

INSTRUCTIONS FOR BOWSER #100450 PRR M-1a KIT

These instructions provide photographs of completed model, 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 manufacturer, 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 work 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

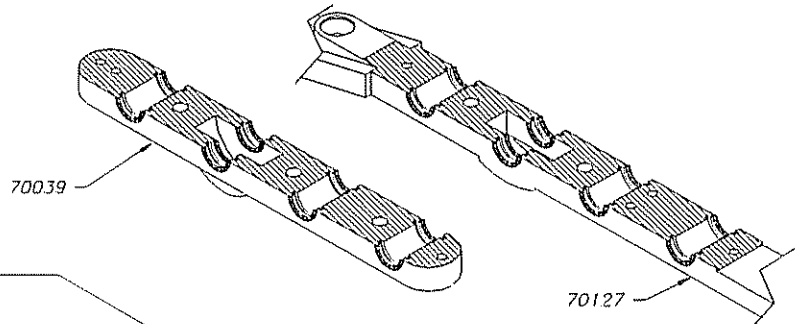
This is a builders kit, you will need a few tools. You will find use for the following: small hammer, several assorted pattern files, jewelers screwdriver (a set is convenient), a 6" flat file with a fairly fine cut, knife, pliers, flush cut nippers like Mascot #413 and tweezers.

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 frames.

CLEAN ALL FLASH FROM EDGES OF BEARING SLOTS OF UNDERFRAME AND COVER PLATE WHERE SHOWN AS DARK LINES & SHADED AREAS.



STEP #2

Assemble draw bar as shown.

Subkit 100453

FULL SIZE



256



1134



256143



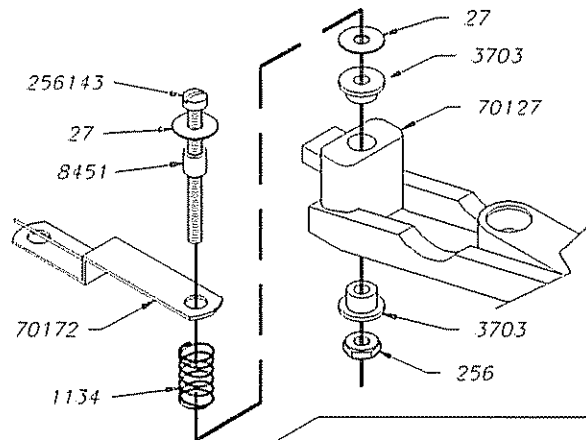
3703



27



8451



STEP #3

Clean flash from edges of parts. File mating surfaces on a flat file. Check to see that the frame is straight. Assemble the drivers with insulated wheels on the left side of the frame as shown. Assure the wheels spin freely. Oil lightly. See Step 3a for method of loosening wheels.

