PE Design & Manufacturing

Specialty Model Train Tools

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.

Catalog 2026

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.



Table of Contents

Highlighted items have either been revised or are new tools

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 an1/8" 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: $62

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 - available separately for $18

O-Gauge Display/Test Station Pre-mounted 3 sections: Starting at $105

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 $115

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: $86

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: $72

Kit Includes:
2 - Front/ Rear lifts
2 - Terminal Pins -
available separately for $18




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 an1/8" 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: $62

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

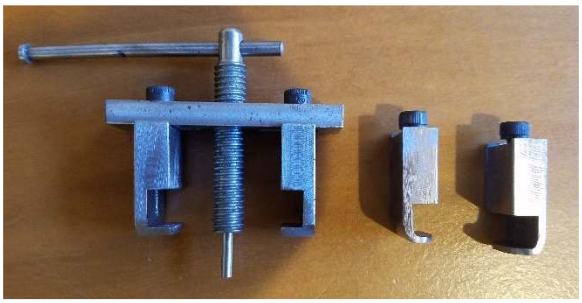
2 - Terminal Pins

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" / 2"
Standard Gauge Crossbar - Min/Max Wheel Diameter: 1-3/4" / 3-1/4"

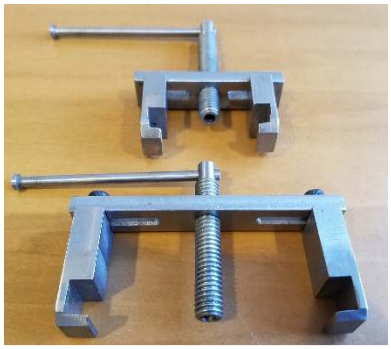
Standard Duty Jaws W/ Standard Crossbar.

Standard Duty Jaws W/ Extended Crossbar

- Extra Large Center Pin: Design for larger STD Gauge Axles. Longer for pushing axles from wheels that have gears flanges on the back.
- Large Center Pin: Design for axles 1/8" & larger, Drive Axles
- Small Center Pin: Design for axles 3/32" (Truck Axles)

Standard-Gauge Crossbar

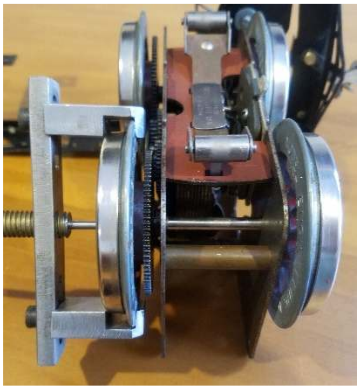
This Extend Crossbar can be use in replacement of our O Gauge crossbar to allow for larger wheel Diameters found on Standard Gauge engines. Standard Gauge Crossbar now 5/16” thick as compared to the O Gauge Crossbar at 1/4" thick



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

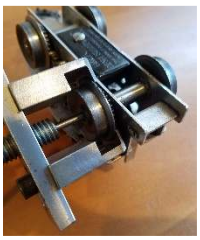
Lionel Prairie Engine

Lionel Scout Engine

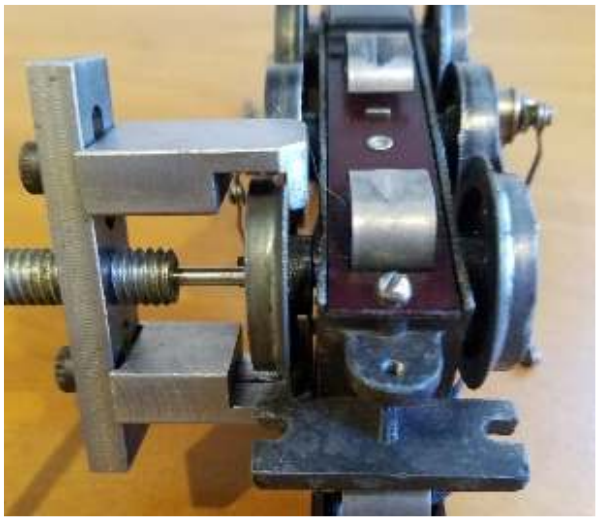
Lionel Pre War

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

- 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.

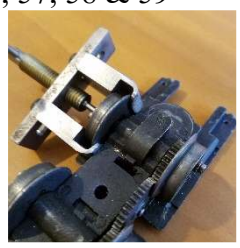
- Will work on many other engines as well.

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

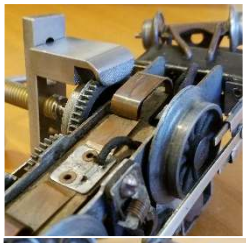
- Unfortunately, these jaws are a weaker design and can break.

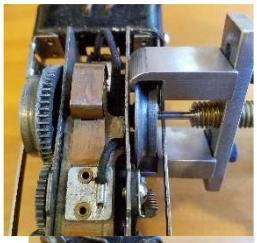
Pennsylvania Steam Turbine 6-8-6
671, 671R, 681, 682

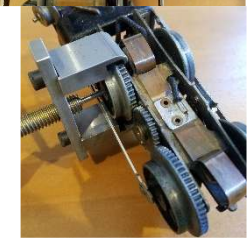
Gas Turbine
41, 42, 51,53, 57, 58 & 59

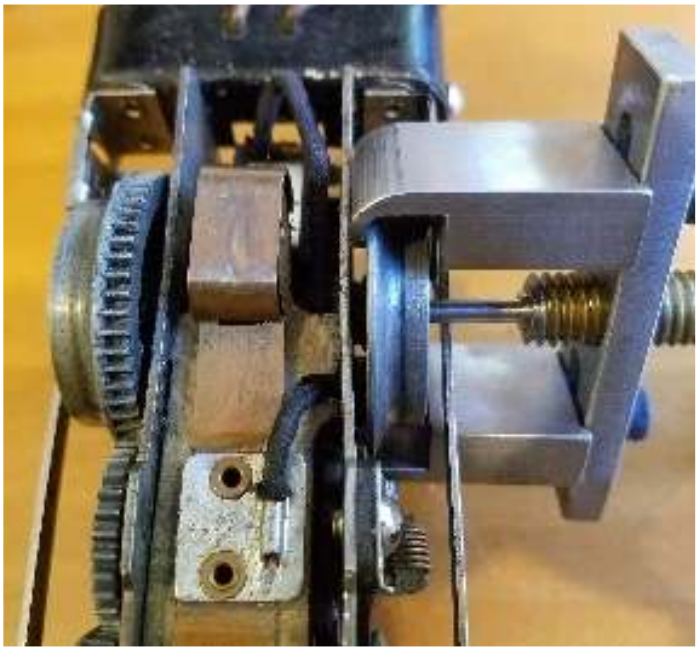


Marx engine









PE Design & Manufacturing

Specialty Model Train Tools

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

Large-Gauge Wheel Puller

Available in Standard, O & O27

www.pedesignmanuf.com
pedesignmanuf@gmail.com
Ebay: PE_Design
Facebook: PE Design

O Gauge Crossbar - Min/Max Wheel Diameter: 7/8" / 2"
Standard Gauge Crossbar - Min/Max Wheel Diameter: 1-3/4" / 3-1/4"

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 breakage

STD & O-Gauge Wheel Puller w/ Standard & Special Duty Jaws: $99

Includes:
1 – Extra Large Center Pin
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: $84

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: $64

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

O-Gauge Wheel Puller w/ Special Duty Jaws: $64

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

Replacement Parts

Standard Duty Jaws: $29

- requires 5/32" hex wrench

Includes:
2 - Mounting Bolts
2 - Standard Duty Jaws

Special Duty Jaws: $29

- requires 5/32" hex wrench

Includes:
2 - Mounting Bolts
2 - Special Duty Jaws

Extra Large Center Pin: $12

Hardened Steel
Includes:
1 - Replaceable Hardened Pin Design for Axle Size 3/16" & larger

Large Center Pin: $12

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

Small Center Pin: $12

Hardened Steel
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

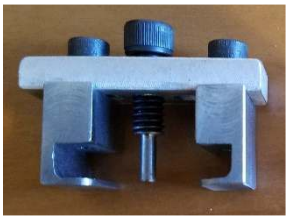
A.F. - HO

A.F. - HO

Small-Gauge Wheel Puller w/ S & HO Jaws: $76

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

Small-Gauge Wheel Puller w/ S Jaws: $56



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

Small-Gauge Wheel Puller w/ HO Jaws: $56

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: $12

- 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.

