



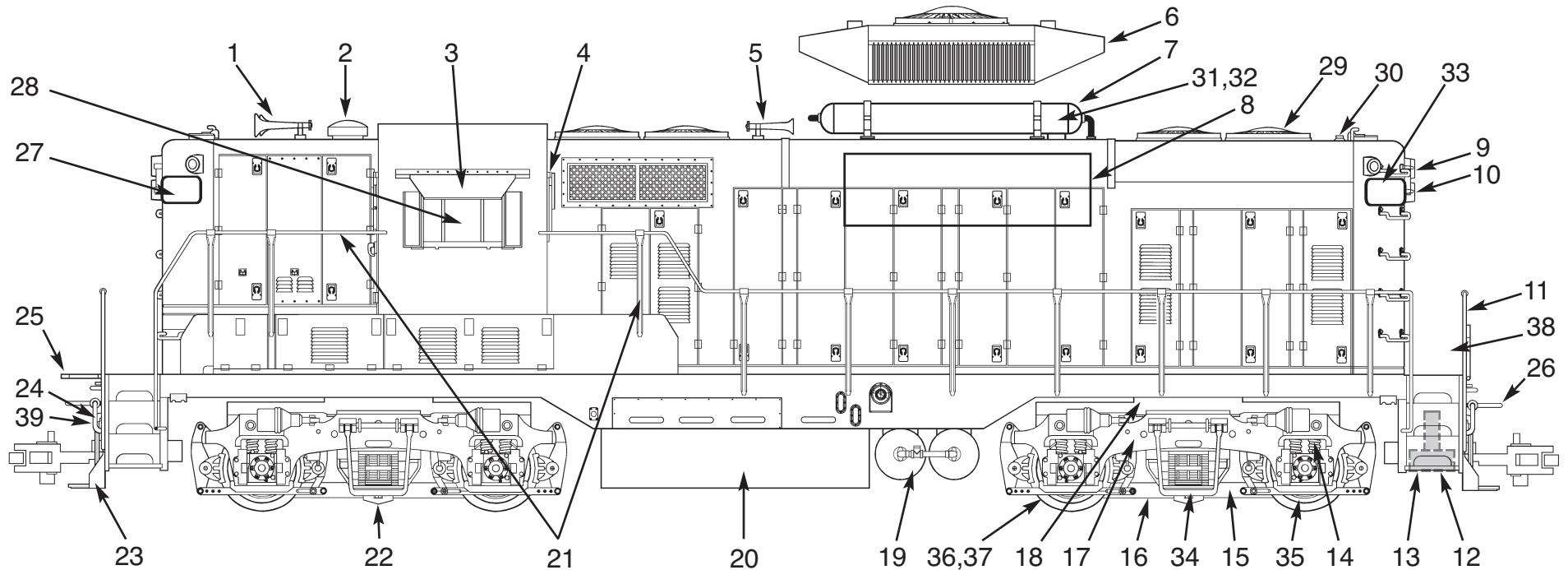
# USA TRAINS

## EMD GP7 & GP9 DIESEL LOCOMOTIVE

Assembly & Disassembly Instructions



## EMD GP7 & GP9 REPLACEMENT PARTS LIST



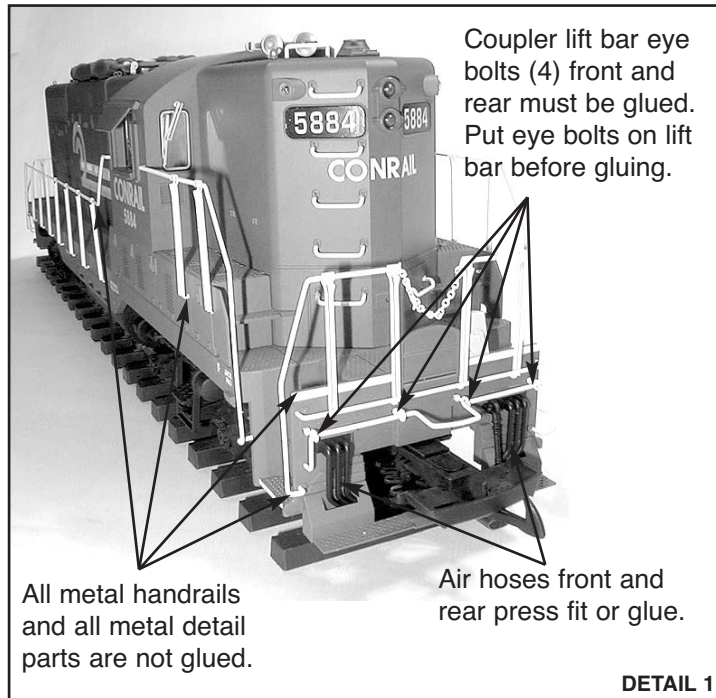
ITEM NO	PART NO	DESCRIPTION	PRICE	ITEM NO	PART NO.	DESCRIPTION	PRICE
1	R22-101	FRONT DIESEL HORN	\$2.50	24	R22-124	AIR HOSES (6)	\$8.95
2	R22-102	VENT PIPE (specify color)	2.25	25	R22-125	FOLD DOWN END STEP (2)	3.95
3	R22-103	SUNSHADE (specify color)	2.50	26	R22-126	COUPLER LIFT BAR WITH 4 HOLDERS (1)	1.95
4	R22-104	WINDSHIELD WIPERS (4)	2.50	27	R22-127	LIGHT BULB AND WIRE (Number Board)	3.50
5	R22-105	REAR DIESEL HORN	2.50	28	R22-128	LIGHT BULB AND WIRE (Cab)	3.50
6	R22-106	DYNAMIC BRAKE (specify color)	18.95	29	R22-129	ROOF FAN w/ ROTATING FAN BLADE (specify color)	3.95
7	R22-107	BRAKE CYLINDER (specify color)	12.95	30	R22-130	BRASS LIFT RINGS (14)	6.95
8	R22-454	SMOKE UNIT (fan driven)	24.95	31	R22-131	SMOKE STACKS - PLASTIC (2)	2.95
9	R22-109	LENS COVER (1)	2.50	32	R22-132	SMOKE STACKS - METAL (2)	2.95
10	R22-110	LIGHT BULB AND WIRE (Headlight)	3.50	33	R22-133	NUMBER PLATE - 1 END (specify number)	2.95
11	R22-111	FRONT/REAR HANDRAILS (2) (specify color)	14.95	34	R22-134	STIRRUP FOR SIDE FRAME (4) (specify color)	5.95