Subkit 100453

FULL SIZE



256061



256031



440032



27



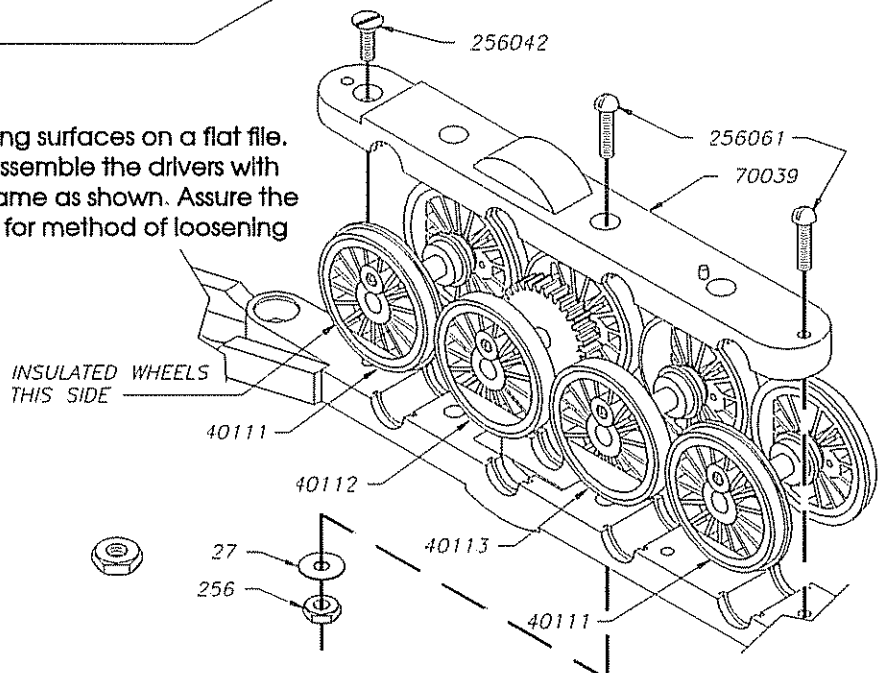
256



40111



256

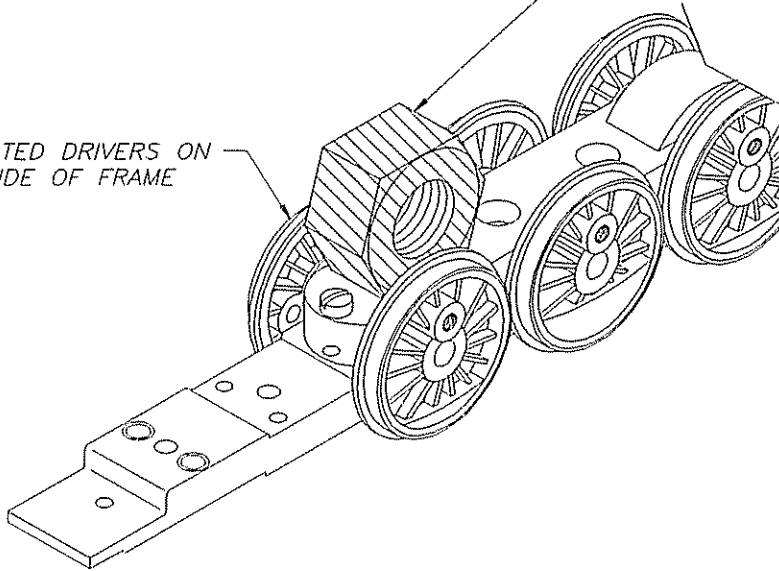


STEP #3a

Assemble draw bar as shown.

TO SEAT BEARINGS, SUPPORT FRAME ON FINGERS NOT A SOLID BLOCK. PLACE A 5/16 NUT OVER BEARINGS AND STRIKE A SHARP BLOW USING A TACK HAMMER OR OTHER LIGHT HAMMER. REPEAT OVER EACH AXLE UNTIL EACH DRIVER SPINS FREELY. DO NOT PROCEED ANY FURTHER UNTIL ALL DRIVERS WILL SPIN FREELY

INSULATED DRIVERS ON THIS SIDE OF FRAME



STEP #4

Assemble side rods to drivers.
Assure wheels spin freely.
If binding occurs ream holes
in side rods until eliminated.
Oil lightly.

WHEELS MUST SPIN ABSOLUTELY FREE.

Subkit 100453

FULL SIZE



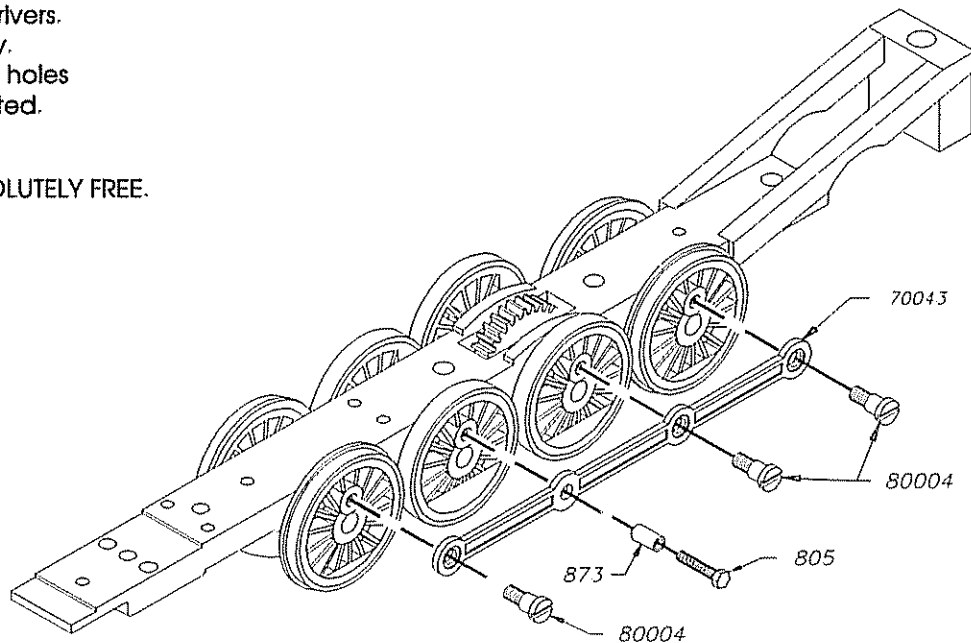
80004



805



873



STEP #5

Assemble cylinders, crossheads & main rods.
 Crossheads must slide freely on guide rods.

