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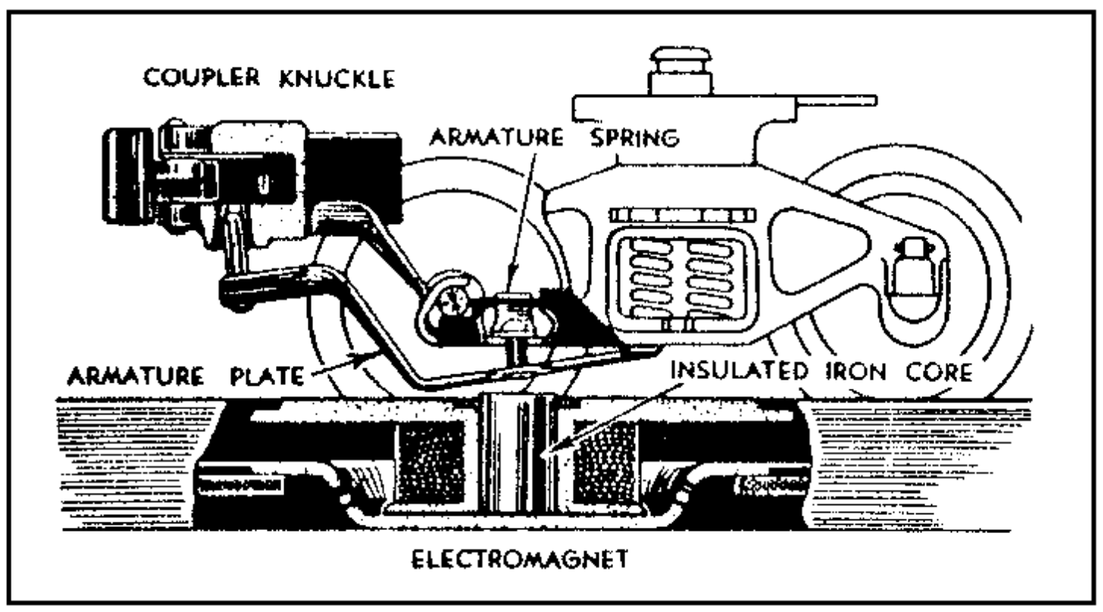
REMOTE CONTROL TRACK SETS

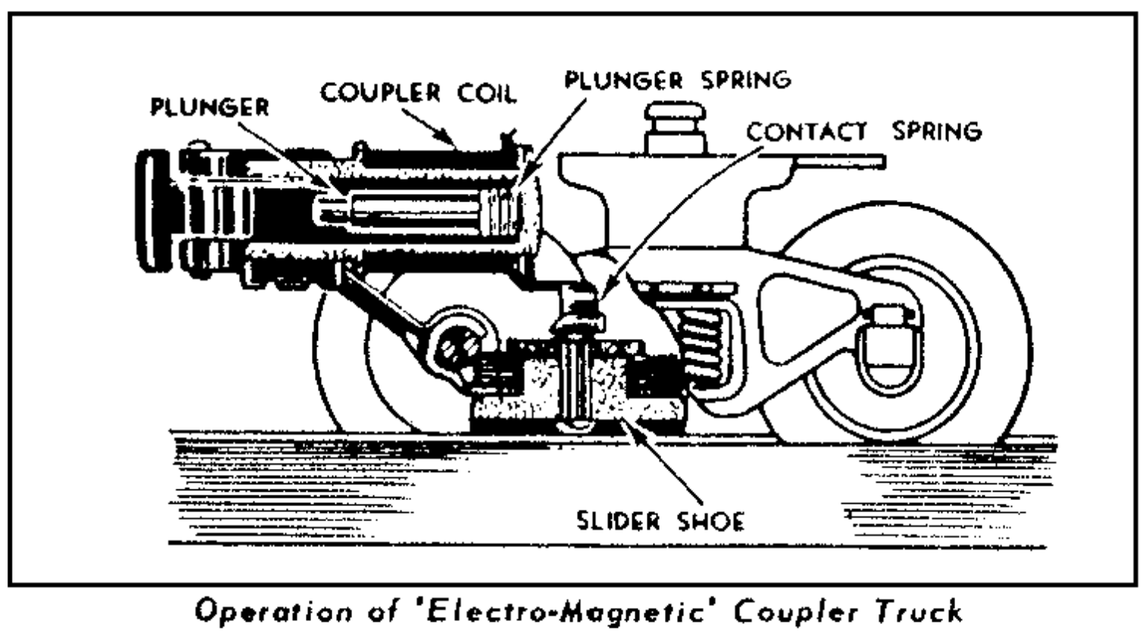
With the exception of electronic cars, which can be operated anywhere on the track, all Lionel operating cars and other cars equipped with electric couplers can be unloaded and uncoupled only by means of a Remote Control Track Set. Remote Control Track Sets consist of a special track section equipped with a set of control rails and a central electro-magnet and a two-button controller connected to the track section by a four-conductor cable.

Modern remote control track set for 'O' track is designated as UCS; a similar set for '027' track is No. 6019. These remote control sets will uncouple both 'electro-magnetic' and 'magnetic' couplers (See Page 2, Section MIS-TRUCKS) and should be used to replace the earlier RCS and No. 1019 which have no central electro-magnet and therefore cannot open the modern 'magnetic' trucks.



Operation of 'Magnetic' Coupler Truck

Coupler knuckle snaps open when movable armature plate on truck bottom is attracted by the energized electromagnet



Operation of 'Electro-Magnetic' Coupler Truck

Coupler knuckle snaps open when coupler coil is energized through truck slider shoe in contact with control rail

Besides opening 'magnetic' couplers, the central electromagnet of modern remote control sections is used to control several plunger-operated cars, such as the Searchlight Car and the Animated Box Car.

