

# INSTRUCTIONS FOR #3-201 READING CONSOLIDATION MECHANISM KIT

Bowser Mfg, PO Box 322, Montoursville PA 17754 (570-368-2379)

These instructions provide exploded view drawings, diagrams, step-by-step instructions and an itemized parts list. 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 and tweezers.

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

## STEP #1

Clean flash from edges of parts.  
File mating surfaces on a flat file.  
Check to see that the frame is straight.  
Assemble and assure the wheels spin freely.  
Oil lightly.

Subkit 100904, 40021 & 40022

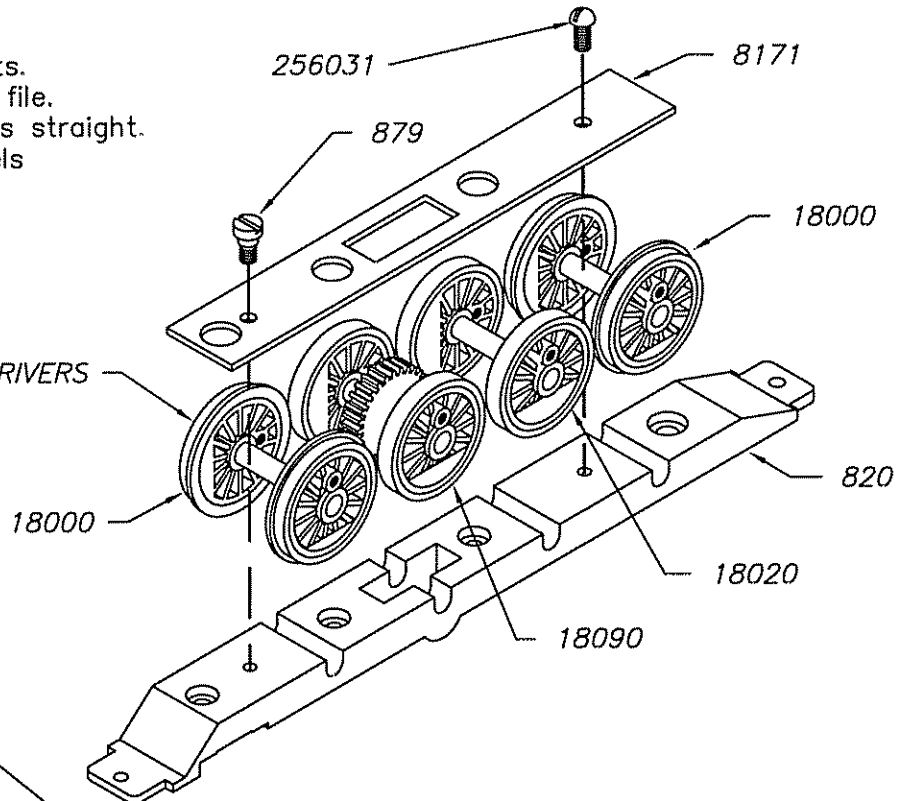


256031



879

INSULATED DRIVERS  
THIS SIDE



## STEP #2

Assemble side rods as shown.  
The fluted surface faces out.  
Assure the wheels spin freely.  
Oil lightly.