Subkit 100452

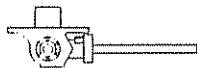
FULL SIZE



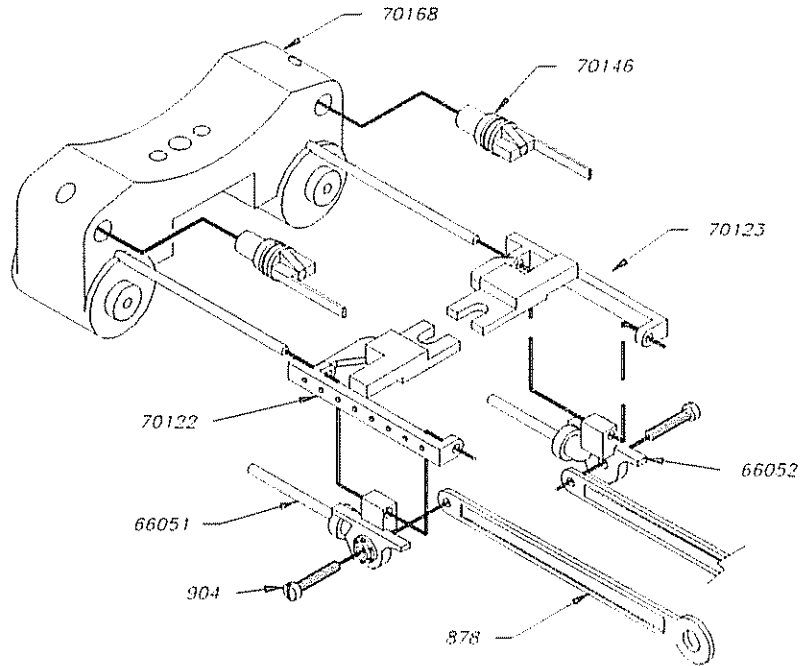
904



66051



66052



STEP #5a

Assemble cylinders, crossheads & main rods to mechanism.
 Crossheads should slide freely on guide rods. There must not be any binding in mechanism.

