

# SD-9 Locomotive

## WARNING!!!

DO NOT REMOVE LOCOMOTIVE FROM THIS TRAY UNTIL YOU HAVE READ THESE INSTRUCTIONS!

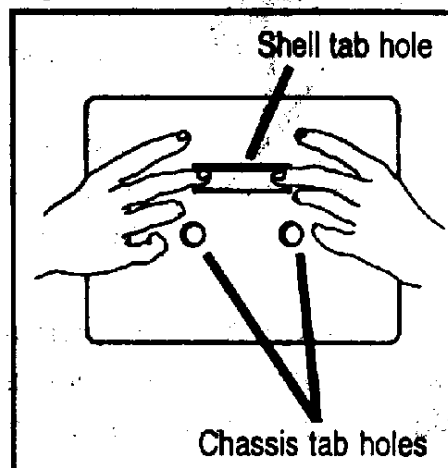
### REMOVAL INSTRUCTIONS

#### STEP 1

##### Removing the Chassis

Remove protective plastic cover. Grasping the sides of the foam casing, press two fingers into the tab holes in the underside to push the chassis out above the foam in the front (Figs. 1, 1A). Lift straight out from the front by placing thumb into semi-circular opening under the fuel tank and index finger into semi-circular opening at top center of chassis. If fit is too snug, pull alternately on left and right side until end protectors are above foam. Grasp end protectors and pull chassis out of foam tray. Lift off end protectors.

Fig. 1 Underside of foam

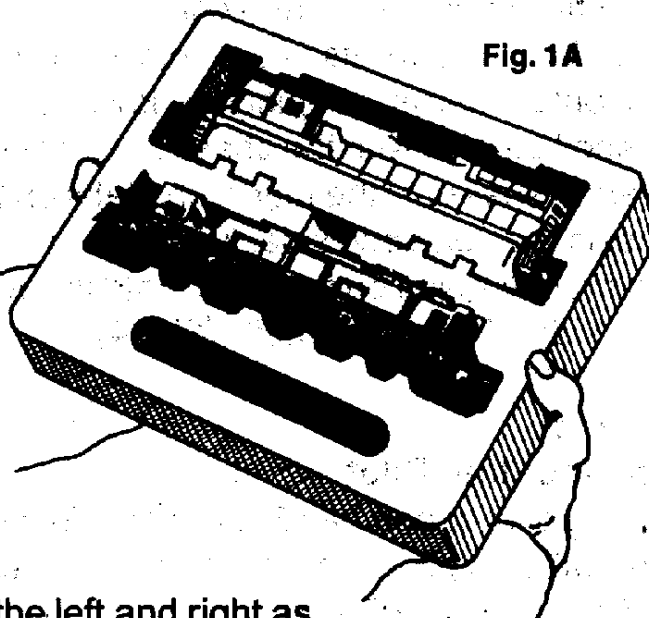


#### STEP 2

##### Removing the Body Shell

In the same manner, grasp the sides of the foam casing and push on the rectangular tab on the underside to push the shell out above the foam in the front (Figs. 1, 1A). Pull straight out from the top very carefully and slowly so as not to damage any of the delicate detail parts. If foam should become stuck as you are pulling, you may jiggle the foam to the left and right as you continue to pull out. Under no circumstances should you apply pressure to the shell.

Fig. 1A



#### STEP 3

Grasping shell by the solid area below the grill on each side, lift shell off its foam protector.

(INSTRUCTIONS CONTINUED ON OTHER SIDE)

## STEP 4

Remove parts bag. Refer to the Detail Parts Chart found in the Operating Instructions to determine which parts were used by your prototype road.

### Applying Parts

**WINTERIZATION HATCH:** Drill through the 3 faint indentations found at the inside rear of the body shell (Fig. 2). Snap the tabs on the winterization hatch into the holes in the roof (Fig. 2A).