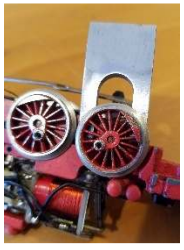
- Machined out of solid steel plate

- 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

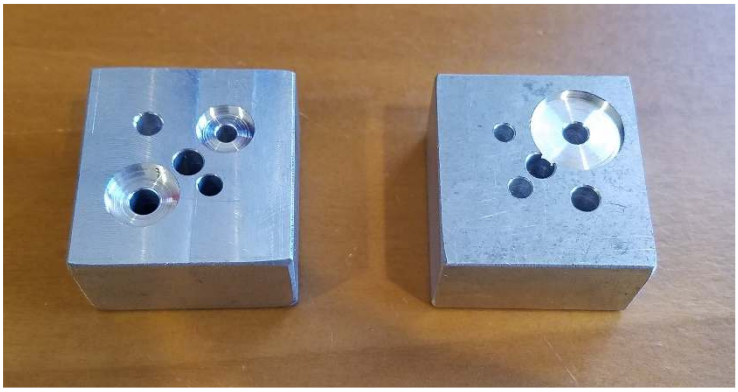
Includes:
1 - O/027-Gauge Wheel Spacer Gauge

S-Gauge Wheel Spacer: $21

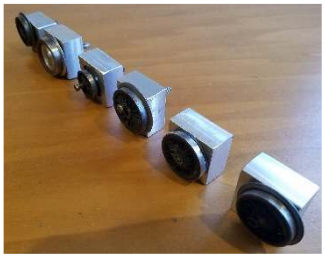
Includes:
1 - S-Gauge Wheel Spacer Gauge

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

NEW CNC MILLED Non-Quartering & Quartering Wheel Cups

- This tool was designed to Align & Press the wheels on Steam engines & Electric Engines.

- With our Slot & Indexing Screw system in the Wheel cups, this allows multiple different style wheel fit the same cup set.

- The tool is CNC machined out of solid 6061 aluminum blank

- Cups are the same but when you flip one cup it will correctly set the 87 degrees offset. They will set the left side to lead the right.

- If right side lead or custom sizes are needed, they will be available through or Custom Wheel Cup Program, Contact us for more information.

- Can be used in a standard Arbor Press or Machine Vise as is. But Screw on post can be added so they work on the Lionel or Hobby Horse type press.

- Wheel Diameter is engraved in front of cups.

- Slide bar screws only work if they are the standard ¼" hex head. Otherwise, you will need to use our "indexing Screws".

- Some engines require only 2 cups, Others require 4 (2 for the outer wheels, 2 for the center wheels. Cups marked with the smaller Diameter will be for the center wheels.

- Non-Quartering cups have all same feature as Quartering cups except the Quartering slot.

Wheel Cup Direction

1. Prep the wheels to be installed. If wheels are new repro wheels the center hole you press onto the axle will need to be reamed to the correct size. The hole is undersize to allow a tight fit on worn axles.

2. Place the slide bar screws or Indexing Screw in the wheels. They will fit inside the slot use for alignment. On the center wheel check that the shaft that goes thru the slide bar is straight. (Side bar screws only work if they are the standard ¼" hex head. Otherwise, you will need to use our "indexing Screws".)

3. With the new Wheel Cup design there is no left or right side. When you flip one cup it will correctly set the 87 degrees offset.

4. On some Engines you will need two different size cups. We have found that on some engines the Center wheels are a little smaller than the outer wheels. Just enough to affect the indexing.

5. One axle at time gently presses the wheels on to the axle with the bottom of cups on a flat surface.

6. Once wheels are start you can pick-up engine and finishing pressing wheels on in a standard Arbor Press.

7. Place back on flat surface and verify alignment.

8. Repeat until all wheels are on. Then install Side bars and other hardware.

CNC Wheel Cup Accessories

CNC Wheel Cup Post: $21



- Post screw into back of Wheel Cups so you can use our Wheel Cups the same as the old Lionel style Wheel Cups. This means you can use our Wheel Cups on an older Lionel or Hobby Horse style press. These post can also be used with our press.

- Set includes two post, 3/8" & 5/8" post

CNC Wheel Cup Indexing Screws

- Not all screw heads for the side bars are a ¼" hex head.
- With using the Indexing screws and our slot system in the Wheel Cups, Wheel Cups can be used for a few different style wheels.
- Designed for use with our CNC Wheel Cups Quartering Cups

IS-6-32

6-32 Thread: $8
AF-CW

IS-8-32

8-32 Thread: $8
Lionel Std

IS-3-48

3-48 Thread: $8
Lionel Std & O, AF-CO

IS-4-40

4-40 Thread: $8
Lionel Std & O, AF-CO, AF-3/16, AF-S

IS-3-56

3-56 Thread: $8
Lionel Turbine, AF-CO

IS-COMB

Comb that includes all 5 sizes
$32

Current CNC Wheel Cup Sizes

More size in the works & coming soon. American Flyer Pre-War O gauge & Post-War S gauge cups next. Follow by a bunch more Lionel Pre & Post War O gauge.

	Designation*	Gauge	Engine Manufacture	Example Engines***	MEW Wheel	Price per set
	WC-2.415-Q	STD	Lionel & McCoy	Pre & Post war Steam & Electric	BAL-4R BAL-8R SMWS	$90
	WC-2.160-Q	Wide	American Flyer	Pre-war Steam	AW-1001 AW-1002	$90
	WC-1.980-Q	Wide	American Flyer	Pre-War Electric	AW-1000	$90
	WC-1.630-Q	O	Lionel & American Flyer	Hudson, 700E, 763E, 850E AF-CO Hudson		$85
	WC-1.538-Q	O	American Flyer	AF-CO, 423	AO-1006	$85
	WC-1.395	O	Lionel – Post war	224, 646, 675, 2025, 2035, 20246, 2055, 2056, 2065		$80
	WC-1.352-Q	O	American Flyer	AF-CO	AO-1001	$80
	WC-1.345-Q	STD/O	Lionel	Pre-War STD gauge small wheel, O gauge Large Wheel	SLS-35 255WS 261E-WB	$80
	WC-1.259-Q	O	Lionel	726, 736, 2026, 2016, 2018, 2034, 2036, 2037		$80
	WC-1.223-Q	S	American Flyer	336(outer)		$80
	WC-1.205-Q	O	American Flyer	AF-CO, AF-3/16, 553, 565, 561(outer), 1205, 1215		$80

	WC-1.185-Q	O	American Flyer	AF-3/16, 561(inner)	$80
	WC-1.165-Q	S	American Flyer	300, 322	$80
	WC-1.145-Q	O & S	American Flyer	AF-CO, AF-3/16, AF-S, 336(inner) 425, 429, 435 571(inner)	$80
	WC-1.000-Q	O	Lionel	671, 681, 682, 2020	$75
	WC-0.9-NQ	O	Lionel	Diesel	$60
	WC-0.845-Q	S	American Flyer	342AC(outer)	$130 set
	WC-0.825-Q	S	American Flyer	342AC(inner)	4 piece
	WC-0.75-NQ	S	American Flyer	Diesel	$60

* Designation = Wheel Cup – Designed Wheel Diameter – Q for Quartering, NQ for Non-Quartering
** Wheels Cups design around the manufacture & engines listed
but can be used on other wheels of the same Diameter
***Different Era of American Flyer, see list below
AF-CW = Chicago Era – Wide gauge
AF-CO = Chicago Era – O gauge
AF-3/16 = Gilbert 3/16 - O gauge
AF-S = Gilbert 3/16 - S gauge

Custom Wheel Cups are available though our Custom Shop. Cups can be different size or right side leads. We would need a sample wheel & sidebar screw. Contact us for more info.

Wheel Cup Comb Kits

More Combs in the works & coming soon.
add $15 to each kit to included a set of Screw-in Post

	Designation	Includes:	Price
	WC-L-STD-COMB Lionel, McCoy	WC-2.415-Q WC-1.345-Q IS-3-48 IS-4-40 IS-8-32	$160
	WC-L-PW-COMB Lionel Post War O	WC-0.900-NQ WC-1.00-Q WC-1.259-Q WC-1.395-Q IS-3-48 IS-4-40 IS-3-56	$280
	WC-L-STD-PW-COMB Lionel Standard, Pre & Post War O	WC-2.415-Q WC-1.345-Q WC-0.900-NQ WC-1.00-Q WC-1.259-Q WC-1.395-Q WC-1.63-Q IS-3-48 IS-4-40 IS-8-32 IS-3-56	$525
	WC-STD/WIDE-COMB Lionel Standard, McCoy, American Flyer Chicago Wide gauge	WC-2.415-Q WC-1.345-Q WC-2.160-Q WC-1.980-Q IS-COMB	$330
	WC-AF-S-COMB American Flyer S gauge	WC-1.223-Q WC-1.165-Q WC-1.145-Q WC-0.845/0.825-Q WC-0.75-NQ IS 4-40	$410
	WC-AF-3/16-COM American Flyer 3/16th O gauge	WC-1.205-Q WC-1.185-Q WC-1.145-Q IS 4-40	$230

	**WC-AF-CO-COMB** **American Flyer Chicago O gauge**	**WC-1.630-Q** **WC-1.538-Q** **WC-1.352-Q** **WC-1.205-Q** **WC-1.145-Q** **IS 4-40** **IS-3-56** **IS-3-48**	**$390**
	WC-AF-CW-COMB American Flyer Chicago Wide gauge	WC-2.160-Q WC-1.980-Q IS-6-32	$170
	WC-AF-CO-3/16-COMB American Flyer Chicago O gauge & 3/16th O gauge WC-1.630-Q WC-1.538-Q	WC-1.352-Q WC-1.205-Q WC-1.185-Q WC-1.145-Q IS 4-40 IS-3-56 IS-3-48	$465
	WC-AF-ALL-COMB American Flyer Chicago Wide gauge, Chicago O gauge, 3/16th O gauge, S gauge WC-2.16-Q WC-1.98-Q WC-1.630-Q WC-1.538- WC-1.352-Q	WC-1.223-Q WC-1.205-Q WC-1.185-Q WC-1.165-Q WC-1.145-Q WC-0.845/0.825-Q WC-0.75-NQ IS-6-32 IS 4-40 IS-3-56 IS-3-48	$920
	WC-ALL-COMB Lionel Standard & O McCoy Standard American Flyer Chicago Wide gauge, Chicago O gauge, 3/16th O gauge, S gauge WC-2.415-Q WC-2.16-Q WC-1.98-Q WC-1.630-Q WC-1.538-Q WC-1.395-Q WC-1.352-Q	WC-1.345-Q WC-1.259-Q WC-1.223-Q WC-1.205-Q WC-1.185-Q WC-1.165-Q WC-1.145-Q WC-1.00-Q WC-0.900-NQ WC-0.845/0.825-Q WC-0.75-NQ IS-6-32 IS-8-32 IS 4-40 IS-3-56 IS-3-48	$1285