Subkit 40022



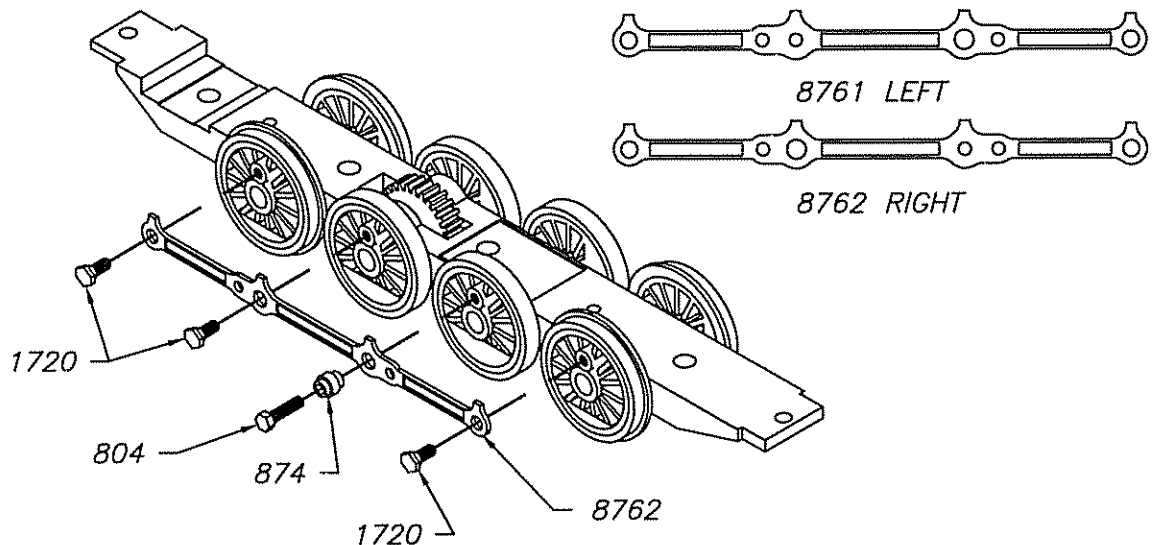
1720



804



874

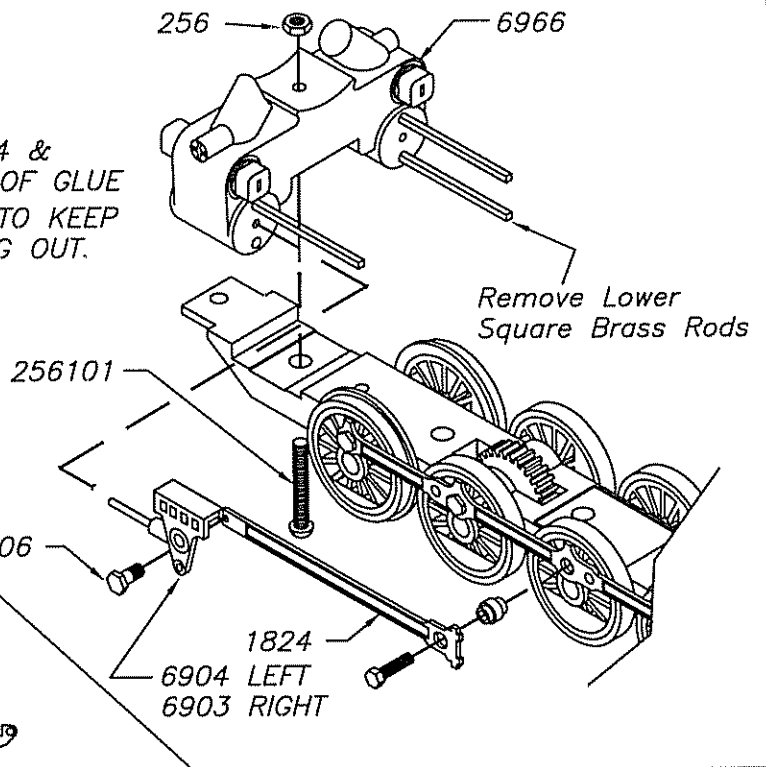
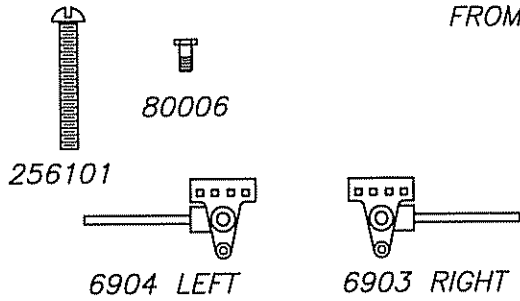


### STEP #3

The mechanism must roll freely. Oil lightly.