12	R22-112	COUPLER MOUNTING BLOCK & PIVOT (no coupler)	6.95	35	R22-135	METAL WHEELS WITH GEARS (2)	9.95
13	R22-113	COUPLER SPRING & MOUNTING PLATE	2.50	36	R22-136	TRACTION WHEELS WITH GEARS (2) (for rubber tires)	9.95
14	R22-114	TRUCK SIDEFRAME SPRINGS (8)	2.50	37	R22-137	RUBBER TIRES (4)	4.95
15	R22-115	REPLACEMENT MOTOR TRUCK (1)	32.95	38	R22-138	M.U. CONNECTOR (2)	2.9
16	R22-116	REPLACEMENT MOTOR ONLY (1)	22.95	39	R2021	SNOW PLOW	16.95
17	R22-117	TRUCK SIDEFRAME (2)	8.95	R50001	USA TRAINS SMOKE FLUID	7.95	
18	R22-118	TRUCK MOUNTING BLOCK (1)	3.50	R50002	USA TRAINS CONDUCTIVE LUBRICANT	10.95	
19	R22-119	CYLINDERS (2)	3.50	1407-X004	MAIN CIRCUIT BOARD W/SWITCH PANEL (upgrade)	32.95	
20	R22-120	FUEL TANK (specify color)	8.95	1406-X004RI	SMOKE GENERATOR CIRCUIT BOARD (1) (fan driven)	22.95	
21	R22-121	SIDE HANDRAILS (4) (specify color or undecorated)	14.95	676-X005	FRONT HEADLIGHT CIRCUIT BOARD	21.95	
22	R22-122	SLIDE SHOES & SPRINGS (4)	4.50	676-X008	REAR HEADLIGHT CIRCUIT BOARD	21.95	
23	R22-123	END STEPS (specify color) (2)	4.50				

Prices shown are prices in effect at time of printing.  
Prices are subject to change without notice.

## ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

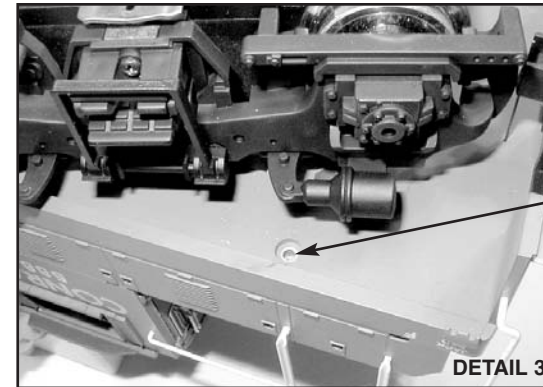
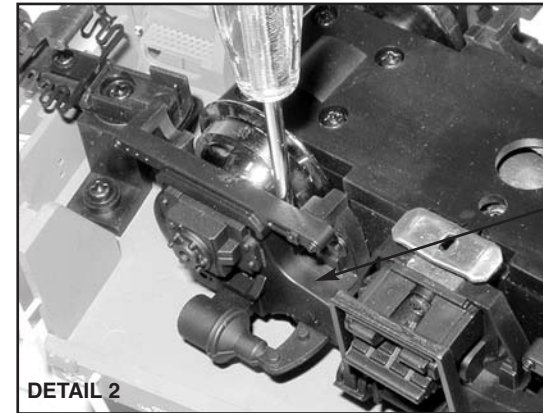
**NOTE:** Special care should be taken while handling your new USA Engine. USA Trains are manufactured and assembled with great care to ensure detail. Miss handling or improper cleaning may cause damage to the paint finish and assembled parts.

Body screws are # 4 Phillips head screws 1/2 inch long.  
Component screws are # 2 Phillips head screws 1/4 inch long.  
Use a # 1 Phillips screwdriver and a # 0 Phillips screwdriver for smaller screws, do not over tighten.



### ATTACHING DETAIL PARTS

Some assembled parts are permanently attached and some are not. Front and rear handrails, side handrails, cab handrails are press fit. Coupler lift bar eyebolts front and rear must be glued, eye bolts should be on lift bar before gluing. Two smoke stacks are not permanently attached. Note when using the smoke units you must use the metal smoke stacks. The smoke units must be turned off if not being used. Air hoses and plastic parts are glued on when you assemble your new engine. Great care must be taken not to get glue on the painted surfaces.



### REMOVING ENGINE SHELL

Several wires are attached from the engine shell to the engine components mounted to the frame. Remove fourteen # 4 1/2 inch long screws located under your engine frame/chassis holding the engine shell. They are located under the front and rear truck assembly and fuel tank. See details 2, 3, 4, and 5. You will have to place your long shaft screw driver between the truck frame and motor housing to remove these screws a total of 14 screws. After removing the 14 engine shell screws, the engine shell and cab will lift off together. Pull upward on the engine shell front and rear assembly. The cab and steps are held with four outer body screws. See detail 6A.

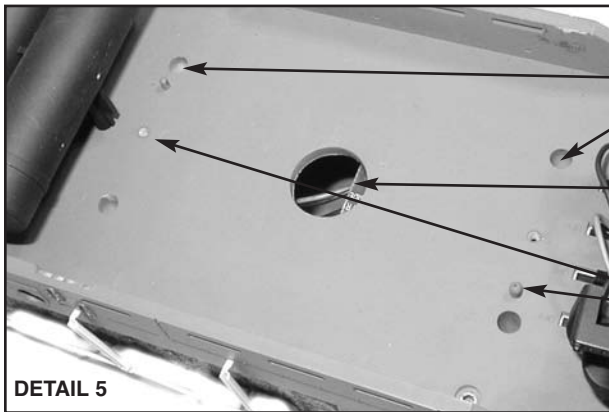
**NOTE:** The cab slides over the engine shell. Leave this assembly together. See details 6B and 7.



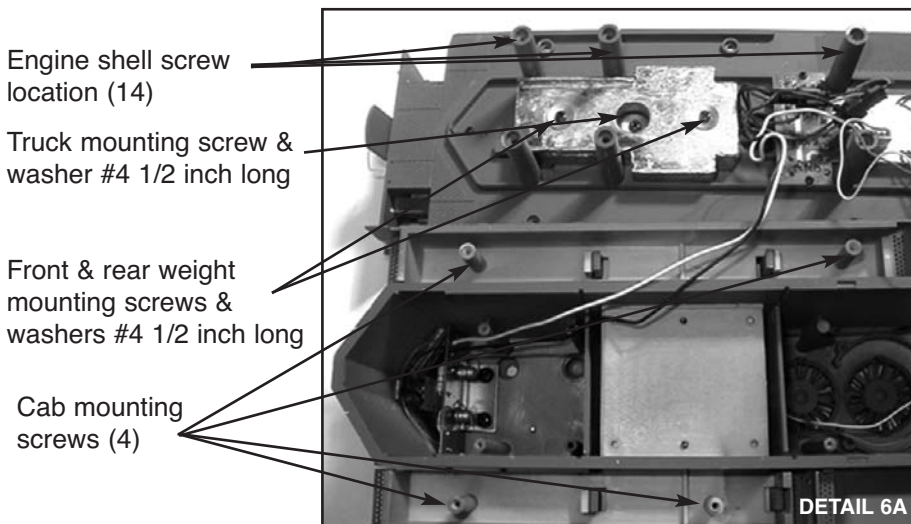
# ASSEMBLY AND DISASSEMBLY INSTRUCTIONS



Speaker/Fuel tank mounting screws (2)