NON CNC WHEEL CUPS BEING DISCONTINUED

Non-Quartering & Quartering Wheel Cups, Ask for available

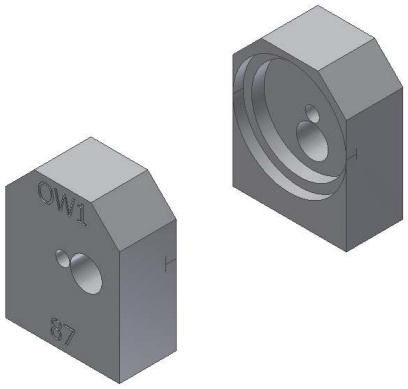
Quartering Wheel Cups

- 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

9. 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.
10. 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.
11. One axle at time gently presses the wheels on to the axle with the bottom of cups on a flat surface.
12. Once wheels are start you can pick-up engine and finishing pressing wheels on in a standard Arbor Press.
13. Place back on flat surface and verify alignment.
14. Repeat until all wheels are on. Then install Side bars and other hardware.




NON CNC CUPS BEING DISCONTINUED

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 ¼" 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 & without 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 axle & Sidebar screw.

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

NON CNC CUPS BEING DISCONTINUED

Indexing Screws - O Gauge: $18

- Not all screw heads for the side bars are a ¼" head.
- 1 set of Indexing Screws with 3-48 thread & ¼" Round head.
- 1 set of Indexing Screws with 4-40 thread & ¼" Round head.
- Designed for use with our O Gauge Lionel Quartering Cups



NON CNC CUPS BEING DISCONTINUED

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

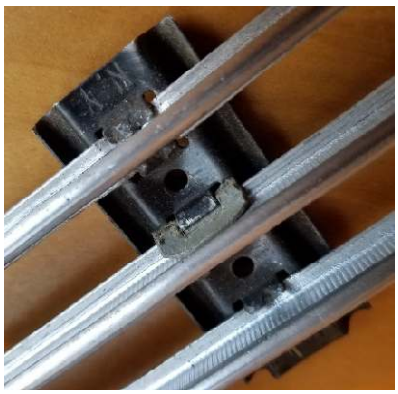
- Tighten loose Track Tie on old track.

- Tap end of punch with a hammer to tighten Ties.

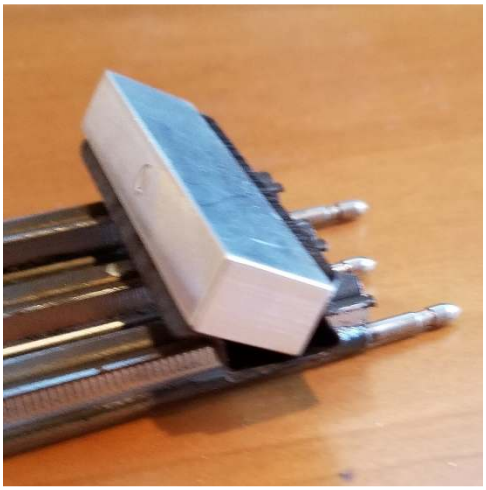
- Can be used to punch flat the screw holes in the ties over tightened.

- 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 flatting the hole after being over tightened. Then use channel locks or a vice to close up the side to the lower block.

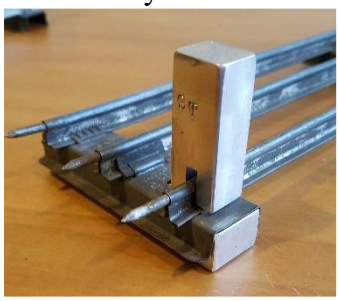
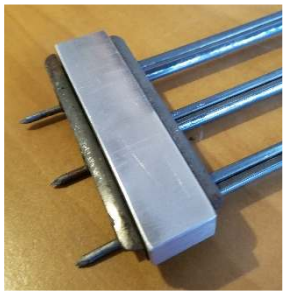
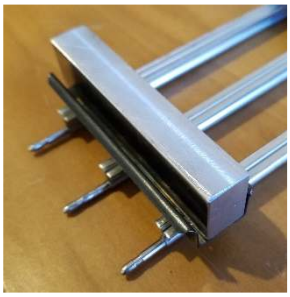


Standard-Gauge Track Tie Punch: $24

Lionel Standard-Gauge track

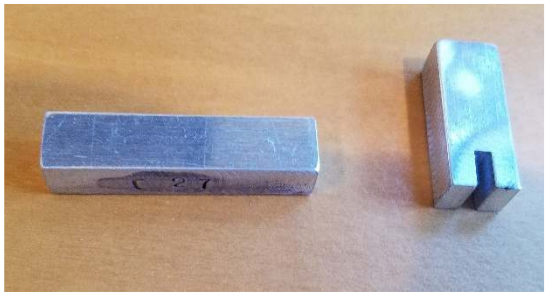
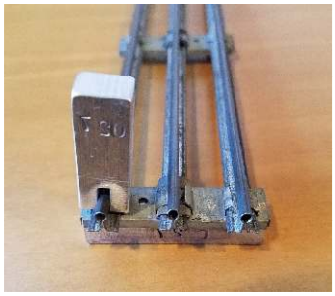
We found at least 2 different size Tie widths; The lower block is 1/2" x 3/4".

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

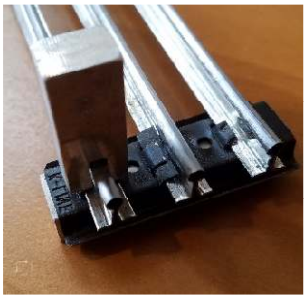
O27-Gauge Track Tie Punch: $22

Lionel O27-Gauge track

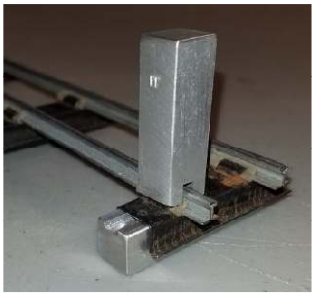
O-Gauge Track Tie Punch: $22

Lionel & K-Line O-Gauge track

S-Gauge Track Tie Punch: $22

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 then 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 easy over crimp the rails.

- Can be use on track that is mounted down on a layout.

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

- Cup on other side3 of set screw to hold alignment

- We know there are a few piers version 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.

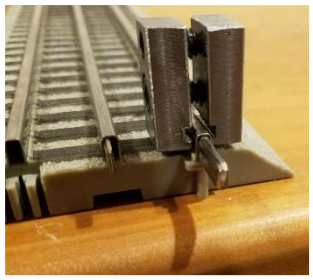
- This tool in NOT meant to repair the rails by fixing the overall shape back to ordinal.

- 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

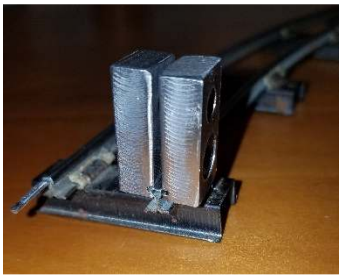
O-Gauge Track Pin Crimper: $35

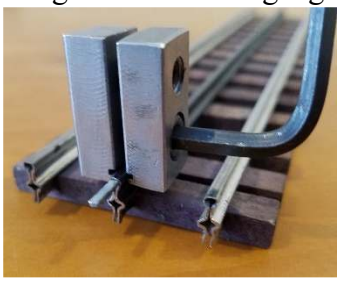
- Lionel & K-Line Standard, O, & O27 Gauge Tubular track Also Lionel O Fast Track 2 edges only
- Will **NOT** work on Gargraves / Ross O gauge track

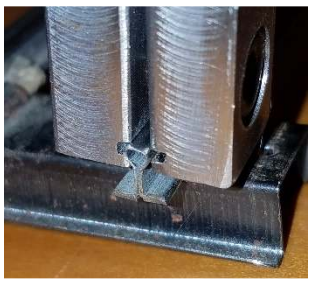


S/O-Gauge Track Pin Crimper: $35

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







Track Maintenance Kits

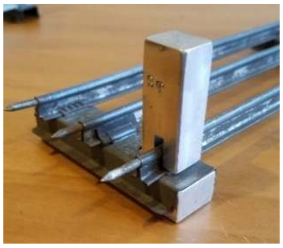
Includes both our Track Tie Punch & Pin Crimper in one kit.