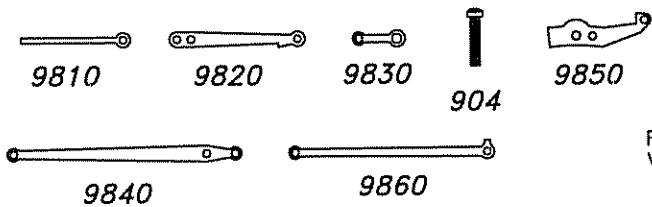
Parts in subkit  
40021 & 40022  
Parts shown full size

*CUT OFF 1824 &  
PUT A DROP OF GLUE  
ON THREADS TO KEEP  
FROM BACKING OUT.*

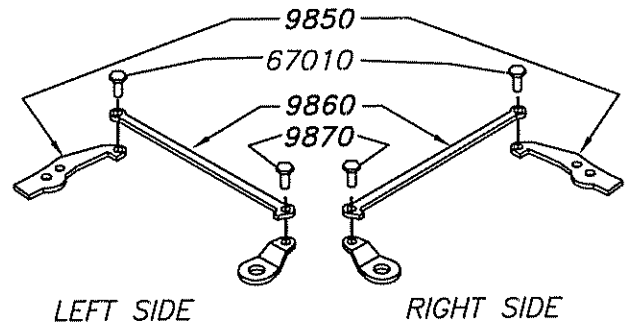
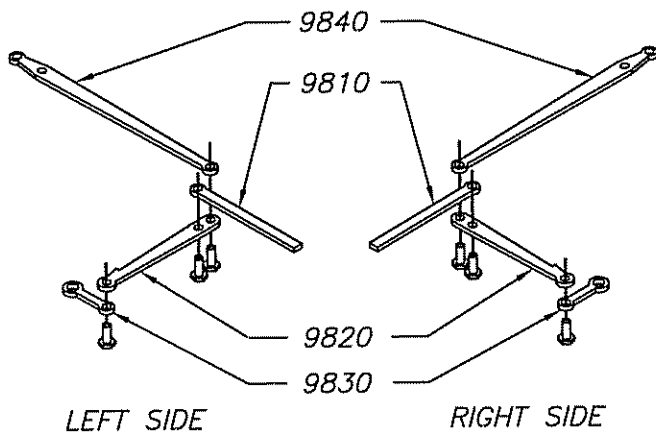


### STEP #4

Parts in subkit #100905  
Parts shown full size

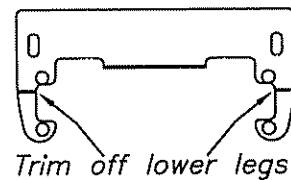


Rivet valve gear together using care not to assemble too tightly.  
Valve gear must dangle loosely or binding will result.