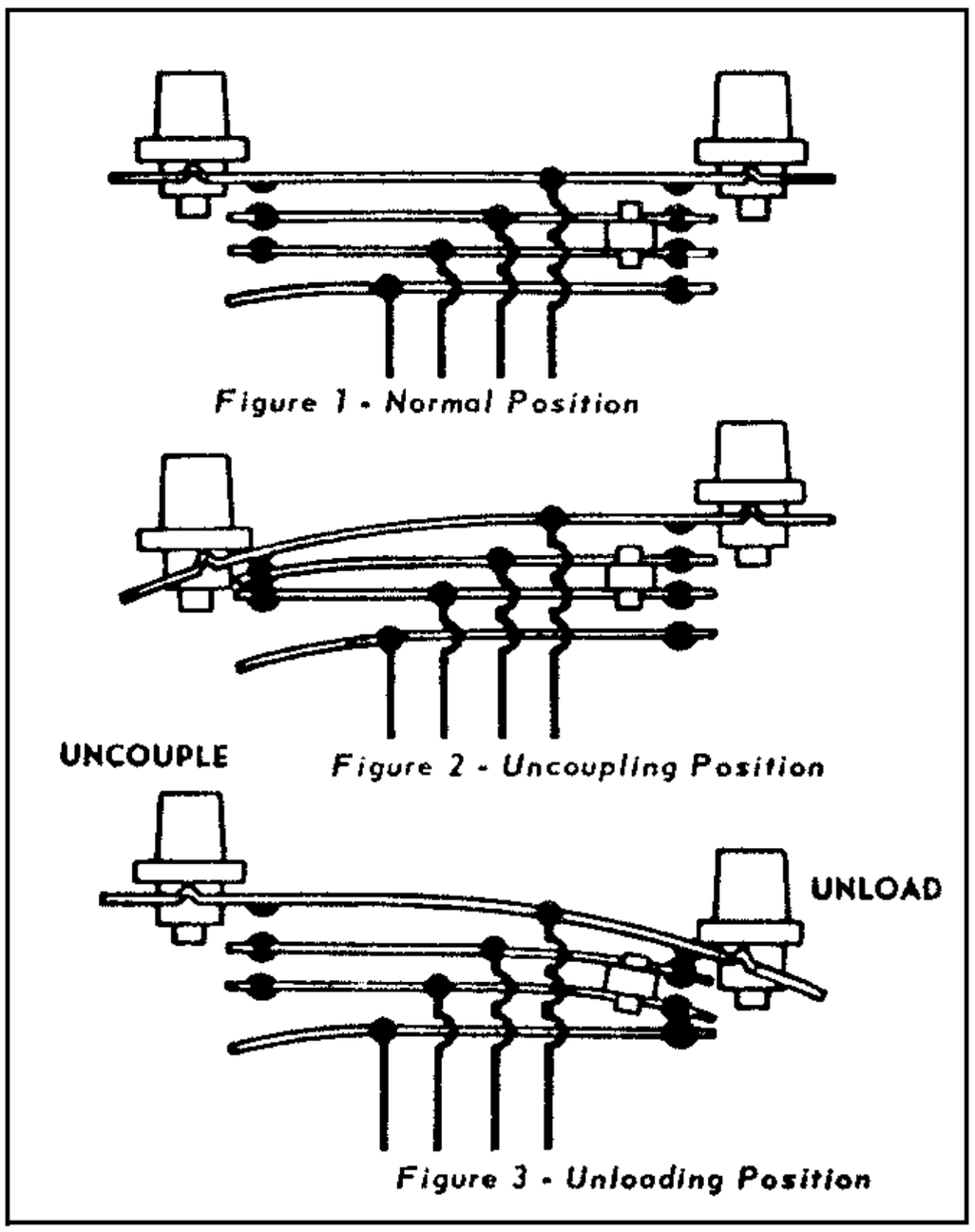


Figure 1 - Normal Position

Figure 2 - Uncoupling Position

Figure 3 - Unloading Position

Although the various special track sections differ from each other, their controllers are identical with the exception of the treatment of cable ends. The controller is a pile-up switch consisting of four flat contact springs insulated from each other by fibre spacers. In normal position (Figure 1) the four contacts are separated. In 'Uncouple' position (Figure 2) the spring connected to the track power rail is brought into contact with the two control rails and to the central electro-magnet. In 'Unload' position (Figure 3) one of the control rails is brought into contact with the power rail while the opposite control rail is connected to ground through the outside rails.

While remote control sections can be located anywhere in the layout the best practice is to place them between two ordinary straight sections. This will facilitate coupling by aligning the trucks of adjacent cars and avoid possible interference which may occur under some circumstances between accessories located next to the remote control section and locomotives coming out of a curve. Another difficulty which may be experienced if the remote control section is located next to a curve is that the roller of a 622 diesel switcher may bridge between the center rail and one of the control rails causing the switcher to uncouple automatically.