Standard-Gauge Track Maintenance Kit: $54

Lionel Standard-Gauge track

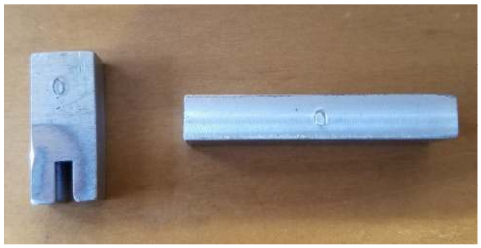
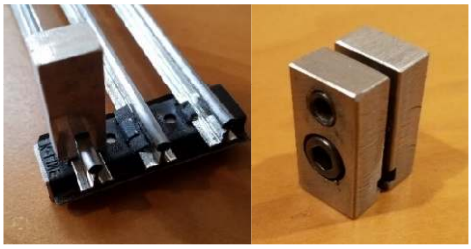
We found at least 2 different size Tie widths; The lower block is 1/2" x 3/4".

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

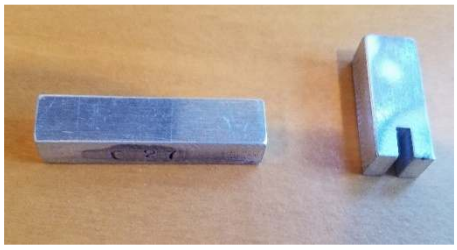
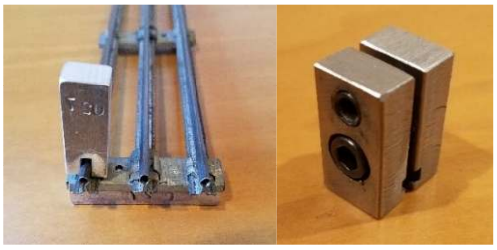

O-Gauge Track Maintenance Kit: $52

Lionel & K-Line O-Gauge track

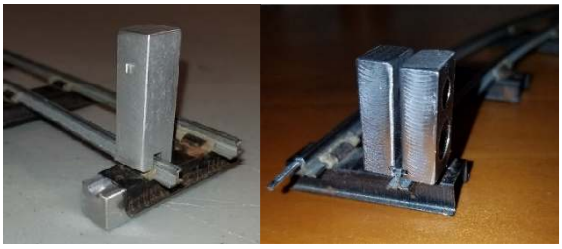
O27-Gauge Track Maintenance Kit: $52

Lionel & K-Line O27-Gauge track

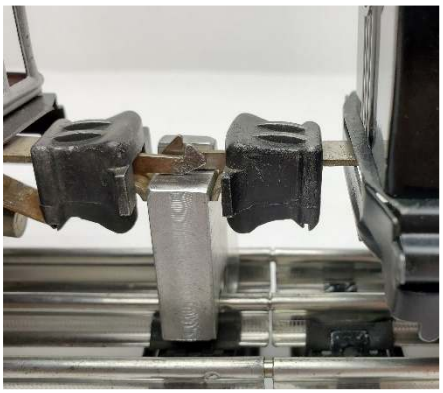



S-Gauge Track Maintenance Kit: $52

For both American Flyer & K-Line S Gauge track

Coupler Height Gauge - Lionel Box / Latch
Two Sided - O & O27 : $24



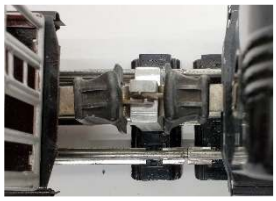
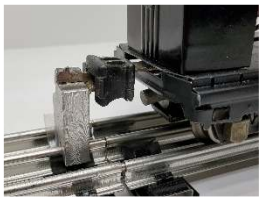
- Designed to reset the height of older Lionel Box / Latch coupler.
Adjusting make connecting two cars easier when both are set at the same height.

- The tool is machined out of solid aluminum

- Will work on both Box & Latch type coupler.

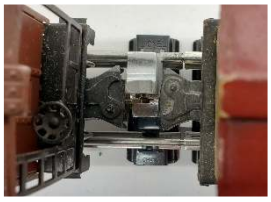
- Works off top of center rail & works on most tracks

- Two sided. O & O27 sides. (Couplers are at different heights)

O Gauge

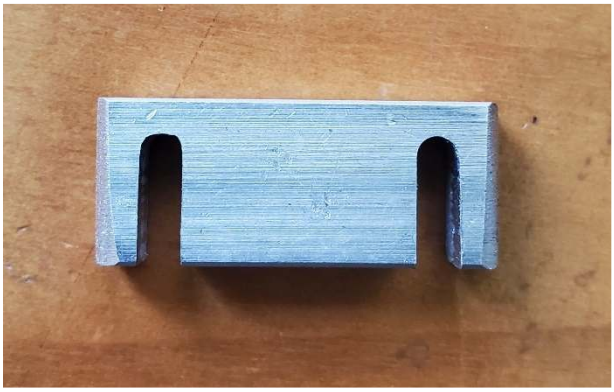




O27 Gauge

- Bending or straightening of Coupler Bars and other associated parts is require to adjust Coupler Heights.

Coupler Spacer – Lionel Knuckle: $24



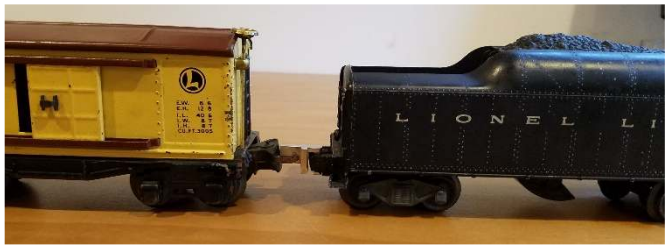
- Designed to add approximal 1” between cars using Lionel Knuckle couplers. This allows some cars to navigate tighter curves with out binding

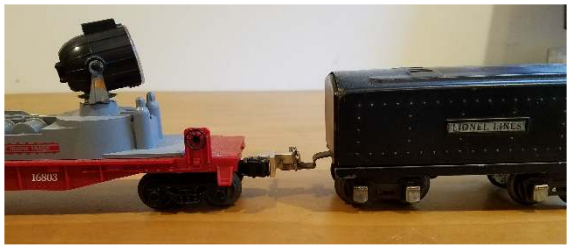
- Will work with both Operating & Non Operating Couplers

- The tool is machined out of solid aluminum

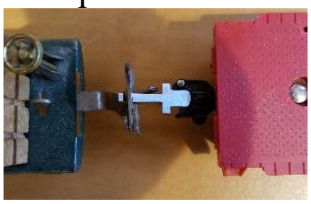
- Simply drops in place.

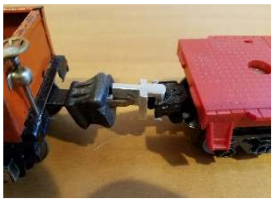
Coupler Adapter - Lionel Latch/Box to Knuckle



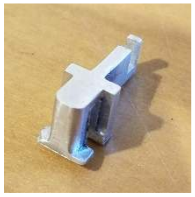


- Designed to connect older Lionel Latch/Box coupler to Operating Knuckle Coupler or vs versa.
- The tool is machined out of solid aluminum
- Will not work on NON-Operating Knuckle coupler
- Some Latch couplers you may need to press in the tab a little to work.
- Will work on both Latch & Box type coupler.
- 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: $24

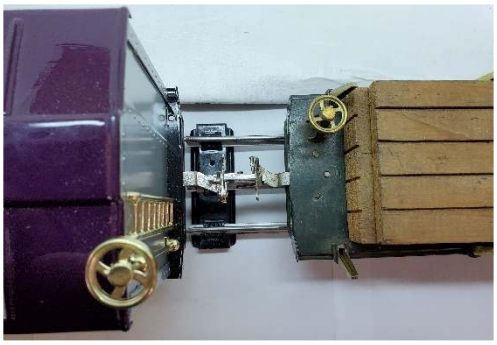


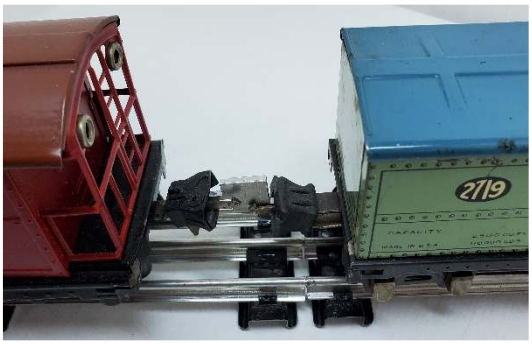
Includes:
1 - Coupler Adapter - Lionel Latch/Box to Knuckle

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

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 - Lionel Latch/Box to Multiple

I'm working with JLM Toy Trains to stamp a better hook piece for these. So these will be getting updated.

- Designed to connect Lionel Latch / Box couplers to a few other couplers depend on how its assembled.

- Multi End has connect to A.F. Wide (Standard) gauge either end, A.F. O gauge with Slot & Hook, Early Lionel with their Slot & Hook, and Ives Standard and O Gauge with their Slot & Hook.

- Tabs for other application can easy be made and added.

- 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.

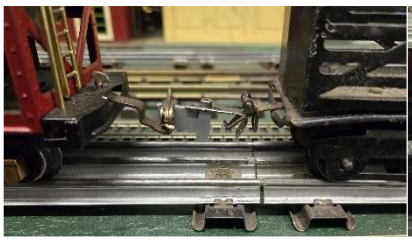
- On the Latch/ Box coupler simply lift the Latch or Box & slide adapter then close as you would with another Latch/ Box coupler.