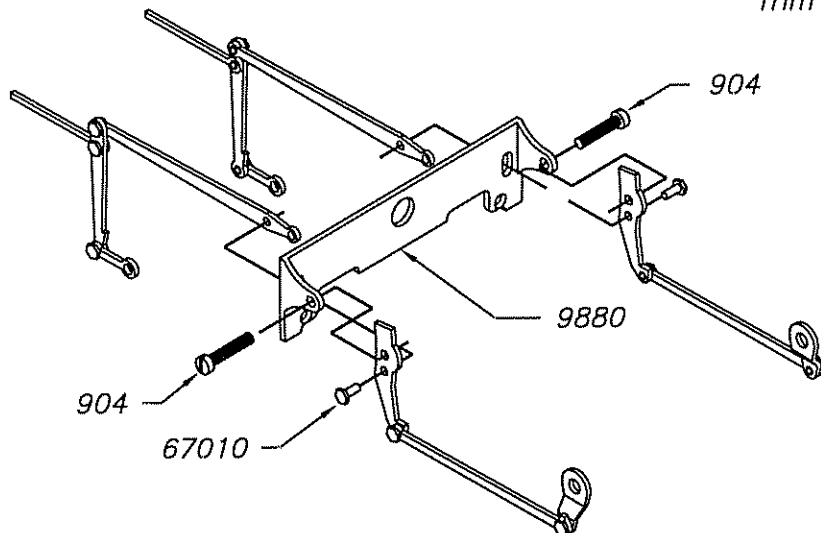


LEFT SIDE

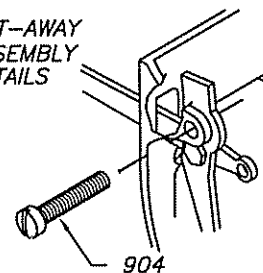
RIGHT SIDE



Trim off lower legs



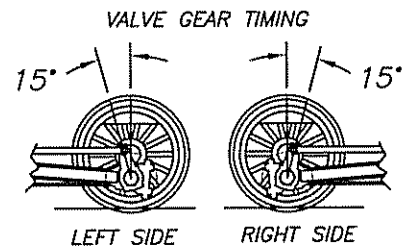
*CUT-AWAY  
ASSEMBLY  
DETAILS*



*CUT OFF 904 &  
PUT A DROP OF GLUE  
ON THREADS TO KEEP  
FROM BACKING OUT.*

## STEP #5

- 1 Slide 9810 into cylinder.
  - 2 Install 256031 screw thru frame and into 9890 hanger.
  - 3 Install 904 screw thru 9830 and into crosshead.
  - Do not tighten. Cut off end of screw.
  - 4 Put a small amount of glue on end of threads of 904 to prevent it from working out.
  - 5 Remove 805 screw from center driver and insert thru 877, main rod, side rod and into driver.
  - 6 Time valve gear as shown above.
- Assure that the mechanism rolls freely before proceeding any farther.



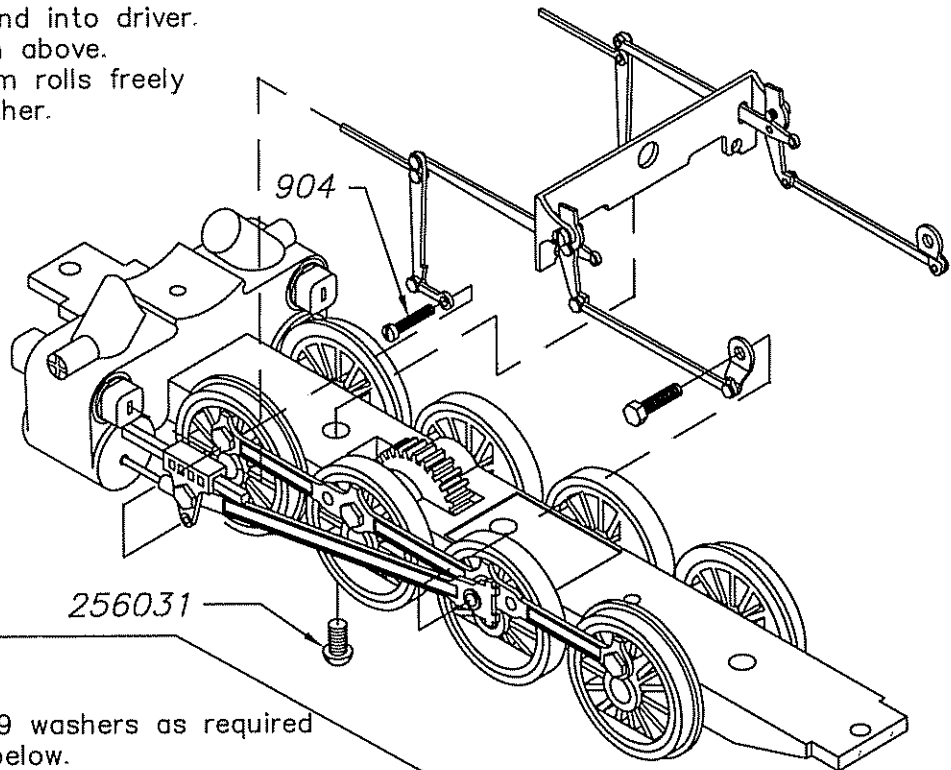
Parts in subkit #100905



904

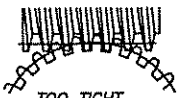


256031



## STEP #6

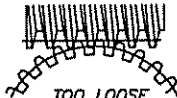
Adjust gear mesh using #29 washers as required to obtain mesh as shown below.