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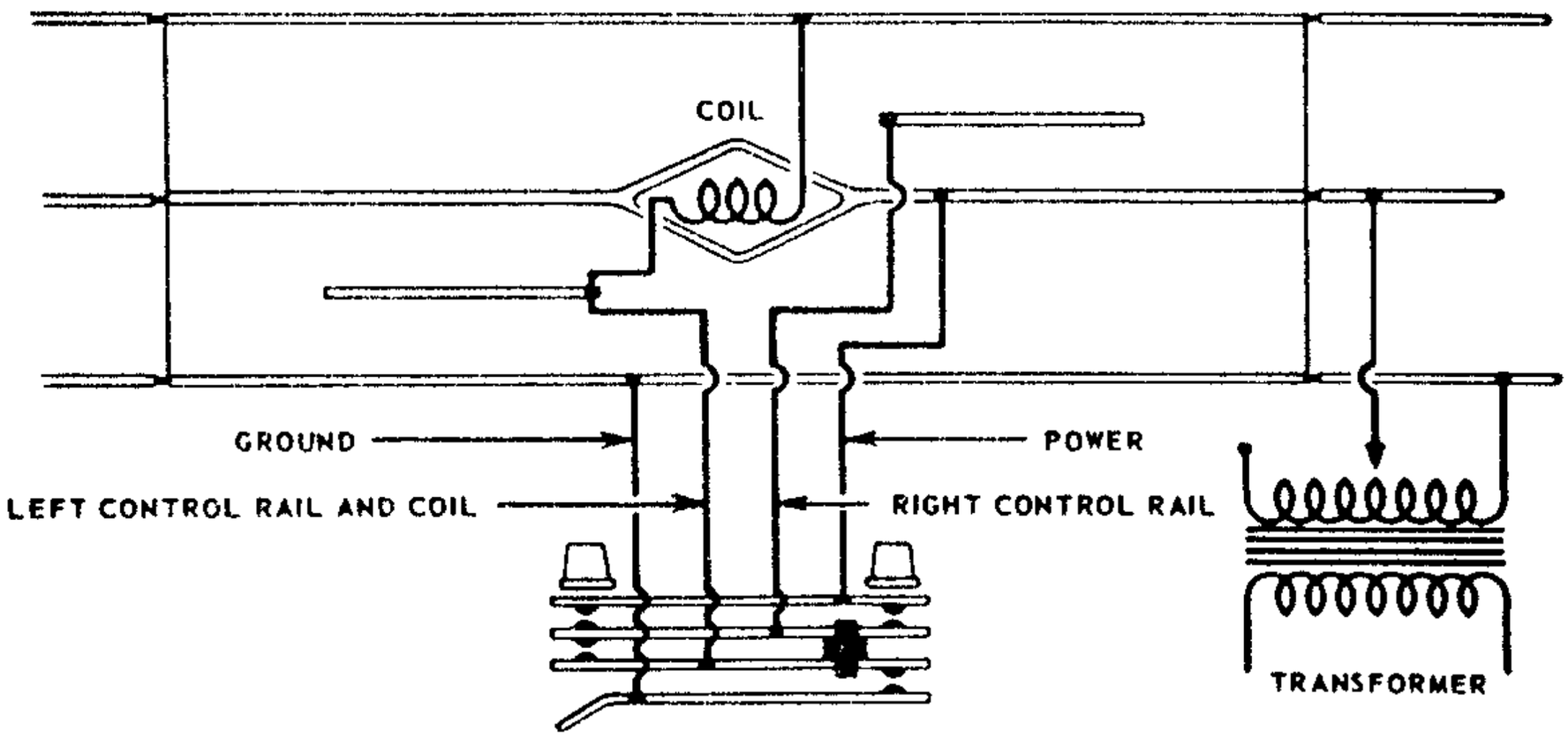
Figure 4 - Schematic Wiring Diagram of Remote Control Set No. 6019



Note that for fixed voltage connection illustrated below the fourth conductor which normally leads to the power rail of the remote control section is connected directly to the transformer.

Fixed Voltage Operation

In normal usage the control rails and the electromagnet are energized by the regular variable track voltage applied to the entire track system, but it is sometimes desirable to permit a remote control section located in an insulated siding, etc. to receive fixed voltage directly from the transformer so that an operating car stationed in the siding might be unloaded even though the rest of the siding is 'dead'.

For this installation the controller wire which runs to the center power rail (See Figures 4, 6 and 8) should be disconnected from the remote control section and connected instead to a fixed voltage post on the transformer. To prevent a short circuit the fixed voltage and the variable track voltage circuits should have a common ground. A chart listing such fixed and variable voltage combinations for various transformers is given on Page 6, Section PS,

