

2016-2017

# ***TRACK & POWER***





WELCOME TO

# ***TRACK & POWER***

Trains and scenery are often the stars of any layout, but any seasoned model railroader will tell you that good track and power is the key to years of trouble-free fun. Lionel's track lines are designed to be easily assembled into an infinite number of designs and provide reliable performance for your trains. From rugged transformers to cutting-edge control systems, Lionel has everything you need to run your trains the way you want. For our train inspired customers, we've grouped all of these track and power essentials into one reference catalog along with inspirational plans to help you get the most out of your trains. If you can dream it, you can build it with Lionel track and power! Visit your local authorized Lionel Dealer or [www.lionel.com](http://www.lionel.com) for current product pricing.

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## FIND US ON ...



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 LionChief™ and SensorTrack™

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# **Af** S-Gauge **FasTrack®**

With a tradition dating back nearly 100 years, American Flyer is the historic leader in S-Gauge model trains. Sized at 1:64 scale, S is the perfect middle ground between the hefty size of O-Gauge and scale miniatures of HO. Small enough to build a large railroad at home, large enough to appreciate all the fine details – today's American Flyer is a world of new opportunities.

Whether your interest is in the classic look of a by-gone era or today's S-Scale models, Lionel has the track and power options you need to build the layout you want. Our growing line of American Flyer FasTrack® provides a sturdy track base with a realistic look that will accommodate both traditional and scale trains. We're adding more track sizes and special sections to control couplers, operating cars, and more.

How do you want to run your trains? Of course the conventional transformer is always an option. In 2014 we introduced our Lionel FlyerChief™ System for American Flyer for easy walk-around control with plug-and-play wiring. For advanced operations, Lionel's LEGACY® system offers amazing options.

All LEGACY® equipped American Flyer locomotives will work with DCC systems as well. All of these options are designed to allow your control system to grow with your layout and interest. With all the power LEGACY® and FlyerChief has to offer, don't miss out on building an amazing layout with our assortment of American Flyer FasTrack® and accessories.



6-42544 Conrail ES44AC Diesel Engine

# STRAIGHT TRACK

## A. 5" HALF STRAIGHT TRACK

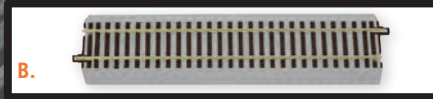
6-49867



A.

## B. 10" STRAIGHT TRACK

6-49852



B.

## C. 30" STRAIGHT TRACK

6-49862



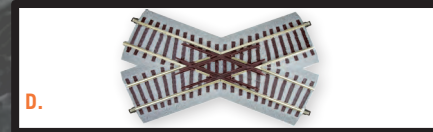
C.

# CROSSOVERS

## D. 45-DEGREE CROSSOVER

6-49863

- Length: Approx. 9" x 9"

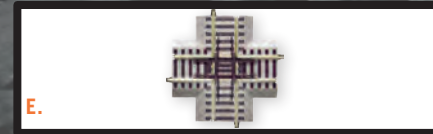


D.

## E. 90-DEGREE CROSSOVER

6-49864

- Length: Approx. 8"



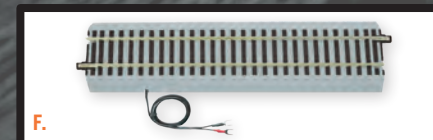
E.

# SPECIALTY TRACK

## F. 10" TERMINAL TRACK

6-49854

Use this terminal track to connect a transformer to power your layout

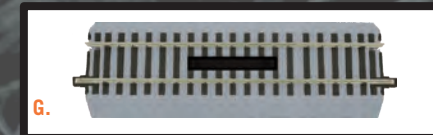


F.

## G. UNCOUPLING FASTRACK® SECTION

6-49895

- Includes Remote Control activator button
- Compatible with ASC & ASC2 for LEGACY™ operation
- Length: 5"

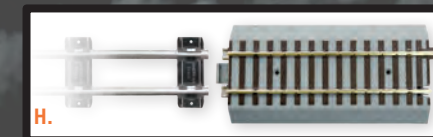


G.

## H. 5" TRANSITION TRACK

6-49858

- Connect with traditional AF tubular track
- Length: 5"



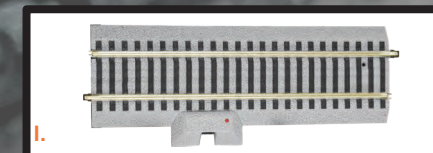
H.

## I. FLYERCHIEF™ TERMINAL TRACK

6-49896



- 10" Straight with barrel jack adapter



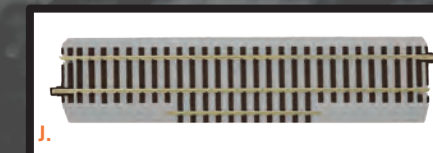
I.

## J. ACTIVATOR RAIL

6-49885

Use this special section to operate dump cars, unloading cars, or launching cars!

- Includes Remote Control activator button
- Compatible with ASC & ASC2 for LEGACY® operation
- Length: 10"



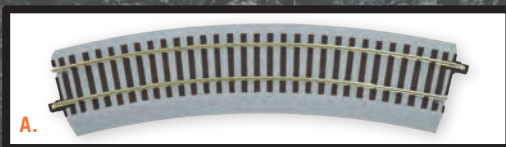
J.

# CURVED TRACK

## A. R20 FULL CURVE

6-49853

- 20" radius or 40" diameter from outside tie to outside tie.
- 12 sections per circle



## B. R20 HALF CURVE

6-49878

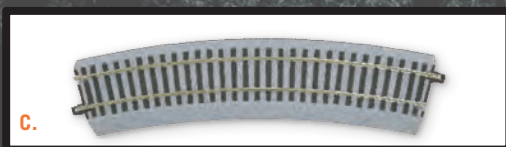
- 20" radius or 40" diameter
- 24 sections per circle



## C. R27 WIDE RADIUS CURVE

6-49859

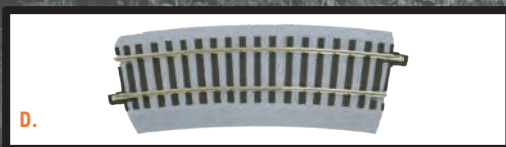
- 27" radius or 54" diameter
- 12 sections per circle



## D. R27 HALF CURVE

6-49892

- 27" radius or 54" diameter
- 24 sections per circle



# BUMPERS & TRACK PINS

## E. LIGHTED BUMPERS (SET OF 2)

6-49866

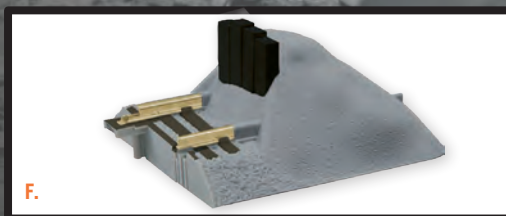
- Illuminated by long lasting LED
- Two per package
- Length: 6 1/2"



## F. EARTHEN BUMPER

6-49893

- Real wood bumper
- Two per package
- Length: Approx. 3 5/8"



## G. STEEL TRACK PINS

6-49831

- Works with tubular track

*Product Not Shown*

# Extra, Extra! Read all about it!

# FLYERCHIEF

This revolutionary new control system allows you to operate your FlyerChief® equipped locomotives on your layout using a remote control or via a conventional transformer. The FlyerChief® engines offer enhanced sound, long-distance control, AC/DC compatibility, and allow you to run multiple engines at one time.

With the flip of a switch you can dictate whether the engine is controlled via transformer control or remote. You can also operate your trains using the Universal Remote, as all FlyerChief® locomotives are compatible with it. Easy to use and able to control up to three different FlyerChief® or O-Gauge LionChief Plus™ engines.



6-83071

# SWITCHES

Bulletproof switches are the foundation of any track system. They allow you to grow and expand your layout. American Flyer® switches are second to none when it comes to durability and innovative features. Manual and Remote/Command switches are available for each type of switch offered.

The new American Flyer Remote/Command Control switches can be activated with a CAB-1, CAB-1L, or CAB-2 remote controller or opened remotely with the included remote switch.

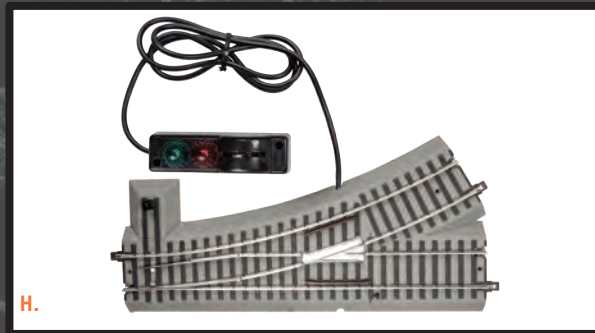
## H. R20 REMOTE/ COMMAND CONTROL SWITCHES

### 6-47941 - LEFT HAND

- Tethered remote control included
- Command control equipped
- R20 curve arc matches R20 full curve
- Straight length: 10"

*Product Not Shown:*

6-47940 - Right Hand



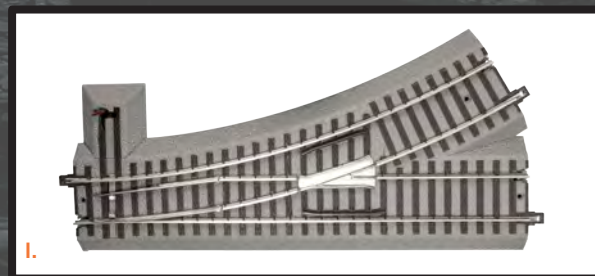
## I. R20 MANUAL SWITCHES

### 6-49868 - LEFT HAND

- Tethered remote control included
- Command control equipped
- R20 curve arc matches R20 full curve
- Straight length: 10"

*Product Not Shown:*

6-49869 - Right Hand



## J. R27 REMOTE/ COMMAND CONTROL SWITCHES

### 6-49885 - LEFT HAND

- Tethered remote control included
- Command control equipped
- R27 curve arc matches R27 full curve
- Straight length: 15"

*Product Not Shown:*

6-49886 - Right Hand



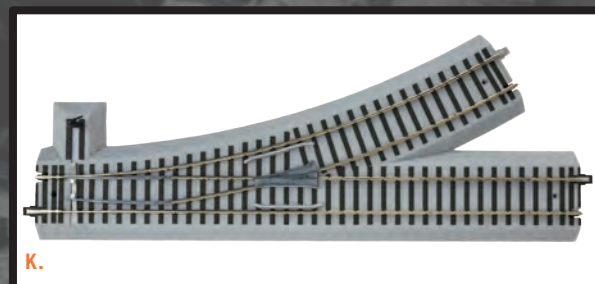
## K. R27 MANUAL SWITCHES

### 6-49883 - LEFT HAND

- Tethered remote control included
- Command control equipped
- R27 curve arc matches R27 full curve
- Straight length: 15"

*Product Not Shown:*

6-49884 - Right Hand



# FASTRACK® EXPANSION PACKS

  
ADD-ON TRACK  
PACK PIECES

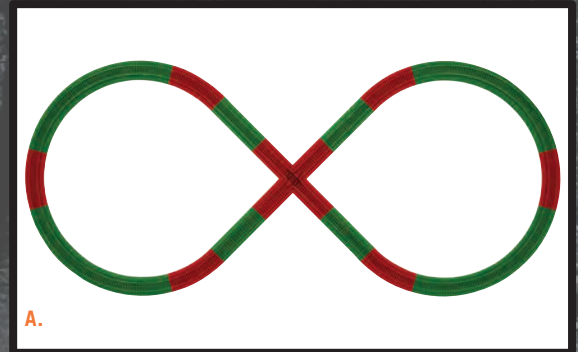
  
TRACK INCLUDED  
WITH TRAIN SETS

## A. FIGURE 8 TRACK PACK

6-49889

Track Pack includes:

- 6 Pieces of AF FasTrack® R20 Curve Track
- 4 Pieces of AF FasTrack® 5" Straight Track
- 1 Piece of AF FasTrack® 90° Crossover Track

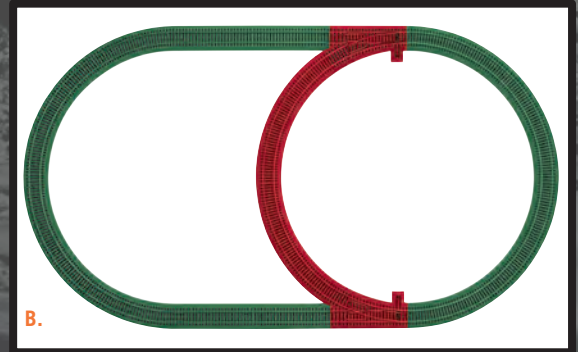


## B. INNER PASSING LOOP TRACK PACK

6-49890

Track Pack includes:

- 1 Left Hand Manual AF FasTrack® R20 switch
- 1 Right Hand Manual AF FasTrack® R20 switch
- 4 Pieces of AF FasTrack® R20 curve track

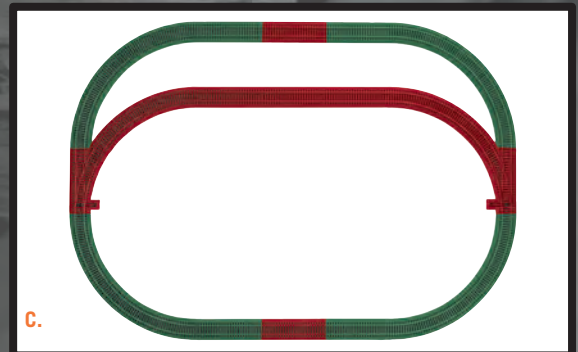


## C. OUTER PASSING LOOP TRACK PACK

6-49990

Track Pack includes:

- 1 Left Hand Manual AF FasTrack® R20 switch
- 1 Right Hand Manual AF FasTrack® R20 switch
- 4 Pieces of AF FasTrack® R20 curve track
- 5 Pieces of AF FasTrack® 10" straight track

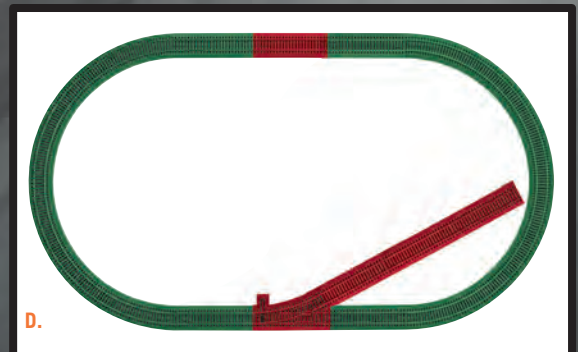


## D. SIDING TRACK PACK

6-49991

Track Pack includes:

- 1 Left Hand Manual AF FasTrack® R20 switch
- 3 Pieces of AF FasTrack® 10" straight track
- 1 5" AF FasTrack® Lighted Bumper



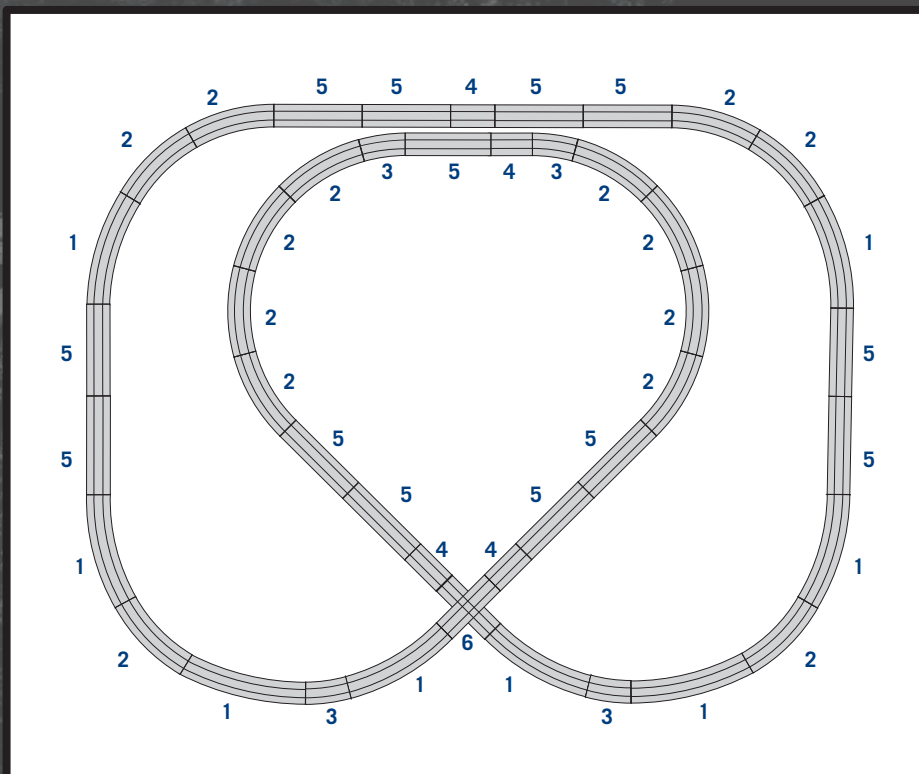
# S-GAUGE LAYOUT OPTIONS

Here's a selection of layout ideas that can be used as shown or easily expanded by adding additional straight sections of track. Use them as is or as the basis for a larger more complex layout.

## C. 5' x 7' LAYOUT

### C. TRACK REQUIREMENTS:

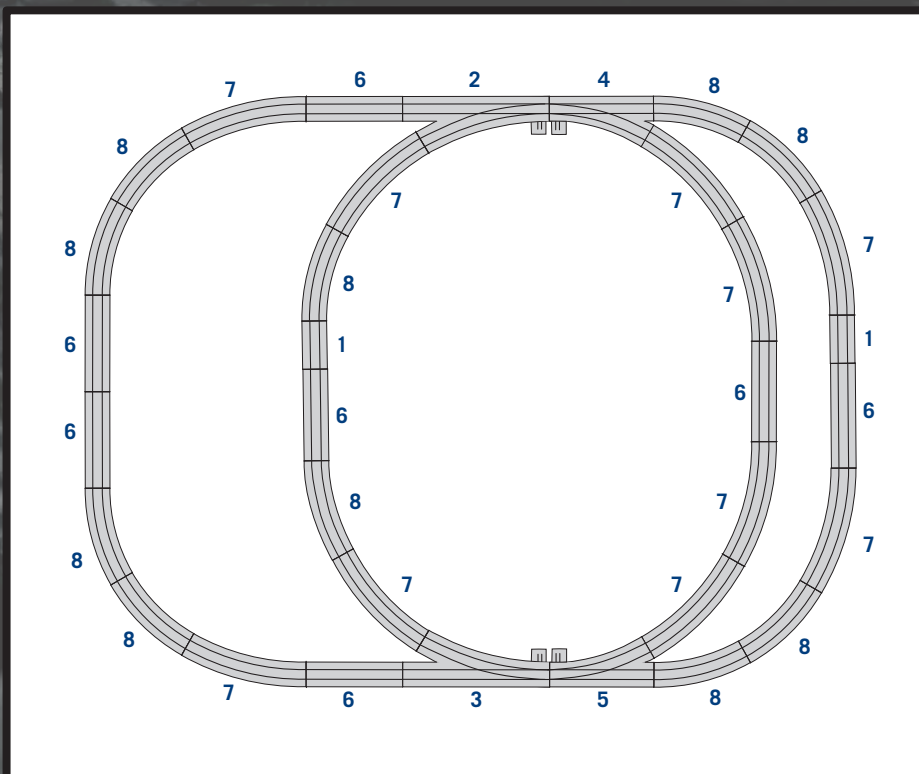
1. R27 curve (8 pieces)
2. R20 curve (14 pieces)
3. R20 half curve (4 pieces)
4. 5" straight track (4 pieces)
5. 10" straight track (13 pieces)
6. 90-Degree crossover (1 piece)



## D. 5.5' x 6.5' LAYOUT

### D. TRACK REQUIREMENTS:

1. 5" straight track (2 pieces)
2. R27 Left Hand Switch (1 piece)
3. R27 Right Hand Switch (1 piece)
4. R20 Left Hand Switch (1 piece)
5. R20 Right Hand Switch (1 piece)
6. 10" straight track (7 pieces)
7. R27 curve (10 pieces)
8. R20 curve (10 pieces)



# AN INTRODUCTION TO O-GAUGE

**First catalogued in 2003 in O36 only, Lionel O-Gauge FasTrack® has quickly expanded to meet the needs of every railroader.** Today FasTrack® is available in curves ranging from O31 to O96 and includes an amazing array of specialty track sections, switches, and accessories to meet your every need. Some of our more recent FasTrack® additions support exciting new systems in the Lionel line such as the Layout Control System (LCS®), LionChief™, and Plug-n-Play™.