Subkit 100452

FULL SIZE



256031



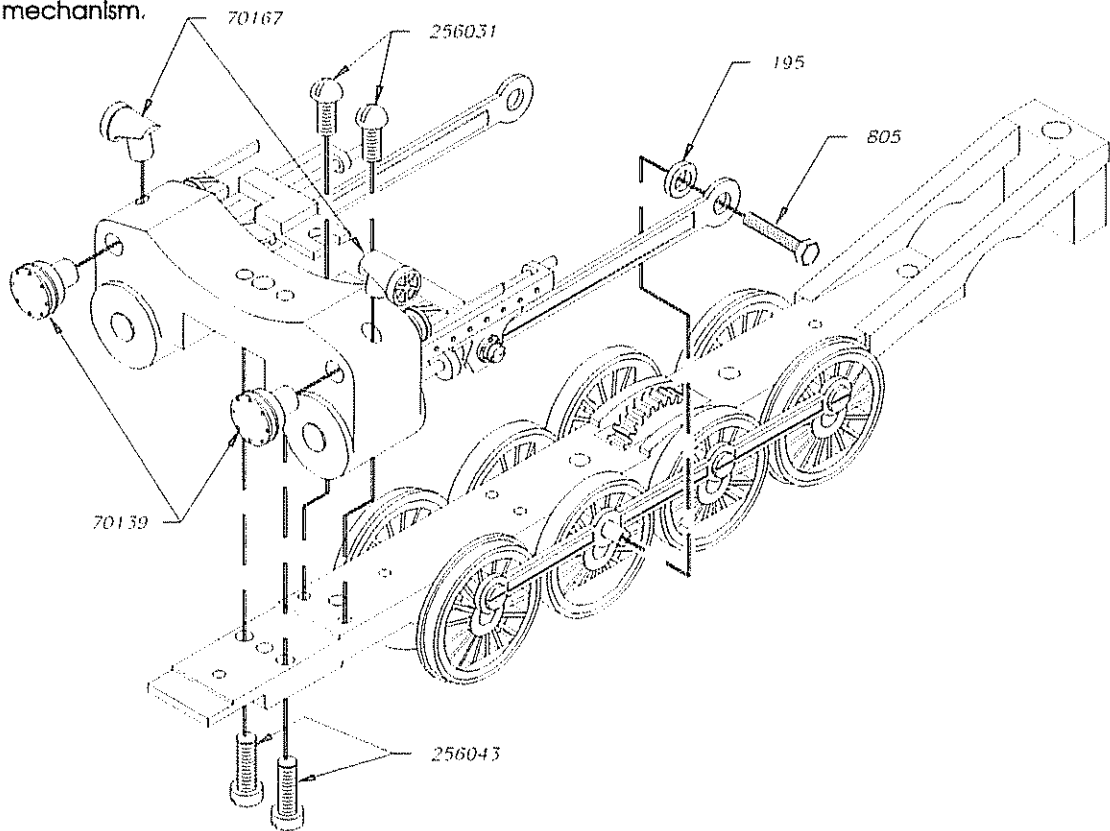
256043



195



805

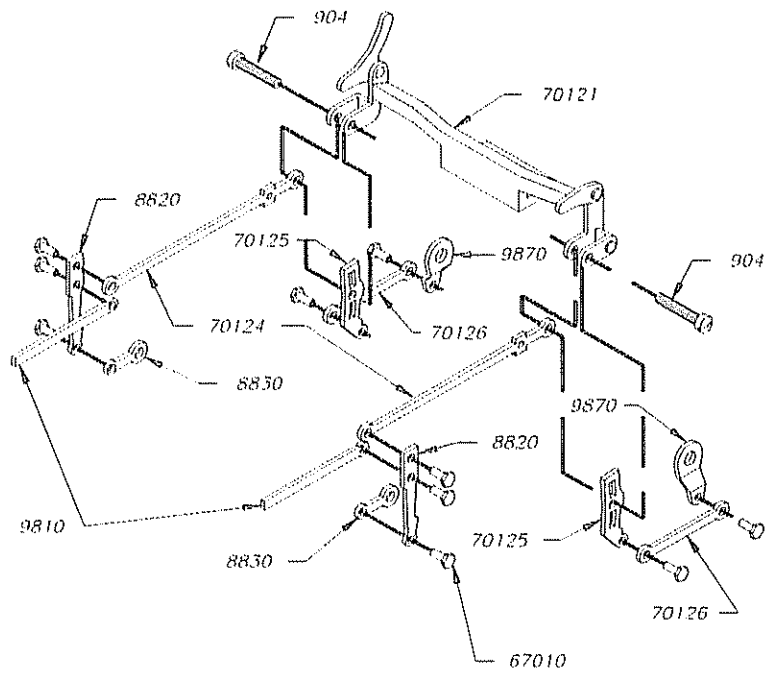
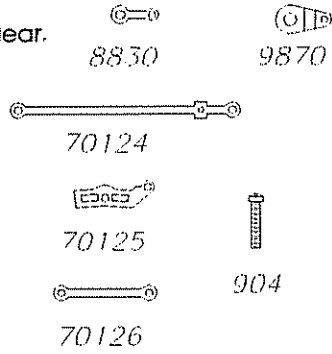


M100450-3 01.13.97 11:54

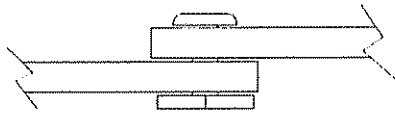
STEP #6

Assemble valve gear.
Subkit 100452

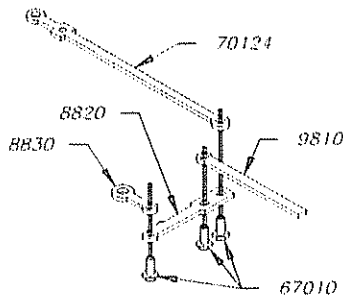
FULL SIZE



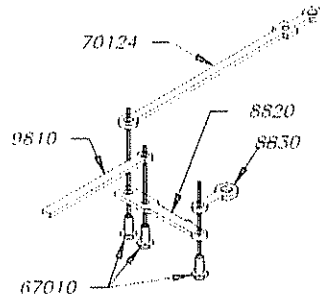
SET RIVETOOL WITH CENTER POINT IN HOLE IN END OF RIVET. TAP WITH LIGHT HAMMER UNTIL RIVET IS PROPERLY FLARED. BE CAREFUL NOT TO MAKE JOINT TOO TIGHT



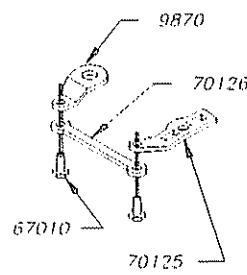
SIDE VIEW OF RIVET SHOWN 10X SIZE NOTE CLEARANCE



