

American Flyer Transformer Manual  
kirk, kirk

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## Transformer Service Manuals American Flyer Transformer Identification Sheet

# American Flyer Transformer Identification Sheet

JULY 26, 1954

IDENTIFICATION SHEET ILLUSTRATING DIFFERENT TRANSFORMERS FOR REPAIR AND REPLACEMENT PURPOSES  
THE A. C. GILBERT CO., NEW HAVEN, CONN.

The purpose of this identification sheet is to help you identify the transformer you have so that you may order the correct part. The left hand column gives the name of the part and you will note that the corresponding part number together with price is indicated below each of the different illustrations.



#1 - 25 Watt Capacity (2 post)  
Metal Case - No Circuit Breaker



#1 1/2 - 50 Watt Capacity Plastic Case - No Circuit Breaker



#2 - 75 Watt Capacity Metal Case - No Circuit Breaker



#4B - 100 Watt Capacity Metal Case - Circuit Breaker



#4B - 100 Watt Capacity Plastic Case - Circuit Breaker

Description	PART NO.	PRICE	PART NO.	PRICE	PART NO.	PRICE	PART NO.	PRICE	PART NO.	PRICE
Case			XA12C365RP	\$ .98 ea.					XA12C476RP	\$1.44 ea.
Knob					PA10352	\$ .50 ea.	PA10352	\$ .50 ea.		
Old Style	PA10352	.50 ea.			PA11A984	.06 ea.	PA11A984	.06 ea.	PA12B572	.23 ea.
New Style	PA11A984	.06 ea.	PA12A375	.07 ea.	S208	.05 ea.	S208	.05 ea.	S3N80	.03 ea.
Screw (Case)			S3N72	.05 ea.	N32-0	.01 ea.	N32-0	.01 ea.		
Lockwasher (Case)					W33	.05 dz.	W33	.05 dz.		
Screw (Knob)	S342	.01 ea.	S3N77	.04 ea.	S342	.01 ea.	S342	.01 ea.	S3N77	.04 ea.
Terminal Post	PA10849	.09 ea.								
Old Style	PA12A729	.07 ea.	PA12A729	.07 ea.						
New Style	P1345	.03 ea.	P1345	.03 ea.	P1345	.03 ea.	P1345	.03 ea.	P1345	.03 ea.
Adjusting Nut	PA10845	.03 ea.								
Control Post	PA11A988	.03 ea.			PA11A985	.22 ea.	PA11A985	.22 ea.		
Old Style	W55-B	.05 dz.			W55	.05 dz.	W55	.05 dz.		
New Style			PA12A377	.03 ea.	P532	.01 ea.	P532	.01 ea.	PA12A377	.03 ea.
Fibre Washer (Term.)			PA12A376	.01 ea.	P1039	.01 ea.	P1039	.01 ea.	PA12A376	.01 ea.
Sleeving (Long)									S4N18	.07 ea.
Sleeving (Short)					W56	.01 ea.	W56	.01 ea.		
Fibre Washer (Term.)	P325-A	.15 dz.					PA10483	1.00 ea.	PA13A050	1.47 ea.
Contact Spring	PA10850	.02 ea.			X9367-A	.15 ea.	X9367-A	.15 ea.		
Contact Washer	PA10851	.01 ea.			P9137	.03 ea.	P9137	.03 ea.	PA12A376	.01 ea.
Screw (Coil)										
Spring Washer (Contact)										
Circuit Breaker										
Insulating Strip (1 1/2 Only)	PA12A096	.01 ea.								
Fibre Washer (Contact)	PA1310-B	.03 dz.			P9366	.06 ea.	P9366	.06 ea.		
Fibre Washer (Contact)	W1A56	.10 dz.	W1A63	.04 dz.					P2497	.04 dz.
Washer (Support Cont.)	W131	.05 dz.	P2497	.04 dz.						
Terminal Strip			PA12A452	.01 ea.						
Contact Strip			PA12A450	.09 ea.						

Form 1564

American Flyer Transformer Identification Sheet

## Related Content

- [American Flyer Transformer Service Manual](#)
- [American Flyer Transformer 15B Service Manual](#)
- [American Flyer Transformer 16B Service Manual](#)
- [American Flyer Transformer 18B 30B Service Manual](#)
- [American Flyer Transformer 19B Service Manual](#)

## American Flyer Transformer 15B Manual



## **American Flyer Transformer 15B Service Manual**

Attached is the American Flyer Train Transformer installation and wiring instructions for the American Flyer Transformer 15B.



**JULY 23, 1954**

**PARTS LIST AND DIAGRAM**

**AMERICAN FLYER TRANSFORMER**

**Model No. 15B**



**SPECIFICATIONS**

Case is high impact molded material. Equipped with built-in circuit breaker which prevents burn-out due to over-load or shorts. Has three output terminals for simplified wiring. Exclusive "Dead Man's Control" to halt train when throttle is released.

Operates on 110-120 volts, 60 cycles A.C. with an output of 110 watts.

**THE A. C. GILBERT COMPANY**

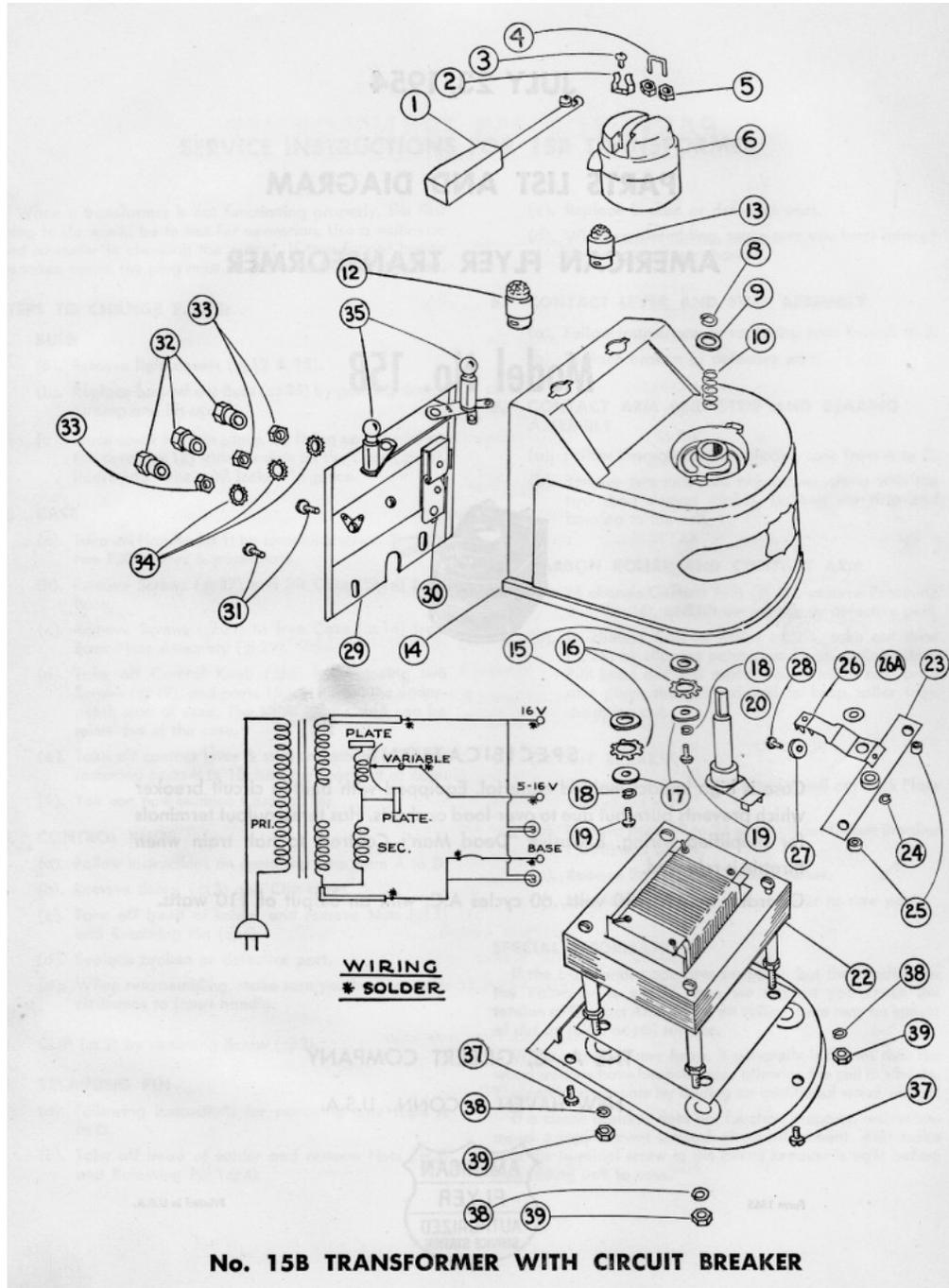
**NEW HAVEN 6, CONN., U.S.A.**



Form 1565

Printed in U.S.A.

