

Instructions for Bachmann Northern mechanism Kits with Long Tender and Tank Tender. Our Kit #3-203 and #3-206

These instructions provide exploded view drawings, diagrams, step-by-step instructions. If for reasons beyond our control, any shortage or faulty part is found, write directly to the factory including name of your dealer and date of purchase. Return any defective parts for exchange. The builder should study the instructions and drawings to attain a working knowledge of proper procedure. Assembly should be in sequence outlined in this manual to assure proper construction. We have included some extra parts in case you misplace or drop them on the floor. DO NOT RUN THE MECHANISM OR ENGINE UPSIDE DOWN.

TOOLS

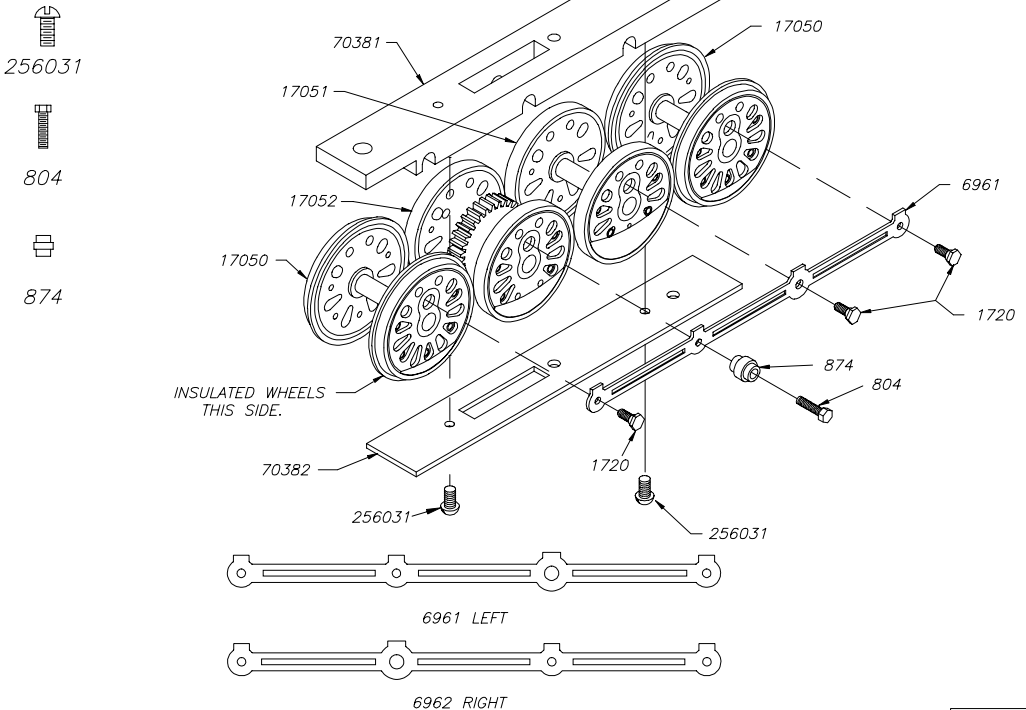
This is a builders kit, you will need a few tools. You will find use for the following: small hammer, several small files, jewelers screwdriver (a set is convenient), a 6" flat file with a fairly fine cut, knife, pliers, flush cut pliers and tweezers.

BEFORE PAINTING YOUR MODEL OR DETAILING THE BOILER, WE RECOMMEND THAT YOU BUILD THE COMPLETE MECHANISM, ATTACH THE UNDECORATED BODY AND THOROUGHLY TRACK TEST IT.

Disassemble Bachmann engine. Remove valve gear carefully. Save all parts. We will use the body, cylinder, trailing truck, lead truck, main rod crosshead and valve gear assemblies, tender body, tender floor and trucks. We will not use the underframe, motor, drivers or side rods.