Figure 5 - Diagram for Connecting Fixed Voltage to Remote Control Set No. 6019

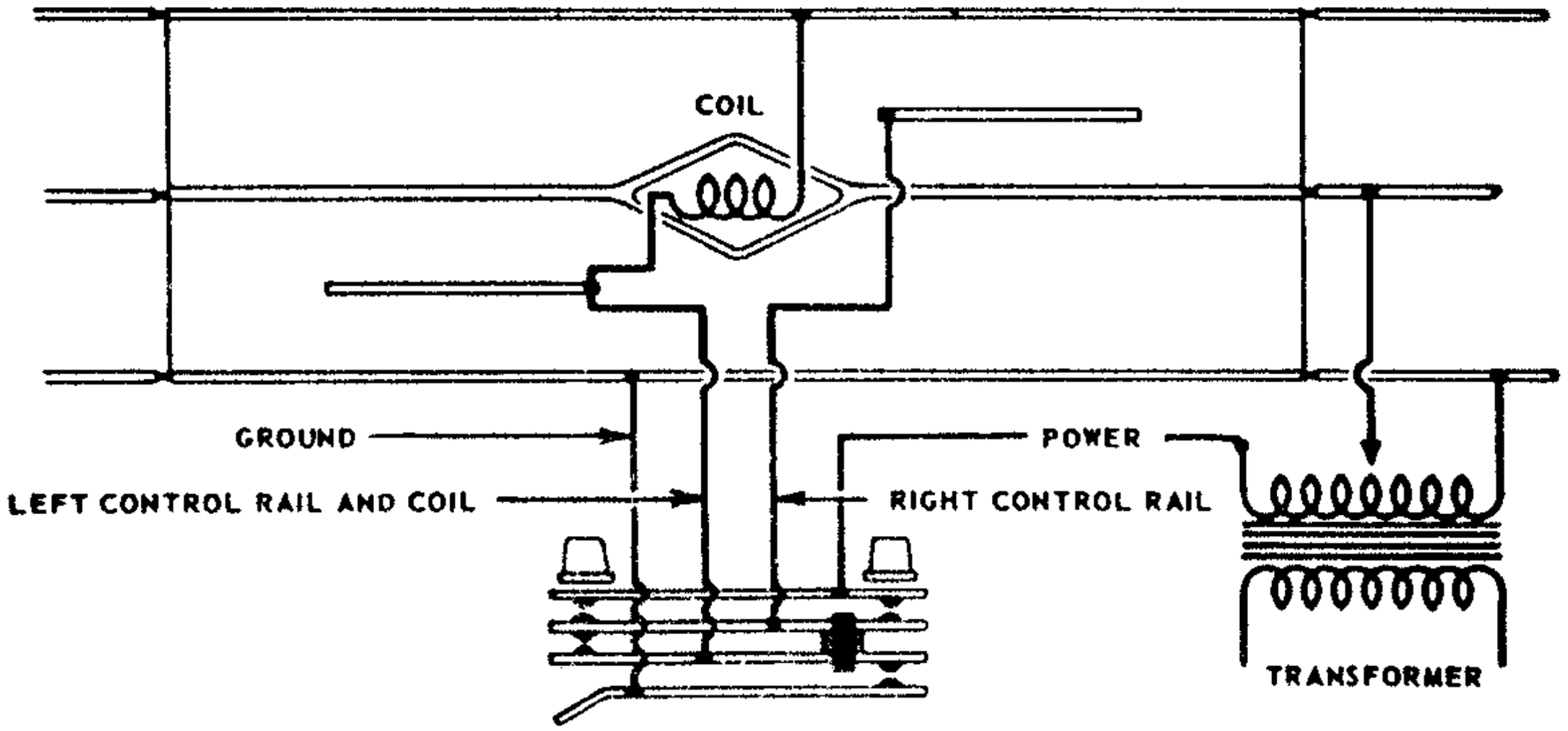


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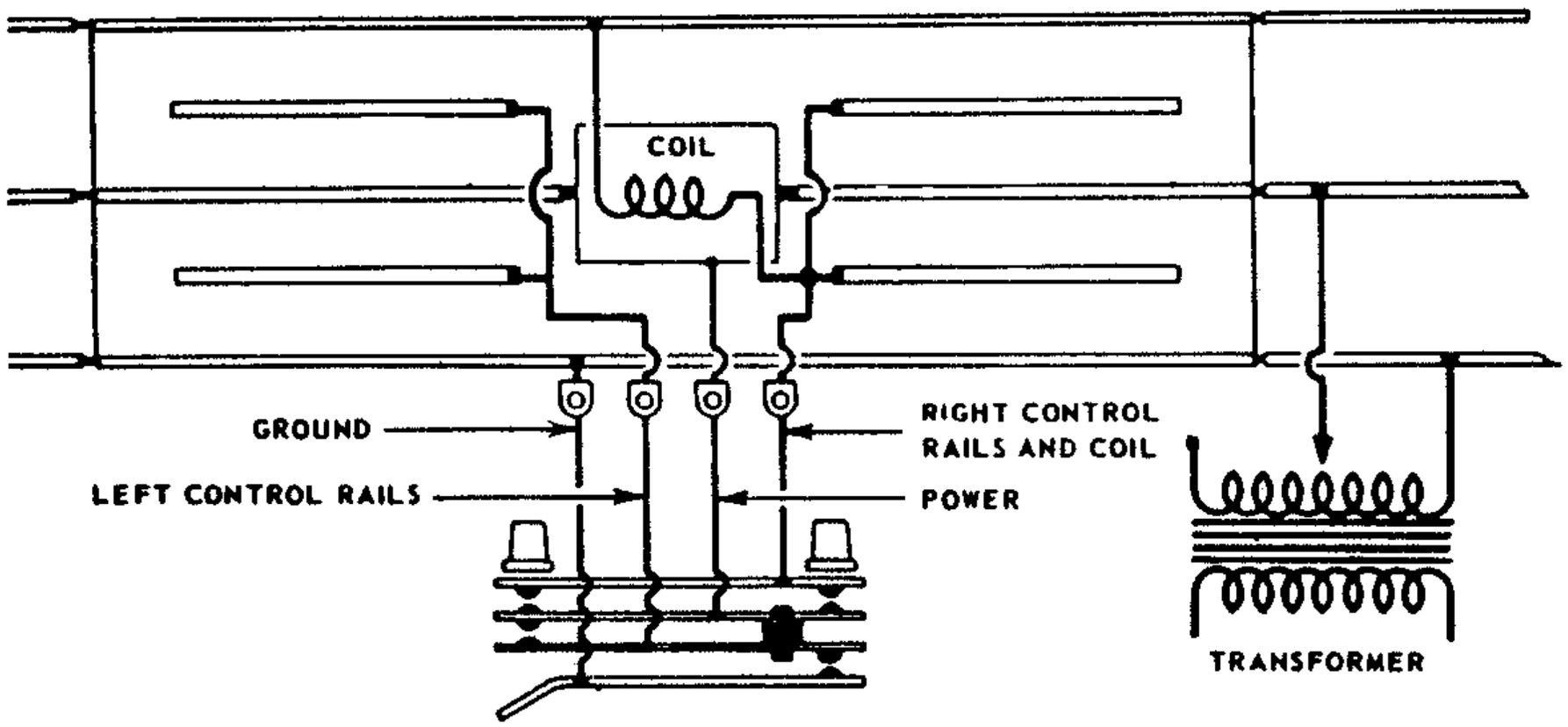
Figure 6 - Schematic Wiring Diagram of Remote Control Set Type UCS



Note that in Type UCS Remote Control Set the third instead of the fourth conductor is connected to the power rail of the remote control track section. This is done for mechanical reasons and has no electrical significance except for alternate fixed voltage operation.