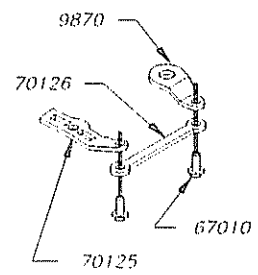
LEFT SIDE FRONT UNIT



RIGHT SIDE FRONT UNIT

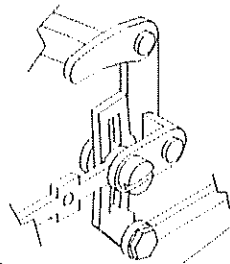


LEFT SIDE REAR UNIT

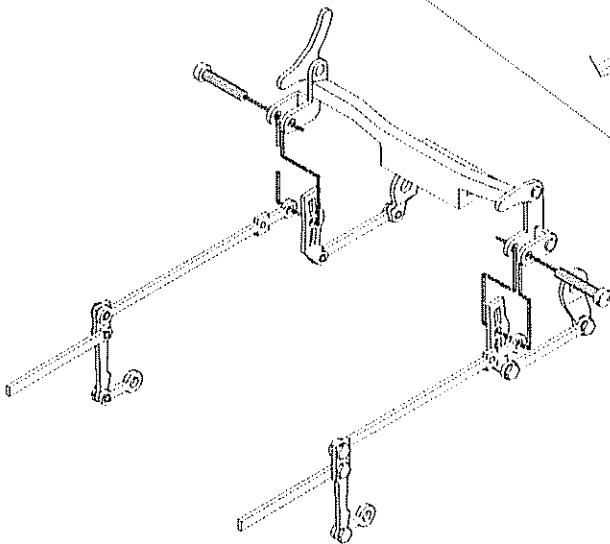


RIGHT SIDE REAR UNIT

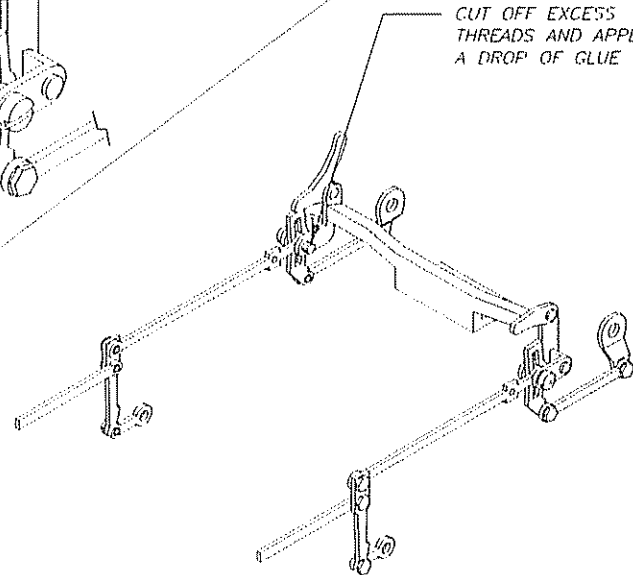
ENLARGED VIEW LEFT SIDE



CUT OFF EXCESS THREADS AND APPLY A DROP OF GLUE



READY TO ASSEMBLE TO HANGER



READY TO INSTALL ON MECHANISM

STEP #6a

Install valve gear on mechanism.
Time valve gear as shown.
Mechanism at this point must be absolutely free of any binds before proceeding any further with assembly. Do not mount motor until it is free running.

Subkit 100435

FULL SIZE



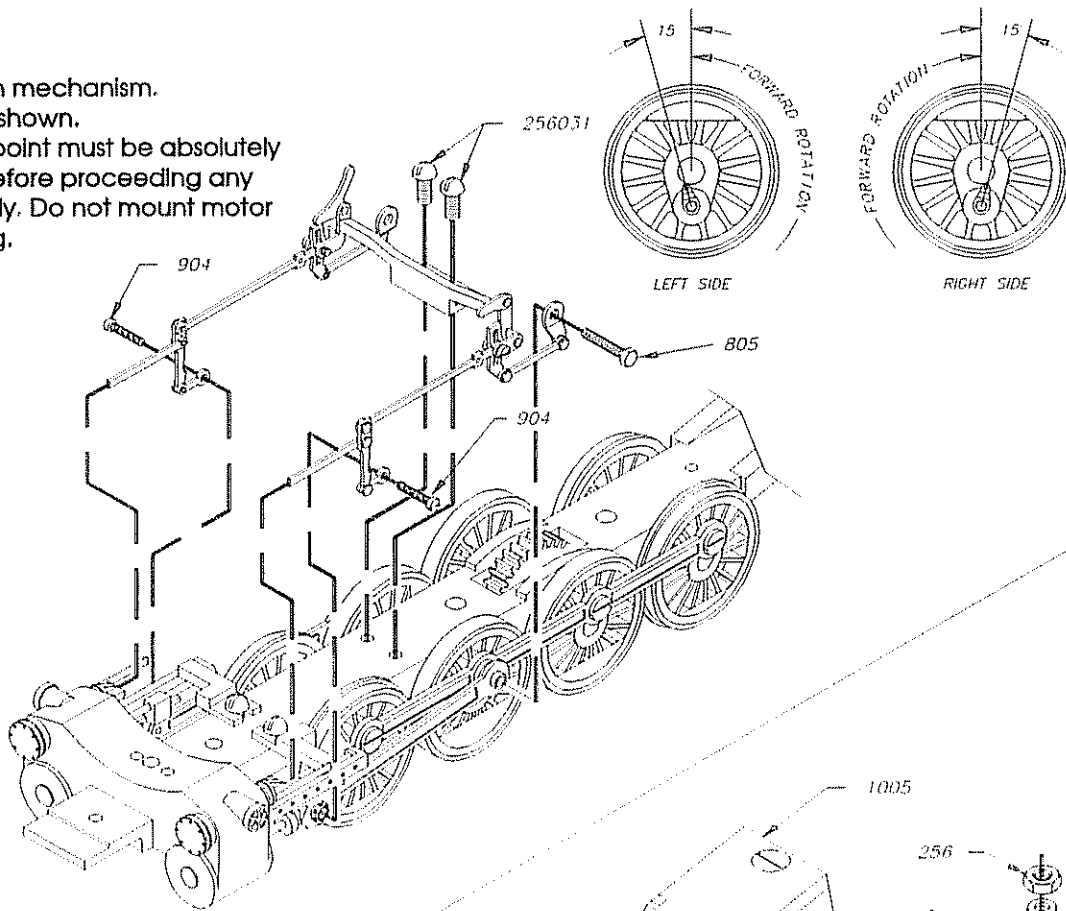
256031



904



805

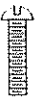


STEP #7

Install motor. Check gear mesh as shown in drawing. Adjust mesh using #29 washers.