Each piece of FasTrack® has a patented easy-to-use locking mechanism that makes it simple to put together and pull apart. No need to worry about loose connections, track alignment, or electrical continuity. Featuring engraved ballast and track ties, the realistically detailed base of each FasTrack® piece provides extra stability on all sorts of surfaces including the living room carpet or the tree skirt under your Christmas tree!

To help with your plans for expanding and re-imagining your own dream layout, we've included a variety of classic track configurations in this section that will help you target specific straights, curves, and switches you will need. Make sure you also review the Lengths Table on page 15, which will further guide you to combining FasTrack® sections to match any desired length for your layout.

**6-30183** Lionel Scout 2-4-2 Steam Freight Set



Lionel Ready-to-Run Sets have everything you need to get started in this great hobby! Our large selection of Ready-to-Run Sets, in a variety of gauges, give you the core foundation to start building your railroad empire. Each set comes with enough FasTrack® to create an oval to run your train as well as a power supply. You can view our sets at [www.lionel.com](http://www.lionel.com) or our Ready-to-Run catalog!

O-GAUGE

# FasTrack®

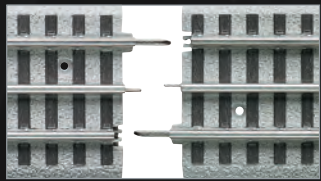
WITH FASTRACK®, IT'S SIMPLE!



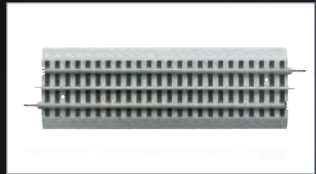
Curves available from O31 to O96 allow for more realistic operation. A wider radius allows for the operation of larger locomotives than is possible with O27 or O31 curves.



Two terminals under every piece of straight and curved track for transformer and/or accessory power connections - no Lockons required!



Easy, snap-together locking mechanism for tight, reliable connections.



Patented center half-pin allows for track orientation in either direction without the need for moving pins from one end to the next.

## ACCESSORY HOOK-UPS AND OPERATION

### HOO-K-UPS

- Under the roadbed of all straight and curved sections are electrical terminals. You can hook up to these terminals in different ways.
- If you already have wire for your accessories, or you have pre-wired accessories, contact our Lionel Customer Service department and purchase the FasTrack® terminal connectors (*Item #6SPFTWT-BLU or 6SPFTWTRED*). *Strip wires back approximately 1/4", insert wire into the quick connector, and crimp it into place under any section of track!*

### OPERATION

- **The 153IR controller:** The 153IR works the same way it does for O-27 and O-Gauge operation, with the power Lockon connector removed. Follow the instructions to hook up the accessory, and power your accessory as explained earlier.
- **The FasTrack® Accessory Activator Pack:** This pack includes one insulated 10" straight track section and two 5" isolated track sections. The isolated 5" sections feature an electrical isolation gap on one outside rail. As the train passes over the electrically isolated outside rail the wheels of the train complete the circuit and send power to your accessory, acting like an ON/OFF switch controlled by the train's presence.
- To increase the length of time over which the accessory operates, simply add more insulated track sections between the two isolated sections. This technique is the equivalent of using Lionel insulated track sections in O/O-27, and is used only with accessories that perform one function in an ON/OFF manner (e.g., Crossing Gate, Auto Gateman, etc.)

Offering innovation, variety, ease-of-use, and a fantastic prototypical look, the FasTrack® track system brings your Lionel layout to life like never before. Its flawless performance and endless flexibility make it appealing to first-timers and seasoned pros alike.



6-11413 4-8-4 J-Class Pilot Steam Locomotive

# STRAIGHT TRACK

**A. 1  $\frac{3}{8}$ " FASTRACK® STRAIGHT WITH ROADBED**  
6-12073

- Includes electrically isolated center rail option for power blocks

**B. 1  $\frac{3}{8}$ " FASTRACK® STRAIGHT WITHOUT ROADBED**  
6-12074

- Includes electrically isolated center rail option for power blocks
- Roadbed sides removed for easy installation with FasTrack® switches

**C. 1  $\frac{3}{4}$ " FASTRACK® STRAIGHT**  
6-12026

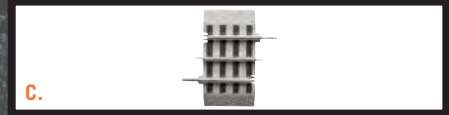
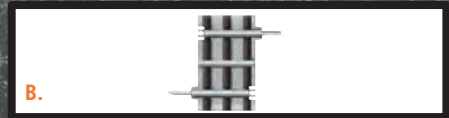
**D. 4  $\frac{1}{2}$ " FASTRACK® STRAIGHT**  
6-12025

**E. 5" FASTRACK® STRAIGHT**  
6-12024

**F. 10" FASTRACK® STRAIGHT**  
6-12014

**G. 10" FASTRACK® STRAIGHT 4-PACK**  
6-12032

**H. 30" FASTRACK® EXTRA LONG STRAIGHT**  
6-12042



# CROSSOVERS

**I. FASTRACK® 22  $\frac{1}{2}$ -DEGREE CROSSOVER**  
6-12050

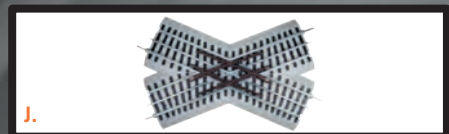
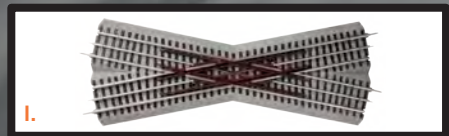
- Includes 4 removable 1  $\frac{3}{8}$ " half roadbed straight sections
- Length: 17" x 17"

**J. FASTRACK® 45-DEGREE CROSSOVER**  
6-12051

- Length: 10" x 10"

**K. FASTRACK® 90-DEGREE CROSSOVER**  
6-12019

- Length: 6" x 6"



# FASTRACK® TABLE LENGTHS CHART

When designing and building your FasTrack® layout, there is often a need to make specific lengths made up of several FasTrack® sections. This layout designer's table provides a handy guide to all lengths from 1 <sup>3</sup>/<sub>8</sub> to 10 inches that can be made up from available FasTrack sections.

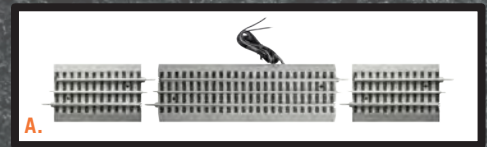
LENGTH	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	5	10	PIECES
1 <sup>3</sup> / <sub>8</sub>	1					1
1 <sup>3</sup> / <sub>4</sub>		1				1
2 <sup>3</sup> / <sub>4</sub>	2					2
3 <sup>1</sup> / <sub>8</sub>	1	1				2
3 <sup>1</sup> / <sub>2</sub>		2				2
4 <sup>1</sup> / <sub>8</sub>	3					3
4 <sup>1</sup> / <sub>2</sub>			1			1
4 <sup>7</sup> / <sub>8</sub>	1	2				3
5				1		1
5 <sup>1</sup> / <sub>4</sub>		3				3
5 <sup>1</sup> / <sub>2</sub>	4					4
5 <sup>7</sup> / <sub>8</sub>	1		1			2
6 <sup>1</sup> / <sub>4</sub>		1	1			2
6 <sup>3</sup> / <sub>8</sub>	1			1		2
6 <sup>5</sup> / <sub>8</sub>	1	3				4
6 <sup>3</sup> / <sub>4</sub>		1		1		2
6 <sup>7</sup> / <sub>8</sub>	5					5
7		4				4
7 <sup>1</sup> / <sub>4</sub>	2		1			3
7 <sup>5</sup> / <sub>8</sub>	1	1	1			3
7 <sup>3</sup> / <sub>4</sub>	2			1		3
8		2	1			3
8 <sup>1</sup> / <sub>8</sub>	1	1		1		3
8 <sup>1</sup> / <sub>4</sub>	6					6
8 <sup>3</sup> / <sub>8</sub>	1	4				5
8 <sup>1</sup> / <sub>2</sub>		2		1		3
8 <sup>5</sup> / <sub>8</sub>	3		1			4
8 <sup>3</sup> / <sub>4</sub>		5				5
9			2			2
9 <sup>1</sup> / <sub>8</sub>	3			1		4
9 <sup>3</sup> / <sub>8</sub>	1	2	1			4
9 <sup>1</sup> / <sub>2</sub>			1	1		2
9 <sup>5</sup> / <sub>8</sub>	7					7
9 <sup>3</sup> / <sub>4</sub>		3	1			4
9 <sup>7</sup> / <sub>8</sub>	1	2		1		4
10					1	1

# SPECIALTY TRACK

## A. FASTRACK® ACCESSORY ACTIVATION PACK

6-12029

- Includes one removable 10" insulated section and two 5" isolated sections



## B. FASTRACK® 5" INSULATED BLOCK SECTION

6-12060

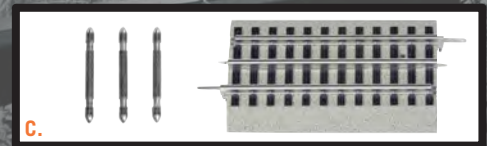
- Used to make an isolated track block
- All three rails have a gap and jumper wire
- Removable wires jump the breaks in the track on the underside of the roadbed.



## C. FASTRACK® 5" STRAIGHT 0-GAUGE TRANSITION TRACK

6-12040

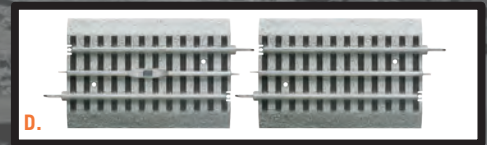
- Connects with 0 and O27 tubular track



## D. FASTRACK® UNCOUPLING SECTION

6-12020

- Electromagnet is activated by uncoupling activator button (included)
- Includes a 5" Half Straight Track section
- Length of each section: 5"



## E. FASTRACK® 10" STRAIGHT TERMINAL TRACK

6-12016

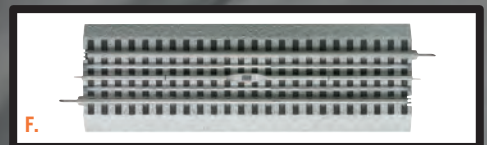
- Includes wires that connect the track to your transformer
- Length: 10"



## F. FASTRACK® 10" STRAIGHT OPERATING UNCOUPLING TRACK

6-12054

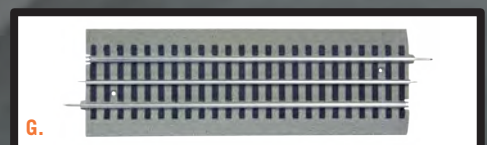
- Central magnet and control rails are activated by uncoupling/unloading activator buttons (included)
- Length: 10"



## G. FASTRACK® ACCESSORY ACTIVATOR EXTENDER

6-12027

- Outside rails are electrically isolated
- Length: 10"



# FASTRACK® CURVES

## CURVE CHART

### A. FASTRACK® 031 CURVE

- 6-37103
- 8 Pieces per circle
- 45-Degree section
- Product Not Shown*

### B. FASTRACK® 031 QUARTER CURVE

- 6-81662
- 32 pieces per circle
- 11 1/4-Degree section
- Product Not Shown*

### C. FASTRACK® 031 CURVE 4-PACK

- 6-81662
- Product Not Shown*

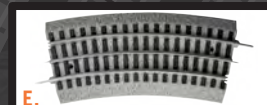
### D. FASTRACK® 036 CURVE

- 6-12015
- 8 Pieces per circle
- 45-Degree section



### E. FASTRACK® 036 HALF CURVE

- 6-12022
- 16 pieces per circle
- 22 1/2-Degree section



### F. FASTRACK® 036 QUARTER CURVE

- 6-12023
- 32 pieces per circle
- 11 1/4-Degree section



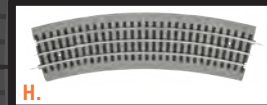
### G. FASTRACK® 036 CURVE 4-PACK

- 6-12033
- 32 pieces per circle
- 45-Degree section



### H. FASTRACK® 048 CURVE

- 6-12043
- 12 pieces per circle
- 30-Degree section



### I. FASTRACK® 048 HALF CURVE

- 6-16834
- 24 pieces per circle
- 15-Degree section
- Product Not Shown*

### J. FASTRACK® 048 QUARTER CURVE

- 6-16835
- 48 pieces per circle
- 7 1/2-Degree section
- Product Not Shown*

### K. FASTRACK® 060 CURVE

- 6-12056
- 16 pieces per circle
- 22 1/2-Degree section



### L. FASTRACK® 072 CURVE

- 6-12041
- 16 pieces per circle
- 22 1/2-Degree section



### M. FASTRACK® 072 HALF CURVE

- 6-12055
- 32 pieces per circle
- 11 1/4-Degree section

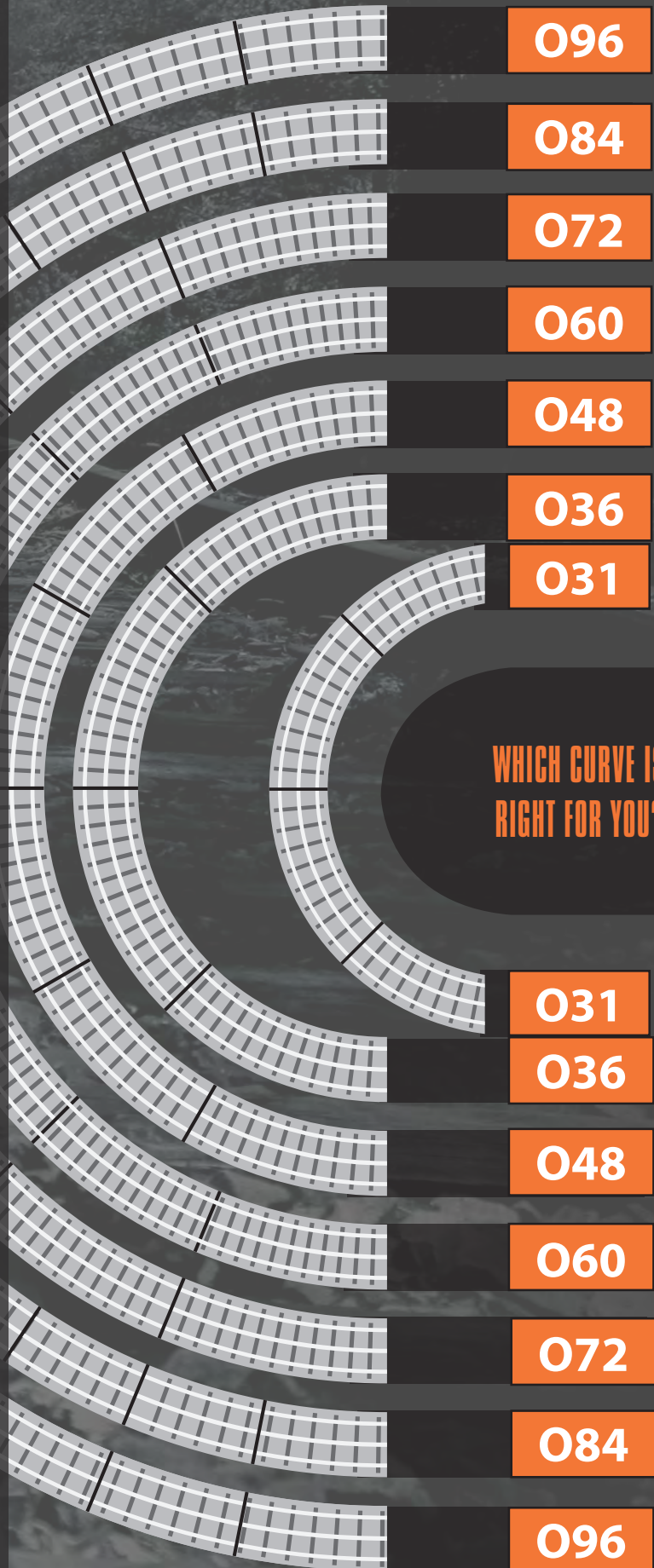


### N. FASTRACK® 084 CURVE

- 6-12061
- 32 pieces per circle
- 11 1/4-Degree section
- Product Not Shown*

### O. FASTRACK® 096 CURVE

- 6-81250
- 32 pieces per circle
- 11 1/4-Degree section
- Product Not Shown*



WHICH CURVE IS  
RIGHT FOR YOU?

# O-GAUGE **FastTrack**<sup>®</sup>

## SWITCHES

**FasTrack<sup>®</sup> switches raise the bar in performance and features for maximum enjoyment of your trains. With Lionel's FasTrack<sup>®</sup> switches you can take your layout to the next level and build the layout of your dreams!**

Reliable switches are the foundation of any track system. With proven design and realistic appearance, Remote/Command FasTrack<sup>®</sup> switches can be activated with your CAB-1, CAB-1L or CAB-2 remote controller. Also, multiple command control switches can be programmed to activate in sequence for easy route operation, no ASC or SC-2 controller necessary.