Figure 7 - Bottom View of Type UCS Remote Control Section

Note how the electromagnet coil leads are soldered to the ground rail and to the metal yoke joining the two left-hand control rails to the second controller conductor. The ground coil lead must be insulated from the metal coil bracket which is normally at track voltage potential.

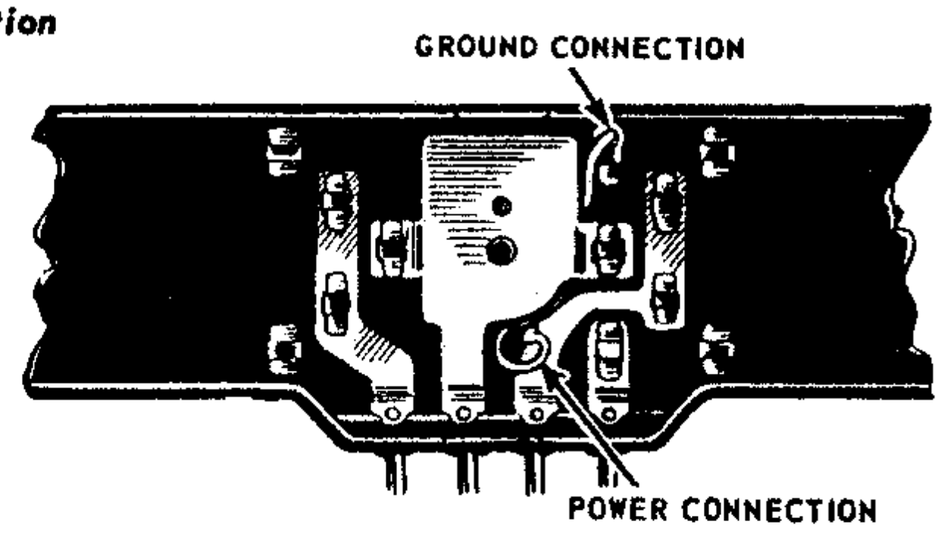
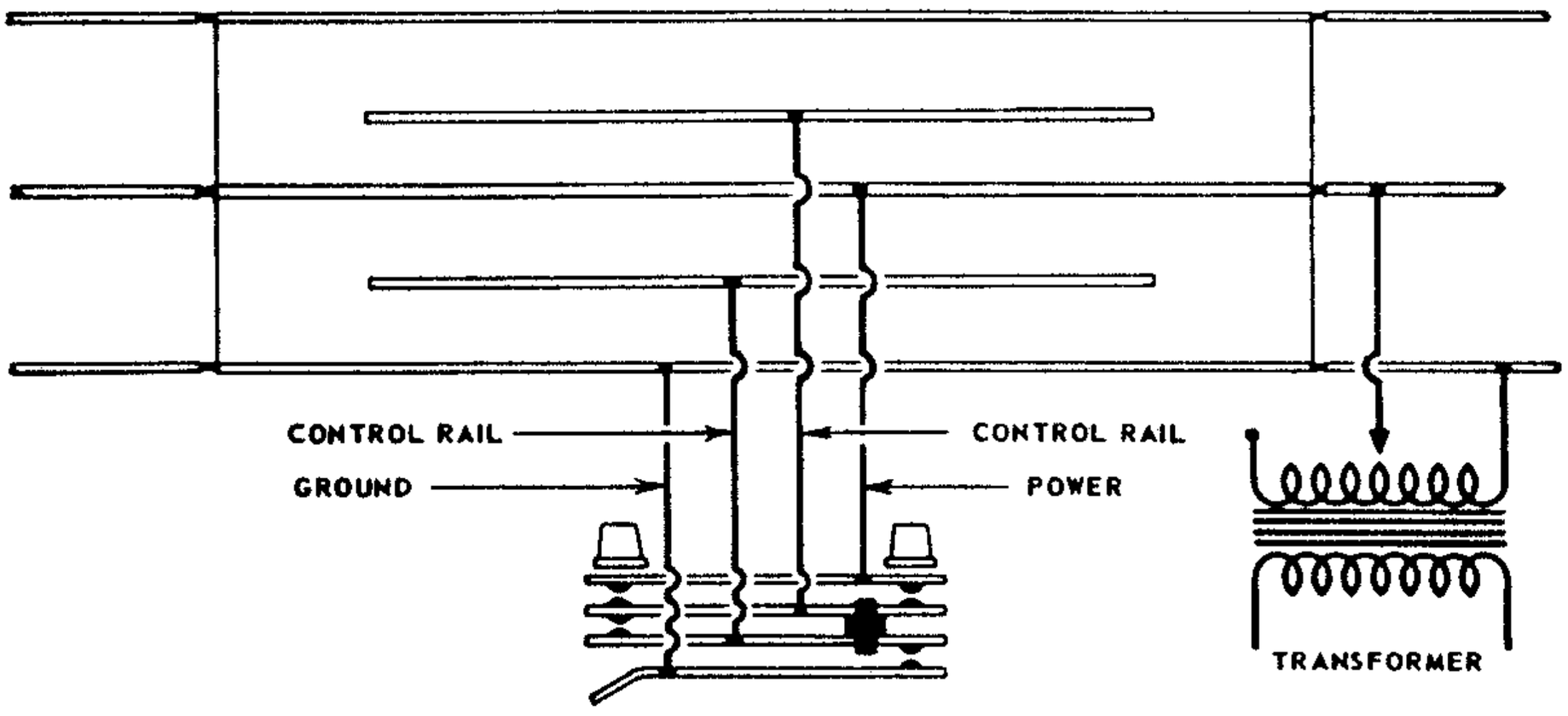