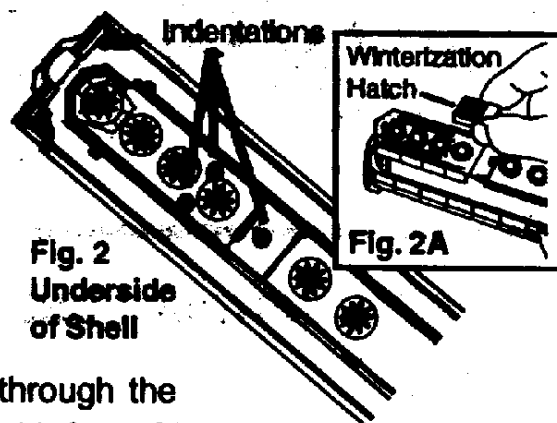


Fig. 2  
Underside  
of Shell

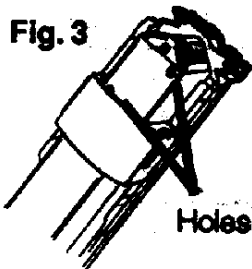


Fig. 3

**STEAM GENERATORS:** Drill through the 2 indentations found at the inside front of the body shell. One of the holes will actually go through the clear plastic light fixture. Insert the steam generators from the outside of the shell, lining up the tabs on the parts with the holes in the shell (Fig. 3).

**REMAINING PARTS:** Add sunshades or all-weather windows (see exploded view parts drawing in Operating Instructions for assembly) before putting shell on chassis. Add rerailers to side frames at any time. *Do not attach pilot yet.*

## STEP 5

### Connecting the Shell and Chassis

Hold shell in one hand and chassis in other hand. Lining up fronts of both pieces, lower shell onto chassis, keeping the lower edge of the shell parallel with the chassis. Continue lowering shell until the four round tabs on the chassis (two on each side, just above the fuel tank) are visible through the four circular holes on the shell that indicate fuel and water fills (two on each side of the loco shell) (Fig. 4).

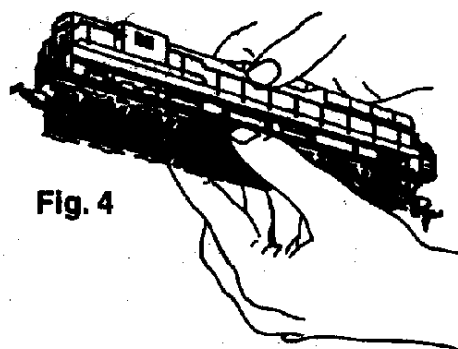


Fig. 4

## STEP 6

### Applying the Pilot

Holding pilot in one hand and model in the other, insert tabs on pilot into circular holes on either side of the front coupler (Fig. 5).

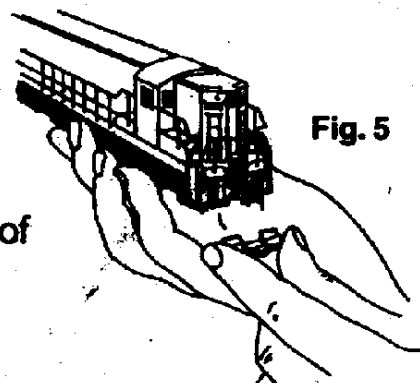


Fig. 5

### Removing Shell for Maintenance

Gently unsnap tabs from circles above fuel tank on both sides. Grasping the shell at the center top of both sides (being careful not to crush grills), lift shell straight up and off of the chassis.

**IMPORTANT:** Retain package and all packing materials in case you need to ship locomotive for servicing.

# OPERATING INSTRUCTIONS



## SD9 Locomotive



Congratulations! You have just purchased one of a series of the finest running, most detailed model locomotives available today. It is equipped with a totally new diecast chassis and a state of the art drive system that is second to none.

Your new PROTO 2000 HO Scale EMD SD9 diesel has been carefully hand-assembled and tested before leaving our modern factory. Additionally, it has been engineered to provide virtually trouble-free service and operation.

As with any precision mechanical equipment, occasional lubrication and maintenance is recommended.

# LUBRICATION AND CLEANING

## *Frequency*

PROTO 2000 locomotives, with their precision-engineered reduction gears, motor and chassis need only occasional, careful lubrication.