**Lionel FasTrack<sup>®</sup> switches are second to none when it comes to durability, innovation, and industry leading features including:**

- Flawless, non-derailing function allows trains to keep running regardless of switch position
- Lantern base is interchangeable, can move to the right or left side
- Solid construction and appearance

**Remote/Command Switches have additional features which include:**

- Switches activate with a Command Control CAB-1 or CAB-2 (sold separately)
- Auxiliary power and TMCC<sup>®</sup> (ASC and SC-2) terminals are conveniently located under the roadbed base, making all connections visible from above
- Can also be activated by remote switch controller (included)
- Realistic illuminated switch lantern

**LANTERN BASE IS INTERCHANGEABLE,  
MOVE IT TO THE RIGHT OR LEFT SIDE**



**REMOTE SWITCH  
CONTROLLERS  
SNAP TOGETHER**



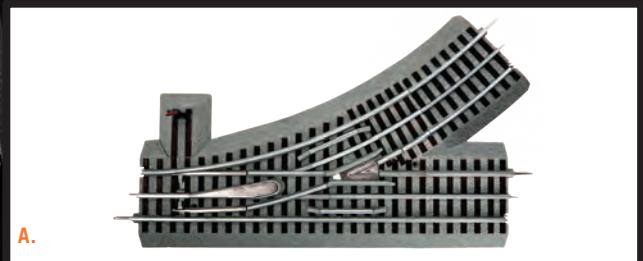
### **A. FASTRACK<sup>®</sup> 031 MANUAL SWITCH**

#### **6-81252 - LEFT HAND**

- 33 <sup>3</sup>/<sub>4</sub>-Degree turnout
- Includes <sup>1</sup>/<sub>4</sub> curve to complete O-31 45-Degree curve
- Length: 10" straight

**Product Not Shown:**

#### **6-81251 - RIGHT HAND**



**A.**

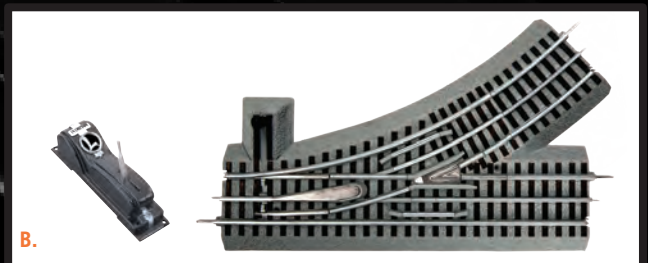
### **B. FASTRACK<sup>®</sup> 031 REMOTE/COMMAND CONTROL SWITCH**

#### **6-81254 - LEFT HAND**

- 33 <sup>3</sup>/<sub>4</sub>-Degree turnout
- Includes <sup>1</sup>/<sub>4</sub> curve to complete O-31 45-Degree curve
- Length: 10" straight

**Product Not Shown:**

#### **6-81253 - RIGHT HAND**



**B.**

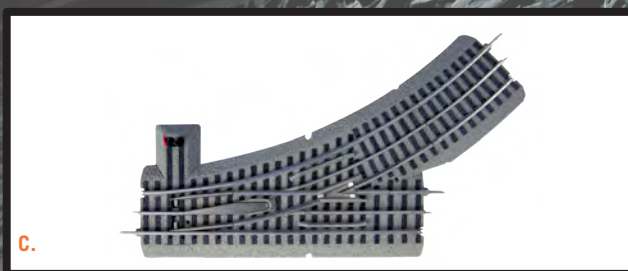
**C. FASTRACK® 036 MANUAL SWITCH**

**6-12017 - LEFT HAND**

- 33  $\frac{3}{4}$ -Degree turnout
- Includes one 036  $\frac{1}{4}$  curve to complete a 45-Degree curve
- Length: 10" straight

**Product Not Shown:**

**6-12018 - RIGHT HAND**



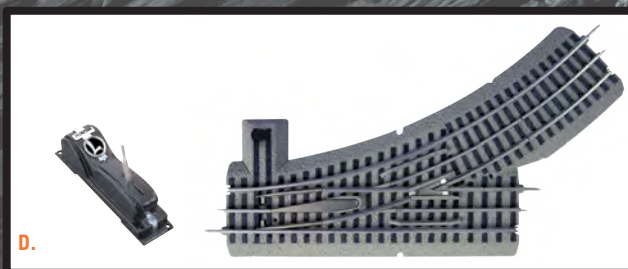
**D. FASTRACK® 036 REMOTE/COMMAND CONTROL SWITCH**

**6-81947 - LEFT HAND**

- 33  $\frac{3}{4}$ -Degree turnout
- Includes one 036  $\frac{1}{4}$  curve to complete a 45-Degree curve
- Length: 10" straight

**Product Not Shown:**

**6-81946 - RIGHT HAND**



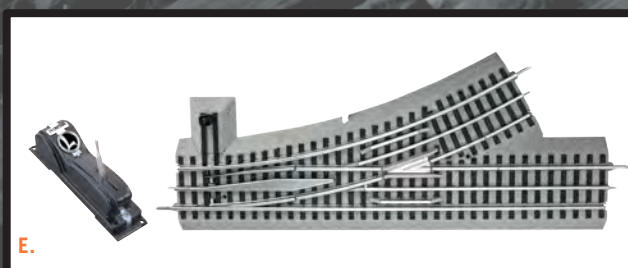
**E. FASTRACK® 048 REMOTE/COMMAND CONTROL SWITCH**

**6-81949 - LEFT HAND**

- 30-Degree turnout
- Length: 15" straight

**Product Not Shown:**

**6-81948 - RIGHT HAND**



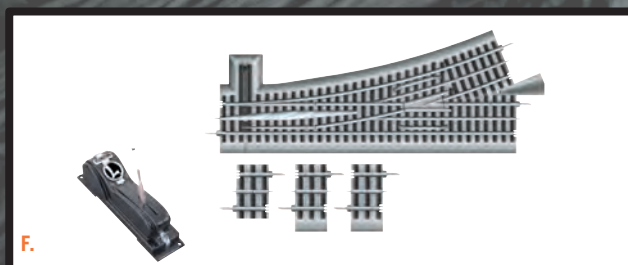
**F. FASTRACK® 060 REMOTE/COMMAND CONTROL SWITCH**

**6-81951 - LEFT HAND**

- 22  $\frac{1}{2}$ -Degree turnout
- Includes removable 1  $\frac{3}{8}$ " extensions
- Length: 14  $\frac{1}{2}$ " straight

**Product Not Shown:**

**6-81950 - RIGHT HAND**



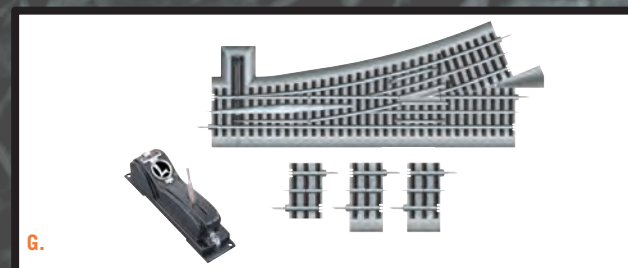
**G. FASTRACK® 072 REMOTE/COMMAND CONTROL SWITCH**

**6-81953 - LEFT HAND**

- 22  $\frac{1}{2}$ -Degree turnout
- Includes removable 1  $\frac{3}{8}$ " extensions
- Length: 15  $\frac{5}{8}$ " straight

**Product Not Shown:**

**6-81952 - RIGHT HAND**



**H. FASTRACK® 072 WYE REMOTE/COMMAND CONTROL SWITCH**

**6-81954**

- 22  $\frac{1}{2}$ -Degree WYE
- Includes removable 1  $\frac{3}{8}$ " extensions
- Length: 12" straight



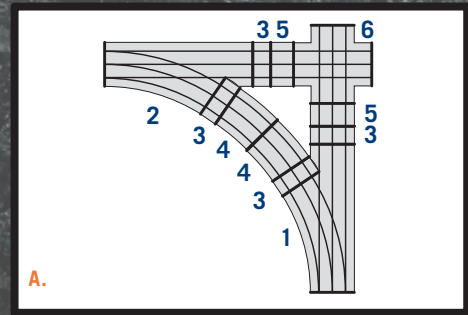
# CORNER CROSSINGS

Choose one or more of the following track configurations using FasTrack switches in designing your FasTrack® layout.

## A. 031 CORNER CROSSING

### TRACK REQUIREMENTS:

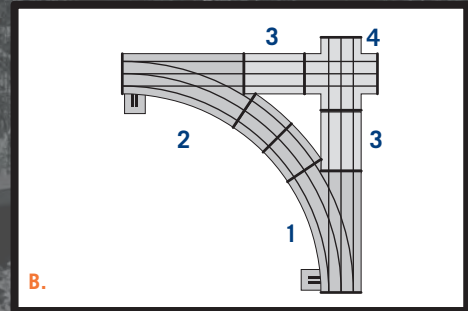
1. 031 Left Hand Switch (1 piece)
2. 031 Right Hand Switch (1 piece)
3.  $1\frac{3}{8}$ " straight track (4 pieces)
4. 031 Quarter Curve track (2 pieces)
5.  $1\frac{3}{4}$ " straight track (2 pieces)
6. 90-Degree Crossover (1 piece)



## B. 036 CORNER CROSSING

### TRACK REQUIREMENTS:

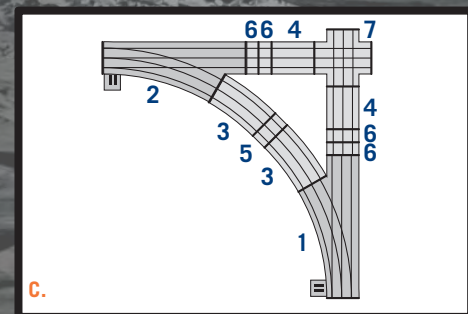
1. 036 Left Hand Switch with 036  $\frac{1}{4}$ " curve (1 piece)
2. 036 Right Hand Switch with 036  $\frac{1}{4}$ " curve (1 piece)
3. 5" straight track (2 pieces)
4. 90-Degree Crossover (1 piece)



## C. 048 CORNER CROSSING

### TRACK REQUIREMENTS:

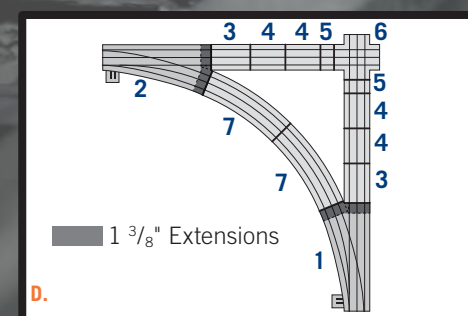
1. 048 Left Hand Switch (1 piece)
2. 048 Right Hand Switch (1 piece)
3. 048 half curve sections (2 pieces)
4.  $4\frac{1}{2}$ " straight track (2 pieces)
5.  $1\frac{3}{4}$ " straight track (1 piece)
6.  $1\frac{3}{8}$ " straight track (4 pieces)
7. 90-Degree Crossover (1 piece)



## D. 060 CORNER CROSSING

### TRACK REQUIREMENTS:

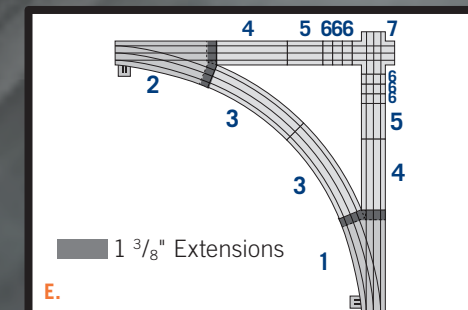
1. 060 Left Hand Switch with  $1\frac{3}{8}$ " Extensions (1 piece)
2. 060 Right Hand Switch with  $1\frac{3}{8}$ " Extensions (1 piece)
3. 5" straight track (2 pieces)
4.  $4\frac{1}{2}$ " straight track (4 pieces)
5.  $1\frac{3}{4}$ " straight track (2 pieces)
6. 90-Degree Crossover (1 piece)
7. 060 full curve (2 pieces)



## E. 072 CORNER CROSSING

### TRACK REQUIREMENTS:

1. 072 Left Hand Switch with  $1\frac{3}{8}$ " Extensions (1 piece)
2. 072 Right Hand Switch with  $1\frac{3}{8}$ " Extensions (1 piece)
3. 072 full curve (2 pieces)
4. 10" straight track (2 pieces)
5. 5" straight track (2 pieces)
6.  $1\frac{3}{4}$ " straight track (6 pieces)
7. 90-Degree Crossover (1 piece)



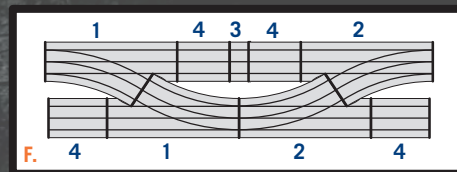
# PASSING SIDING

## F. 031 PASSING SIDING

Tracks are  $5 \frac{3}{16}$ " from center rail to center rail.

### TRACK REQUIREMENTS:

1. 031 Right Hand Switch (2 pieces)
2. 031 Left Hand Switch (2 pieces)
3.  $1 \frac{3}{8}$ " straight track (1 piece)
4.  $4 \frac{1}{2}$ " straight track (4 pieces)

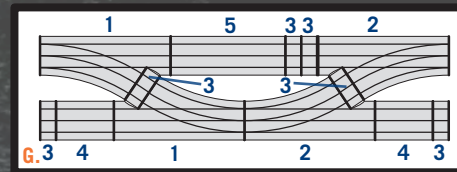


## G. 031 PASSING SIDING WITH CENTER RAIL ISOLATION

Tracks are  $5 \frac{15}{16}$ " from center rail to center rail.

### TRACK REQUIREMENTS:

1. 031 Right Hand Switch (2 pieces)
2. 031 Left Hand Switch (2 pieces)
3.  $1 \frac{3}{8}$ " straight track (6 pieces)
4.  $4 \frac{1}{2}$ " straight track (2 pieces)
5. 10" straight track (1 piece)

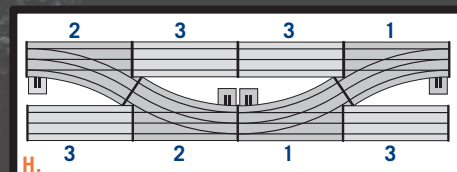


## H. 036 PASSING SIDING

Tracks are 6" from center rail to center rail.

### TRACK REQUIREMENTS:

1. 036 Left Hand Switch (2 pieces)
2. 036 Right Hand Switch (2 pieces)
3. 10" straight track (4 pieces)

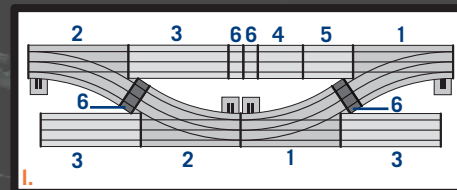


## I. 036 PASSING SIDING WITH CENTER RAIL ISOLATION

When connecting two loops, each with its own train, use the  $1 \frac{3}{8}$ " section between the two switches. A separate power supply on each loop will allow independent operation of two trains. Tracks are roughly  $6 \frac{3}{4}$ " from center rail to center rail.

### TRACK REQUIREMENTS:

1. 036 Left Hand Switch (2 pieces)
2. 036 Right Hand Switch (2 pieces)
3. 10" straight track (3 pieces)
4. 5" straight track (1 piece)
5.  $4 \frac{1}{2}$ " straight track (1 piece)
6.  $1 \frac{3}{8}$ " straight track (4 pieces)

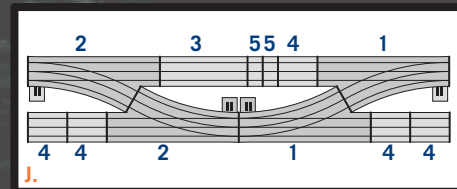


## J. 048 PASSING SIDING

Tracks are  $6 \frac{7}{16}$ " from center rail to center rail.

### TRACK REQUIREMENTS:

1. 048 Left Hand Switch (2 pieces)
2. 048 Right Hand Switch (2 pieces)
3. 10" straight track (1 piece)
4.  $4 \frac{1}{2}$ " straight track (2 pieces)
5.  $1 \frac{3}{4}$ " straight track (2 pieces)

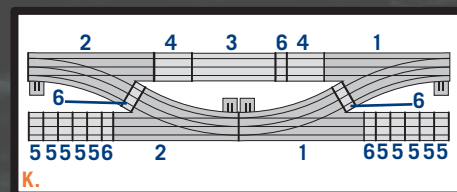


## K. 048 PASSING SIDING WITH CENTER RAIL ISOLATION

When connecting two loops, each with its own train, use the  $1 \frac{3}{8}$ " section between the two switches as shown to the right. A separate power supply on each loop will allow independent operation of two trains. Tracks are roughly  $7 \frac{1}{8}$ " from center rail to center rail.

### TRACK REQUIREMENTS:

1. 048 Left Hand Switch (2 pieces)
2. 048 Right Hand Switch (2 pieces)
3. 10" straight track (1 piece)
4.  $4 \frac{1}{2}$ " straight track (2 pieces)
5.  $1 \frac{3}{4}$ " straight track (10 pieces)
6.  $1 \frac{3}{8}$ " straight track (5 pieces)

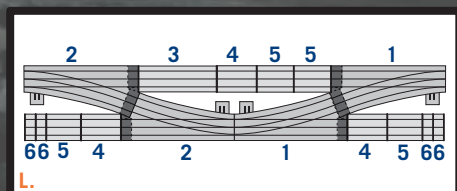


## L. 060 PASSING SIDING WITH CENTER RAIL ISOLATION

Both switches are supplied with  $1 \frac{3}{8}$ " extenders. Tracks are 6" from center rail to center rail.

### TRACK REQUIREMENTS:

1. 060 Left Hand Switch with no  $1 \frac{3}{8}$ " roadbed between switches (2 pieces)
2. 060 Right Hand Switch with no  $1 \frac{3}{8}$ " roadbed between switches (2 pieces)
3. 10" straight track (1 piece)
4. 5" straight track (3 pieces)
5.  $4 \frac{1}{2}$ " straight track (4 pieces)
6.  $1 \frac{3}{4}$ " straight track (6 pieces)

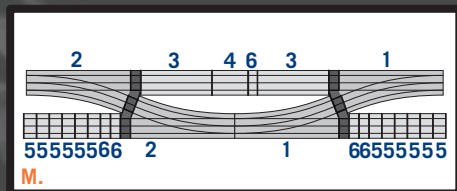


## M. 072 PASSING SIDING WITH CENTER RAIL ISOLATION

Both switches are supplied with  $1 \frac{3}{8}$ " extenders. Tracks are 6" from center rail to center rail.

