

PARENTS, PLEASE NOTE: As with any electrically operated unit, it is always best to periodically examine it and have repaired or replaced any potentially hazardous part.

FOR YOUR PROTECTION

1. Never reverse a locomotive without stopping it first. To do so may damage the locomotive engine.
2. Never connect a D.C. locomotive to A.C. terminals of your Tech 3 Power Command. This may damage your locomotive motor.
3. Turn the power switch OFF at end of day's operation.
4. When a short circuit or current overload occurs and circuit protector trips, turn the Tech 3 Power Command off and correct the short or overload. Allow 2-5 minutes for the thermal circuit protector to reset before turning your unit back on.
5. Avoid prolonged overloads and short circuits. While your Tech 3 Power Command is equipped with several safety devices to prevent accidental damage due to short circuits and overloads, it is unwise to subject it to these frequently.
6. Do not store in damp area.
7. For best performance, keep wheel and track surfaces clean. Intermittent and jerky operation are often caused by an oxide coating which has formed on the track or wheels.
8. Before returning your unit for repair or servicing, make certain it is defective. Do not shut down your layout unnecessarily.
9. If it is necessary to return your unit, repack it in its original carton and then in an outer carton, placing at least three inches of packing material on each side, mail the unit to:

Model Rectifier Corporation
80 Newfield Avenue
Edison, New Jersey 08837

Be certain to send the unit Parcel Post insured or United Parcel Service, and include a letter with your name and address printed clearly, describing the problem you are experiencing.

All of us at MRC would like to join in wishing you many happy years of model railroading with your Tech 3 Power Command.

MODEL RECTIFIER CORPORATION

Printed in U.S.A.

INS-1291



CAUTION – ELECTRICALLY OPERATED PRODUCT

NOT RECOMMENDED FOR CHILDREN UNDER 12 YEARS OF AGE.

**AS WITH ALL ELECTRIC PRODUCTS,
PRECAUTIONS SHOULD BE OBSERVED DURING HANDLING
AND USE TO REDUCE THE RISK OF ELECTRIC SHOCK.**

ELECTRICAL SPECIFICATIONS:

INPUT – 120VAC 60HZ
OUTPUT – 20VDC, 19VAC, 20VDC – ALL NO LOAD RATINGS
TOTAL OUTPUT FOR MODEL 9000 – 19VA
TOTAL OUTPUT FOR MODEL 9500 – 30VA

OPERATING INSTRUCTIONS FOR TECH 3 POWER COMMAND MODELS 9000 & 9500

CONGRATULATIONS! You have just purchased one of the most advanced train controls on the market. MRC's new POWER COMMAND 9000 and 9500, with Advanced Proportional Tracking Control (APTC), is the latest in power pack technology. APTC is the system that allows a tight responsive feedback between the throttle and locomotive; it makes the electric motors of any locomotive run more evenly and realistically than before. The realism will impress you and satisfy the most avid rail-roader. It also includes such features as Track Voltage and Track Current meters to monitor your layout, advanced momentum circuitry, pump action spring load brake switch, high grade NORYL™ Thermoplastic housing, human engineered controls, and much more. As you operate your layout with the new Power Command unit, you will grow to appreciate the engineering and thought that went into its design. As always, our old friends will expect and receive the best in quality and performance. If this is your first purchase of an MRC product, we wish to welcome you to the ever growing ranks of those who purchase the best in Model Rail-roading Power Supplies: MRC.

**MODEL RECTIFIER CORPORATION
80 NEWFIELD AVENUE, EDISON, N.J. 08837
(732) 225-6360**

©1996 MODEL RECTIFIER CORPORATION

CONTROLS

POWER SWITCH: The power ON/OFF switch disconnects the input power from your Power Command and shuts the unit down completely.

DIRECTION: The direction switch reverses the polarity of voltage applied to the track and thereby reverses the direction of your locomotive. This switch should only be operated when the locomotive is not moving.