American Flyer Transformer 15B Service Manual



American Flyer Transformer 15B Service Manual



## PARTS FOR 15B TRANSFORMER

Diagram Number	Part No.	Description	Price
1	XA11773	Control Handle Assembly w/Screw .....	\$ .60 ea.
2	PA11768	Clip .....	.02 ea.
3	S242	Screw .....	.01 ea.
4	PA11769	Retaining Pin .....	.08 ea.
5	N1	Nut .....	.01 ea.
6	PA13B092	Control Knob .....	.58 ea.
8	PA11847	Retaining Ring (Large) .....	.02 ea.
9	W140	Washer (Control Knob) .....	.01 ea.
10	PA11770	Spring .....	.05 ea.
12	PA12A112-R	Red Light Cover .....	.10 ea.
13	PA12A112-G	Green Light Cover .....	.10 ea.
14	XA12D323-RP	Case .....	1.60 ea.
15	PA11282	Washer (Control Knob) .....	.01 ea.
16	P10406-A	Retaining Spring (Control Knob) .....	.02 ea.
17	W141	Steel Washer Control Knob .....	.01 ea.
18		Lockwasher (NO LONGER NECESSARY)	
19	S4N02	Screw (Control Knob) .....	.04 ea.
20	XA11A934	Contact Lever & Stud Assembly .....	.56 ea.
22	XA12C325-RP	Coil & Stack Assembly (NOT SUPPLIED)	
23	XA11752-RP	Strip & Bearing Assembly .....	.10 ea.
24	PA11749	Retaining Ring (Small) .....	.02 ea.
25	PA11808	Short Sleeve .....	.04 ea.
26	XA11754	Contact Arm Assembly .....	.68 ea.
26A	XA11754-RP	Contact Arm & Strip & Bearing Assembly ....	.76 ea.
27	PA11757	Carbon Roller .....	.25 ea.
28	A43	Brad .....	.05 dz.
29	XA12C327	Back Plate Assembly (NOT SUPPLIED)	
30	PA10483	Circuit Breaker .....	1.00 ea.
31	S184	Parker Kalon Screw .....	.10 dz.
32	PA11826	Terminal Nut .....	.08 ea.
33	N57	Nut (Back Plate Assembly) .....	.05 ea.
34	W89	Lockwasher .....	.05 dz.
35	PA12A125	Lamp 18 Volt .....	.35 ea.
37	S4N03	Screw f/Base .....	.01 ea.
38	W33	Lockwasher .....	.05 dz.
39	N25	Nut (Coil & Stack) .....	.01 ea.



## American Flyer Transformer 15B Service Manual and Parts List

### SERVICE INSTRUCTIONS FOR 15B TRANSFORMER

When a transformer is not functioning properly, the first thing to do would be to test for operation. Use a voltmeter and ammeter in checking the output. If transformer has to be taken apart, the plug must be removed from wall socket.

#### STEPS TO CHANGE PARTS:

##### 1. BULB

- (a). Remove light covers (#12 & 13).
- (b). Replace burned out Bulb (#35) by pushing down, turning and lift up.
- (c). Place cover back in place, by lining up the nibs on the cover (#12) with the slots on the Case (#14). Insert and twist until locked in place.

##### 2. CASE

- (a). Take off Handle (#1) by loosening screw. Remove two P.K. screws & nameplate.
- (b). Remove Screws (#37) and lift Case (#14) from base.
- (c). Remove Screws (#31) to free Case (#14) from Back Plate Assembly (#29).
- (d). Take off Control Knob (#6) by removing two Screws (#19), and parts 15 to 18 from the underneath side of case. The knob is free and can be taken out of the case.
- (e). Take off contact lever & stud assembly (#20) by removing parts 8 to 10, and pull part out of case.
- (f). You can now replace Case (#14).

##### 3. CONTROL KNOB

- (a). Follow instructions on replacing case from A to D.
- (b). Remove Screw (#3) and Clip (#2).
- (c). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- (d). Replace broken or defective part.
- (e). When re-assembling, make sure you have enough clearance to insert handle.

##### 4. CLIP (#2) by removing Screw (#3).

##### 5. RETAINING PIN

- (a). Following instructions for removing case from A to D.
- (b). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).

- (c). Replace broken or defective part.
- (d). When re-assembling, make sure you have enough clearance to insert handle.

##### 6. CONTACT LEVER AND STUD ASSEMBLY.

- (a). Follow instructions on replacing case from A to E.
- (b). Replace broken or defective part.

##### 7. CONTACT ARM AND STRIP AND BEARING ASSEMBLY

- (a). Follow instructions on replacing case from A to C.
- (b). Remove two nuts and two screws along with the two short sleeves (#25), holding the strip and bearing to the coil.

##### 8. CARBON ROLLER AND CONTACT ARM

- (a). To change Contact Arm (#26), remove Retaining Ring (#24), and lift out broken or defective part.
- (b). To change Carbon Roller (#27), take out Brad (#28) by clipping pointed end with cutting pliers. Pull brad out and replace part. Insert new brad and pinch the pointed end to keep roller from dropping out.

##### 9. CIRCUIT BREAKER

- (a). Remove two Screws (#31) and pull out Back Plate Assembly (#29).
- (b). Remove parts 32 to 34 and pull out Circuit Breaker (#30) and Screw.
- (c). Remove Screw from Circuit Breaker.
- (d). Unsolder lead wires and resolder to new part.

#### SPECIAL INFORMATION

If the transformer operates properly, but the reading on the Voltmeter is erratic, then we suggest you check the tension of Contact Arm (#26) on coil or there may be specks of dirt on roller or coil surface.

When a transformer hums, it generally indicates that the wood wedges have become loose allowing the coil to vibrate. This can be overcome by adding an additional wood wedge.

If a circuit breaker does not function properly, we recommend a replacement instead of an adjustment. Also make sure the terminal screw in the circuit breaker is tight before assembling unit to case.

American Flyer Transformer 15B Service Manual

## Related Content

[American Flyer Transformer Identification Sheet](#)



[American Flyer Transformer Page](#)

## **American Flyer Transformer 16B Service Manual**

# **American Flyer Transformer 16B Service Manual**

Attached is the American Flyer Train Transformer installation and wiring instructions for the American Flyer Transformer 16B.



**JULY 23, 1954**

**PARTS LIST AND DIAGRAM**

**AMERICAN FLYER TRANSFORMER**

**Model No. 16B**



**SPECIFICATIONS**

Case is high impact molded material. Equipped with built-in circuit breaker which prevents burn-out due to over-load or shorts. Has three output terminals for simplified wiring. Exclusive "Dead Man's Control" to halt train when throttle is released.

Operates on 110-120 volts, 60 cycles A.C. with an output of 190 watts.