Subkit 100435

FULL SIZE



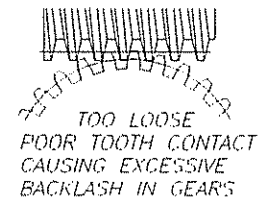
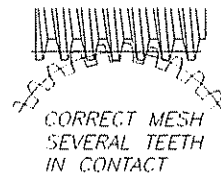
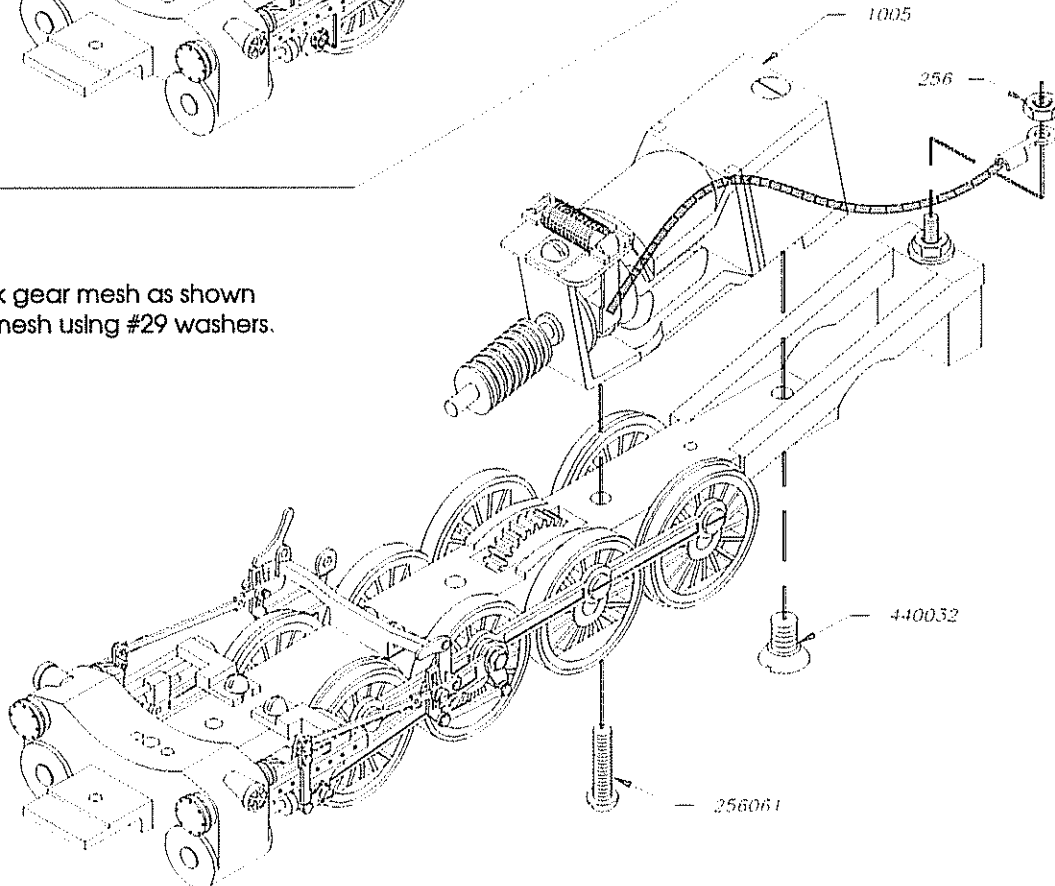
256061



440032



256



STEP #8

Assemble trailing truck.