Figure 8 - Schematic Wiring Diagram of Remote Control Sets Type RCS and No. 1019



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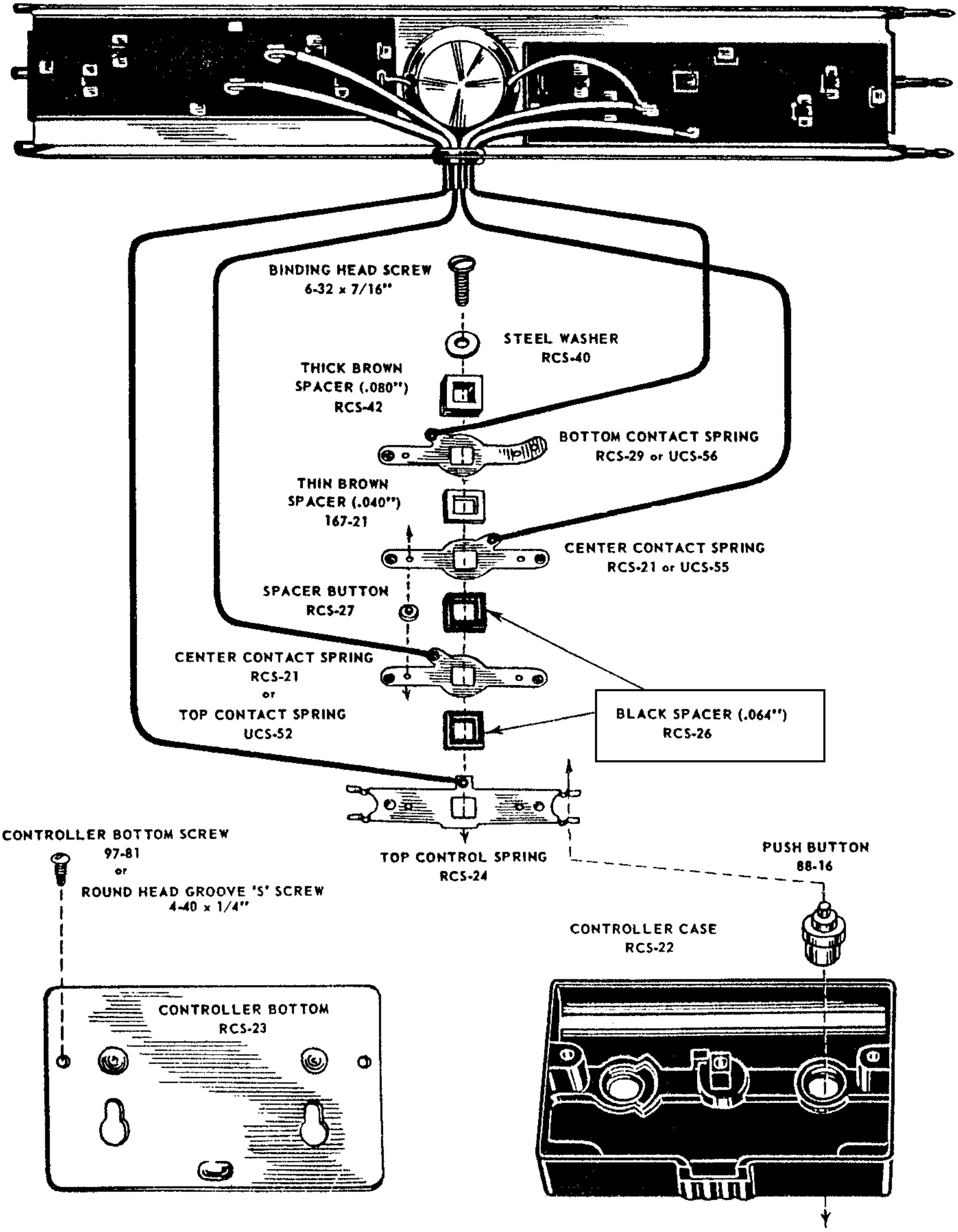
Pictorial Wiring Diagram of Remote Control Set No. 6019