**THE A. C. GILBERT COMPANY**

**NEW HAVEN 6, CONN., U.S.A.**

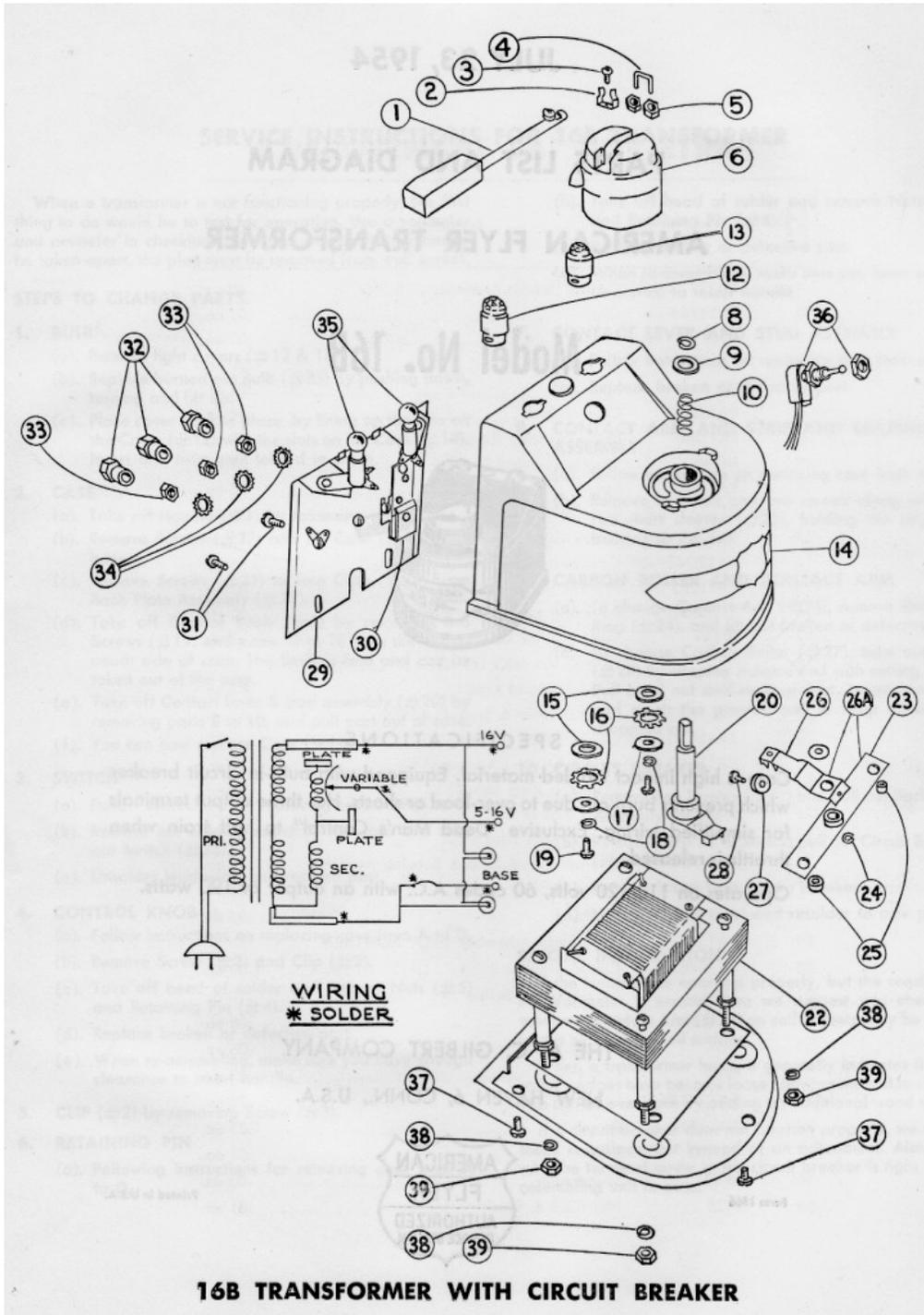


Form 1566

Printed in U.S.A.



American Flyer Transformer 16B Service Manual



American Flyer Transformer 16B with Circuit Breaker Service Manual



## PARTS FOR 16B TRANSFORMER

Diagram Number	Part No.	Description	Price
1	XA11773	Control Handle Assembly w/Screw .....	\$ .60 ea.
2	PA11768	Clip .....	.02 ea.
3	S242	Screw .....	.01 ea.
4	PA11769	Retaining Pin .....	.08 ea.
5	N1	Nut .....	.01 ea.
6	PA13B092	Control Knob .....	.58 ea.
8	PA11847	Retaining Ring (Large) .....	.02 ea.
9	W140	Washer (Control Knob) .....	.01 ea.
10	PA11770	Spring .....	.05 ea.
12	PA12A112-R	Red Light Cover .....	.10 ea.
13	PA12A112-G	Green Light Cover .....	.10 ea.
14	XA12D489-RP	Case and Nameplate Assembly .....	3.65 ea.
15	PA11282	Washer (Control Knob) .....	.01 ea.
16	P10406-A	Retaining Spring (Control Knob) .....	.02 ea.
17	W141	Steel Washer Control Knob .....	.01 ea.
18		Lockwasher (NO LONGER NECESSARY)	
19	S4N02	Screw (Control Knob) .....	.04 ea.
20	XA11A934	Contact Lever & Stud Assembly .....	.56 ea.
22	XA12C105-RP	Coil & Stack Assembly (NOT SUPPLIED)	
23	XA11752-RP	Strip & Bearing Assembly .....	.10 ea.
24	PA11749	Retaining Ring (Small) .....	.02 ea.
25	PA11808	Short Sleeve .....	.04 ea.
26	XA11754	Contact Arm Assembly .....	.68 ea.
26A	XA11754-RP	Contact Arm & Strip & Bearing Assembly ....	.76 ea.
27	PA11757	Carbon Roller .....	.25 ea.
28	A43	Brad .....	.05 dz.
29	XA12B493	Back Plate Assembly (NOT SUPPLIED)	
30	PA10483	Circuit Breaker .....	1.00 ea.
31	S184	Parker Kalon Screw .....	.10 dz.
32	PA11826	Terminal Nut .....	.08 ea.
33	N57	Nut (Back Plate Assembly) .....	.05 ea.
34	W89	Lockwasher .....	.05 dz.
35	PA12A125	Lamp 18 Volt .....	.35 ea.
36	PA11761	Switch .....	1.05 ea.
37	S4N03	Screw f/Base .....	.01 ea.
38	W33	Lockwasher .....	.05 dz.
39	N25	Nut (Coil & Stack) .....	.01 ea.



## SERVICE INSTRUCTIONS FOR 16B TRANSFORMER

When a transformer is not functioning properly, the first thing to do would be to test for operation. Use a voltmeter and ammeter in checking the output. If transformer has to be taken apart, the plug must be removed from wall socket.

### STEPS TO CHANGE PARTS:

#### 1. BULB

- Remove light covers (#12 & 13).
- Replace burned out Bulb (#35) by pushing down, turning and lift up.
- Place cover back in place, by lining up the nibs on the Cover (#12) with the slots on the Case (#14). Insert and twist until locked in place.

#### 2. CASE

- Take off Handle (#1) by loosening screw.
- Remove Screws (#37) and lift Case (#14) from base.
- Remove Screws (#31) to free Case (#14) from Back Plate Assembly (#29).
- Take off Control Knob (#6) by removing two Screws (#19) and parts 15 to 18 from the underneath side of case. The knob is free and can be taken out of the case.
- Take off Contact lever & stud assembly (#20) by removing parts 8 to 10, and pull part out of case.
- You can now replace Case (#14).

#### 3. SWITCH

- Follow instructions on replacing case from A to C.
- Remove nut holding switch in the case and take out Switch (#36).
- Unsolder lead wires and replace part.

#### 4. CONTROL KNOB

- Follow instructions on replacing case from A to D.
- Remove Screw (#3) and Clip (#2).
- Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- Replace broken or defective part.
- When re-assembling, make sure you have enough clearance to insert handle.

#### 5. CLIP (#2) by removing Screw (#3).

#### 6. RETAINING PIN

- Following instructions for removing case from A to D.

- Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).

- Replace broken or defective part.

- When re-assembling, make sure you have enough clearance to insert handle.

#### 7. CONTACT LEVER AND STUD ASSEMBLY

- Follow instructions on replacing case from A to E.
- Replace broken or defective part.

#### 8. CONTACT ARM AND STRIP AND BEARING ASSEMBLY

- Follow instructions on replacing case from A to C.
- Remove two nuts and two screws along with the two short sleeves (#25), holding the strip and bearing to the coil.

#### 9. CARBON ROLLER AND CONTACT ARM

- To change Contact Arm (#26), remove Retaining Ring (#24), and lift out broken or defective part.
- To change Carbon Roller (#27), take out Brad (#28) by clipping pointed end with cutting pliers. Pull brad out and replace part. Insert new brad and pinch the pointed end to keep roller from dropping out.

#### 10. CIRCUIT BREAKER

- Remove two Screws (#31) and pull out Back Plate Assembly (#29).
- Remove parts 32 to 34 and pull out Circuit Breaker (#30) and Screw.
- Remove Screw from Circuit Breaker.
- Unsolder lead wires and resolder to new part.

#### SPECIAL INFORMATION

If the transformer operates properly, but the reading on the Voltmeter is erratic, then we suggest you check the tension of Contact Arm (#26) on coil or there may be specks of dirt on roller or coil surface.

When a transformer hums, it generally indicates that the wood wedges have become loose allowing the coil to vibrate. This can be overcome by adding an additional wood wedge.

If a circuit breaker does not function properly, we recommend a replacement instead of an adjustment. Also make sure the terminal screw in the circuit breaker is tight before assembling unit to case.

## Related Content

[American Flyer Transformer Identification Sheet](#)



[American Flyer Transformer Page](#)

## **American Flyer Transformer 18B 30B Service Manual**

### **American Flyer Transformer 18B 30B Service Manual**

Attached is the American Flyer Train Transformer installation and wiring instructions for the American Flyer Transformer 18B 30B. American Flyer Transformers were used to power both the trains as well as the accessories. In general the transformers had different power levels and sizes that enabled for more trains or accessories depending on the engineers collection. In addition, transformers often had multiple handles, as seen below, so that you could run multiple American Flyer locomotives at the same time and control the speed of the train.



**JULY 23, 1954**

**PARTS LIST AND DIAGRAM**  
**AMERICAN FLYER TRANSFORMER**

**Model Nos. 18B and 30B**



**No. 18B**



**No. 30B**

**SPECIFICATIONS**

Case is high impact molded material. Equipped with two built-in circuit breakers which prevent burn-out due to over-load or shorts. Has three output terminals for simplified wiring. Exclusive "Dead Man's Control" to halt train when throttle is released.

The #18B operates on 110-120 volts, 60 cycles A.C. with an output of 190 watts.

The #30B operates on 110-120 volts, 60 cycles A.C. with an output of 300 watts.