### TRACK REQUIREMENTS:

1. 072 Left Hand Switch with  $1 \frac{3}{8}$ " extensions (2 pieces)
2. 072 Right Hand Switch with  $1 \frac{3}{8}$ " extensions (2 pieces)
3. 10" straight track (2 pieces)
4. 5" straight track (1 piece)
5.  $1 \frac{3}{4}$ " straight track (12 pieces)
6.  $1 \frac{3}{8}$ " straight track (5 pieces)

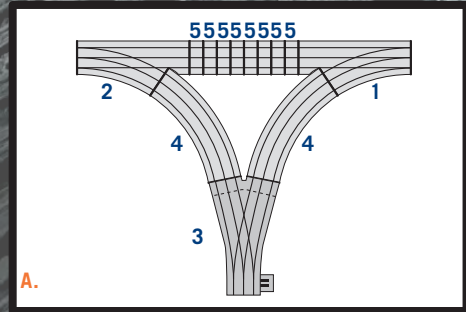


# WYE CONFIGURATIONS

## A. 031 WYE

### TRACK REQUIREMENTS:

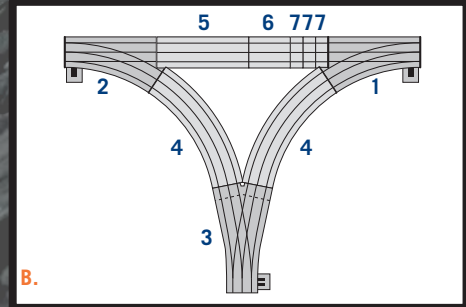
1. 031 Left Hand Switch (1 piece)
2. 031 Right Hand Switch (1 piece)
3. 072 WYE with 1  $\frac{3}{8}$ " extensions (1 piece)
4. 031 curve track (2 pieces)
5. 1  $\frac{3}{8}$ " straight track (8 pieces)



## B. 036 WYE

### TRACK REQUIREMENTS:

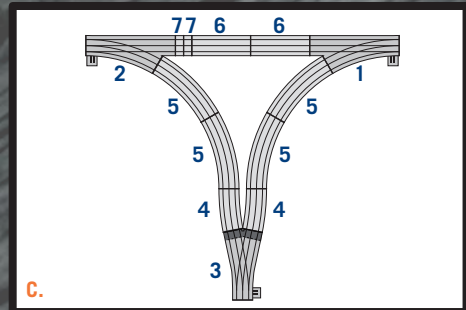
1. 036 Left Hand Switch (1 piece)
2. 036 Right Hand Switch (1 piece)
3. 072 WYE with 1  $\frac{3}{8}$ " extensions (1 piece)
4. 036 curve track (2 pieces)
5. 10" straight track (1 piece)
6. 4  $\frac{1}{2}$ " straight track (1 piece)
7. 1  $\frac{3}{8}$ " straight track (2 pieces)



## C. 048 WYE

### TRACK REQUIREMENTS:

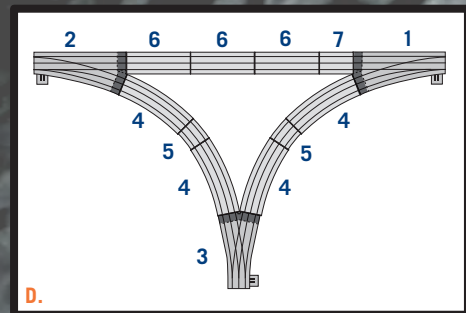
1. 048 Left Hand Switch (1 piece)
2. 048 Right Hand Switch (1 piece)
3. 072 WYE with 1  $\frac{3}{8}$ " extensions (1 piece)
4. 072 half curve track (2 pieces)
5. 048 curve track (4 pieces)
6. 10" straight track (2 pieces)
7. 1  $\frac{3}{8}$ " straight track (2 pieces)



## D. 060 WYE

### TRACK REQUIREMENTS:

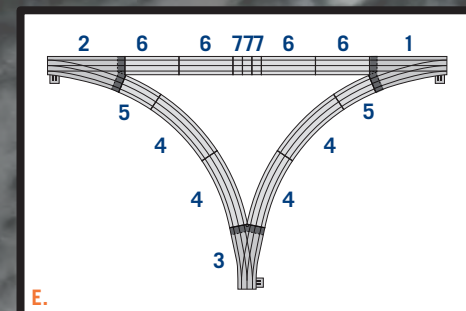
1. 060 Left Hand Switch with 1  $\frac{3}{8}$ " extensions (1 piece)
2. 060 Right Hand Switch with 1  $\frac{3}{8}$ " extensions (1 piece)
3. 072 WYE with 1  $\frac{3}{8}$ " extensions (1 piece)
4. 060 curve track (4 pieces)
5. 036 quarter curve track (2 pieces)
6. 10" straight track (3 pieces)
7. 5" straight track (1 piece)



## E. 072 WYE

### TRACK REQUIREMENTS:

1. 072 Left Hand Switch with 1  $\frac{3}{8}$ " extensions (1 piece)
2. 072 Right Hand Switch with 1  $\frac{3}{8}$ " extensions (1 piece)
3. 072 WYE with 1  $\frac{3}{8}$ " extensions (1 piece)
4. 072 curve track (4 pieces)
5. 072 half curve track (2 pieces)
6. 10" straight track (3 pieces)
7. 1  $\frac{3}{4}$ " straight track (1 piece)



# LIONEL FASTRACK® MODULAR RAILROAD

BUILD YOUR RAILROAD EMPIRE  
ONE SECTION AT A TIME!

**Lionel, along with Lionel Collectors Club of America has created a fun and easy way to get started in building the railroad of your dreams!**

The Lionel FasTrack® Modular railroad opens the doorway to creating an impressive layout that not only can be featured in your home but also travel to club meetings and join with other modelers to create a layout like no other!

- Each module (a 30" x 45" table section) is designed to be portable, and the theme of your section is entirely up to you. Build your module from our plans, and then add track, scenery, and accessories to bring it to life!

To help you get started, go to [www.lionel.com](http://www.lionel.com) for detailed construction drawings, instructions, videos, and layout plans that are available for a free download.

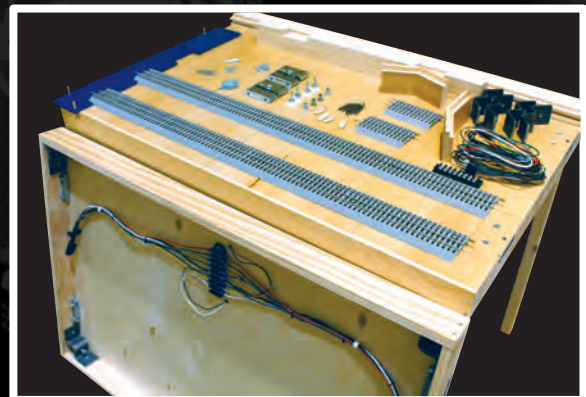


**Left:** The first trial set up of a Lionel FasTrack® Modular Railroad at the 2013 LCCA Convention with four scenic modules created by Roger Farkash.



**Above: LIONEL FASTRACK® MODULAR RAILROAD TEMPLATE  
6-37150**

This template lets you precisely position FasTrack® and Roto-Locks whether you use the Modular Railroad Straight Section Kit or build from scratch. Align both straight and corner modules. Only one template is ever needed regardless of the type or number of modules you build.



**Above: MODULAR HARDWARE BRACKET KIT  
6-37157**

Use your own lumber, our free plans from [www.lionel.com](http://www.lionel.com), and the corner brackets and Roto-Locks in this kit to build your own module.

**LIONEL** COLLECTORS CLUB of AMERICA  
EST 1970

For those looking for an even faster set up, Lionel Collectors Club of America offers kits which include all of the necessary hardware and a pre-cut frame. Visit [www.lionelcollectors.org](http://www.lionelcollectors.org) for more details on kits as well as upcoming modular meets!



# PLUG-N-PLAY

# ***FasTrack***

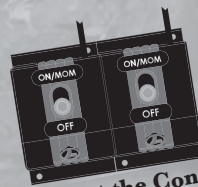
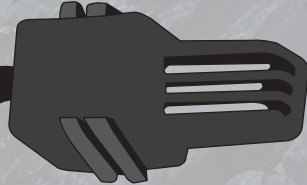
NEW

With the new Plug-n-Play system by Lionel, operating accessories on your layout has never been easier! Usable on any AC or DC powered layout but designed especially for FasTrack® users, the Plug-n-Play system simplifies what's needed to connect your operating accessories. It also minimizes the need to mess with bare wires on any FasTrack® layout. This accessory system is oftentimes as simple as the name—Plug the accessory into your powered track and you're ready to play!

## CONNECTING YOUR PLUG-N-PLAY ACCESSORY TO PLUG-N-PLAY FASTRACK



3-pin Male Connector  
from Accessory



Connect the Control  
Boxes together!



Plug-n-Play Accessory  
Control Box (included  
with select accessories)



Plug-n-Play Lock-on

Refer to your lock-on or accessory's manual for complete set-up instructions.

## CHECK OUT OUR PLUG-N-PLAY ACCESSORIES IN OUR READY-TO-RUN CATALOG!

6-82017 Lionel Art  
Operating Billboard



6-82016 Oil Pump



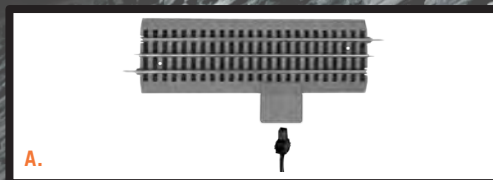
6-82105 Tire Swing



**A. FASTRACK® POWER LOCK-ON**

**6-81313**

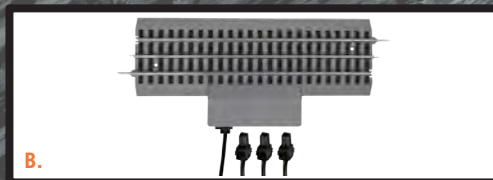
- 10" straight FasTrack® with attached lock-on



**B. FASTRACK® POWER BLOCK LOCK-ON**

**6-81314**

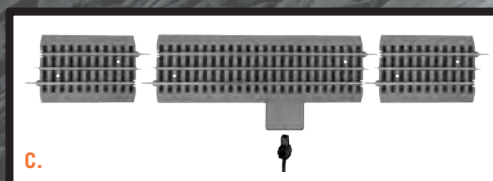
- 10" straight FasTrack with attached lock-on
- Rocker switch to select power source
- Use separate sale 4A 18VDC power supply
- LED for power indication



**C. FASTRACK® ACCESSORY ACTIVATOR PACK**

**6-81317**

- Includes one 10" insulated track section, and two 5" isolated track sections
- Plug-n-Play Power Lock-on made specifically for accessories fitted with a Plug-n-Play power cable



**D. 6' POWER CABLE EXTENSION (3-PIN)**

**6-82043**

- Male-Female
- Extend the length of the standard Plug-n-Play 3-pin power cable



**E. 6' CONTROL CABLE EXTENSION (6-PIN)**

**6-82045**

- Male-Female
- Extend the length of the standard Plug-n-Play 6-pin power cable



**F. 8" FEMALE PIGTAIL POWER CABLE**

**6-82038**

- Hook up a Plug-n-Play accessory to a non-Plug-n-Play layout



**G. MULTI-FUNCTION SWITCH BOX**

**6-82203**

- Offers both ON/OFF and momentary control to a 3-position Plug-n-Play accessory



**H. 3' MALE PIGTAIL POWER CABLE**

**6-82039**

- Hook up traditional accessories to a Plug-n-Play lock-on



**I. 3' POWER TAP CABLE**

**6-82046**

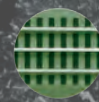
- Allows three Plug-n-Play accessories to be connected to one Plug-n-Play lock-on port



# FASTRACK® EXPANSION PACKS



ADD-ON TRACK  
PACK PIECES



TRACK INCLUDED  
WITH MOST TRAIN SETS

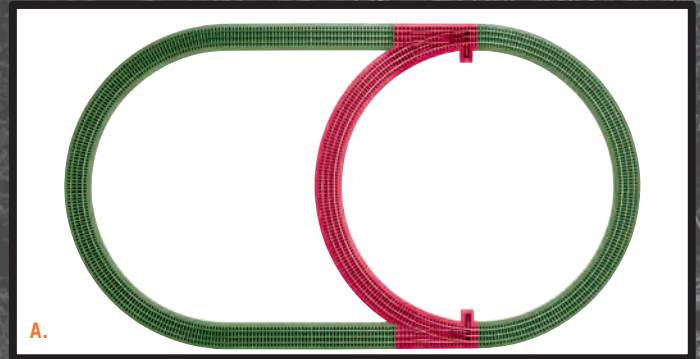
## A. INNER PASSING LOOP EXPANSION PACK

6-12028

Layout dimension: 39 1/2" x 70 1/2"

Track pack includes:

- 1 Left Hand FasTrack® O36 manual switch
- 1 Right Hand FasTrack® O36 manual switch
- 2 pieces of O36 curve track



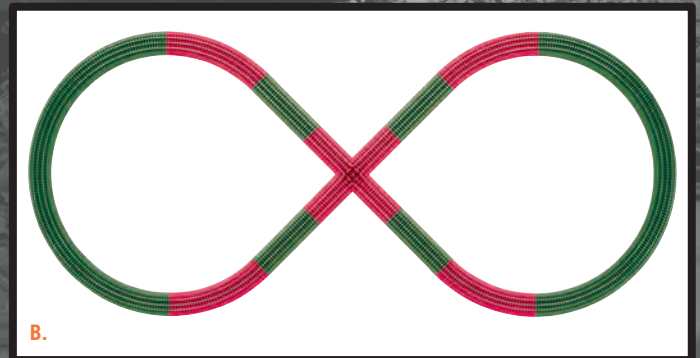
## B. FIGURE 8 EXPANSION PACK

6-12030

Layout dimension: 39 1/2" x 90 1/2"

Track pack includes:

- 4 pieces of FasTrack® O36 curve track
- 4 pieces of FasTrack® 5" straight track
- 1 FasTrack® 90-Degree crossover



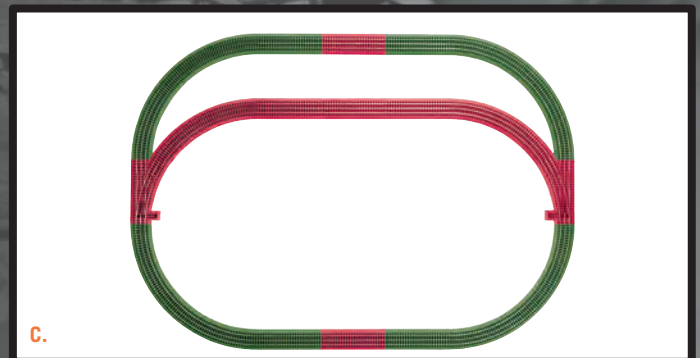
## C. OUTER PASSING LOOP EXPANSION PACK

6-12031

Layout dimension: 49 1/2" x 70 1/2"

Track pack includes:

- 1 Left Hand FasTrack® O36 manual switch
- 1 Right Hand FasTrack® O36 manual switch
- 2 pieces of FasTrack® O36 curve track
- 5 pieces of FasTrack® 10" straight track

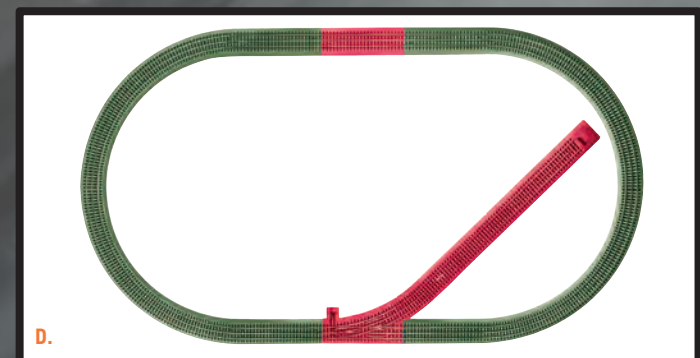


## D. SIDING EXPANSION PACK

6-12044

Track pack includes:

- 1 Left Hand FasTrack® O36 manual switch
- 3 pieces of FasTrack® 10" straight track
- 1 FasTrack® uncoupling track
- 1 Earthen Bumper



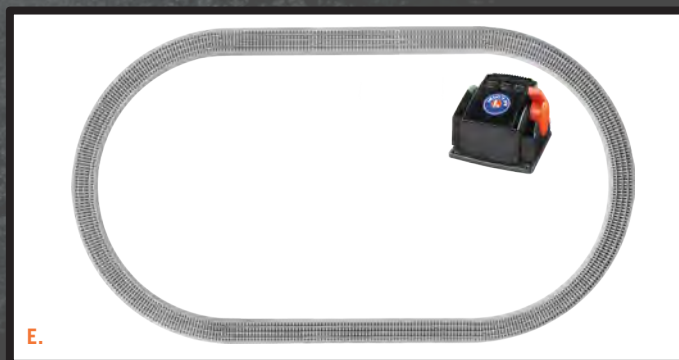
\*GREEN TRACK VARIES DEPENDING ON SET\*

#### E. OVAL TRACK & POWER PACK

6-81734

Track pack includes:

- 1 FasTrack® 10" straight Terminal Track
- 3 pieces of FasTrack® 10" straight track
- 8 pieces of FasTrack® O36 curve track
- CW-80 Transformer

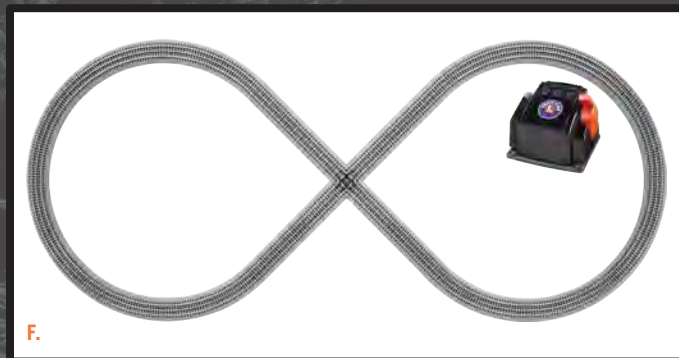


#### F. FIGURE 8 TRACK & POWER PACK

6-81735

Track pack includes:

- 1 FasTrack® 10" straight Terminal Track
- 3 pieces of FasTrack® 10" straight track
- 4 pieces of FasTrack® 5" straight track
- 12 pieces of FasTrack® O36 curve track
- 1 piece of FasTrack® 90-Degree Crossover Track
- CW-80 Transformer



## Extra, Extra! Read all about it!

## Expansion Packs

### Take your train further than ever before!

One of the most exciting things about model railroading is creating the layout of your dreams! In each set we offer a simple oval FasTrack® layout, but why stop there? We offer a large assortment of FasTrack to help take your track plan to the extreme! Once your plan is achieved, mix, match, and add any of the O-Gauge freight and passenger cars seen throughout our catalogs to your set to create your perfect consist!

Don't forget about accessories! Many accessories you will see throughout the Signature, Ready-to-Run, and Volume 2 catalogs are non-operating and can be set anywhere you'd like around your layout. Others having operating features with specific special functions, adding a new dimension to your train operations and play. Operating accessories are easier to connect than ever before with Lionel's new Plug-n-Play system. Plug-n-Play is designed to simplify connecting accessories to your existing layout, and eliminate any fuss with more complicated wiring.



6-82418 Erie LionChief™  
Plus Camelback

# O-GAUGE LAYOUT OPTIONS

Here's a selection of layout ideas that can be used as shown or easily expanded by adding additional straight sections of track. Use them as is or as the basis for a larger more complex layout.