A.F. Wide (Standard) Gauge either end

Early Lionel with their Slot & Hook Standard Gauge

A.F. O Gauge with Slot & Hook

Ives Standard and O Gauge

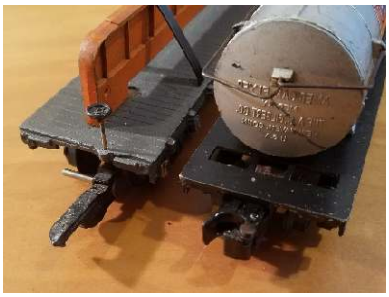


STD & O-Gauge Coupler Adapter LB to MULTI: $32

Includes:

1 - Coupler Adapter - Lionel Latch/Box to Multiple

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: $24

Includes:

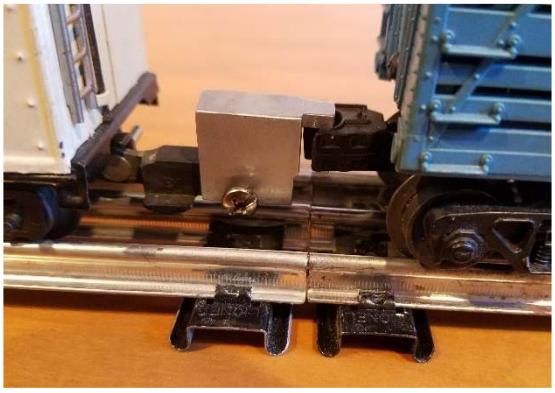
1 - Coupler Adapter - American Flyer Link to Knuckle

S-Gauge Coupler Adapter (2 pieces): $41

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: $26

Includes:

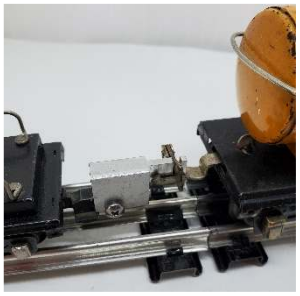
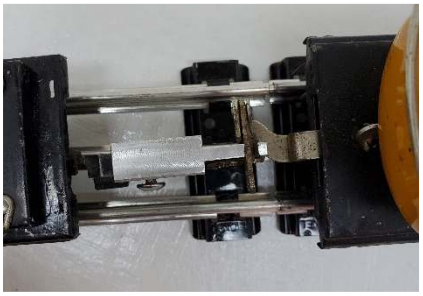
1 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Knuckle

O-Gauge AF Coupler Adapter (2 pieces): $44

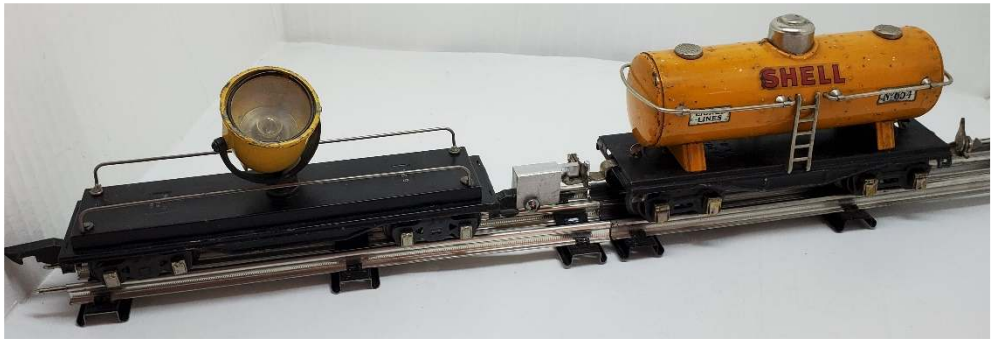
Includes:

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: $26

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

O-Gauge AF Coupler Adapter (2 pieces): $44

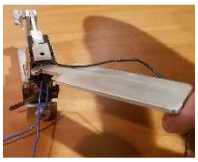
Includes:
2 - Coupler Adapter - American Flyer 3 Rail Link to Lionel Latch/Box

O & STD gauge E-Unit Dis / Assemble Tool Kit: $74

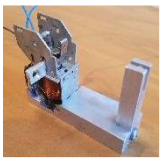
This tool kit is for servicing on the Mechanical Three Position E-unit in Lionel Trains. It will break the side plates free with the Breaker Bar & the Jig will hold all the parts in place when trying to reassemble the E-unit. Use this tool to clean & repair old E-units

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

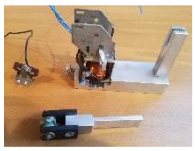
Direction



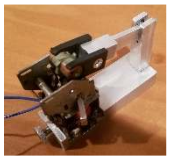
1. Insert Breaker Bar in just below top contacts at an angle.
2. Twist E-unit & Breaker Bar and straight out to 180 degrees. This will spread the sides of the E-Unit.
3. Remove the Upper & Roller Contacts from E-Unit.
4. Clean & inspects all the contacts. Replace as needed. For cleaning contacts, you can use a small piece of Scot Bright or a good pencil eraser. A good contact cleaner with a lubricant recommended as well.



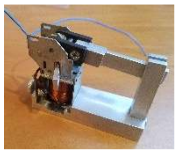
5. Gently bended the spring contacts a little in to make better contact with the roller.
6. Place E-unit & Roller contact in Jig as shown. Look in pics for which way the teeth go on the roller.



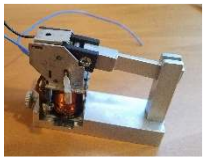
7. Pull up the plunger hook and place Plunger Holder in the side of the E-Unit to hold the plunger hook up. Tilt Hook back.



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.

E-Unit Dis / Assemble Tool Kit Replacement parts

Breaker Bar for Lionel: $20

Drum Fingers (pair): $16

Drum holder w/ Fingers: $26

Plunger Holder: $12

O & STD gauge E-Unit Anvil: $30

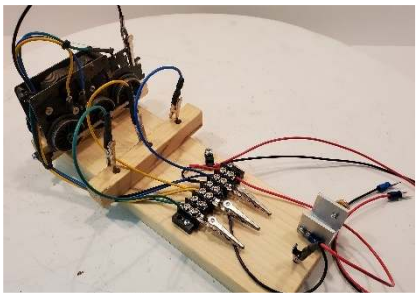
- Designed of use when replacing the rivet in the Selector Switch & Contacts on Lionel Mechanical E-Units

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

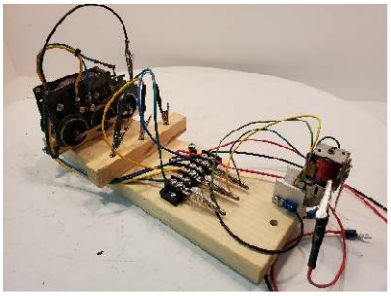
- Can be used with either a Rivet Press or a Hammer & Punch

- Machine out of solid steel

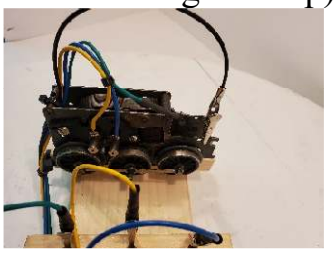
E-Unit & Motor Test Station

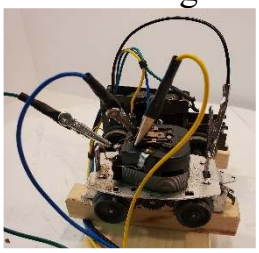


- A test fixture for testing of Lionel 3 position E-units &/or Single coil field motors after being service or fixed.
- This can be done without being reinstalled in an engine.
- Test E-units with attached motor

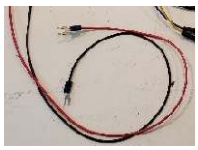


- Or install a good E-unit and connect another motor for testing. Just switch ground lead (Black wire w/ alligator clip) to motor being use for testing.

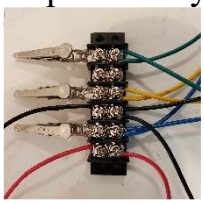


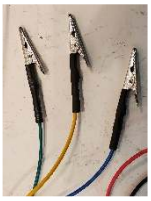


- Easy connects to any standard Lionel transformer. The Red wire connects to the Hot terminal & the Black wire connects to U or common terminal.



- Alligator Clips for easy & secure connections

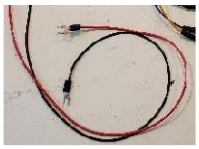




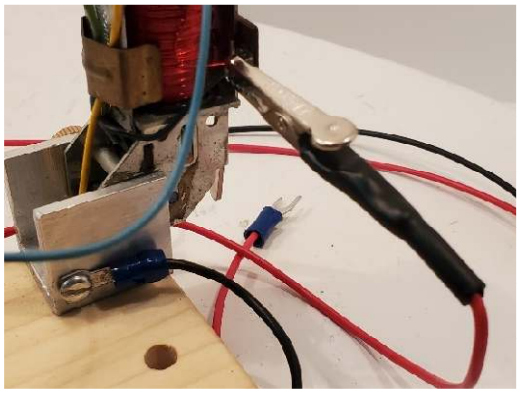
- American Flyer Mechanical 3 position E-units can be tested with this fixture as well. Unfortunately, the holder was design around Lionel and will not hold it. Just set A.F. E-unit on holder. As holder is the ground connect for e-unit.