**THE A. C. GILBERT COMPANY**

**NEW HAVEN 6, CONN., U.S.A.**





American Flyer Transformer 18B 30B Service Manual

**SERVICE INSTRUCTIONS FOR 18B AND 30B TRANSFORMERS**

When a transformer is not functioning properly, the first thing to do would be to test for operation. Use a voltmeter and ammeter in checking the output. If transformer has to be taken apart, the plug must be removed from wall socket.

**STEPS TO CHANGE PARTS:**

**1. BULB**

- (a). Remove light covers (#12 & 13).
- (b). Replace burned out Bulb (#35) by pushing down, turning and lift up.
- (c). Place cover back in place, by lining up the nibs on the cover (#12) with the slots on the Case (#14). Insert and twist until locked in place.

**2. CASE**

- (a). Take off Handle (#1) by loosening screw.
- (b). Remove Screws (#37) and lift case (#14) from base.
- (c). Remove Screws (#31) to free Case (#14) from Back Plate Assembly (#29).
- (d). Take off Control Knob (#6) by removing two Screws (#19) and parts 15 to 18 from the underneath side of case. The knob is free and can be taken out of the case.
- (e). Take off Contact lever & stud assembly (#20) by removing parts 8 to 10, and pull part out of case.
- (f). You can now replace Case (#14).

**3. SWITCH**

- (a). Follow instructions on replacing case from A to C.
- (b). Remove nut holding switch in the case and take out Switch (#36).
- (c). Unsolder lead wires and replace part.

**4. VOLTMETER**

- (a). Follow instructions on replacing case from A to C.
- (b). Loosen nuts on meters (#11) and take off lead wires.
- (c). From the inside of case, push meter out by using thumbs.
- (d). Replace broken or defective part.

**5. CONTROL KNOB**

- (a). Follow instructions on replacing case from A to D.
- (b). Remove Screw (#3) and Clip (#2).
- (c). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- (d). Replace broken or defective part.
- (e). When re-assembling, make sure you have enough clearance to insert handle.

- 6. **CLIP (#2)** by removing Screw (#3).

**7. RETAINING PIN**

- (a). Following instructions for removing case from A to D.
- (b). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- (c). Replace broken or defective part.
- (d). When re-assembling, make sure you have enough clearance to insert handle.

**8. CONTACT LEVER AND STUD ASSEMBLY**

- (a). Follow instructions on replacing case from A to E.
- (b). Replace broken or defective part.

**9. CONTACT ARM AND STRIP AND BEARING ASSEMBLY**

- (a). Follow instructions on replacing case from A to C.
- (b). Remove two nuts and two screws along with the two short sleeves (#25), holding the strip and bearing to the coil.

**10. CARBON ROLLER AND CONTACT ARM**

- (a). To change Contact Arm (#26), remove Retaining Ring (#24), and lift out broken or defective part.
- (b). To change Carbon Roller (#27), take out Brad (#28) by clipping pointed end with cutting pliers. Pull brad out and replace part. Insert new brad and pinch the pointed end to keep roller from dropping out.

**11. CIRCUIT BREAKER**

- (a). Remove two Screws (#31) and pull out Back Plate Assembly (#29).
- (b). Remove parts 32 to 34 and pull out Circuit Breaker (#30) and Screw.
- (c). Remove Screw from Circuit Breaker.
- (d). Unsolder lead wires and resolder to new part.

**SPECIAL INFORMATION**

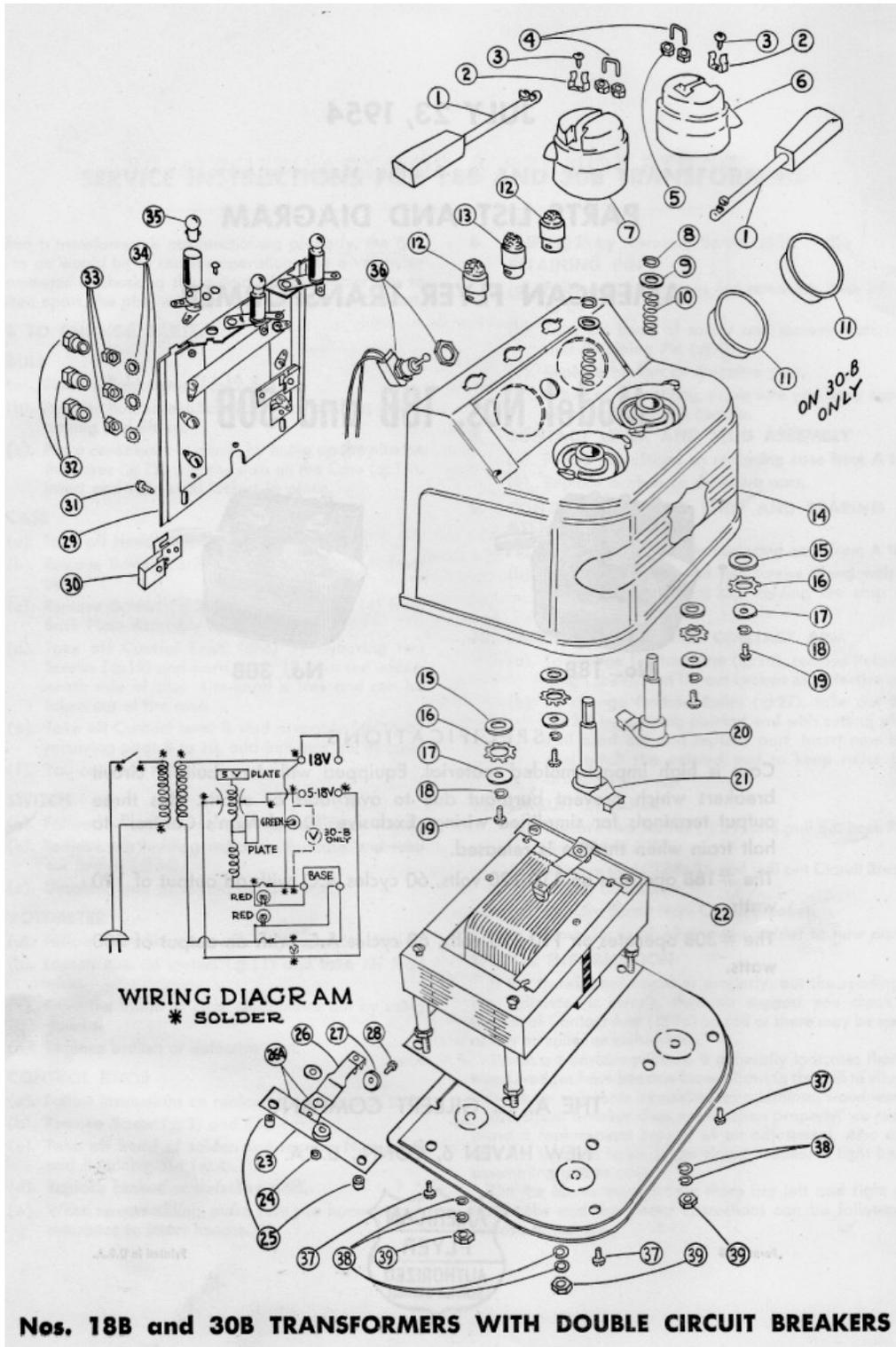
If the transformer operates properly, but the reading on the Voltmeter is erratic, then we suggest you check the tension of Contact Arm (#26) on coil or there may be specks of dirt on roller or coil surface.

When a transformer hums, it generally indicates that the wood wedges have become loose allowing the coil to vibrate. This can be overcome by adding an additional wood wedge.

If a circuit breaker does not function properly, we recommend a replacement instead of an adjustment. Also make sure the terminal screw in the circuit breaker is tight before assembling unit to case.

On the above transformers there are left and right control knobs and the above instructions can be followed to remove either one.