**TOO TIGHT**  
WORM BOTTOMS  
IN ROOT OF GEAR  
CAUSING EXCESSIVE  
DRAG ON GEARS.  
REQUIRES WASHER AT FRONT.



**CORRECT MESH**  
SEVERAL TEETH  
IN CONTACT.



**TOO LOOSE**  
POOR TOOTH CONTACT  
CAUSING EXCESSIVE  
BACKLASH IN GEARS.  
REQUIRES WASHER AT REAR.

Parts in subkit  
40021 & 40022



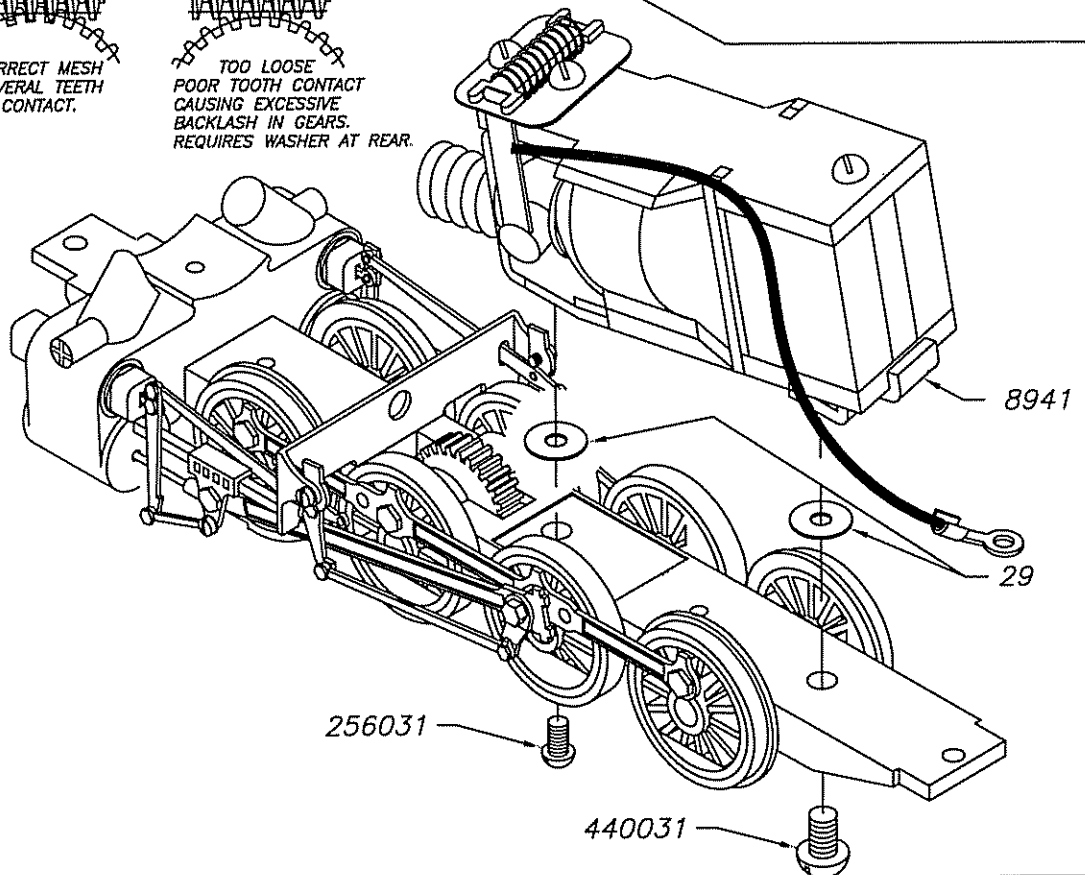
256031



440031



29



# STEP #7

Slide brass front weight (#6963) into body and fasten with 2 #806 screws from the sides



