ Standard & Special Duty Jaws: \$93



### Includes:

- 1 - Large Center Pin
- 1 - Small Center Pin
- 1 - O gauge Crossbar Assembly
- 1 - Standard gauge Crossbar
- 2 - Standard Duty Jaws
- 2 - Special Duty Jaws

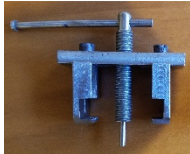
## O-Gauge Wheel Puller w/ Standard & Special Duty Jaws: \$79



### Includes:

- 1 - Large Center Pin
- 1 - O gauge Crossbar Assembly
- 2 - Standard Duty Jaws
- 2 - Special Duty Jaws

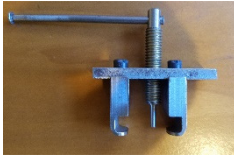
## O-Gauge Wheel Puller w/ Standard Duty Jaws: \$59



### Includes:

- 1 - Large Center Pin
- 1 - O gauge Crossbar Assembly
- 2 - Standard Duty Jaws

## O-Gauge Wheel Puller w/ Special Duty Jaws: \$59



### Includes:

- 1 - Large Center Pin
- 1 - O gauge Crossbar Assembly
- 2 - Special Duty Jaws

## Replacement Parts

### Standard Duty Jaws: \$29.50

- requires 5/32" hex wrench

#### Includes:

- 2 - Mounting Bolts
- 2 - Standard Duty Jaws



### Special Duty Jaws: \$29.50

- requires 5/32" hex wrench

#### Includes:

- 2 - Mounting Bolts
- 2 - Special Duty Jaws



### Large Hardened Center Pin: \$12

#### Includes:

- 1 - Replaceable Hardened Pin
- Design for Axle Size 1/8" & larger



### Small Hardened Center Pin: \$12

#### Includes:

- 1 - Replaceable Hardened Pin
- Design for Axle Size 3/32"



### STD Gauge Crossbar: \$19

#### Includes:

- 1 - Standard Gauge Crossbar



## Small-Gauge Wheel Puller

- Our jaws hook the wheel deeper in so they are pulling on the thicker part of the wheel, this will greatly decrease the chances of breaking old brittle wheels.

- Top of jaws have an Alignment Groove
  - Design for axles 3/32" & larger

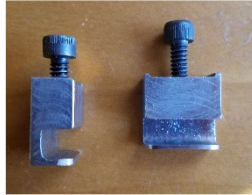
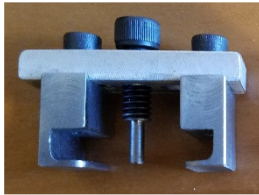
- It was design to work on older American Flyer S & HO engine wheels but will work on many other S & HO engines wheels as well.

- The tool is machined out of solid aluminum cross bar & steel jaws
  - requires 5/32" & 3/16" hex wrench

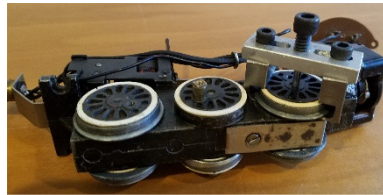
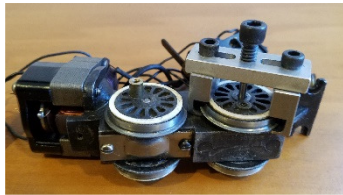


## S Gauge Jaws

Thicker lower Jaw with interior radius add to this design

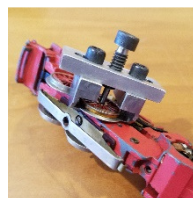
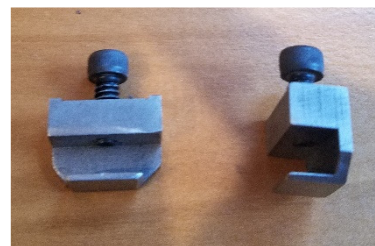


Backside of an A.F.  
Drive S gauge 3 piece  
Wheel



Shown are a A.F. #300 & A.F. #322

## HO Gauge Jaws



Marklin - HO



A.F. - HO



A.F. - HO

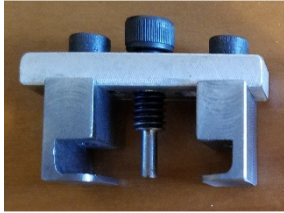
## Small-Gauge Wheel Puller w/ S & HO Jaws: \$64



### Includes:

- 1 - Replaceable Pin
- 1 - Crossbar
- 2 - S Jaws
- 2 - HO Jaws

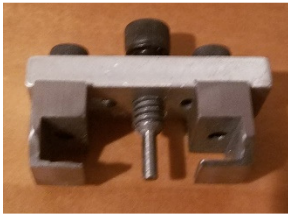
## Small-Gauge Wheel Puller w/ S Jaws: \$49



### Includes:

- 1 - Replaceable Pin
- 1 - Crossbar
- 2 - S Jaws

## Small-Gauge Wheel Puller w/ HO Jaws: \$49



### Includes:

- 1 - Replaceable Pin
- 1 - Crossbar
- 2 - HO Jaws

## Small-Gauge - S Jaws: \$28

- requires 5/32" hex wrench

### Includes:

- 2 - Mounting Bolts
- 2 - HO Jaws



## Small-Gauge - HO Jaws: \$28

- requires 5/32" hex wrench

### Includes:

- 2 - Mounting Bolts
- 2 - HO Jaws



## Small-Gauge - Replaceable Pin: \$10

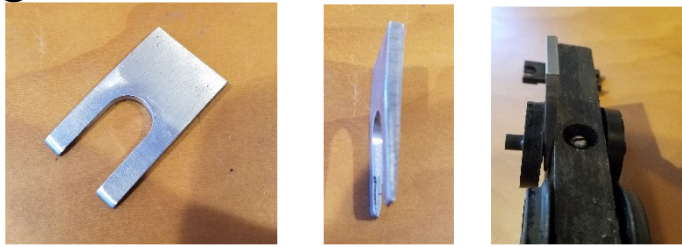
- requires 3/16" hex wrench

### Includes:

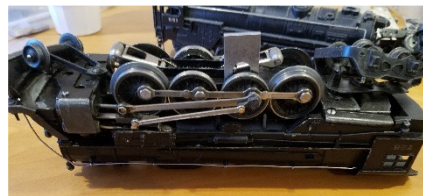
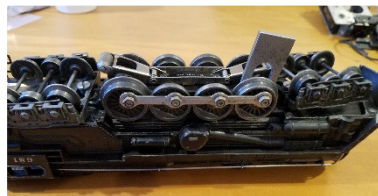
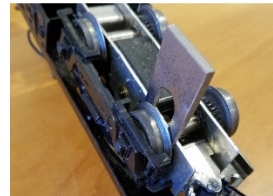
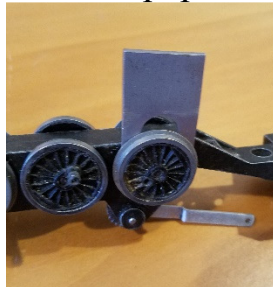
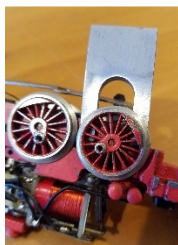
- 1 - Replaceable Screw Pin



## Wheel Wedge: \$19



- Stubborn wheel breaker tool, sometimes our pullers need a little extra help.
- Gentle enough for brittle wheels. It breaking the wheel free from the axle by pushing on the center of the wheel, the thickest part.
- Must use caution when using on Plastic or Aluminum engine cases. Can cause damage to them.
- Machined out of solid steel plate
  - 7/16" Center groove
  - 9 deg Machined pitch
- Can be use on most scales. Have tried it on HO, S, O & STD engines
- Slide behind wheel & lightly tap it with a hammer, in most cases it will NOT pop the wheel completely off.



## Wheel Spacer Gauges - Standard, O/027 & S Gauges

- Designed for older Lionel Standard and O-Gauge & American Flyer S-Gauge engines
  - The tool is machined out of solid aluminum
- Place gauge between wheel when pressing them back on so you don't OVER press the wheels back on.



### Standard-Gauge Wheel Spacer: \$23



#### Includes:

1 - Standard-Gauge Wheel Spacer Gauge

\* When use with reproduction wheels  
makes sure gauge is not on letter on  
backside of wheels

### O/027-Gauge Wheel Spacer: \$21



#### Includes:

1 - O/027-Gauge Wheel Spacer Gauge

### S-Gauge Wheel Spacer: \$21



#### Includes:

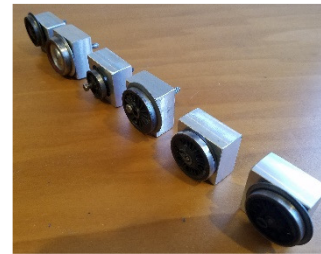
1 - S-Gauge Wheel Spacer Gauge

## Axle Block: \$32

- Wheel / Axle holding jig.
- Design for standard Diameter axle w/ & w/o countersinks used by Lionel, American Flyer, & Marx's Engines. In Standard, O & S Gauges. But can be used for others.
- Block sits flat on the back of the wheel to hold axle at 90 degrees when press into wheel.
- Some wheels will need to be used with Wheel cups or our Quartering cups to hold them flat.
- Can be used in an Arbor Press.
- The tool is machined out of solid 3/4" Aluminum,
- Block is 2 sided.
- Side 1: 0.15", 0.165", & 0.19" straight & 0.135" & 0.18 with countersink.
- Side 2: 0.135", 0.15", 0.18", & 0.19" straight & 0.165 with countersink.