American Flyer Transformer 18B and American Flyer Transformer 30B Service Manual and steps to change parts



American Flyer Transformer 18B 30B with Double Circuit Breakers Service Manual and Wiring Diagram



**PARTS FOR 18B & 30B TRANSFORMERS**

Diagram Number	Part No.	Description	Price
1	XA11773	Control Handle Assembly .....	\$ .60 ea.
2	PA11768	Clip .....	.02 ea.
3	S-242	#6 x 1/4" P.K. Screw .....	.01 ea.
4	PA11769	Retaining Pin .....	.08 ea.
5	N-1	#4-40 Hex Nut .....	.01 ea.
6	PA12B311	Control Knob, Right .....	.64 ea.
7	PA12B270	Control Knob, Left .....	.64 ea.
8	PA11847	Retainer Ring .....	.03 ea.
9	W-140	Washer .....	.01 ea.
10	PA11770	Spring .....	.08 ea.
11	PA11771	Volt Meter (for 30B only) .....	3.75 ea.
12	PA12A112-R	Red Light Cover .....	.10 ea.
13	PA12A112-G	Green Light Cover .....	.10 ea.
14	XA12D269-ARP	Case Assembly (for 30B only) .....	5.88 ea.
14	XA12D584-ARP	Case Assembly (for 18B only) .....	5.83 ea.
		(includes — PA12N271 Nameplate & 2-S218 "U" #2 x 1/4" P.K. Screws)	
15	PA11282	Washer .....	.01 ea.
16	P-10406-A	Retaining Spring .....	.02 ea.
17	W141	Steel Washer .....	.01 ea.
18		Lockwasher (NO LONGER NECESSARY)	
19	S4A02	#6-32 Screw .....	.10 dz.
20	XA12A266	Contact Lever & Stud Assembly, Right .....	1.00 ea.
21	XA12A267	Contact Lever & Stud Assembly, Left .....	1.00 ea.
22	XA12C642-RP	Coil & Stack Assembly (for 18B only) (NOT SUPPLIED)	
22	XA12C272-RP	Coil & Stack Assembly (for 30B only) (NOT SUPPLIED)	
23	XA12A294	Strip & Bearing Assembly .....	.22 ea.
24	PA11749	Retainer Ring .....	.02 ea.
25	PA11808	Short Sleeve .....	.04 ea.
26	XA11754	Contact Arm Assembly .....	.68 ea.
26A	XA11754-RP	Contact Arm & Strip Assembly .....	.40 ea.
27	PA11757	Carbon Roller .....	.25 ea.
28	A-43	Brad .....	.05 dz.
29	XA12C629	Back Plate & Wiring Assembly (NOT SUPPLIED)	
30	PA12A099	Circuit Breaker .....	1.10 ea.
31	S-184	#7 x 1/4" P.K. Screw .....	.10 dz.
32	PA11826	Terminal Nut .....	.08 ea.
33	N-57	Nut .....	.05 ea.
34	W89	Lock Washer .....	.05 dz.
35	PA12A125	Lamp, Clear-24V .....	.35 ea.
36	PA11761	Switch .....	1.05 ea.
37	S4N03	#10-16 x 1/2 Th'd. Cut SC Type 25 PH STL....	.01 ea.
38	W-33	Lockwasher .....	.05 dz.
39	N-32-C	#10-32 Hex Nut .....	.10 dz.



American Flyer Transformer 18B 30B Service Manual and Parts List

## **Related Content**

[American Flyer Transformer Identification Sheet](#)

[American Flyer Transformer Page](#)

## **American Flyer Transformer 19B Service Manual**

## **American Flyer Transformer 19B Service Manual**

Attached is the American Flyer Train Transformer installation and wiring instructions for the American Flyer Transformer 19B.



**JULY 23, 1954**

**PARTS LIST AND DIAGRAM**  
**AMERICAN FLYER TRANSFORMER**

**Model No. 19B**



**SPECIFICATIONS**

Case is high impact molded material. Equipped with built-in circuit breaker which prevents burn-out due to over-load or shorts. Has three output terminals for simplified wiring. Exclusive "Dead Man's Control" to halt train when throttle is released.

Operates on 110-120 volts, 60 cycles A.C. with an output of 300 watts.

**THE A. C. GILBERT COMPANY**

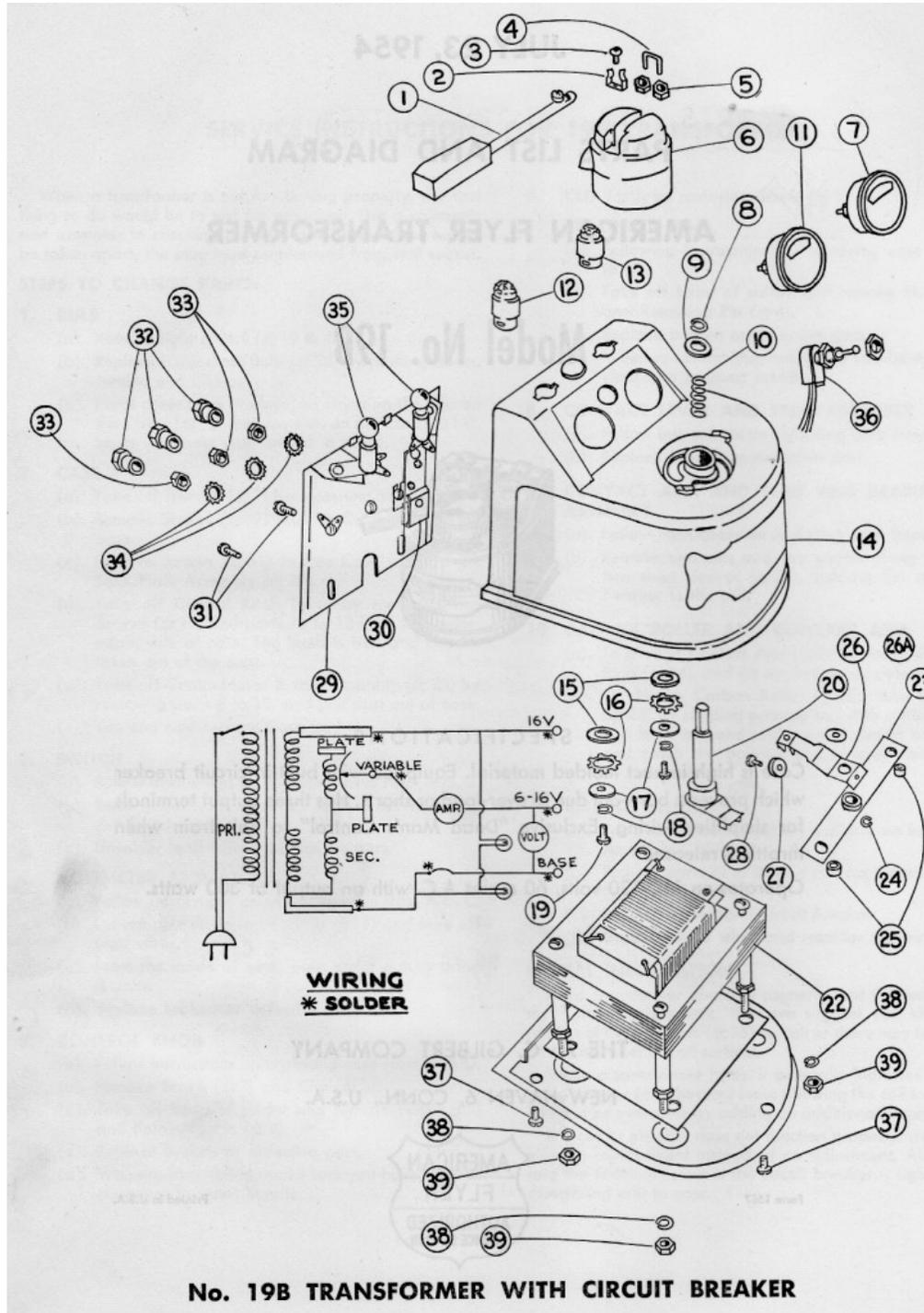
**NEW HAVEN 6, CONN., U.S.A.**



Form 1567

Printed in U.S.A.

American Flyer Transformer 19B Service Manual



American Flyer Transformer 19B with Circuit Breaker Service Manual





## PARTS FOR 19B TRANSFORMER

Diagram Number	Part No.	Description	Price
1	XA11773	Control Handle Assembly w/Screw .....	\$ .60 ea.
2	PA11768	Clip .....	.02 ea.
3	S242	Screw .....	.01 ea.
4	PA11769	Retaining Pin .....	.08 ea.
5	N1	Nut .....	.01 ea.
6	PA13B092	Control Knob .....	.58 ea.
7	PA11763	Ammeter .....	3.75 ea.
8	PA11847	Retaining Ring (Large) .....	.02 ea.
9	W140	Washer (Control Knob) .....	.01 ea.
10	PA11770	Spring .....	.05 ea.
11	PA11771	Voltmeter .....	3.75 ea.
12	PA12A112R	Red Light Cover .....	.10 ea.
13	PA12A112G	Green Light Cover .....	.10 ea.
14	XA11765-RP	Case .....	5.48 ea.
15	PA11282	Washer (Control Knob) .....	.01 ea.
16	P10406-A	Retaining Spring (Control Knob) .....	.02 ea.
17	W141	Steel Washer (Control Knob) .....	.01 ea.
18		Lockwasher (NO LONGER NECESSARY)	
19	S4N02	Screw (Control Knob) .....	.04 ea.
20	XA11A934	Contact Lever & Stud Assembly .....	.56 ea.
22	XA11740-RP	Coil & Stack Assembly (NOT SUPPLIED)	
23	XA11752-RP	Strip & Bearing Assembly .....	.10 ea.
24	PA11749	Retaining Ring (Small) .....	.02 ea.
25	PA11808	Short Sleeve .....	.04 ea.
26	XA11754	Contact Arm Assembly .....	.68 ea.
26A	XA11754-RP	Contact Arm & Strip & Bearing Assembly ....	.76 ea.
27	PA11757	Carbon Roller .....	.25 ea.
28	A43	Brad .....	.05 dz.
29	XA11726-A	Back Plate Assembly (NOT SUPPLIED)	
30	PA12A099	Circuit Breaker .....	1.10 ea.
31	S184	Parker Kalon Screw .....	.10 dz.
32	PA11826	Terminal Nut .....	.08 ea.
33	N57	Nut (Back Plate Assembly) .....	.05 ea.
34	W89	Lockwasher .....	.05 dz.
35	PA12A125	Clear Lamp .....	.35 ea.
36	PA11761	Switch .....	1.05 ea.
37	S4N03	Screw for Base .....	.01 ea.
38	W33	Lockwasher .....	.05 dz.
39	N25	Nut (Coil & Stack) .....	.01 ea.