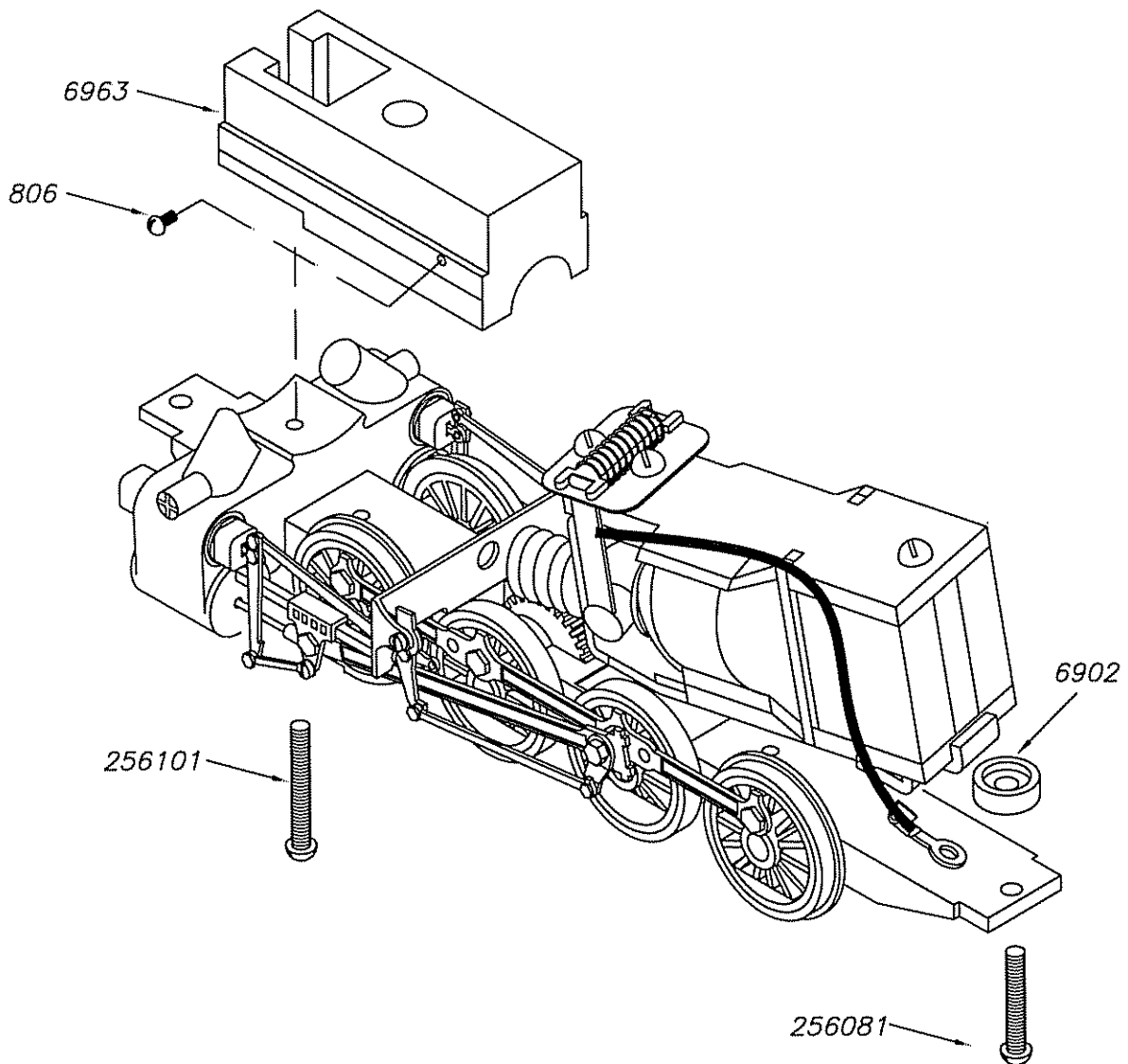
256101



806

Remove nut holding 256101 in cylinder.  
Assemble mechanism to body

Fasten front of mechanism to Body with 256101 screw  
Fasten rear with 256081 screw and 6902 spacer