STEP #1

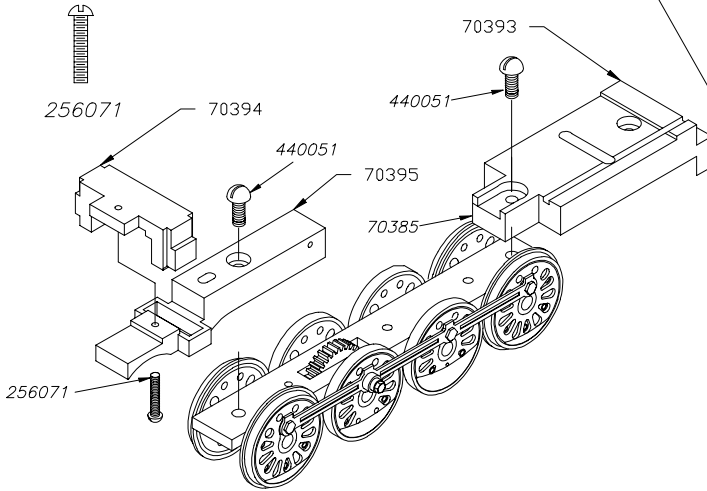
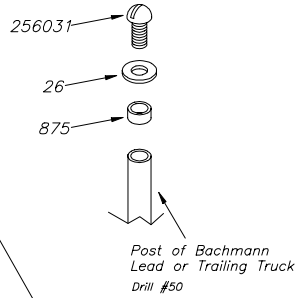
Clean flash from edges of parts. File mating surfaces on a flat file. Check to see that the frame is straight. Assemble wheels and assure they spin freely. Assemble side rods check for binds. Ream holes in side rods if necessary to eliminate binding. Oil lightly.



STEP #2

Assemble Frame Extensions

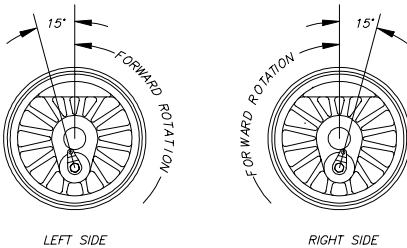
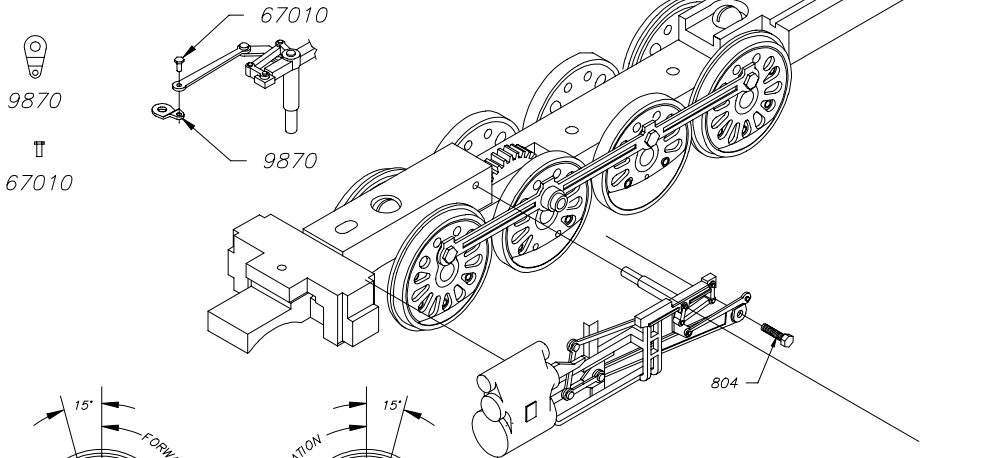
Instruction for screw on Bachmann Lead & Trailing Truck Only



Slot in 70393 & 70395 will have to be filed open

STEP #3

Replace Bachmann eccentric with Bowser eccentric (9870)
Remove post from inside plastic cylinder
Glue the Cylinder Covers on the end of cylinder holder