## American Flyer Transformer 19B Parts List from Service Manual

### SERVICE INSTRUCTIONS FOR 19B TRANSFORMER

When a transformer is not functioning properly, the first thing to do would be to test for operation. Use a voltmeter and ammeter in checking the output. If transformer has to be taken apart, the plug must be removed from wall socket.

#### STEPS TO CHANGE PARTS:

##### 1. BULB

- (a). Remove light covers (#12 & 13).
- (b). Replace burned out Bulb (#35) by pushing down, turning and lift up.
- (c). Place cover back in place, by lining up the nibs on the Cover (#12) with the slots on the Case (#14). Insert and twist until locked in place.

##### 2. CASE

- (a). Take off Handle (#1) by loosening screw.
- (b). Remove Screws (#37) and lift Case (#14) from base.
- (c). Remove Screws (#31) to free Case (#14) from Back Plate Assembly (#29).
- (d). Take off Control Knob (#6) by removing two Screws (#19) and parts 15 to 18 from the underneath side of case. The knob is free and can be taken out of the case.
- (e). Take off Contact lever & stud assembly (#20) by removing parts 8 to 10, and pull part out of case.
- (f). You can now replace Case (#14).

##### 3. SWITCH

- (a). Follow instructions on replacing case from A to C.
- (b). Remove nut holding switch in the case and take out Switch (#36).
- (c). Unsolder lead wires and replace part.

##### 4. VOLTMETER AND AMMETER

- (a). Follow instructions on replacing case from A to C.
- (b). Loosen nuts on meters (#7 & #11) and take off lead wires.
- (c). From the inside of case, push meter out by using thumbs.
- (d). Replace broken or defective part.

##### 5. CONTROL KNOB

- (a). Follow instructions on replacing case from A to D.
- (b). Remove Screw (#3) and Clip (#2).
- (c). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- (d). Replace broken or defective part.
- (e). When re-assembling, make sure you have enough clearance to insert handle.

6. CLIP (#2) by removing Screw (#3).

##### 7. RETAINING PIN

- (a). Following instructions for removing case from A to D.
- (b). Take off bead of solder and remove Nuts (#5) and Retaining Pin (#4).
- (c). Replace broken or defective part.
- (d). When re-assembling, make sure you have enough clearance to insert handle.

##### 8. CONTACT LEVER AND STUD ASSEMBLY

- (a). Follow instructions on replacing case from A to E.
- (b). Replace broken or defective part.

##### 9. CONTACT ARM AND STRIP AND BEARING ASSEMBLY

- (a). Follow instructions on replacing case from A to C.
- (b). Remove two nuts and two screws along with the two short sleeves (#25), holding the strip and bearing to the coil.

##### 10. CARBON ROLLER AND CONTACT ARM

- (a). To change Contact Arm (#26), remove Retaining Ring (#24), and lift out broken or defective part.
- (b). To change Carbon Roller (#27), take out Brad (#28) by clipping pointed end with cutting pliers. Pull brad out and replace part. Insert new brad and pinch the pointed end to keep roller from dropping out.

##### 11. CIRCUIT BREAKER

- (a). Remove two Screws (#31) and pull out Back Plate Assembly (#29).
- (b). Remove parts 32 to 34 and pull out Circuit Breaker (#30) and Screw.
- (c). Remove Screw from Circuit Breaker.
- (d). Unsolder lead wires and resolder to new part.

#### SPECIAL INFORMATION

If the transformer operates properly, but the reading on the Voltmeter is erratic, then we suggest you check the tension of Contact Arm (#26) on coil or there may be specks of dirt on roller or coil surface.

When a transformer hums, it generally indicates that the wood wedges have become loose allowing the coil to vibrate. This can be overcome by adding an additional wood wedge.

If a circuit breaker does not function properly, we recommend a replacement instead of an adjustment. Also make sure the terminal screw in the circuit breaker is tight before assembling unit to case.

## Related Content

[American Flyer Transformer Identification Sheet](#)

[American Flyer Transformer Page](#)



## American Flyer Transformer Manual

# American Flyer Transformer Service Manual

Attached is the American Flyer Train Transformer installation and wiring instructions that can be used with a variety of track configurations.

**TO TEST LOCOMOTIVE.** Using the tested sections reassemble your layout and place your locomotive and tender on the track. Be sure the cut out lever on a Standard Remote Control Locomotive is not locked in a neutral position. If it has been in neutral unlock it and move the transformer throttle to "Stop" and back to half on.

When placing the locomotive and tender on the track be sure the metal wheels on the front tender truck are on one rail and the metal wheels on the rear tender truck are on the other rail.

**CAUTION:** Ninety per cent of all transformer trouble is caused by permitting the train to lie across the rails and cause a short circuit when it jumps or is knocked off the track. If permitted to remain in this position the cars cause a short circuit and the transformer will burn out.

While AMERICAN FLYER TRANSFORMERS will easily stand 25 per cent overload without harm, we recommend disconnecting the transformer from the house current immediately when you are not going to use your train for even a short period or when the train jumps the track.

**GUARANTEE:** AMERICAN FLYER TRANSFORMERS are guaranteed to be mechanically and electrically perfect when they leave our factory. Any transformer which will not deliver its rated capacity indicated on the name plate, or has defective terminal posts or switch, will be reconditioned or replaced free of charge for a period of six months after the date of sale to the consumer. If used in accordance with the instructions which accompany it, the transformer will not burn out. These transformers are given four separate tests or inspections before packing, so therefore, we cannot assume the responsibility for burned out transformers. The Guarantee is void if any transformer is opened or tampered with or not used according to instructions.

## AMERICAN FLYER

### TRANSFORMER INSTRUCTIONS

This transformer is designed specifically to operate electric trains and equipment and is not recommended for continuous or commercial use. It will operate on alternating current only of the voltage and frequency designated on its name plate. If you are not certain of the exact current in your home, call your electric light company before attaching transformer.

A 110 volt, 60 cycle transformer will operate successfully on voltages ranging from 100 to 120 volts, and from 50 to 133 cycles. A 25 cycle transformer will operate on frequencies from 25 cycles to 40 cycles. A transformer will not operate on direct current unless a #10 Inverter is used in series with the transformer.

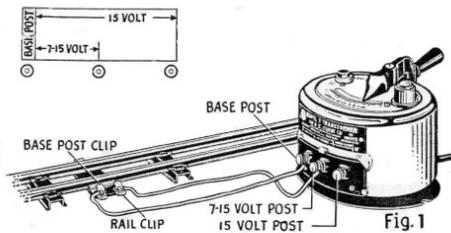


Fig. 1

Assuming that you have your track all properly set up and are now ready to wire the transformer, see Fig. 1 and proceed as follows:

Attach the track terminal to a straight section of track according to the directions furnished on the terminal envelope which is included with your train set.

Connect the BLACK wire between the Base Post of the transformer and the Base Post clip of the track terminal. Connect one end of the WHITE wire to the Remaining Clip of the track terminal and the other end to the 7 to 15 Volt Post of the transformer.

Always start the train with a minimum amount of current and add more voltage by moving the control lever.

*Developed at the Gilbert Hall of Science*

THE A. C. GILBERT COMPANY, NEW HAVEN, CONN., U.S.A.

M2455

Printed in U.S.A.

Made in U.S.A.

## American Flyer Transformer Service Manual and Wiring Instructions

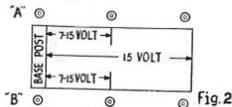
By connecting such accessories as No. 751 Log Loader, No. 583 Electromatic Crane, etc. to the 15 volt Post and the Base Post of the transformer the accessory is supplied with a constant 15 volts that is unaffected by the position of the regulating lever.

All AMERICAN FLYER Transformers except the #2, #5 and #6 are equipped with an Automatic Circuit Breaker. When a short circuit or overload occurs the red jewel lights and the breaker opens the circuit to prevent damage to the transformer. The #5B does not have this red jewel light but does have the circuit breaker. When the short or overload has been cleared the breaker is reset by simply pushing the "Reset Button" located on the top of the transformer. The Circuit Breaker protects both the 7 to 15 volt circuit and the 15 volt constant circuit against short circuit or overload. This desirable feature can be obtained in conjunction with the #2, #5 and #6 Transformers by the use of the #11 Circuit Breaker.

