

HANDOUT FOR:

Large Power Transformer Basics for Model Railroaders

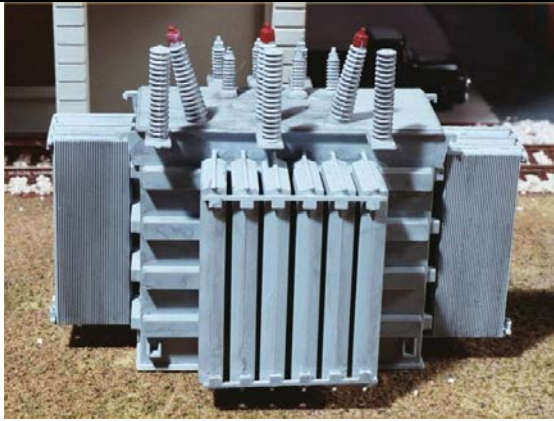
Updated: 12 March 2025

ERA BASED INFORMATION			
ITEM	1930's-1950's	1960's-1980's	1990-Present
Manufacturers	Allis Chalmers, GE, McGraw-Edison, Moloney, Westinghouse	Previous, plus ASEA/ABB, Federal Pacific, HK Porter, Delta Star, Waukesha	ABB, Prolec/GE, SPX, Mitsubishi, PTTI, Elan, Fortune Electric, Hyundai, Schneider, Schmidt, Siemens, Tamini, Trafo-Union
Tank Design	Round, Oval, Rounded Ends, Rectangular	Rectangular, Curved End (GE Mark III)	Rectangular
Tank Color	Blue-Grey, Silver, Tan	ANSI 70 Grey	ANSI 70 Grey
Bushing Color	Chocolate Brown	Choc Brn, ANSI 70 Grey	ANSI 70 Grey
Railcars for Shipment	Flats, Depressed Flats, Well Cars, 1 st Schnabel WECX 200 late 1957	Previous, plus more Schnabels from GE and Westinghouse	Heavier/Larger depressed flats, Schnabels to private owners
Oil Preservation	Sealed Tank, Nitrogen System	Previous, plus Conservator Tank	Nitrogen System and Conservator Tank
INFORMATIONAL NOTES			
Components usually removed for shipment	Bushings, Radiators, Coolers, Oil Pumps, Conservator Tank and supports, Lightning Arrestor supports		
Components usually on unit for shipment	Control Cabinet, Nitrogen Cabinet, Load Tap Changer, Gauges, Protective devices, Control Wiring (wire/conduits)		
XFRM Factory: Inbound Materials	Transformer Oil (Tank Cars), Core Steel (Box cars, Gondolas, Coil Cars), Lumber (Flat cars, Bulkhead Flats), Kerosene (Tank Cars), Steel Plate (Flat cars)		
XFRM Factory: Outbound Shipments	Transformers (Flatcars, Depressed/Well Flats, Schnabels (after 1957)), Crated accessories (Flatcars), Load Tap Changers, Network Units, Oil Circuit Breakers, Scrap (core steel, metal, wood, insulation)		
XFRM Factory: Internal Movements	Flatcars for transfer/storage of transformer tanks, MFG owned railcars (flats/depressed flats, Schnabels)		

HO Scale Transformer Models

Item/Picture

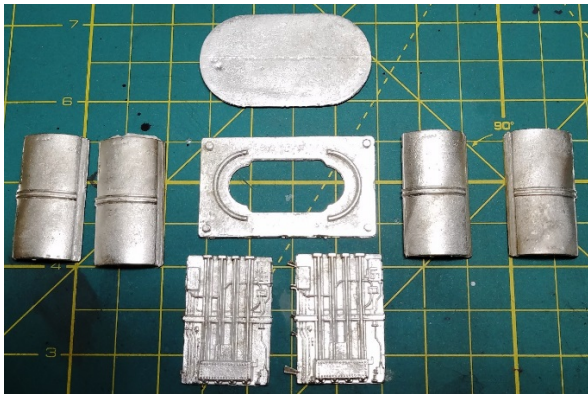
Part #/Notes



Walthers Transformer Kit, 933-3126

US Prototype, ~1970s and later

A good representation of a substation size unit. Bolted on radiators. Bushings are decent. Details missing- valves, protective devices, gauges, conduit runs.



Selley "Giant" Transformer

Walthers 675-510

**Appears to be an Allis-Chalmers prototype
US Prototype, ~1950s
White metal kit, lots of clean up and fitting**

No cover details at all

Very hard to find



NJ International

Walthers 525-6103

**European Prototype, ~2000s
Substation Unit
HV and LV bushings on ends of unit
HV in pockets- not common on US units**

Looks like Kibri item, see below.