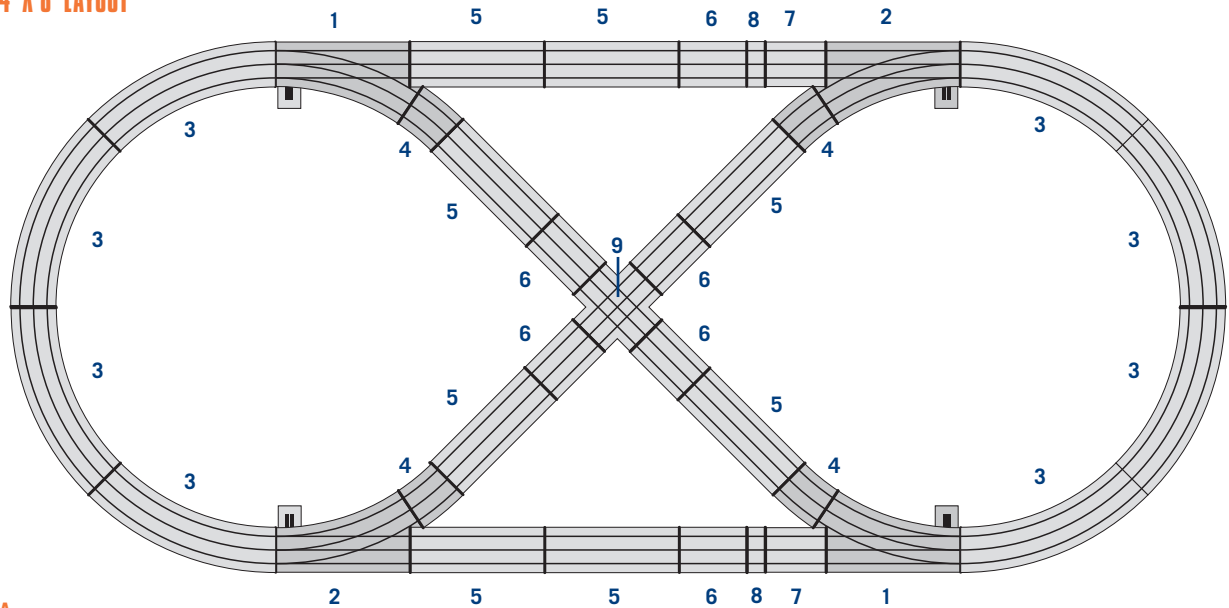
## A. TRACK REQUIREMENTS:

1. O36 Right Hand Switch (2 pieces)
2. O36 Left Hand Switch (2 pieces)
3. O36 curve track (8 pieces)
4. O36 quarter curve track (4 pieces)
5. 10" straight track (8 pieces)
6. 5" straight track (6 pieces)
7. 4 1/2" straight track (2 pieces)
8. 1 3/4" straight track (2 pieces)
9. 90-Degree crossover (1 piece)

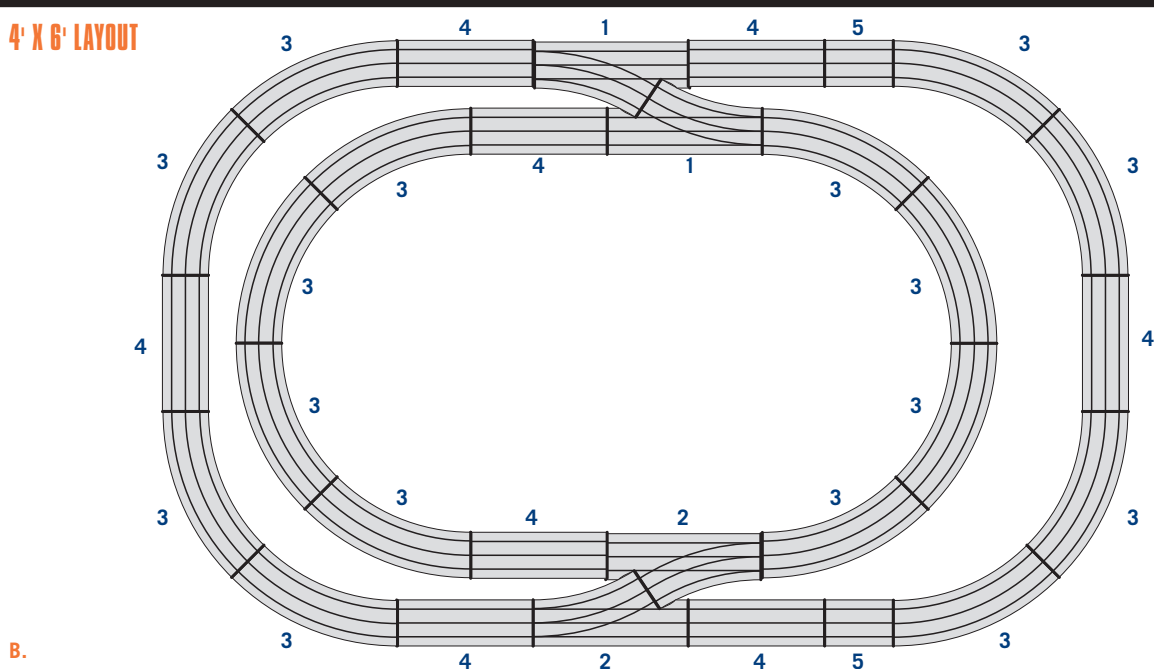
## B. TRACK REQUIREMENTS:

1. O31 Right Hand Switch (2 pieces)
2. O31 Left Hand Switch (2 pieces)
3. O31 curve track (16 pieces)
4. 10" straight track (8 pieces)
5. 5" straight track (2 pieces)

### 4' X 8' LAYOUT



### 4' X 6' LAYOUT



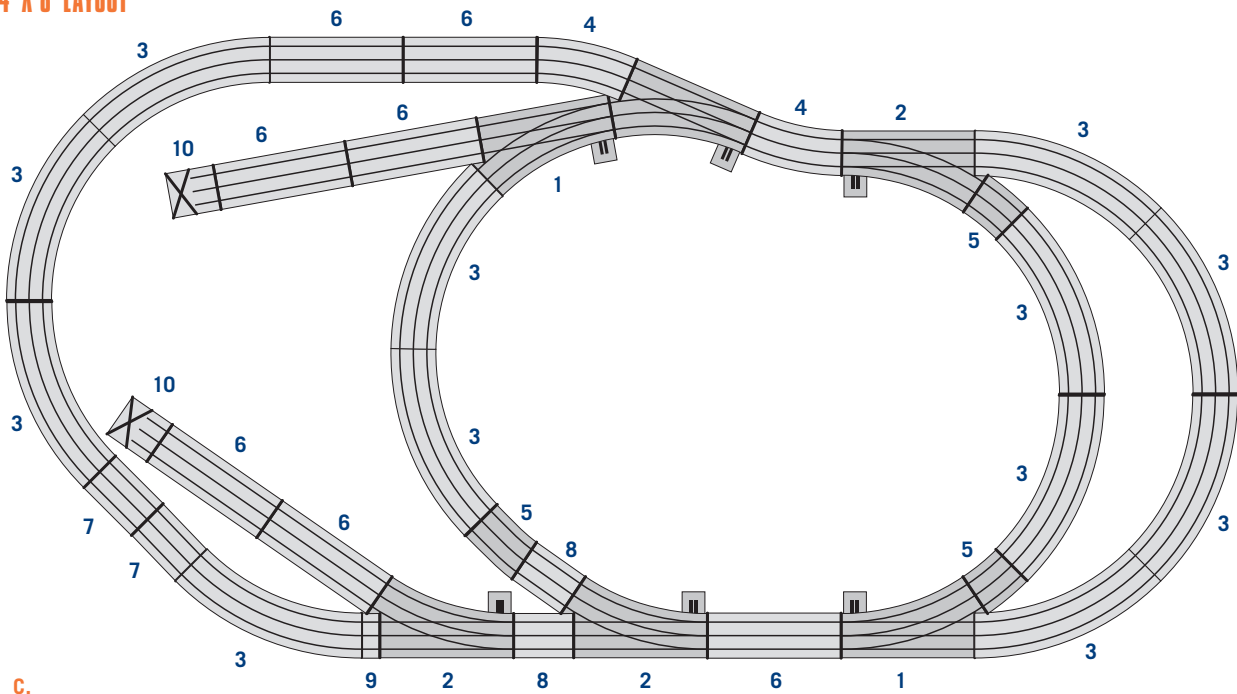
### C. TRACK REQUIREMENTS:

1. O36 Left Hand Switch (2 pieces)
2. O36 Right Hand Switch (3 pieces)
3. O36 curve track (12 pieces)
4. O36 half curve track (2 pieces)
5. O36 quarter curve track (3 pieces)
6. 10" straight track (7 pieces)
7. 5" straight track (2 pieces)
8. 4 1/2" straight track (2 pieces)
9. 1 3/4" straight track (1 piece)
10. Earthen Bumper (2 pieces)

### D. TRACK REQUIREMENTS:

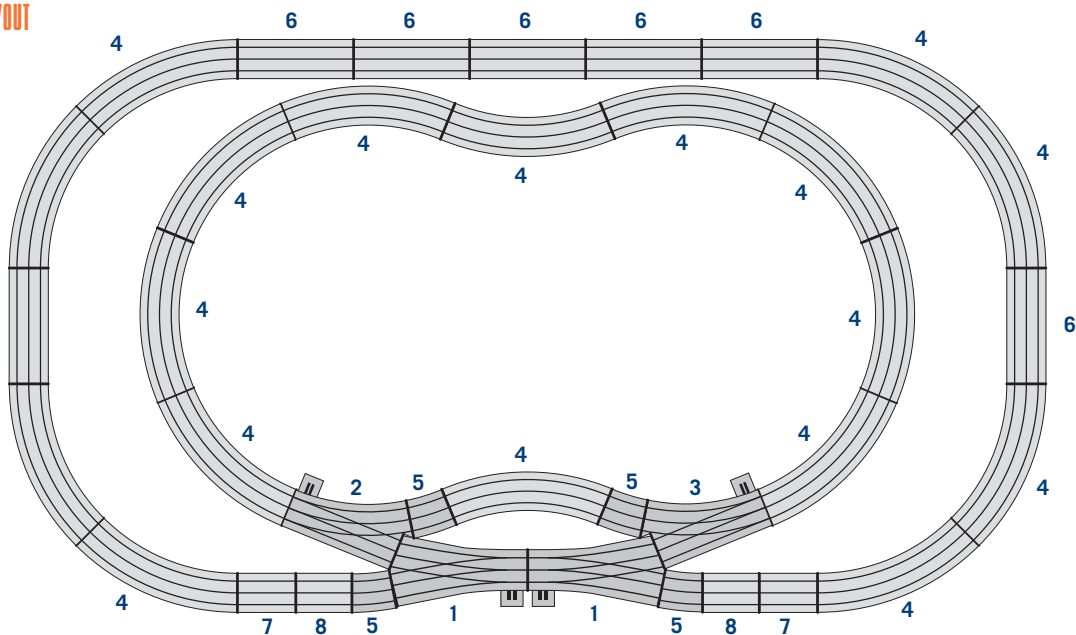
1. O72 Wye Switch (2 pieces)
2. O36 Right Hand Switch (1 piece)
3. O36 Left Hand Switch (1 piece)
4. O36 curve track (20 pieces)
5. O36 quarter curve track (4 pieces)
6. 10" straight track (7 pieces)
7. 5" straight track (2 pieces)
8. 4 1/2" straight track (2 pieces)

#### 4' X 8' LAYOUT



C.

#### 4 1/2' X 8' LAYOUT



D.

# FASTRACK® O-GAUGE ACCESSORIES

NEW

## EXTENDED TRUSS BRIDGE

The new FasTrack® Extended Truss Bridge is a perfect addition to every layout! Each bridge superstructure features detailed lattice work inside, exquisite molded-in exterior rivet details, and simulated wood decking. Each bridge spans a full 30" in length and can be lifted off the piers to function as a "lift out" for a walk-through aisle in your layout. Each bridge also comes with a pair of modular bridge piers.

6-82110

- Modular snap-together pier design allows adjustable height to match FasTrack® or tubular track trestles
- Compatible with FasTrack®, each bridge can be adapted to work with all other track systems using a Transition Track piece (6-12040, available separately) at each end
- Interior height of the bridge has adequate space to clear scale rolling stock
- Easily configured to connect multiple bridges
- Mounting tabs on bottom risers to secure piers to your layout
- Realistic lattice and rivet detail
- Bridge dimensions (including piers): L 39" x W 5 1/2"
- Bridge dimensions (including piers) for 2 bridges: L 73 1/2" x W 5 1/2"

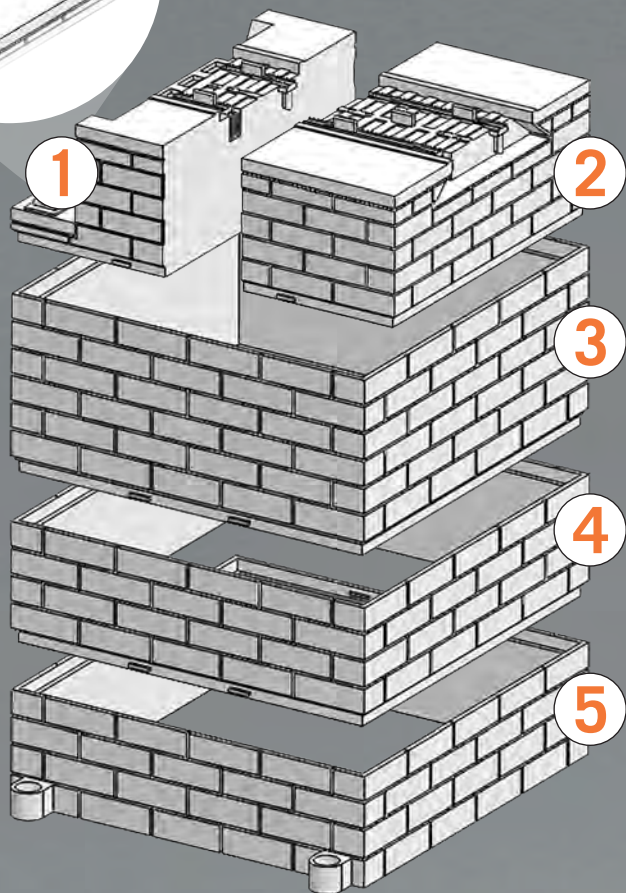
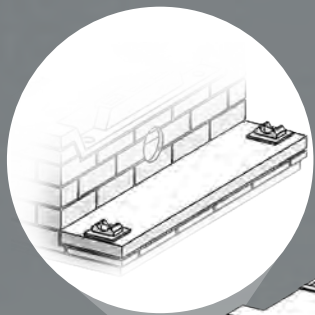


L 39" x W 5 1/2" (with piers) *Prototype image shown*



L 73 1/2" x W 5 1/2" (2 bridges with piers)





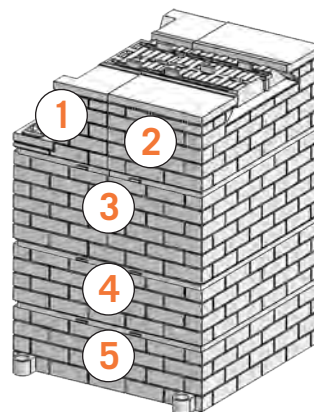
**1** TOP HALF BRIDGE PIER  
Height:  $1 \frac{3}{5}$ "

**2** TOP HALF TRACK PIER  
Height:  $1 \frac{3}{5}$ "

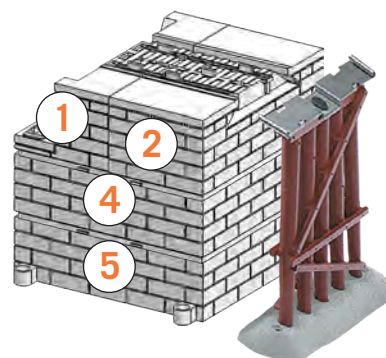
**3** FASTRACK® TRACK PIER  
Height:  $2 \frac{2}{5}$ "

**4** TUBULAR TRACK PIER  
Height:  $1 \frac{1}{2}$ "

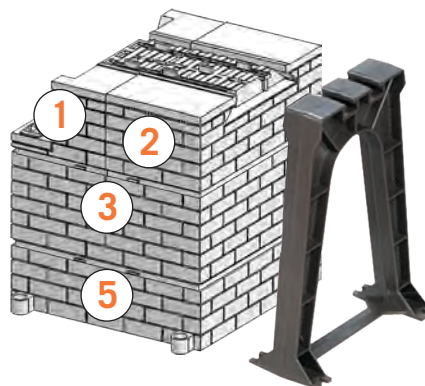
**5** BASE PIER  
Height:  $1 \frac{3}{5}$ "



**CONFIGURATION FOR MAX HEIGHT**  
6.9" in height



**CONFIGURATION FOR FASTRACK® ELEVATED TRESTLE**  
5.4" in height



**CONFIGURATION FOR TUBULAR TRACK ELEVATED TRESTLE**  
4.5" in height

## TRESTLES

### A. FASTRACK® GRADUATED TRESTLE SET

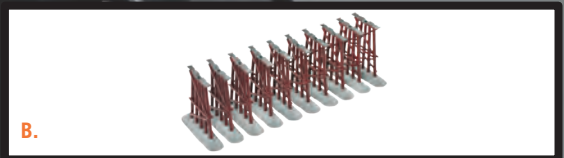
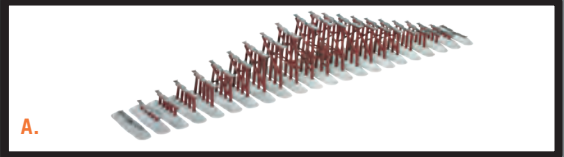
6-12037

- Incremental height grading
- For use with FasTrack® track sections
- Set of 22
- Height: 5 1/2" (tallest trestle)

### B. FASTRACK® ELEVATED TRESTLE SET

6-12038

- Create realistic raised-graded sections
- For use with FasTrack® track sections
- Set of 10
- Height: 5 1/2"



## CROSSINGS

### C. FASTRACK® 10" GRADE CROSSING

6-12036

- Length: 10" track section, 6 1/4" road section
- 2 per package

### D. FASTRACK® GRADE CROSSING WITH FLASHING CROSSBUCKS

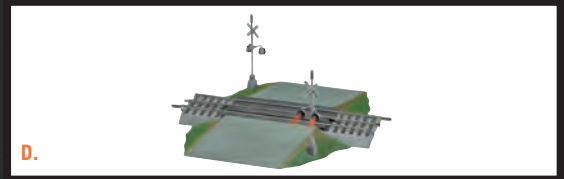
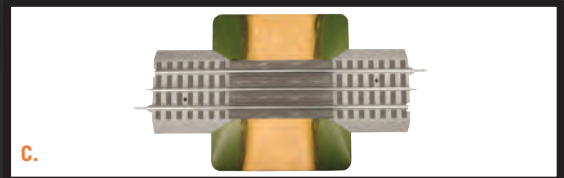
6-12052

- Features two flashing signals and bell sounds
- Includes two 5" insulated straights for automatic operation
- Length: 20" track section, 6 1/4" road section

### E. FASTRACK® GRADE CROSSING WITH FLASHING CROSSBUCKS & FLASHING HIGHWAY GATES

6-12062

- Features operating crossing gates, flashers, and bell sounds
- Includes two 5" insulated straights for automatic operation
- Length: 20" track section, 6 1/4" road section



## EXTRAS

### F. FASTRACK® EARTHEN BUMPER

6-12059

- Length: 3 5/8" road section
- Real wood bumper
- 2 per package

### G. FASTRACK® ILLUMINATED BUMPER 2-PACK

6-12035

- Length: 5"
- Illuminated by long lasting LEDs

### H. FASTRACK® RAILER

6-12039

- Length: 10"
- Also compatible with tubular O-Gauge and O-27 Gauge tracks

### I. 10" STRAIGHT GIRDER BRIDGE

6-81248

- Length: 10"
- Metal base

### J. POWER WIRE

6-12053

- Compatible with all FasTrack® sections



# TUBULAR TRACK

O-27 AND O-GAUGE

LIMITED QUANTITY  
HURRY WHILE  
SUPPLIES LAST!