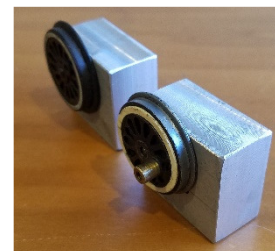
Lionel Standard Gauge



Lionel O Gauge



Marx's O Gauge



American Flyer O & S Gauges

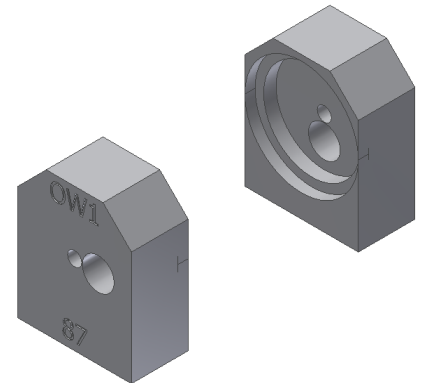
# Non-Quartering & Quartering Wheel Cups, Ask for available

## Quartering Wheel Cups

- This tool was designed to Align the wheels on steam engines so that the wheels have 87 degrees offset.

- Can be used in a standard Arbor Press.

- The tool is machined out of solid aluminum



- Some engines require only 2 cups, a 0 & 87 cup. Others require 4 (2 for the outer wheels, 2 for the center wheels. Wheels will be marked with

Outer - 0 & 87

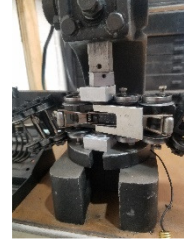
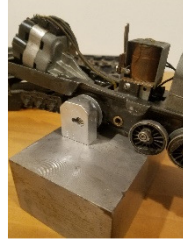
Center - C0 & C87

## Direction

1. Place the slide bar screws in the outside wheels. They will fit inside the hole use for alignment. On the center wheel check that the shaft that goes thru the slide bar is straight.
2. The cups that are marked with a "C" are for the center wheels. Place each set of wheels in the cups with the "0" and "C0" on the same side and the "87" and "C87" on the other.
3. One axle at time gently presses the wheels on to the axle with the bottom of cups on a flat surface.
4. Once wheels are start you can pick-up engine and finishing pressing wheels on in a standard Arbor Press.
5. Place back on flat surface and verify alignment.
6. Repeat until all wheels are on. Then install Side bars and other hardware.



# Current Wheel Cup Sizes Lionel O Gauge



Designation	Max Outer Dia	Offset	Indexing Hole Size *	Cup Type	Tested Engines **	Material	Notes	Price
WC-O-D1	0.89"	NA	NA	Non-Quartering	Most Lionel Post War Diesels	Aluminum		\$ 35.00
WC-O-W1	1.01"	0.20" - 0.23"	0.28"	Quartering	Lionel 671, 681, 682, 2020.	Aluminum	Both types of wheels Offset hole slotted to fit both offset.	\$ 54.00
WC-O-W2	1.26"	0.20"	0.28"	Quartering	Lionel 726, 736	Aluminum	Baldwin & Spoke. Pocket in Indexing Hole	\$ 56.00
WC-O-W3	1.39"	0.20"	0.28"	Quartering	Lionel 224, 646, 675, 2025, 2035, 2046, 2055, 2056, 2065	Aluminum		\$ 58.00
WC-O-W4	1.24	0.19	0.28	Quartering	Lionel 2026(51-53), 2016, 2018, 2034,2036,2037	Aluminum		\$ 56.00
WC-O-COMB	SEE ABOVE	SEE ABOVE	SEE ABOVE	SEE ABOVE	SEE ABOVE Lionel Comb	SEE ABOVE	Includes: WC-O-D1 WC-O-W1 WC-O-W2 WC-O-W3 WC-O-W4 Indexing Screws	\$ 254.00
WC-O-W5	1.19	0.23	0.25	Quartering	American Flyer 401, 553, 561, 565. See Note ***	Aluminum	Includes 4-40 Indexing Screws	\$ 68.00

\* Most wheels will have a screw with a 1/4" head on it but not all. other engines require Indexing Screws.  
 \*\*Wheel cups may work on other engines other than listed in the tested engine section.  
 \*\*\* With Indexing screws, cups will work on both wheels with & with out post. Cup are thick enough for either.



WC-O-D1



WC-O-W1



WC-O-W2



WC-O-W3



WC-O-W4



WC-O-W5

## What measurement you need to check before ordering.



Max Outer Dia  
Actual size should be a little smaller this.



Offset  
Center line of axel & Sidebar screw.

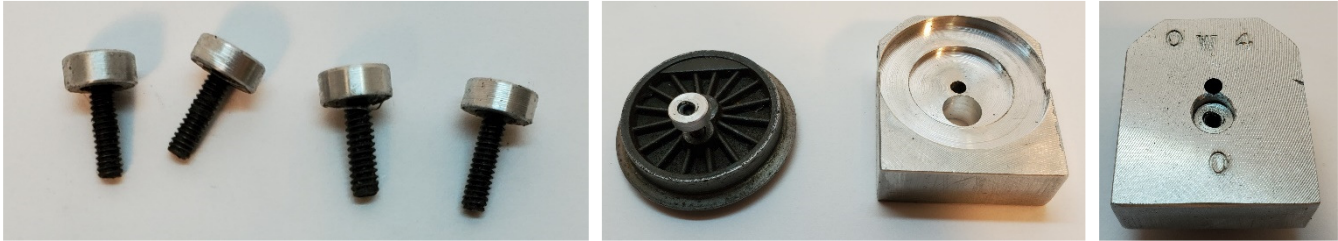


Indexing Hole Size  
Size of the bolt head. Needs to be a little smaller to fit in indexing hole.

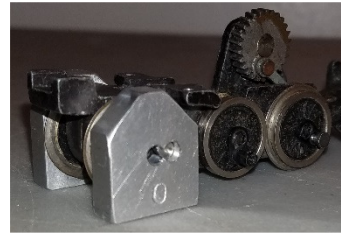
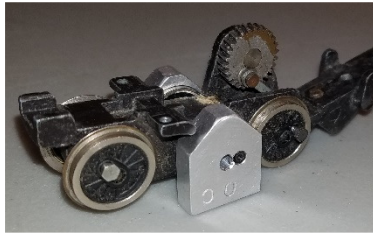


## Indexing Screws - O Gauge: \$18

- Not all screw heads for the side bars are a 1/4" head.
- 1 set of Indexing Screws with 3-48 thread & 1/4" Round head.
- 1 set of Indexing Screws with 4-40 thread & 1/4" Round head.
- Designed for use with our O Gauge Lionel Quartering Cups



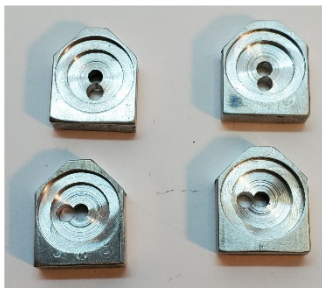
## American Flyer H.O. Gauge



Designation	Max Outer Dia	Offset	Set Hole Size	Cup Type	Tested Engines **	Material	Notes	Price
WC-HO-W1	Outer - 0.65" Center - 0.64"	0.11"	Outer - 0.14" Center - 0.12"	Quartering	American Flyer H.O.	Aluminum	*	\$ 62.00
WC-HO-W2	Outer - 0.9" Center - 0.89"	0.15"	Outer - 0.65" Center - 0.64"	Quartering	American Flyer H.O.	Aluminum	*	\$ 62.00

\* These cup sets required an Outer & Center set of Cups because of wheel design, post on center wheels.

\*\*Wheel cups may work on other engines other than listed in the tested engine section.