- Remember to oil & service motor installed on Test Station as needed.

Connecting E-unit for testing.

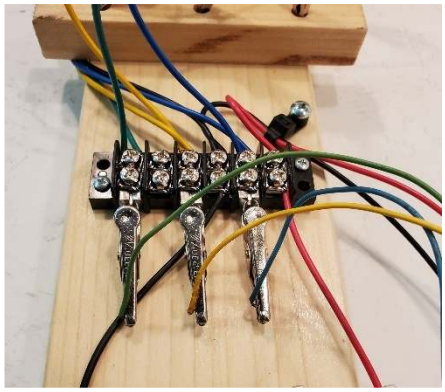


- Connects to any standard Lionel transformer. The Red wire connects to the Hot terminal & the Black wire connects to U or common terminal.



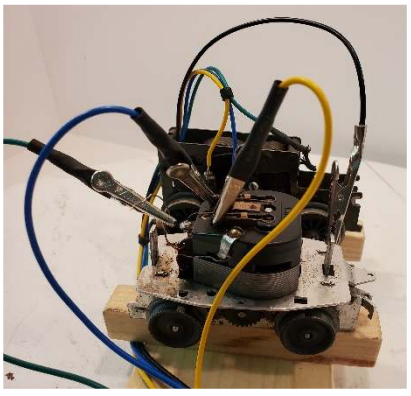
- Place E-unit into holder & tighten thumb screw to hold E-Unit in place. Make sure not to over tighten as it may inter with E-unit operation.

- Connect Red wire with Alligator clip to post on switch where you would connect power wire. It will be the post with a wire coming up from the contacts & connects to the coil. (Not always on this side as shown in the picture.)



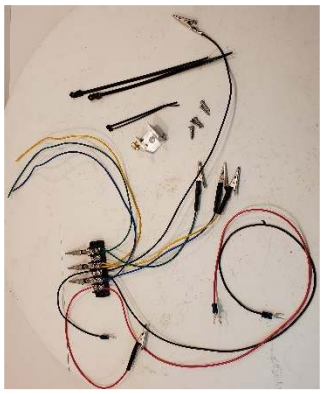
- Now connect the other 3 wire from the connects to the correct alligator clip on the terminal block. The wires on the opposite side are color code to match newer replacement connects
  GREEN = Motor Field Coil, Black or Green on E-unit wires
  YELLOW = Motor Brushes #1, White or Yellow on E-unit wires
  BLUE = Motor Brushes #2, White or Blue on E-unit wires
- Make sure ground lead (Black wire w/ alligator clip) is clipped to motor being use for testing.
- Apply power using transformer & press direction button to cycle E-unit being tested.

Connecting Motor for testing.



- Install a good E-unit & Connect to Transformer. (See above for more info)
- Now connect the 3 wires with Alligator clips to motor being tested
  GREEN = Motor Field Coil
  YELLOW = Motor Brushes #1
  BLUE = Motor Brushes #2
- Make sure ground lead (Black wire w/ alligator clip) is clipped to motor being use for testing.
- Apply power using transformer & press direction button to cycle E-unit to test motor in each direction.

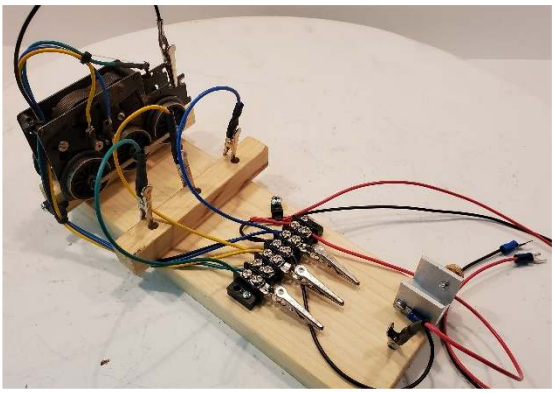
E-Unit & Motor Test Station – Kit $82



- Complete wire hardness, E-Unit holder, Mounting Screws & Zip ties included.

- Will need to make a board & provide motor to finish.
-
- Can hard connect a motor like Complete Station or remove Hard connect wires & use the Alligator clip wire to soft connect a motor for testing.

E-Unit & Motor Test Station – Complete $132



- Base made from Poplar hardwood boards

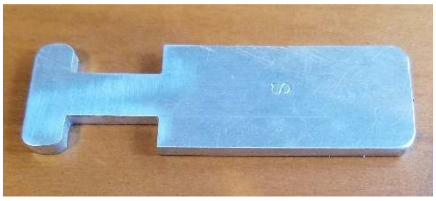
- Wood will have a coat of polyurethane on them. Color of wood will vary a little.

- A 6 Drive wheel motor installed with sidebars. Motor may vary from picture.

S gauge E-Unit Breaker Bar: $22

- 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.

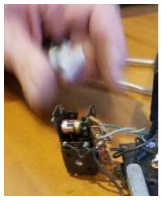
3. Insert Breaker Bar next to Drum with one side a little lower than the drum.

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.

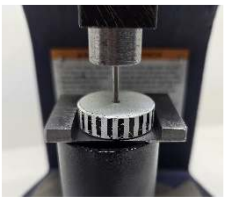
11. Retwist the tabs that hold the Contactor Plates in place. Just a little.

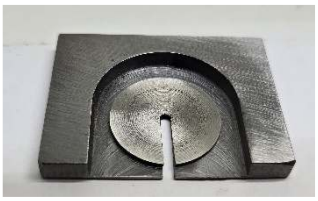

12. Test & Re-install.

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

Can Motor Tool Set: $72

- Design to take off Worm gears & Flywheels/Encoders of can motors found in Lionel & MTH modern model trains
  - Can be use with Arbor Press
  - Harden Pin smaller than the shaft dia.
  - Holder can be used on the Pin.
- Holder can also be used for the motor when pressing Flywheel or gear back on.





- Flywheel/Encoder Plate & Shim.
- Shim for Flywheel that has a magnet & it hangs down. Do NOT press on the magnet, it will break easily. Use shim so you press on the brass part.

- Roll rubber piece & place in the clamp size you need. Then slide the gear into the clamp. Center the clamp on gear then tighten very, very tight. You may need to cut extra rubber off to see. Setup in press with pin & press gear off.
  - Only need to tighten the 2 bolts
- Rubber pieces are used to protect worm gear from damage in the clamping. Also provides more grip.
  - Rubber pieces will wear & can be easily replace with a bicycle tire tube.

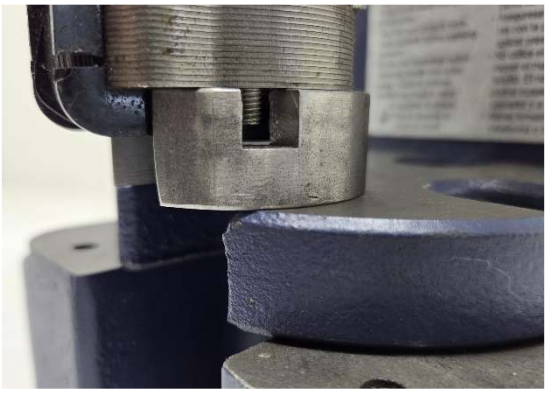
Lionel Horizontal Motor Press Cup Set: $59

- Can be use with Arbor Press or Hammer
- Hardened Pin is the same as large pin for our Large Gauge Wheel Puller

Kit Includes:

2 Side Motor Cup
Hardened Pin
Pin Holder

- Used to press out shaft or Worm drives from motor housing. Pin holder can also be used to finish press gear back on.



- Other side can be used to tight the riveted stud that hold the Fields on motor housing.

Armature Press Cup Set: $38

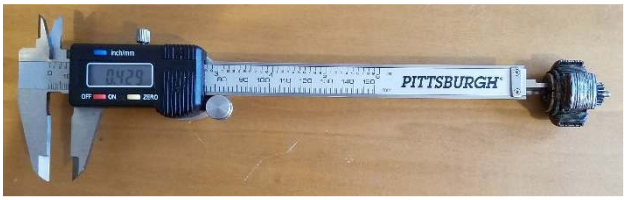
- Can be use with Arbor Press
- Used to press out shaft or Worm drives from armature.

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.

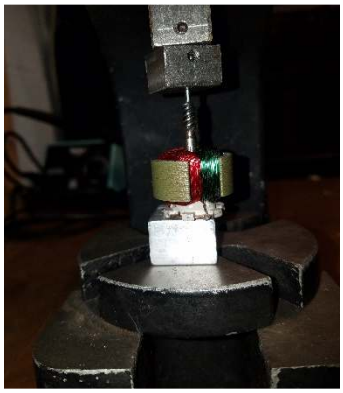
 

8. Adjust armature so that the shaft lines up with the holes in the Shaft Block & finish press shaft back on. Remember the Shaft Block has different depth holes to help with setting your offset back to what you measured in step 1.

Example Pics

Standard Harbor Freight Arbor Press used.