## O27 TRACK

**A. O27 HALF STRAIGHT TRACK**

6-65019

- Length:  $7 \frac{7}{8}$ "



A.

**B. O27 STRAIGHT TRACK**

6-65038

- Length:  $8 \frac{3}{4}$ "



B.

**C. O27 EXTRA-LONG STRAIGHT TRACK**

6-65024

- Length: 35"



C.

**D. O27 27" HALF CURVE TRACK**

6-65014

- 16 pieces create a full circle
- Length:  $5 \frac{7}{16}$ "



D.

**E. O27 27" CURVE TRACK**

6-65033

- 8 pieces create a full circle
- Length:  $9 \frac{5}{8}$ "



E.

**F. O27 42" CURVE TRACK**

6-65049

- 12 pieces create a full circle
- Length:  $10 \frac{7}{8}$ "



F.

**G. O27 54" CURVE TRACK**

6-65113

- 16 pieces create a full circle
- Length:  $14 \frac{1}{2}$ "



G.

**H. O27 90-DEGREE CROSSOVER**

6-65020

- Length:  $7 \frac{3}{8}$ " x  $7 \frac{3}{8}$ "



H.

**I. O27 45-DEGREE CROSSOVER**

6-65023

- Length:  $10 \frac{1}{4}$ " x  $10 \frac{1}{4}$ "



I.

**J. O27 INSULATED TRACK**

6-12841

- Length:  $8 \frac{3}{4}$ "



J.

**K. 027 REMOTE OPERATING UNCOUPLING TRACK**

**6-12746**

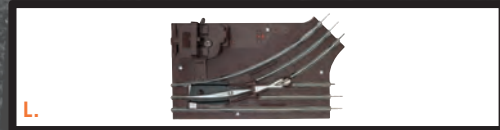
- Length: 8 <sup>3</sup>/<sub>4</sub>"
- Includes uncouple/unload button controller



**L. 027 27" PATH LEFT HAND MANUAL SWITCH**

**6-65021**

- Includes non-derailing functionality
- Length: 8 <sup>3</sup>/<sub>4</sub>"



**M. 027 27" PATH RIGHT HAND MANUAL SWITCH**

**6-65022**

- Includes non-derailing functionality
- Length: 8 <sup>3</sup>/<sub>4</sub>"



**N. FIGURE 8 EXPANSION PACK**

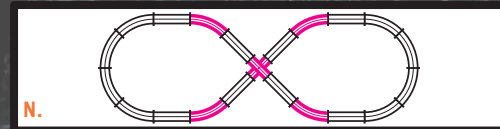
**6-22966**

Add this track (colored pieces) to your oval to create a figure 8 layout. Requires an existing starter set with an O27 oval of track.

Track pack includes:

Layout dimension: 2' 3 <sup>1</sup>/<sub>4</sub>" x 6' 7"

- 4 pieces of O27 curve track
- 1 O-27 90-Degree Crossover



**O. DOUBLE LOOP EXPANSION PACK**

**6-22967**

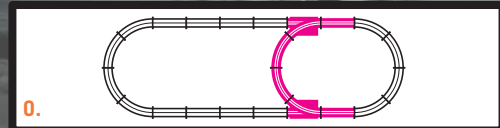
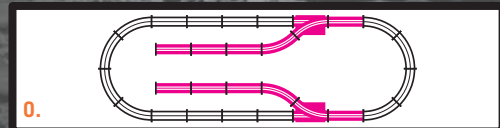
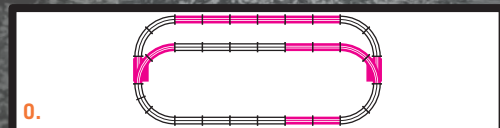
Add this track (colored pieces) to your oval to create a double loop, an oval with two inside sidings, or a double oval. Requires an existing starter set with an O27 oval of track.

Track pack includes:

Layout dimension: 2' 11 <sup>3</sup>/<sub>4</sub>" x 6' 7" OR

2' 3 <sup>1</sup>/<sub>4</sub>" x 6' 7 <sup>1</sup>/<sub>2</sub>"

- 1 Left Handed O27 switch
- 1 Right Handed O27 switch
- 10 pieces of O-straight track
- 2 pieces of O27 curve track



**P. TRACK CLIPS**

**6-62901**

- Keep your O27 and O-Gauge track sections together with these easy-to-use slide-on clips.
- Perfect for keeping temporary or floor layouts together
- Set of 12



**Q. UNIVERSAL LOCK-ON WITH WIRES**

**6-24213**

- Works with O-Gauge, O27, and S-Gauge traditional tubular track



**R. DIE-CAST ILLUMINATED BUMPERS (SET OF 2)**

**6-62283**

- Die-cast metal construction
- Illuminated red lights
- Easily screws into place between outside rails of tubular O-Gauge and O27 track
- Dimensions: 3" x 1 <sup>7</sup>/<sub>8</sub>" x 2"



**S. VEHICLE GRADE CROSSING (SET OF 2)**

**6-12839**

- Tubular O-Gauge or traditional O27 fits in the molded grooves
- Dimensions: 3 <sup>1</sup>/<sub>4</sub>" x 7"



# O-GAUGE TRACK

- A. STRAIGHT TRACK**  
6-65500  
• Length: 10"
- B. HALF STRAIGHT TRACK**  
6-65505  
• Length: 5 1/2"
- C. EXTRA LONG STRAIGHT TRACK**  
6-65523  
• Length: 40"  
*Product Not Shown*
- D. O-GAUGE 031 CURVE TRACK**  
6-65501  
• 8 pieces create a full circle  
• Length: 10 5/8"
- E. O-GAUGE 031 HALF CURVE TRACK**  
6-65504  
• Length: 6"
- F. O-GAUGE 042 CURVE TRACK**  
6-12925  
• 12 pieces create a full circle  
• Length: 10 5/8"
- G. O-GAUGE 054 CURVE TRACK**  
6-65554  
• 16 pieces create a full circle
- H. O-GAUGE 072 CURVE TRACK**  
6-65572  
• 16 pieces create a full circle  
• Length: 14"
- I. O-GAUGE INSULATED STRAIGHT TRACK**  
6-12840  
• Length: 10"
- J. O-GAUGE REMOTE UNCOUPLING TRACK**  
6-65530  
• Includes uncouple/unload button controller  
• Length: 10"
- K. O-GAUGE FIBRE TRACK PINS**  
6-65543  
• Set of 12  
*Product Not Shown*
- L. O-GAUGE STEEL TRACK PINS**  
6-65551  
• Set of 12  
*Product Not Shown*
- M. O-GAUGE TRACK CLIPS**  
6-12743  
• Set of 12  
• Keep your O-Gauge track sections together with these easy to use slide-on clips.  
• Perfect for keeping temporary or floor layouts together.  
*Product Not Shown*
- N. O-GAUGE LIGHTED LOCK-ON**  
6-14112  
• Only compatible for O27 and O-Gauge tubular track  
*Product Not Shown*
- O. O-GAUGE DELUXE TRACK PACK**  
6-22969  
No additional track required.  
Layout dimension: 4' 3" x 8' 10 1/2"  
• Curve track (20 pieces)  
• Straight track (22 pieces)  
• 90-Degree Crossover (2 pieces)  
• Half straight track (1 piece)



A.



B.



D.



E.



F.



G.



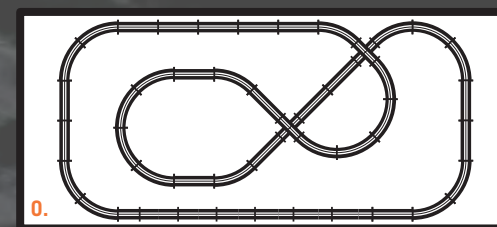
H.



I.



J.



O.

**LionChief**

AND

**LionChief**  
**PLUS+**

Running multiple locomotives has never been easier! Use this single remote to operate any of your LionChief Plus locomotives. Your need for multiple remotes are a thing of the past. It's that simple.

Choose to run one, two, or three locomotives at any time using a single Universal remote! Within seconds at startup, LionChief engines on the track are identified and loaded into the remote memory. Push one of the three buttons on the remote dashboard to run the engine of your choice! Simple as 1-2-3.



NEW

## A. UNIVERSAL REMOTE

6-83071

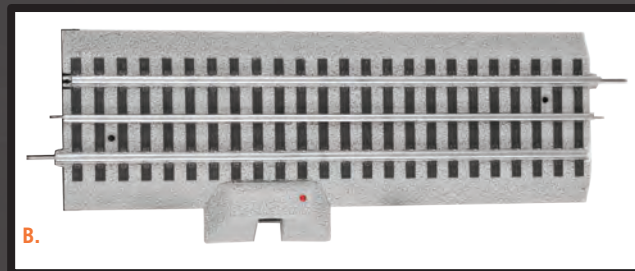
- Controls any existing or future O-Gauge LionChief Plus™ locomotive
- Controls any existing or future S-Gauge FlyerChief™ locomotive
- Controls most O-Gauge Ready-to-Run LionChief™ set locomotives
- Load and operate up to three locomotives per remote at any one time
- Choose between any one of the three engines with the simple 3-button control
- LED illumination on the 1-2-3 buttons when pressed
- ON/OFF switch to preserve battery power
- Remote "Train Memory" preserves current speed and direction of the engine when toggling between different locomotives
- After powering down and restarting the train, the remote retains memory of the specific engines that were loaded into the system
- "Easy Clear" feature allows you to quickly remove and add new locomotives into the remote memory as needed
- Forward and reverse speed control knob
- Additional buttons for whistle or horn sounds, bell, special announcements, and ElectroCoupler™ activation
- If you have more than three locomotives to control, multiple Universal Remotes can be used without interference
- Requires three AAA alkaline batteries (not included)



## B. LIONCHIEF™ TERMINAL FASTRACK® SECTION

6-37110

- Length: 10"



## C. LIONCHIEF™ 72-WATT POWER SUPPLY

6-81603

- 4 AMP



# Did you know?

Lionel's LionChief™ and LionChief™ Plus systems are not the same. LionChief™ Plus has an ElectroCoupler™ feature in which the whistle button triggers the rear coupler to open. You can also adjust the volume with the remote by pressing the whistle and bell buttons at the same time with one hand, wait until the LED indicator light begins to blink, and move the throttle right or left to raise or lower the volume. To continue running your train, let go of the buttons. In addition, with a LionChief™ Plus engine you can run your train with a transformer by switching the TRANSFORMER/REMOTE switch under the locomotive to TRANSFORMER.



VS



FEATURES	LIONCHIEF™	LIONCHIEF™ PLUS
Enhanced sound with RailSounds RC™	✓	✓
Long-distance control- up to 60 feet	✓	✓
AC/DC compatible	✓	✓
Easy to set up and operate	✓	✓
Working ElectroCouplers™	□	✓
Operate via Remote OR Conventional	□	✓
Constant speed control	□	✓
Volume control	□	✓

# FROM CONVENTIONAL TO LEGACY®

## A BRIEF EXPLANATION OF LIONEL OPERATING SYSTEMS

The world of Lionel trains offers a broad spectrum of operation for every level of collector and/or operator. It's a good idea to understand all the various forms of operation Lionel products present, to guide your purchasing and allow you to get the most amount of enjoyment our S & O Gauge products have to offer.



### CONVENTIONAL OPERATION EST. 1903

With Conventional Operation, the amount of AC power applied to the track determines the speed a locomotive moves. Interruptions in track power (accomplished by turning power off and back on again or by pressing the transformer direction button) cycle locomotives between forward, neutral, reverse, neutral, forward and so on. Conventional locomotives are minimally equipped with a horn or whistle and in many instances a sound system that allows you to control whistle and bell sounds from a transformer.

Conventional layouts require additional wiring to turn siding tracks on and off (such as passing sidings and/or storage sidings). You typically run one train on one loop of track at one time (multiple conventional locomotives can be run on the same track at the same time using complex wiring involving relays). Multiple independent loops of tracks equal multiple trains running simultaneously.

Most Lionel locomotives can be run with conventional operation, the only exceptions are LionChief™ equipped locomotives found in our Ready-to-Run sets. While all LionChief™ locomotives will operate on a conventional layout they will not run like a conventional locomotive (meaning they only operate from commands the locomotive receives from its uniquely paired remote).



### LIONCHIEF™ OPERATION EST. 2013

Departing slightly from Conventional style of operation we have introduced our LionChief™ control system. LionChief™ is only available in Ready-To-Run Lionel train sets. Each set's locomotive comes with its uniquely-paired wireless remote (each remote has the road name and road number of its paired locomotive printed on the case for easy identification). Most LionChief™ locomotives feature RailSounds® RC; realistic locomotive sounds, whistle/horn, bell, and announcements. Track power is set at 18 Volts (either AC or DC current from the power pack that comes with the set or a transformer) and the locomotive is controlled by its wireless LionChief™ remote. You can control forward and reverse speeds, whistle, bell, and several different announcements (some Ready-to-Run sets even allow you to activate themed music.)

Unlike Conventional operation LionChief™ control does not require any additional wiring to operate several locomotives on the same track at the same time. Because each locomotive only responds to commands sent from its unique-paired remote, multiple trains can be operated simultaneously on the same track. Some additional benefits of LionChief™ control are fixed track voltage (which maintains uniform lamp brightness), consistent smoke production, and the ability to independently control each locomotive.

LionChief™ locomotives are compatible with conventional layouts; however, the transformer will not control the speed, direction, whistle, bell, or announcements, as all of these commands only come from the locomotive's paired remote.

LionChief™ locomotives can also be operated on a LEGACY® command control-equipped layout using their unique-paired remote; however, the LEGACY® remote will not be able to control the locomotive.



## LIONCHIEF™ PLUS OPERATION EST. 2014

The next step up in the world of Lionel is LionChief™ Plus. LionChief™ Plus locomotives bridge the gap between conventional control and wireless LionChief™ control. Each LionChief™ Plus locomotive features a switch that allows you to select either conventional transformer operation or wireless LionChief™ remote operation.

LionChief™ Plus locomotives feature more pulling power, fan driven smoke units, remote activated electromagnetic couplers (that can be opened without the need for an uncoupling section), constant speed control, a higher level of detail, and more rugged stamped metal and die-cast construction. LionChief™ Plus locomotives offer a wider selection of locomotive types than our LionChief™ set locomotives. LionChief™ Plus locomotives are compatible with both LionChief™ set locomotives and conventional locomotives, and can also be operated on LEGACY® equipped layouts (using their paired LionChief™ remotes).



## LEGACY® OPERATION EST. 2008

Lionel LEGACY® is our top of the line control system that puts the operation of your entire railroad into the palm of your hand. From controlling track power and throwing remote switches to controlling operating accessories and operating LEGACY® locomotives with precision the LEGACY® CAB-2 Remote Controller does it all.

When it comes to locomotives the LEGACY® system is unmatched in operator control. The CAB-2 Controller allows you to truly experience the thrill of being the engineer! Control every aspect of every LEGACY® locomotive with the press of a button or a pull on the whistle slider. From 24 levels of smoke intensity to 200 speed steps, quillable horn or whistle sounds, directional lighting, and constant speed control the LEGACY® system does it all!

Implementing a wireless radio signal that emanates from the outside rails and received by antennas inside each locomotive the LEGACY® system is capable of controlling up to 99 locomotives, 99 switches, 99 routes, 99 tracks and 99 accessories simultaneously! You can use as many CAB-2 or CAB-1L remotes on a single system as you need. Everyone can operate the entire layout with a single remote in their hand.

The LEGACY® system offers a variety of separate sale modules such as ASC2, BPC2, LEGACY Powermaster®, etc. that allow you control virtually any 3-rail accessory or remote switch ever made. The LEGACY® system is scalable, meaning you can get started right out of the box and grow the system as your railroad grows. For those users who aren't sure they need the entire LEGACY® system we offer, "LEGACY® Lite" which consists of the Base-1L (command base) and CAB-1L (remote controller). LEGACY® Lite allows you to access many of the great features our LEGACY® locomotives have to offer at a lower entry level price point. Each CAB-1L is fully compatible with our LEGACY® base so as the railroad grows the equipment is not obsolete!



## LAYOUT CONTROL SYSTEM (LCS®) EST. 2013

For our "uber-users" who wish to push the edge of the envelope with technology, Lionel offers the Layout Control System (LCS®). LCS® allows users to operate their LEGACY® controlled layouts through a visual interface on a smart device. The LCS® system gives you more interactive refined control over accessories, switch control (and position) along with limited locomotive control. The LCS® Wi-Fi device allows you to connect your smart devices to the LEGACY® control system through wi-fi, allowing a departure from the CAB-2 or CAB-1L remote controllers. Add one or more SensorTrack™ sections to add even more functionality to your LEGACY® layout. Track IR equipped locomotives as they transmit and receive real time information such as fuel and water levels and speed as it passes over the SensorTrack™.

LCS has a variety of other modules available that can bring even more technology to your layout such as the ASC2 (operating non-command equipped switches and accessories), BPC2 (operate up to 8 separate power blocks), SER2 (connect older Lionel/IC Controls products such as the TPC300 and ASC), and STM2 (provide accurate information about the position of all connected switches).



# LEGACY®

**Our LEGACY® is more than a single locomotive; it's a system. It's an innovative program that takes your layout and experience to the next level.**

The LEGACY® Control System offers the model railroader two great choices to operate your layout like an engineer operates their train. The CAB-1L Control System simplifies the way you run your LEGACY® layout. If you already have a LEGACY® Base, you can add one or more CAB-1L remotes to your layout.

If you want the most advanced way to run your layout, check out our CAB-2 Control System that unlocks all the LEGACY® features that are included in all LEGACY® equipped locomotives and rolling stock. The CAB-2 remote contains key features such as a backlit LCD screen, vibration feedback, train brake, and boost control. With this system, you will feel like you're operating a real railroad!

## THE LEGACY® CONTROL SYSTEM BUYER'S GUIDE

### OPERATING CONVENTIONAL LOCOMOTIVES ONLY?

Operating conventional locomotives from your CAB-1L or CAB-2 remote is simple. Forget about rewiring your trains or spending the day making track connections; install the simpler LEGACY® Control System!

### WANT TO OPERATE BOTH CONVENTIONAL AND COMMAND-EQUIPPED LOCOMOTIVES?

No Problem! While they can't share the same block of track at once, both types of locomotives can operate on your layout.

### OPERATING COMMAND-EQUIPPED LOCOMOTIVES ONLY?

Operating only Command-equipped locomotives is simple. With a Command set, power supply, and optional extra remotes, you are ready to take control!