WC-HO-W1

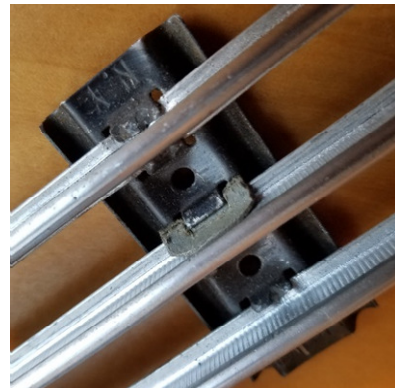


WC-HO-W2

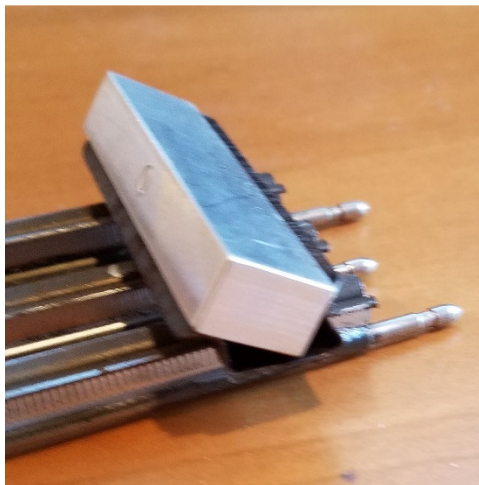
## Track Tie Punch

- Relocate Tie when cutting & shorting track
- Tighten loose Track Tie on old track.
- Tap end of punch with a hammer to tighten Ties.
- Can be used to punch flat the screw holes in the ties over tightened.
- Also, as a jig to straighten bent ties.

Available in Standard, O27, O & S Gauges



Can be fixed by flipping the track over and tapping the lower block to spread the side of the tie or for flattening the hole after being over tightened. Then use channel locks or a vice to close up the side to the lower block.

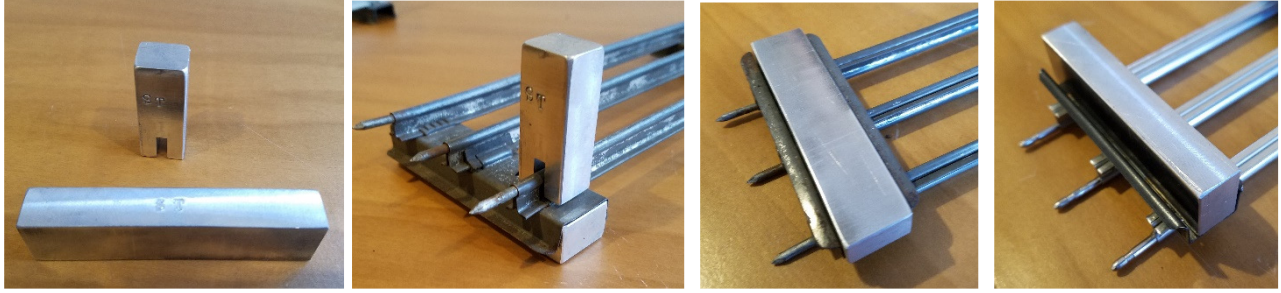


### Standard-Gauge Track Tie Punch: \$22

Lionel Standard-Gauge track

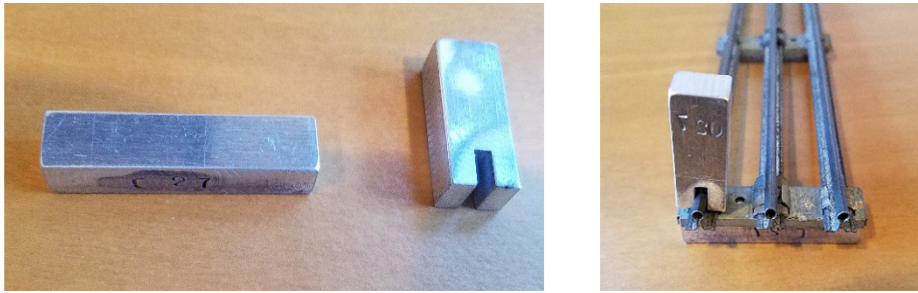
We found at least 2 different size Tie widths; The lower block is 1/2" x 3/4".

It will fit loosely in smaller tie. The rails are the same.



### O27-Gauge Track Tie Punch: \$20

Lionel O27-Gauge track



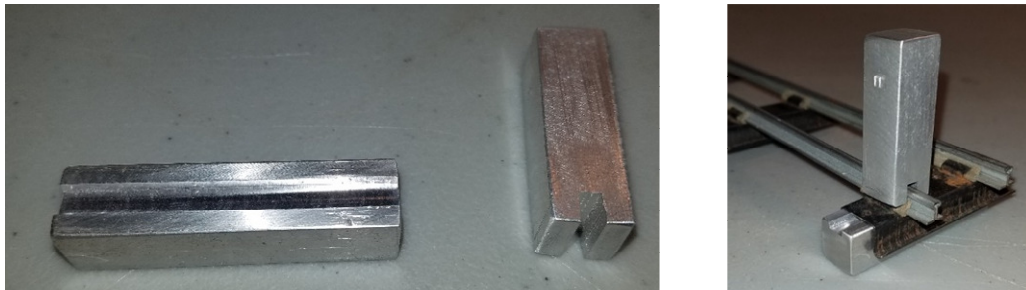
### O-Gauge Track Tie Punch: \$20

Lionel & K-Line O-Gauge track



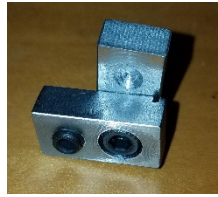
### S-Gauge Track Tie Punch: \$20

For both American Flyer & K-Line S Gauge track



## Track Pin Crimper

- Crimps track into connector pins with 4 edges parallel to the pin.
- Tighten loose Track pins for better conductivity but leave them loose enough to be taken apart.
- With how it crimps the track you will not have any bump on the top or sides of the rails
- With the crimping edges being parallel with the pin you will be able to pull track apart.
- We recommend that the pin is in the rails before using this crimper. Without pin in the track, you can easily over crimp the rails.
- Can be used on track that is mounted down on a layout.

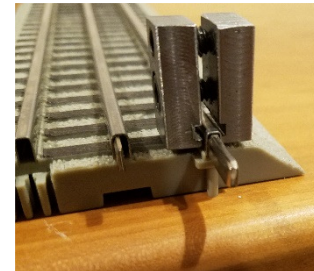
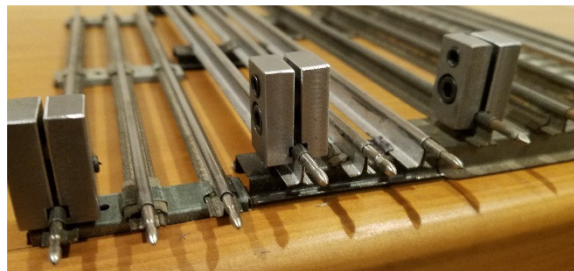


- **Crimper jaws DO NOT go fully around the rails (see photos)**

- Cup on other side of set screw to hold alignment
- We know there are a few previous versions of this tool. But the screw acts like a gear reduction and makes it very easy to put a lot of force on the rails so its bits into the pin.
- This tool is NOT meant to repair the rails by fixing the overall shape back to normal.
- You will need to adjust the top set screw for the track types. You want the jaws to remain parallel with each other when crimping.
- Requires 1/8" & 5/32" hex wrench

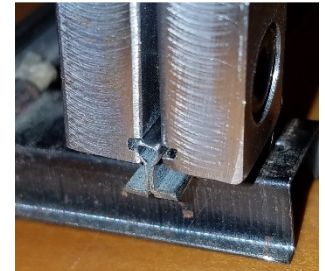
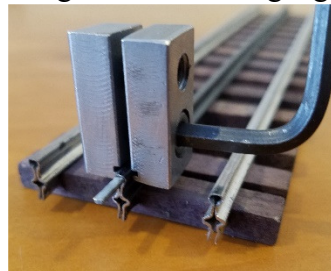
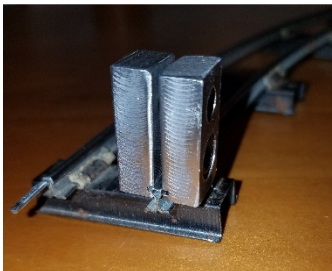
### O-Gauge Track Pin Crimper: \$33

- Lionel & K-Line Standard, O, & O27 Gauge Tubular track Also Lionel O Fast Track 2 edges only
- Will **NOT** work on Gargraves / Ross O gauge track



### S/O-Gauge Track Pin Crimper: \$33

- For both American Flyer & K-Line S Gauge track
- This jaw is design to work on Gargraves / Ross O gauge track.



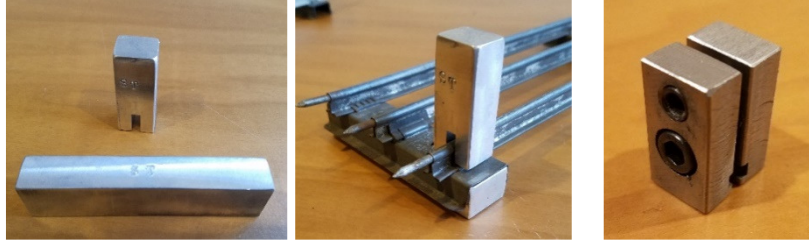
## Track Maintenance Kits

Includes both our Track Tie Punch & Pin Crimper in one kit.