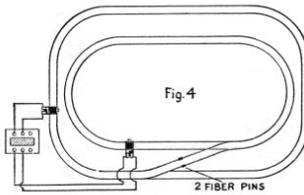
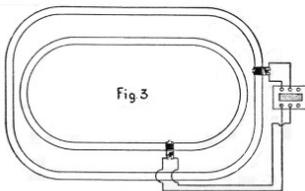
The #8B, #9B and #12B Transformers are equipped with a green "Power On" indicating jewel.

The #9B and #12B Transformers have a line switch which can be used instead of pulling the plug to shut off the power supplied to the transformer when it is not in use.

The #9B and #12B Transformers are Dual Transformers, they have two control levers which are marked "A" and "B," and two corresponding sets of three terminals as shown in Fig. 2.



Each throttle operates separately, thus permitting the operation of two or more trains simultaneously on two layouts as shown in Fig. 3, or two trains simultaneously on two sections of the same layout as shown in Fig. 4.



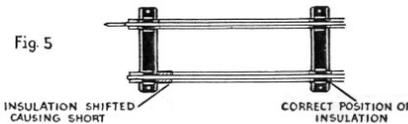
**SPECIAL INSTRUCTIONS.** During past years, transformers have been returned which owners claimed defective. In a large majority of cases we found, after investigating, that the transformer was all right and that the fault was with some other part of the train system. We give you, therefore, a few hints as to what to look for in case the train does not work when connections are made.

**TO CHECK THE TRANSFORMER.** Press Reset Button to be sure it is down. Turn the lever half on. Connect one end of a piece of wire to the Base Post and touch the 7 to 15 volt Post very lightly with the other end. (DO NOT HOLD THE WIRE ON THE 7-15 VOLT POST, JUST TOUCH IT LIGHTLY.) If a spark occurs the transformer is O.K. If no spark occurs the transformer is defective unless the fault is at the wall socket which can be checked by plugging in a bridge lamp.

Remove the train from the track and be sure there is no metal laying across the rails. Be sure all sections of track fit snugly together then . . .

**TO TEST FOR A SHORT.** Connect a wire from the Base Post of the transformer to the Base Post Clip of the track terminal. Connect another wire to the 7 to 15 volt Post of the transformer. Brush the other end of this wire across the other rail, if a spark occurs the system is shorted and each section must be removed and tested separately in the manner just described. Switches and crossovers can be tested in the same manner.

**TO REPAIR A SHORT.** By closely examining a shorted section of track you will discover that one or more of the clamps on a sleeper is touching the rail. With a sharp screw driver the clamp can be loosened and the fiber insulation piece shifted so that the rail is completely insulated from the sleepers. (See Fig. 5)



## American Flyer Transformer Instructions Wiring and Service Manual

### Related Content

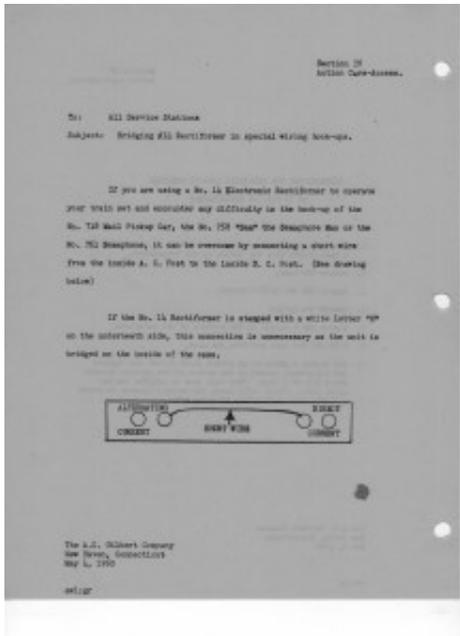
[Other Wiring Instructions](#)

[American Flyer Transformer Identification Sheet](#)

## What is an American Flyer Rectifier and a Rectifier?

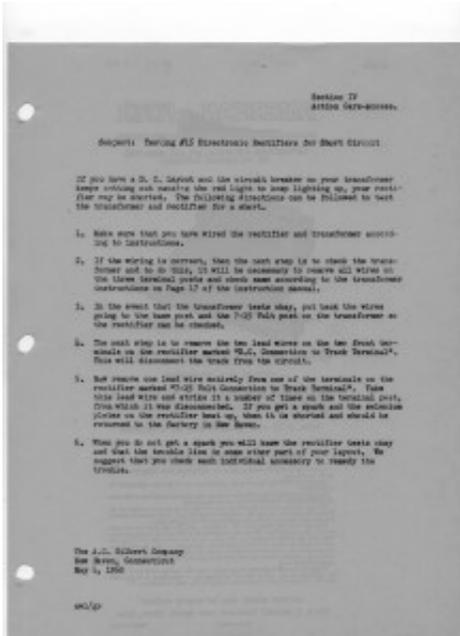
## What is an American Flyer Rectifier and a Rectifier?

The American Flyer Number 14 Electronic Rectifier, Number 15 Directronic Rectifier and Number 16 Electronic Rectifier were made in the late 1940's and on into the 1950's to provide DC power for the series of American Flyer DC steam locomotives produced in the same time period. The Number 15 was produced to provide DC power for the HO product line as well.



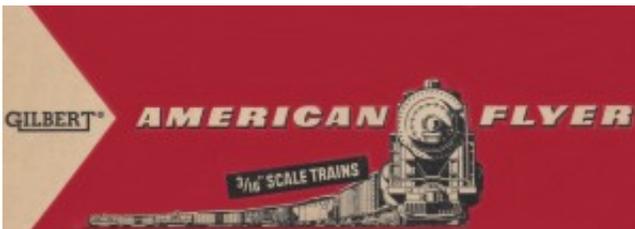
## American Flyer Rectifier 14

**In the pre World War II time period, Gilbert produced several locomotives and pieces of rolling stock with DC activation.** Locomotives with DC activated reverse units and whistling baggage cars activated by DC superimposed on the track while AC on the track provided the power for operation. This caused some difficulties and warnings about the inability to operate locomotives with the DC reverse control and the DC activated whistling baggage cars in the same train.



### American Flyer Directronic Rectifier 15

**After World War II the technology and devices for converting AC to DC with enough power to operate the motors in locomotives became available.** Introduced in 1947 with the Number [332 Union Pacific 4-8-4 Northern](#) locomotive type and the [342 Nickel Plate Road 0-8-0 Switching locomotive](#) the DC motored locomotives were shown on the same tracks as AC powered locomotives with the ability to control them separately with “Directronic Propulsion”. Available again in 1948 and 1949 these locomotives had their catalog designations changed in 1950 although remaining powered with DC motors. The 332 became the 332DC and the 342 became the [342DC](#). A version of the 4-8-4 Union Pacific Northern with the electronic horn in the tender was cataloged as the 334DC as well. Many of the other locomotives became the xxxAC to provide differentiation from the DC versions – possibly in response to dealer and consumer complaints regarding the inability to easily distinguish an AC powered locomotive from a DC powered locomotive. The unsuspecting purchaser would arrive home and be unable to operate the recently acquired locomotive with the transformer. **Less happy would be the new owner trying to operate the newly opened present on Christmas day and needing to wait until the stores opened again to relieve the disappointment.**



These DC locomotives provided competition for the Lionel



Electronic Set that enabled reversing, whistle activation, dump car activation and uncoupling anywhere on the layout by transmission of specific frequency signals on the track along with the power. **It is not clear if the American Flyer introduced DC power stimulated the Lionel Electronic Set at this point**, but they would have both been bragging rights for the sale of trains.

The three DC power units were created to provide power to operate the DC locomotives. The Number 14 Electronic Rectifier contained a transformer to produce low voltage AC and a rectifier to convert the low voltage to DC. The AC was separately available to power lights and accessories on the layout. The Number 14 was cataloged in 1947 and 1949. It provided 150 Watts of power. The Number 15 Directronic Rectifier was produced from 1948 to 1952 and was designed to be an add on to a standard transformer. The Number 15 took the transformer AC output and rectified the AC into DC to operate the locomotive. In 1950 the Number 16 Electronic Rectifier was introduced to provide DC power for operating locomotives and AC power for accessories. **Vacuum tube rectifiers were used in the Number 14 and 16, while the Number 15 used selenium rectifier technology.**

While the DC power had some advantages in the operation and control of locomotives, it caused a lot of extra wiring for the activation of remote controlled operating cars. The pushbuttons from the time period have extra wires and contacts to enable AC activation power to be delivered to the operating car simultaneously with the DC power for the locomotives.