### CONTROLLING AN ENTIRE LAYOUT FROM THE CAB-1L OR CAB-2 REMOTE TO RUN SWITCHES, ROUTES, AND ACCESSORIES?

#### WHAT DO I NEED?

- PowerHouse Power Supply 6-22983 (or any 3-rail AC transformer with 7.5 to 10 Amps of current)
- LEGACY® PowerMaster® 6-37146
- Choose one:
  - #990 LEGACY® Command Set 6-14295
  - CAB-1L/Base-1L Command Set 6-37147

#### WHAT DO I NEED?

- Choose one:
  - ZW-L to run up to four track blocks 6-37921
  - PowerHouse® Power Supply 6-22983 and LEGACY PowerMaster® 6-37146 (one pair per block)
- Choose one:
  - #990 LEGACY® Command Set 6-14295
  - CAB-1L/Base-1L Command Set 6-37147

#### WHAT DO I NEED?

- Choose one:
  - ZW-L to run up to four track blocks 6-37921
  - PowerHouse® Power Supply 6-22983 and LEGACY PowerMaster® 6-37146 (one pair per block)
  - PowerHouse® Power Supply 6-22983 TMCC Direct Lock-on 6-34120 (one pair per block)
- Choose one:
  - #990 LEGACY® Command Set 6-14295
  - CAB-1L/Base-1L Command Set 6-37147
- OPTIONAL Additional Remotes:
  - CAB-1L 6-37155
  - CAB-2 #993 Expansion Set 6-14294 (if using the #990 LEGACY® Command Set 6-14295)

#### WHAT DO I NEED?

- One or more FasTrack® Remote/Command switches (ie. 6-14295)
- SC-2 Switch and Accessory Controller to control up to 12 accessories or 6 switches; or 4 switches and 2 accessories 6-22980
- LCS Accessories Switch Controller (ASC2) to control 4 switches or 8 accessories 6-81639

## Q & A

### Can I run my LionChief™ or LionChief™ Plus locomotives with LEGACY®?

Not directly; however, you can run them on your LEGACY®-equipped layout with their own controllers without any interference with the LEGACY® signal. Also, LionChief™ Plus locomotives can be controlled with LEGACY® as a traditional transformer-controlled locomotive if the locomotives' remote switch is in the TRANSFORMER position.

# THE LEGACY® CAB-2 REMOTE

## THE MOST ADVANCED WAY TO RUN YOUR TRAINS!

### 1 ICONIC AND GRAPHIC CONTROL MONITORING

Icons and graphs represent most control functions. Icons are large and easy to view. Graphs are bold and easy to understand.

- **SPEED GRAPHING:** Operators can access a large graph in the remote display window that illustrates target speed, command speed, rate of acceleration, and train brake settings.
- **ICONIC ROUTE SET-UP:** In route set-up, animated icons form a line across the screen that illustrates the route as it is set up. Switches become animated when the route is thrown.
- **ICONIC TRAIN LASH-UP:** Using icons, engines are displayed in the order that they are assigned to a lash-up. Engine icons can be manipulated to automatically make changes in direction or in engine order.

### 2 TRAIN BRAKE

Provides more realistic and precise brake control than any other system available.

### 3 RECORD FEATURE

Record any action that you want to see repeated. Up to 5 minutes of recording space available!

### 4 VELOCITY THROTTLE

Changes speed steps faster as it is rotated faster. For example, turning the throttle slowly results in the highest resolution — with 200 speed steps. The train can go from a complete stop to full throttle in either one rotation of the knob or in five rotations, depending on how fast the throttle is turned.

### 5 GRAPHIC ADJUSTABLE MOMENTUM

Set the momentum of the train or engine to low, medium, or high. The value of each momentum setting is adjustable and unique to that engine or train.

### 6 FEEDBACK/VIBRATION

The remote rumbles as your locomotive accelerates and brakes! This unique control feature reinforces the sense of weight and momentum of the locomotive.

### 11 BACK-LIT LCD DISPLAY

Simple icons represent a wide variety of control functions, route set-ups, and train lash-ups. Easy to read graphs illustrate numerous speed, acceleration, and brake settings.

### 10 ADDRESSING FUNCTIONS

Select any object on your layout by scrolling through names alphabetically or by entering the multiple digit road number painted on the side of your engine. For accessories, use the Lionel two - and three - digit numbers if you like. (For older engines, a simple method of adding the information manually can be used and traditional TMCC addressing is still available.)

### 9 VARIABLE HORN CONTROL

As the whistle/horn control is pulled, the horn or whistle is played with increasing intensity. As the bell control is pushed, the bell will play with increasing intensity. Develop your own whistle/horn signature and control the warning sound in real time!

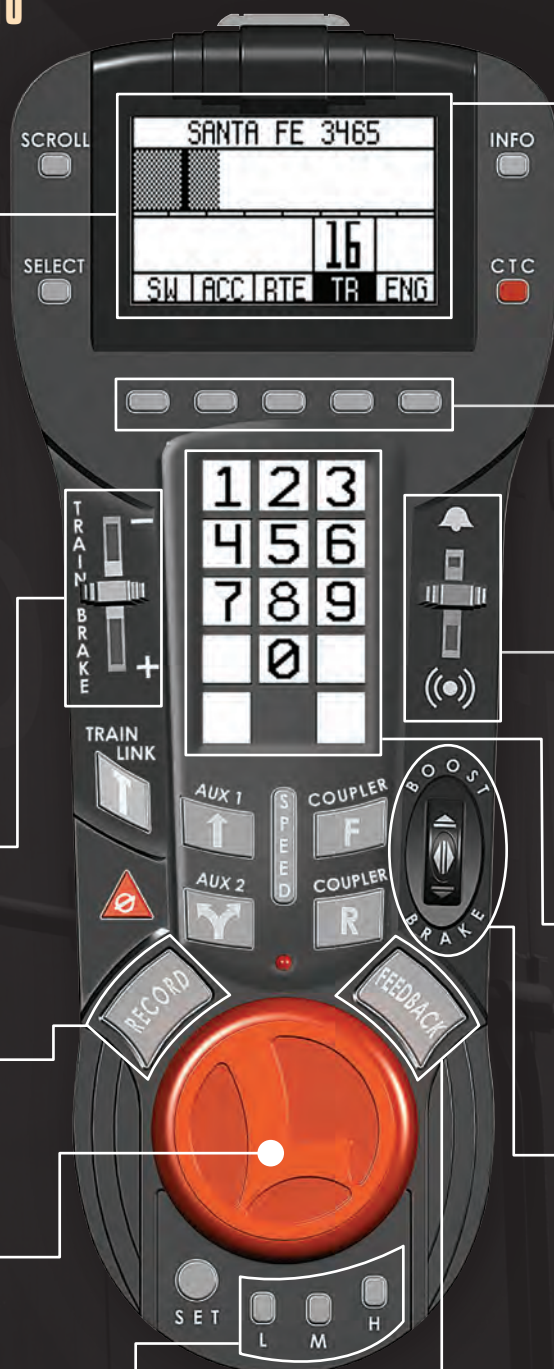
### 8 LCD TOUCHSCREEN KEYPAD

Control complicated model railroad layouts with ease! When addressing, the numbers are visible; during operation, control icons are automatically displayed.

### 7 MULTI-CONTROLLER BOOST, BRAKE, AND DIRECTION

Get braking and boosting from any given speed!

- **PUSH UP TO BOOST...**back off a little to hold the new "boosted" speed...release to return to throttle set speed.
- **PULL DOWN TO BRAKE...**back off a little to hold the new "brake" speed...release to return to throttle set speed.
- In the center or "released" position, press down for a direction change.
- If you wish, set the direction function to stall your moving train without changing direction. In this mode, pressing the direction control while your train is stopped will provide a direction change.



# LEGACY® BASES & REMOTES

## A. #990 LEGACY® COMMAND SET

6-14295

The #990 LEGACY® Command set features a #991 LEGACY® CAB-2 remote controller and a #992 LEGACY® Command Base/Charger (the two components you need to get started). Only one LEGACY® Command Base/Charger is required per layout. Like traditional TMCC, the LEGACY® Command Base/Charger receives information from the remote control and sends it out to the track via a simple one-wire connection. The LEGACY® Command Base/Charger remembers information about your layout, enabling the CAB-2 remote control to display road names and numbers on the LCD screen.

### CAB-2 remote control features:

- A backlit LCD screen and keypad that displays numbers or icons for ease of use
- Built-in rechargeable batteries
- Feedback mode - the remote vibrates to reinforce the effort and momentum of your locomotive
- Built-in dock for recharging the CAB-2 remote



## B. #993 LEGACY® EXPANSION PACK

6-14294

Set includes:

- #991 LEGACY® CAB-2 remote control
- #994 LEGACY® Charger base

### Charger base includes:

- Built-in dock for recharging additional CAB-2 remote controllers
- Add as many as you like to charge remotes simultaneously



## C. LEGACY® CAB-1L REMOTE CONTROL

6-37155

- Works with all LEGACY® bases



## D. LEGACY® BASE-1L

6-37156



## E. LEGACY® CAB-1L/BASE-1L COMMAND SET

6-37147

Everything you need to start operating in the Lionel LEGACY environment – and an economical way to add operators when running trains with friends! Whether you want to access the basic features of the LEGACY Control System or operate our older TrainMaster Command Control (TMCC) equipment, the CAB-1L remote controller allows you to walk around your layout while controlling your trains. The Base-1L receives signals from the remote and sends your commands across the layout.

### CAB-1L features:

- Operates many LEGACY features and TMCC equipment
- Operates LEGACY "Real-time Quilling Whistle/Horn" feature in LEGACY Control System equipped locomotives
- Works with either the #992 LEGACY Base or the Base-1L (only one base allowed per layout)
- Addresses 99 engines, tracks, switches, and accessories (up to 9 routes)

### Base-1L features:

- Only one required per layout, unless there is a #992 LEGACY Base already installed
- Simple one-wire connection to your layout
- Serial-port for system expansion



#### F. **LEGACY® POWERMASTER®**

**6-37146**

Lionel's LEGACY® PowerMaster® provides superior AC track-voltage control for your command-equipped layout. Use it with any Lionel remote to adjust the track power from a Lionel PowerHouse® or other external AC transformer (sold separately) from the CAB-1L or CAB-2. The PowerMaster® lets you restore track power from your remote so that you don't have to search for tripped breakers.

- Control conventional locomotives remotely; speed, direction, whistle or horn, and bell; use one per track loop
- Vary track power to fine-tune lighting, accessories, and command-equipped engines
- Controls up to 180 watts of external power
- Receive commands wirelessly, no serial cable required
- Control one or more powered accessories as a group



F.

#### G. **LEGACY® 360W POWERMASTER®**

**6-82883**

The LEGACY® 360W PowerMaster® is the long awaited replacement for both the TPC300 and the TPC400!

Each 360W PowerMaster® includes a user settable switch to select 15 Amp or 20 Amp circuit protection. No additional cables are required for use with the Lionel 135W or 180W PowerHouses. The 360W PowerMaster® includes all of the same features as the LEGACY® PowerMaster® (6-37146), but handles up to 20 Amps of power.

- Works with all Lionel Command remotes
- Control conventional locomotives wirelessly; speed, direction, horn/ whistle, and bell
- Vary track power to fine-tune lighting, accessories, and command-equipped locomotives
- Wirelessly restore power after a derailment
- No serial cable required
- Use one LEGACY® 360W PowerMaster® per track loop to operate conventional locomotives independently
- Controls up to 360 Watts of external power; equivalent of two 180W PowerHouses
- Compatible with all smooth sine wave transformers from all eras (with the addition of a Power Adapter Cable, 6-12893, sold separately)
- Equipped with dual PowerHouse® sockets (no additional PowerHouse® cabling required)



G.

#### H. **POWERMASTER® ADAPTER CABLE**

**6-12893**

- Connects your transformer to a PowerMaster® for operating LEGACY®, TMCC®, and conventional locomotives



H.

#### I. **LEGACY® WRITABLE MEMORY MODULE**

**6-37125**

We recommend purchasing separate Utility Modules for Base updates, CAB-2 updates, and system back-ups.

- Multipurpose writable module
- LEGACY® Base and CAB-2 operating system upgrades require a PC computer and the FREE downloadable: LSU (LEGACY System Utility) program
- Eliminates the need to buy blue upgrade modules when operating system updates become available
- Ability to create custom engine modules
- Upgrade information available online



I.

#### J. **TMCC SC-2 SWITCH CONTROLLER**

**6-22980**

For more flexibility in controlling switches and accessories, the SC-2 is the perfect choice.

- Programmable to control 4 switches AND 2 accessories together OR 6 switches OR 12 accessories
- Controls up to nine programmed routes, toggles accessories ON and OFF, and controls switches from various manufacturers
- Power supply included
- Communicates with LEGACY® or Base 1L without the need for wires



J.



## CREATE YOUR LCS® SYSTEM

Your layout has always been more than the sum of its parts. But until now, combining those parts into a complete system could be a challenge. Lionel's new Layout Control System, or "LCS®" fulfills the LEGACY® promise of integrated locomotive and layout control.

LCS is a modular system. The parts you need are driven by your choice of Controller(s) and the actions you want to create on your layout. All that you need to get started is one LCS® DB9 Cable with Power Supply. This cable provides power to multiple LCS® modules and links them to your Lionel command base. Additional modules are interconnected using LCS® PDI Cables.

## CHOOSE YOUR LCS® OPERATING ENVIRONMENT

The two most common ways to run an LCS® system is with individual Lionel hand-held remotes or a combination of hand-held remotes plus WiFi devices such as an Apple iPad™. The LCS® Wi-Fi module and Lionel's free iPad™ LCS® app are **NOT** required for LCS® – they just make it more fun!

To run LCS® using only your hand-held remotes, you need a Lionel command base. This could be either the CAB/Base 1L or the LEGACY® 990 base with CAB-2 remote for full functionality. Then, when you're ready to combine the power of your hand-held remotes with the flexibility of the LCS® app, add the LCS® Wi-Fi module and download the FREE app for your iPad.

## TIME FOR ACTION

Once you've chosen your LCS® operating environment, you're ready for action! Pick features from the descriptions below and see which LCS® modules you need. Check out the next page for a full-blown LCS® example, but remember – LCS® is modular. Start with just the components you need today, knowing you can expand your LCS® system as your layout grows.

I WANT TO CREATE THE FOLLOWING FEATURES	WHAT DO I NEED?
ON/OFF control of 1-8 lights, uncoupling tracks, or basic accessories	ASC2 running in Accessory mode
Thru/Out control over 4 remote switches. Lionel, Ross, and other switch manufacturers supported	ASC2 running in Switch mode
Control up to 8 track power blocks	BPC2
Fine control over two accessory motor's speed and two accessory light's intensity	AMC2
Control first generation devices such as TPC, ASC, BPC, ARC, SER2, AVC and other older Lionel service devices such as 6-24114 Gantry Crane.	SER2
Update CAB-2 remotes with information from passing locomotives	SensorTrack®, LEGACY® Base, CAB-2 remote
Trigger preset or custom action on passing locomotives	SensorTrack®
See real-time location of compatible engines on my layout	SensorTrack®, LCS® Wi-Fi, free LCS® app

Visit [www.lionel.com/lcs](http://www.lionel.com/lcs) for more information including product details, diagrams and product videos.



# Wi-Fi

**With LCS® Wi-Fi, you can operate your model railroad using devices such as smart phones and tablets with Wi-Fi.** LCS® Wi-Fi can create its own independent Wi-Fi network or join an existing one. LCS® Wi-Fi is an optional part of the Layout Control System.

Up to 15 Wi-Fi devices can be connected at once. Each connected device requires software written specifically for the LCS® system. Lionel's LCS® App is available as a free download at the app store. The Lionel LCS® App for iPad lets you create custom control panels to operate your layout. Use it to operate switches, through routes, control lighting and accessories. This app works with any existing command-controlled switch and accessory. Add the LCS® ASC2 or BPC2 to control traditional switches, accessories and track power blocks. Plus, you'll receive real-time location updates when compatible locomotives cross over LCS® SensorTracks™. LCS® Wi-Fi gets its operating power on the same cables used for data transmission. One LCS® DB9 Cable with Power Supply (6-81499) is required per LCS® installation.

Today, LCS® Partners are helping to grow and enhance the Layout Control System experience. Each developer brings their own unique perspective to software-based control of your layout. Visit [www.lionel.com/lcs](http://www.lionel.com/lcs) to learn more about our LCS® Partner Program.

## LCS® APP FOR IPAD™

Custom Control Panels can model different sections of your layout and throw switches or power up blocks with a tap of the finger. See page 48 for additional features.



## LCS® ICAB APP

The iPhone™ will display the buttons required to run your locomotives. The display is similar to what is on the CAB-2 remote. See page 49 for additional details.



## A. LCS® WI-FI 6-81325

- Operate your model railroad using devices such as smart phones and tablets
- Gets its operating power on the same cables used for data transmission
- Requires a LEGACY® CAB-2 or CAB-1L Base for running locomotives and switches
- Features a Base/No Base switch to run conventional locomotives though only switches can be controlled using the iPad™



A.



Download on the  
**App Store**

To get the LCS® iPad™  
App and the iCab app



# APP FOR IPAD™

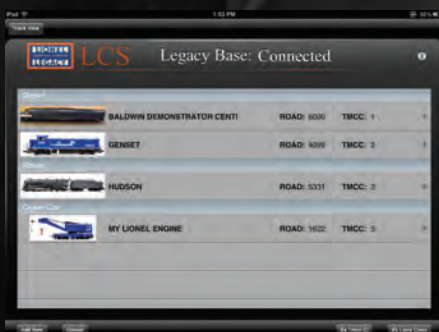
## The Lionel LCS® App for iPad™ lets you create custom control panels to operate your layout.

It is a free application for the Apple iPad™ and can be download from the App Store. Lionel LCS® connects to your Lionel Command Base using the LCS® Wi-Fi module; up to 15 devices can connect via Wi-Fi simultaneously. Use it to operate switches, through routes, control lighting and accessories. It works with any existing command-controlled switch and accessory. Add the LCS® ASC2 or BPC2 to control traditional switches, accessories and track power blocks. And you'll receive real-time location updates when compatible locomotives cross over LCS® SensorTracks™.

The Lionel LCS® App is the ideal companion to the Lionel iCab App. While LCS® App includes minimal train operating features, its main focus is layout operation. iCab, on the other had, provides extensive locomotive control coupled with the shirt-pocket convenience of your iPhone™ or iPod Touch™.

### Features:

- Create one or more custom control panels representing your unique layout
- Operate switches, accessories, track power at the touch of a finger
- Edit Locomotive Roster information stored in your LEGACY® 990 Command Set
- Share your custom screens with other operator's iPads during an operating session
- Lionel LCS® for iPad™ is quickest way for new visitors to interact with your layout



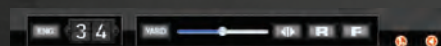
**LEFT:** The Engine Roster lets you store and edit the road name, number, and keypad operating options for each of your locomotives. You can even attach your own photo to each engine.



**LEFT:** Click on a locomotive from the roster and edit the road name, number, lighting options and more. You can attach your own photo to any engine in the roster.



**LEFT:** If your layout is large, you can use Pan and Zoom within a single Custom Control Panel, or use multiple Custom Control Panels, each representing a different portion of your layout.



**ABOVE:** Control locomotive speed two ways – with a slider-based throttle similar to your CAB-2, or the unique patented "Yard Mode", combining speed and direction in a single slider that returns to center/stop when you let go.



**ABOVE:** Drag pieces from the dock into the Custom Control Panel to represent your layout.



**ABOVE:** The LCS® App will run your accessories and includes special control panels for specific Lionel accessories, like the TMCC® Gantry Crane.