Armature Pinion Puller & Press Set: $68

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

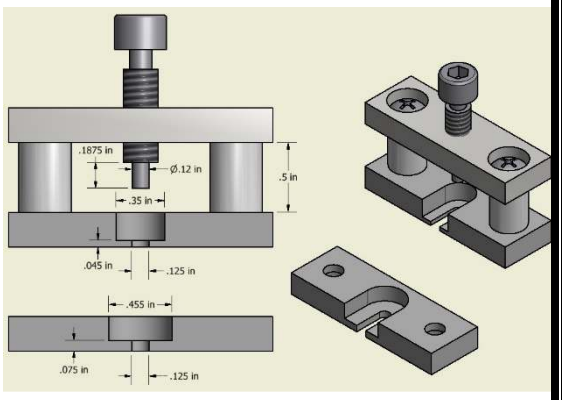
- Can be used in an Arbor Press.

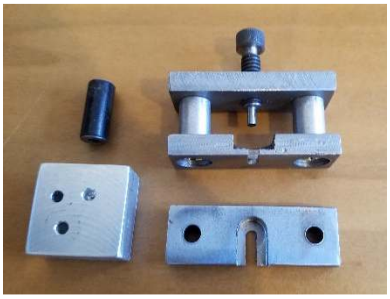
- The tool is machined out of solid aluminum Shaft Block & Pinion Press, Steel Crossbar & Lower Jaws

- 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



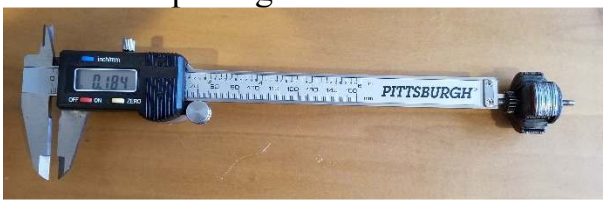


Kit includes:

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 Install Tools

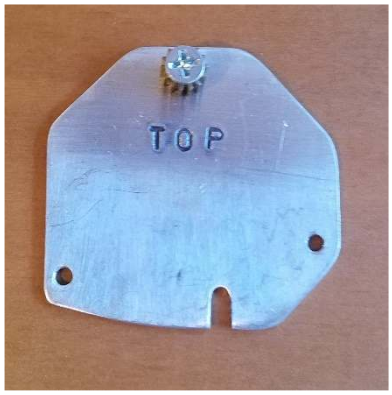
Brush Plate – Pre-War Lionel: $24

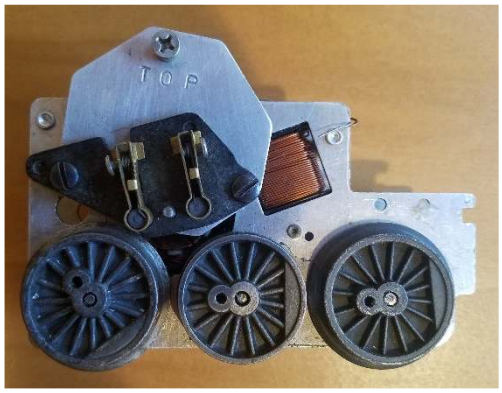
This installation tool is to hold the brush in the brush plate as you install it.



Brush Plate – Post-War Lionel: $24

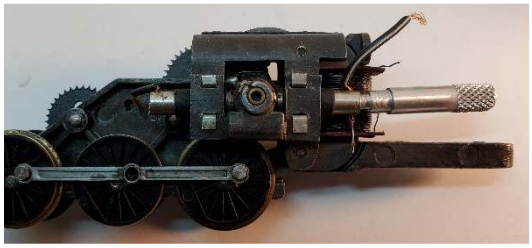
This installation tool is to hold the brush in the brush plate as you install it.

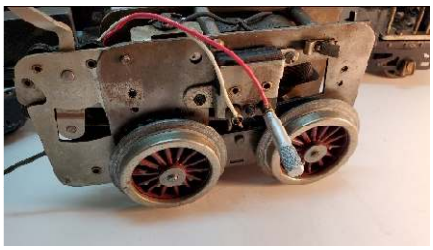
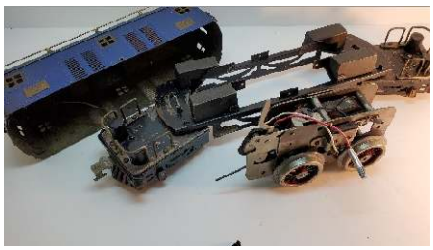




Brush Tool – Pre-War American Flyer: $26

This installation tool will push the brush spring in so you can slide the wire into brush holder.
Works on American Flyer Standard (Wide), O, S & HO Pre-war engines.

Gear Centering Press Tool: $33

- 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. Work on many other Lionel engines with a Worm drive system like above mention engines.

- 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.

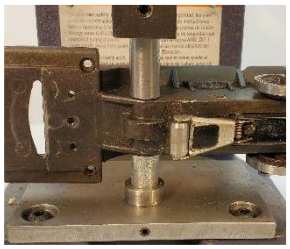
- Tool has pockets on both ends to prevent damaging the bushing.

- 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.

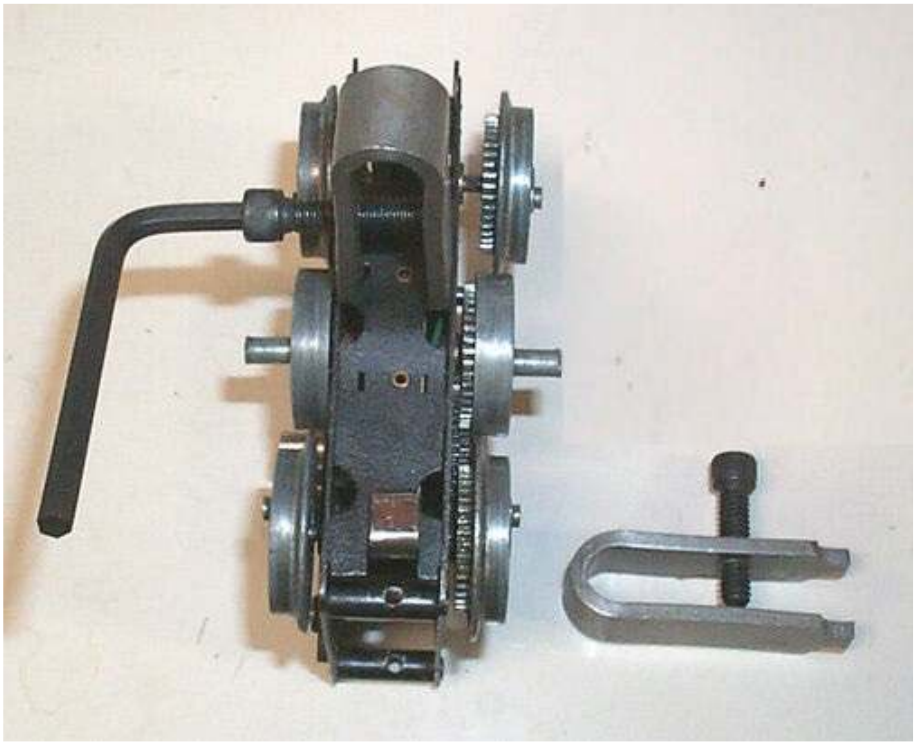
- Fits our Rivet / Arbor Press. Will need to use the 3/8" hole in ram & ½" adapter for lower plate. Now has a 3/8" end for use in the old Lionel / Hobby Horse Presses.

Frame Spreader Tool :$35

Ask about availably, Limit supplies

This is another of the few tools we sub out.

Frame Spreading Tool that allows fiber pick up plates to be removed with wheels on Lionel motors. This tool comes with Allen Wrench.



Rivet Punch Set - Lionel: $64

- Designed for older Lionel Standard & O-Gauge.
  - 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
- Punches are NOT design to be used in a Rivet Press.

Rivet Punch Set

Includes:
1 – 45 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 Punch Set – American Flyer: $68

- Designed for older American Flyer Wide, O & S Gauge
- The tool is machined out of:
    - Holding block - Aluminum
    - Punch – Steel
    - Link Coupler Set Punch - Hardened Steel
    - Support Post - Steel
- Meant for Brass & Aluminum rivets
- Designed for use on 1/4", 5/16" 1/8" & Link Coupler rivets
- Punches are 3/8” and can be used in rivet press but NOT design to.

Rivet Punch Set

Includes:

1 – 45 Prick Punch
1 - Holding Block
1 - 1/8" Rivet Support Post
1 – 1/4" & 5/16” Rivet Support Post (2 sided)
1 – Link Coupler Set Punch
1 – Link Coupler Base (2 sided)

Examples Pics:

Link Coupler w/ Link Base & Set Punch
Works on both O & S gauge Link Coupler

Removal


Install



Linkage Rivets w/ 1/8” & 1/4” Supports & 45 Punch




Truck Rivets w/ 1/4" & 5/16” Support & 45 Punch

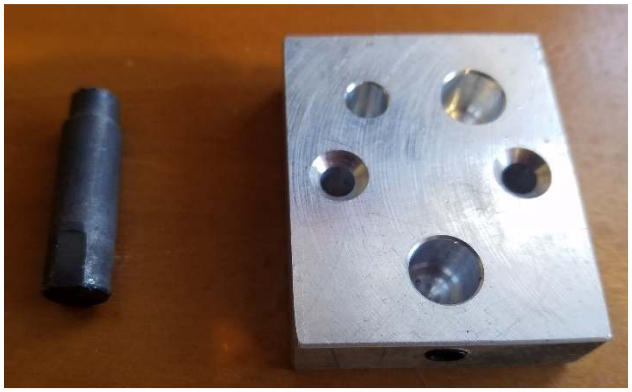



Knuckle Rivet w/ 1/8” Supports & 45 Punch



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.