Some replay of the difficulties mentioned earlier of the pre war conflict between the DC locomotive direction control and the DC activated whistle in the baggage car. It would not have been possible to operate the Pennsylvania Railroad [314AW 4-6-2 Pacific](#) at the same time as one of the DC locomotives or **with one of the DC power units in general as the DC would have activated the whistle in the tender.**

**The Korean War effort created a shortage of the magnetic material needed for the manufacture of the motors and 1950 was the last year of production.** While the four year production life of DC operation of American Flyer S gauge locomotives did not continue after the Korean War, the DC operation of HO trains including the American Flyer HO products continues to this day and modern DC power packs can provide power for the DC American Flyer Locomotives.

## American Flyer Reverse Loop Layout

### American Flyer Reverse Loop Layout

Gilbert American Flyer trains and transformers enabled a multitude of different layout options. One of the more challenging ones to make work technically is the reverse loop layout. Below are the service manuals from American Flyer explaining how to wire, setup, and configure the reverse loop layout.



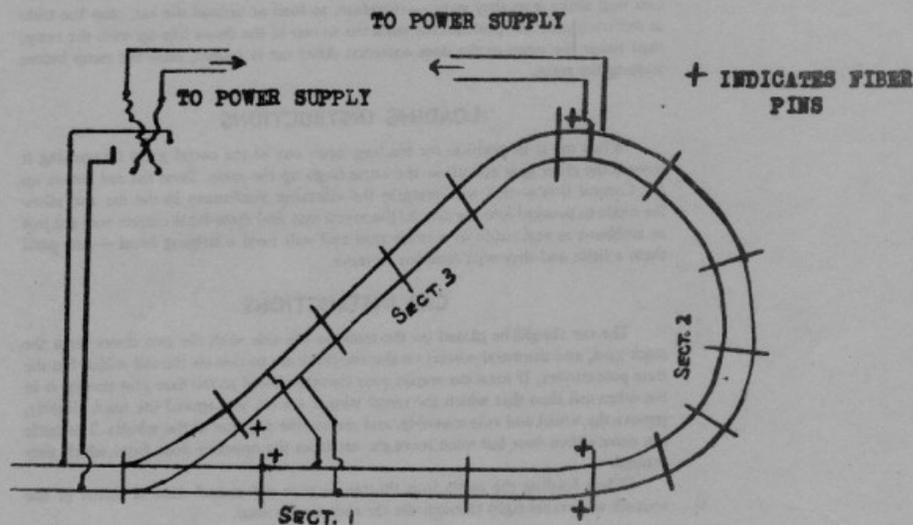
Section II  
Track Layouts

REVERSING LOOPS

The reverse loop is a convenient method of reversing the direction of travel of your train.

To do this it is necessary to have several insulated blocks - some additional wiring and a double pole double throw switch - without this a direct short circuit is encountered when the tracks are joined.

To install and wire a reverse loop first study the following diagram and proceed as follows:



Pull out the steel pins and replace with #692 Fiber Pins at the six locations marked in the diagram.

Next connect the two wires in Sections 1 and 3 as shown.

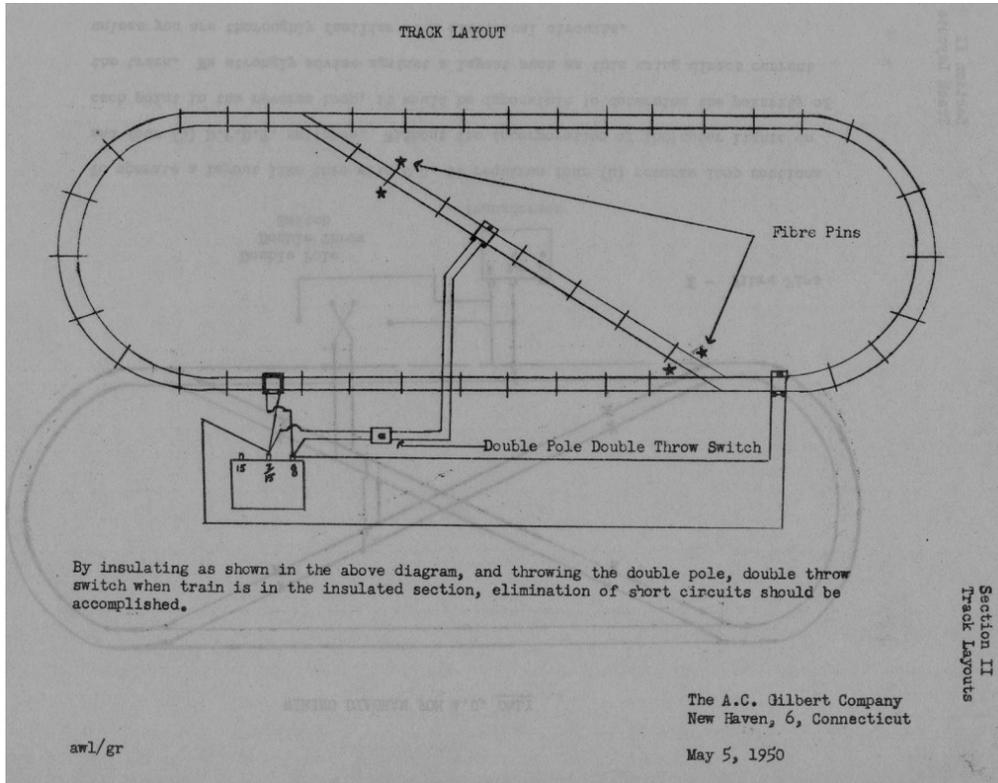
Next connect wires from Section 2 to the power supply.

Next connect the double pole double throw switch to the track and power supply as shown in the diagram.

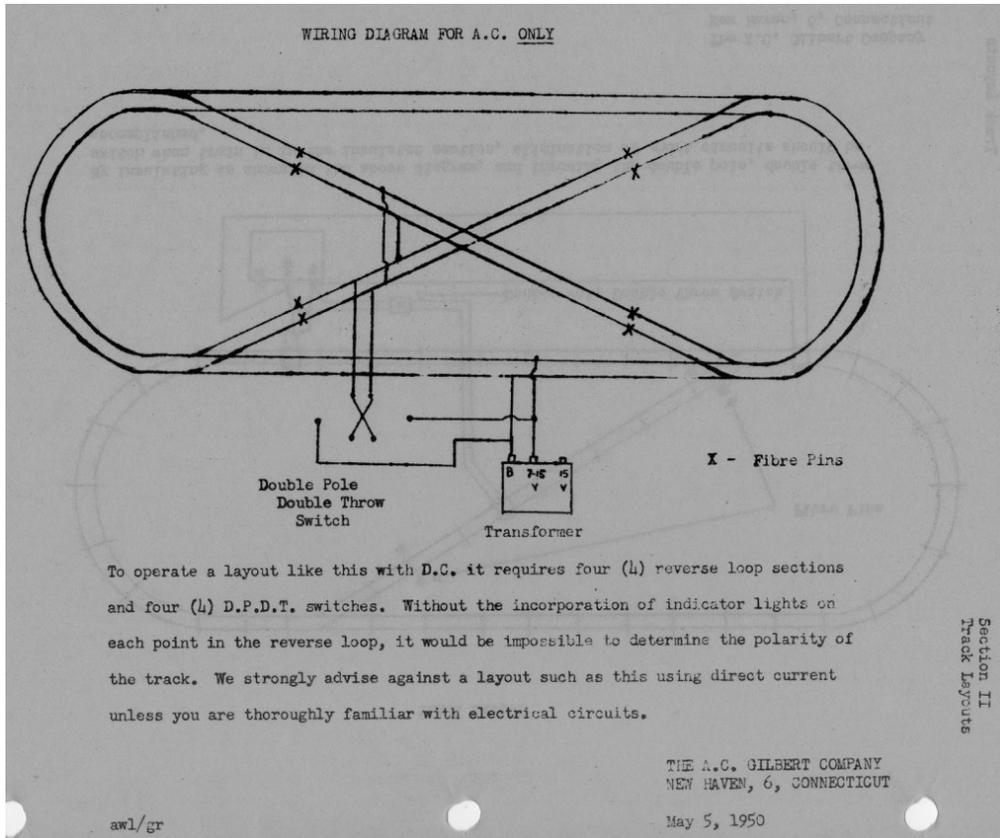
Let us now assume the train is running forward on the straight track which is Section 1, as it passes through this Section and into Section 2, the double pole double throw switch is thrown, which changes the polarity of both Section 1 and 3 and the track switch is then thrown to receive the train from Section 3. When the double pole double throw switch is thrown it does not affect the current in Section 2 on which the train is operating at the time changes in polarity are made.

THE A. C. GILBERT COMPANY  
NEW HAVEN, 6, CONNECTICUT  
September 1, 1950

## American Flyer Reverse Loop Track Layout Service Manual



## American Flyer Reverse Loop Track Layout



American Flyer Reverse Loop Track Layout Wiring Diagram

## Related Content

[Video of a Reverse Loop](#)  
[Other Wiring Instructions](#)