### Standard-Gauge Track Maintenance Kit: \$48

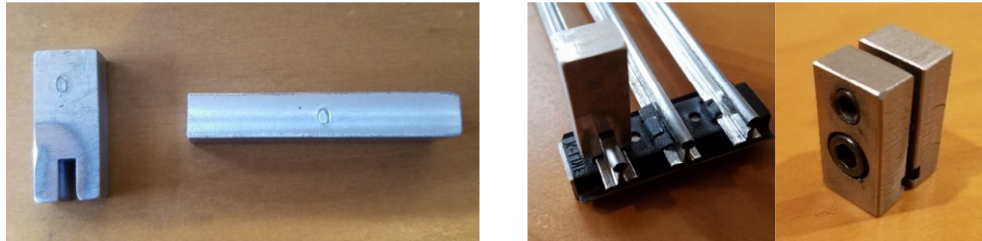
Lionel Standard-Gauge track

We found at least 2 different size Tie widths; The lower block is 1/2" x 3/4".  
It will fit loosely in smaller tie. The rails are the same.



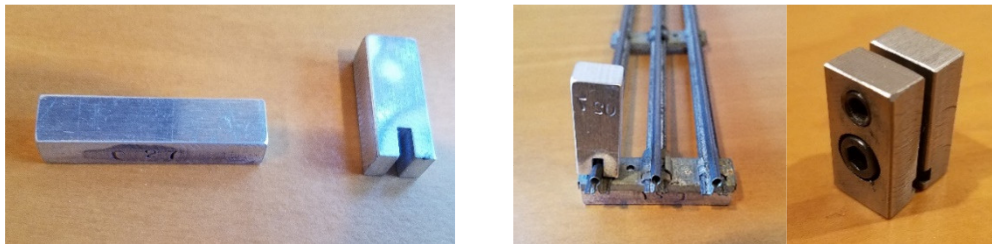
### O-Gauge Track Maintenance Kit: \$46

Lionel & K-Line O-Gauge track



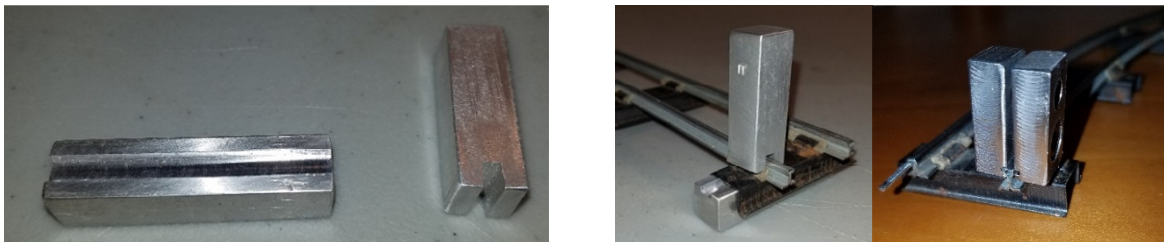
### O27-Gauge Track Maintenance Kit: \$46

Lionel & K-Line O27-Gauge track

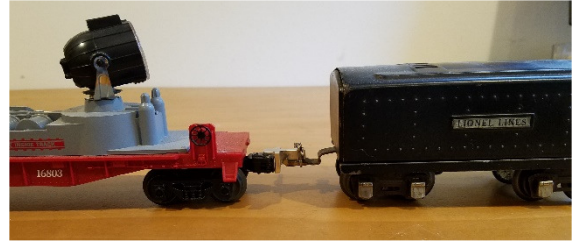


### S-Gauge Track Maintenance Kit: \$46

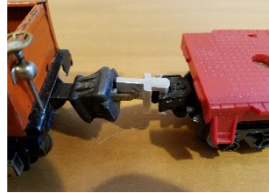
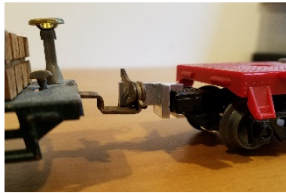
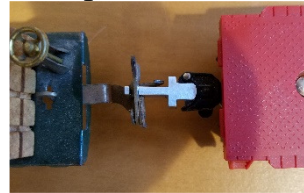
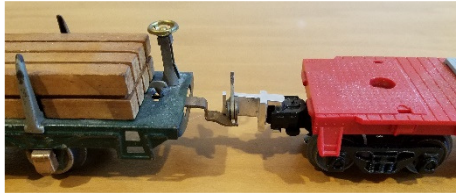
For both American Flyer & K-Line S Gauge track



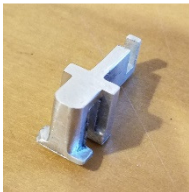
## Coupler Adapter - Lionel Latch/Box to Knuckle



- Designed to connect older Lionel Latch/Box coupler to Operating Knuckle Coupler or vs versa.
  - The tool is machined out of solid aluminum
  - Will not work on NON-Operating Knuckle coupler
  - Some Latch couplers you may need to press in the tab a little to work.
  - Will work on both Latch & Box type coupler.
- On the Operating Knuckle coupler open coupler and press adapter in like another coupler until Operating Knuckle coupler locks in.
- On the Latch/ Box coupler simply lift the Latch or Box & slide adapter then close as you would with another Latch/ Box coupler.



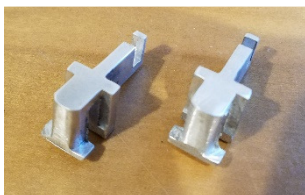
## O-Gauge Coupler Adapter: \$22



### Includes:

1 - Coupler Adapter - Lionel Latch/Box to Knuckle

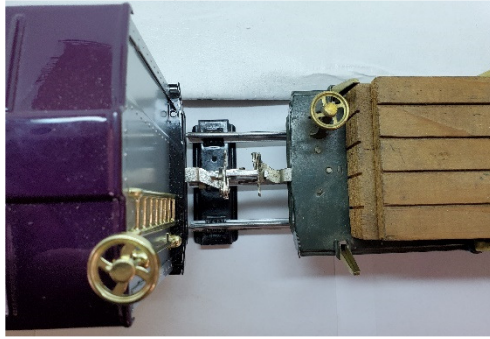
## O-Gauge Coupler Adapter (2 pieces): \$39



### Includes:

2 - Coupler Adapter - Lionel Latch/Box to Knuckle

## Coupler Adapter - Lionel Latch/Box to Latch/Box(higher)



- Designed to connect older Lionel Latch / Box couplers that are at different heights because of being different gauges or series of wheels (wheel sizes).
  - Standard, O, & O27 gauge
  - The tool is machined out of solid aluminum
- Some Latch couplers you may need to press in the tab a little to work.
  - Will work on both Latch & Box type coupler.
- On the Latch/ Box coupler simply lift the Latch or Box & slide adapter then close as you would with another Latch/ Box coupler.

### STD & O-Gauge Coupler Adapter LB to LB: \$22



#### Includes:

- 1 - Coupler Adapter - Lionel Latch/Box to Latch/Box

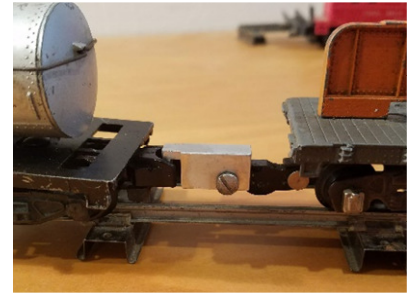
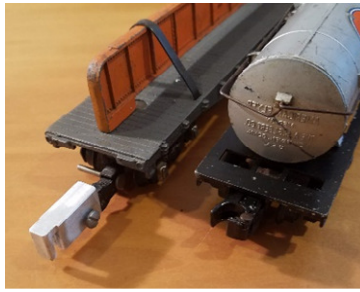
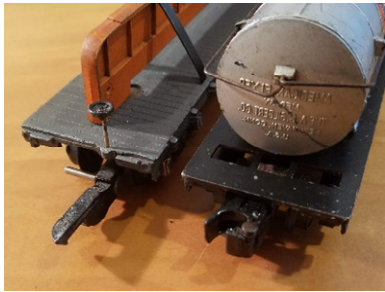
### STD & O-Gauge Coupler Adapter LB to LB (2 pieces): \$39



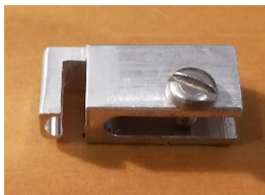
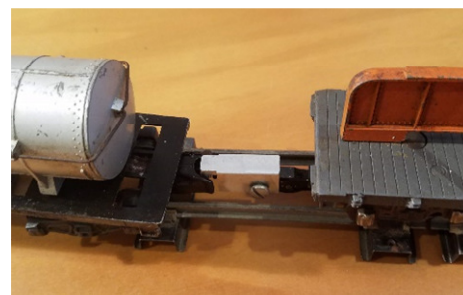
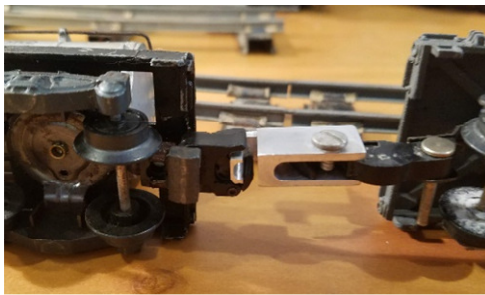
#### Includes:

- 2 - Coupler Adapter - Lionel Latch/Box to Latch/Box

## Coupler Adapter - American Flyer Link to Knuckle



- Designed to connect older American Flyer Link coupler to Operating Knuckle Coupler or vs versa.
- The tool is machined out of solid aluminum
- On the Operating Knuckle coupler close coupler lift and drop adapter into coupler.
- On the Link coupler simply slide the adapter over the link couple then hand tight screw to lock on.
- Must manually couple cars. Link Coupler drops down and will not let auto coupling work.
- Dose **NOT** work on A.F. O gauge Link couplers.