Includes:
1 - Base Plate
1 - Rivet Remover Punch

Shown with Rivet Punch Tools sold separately.

Rivet / Arbor Press: $385*

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

* 36 lbs. shipping weight



Rivet Press & Quartering cups **NOT** included

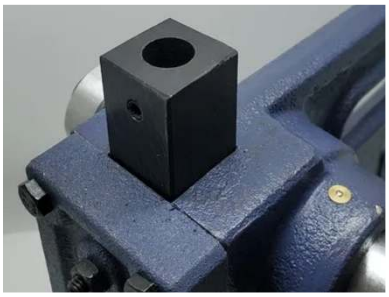
Features


- 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

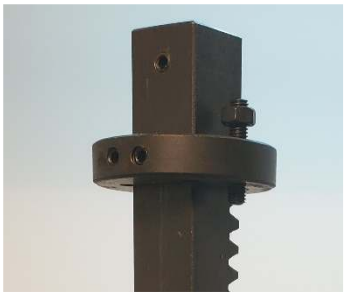
- 4-3/4" Max work height (with Anvil)
- 5-3/4" Max work height (without Anvil)



- 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 $385 plus Shipping

Shipping weight is 36 lbs.

15/17 piece Rivet Punch Set :$225

Ask about availably, Limit supplies

This is one of the few tools we sub out.

With this tooling kits, you will be able to perform a wide variety of repair tasks. The following information provides a general explanation of some of the tools and their uses. Riveting Tool Kit The Rivet Tool set consists of 15 specific tools; 7 roll clinchers; 1 star clincher; 1 splaying clincher; 1 flat punch; 1 knock-out punch; 1 knock-out anvil; 1 sliding shoe anvil; 1 double ended rivet anvil and 1 double ended binding post anvil. All of these tools can be stored in the furnished wooden tool block. It is important to use the correct rivet for each job, and we recommend that you consult a repair manual or parts dealers to obtain the correct Lionel part and fastener recommendations.

Included are

Tool Block

1) Roll Clincher (0.062)
2) Roll Clincher (0.088)
3) Roll Clincher (0.098)
4) Roll Clincher (0.125)
5) Roll Clincher (0.140)
6) Roll Clincher (0.156)
7) Roll Clincher (0.187)
8) Star Clincher
9) Splaying Clincher
10) Flat Punch (sm) (0.175)
11) Knock-Out Punch
12) Knock-Out Anvil
13) Sliding Shoe Anvil
14) Universal Rivet Anvil (2 sided)
15) Universal Binding Post Anvil (2 sided)

By making the rivet anvil a 2 sided Universal anvil (1 small end and 1 large end) and the binding post anvil a 2 sided Universal binding post anvil (1 small end and 1 large end) this allows the set to consist of 7 roll clinchers and an extra knock out punch. Picture 4 & 5 show an original Red Lionel ST-350 Rivet Press installed a ZW-102 rivet with a V-45 carbon roller by the 0.062 rivet clincher and small anvil from this tool set. The Lionel press is not included with the tool set and is shown for illustration only. Some of the tools have numbers stamped on the bottom and some are blank.

Rivet Press Universal Anvil: $28

- This tool is to be used with our Arbor/Rivet press or a Lionel / Hobby Horse Press.

- When used on our press it will fill the holes in the end of the ram so you have a solid end to press anything you need to.


When used in a Lionel / Hobby Horse Press you can install two Anvil, Top & bottom. This will let your rivet press do other type of pressing jobs.


- Machined from Steel

- 3/8” Post, 1” x 1” Anvil Face, 0.6” Thick

- Faced of Anvil is machine after post is pressed in. This make sure the press face is perpendicular to the post.

Roller Rivet Mini Press: $32

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

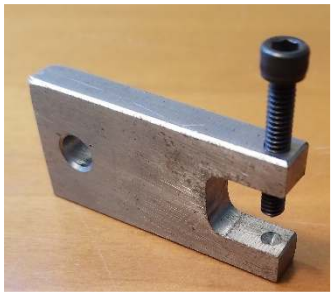
ZW 275 Upper Rollers

Z 250 Lower Rollers
The V 150 is similar

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

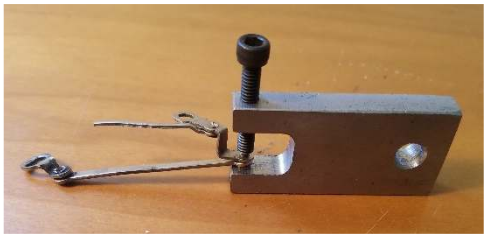
Universal Mini Press: $36

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



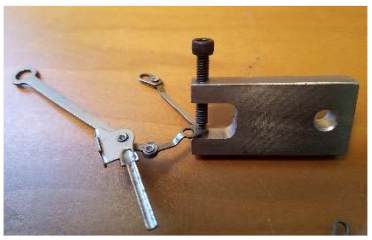
- Tool is machines from solid steel
- Small size meant you don't need to fully disassemble item.
- Larger Pocket for larger rivet head
- The opening is 1/2" high & from center of screw to back of throat is also a 1/2"
- Designed for Aluminum & Brass Rivets
- Requires 9/64" hex wrench
- This design is 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

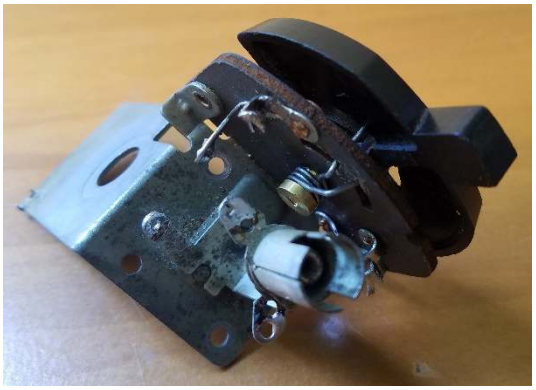
Will works on transformer roller rivets, just bulkier.

REUSABLE ZW-74 Switch Rivet: $20

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.

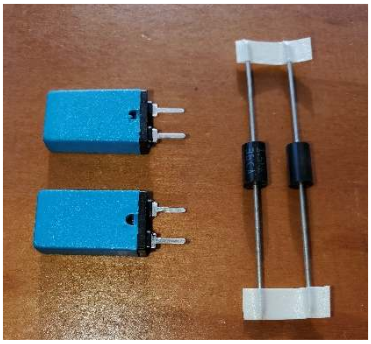
Lift Switch a little & remove screw.
Service Switch & reinstall.

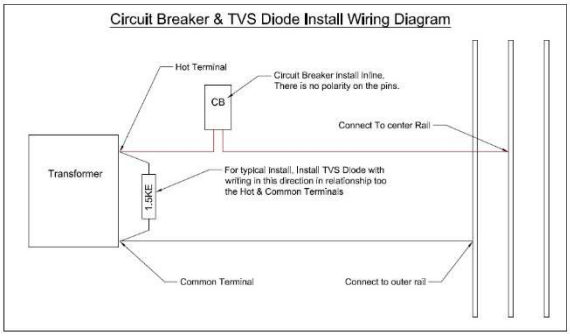
Whistle Diode Upgrade: $12 pair

A common upgrade to replace the old disc type rectifier with a modern diode. This will give a storge whistle signall to your pieces

5 amp Fast acting Circuit Breakers & TVS Diode Kit: $20 (2 circuits)

Install this kit on your older transformers to help protect your modern engines & other equipment with circuit boards. When something derails & cause a short a surge will also be produce. The breaker will kill power & the TVS diode will give the power surge a safe place to dissipate instead of your circuit boards. Circuit Breaker have an auto reset.





ZW Transformer upgrade pack: $68

- 5 Amp Fast Acting CB w/ Auto reset – x4
- TVS Diodes – x4
- Whistle Diode Mod. – x2
- ZW-74 Reusable Rivet – x2

Track Feeder Wires integrated w/ Circuit Breaker & TVS Diode: $32

For people that want the protection of the above Circuit Breakers & TVS diode without the soldering.

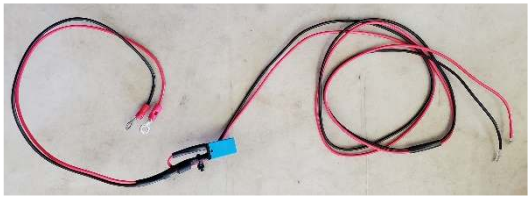
4’ Long

18 Awg

Red = Hot

Black = Common

1 Circuit



Custom Switch Plates

- Can be used on standard for ¼" & ½" round switches or lights
- Machined from 1/8" Aluminum plate
- Shipped unfinished. They can be sanded, painted or polished.
- Screw holds are beveled for a clean look.
- Available in different sizes & hole quantity with more to come

Current Sizes

Hole Size	Hole Qty.	Plate Width	Plate Length	Cost
¼"	5	1.5"	4"	$8
¼"	7	1.5"	5"	$10
¼"	5	1.5"	6"	$12
¼"	9	1.5"	6"	$12
½"	2	1.5"	3"	$7
½"	3	1.5"	4"	$8
½"	4	1.5"	5"	$10
½"	5	1.5"	6"	$12