Subkit 100437

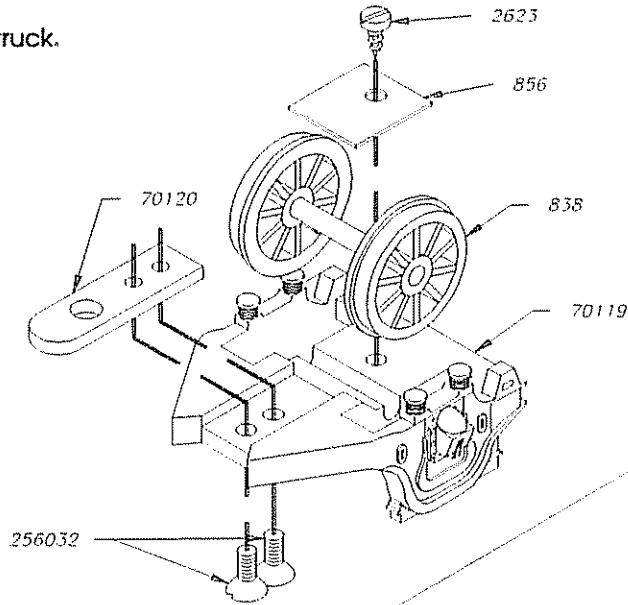
FULL SIZE



256032



2623



STEP #9

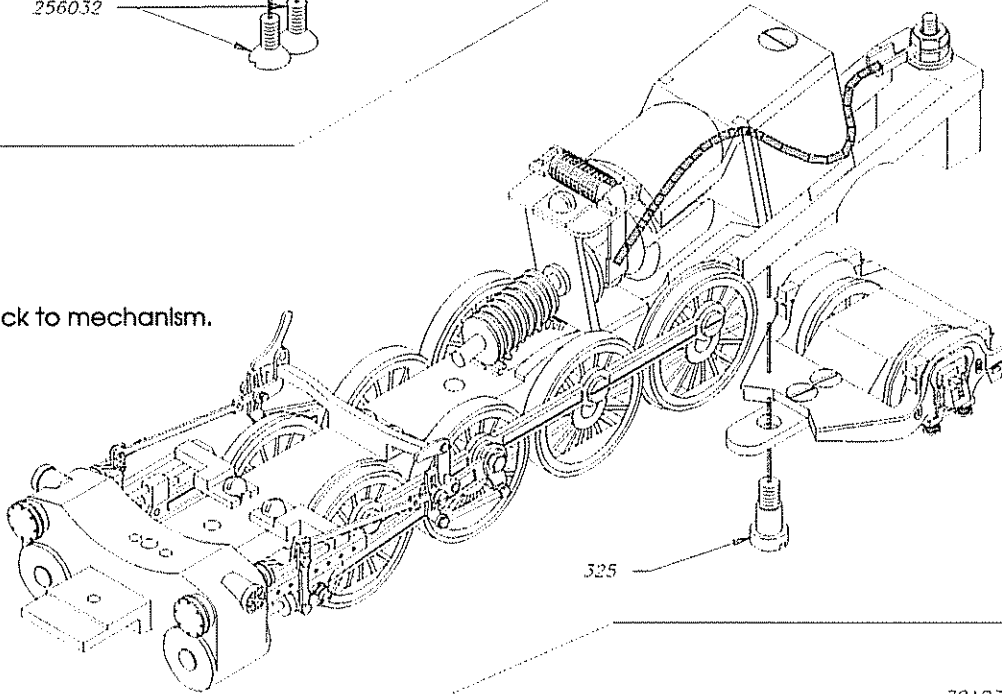
Install trailing truck to mechanism.

Subkit 100437

FULL SIZE



325



STEP #10

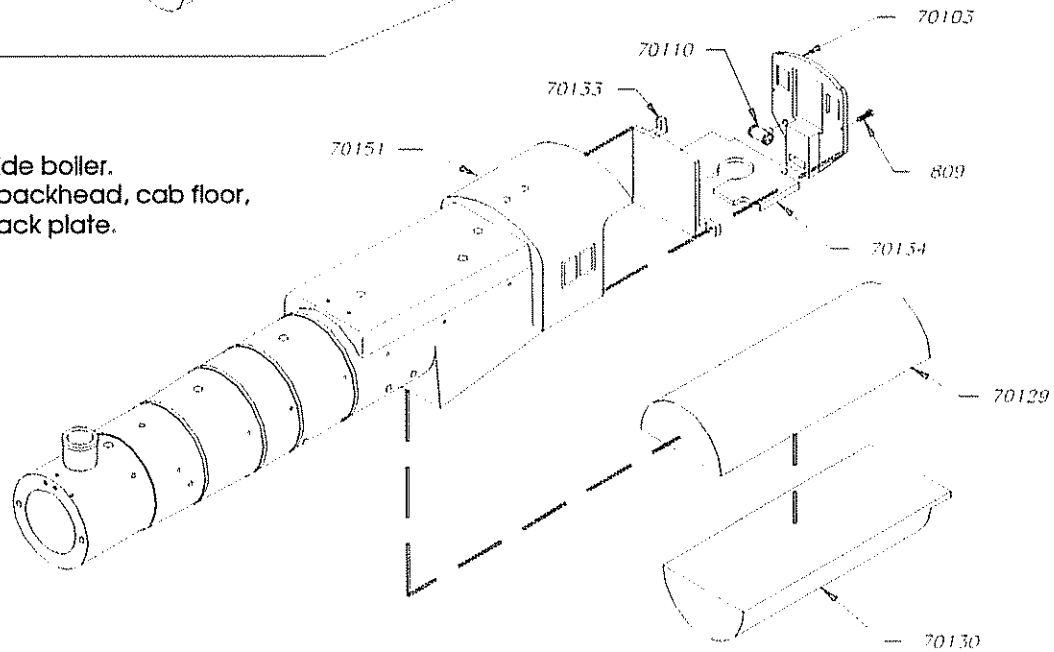
Glue weights inside boiler.
Assemble boiler backhead, cab floor,
air tank & cab back plate.

Subkit 100456
& 100459

FULL SIZE



809



STEP #11

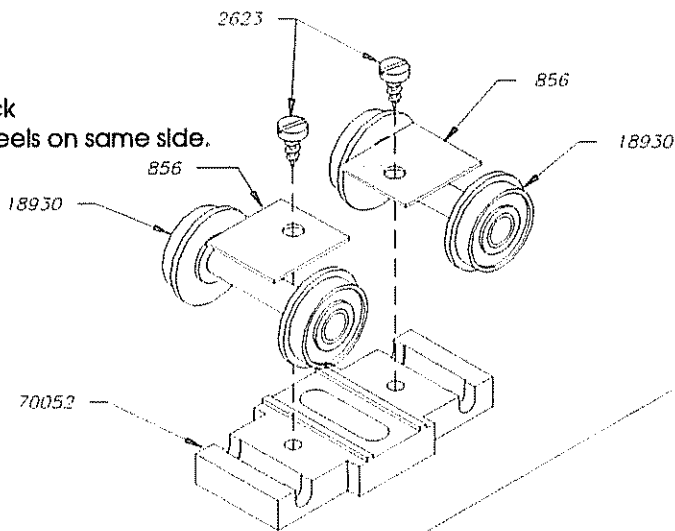
Assemble lead truck
Keep insulated wheels on same side.