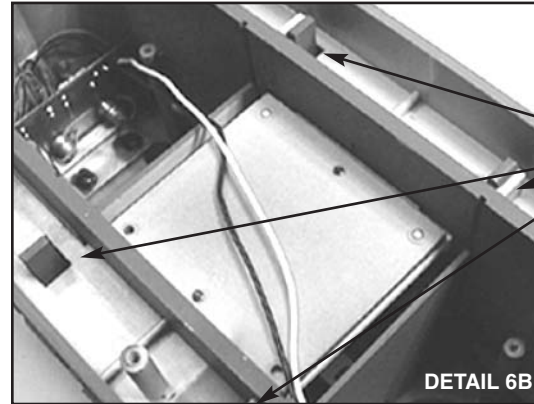


Engine Shell mounting holes (4)  
Speaker cable hole  
Fuel tank locator pins (2)



Engine shell screw location (14)  
Truck mounting screw & washer #4 1/2 inch long  
Front & rear weight mounting screws & washers #4 1/2 inch long  
Cab mounting screws (4)

DETAIL 6A



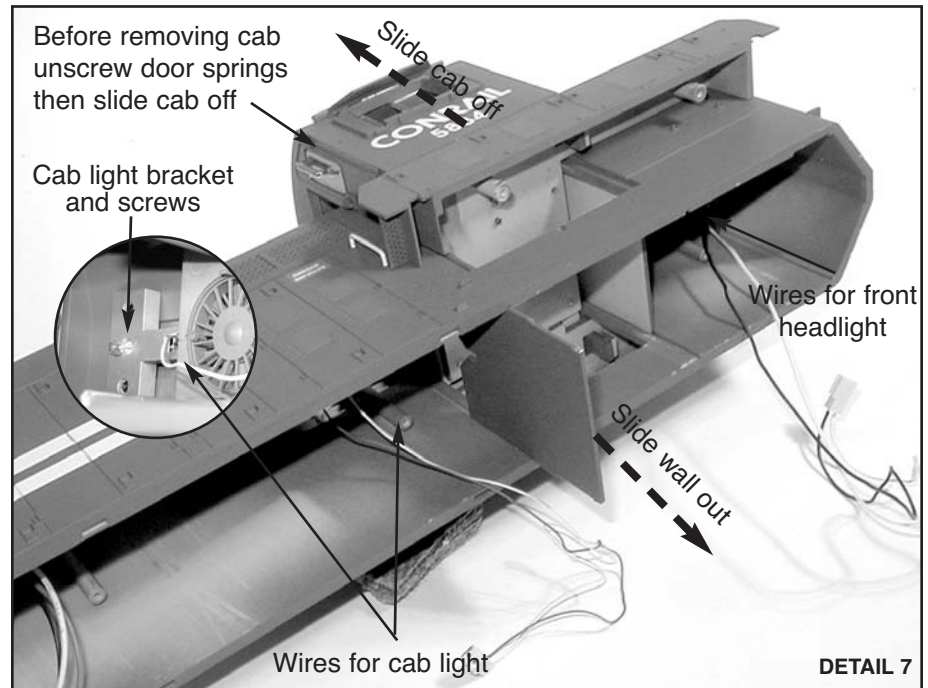
Cab locking tabs (4)

DETAIL 6B

## REMOVING CAB

Remove Cab and two 1/4 inch cab light bracket screws from the Cab shell with a # 0 screwdriver.

**NOTE:** Do not remove the step and frame assembly from the cab, the door springs will break (see detail 7 below). To replace cab light remove the cab rear wall. Carefully slide the wall out, you will have to break the small hot glue joint first. This will allow you to get to the light bracket. The bulb and wires are held in place by the bracket and screws.