- Models used infrequently or not at all should not be lubricated more often than once a year. Excessive amounts of lubricant can migrate to the driver tires and cause reduced tractive force and grime on rail heads.
- Models which are run often and pull long consists on grades should be inspected and lubricated every two or three months.

## *Instructions*

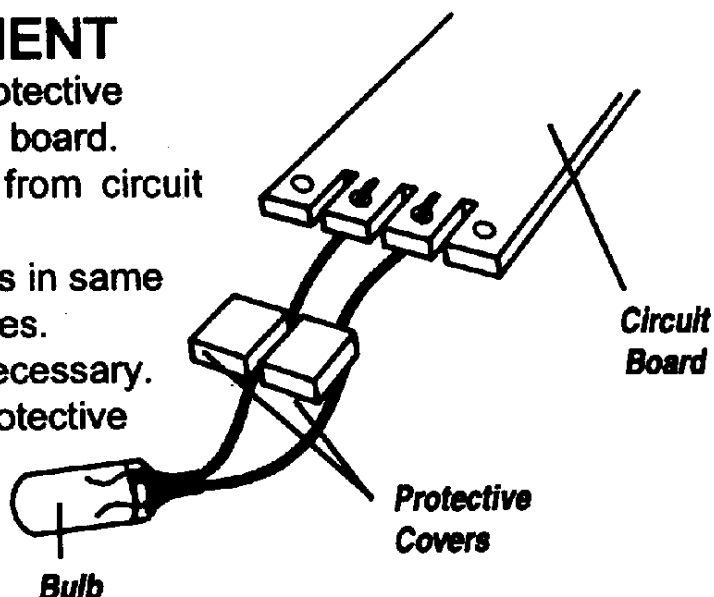
**Bearing Areas.** A small patch of cloth held with tweezers should be used to clean bearing areas before lubrication. With the model upside down, place a drop of light oil at each wheel bearing. Do not overlubricate.

**Worm Gears.** By extracting the body shell and metal chassis weights the snap-on covers over the drive worms can be removed. Light grease should be applied to the worm gear with a toothpick.

**Idler Gears.** A drop or two of light oil can also be applied to the plastic idler gears below the worm gear. As they are made from slippery plastic, the gears require little maintenance.

## **BULB REPLACEMENT**

- Step 1.** Remove black protective covers from circuit board.
- Step 2.** Remove old wires from circuit board.
- Step 3.** Replace new wires in same position as old wires. No soldering is necessary.
- Step 4.** Replace black protective covers onto circuit board.