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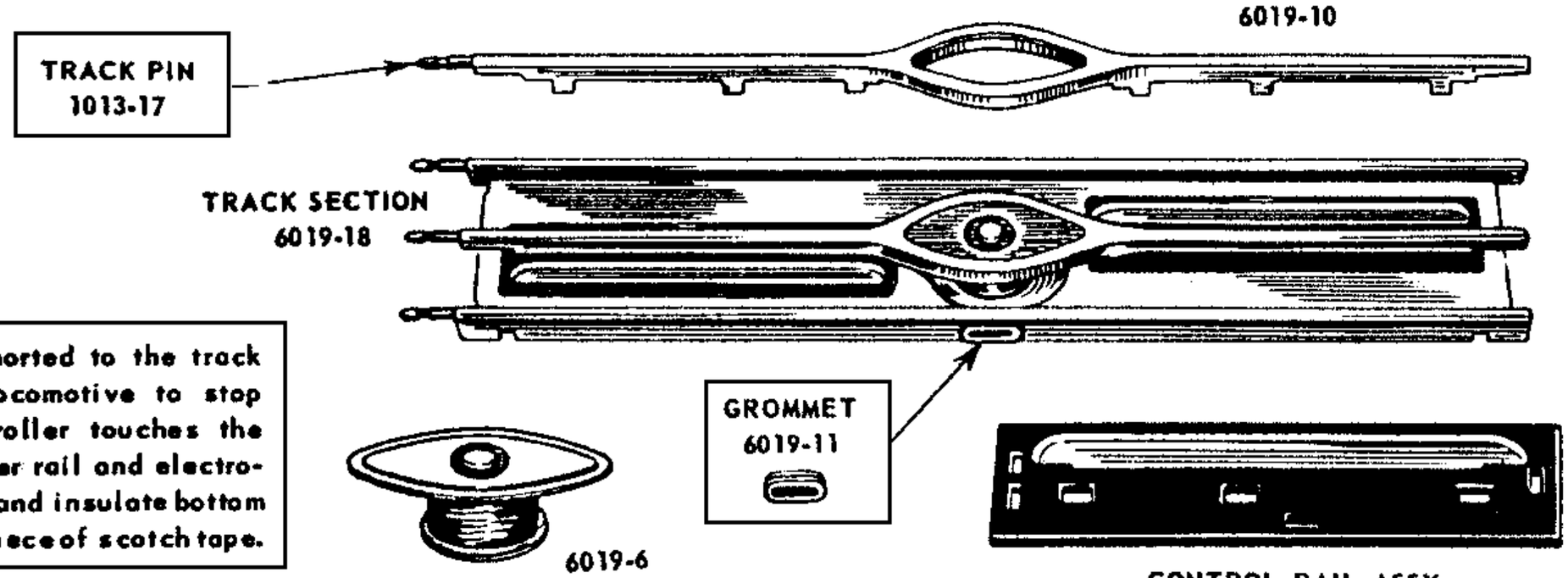
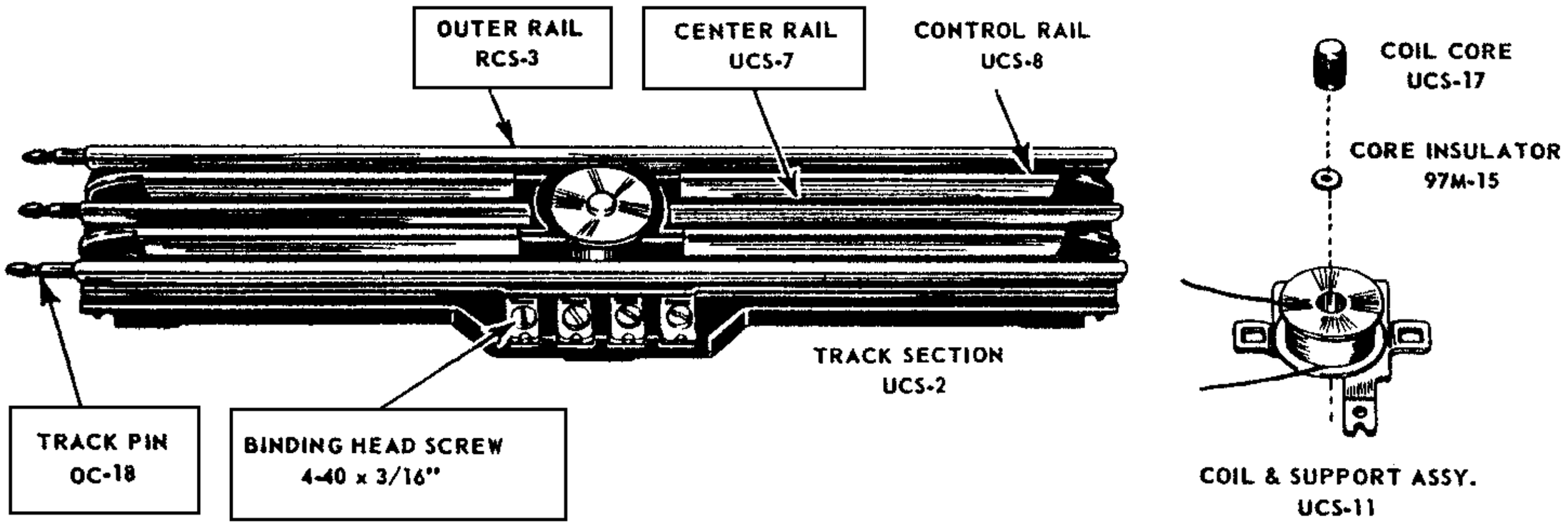
NO. 6019 REMOTE CONTROL TRACK



If the core is shorted to the track base, causing locomotive to stop as its contact roller touches the core, lift up center rail and electromagnet assembly and insulate bottom of spool with a piece of scotch tape.