Before removing cab unscrew door springs then slide cab off

Cab light bracket and screws

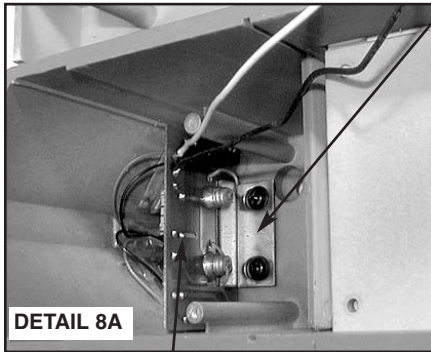
Wires for front headlight

Wires for cab light

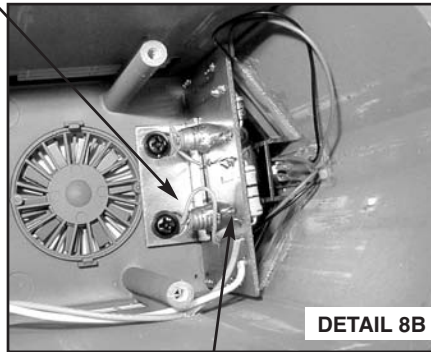
DETAIL 7

## ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

Lighting circuit board mounting brackets and screws



Front light board # 676-008



Rear light board # 676-005

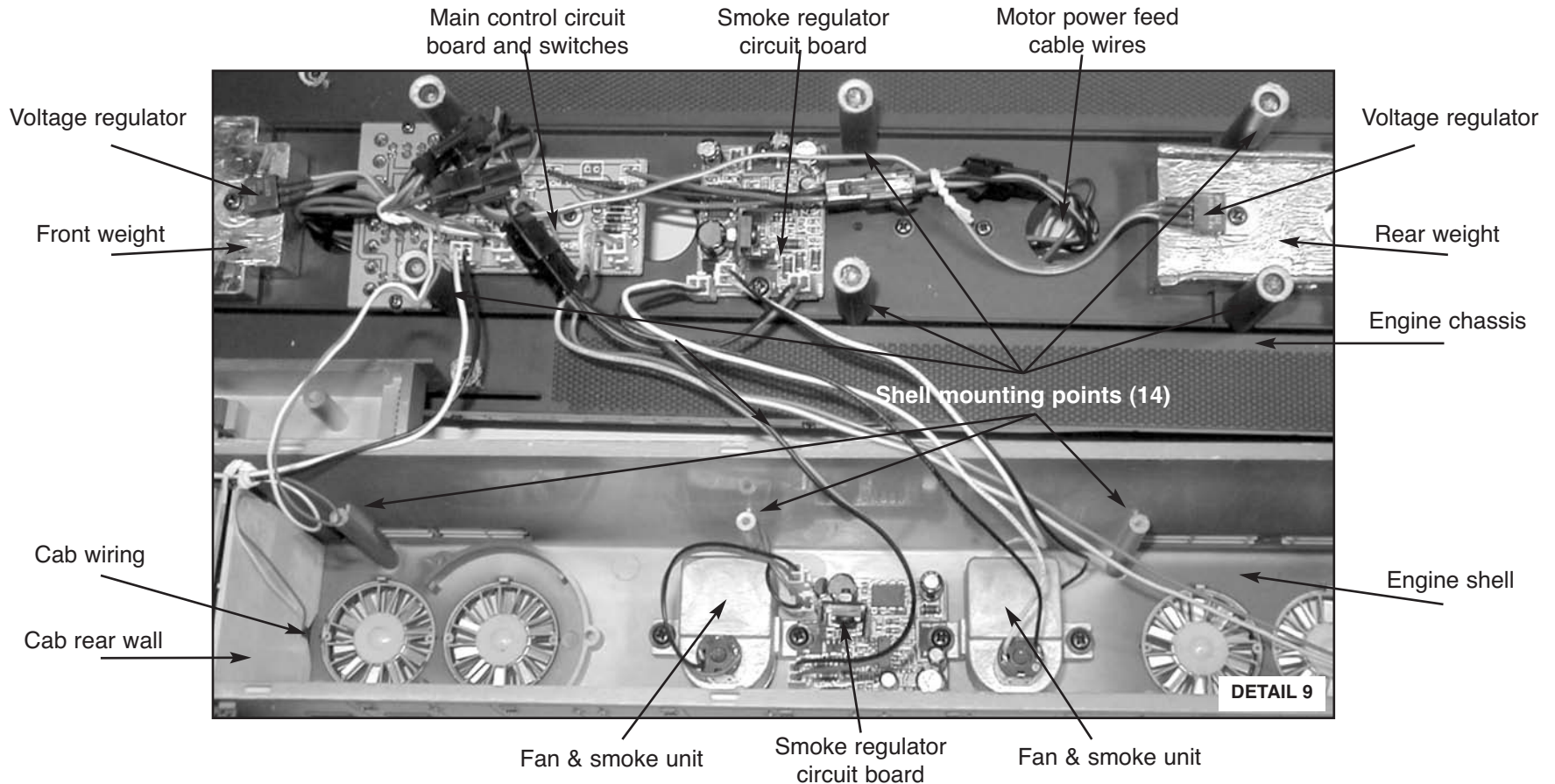
### REMOVING HEADLIGHTS

To replace bulbs or circuit boards for marker lights, front and rear headlight, remove two # 2 screws and carefully lift out circuit board assembly. The lighting circuit boards are not the same. Refer to item part numbers on the parts list on page 2 of this booklet.