Kibri

Walthers 405-39844

**European Prototype, ~2000s
Substation unit
Very similar to NJ Int. item, see above.**



**Kibri “50 MVA Transformer”
Walthers 405-10284**

European Prototype (Trafo-Union) ~2000s

HV and Neutral (?) bushings horizontal and at ends-unusual for US practice.



Atlas #780 Transformer Kit

Looks similar to NJ Int. and Kibri items

European prototype, ~2000s

Availability???



**Artitec 487.801.57 “AEG Transformer”
Hand painted Resin, Built up**

Flatcar load

European Prototype (AEG)

Available: eBay (jtg1942)- now just overseas.

Also N Scale: 316.066



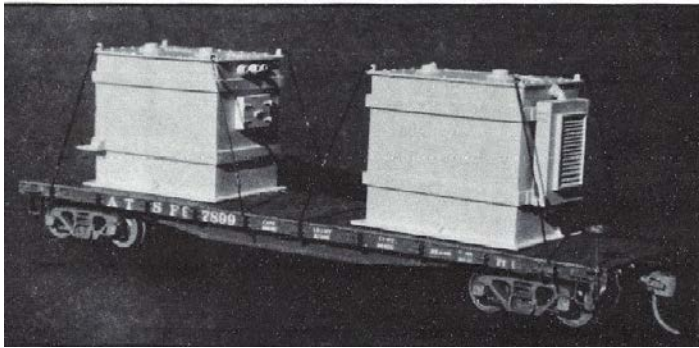
**Resin Car Works L-T1 Transformer Load
Resin, One Piece castings (2x)**

US Prototype

Small units- look like Network Transformers.

Resincarworks.com

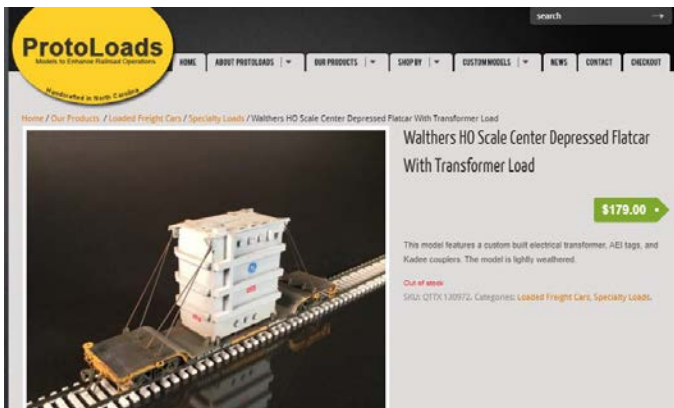
Currently unavailable



Sunshine Models F.1 Transformer Load Flat Resin Kit

Looks very similar to the Resin Car Works one-piece resin offering

Availability: Good Luck! Sunshine is long out of business and their items often fetch outrageous prices on Ebay.



ProtoLoads- Walthers Depressed Flat with Transformer Load

Seems they occasionally offer custom models. I found two transformer loads on their website, both no longer available.

They say they are GE units, but I don't think they look like GE units. They likely would be Rome, GA sized units.



~~Shapeways~~ from "HO3Dim"

Modern unit, "freelanced" by creator

Sized to fit Exactrail 2 truck depressed flat

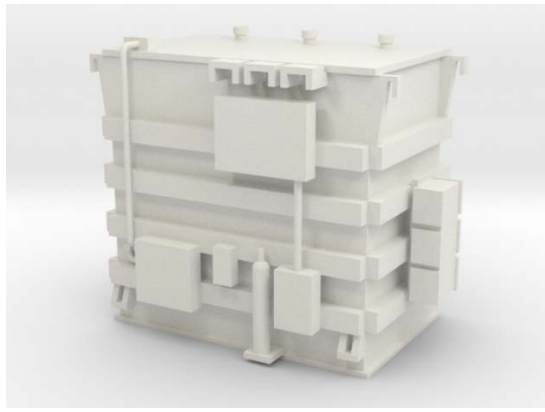
Overall a decent looking modern unit
Needs gauges, protective devices, etc.
There are others in his Shapeways shop



~~Shapeways~~ from BBussey

"1970's Transformer"

Details a little rough, needs items such as valves, protective devices, conduit, gauges



Shapeways- from Model Train Industrials

“Transformer- 11’ High”

Details a little rough, needs items such as valves, protective devices, conduit, gauges

Does include a Nitrogen bottle and what appear to be three bushing potential devices on end.



Shapeways- from Multiscale Digital

“Electrical Substation Circuit Breaker”

Not a transformer, but a good representation of a three phase Oil Circuit Breaker. Could be used as a load or in a substation.