### S-Gauge Coupler Adapter: \$22

#### Includes:

- 1 - Coupler Adapter - American Flyer Link to Knuckle

### S-Gauge Coupler Adapter (2 pieces): \$39

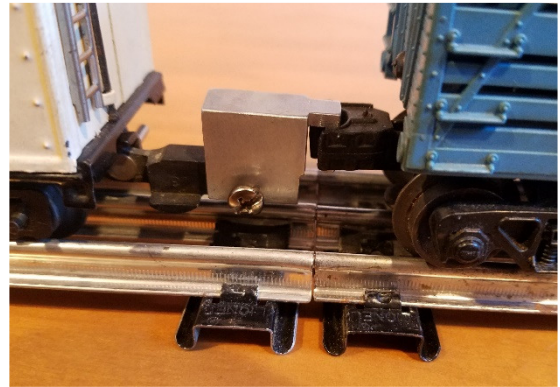


#### Includes:

- 2 - Coupler Adapter - American Flyer Link to Knuckle



## Coupler Adapter - American Flyer 3 rail Link (O gauge) to Lionel Knuckle



- Designed to connect older American Flyer 3 Rail Link coupler to Lionel Operating Knuckle Coupler or vs versa.
  - O, O27 gauge
  - The tool is machined out of solid aluminum
- On the Operating Knuckle coupler close coupler lift and drop adapter into coupler.
- On the Link coupler simply slide the adapter over the link couple then hand tight screw to lock on.
  - Must manually couple cars. Link Coupler drops down and will not let auto coupling work.



### O-Gauge AF Coupler Adapter: \$24



#### Includes:

1 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Knuckle

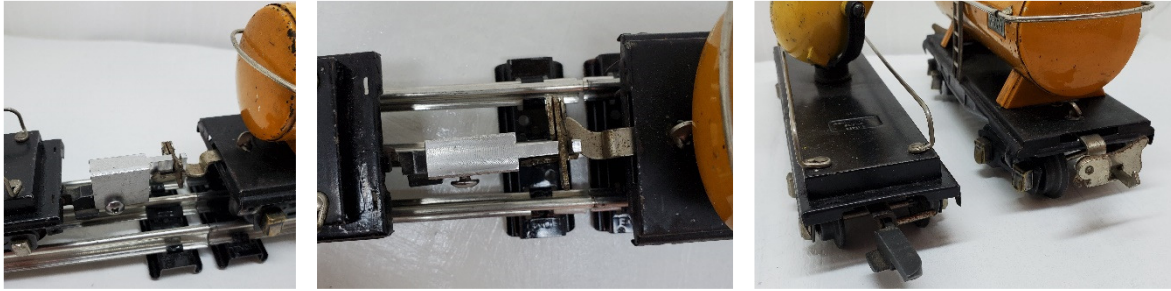
### O-Gauge AF Coupler Adapter (2 pieces): \$41



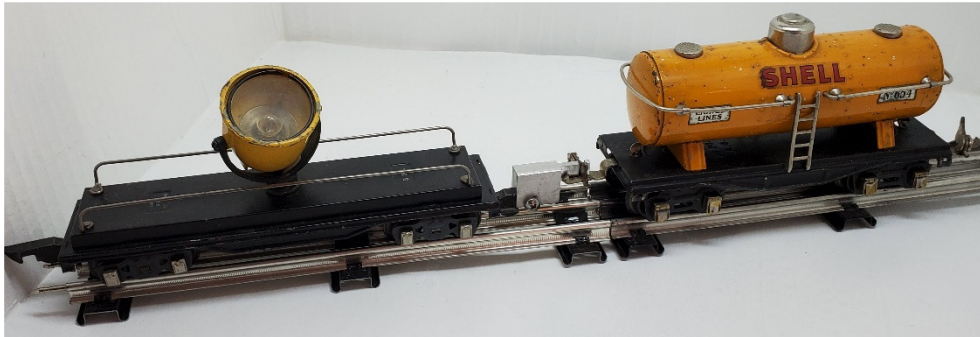
#### Includes:

2 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Knuckle

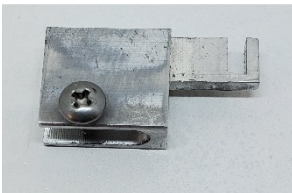
## Coupler Adapter - American Flyer 3 rail Link (O gauge) to Lionel Latch/Box



- Designed to connect older American Flyer 3 Rail Link coupler to Lionel Operating Latch/Box Coupler or vs versa.
  - O, O27 gauge
  - The tool is machined out of solid aluminum
- On the Latch/ Box coupler simply lift the Latch or Box & slide adapter then close as you would with another Latch/ Box coupler.
- On the Link coupler simply slide the adapter over the link couple then hand tight screw to lock on.
  - Must manually couple cars. Link Coupler drops down and will not let auto coupling work.



### O-Gauge AF Coupler Adapter: \$24



#### Includes:

- 1 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Latch/Box

### O-Gauge AF Coupler Adapter (2 pieces): \$41



#### Includes:

- 2 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Latch/Box

## O & STD gauge E-Unit Dis / Assemble Tool Kit: \$69

This tool kit is for servicing on the Mechanical Three Position E-unit in Lionel Trains. It will break the side plates free with the Breaker Bar & the Jig will hold all the parts in place when trying to reassemble the E-unit. Use this tool to clean & repair old E-units

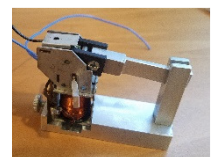
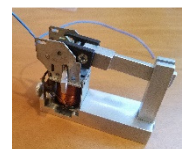
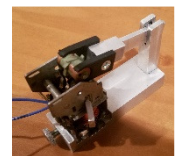
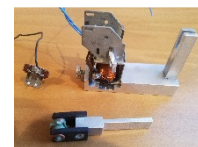
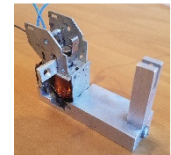
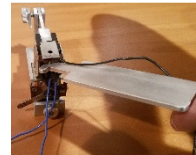


Kit Includes:  
- Breaker  
- E-unit Jig  
- Plunger Holder

### Direction

1. Insert Breaker Bar in just below top contacts at an angle.
2. Twist E-unit & Breaker Bar and straight out to 180 degrees. This will spread the sides of the E-Unit.
3. Remove the Upper & Roller Contacts from E-Unit.
4. Clean & inspects all the contacts. Replace as needed. For cleaning contacts, you can use a small piece of Scot Bright or a good pencil eraser. A good contact cleaner with a lubricant recommended as well.
5. Gently bended the spring contacts a little in to make better contact with the roller.
6. Place E-unit & Roller contact in Jig as shown. Look in pics for which way the teeth go on the roller.
7. Pull up the plunger hook and place Plunger Holder in the side of the E-Unit to hold the plunger hook up. Tilt Hook back.
8. With the Roller contact in the Holder, Place the Roller Contact into place and align it with the holes in the side of the E-Unit. Rest the other end of holder into the cradle.
9. Place Cleaned or New Upper Contacts in grooves at the top of the E-Unit.
10. Now start pressing the side of the E-Unit together by hand making sure the Roller & Upper Contacts line up with their holes.
11. After Roller & Upper Contacts are started into both sides of the E-Unit you can finish snapping it back together with a part of channel locks pliers, Arbor Press, or a small vice.

Remove from Jig and test.

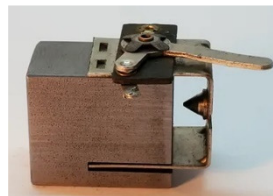


## O & STD gauge E-Unit Anvil: \$28

- Designed of use when replacing the rivet in the Selector Switch & Contacts on Lionel Mechanical E-Units



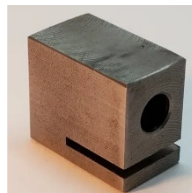
- Designed to hold both case types. With the hole in the center to accept the Post or Pin style E-unit Coil Cage



- Can be used with either a Rivet Press or a Hammer & Punch



- Machine out of solid steel

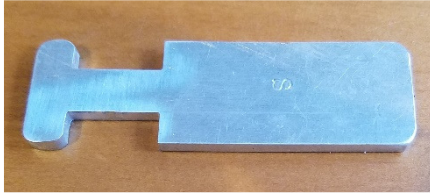


## S gauge E-Unit Breaker Bar: \$20

- This Breaker Bar is for servicing on the Mechanical Three Position E-unit in American Flyer. It will break the side plates free with the Breaker Bar.