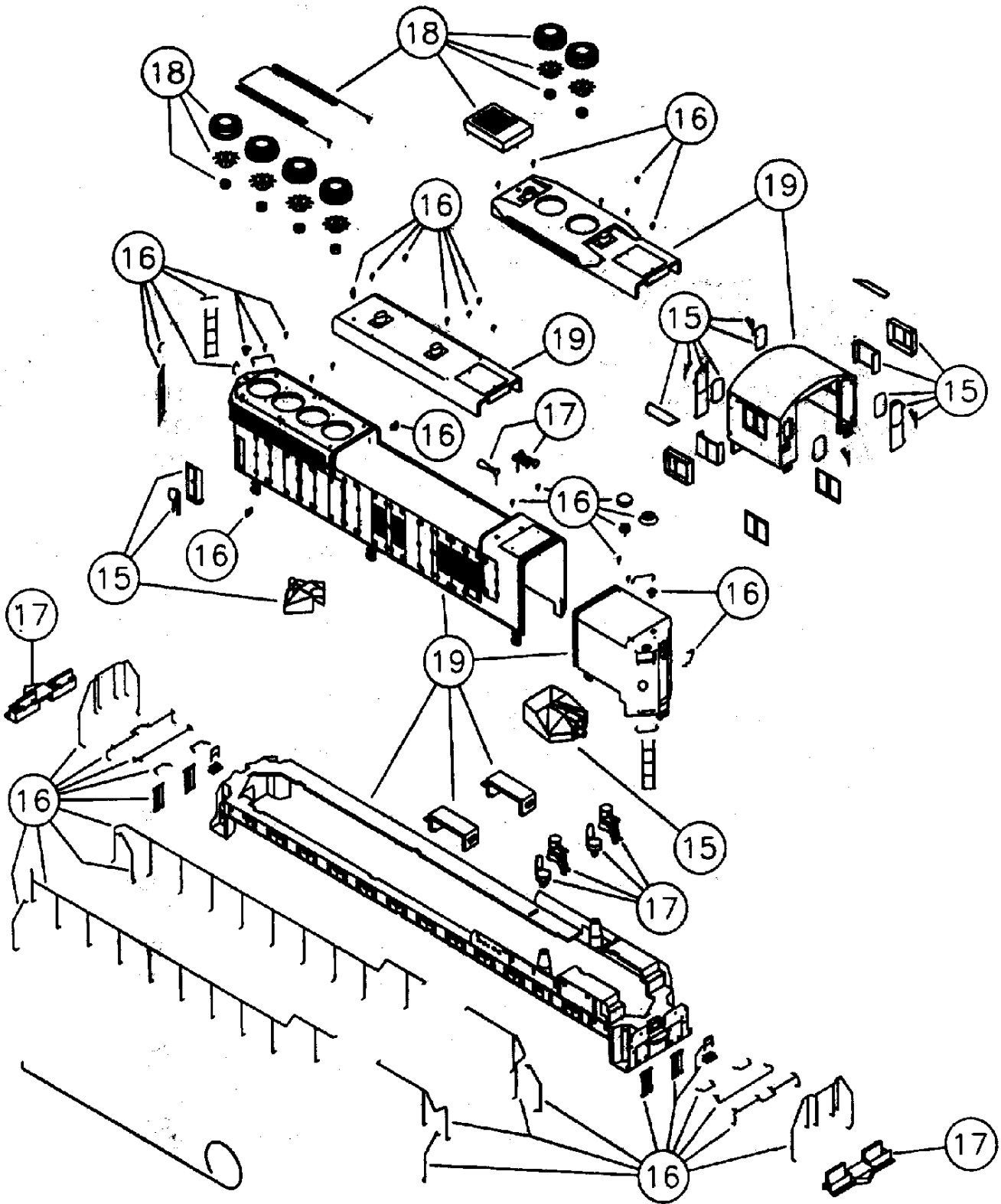


Based on our extensive PROTO 2000 research, the chart below lists which optional model parts are appropriate for your prototype road name and number.