# STEP #8

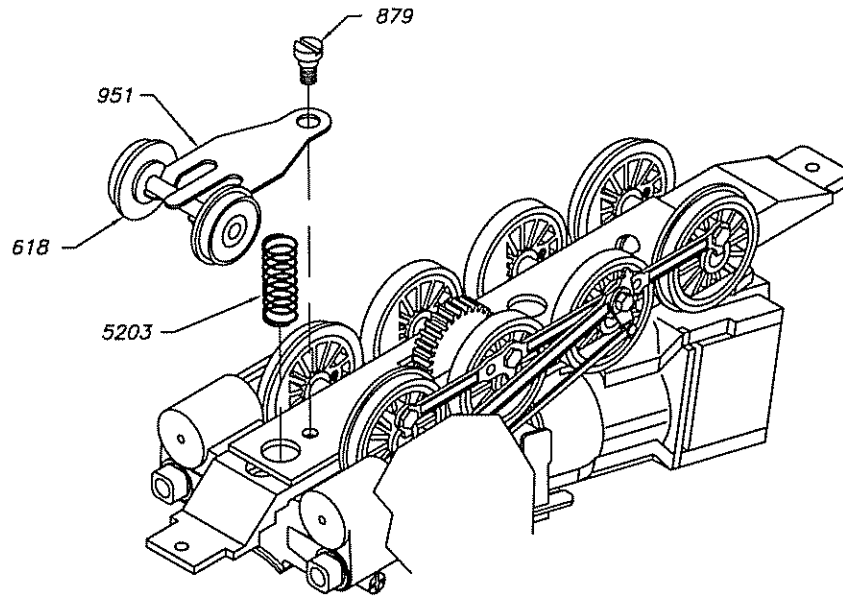
INSTALL  
LEAD TRUCK



879



5203

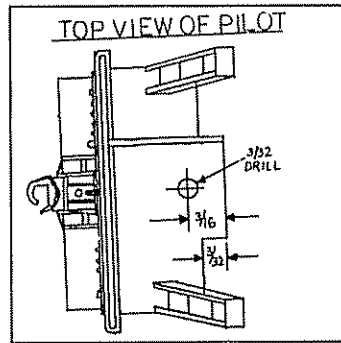


# STEP #9

Trim Bachmann Pilot and  
mount with 256031 screw



256031



# STEP #10

Assemble Tender as  
per drawing



256



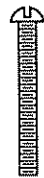
27



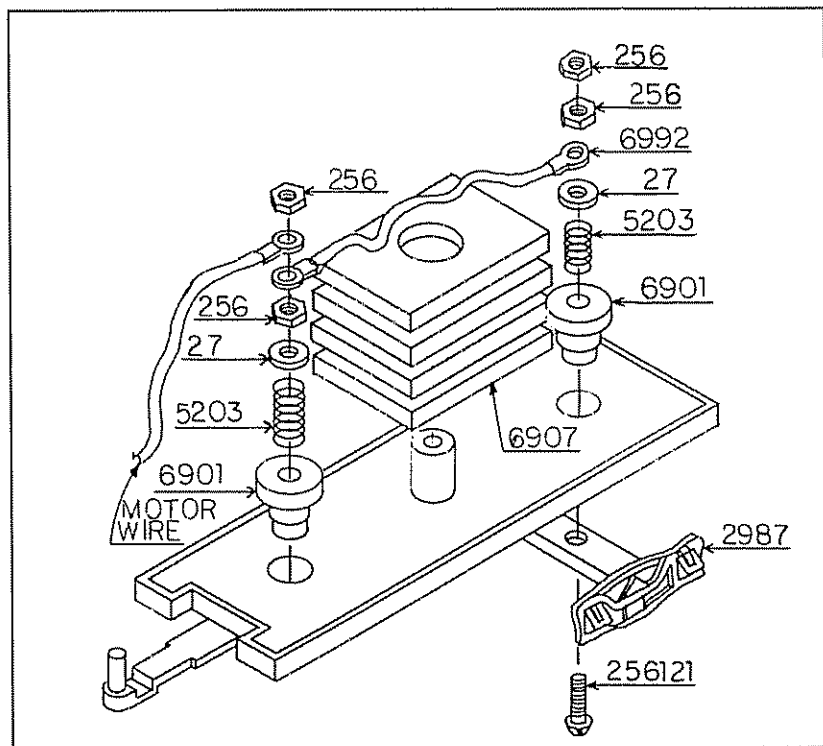
6901



5203



256121



## TENDER ASSEMBLY

For rear truck. Pass a 2-56 x 3/4 round head screw through tender truck, floor, spacer (6901), spring (5203), washer (27), wire (6992), and nuts (256). Use top nut as a jam nut. Leave 1/16" of the screw sticking out of nuts allowing the spring to hold truck. Be sure insulation is on tender's right side at all times. For front truck, follow same procedure adding the motor wire with the 6992 wire. Glue weights (6907) together and to the tender floor. File a notch under the coal deck for motor wire. Mount tender body to frame using Bachmann screws.

**Mechanism kit #3-201 Instructions**  
**for Bachmann 2-8-0 Consolidation**

Bachmann smoke unit may be put in place, but you must run wires from motor brushes to the unit. The wires must be twisted on the smoke element wires. They cannot be soldered. The wires can be soldered to the brush arms.

**OPERATING SUGGESTION**

After tender is built and coupled to loco, you will want to make a test run. This model is built to run on direct current, not to exceed 12 volts. Lubricate all wheel and motor bearings with light oil and make sure gears and axles are well lubricated at all times. If loco does not operate satisfactorily, check assembly and electrical connections. See that motor is mounted securely and clear of drivers with gears properly meshed. Make sure all insulated locomotive wheels are on locomotive's LEFT and all insulated tender wheels are on tender's RIGHT.

**PAINTING INSTRUCTIONS**

We suggest that you do not paint your loco until it is thoroughly track tested as disassembly and handling generally ruins a paint job. Take your locomotive apart so that the various parts may be painted without getting paint on moving parts. Valve gear, side rods, bearings, lead truck, etc. will not operate properly if paint gets into the joints of moving parts.