- Use this tool to clean & repair old E-units.

- Design to split the E-Unit just enough to remove drum but not over spread E-Unit.



Kit Includes:

- Breaker Bar

### Direction

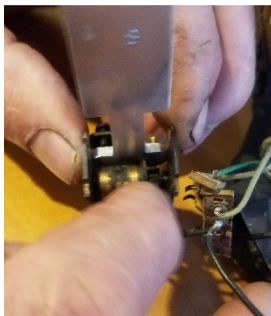


1. Twist taps holding both Contactor Plates so they are straight. The straighter they are makes the next step easier.

2. Remove both Contactor Plates from E-unit. Be careful not to break the ends.



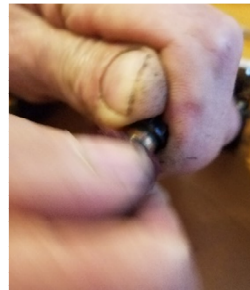
3. Insert Breaker Bar next to Drum with one side a little lower than the drum.



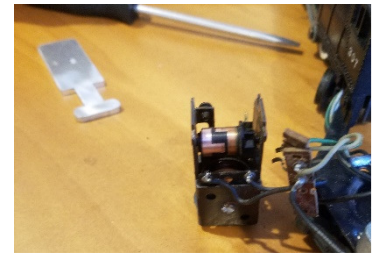
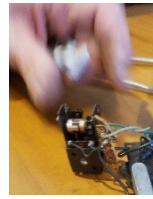
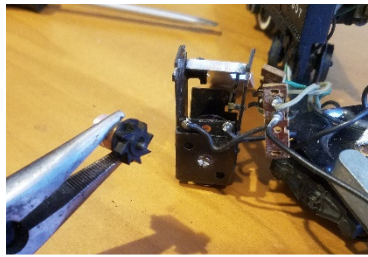
4. Pry Side apart by straighten the Breaker Bar with the E-Unit, Sliding the high end into the E-unit. The end should be a little lower than the drum.

5. Remove the Drum & leave Breaker Bar in E-Unit.

6. Clean & Inspect Drum, if necessary, replace Drum or Clean with a piece of Scotch-Brite.

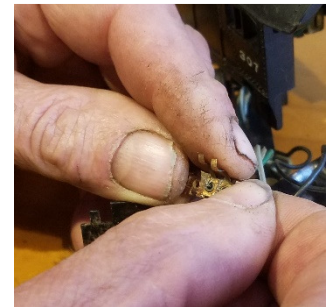


7. Reinstall Drum & remove the Breaker Bar.



8. Clean & Inspect both Contactor Plates & Contacts, if necessary, replace Contactors or Clean with a piece of Scotch-Brite.

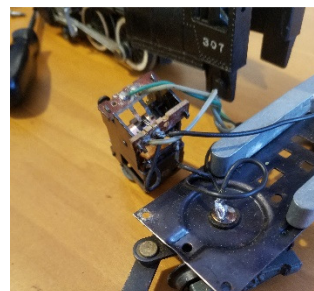
9. Push on the Contacts a little to re-bend them. This will help make better contact to the drum.



10. Reinstall both Contact Plates onto the E-Unit. Watch winch way the you put them on.



11. Retwist the tabs that hold the Contactor Plates in place. Just a little.



12. Test & Re-install.

TIP: If a tab has broken you can clean it off & use a dab of solder to hold parts in place.

## Armature Press Cup Set: \$34

- Can be use with Arbor Press
- Used to press out shaft or Worm drives from armature.

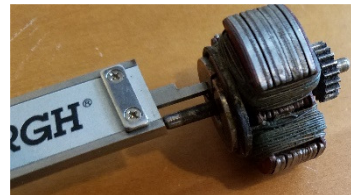


### Kit Includes:

- Cup 1 for 1" & 1-1/4" Armatures
- Cup 2 for 1-1/8" Armatures
- 3/32" X 1" Hardened Pin

### Direction

1. Before pulling shaft out, measure the offset of the armature to the end of the shaft & press armature back to that same offset.



2. Place Armature into the correct Cup (gear end facing down) & place in an Arbor Press. Between the two circles represent the placement of the cup on the armatures. You **DO NOT** want to press on the windings.



3. Press Shaft out so end of shaft is flush with the commutator.



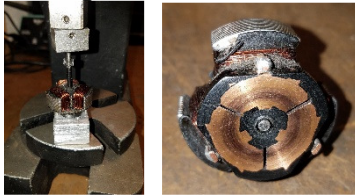
4. Now Place Hardened Pin on end of Shaft and finish pressing shaft out.



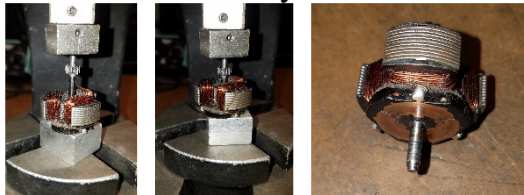
5. Do Not Use Cups to press Shaft back in. You want to fully support the Commutator. Our Shaft Block from our Pinion puller set works great.

6. Start the shaft back into the armature with gear end of shaft up & Commutator on armature down by hand.

7. Now place armature in Arbor press & press shaft down until it is flush with the commutator.

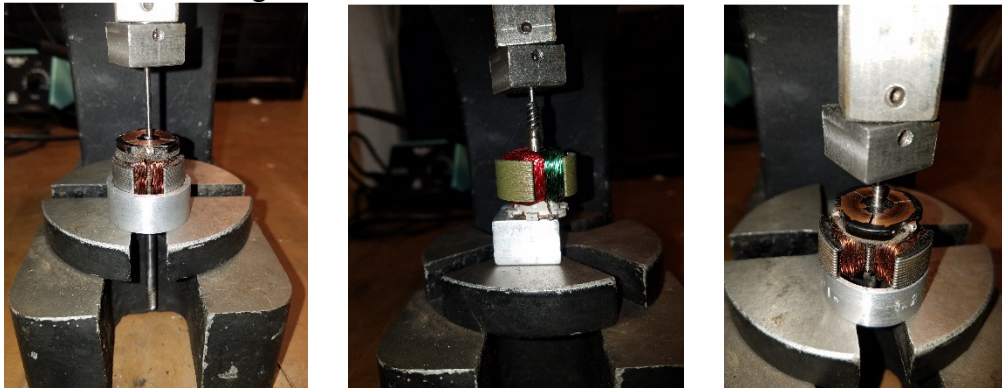


8. Adjust armature so that the shaft lines up with the holes in the Shaft Block & finish press shaft back on. Remember the Shaft Block has different depth holes to help with setting your offset back to what you measured in step 1.



### Example Pics

Standard Harbor Freight Arbor Press used.





## Armature Pinion Puller & Press Set: \$56

- This tool was designed to pull & replace stripped or worn-out pinion gears on the armature used in many Lionel Trains.

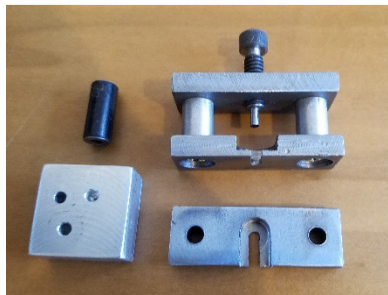
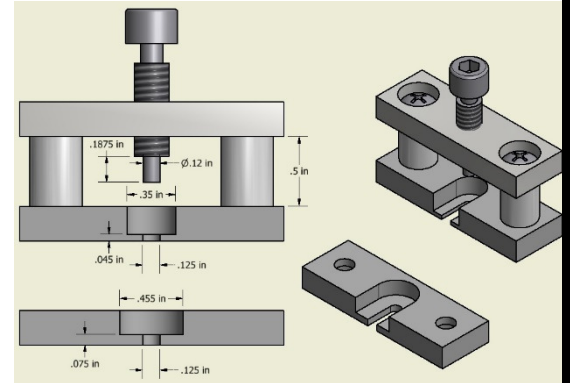
- Can be used in an Arbor Press.

- The tool is machined out of solid aluminum Shaft Block & Pinion Press, Steel Crossbar & Lower Jaws

- Shaft Block has (3) 1/8" hole at 3/16", 3/8" & 1/2" depths. Used for holding shaft at 90 degrees when pressing pinion gear on w/o pressing on the commutator. Also, when pressing in a new shaft, it will fully support the commutator.

- requires 3/16" hex wrench & Phils screwdriver

- See drawing for max gear sizes



### Kit includes:

Pinion Puller

Shaft block

Pinion Press

Lower Jaw for small Pinions

Lower Jaw for large Pinion



## Direction

1. Removing Pinion Gear: Before pulling gear off measure the offset of the gear to the end of the shaft & press gear back to that same offset.