NEW

# iCab

A NEW INTERACTIVE  
SYSTEM FROM



**Lionel's iCab app is the new way to run your TMCC®, LEGACY®, and VISION® locomotives.** iCab connects to your Lionel Command base using the LCS® Wi-Fi module; up to 15 devices can connect via Wi-Fi simultaneously. iCab includes all the features of the CAB-1L remote, as well as the most popular features of Lionel's flagship LEGACY® 990 control set, including preset railroad speeds and the Quilling Whistle controller.

iCab is an ideal complement to the iPad-based Lionel LCS® App. The LCS® App is designed for controlling your layout and includes minimal train operating features. iCab, on the other hand, provides extensive locomotive control coupled with the one-handed, walk-around convenience of your Apple iPhone™, iPad™ or iPod Touch™.

## iCab includes core operating features of the basic Lionel cab remote plus:

- Speed graph with target and actual speed
- Six preset official railroad speeds
- Quilling whistle
- Automatically loads Engine Roster (LEGACY® Command Base required)



**LEFT:** The RUN SCREEN will be familiar to users of our LEGACY® CAB-2 hand held remote. The speed graph shows your engine's current speed, and the target speed. Familiar controls, like Bell and Quilling Whistle, Front and Rear Couplers, direction change, and brake are also displayed.

**RIGHT:** Use a combination of both main and blend volumes to set overall volume and the balance between foreground and background sounds. RPM up and down change the run level of diesel prime movers. On a steam engine, these buttons become Labor up/down.



**LEFT:** Pressing the Xpert button opens the door to three more screens: Speed, Control and Program. Buttons on this screen show preset speeds that get your engine traveling at a specific, repeatable speed. Other Speed page controls include Roll mode, smoke on/off and startup/shutdown keys.

**RIGHT:** A LEGACY® locomotive has enhanced options and appropriate dialog is always highlighted depending on whether your locomotive is stopped or in motion.



**ABOVE:** When you hit the Roster button, you can see and select from the name and ID number of all locomotives stored in the LEGACY® database.



**ABOVE:** You can attach a photo to each engine in the roster, visible when iCab is held horizontally.



To get the iCab app

**Introducing the LCS® SensorTrack™, a new section of straight track that transfers information to and from passing locomotives to create an intelligent "web" of interactivity between you, your layout, and your locomotives!**

LCS® SensorTrack™ is a 5" straight track section equipped with an infra-red receiver that reads data beamed out of all LEGACY® locomotives that are equipped with an infra-red transmitter. It is a simple hookup with pre-made LCS® PDI Cables available in a variety of lengths. It automatically programs LEGACY® CAB-2 remotes with vital engine information, including road names and road numbers from any transmitter-equipped engine, replacing the orange locomotive modules.

LCS® SensorTrack™ also replaces the TMCC® Action Recorder Controller (6-14181), letting you record and then execute custom track actions and layout scenarios you create, such as customized stops, direction changes, throwing switches, and uncoupling. Actions are easily programmed via CAB-1L, CAB-2, or LCS® App and each SensorTrack™ can store two custom recordings—one for each direction of travel.

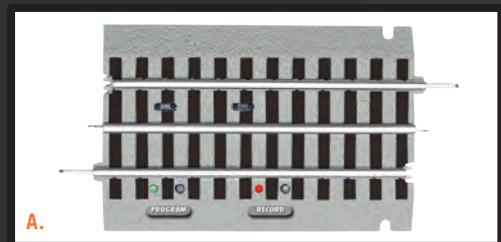
## Capabilities and Features:

- Set the LCS SensorTrack™ to automatically perform one of eight pre-programmed actions every time an IR equipped locomotive passes over it.
- Pre-programmed actions include whistle and horn blows, CrewTalk™, and bell ringing
- Arrival and departure announcements vary according to the engine's direction of travel
- The LCS SensorTrack™ gathers all information directly from the locomotive without the need to use the orange module. This feature is especially useful when your layout hosts visiting locomotives (LEGACY® Command Set required).
- Record your own series of up to 200 commands from your LEGACY® CAB-1L, CAB-2, or LCS® App.
- Preset Action commands and custom user recordings are stored locally in the memory of each SensorTrack™ on your layout.
- When your LCS® installation includes an LCS® Wi-Fi, an Apple iPad™ and the free LCS® App, SensorTrack™ delivers real time location updates on the LCS® App.
- Each time a LEGACY® locomotive passes over a SensorTrack™, it transmits its current fuel levels.
- Use the new SensorCar™ to add SensorTrack™ capability to your older TMCC® locomotives (see our catalogs and/or visit [www.lionel.com](http://www.lionel.com) for more about the SensorCar™).

*The LCS® SensorTrack™ works only with IR equipped engines unless you are using the SensorCar™. All LEGACY® locomotives made after November 2011 and ALL VISION® locomotives are IR equipped. For a complete list of IR equipped locomotives, check out our website at [www.Lionel.com/LCS](http://www.Lionel.com/LCS). A LEGACY® CAB-1L or CAB-2 is required.*

### A. SENSORTRACK™ 6-81294

- Used with FasTrack®



### B. SENSORTRACK™ MULTI-TRACK COMPATIBLE 6-82869

- Used with Tubular Track



**NEW**

### C. ACCESSORY SWITCH CONTROLLER 2 (ASC2)

6-81639

Can be configured into "Switch mode" or "Accessory mode" operation.

- When configured in accessory mode, up to eight lights, uncoupling tracks or basic ON/OFF accessories can be controlled
- Accessory mode is configured as 8 normally open relays, split into two banks of four
- Can be operated from Lionel CAB remotes and/or the LCS® App+LCS® Wi-Fi



C.

### D. BLOCK POWER CONTROLLER 2 (BPC2)

6-81640

Switches up to 8 AC track power blocks and is configured as 8 normally open relays, split into two banks of four. Each of these two banks has a common terminal feed. This allows for two power districts and 8 blocks. Each individual relay is rated for 20 amps.

- The BPC2 may be configured as either a Track or Accessory device with IDs from 1 to 91
- Can be operated from Lionel CAB remotes and/or the LCS® App+LCS® Wi-Fi



D.

### E. SERIAL CONVERTER 2 (SER2)

6-81326

- Adding the SER2 gives you a new DB9 port to reconnect your old devices
- The SER2 also boosts the available serial data drive current, so you can connect all your wired serial devices without the need for a separate serial booster
- Can be operated from Lionel CAB remotes and/or the LCS® App+LCS®



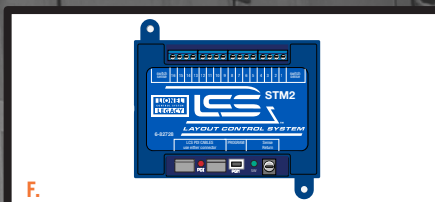
E.

### F. SWITCH THROW MONITOR (STM2)

6-82728

Provides accurate information about the position of all connected switches, even if they have been thrown manually or by non-derailing activation.

- Monitors up to 16 track switches and instantly transmits any change in switch points to all connected LCS®-aware Apps
- Every command to throw switch positions — from a smart device or a Lionel CAB® Remote—also updates the switch position on your LCS® App screen



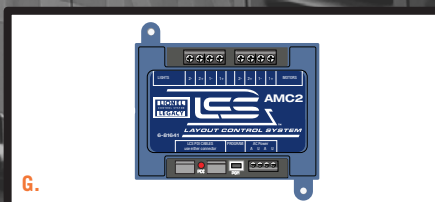
F.

### G. LEGACY® AMC-2 MOTOR CONTROLLER

6-81641

Gives you control over your accessories like never before. When used in conjunction with lights, the AMC-2 allows you to control bulb brightness from the CAB Remote Controller. When used in conjunction with your accessories' motors, the AMC-2 gives you control over operation.

- Precise motor and/or light control
- Operation of accessory speed, direction, or function from the CAB remote controller
- Programmable accessory motor speed or light intensity
- Operates up to two motors or up to two lights



G.

### H. DB9 CABLE AND POWER SUPPLY

6-81499

Provides power for the control electronics of each LCS® component in your installation. At one end, there's a DB9 serial cable to connect to your Lionel Command Base. The other end connects to the first LCS® device in your installation. Finally, the third connection goes to the LCS® power supply.

- External power is passed through the LCS® PDI cable and you can power dozens of LCS® devices from it
- When you add a second and subsequent LCS® device to your installation, you'll need additional LCS® PDI cables



H.

### I. SENSORTACK™ PDI CABLE

6-81500 - 1 FT

- When you add a second and subsequent LCS® device to your installation, you'll need additional LCS® PDI cables
- Each piece of LCS® hardware connects to the next in a daisy-chain fashion

Products Not Shown:

6-81501 - 3 FT

6-81502 - 10 FT

6-81503 - 20 FT



I.

# POWER & CONTROL

Since Lionel's beginning in 1900, every train has been powered by electricity.

In order for your locomotives to run, they need to be powered by a transformer or wall pack that connects directly to the track.

Lionel offers many power options that fit your model railroading needs. See our options below or visit [www.lionel.com](http://www.lionel.com) for more.

**KEEP IN MIND THAT ALL LIONEL PRODUCTS REQUIRE CERTAIN AMOUNTS OF POWER TO OPERATE AT THEIR BEST. BE CAREFUL TO NOT APPLY TOO MUCH POWER OR ELSE DAMAGE TO THE PRODUCT WILL OCCUR. REFER TO YOUR PRODUCT'S MANUAL FOR POWER REQUIREMENTS.**

**A. 40-WATT POWERMAX TRANSFORMER**

**6-81495**

Power your Lionel accessories with this affordable AC power supply, or use it to power and control smaller-sized train sets on your layout. Use the throttle lever to adjust the power you're providing to your accessories or to adjust the speed of your train. This transformer is compatible with LionChief™, LionChief™ Plus, and traditional transformer locomotives as well as Plug-n-Play™ and traditional accessories.



**B. 80-WATT TRANSFORMER (CW-80)**

**6-14198**

- 5 AMP

Enjoy operating your favorite locomotives, train sets, and accessories with the 80-Watt CW-80 Transformer. From the handsomely designed controller, reminiscent of the famous Lionel ZW, you can control speed and power by raising and lowering the engineer handle. Operate your favorite features with the bell, whistle/horn, and direction buttons. On the rear of the unit, you will find a 0-18 volt variable AC output for accessory operation. Simply set the accessory voltage to your desired output, and your accessory operates at that output until you turn the unit off – even when you stop the train! Perfect for Train sets and small - to medium sized layouts, the CW-80 provides the power you need to enjoy all your Lionel favorites.



**C. 180-WATT POWERHOUSE™**

**6-22983**

- 10 AMP

Power your railroad empire with an advanced 180-Watt PowerHouse™ Power Supply. UL®- listed for safe operation, this mighty power supply is perfect for your LEGACY® PowerMaster® or Direct Lock-on.



**D. 180-WATT TRANSFORMER (GW-180)**

**6-37947**

- 10 AMP

From the Postwar-inspired styling of the controller, to the mighty PowerHouse™ power supply that provides a circuit breaker and ON/OFF switch, this transformer has all the power you need, plus electronic overcurrent protection to help save your sensitive electronics in the event of a short circuit. Use the throttle lever to control speed and power. Operate your favorite features with the bell, whistle/horn, and direction buttons. Two outputs are available on the rear of the unit. The 0-18 volt variable AC output serves as your main track power source. The other programmable AC output is perfect for accessory operation from the same transformer. On the accessory output, simply set the accessory voltage to your desired level for continuous operation until you turn the unit off, completely independent of the train's operation.



**E. 620-WATT ZW-L TRANSFORMER**  
**6-37921**

This transformer is designed to give you smoother operation and more realistic control of your engines and accessories. Operation of the four handles now allows for fine control of up to 200 speed steps. It also provides a wider range of control at the minimum and maximum extensions of handle dial motion, and comes equipped with a smoother, more durable handle gearing system. Voltage and current from each of the four channels of the ZW-L Transformer are cleanly displayed in four easy-to-read, analog ammeter/voltmeter dials that are housed in the "dashboard" face. With 620-Watts of power built inside the unit, there's no need for separate power bricks. To keep your controller operating safely, the ZW-L also comes equipped with an automatic temperature controlled cooling fan, a circuit breaker for each channel output, and an ON/OFF switch on the front. Additionally, LIONEL letters light up in blue on the front face of the unit when the ZW-L is turned on. Whether you want to run vintage or state of the art locomotives and accessories, the new Lionel ZW-L Transformer provides more realistic conventional control of your layout operations than ever before!



**F. TMCC DIRECT LOCK-ON**  
**6-34120**

Connect your PowerHouse™ Power Supply directly to the track with the TMCC® Direct Lock-on. Featuring a selectable current setting for the 135-Watt or 180-Watt PowerHouses, the Direct Lock-on eliminates the need for a PowerMaster® if you run only TMCC® - or LEGACY® - equipped locomotives. For added safety, the Direct Lock-on provides over-current protection and an automatic reset. It is compatible with both Lionel FasTrack® and O-Gauge/O-27 track systems.



**G. 153 IR CONTROLLER**  
**6-14111**

- Recommended for use with the trackside block, target, and dwarf signals
- Die-cast metal structure
- Infrared sensors detect passing trains and activate connected accessories
- Time delay adjustment knob (from 0 to 5 seconds)
- Dimensions: 5" x 4 1/2" x 3 1/2"



## Did you know?

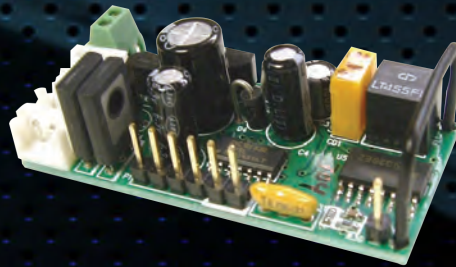
Lionel LEGACY® Diesel locomotives have 8 RPM levels and sequence control in which sound effects are played through the entire trip around your layout. These sounds include warning sounds and announcements based on the movement and speed of the locomotive. These locomotives are also equipped with an IR transmitter for SensorTrack™ that tells you what your current speed and fuel levels are. Check out all of the LEGACY® locomotives that Lionel has to offer and their advanced railroading features on [www.lionel.com](http://www.lionel.com) or in our Signature and Volume 2 catalogs.



**6-82834** Seaboard E7 AA Set

# THE ELECTRIC RR CO.

Adding fun to your layout!  
Specializing in Command Control compatible product design



The only command control receiver that has configurable voltage and pulse durations for controlling your accessories.



Provides constant speed and ultra-slow operation of your locomotives and is easy to install. While in operation, information about your locomotive's velocity is monitored from the motor directly.



Packed with features from the Lionel RailSounds® line, including eight prototypical diesel run levels, continuously variable DynaChuff™ for steam, intelligible CrewTalk™ and TowerCom™, and improved fidelity and detail on all sound elements.



Patented (#7,132,807) with SMS Technology™ allows for more speed steps than the usual 32 with existing engines. This receiver can be switched to operate with 100 speed steps.

For more information on these and other Electric RR products or questions on product installation, please call (408) 454-4127 or visit [www.electricrr.com](http://www.electricrr.com).

Fully Compatible with



Products

# CLEANING & MAINTENANCE

## WHY IS IT IMPORTANT TO CLEAN MY TRACK ON A REGULAR BASIS?

The constant operation of trains on any layout will create a carbon dust build up on the wheels of trains and also the rails of the track. This carbon build up must be managed by frequent cleaning of both the rails of the track as well as the wheels on the train cars and locomotives. The frequency is dependent on the amount of time the trains are in operation. We recommend doing a weekly inspection of the track to determine the rate of the carbon dust build up which will help you establish a maintenance and cleaning schedule that is right for your layout.

## WHAT MIGHT THE RESULT BE IF I DON'T ESTABLISH A MAINTENANCE AND CLEANING SCHEDULE FOR MY LAYOUT?

If the carbon dust is not cleaned frequently, the performance of the trains on the track will suffer. The buildup of carbon will ultimately prevent the locomotive operating smoothly and power collected from the outside wheels (AC Ground) and the center rail collectors (AC Hot) will be interrupted. When the buildup of carbon is not addressed, undesirable operation may occur, where trains will stall out on the track and cease to operate.

## WHAT TYPE OF CLEANING AGENTS DO YOU RECOMMEND FOR CLEANING YOUR LAYOUT?

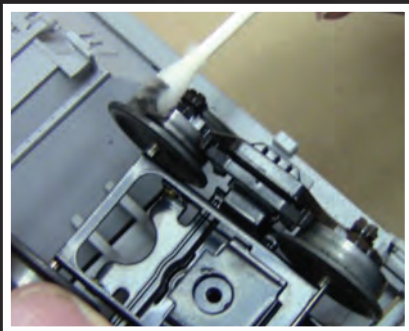
We recommend using an all-purpose cleaner with a citric base. We recommend a citric based cleaner because it does not degrade the metal rails nor does it cause poor electrical connectivity between the rails and the wheels of the train. Alcohol based cleaners should be avoided since they tend to degrade the electrical connectivity of your trains.

## SINCE I NOW KNOW WHAT TYPE OF CLEANER IS RECOMMENDED, WHAT ARE MY NEXT STEPS TO SUCCESSFULLY CLEAN MY LAYOUT?

- Saturate a rag with your desired multi-purpose cleaner (*preferably a citric based cleaning product*)
- Wipe down your layout, focusing on the rails
- Once the cleaner has been applied, follow by wiping the rails again with a clean, dry rag to absorb the excess cleaning solution and carbon deposits from the rails

We recommend that you establish the same cleaning intervals for your cars and locomotives as you establish for your track. The easiest way to clean the carbon from freight car wheels is to use cotton swabs.

- Saturate one end of the cotton swab with the same cleaner and wipe the entire rolling surface (and flange face) of the wheel with the saturated end
- Repeat the process with a couple cotton swabs with dry cotton to absorb excess cleaner and carbon deposits from the wheel. *See photos*



**Far Left:** Use a soaked cotton swab to clean the wheels of your locomotive.

**Left:** Use a dry cotton swab to remove the excess cleaner and dirt from the locomotive wheels.

Locomotives are much easier to clean, if you can lay the locomotive up-side-down in a foam cradle and apply power to the locomotive, this will make the wheels easier to rotate. The same method is employed to clean the wheels on a car; wipe them down with a soaked cotton swab to loosen the dirt then wipe the excess cleaner off with a dry swab. Repeat this process until the dirt no longer appears on the cotton swabs. The center rail collectors will need to be cleaned in the same fashion for both the locomotive and any train cars that are equipped with center rail collectors.

## PREVENTATIVE MAINTENANCE

We recommend using the oil from the Lionel Lubrication and Maintenance Kit (6-62927). Oil should also be applied to any moving parts, such as side rod screws and eccentric cranks on steam locomotives, as well as power truck axles (where they ride the bearings, gears, etc). Be sure to apply a sparing amount of oil to the axle of each collector as well.



**6301 PERFORMANCE DRIVE  
CONCORD, NC 28027**

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You can also e-mail us at [talktous@lionel.com](mailto:talktous@lionel.com) or visit our website at [www.lionel.com](http://www.lionel.com). Our knowledgeable staff are always eager to help you fully enjoy the magical world of Lionel model trains.

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