### SMOKE UNITS

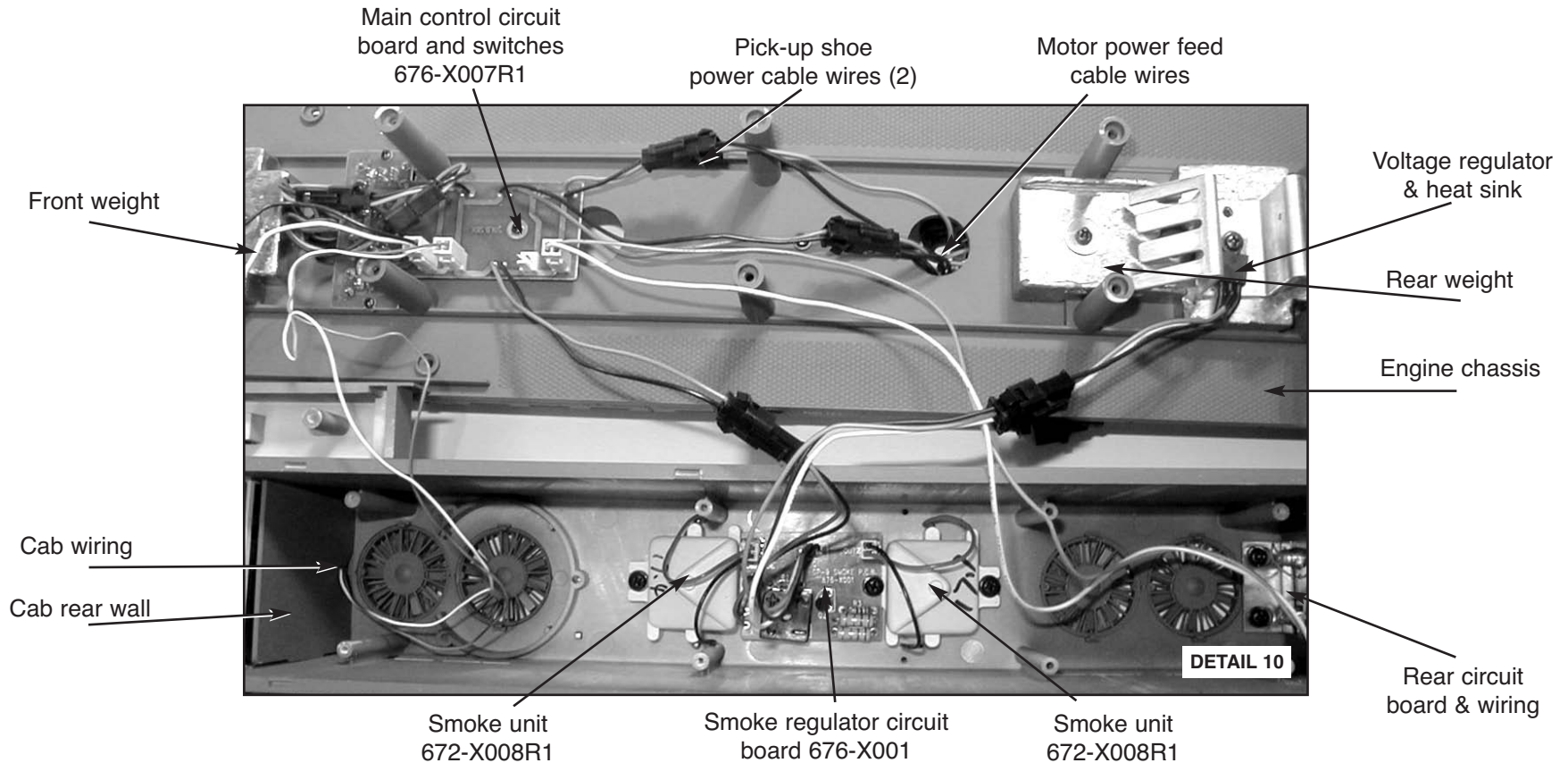
Fan generated smoke units, circuit boards and main switch-board assembly are assembled as a complete unit and are not interchangeable with non fan driven smoke units. Refer to detail 9 for fan driven smoke units. For engine with basic smoke unit refer to detail 10.