2. Slide the Armature into the puller.



3. Tight the screw so the pin presses straight on the end of the shaft.  
tighten the screw until shaft is pressed out of pinion gear.

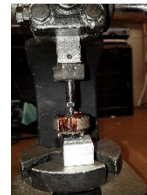


Continue

4. Install Pinion Gear: Place the armature shaft with the commutator side down into the Shaft Block. There are two holes at different depths. You want to use the hole that will NOT let the commutator touch the shaft block, you don't want to move the fields on the shaft..



5. Start the pinion gear on the shaft by hand.



6. Place Shaft Block, Armature & gear on a Arbor Press



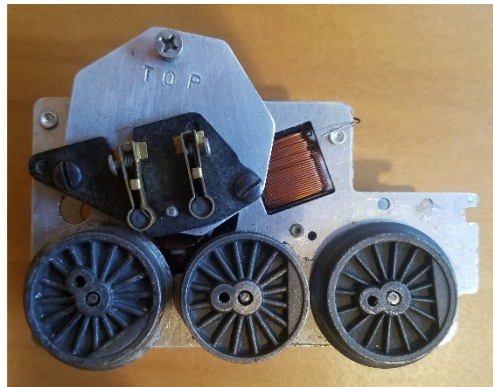
7. Place the Pinion Press over the end of the shaft and **VERY CAREFULLY & SLOWLY** start to press the gear down the shaft. Do very little amounts and check often and set back to the offset you measure in step 1. Be carefully you can press gear to far on easily.

## Brushes Installation Plate: \$22

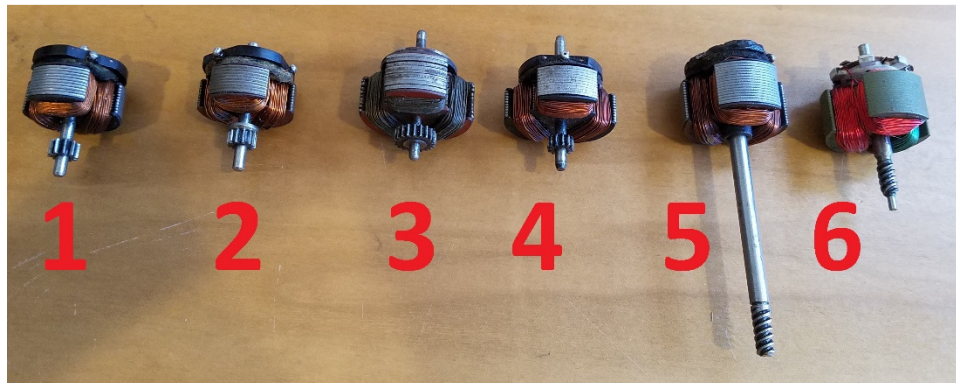
This installation tool is to hold the brush in the brush plate as you install it.

### Direction

1. First load the brushes & springs into the brush plate holder.
2. Cover back side with Plate. (Optional to use the screws to hold holder to plate)
3. Now install both the plate & holder back on engine.
4. If installed remove the screws holding Brush plate to Install plate.
5. Slide the plate out from under the brush plate holder.
6. Screw the brush plate back in place.



## Armature Examples used in Armature cups & Pinion Pullers.



1. 1" O.D. - from a 2034 Steam Engine
2. 1" O.D. - from a 3927 Track Cleaning Car
3. 1-1/4" O.D. - from a Pre-War 248 Electric Engine
4. 1-1/4" O.D. - from a 2025 Steam Engine
5. 1-1/8" O.D. - from a 671 Steam Turbine Engine
6. 1-1/8" O.D. - from a 1981 Burger King 8160 Diesel Engine

## Rivet Punch Set: \$59

- Designed for older Lionel O-Gauge but should work on other brands & gauges
  - The tool is machined out of:

- Holding block - Aluminum
- Punch - Steel
- Support Post - Steel

- Meant for Brass & Aluminum rivets
- Designed for use on 1/16", 5/32" 1/8" & Latch Coupler rivets

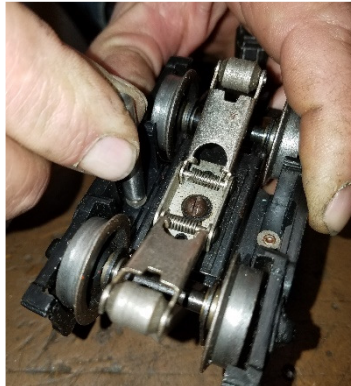
### Rivet Punch Set



#### Includes:

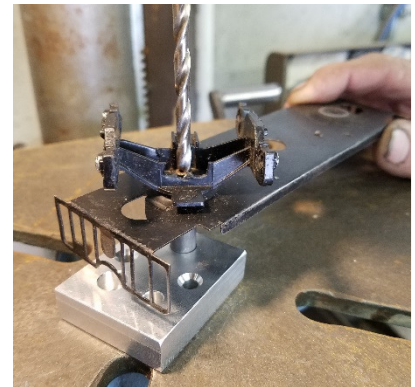
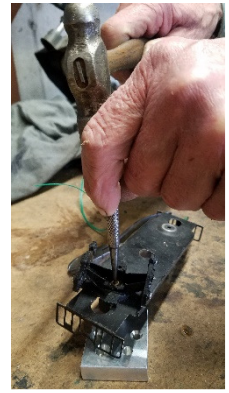
- 1 - Prick Punch
- 1 - Holding Block
- 1 - Latch Coupler Rivet Support Post
- 1 - 1/8" Rivet Support Post
- 1 - 5/32" Rivet Support Post
- 1 - 1/16" Rivet Support Post

#### Examples Pics:



## Rivet Remover / Station: \$47

- Designed for drilling out rivets for removal.
- Helps by letting the top of the rivet dig into the Rivet Remover Punch so it does not spin ruin your plastic parts.
- Base Plate has mounting holes so you can screw it down.
- Rivet Remover Punch is machined out of Tool Steel & Heat Treated.
- Base Plate is machined out of solid Aluminum.
- Rivet Remover Punch is removable with a flat spot-on punch & set screw in base.
- Other two holes are for holding our other Rivet. Punches sold separately.
- Recommend take a punch and setting the rivet into our Rivet Remover Punch before drilling out.



## Rivet Remover / Station: \$44



Includes:  
1 - Base Plate  
1 - Rivet Remover Punch



Shown with Rivet Punch  
Tools sold separately.

## Rivet / Arbor Press: \$320\*

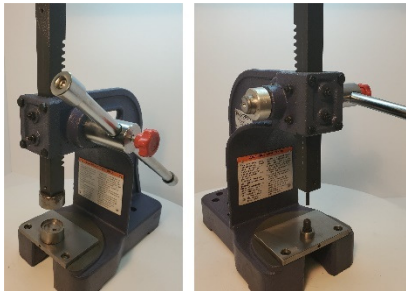
Arbor press with our conversion kit installed to allow older Lionel & other Press tools to be use. Ram has the ability to receive 3/8" & 1/2" tools. Lower plate with cups will receive 3/8", 1/2" & 5/8" tools. Tools that can be attach are the Lionel Rivet Punches & Quartering Cups

\*No Free Shipping, Shipping extra

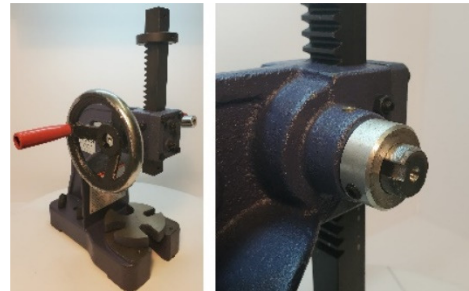


Rivet Press & Quartering cups **NOT** included

## Features



- At least 3-1/2" between either the quartering cups or rivet press tools at fully open.
- 4" working depth from center of tools.

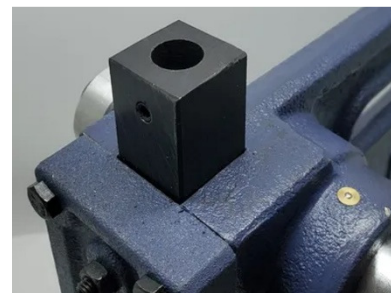


- Speed wheel with the ability to use without. Swap wheel with the Wheel Collar for more clearance.