MOMENTUM SWITCH: The momentum switch in your Power Command unit allows operation in either of two switch positions. With the switch in the OFF position a change in the throttle setting results in an immediate change in locomotive speed. With the momentum switch in the ON position the locomotive moves slowly and gradually like a real locomotive. This switch can add substantially to your model railroading enjoyment. When a real locomotive is given an increase in throttle setting there is a lag until the pre-set speed is reached. The heavier the load of cars being drawn the longer the lag time or delay. Similarly, when braking a real locomotive, a considerable distance is needed in order to stop. Since light-weight models do not mimic this delay on their own, momentum circuitry, as in this pack, is used to create it electrically. Different rates of acceleration can be obtained by varying the maximum position of the throttle. Setting the throttle to 100 will produce fairly rapid acceleration, 90 more gradual, and so on.

PUMP TYPE BRAKE: The brake switch in your Power Command unit is a spring loaded slide switch. To operate the brake, move the switch to the ON position and hold it there. Your locomotive will slow at a steady rate. If your throttle was left at a setting other than 0 releasing the brake will cause the locomotive to gradually accelerate to the speed determined by the throttle setting (as long as the momentum switch is on). Pumping the brake will allow for more gradual deceleration.

THROTTLE CONTROL: The throttle knob is used to set the speed of the locomotive you are controlling. With the momentum switch in the OFF position, your locomotive will respond to the throttle knob movement. With the momentum switch in the ON position your locomotive will not respond immediately to the throttle setting. The brake should be applied to slow the locomotive. If the brake is not applied, but the throttle is turned down, the train will very, very slowly coast to a stop just like a real train. The numbers on the dial do not correspond to a scale speed. Due to the different types of locomotives and motors available, a locomotive may not move (start) until the knob has been turned several degrees.

INDICATORS

PILOT LIGHT: The pilot light is a Light Emitting Diode (LED). The LED will glow when the power switch is in the ON position.

MOMENTUM LIGHT: Your Power Command is equipped with a Light Emitting Diode (LED) indicator to make you aware of when the momentum switch is in the ON position. The LED will glow whenever momentum is engaged, even if the locomotive is not moving.

OVERLOAD LIGHT: Your Power Command is equipped with a sensitive thermal circuit protector. In the event of a short circuit or overload, the circuit protector will trip and begin to cycle on and off. Your overload Light Emitting Diode (LED) will light giving a visual indication of a problem. When this occurs, turn your unit off, correct the source of the short circuit or overload, wait 2–5 minutes for the circuit protector to reset, then turn the unit back on. If the overload indicator is still lit, you have either failed to correct the source of the short circuit or overload, or you have not waited long enough for the circuit protector to reset.

METERS: The Power Command units incorporate a Voltmeter (Track Voltage) and an Ammeter (Track Current) to monitor your layout. The meters are illuminated for easy viewing under varying amounts of light.

The meters are wired into the circuit so that they will continually respond without regard to the direction of travel of the locomotive.

When a locomotive is placed on the track, the Ammeter will read the amount of current (amps) the locomotive is using; the Voltmeter will read the voltage that is applied to the track through the throttle. A well maintained locomotive will require less voltage and current to start to move than a poorly functioning or heavily loaded locomotive.

NOTE: When there is a No Load condition (no locomotive on the track or a bad connection), the Voltmeter will only read output voltage and the Ammeter will read 0. This is normal if no locomotive is on the track, but can indicate a problem with your layout wiring or with the locomotive if the locomotive is on the track (no electrical pickup from the track to locomotive).

TRACK CURRENT: This 0–3 DC Ammeter measures the amount of current (amperes) from the power pack that is being used by the locomotive, plus any other device connected to the track such as lighted passenger cars.

TRACK VOLTAGE: This 0–20 DC Voltmeter measures the output voltage created by the power pack across the track.

TERMINALS

VARIABLE DC: These terminals are for attachment of your Power Command to the main line of your layout. If the direction of your locomotive does not match the position of the Direction switch, simply reverse the wiring going to these terminals.

ACCESSORIES AC: These terminals supply A.C. voltage for use with A.C. accessories. Polarity does not matter.

FIXED DC: These terminals supply D.C. voltage for use with Cab Controls and D.C. accessories.

NOTE: When connecting to any terminal, care must be taken that wires do not touch more than one terminal at one time. Loose wires are a danger to your layout; be certain wires are properly wrapped around terminals before tightening screws.