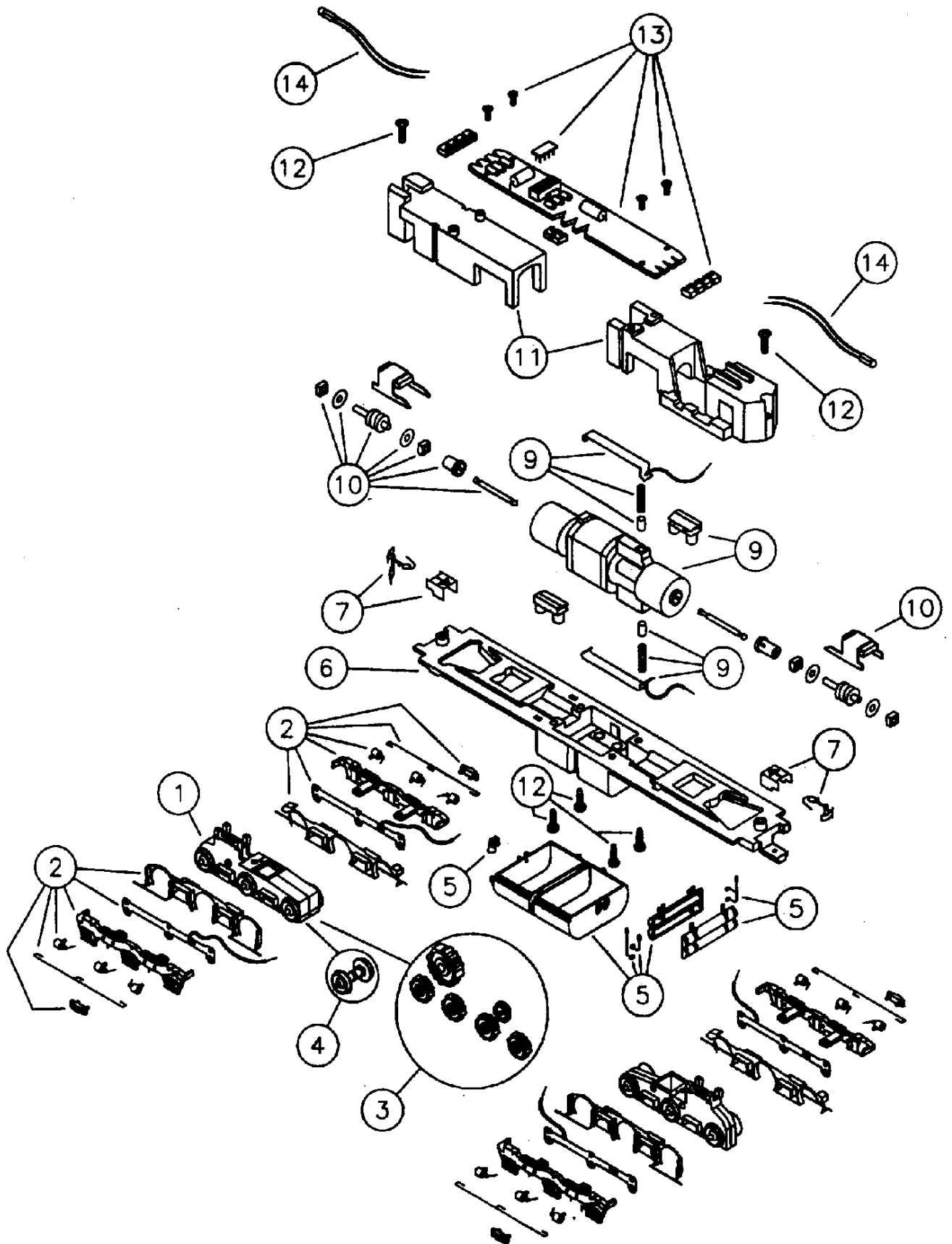
**DETAIL PARTS CHART  
PROTO 2000 SD9 Roster**

Road Name	Dynamic Brakes	Steam Generator	Winterization Hatch	Rerail Frogs	Sun-shades	All-weather Windows
<b>BN</b>	•		•		• (L)	• (R)
<b>B&amp;O</b>			•			
<b>CB&amp;Q</b>	•	•	•		•	
<b>CHESSIE</b>	•	•	•	•	•	
<b>CNW</b>			•		•	
<b>CONRAIL</b>	•				•	
<b>DMIR</b>	•	•	•			•
<b>D&amp;RGW</b>	•			•	•	
<b>GN</b>			•			•
<b>NICKEL PLATE</b>				•	•	
<b>N&amp;W</b>				•	•	•
<b>PRR</b>	•				•	
<b>SP</b>	•				•	
<b>SOUTHERN (CofG)</b>					•	