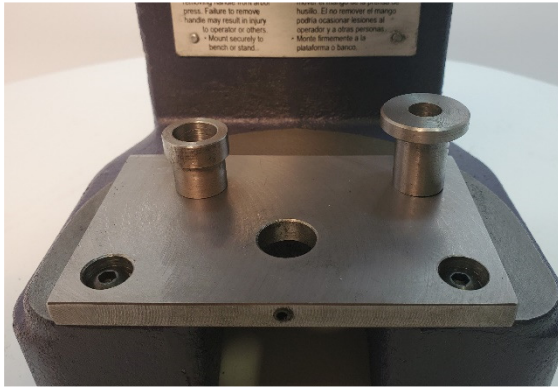


Arbor press

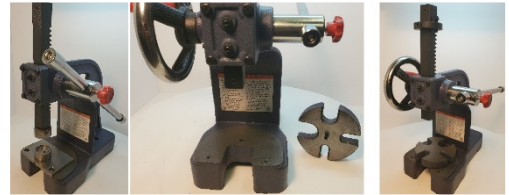
- 4-3/4" Max work height (with Anvil)
- 5-3/4" Max work height (without Anvil)



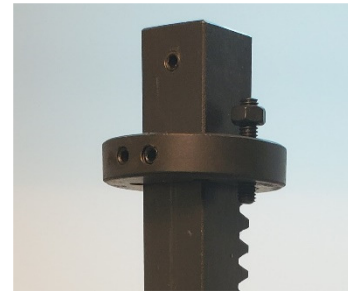
- Reversible Ram With Holes on both ends
- 3/8" hole with set screw at one end of ram
- 1/2" hole with set screw at the other end of ram



- Lower plate with 5/8" hole with set screw
- 3/8" cup for Lower Plate.
- 1/2" cup for Lower Plate



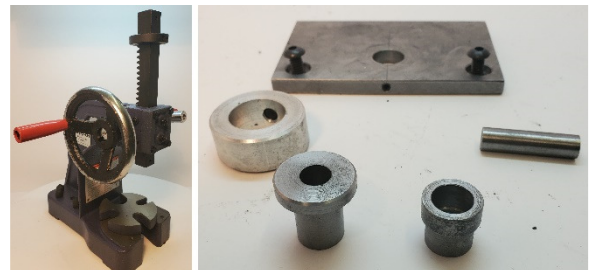
- Easily convert between Standard Arbor Press to Rivet Press



- Adjustable Depth Stop with Fine Adjustment



- Use 3/8" Alignment Pin or 1/2" Pointed Punch to align holes in ram & lower plate before tightening screws



**Included:**

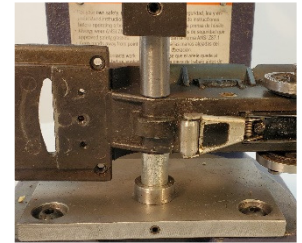
- Modified Palmgren 1 ton Arbor Press
- Lower plate with 5/8" hole with set screw
- 3/8" cup for Lower Plate.
- 1/2" cup for Lower Plate
- 3/8" Alignment Pin
- Wheel Collar

**Price \$320 plus Shipping**

Sorry no free shipping on this item. Shipping weight is 36 lbs

## Gear Centering Press Tool: \$29

- This tool is designed to center the gear on the axle of the Lionel 726, 736 and the Turbines such as the 671 and 2020.  
May work on other but tested on engines listed
- These engines have a worm drive and that gear needs to be centered to work properly.
- This tool will center the axle on the gear in two presses.
- Tool has pockets on both ends to prevent damaging the bushing.
  - Tool bottoms out on the case, not against bushings
- **Recommend flipping engine & us the end with pre-set depth on both sides**
  - One side has a pre-set depth hole to press the axel on.
  - The other side is hollow and will support the bushing as you press the axel on & off the gear.
- Can be used in a Standard Arbor Press, Vice or with a hammer.
  - Machined from solid Steel
  - Gears & Bushings must be in good shape or centering the gear will not work correctly.
- Fits our Rivet / Arbor Press. Will need to use the 1/2" hole in ram
  - & 1/2" adapter for lower plate





## Roller Rivet Mini Press: \$28

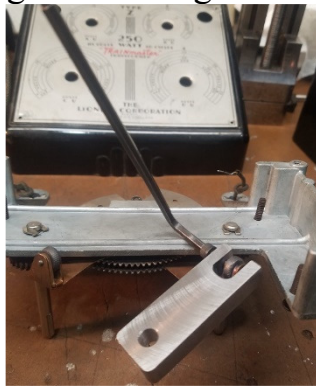
Designed for flaring the rivets over when installing new rollers & Rivet in some larger transformers such as the following:



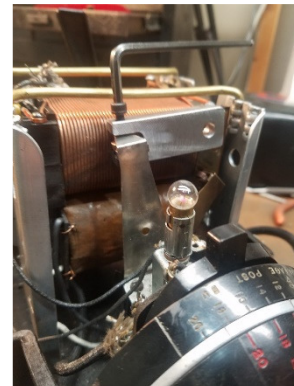
- KW 190
- ZW 250
- ZW 275
- Z 250
- V 150
- VW 150
- We tested on these but may work on others transformers & rivets



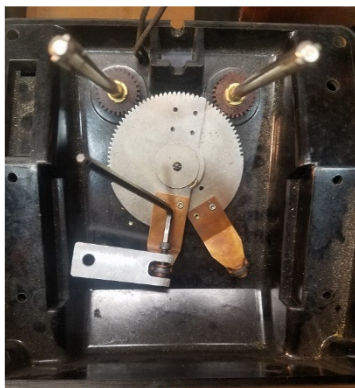
- Tool is machines from solid steel
- Small size meant you don't need to fully disassemble transformer.
- Small Pocket for small rivet head
- Designed for Aluminum & Brass Rivets
- Requires 9/64" hex wrench
- Compact design to fit in tight areas.



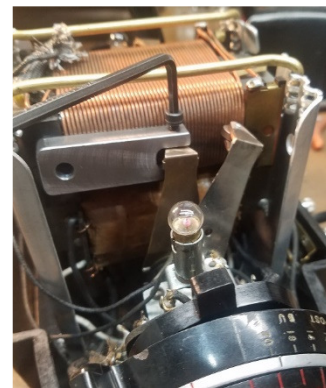
Z 250 Upper Rollers



ZW 275 Upper Rollers



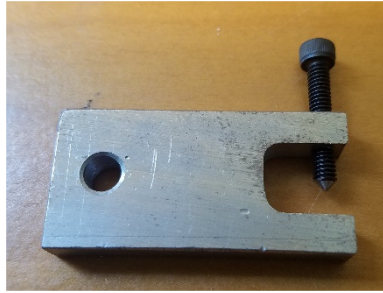
Z 250 Lower Rollers  
The V 150 is similar



ZW 275 Lower Rollers  
The ZW 250 & VW 150 is similar

## Universal Mini Press: \$34

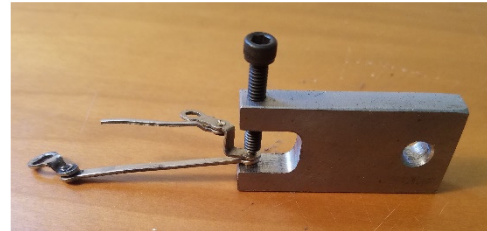
Designed for flaring the rivets over when installing new Rivets. Can also be used to tighten up loose rivets by repressing them.



- Tool is machines from solid steel
- Small size meant you don't need to fully disassemble item.
- Larger Pocket for larger rivet head
- Designed for Aluminum & Brass Rivets
- Requires 9/64" hex wrench
- This design is a more universal with a larger Opening & Throat Depth



Lionel Knuckle Rivet



Lionel Side Linkage Rivets



American Flyer Knuckle Rivet



American Flyer Side Linkage Rivets



Will works on transformer roller rivets, just bulkier.

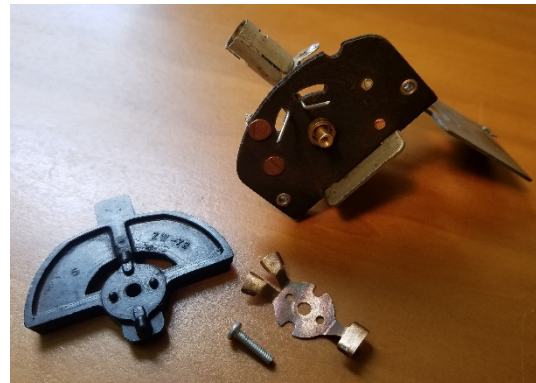
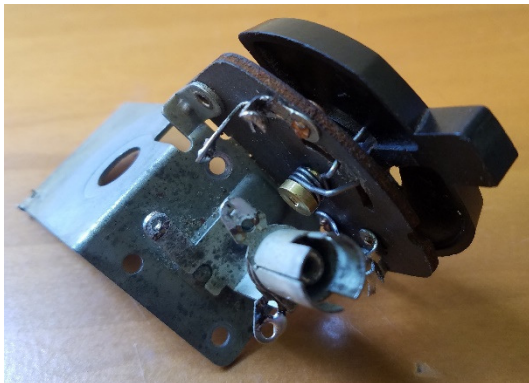
## REUSABLE ZW-74 Switch Rivet: \$18

Sold in a pair.



We redesigned the ZW-74 Switch Rivet found in VW & ZW Lionel Transformers to have a screw in the end. This allows for easy services & cleaning of the Whistle / Direction switch without it being unsoldered & fully removed.

Machine from solid Brass.



Remove 2 screw hold Switch in place.



Lift Switch a little & remove screw.  
Service Switch & reinstall.