Parts to be painted should be degreased with a solvent like paint thinner and pickled in vinegar for a few hours before applying paint. Several manufacturers make etching agents for this purpose. See your dealer.

**CAUTION:** Do not immerse wheels, underframes or coverplate in acid solution or cleaners. Brush cleaner and acid solutions on metal frames of lead and trailing trucks and on underframe surfaces to be painted, **NOT ON WHEELS, AXLES OR BEARING SLOTS**. Drivers are preblackened and can be touched up, after removing flash, without using cleaner or acid.

Apply a smooth, uniform coat of good grade model railroad paint. Work carefully to avoid piling up paint around small details. Painting exposed surfaces of main frame will add to final appearance of model, but be careful not to get paint in any bearings.

To make your Bachmann loco with an English's mechanism pull better, add weight to the body. Mix together lead shot (from a hunting supply store) and glue (such as Walther's Goo) and coat the inside of the body. Be careful not to build up where it could interfere with the mechanism. Apply several layers, trying to add equal amounts to the front and rear and balance between middle driver.

**PARTS AND SERVICE**

Contact your local dealer for Bowser parts. If he does not carry them, or if your dealer is too far away to readily contact him, you may order directly from the factory. All parts orders must be accompanied by a check or money order.

**IF YOU ARE REQUESTING MISSING PARTS OR REPLACEMENT OF DEFECTIVE PARTS,** you must include the **NAME OF THE DEALER** from whom the kit was purchased and the **approximate DATE OF PURCHASE**. Defective parts must be returned for replacement.

If you are ordering direct include the current for shipping and handling charge. PA Residents include 6% sales tax.