**3-Phase Automatic Station Reclosure
HO Scale – (2) included**

On eBay- The Wizards Dens Miniatures

\$18.00

Cool looking load for a flatcar!

Does have other Transformers in the store.



Shapeways– from MultiScale Digital

**“High Voltage Transformer Base-
Atchison”**

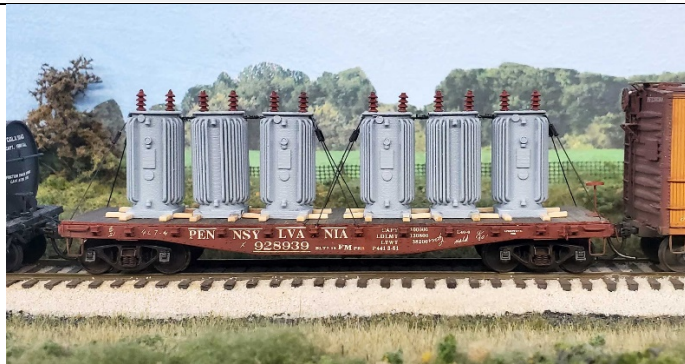
Looks good for a Shell Transformer partial tank- I have one for in-plant movements from Tank Shop to Assembly Bay.



Shapeways- from MultiScale Digital

“Step Voltage Regulator”

Appears a little crude but overall could be a good load for a small voltage regulator. It would ship up to three per flatcar.



Shapeways- from Resin Car Works

“Transformer Load” - \$42.94

Good representation of a set of smaller single-phase transformers. Details good- bushings would likely be protected in transit.

Era- 1930s-1960s

Set includes (2) sets of (3) units.

Contents: (6) 3D-printed resin voltage regulator bodies
(6) top covers, (16) insulators, (8) connectors

1. Sand bottom of regulator bodies to remove support remnants.
2. Lightly file bottom rim of top covers to remove support remnants.
3. Take note of keys for top cover orientation. Glue covers onto body using CA or preferred adhesive.
4. Paint regulator and insulators at this point if you would like the insulators to be a different color than the rest of the regulators.
5. Remove insulators from "sprue." Cut as far down as possible, as the center "shaft" of the insulator is what locates it on the top cover.
6. Glue insulators inside rings on top covers. Line up the grooves in two of the three and glue a connector between them.
7. Place load on freight car, add blocking/tiedowns (not included.)



2003-02 Voltage Regulator Load



2 / 2



3D Central

2003-02 Voltage Regulator

\$35.00 Online

(6) Regulators w/Bushings & "Connector"

Make sure you get 18 Bushings!

CLASS ONE
MODEL WORKS.COM



HO
SCALE

SAVE 10%

\$72.99

\$65.99

**LARGE TRANSFORMER - INDUSTRIAL
GRAY**

Low stock

Class One Model works

"Large Transformer- Modern"

Current Offering- LOW STOCK

Core Form unit, post 1980s

Nice detail- good looking unit

**Appears to be US prototype (North
American Transformer?)**



Class One Model works

“Transformer- Old”

Out of Stock- \$49.99 @Class One

Core Form unit, 1940-1960s

Nice detail- good looking unit. Needs details added.

US Prototype- GE Transformer



SAVE 8%

~~\$59.99~~

\$54.99

OVAL TRANSFORMER WITH COOLING FINS & INSULATORS

In stock

Class One Model works

“Oval Transformer w/Cooling Fins & Insulators”

\$54.99 @Class One

Older Core Form unit, 1930-1940s

Needs details added- Valves, Lifting Lugs

Includes Radiators & Bushings separate- but Bushings incorrect (lacks bottom).

SAVE 9%

~~\$57.99~~

\$52.99

SF6 345 KV CIRCUIT BREAKER

In stock

Class One Model works

“SF6 345kV Circuit Breaker”

\$52.99 @ Class One

Prototypical- appears to be a Westinghouse prototype.



**HO Scale- Transformer Westinghouse
1940-1950s**

On eBay- earnesttrains-bajadezert

Cover incorrect- needs proper details

Needs lifting lugs

Needs valves

Radiator flanges don't line up top-bottom

Does capture overall look of small XFRM

Picture shows XFRM on PRR F29

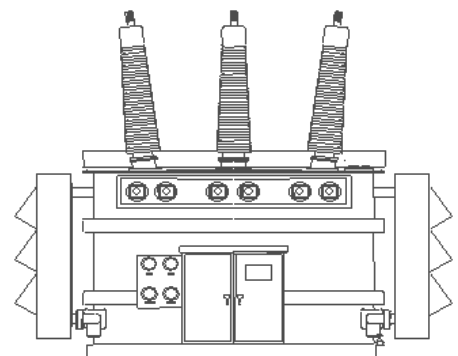


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