## FAN DRIVEN SMOKE UNIT DIAGRAM



## ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

### NON FAN DRIVEN SMOKE UNIT DIAGRAM



#### SMOKE UNITS

Smoke Unit # 672-X008R1, smoke regulator circuit board # 676-X001 may have to be replaced at the same time. See detail 10 non-fan smoke units. Engine switch panel circuit board 672-X007R1. Remove two screws and carefully slide circuit board and circuit board holder out, please mark all wire connectors.

Circuit boards are clearly marked for connectors. We recommend that you label all wires for their locations. This will help you when re-attaching them later. All wires are color-coded and have different lengths.

**NOTE:** One smoke unit circuit board is mounted to the engine shell and the other to the engine chassis.

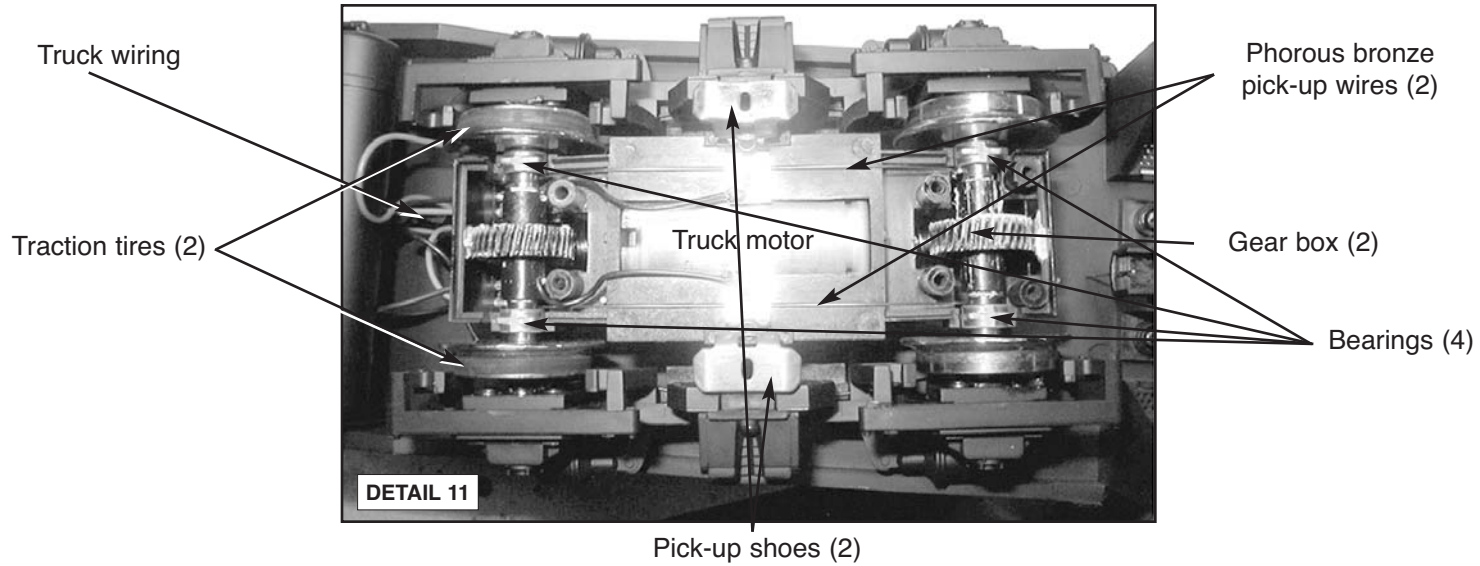
**NOTE:** Some of the following steps may not be required. Carefully consider what steps are needed before you make your repairs. Several wires are attached from the engine shell to the engine frame and other components. Tag all wires and label them for easy re-assembly. It is recommended not to disconnect all wires, only disconnect the ones required.

#### REMOVING FRONT AND REAR TRUCK ASSEMBLY

Remove truck mounting 1/2 inch # 4 screw and flat washer. See detail 6A. Disconnect wire connectors, label each pair for proper replacement. Note their location as wire length and connectors may not be identical. See detail 12B.