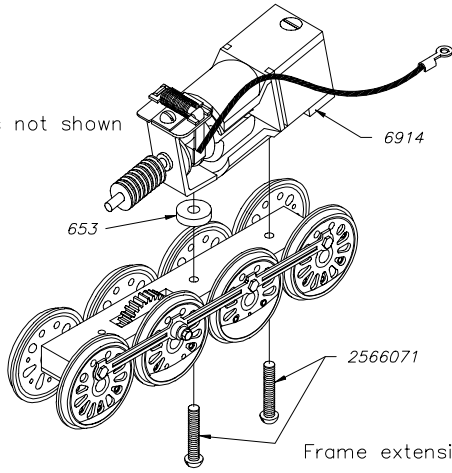


STEP #4

INSTALL MOTOR AND
WEIGHT TO MECHANISM



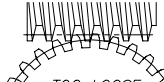
Frame extensions not shown



*TOO TIGHT
WORM BOTTOMS
IN ROOT OF GEAR
CAUSING EXCESSIVE
DRAG ON GEARS.*



*CORRECT MESH
SEVERAL TEETH
IN CONTACT.*

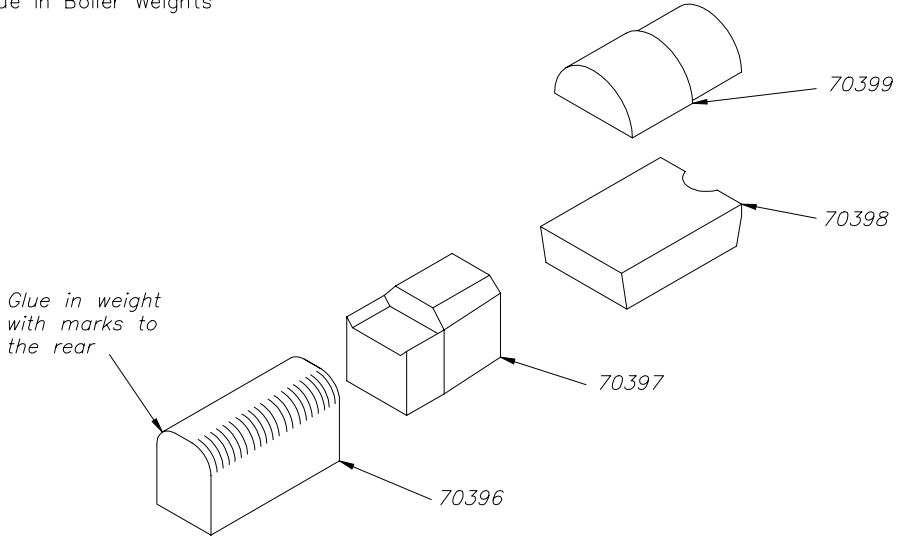


*TOO LOOSE
POOR TOOTH CONTACT
CAUSING EXCESSIVE
BACKLASH IN GEARS.*

STEP #5

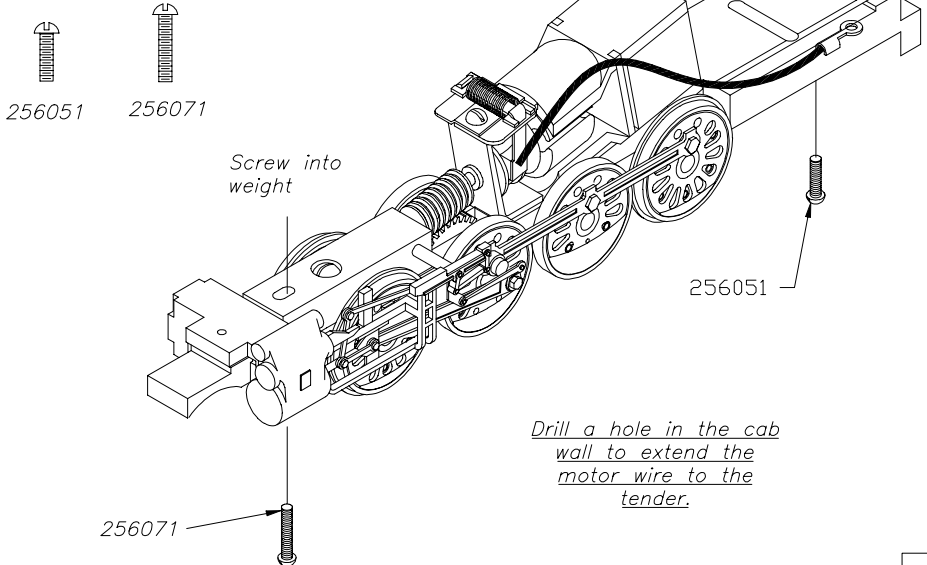
Dry fit the weights in place. Lay the mechanism in place before using any glue.