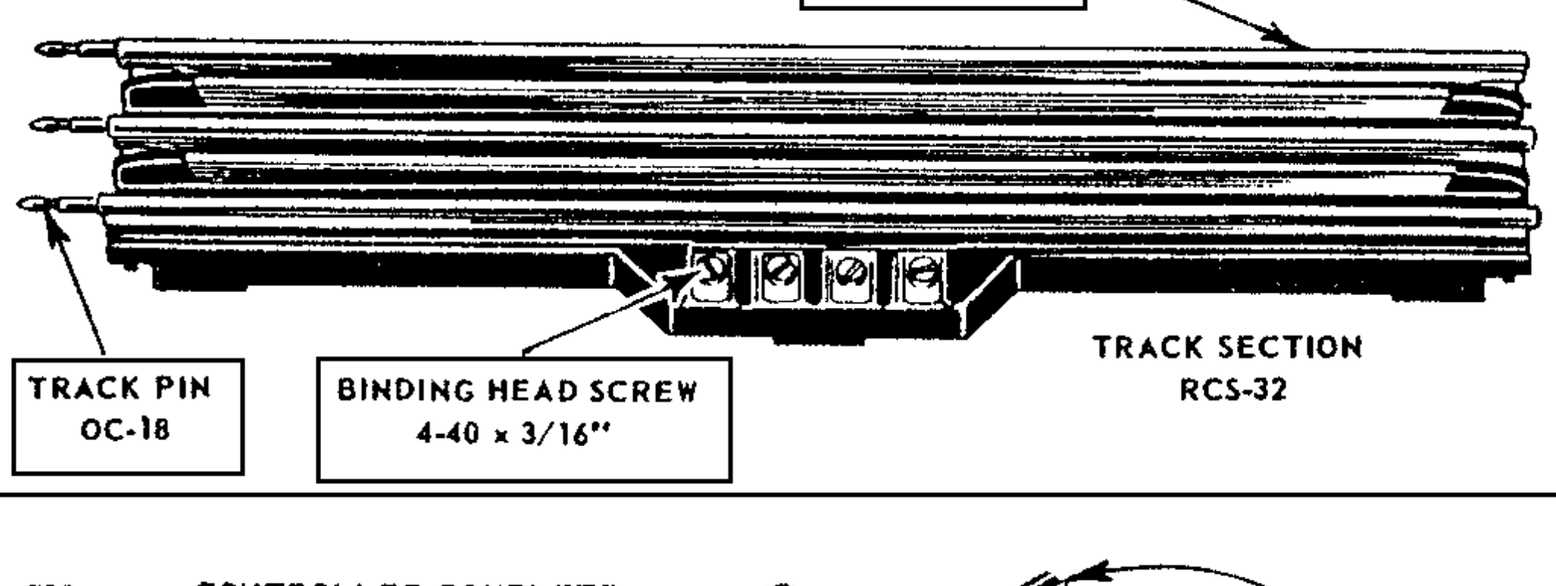
TYPE UCS REMOTE CONTROL TRACK



TYPE RCS REMOTE CONTROL TRACK

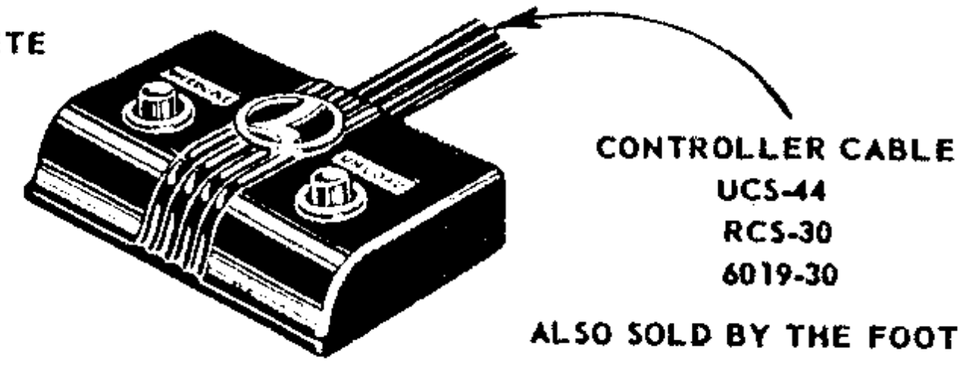
NOTE

Remote control track section 1019-20 formerly used with '027' track is no longer available and should be replaced with track section 6019-18.



The three controllers listed are interchangeable electrically and differ from each other only in the treatment of the cable ends and in details of internal parts. Controller cables differ from each other in the same way. Controller Cable UCS-44 includes the spade lug terminals.

CONTROLLER COMPLETE
RCS-20
6019-20
UCS-40



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REPLACEMENT PARTS FOR REMOTE CONTROL SETS

Part No.	Part Name	List Price
	CONTROLLER PARTS	
88-16	Push Button	.05
97-81	Bottom Screw	.02
97M-15	Core Insulator	.02
167-21	Thin Brown Spacer (.042")	.05
6019-20	Controller Complete	2.00
6019-30	Controller Cable	.35
RCS-21	Center Contact Spring	.15
RCS-22	Controller Case	.50
RCS-23	Controller Bottom	.25
RCS-24	Top Control Spring	.15
RCS-26	Black Spacer (.062")	.05
RCS-27	Spacer Button	.05
RCS-29	Bottom Contact Spring	.15
RCS-30	Controller Cable	.35
RCS-40	Steel Washer	.05
RCS-42	Thick Brown Spacer (.080")	.05
UCS-40	Controller Complete	2.00
UCS-44	Controller Cable & Terminal Assy.	.45
UCS-52	Top Contact Spring (Alt. for RCS-21)	.15
UCS-55	Center Contact Spr. (Alt. for RCS-21)	.15
UCS-56	Bottom Contact Spr. (Alt. for RCS-29)	.15
4-40 x 1/4"	R.H. Groove 'S' Screw (Alt. for 97-81)	.02
6-32 x 7/16"	B.H. Screw	.02
	6019 TRACK PARTS	
1013-17	Track Pin (Doz.)	.10
6019-6	Electromagnet Assembly	1.00
6019-10	Center Rail	.25
6019-11	Grommet	.05
6019-12	Control Rail Assembly	.25
6019-18	Track Section Complete	1.75
	UCS TRACK PARTS	
97M-15	Core Insulator	.02
OC-18	Track Pin (Doz.)	.10
RCS-3	Outer Rail	.15
UCS-2	Track Section Complete	2.00
UCS-7	Center Rail	.10
UCS-8	Control Rail	.15
UCS-11	Coil & Support Assembly	.50
UCS-17	Coil Core	.05
4-40 x 3/16"	B. H. Screw	.02
	RCS TRACK PARTS	
OC-18	Track Pin (Doz.)	.10
RCS-3	Outer Rail	.15
RCS-32	Track Section Complete	1.50
4-40 x 3/16"	B. H. Screw	.02

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