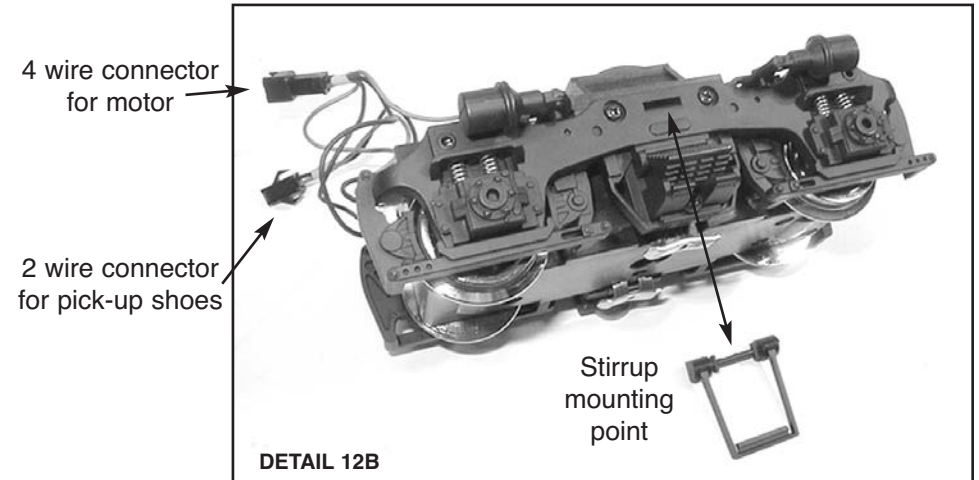
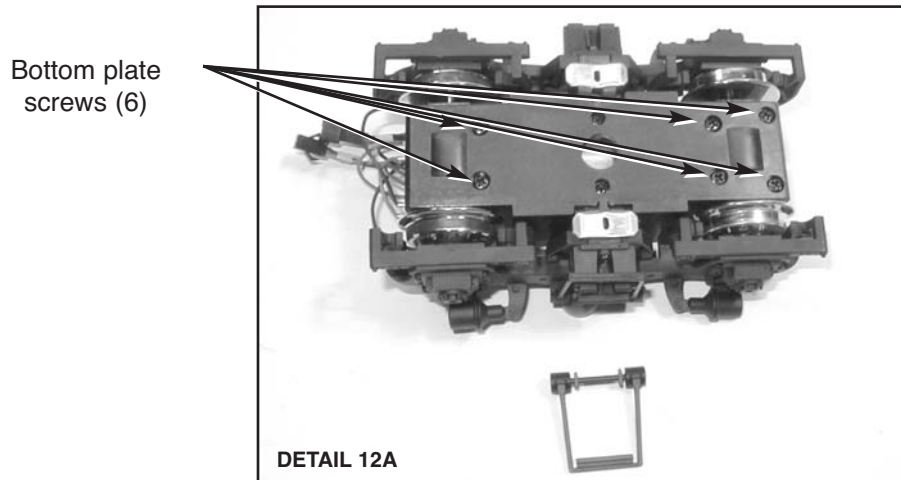
## ASSEMBLY AND DISASSEMBLY INSTRUCTIONS



### PICK-UP SHOES

Pickup shoes and wires press against wheel axles for additional contact surface. To replace these wires, you will have to remove the truck bottom plate. Remove 6 screws from bottom plate. See detail 12A. **NOTE:** If doing this step you may take time to lubricate the motor gears and axles ends. You may consider replacing traction tires at this time also. See detail # 11.

Before replacing motor bottom plate make sure bearings are seated flat in bearing slots so plate will seat properly and flush with motor block. See detail # 11. Remove side frame stirrup first (press fit only not glued), then remove truck sideframes mounted with 3 screws on each side. See details 12B.



## ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

### SERVICING

This Diesel locomotive is built with pride by USA Trains and is covered by a limited warranty. (See limited warranty terms). Please follow these instructions carefully before sending your locomotive for service:

1. All main handrails must be removed and kept by the customer.
2. The locomotive must be packed in the original blue/red box with the original styrofoam inserts and then packed in the original proper shipping carton so it is well protected in shipment. The package must be fully insured and prepaid. USA Trains is not responsible for damage or loss during shipment.
3. Include a note explaining the problem and servicing you need performed. Be sure to include your name, street address, (NO P.O. BOXES PLEASE) City, State, Country (if outside U.S.A) and zip code along with a daytime phone number including area code. If the locomotive service is not covered by warranty, a reasonable service fee will be charged. For any locomotives to be returned outside the continental U.S.A., please include \$25.00 U.S. currency to cover return postage. Any locomotives returned in the continental U.S.A. will be pre-paid by USA Trains.
4. Ship your item to:  
USA TRAINS  
662 CROSS STREET  
MALDEN, MA. 02148

### LIMITED ONE YEAR WARRANTY

This USA Trains locomotive is warranted for one year from the date of purchase against defects in material or workmanship. We will repair or replace (at our option) the defective part without charge for parts or labor within one year of the original date of purchase provided the warranty registration card has been received by USA Trains. This warranty does not cover items that have been abused or damaged by careless handling or improper operation such as a train derailment, modification or repair by non-factory technicians. Parts that "wear out" due to excessive use are also not covered under warranty. USA Trains reserves the right to determine "excessive use". Transportation costs incurred by the customer are not covered under this warranty.



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