Glue in Boiler Weights



STEP #6

Fasten mechanism to Bachmann Body



STEP #6

SANTA FE TENDER TRUCKS

MAKE TENDER
TRUCK PICKUPS

1/16" DIA
HOLES



USING FULL SIZE TEMPLATE
CUT (2) PICKUPS FROM .002
BRASS SHIM STOCK



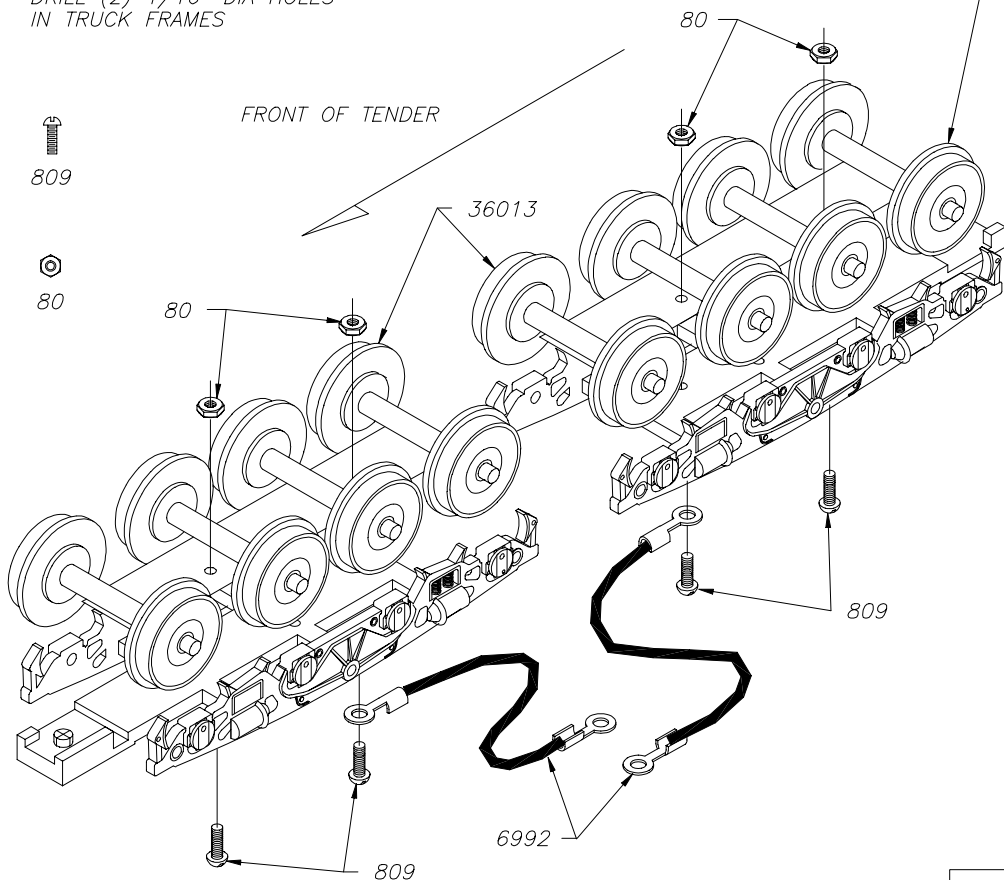
STEP #7

SANTA FE TENDER TRUCKS

ASSEMBLE TENDER
TRUCK PICKUPS

INSULATED WHEELS
ON THIS SIDE
BOTH TRUCKS

USING PICKUPS AS DRILL TEMPLATE
DRILL (2) 1/16" DIA HOLES
IN TRUCK FRAMES



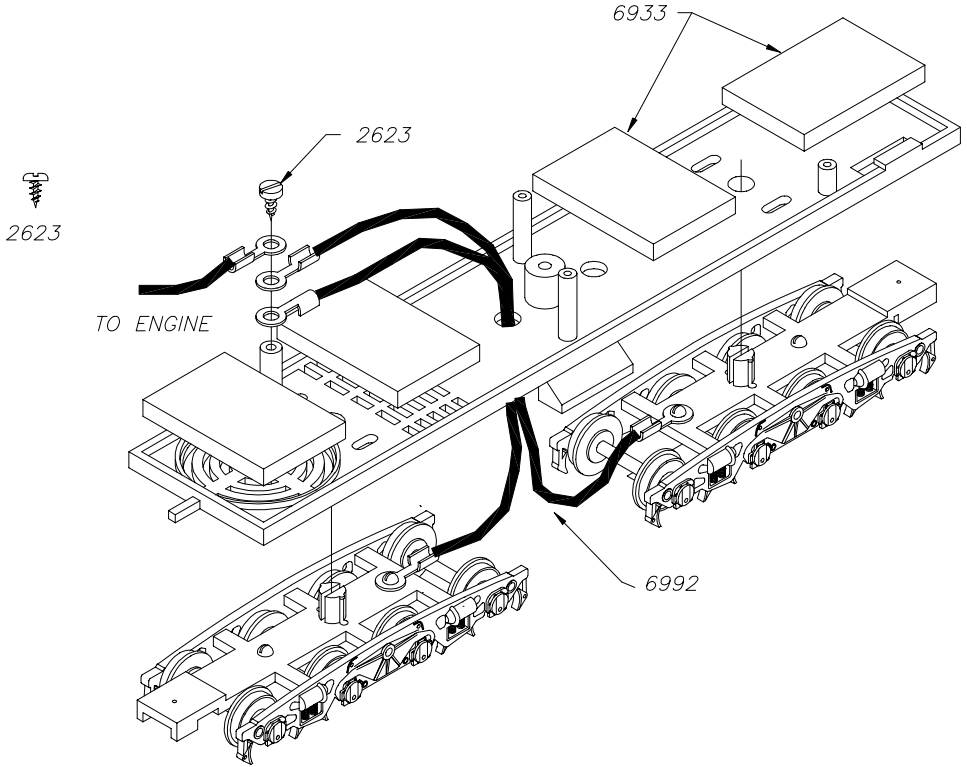
STEP #8

SANTA FE TENDER

ASSEMBLE TRUCKS, WEIGHTS
AND HOOK UP WIRES

*ASSEMBLE TRUCKS TO FLOOR.
GLUE WEIGHTS IN PLACE.
ASSEMBLE BODY TO FLOOR.
USING ORIGINAL SCREWS.*

Remove the Bachmann Weight

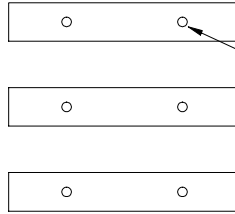


STEP #13A

OIL TENDER

ASSEMBLE TRUCKS, WEIGHTS
AND HOOK UP WIRES

USING FULL SIZE TEMPLATE
CUT (2) PICKUPS FORM .002
BRASS SHIM STOCK



1/16" DIA
HOLES

USE PICKUPS AS DRILL GUIDE
DRILL # 56 HOLES IN TRUCK FRAMES

TWIST WIRE AS SHOWN AND
INSERT INTO HOLE IN BODY

6992
TO TENDER

809

809

80

36010

INSULATED WHEELS
ON THIS SIDE
BOTH TRUCKS

80

BEND BOTH ENDS OF PICKUPS DOWN
UNTIL THEY TOUCH THE AXLES.