**FIG. 1A Exploded Parts Drawing — Body Shell**



**FIG. 1B Exploded Parts Drawing — Chassis**



**PROTO 2000  
HO EMD SD9 PARTS LIST**

<u>PART #</u>	<u>KEY #</u>	<u>DESCRIPTION</u>	<u>LIST PRICE</u>
584730	1	SD9 Truck Assembly w/o Side Frames (Contains: 1 Truck --- all parts assembled.) Front and Rear are the same.	\$ 5.00
584731	2	SD9 Side Frame for 1 Truck - all parts (Contains: All parts for side frames --- unassembled; parts for all trucks.)	2.50
584732	3	SD9 Spur Gear Package (Contains: 1 set of 6 gears.)	2.00
584733	4	SD9 Gear Driver Assembly (Contains: 1 assembled geared driver.)	2.50
584734	5	SD9 Fuel Tank, Air Tank and Piping (Contains: Tanks, piping and shell.)	3.00
584735	6	SD9 Chassis/Frame (Contains: 1 D/C Frame.)	7.50
584736	7	SD9 Coupler Package (Contains: 2 each SD9 coupler pockets, couplers.)	1.00
584737	8	SD9 Brush/Brush Spring Package (Contains: 2 each springs, brushes, retainer clips w/wire.)	1.50
584738	9	SD9 Motor Assembly (Contains: Complete motor with flywheels and mounts.)	25.00
584739	10	SD9 Worm Gear Package w/worm retainer clip (Contains: Bearings, washers, worms, joint bushings, cardan shaft.)	3.00
584740	11	SD9 Body Weights (Contains 2 body weights.)	5.00
584741	12	SD9 Screw Package, body weight and chassis (Contains: 6 screws.)	1.00
584742	13	SD9 Circuit Board with Screws (Contains: Complete circuit board and 4 mounting screws.)	15.00
584743	14	SD9 Light Bulbs (Contains: 1 ea. front and rear bulbs w/wires.)	2.50
584744	15	SD9 Misc. Parts (Contains: All clear window castings, light bars, 3 door frames, 2 wipers and handbrake.)	2.00
584774	16	SD9 Detail Parts (Contains: detail parts and handrails.)	15.00
584746	17	SD9 Crew/Horns/Pilots (Contains 2 crew w/seats, 2 horns, 2 pilots.)	2.00
584747	18	SD9 Ventilators (Contains: all ventilators (6) w/parts plus piping and cover.)	2.00
574784	19	SD9 Body Shell (Contains: All body parts w/ and w/o dynamic brakes, 3 parts body, sill, steps.)	15.00



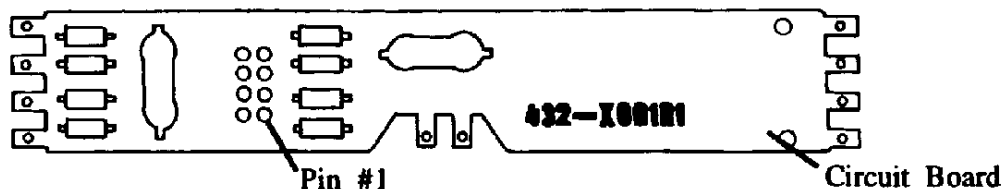
## TO ORDER REPLACEMENT PARTS:

1. Identify parts in drawings on pages 4 and 5.
2. Locate price and part number on page 6.
3. Use plain sheet of paper and order part(s) by number.
4. Include check or money order for amount indicated on Parts List. Add 10% for postage and handling (Minimum \$1.00). Maryland residents add 5% sales tax.
5. Mail order to address on page 8, Attention: Dock 2.
6. Allow 2-3 weeks for delivery.



**Digital Command Control** makes reliable, realistic train operation and simplified layout wiring a reality. With DCC, you can independently control multiple trains on the same section of track at the same time without blocking. The Digital Ready Socket in this locomotive makes DCC decoder installation as simple as plugging the decoder into the socket; no soldering is required!

- The NMRA's Digital Command Control Standards and Recommended Practices define the communications between the DCC Decoder and the Command Station. This allows for interoperability among equipment made by different manufacturers.
- With DCC each locomotive is addressed by its own unique number (the number on the locomotive's shell is a good choice). Using this address, the user can control the speed and direction of the locomotive without affecting other locomotives on the layout.
- Most decoders allow the user to customize the performance of the specific locomotive allowing more realistic and smooth operation.
- By installing a suitable decoder in the digital ready socket, even the locomotive's headlight can be independently controlled.
- The DCC Compatibility Logo (shown above) indicates that the manufacturer has built the product to be compatible with other products that implement the NMRA Standards and Recommended Practices.
- The NMRA Conformance Warrant (shown to the right) indicates that the DCC product has been tested by the NMRA and that the Product conforms to its Standards and Recommended Practices.





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