Subkit 100404

FULL SIZE



2623



STEP #12

Assemble boiler & lead truck
to mechanism.

Subkit 100404

FULL SIZE



5203



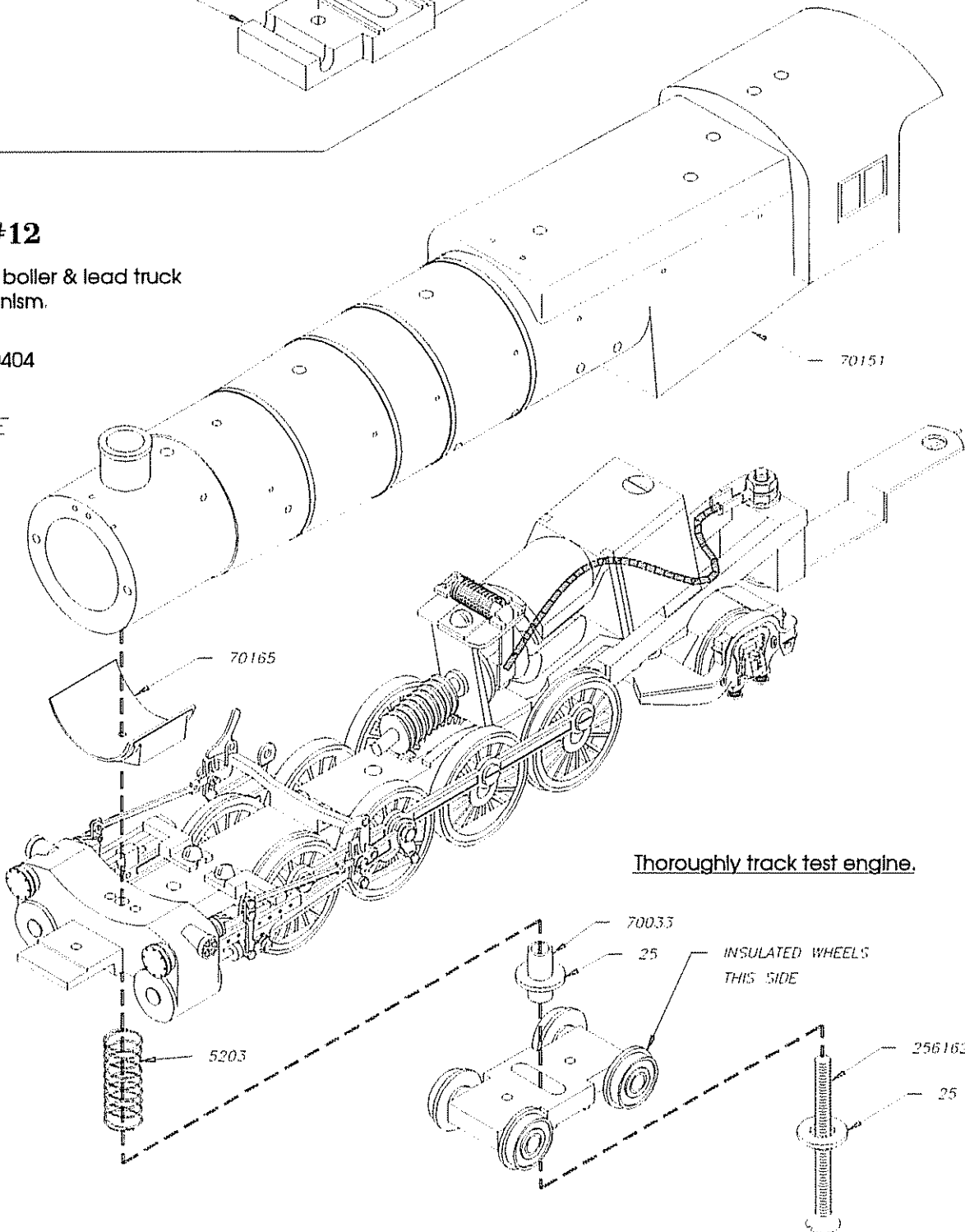
25



256162



70033



Thoroughly track test engine.

111 100450-7 01.13.97 12:56

STEP #13

Assemble tender.

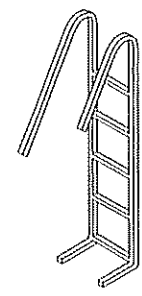
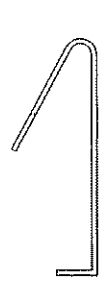
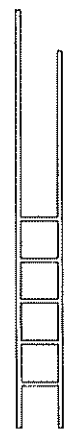
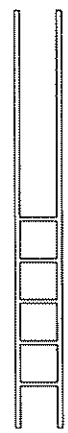
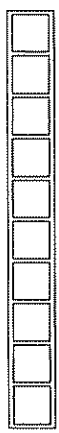
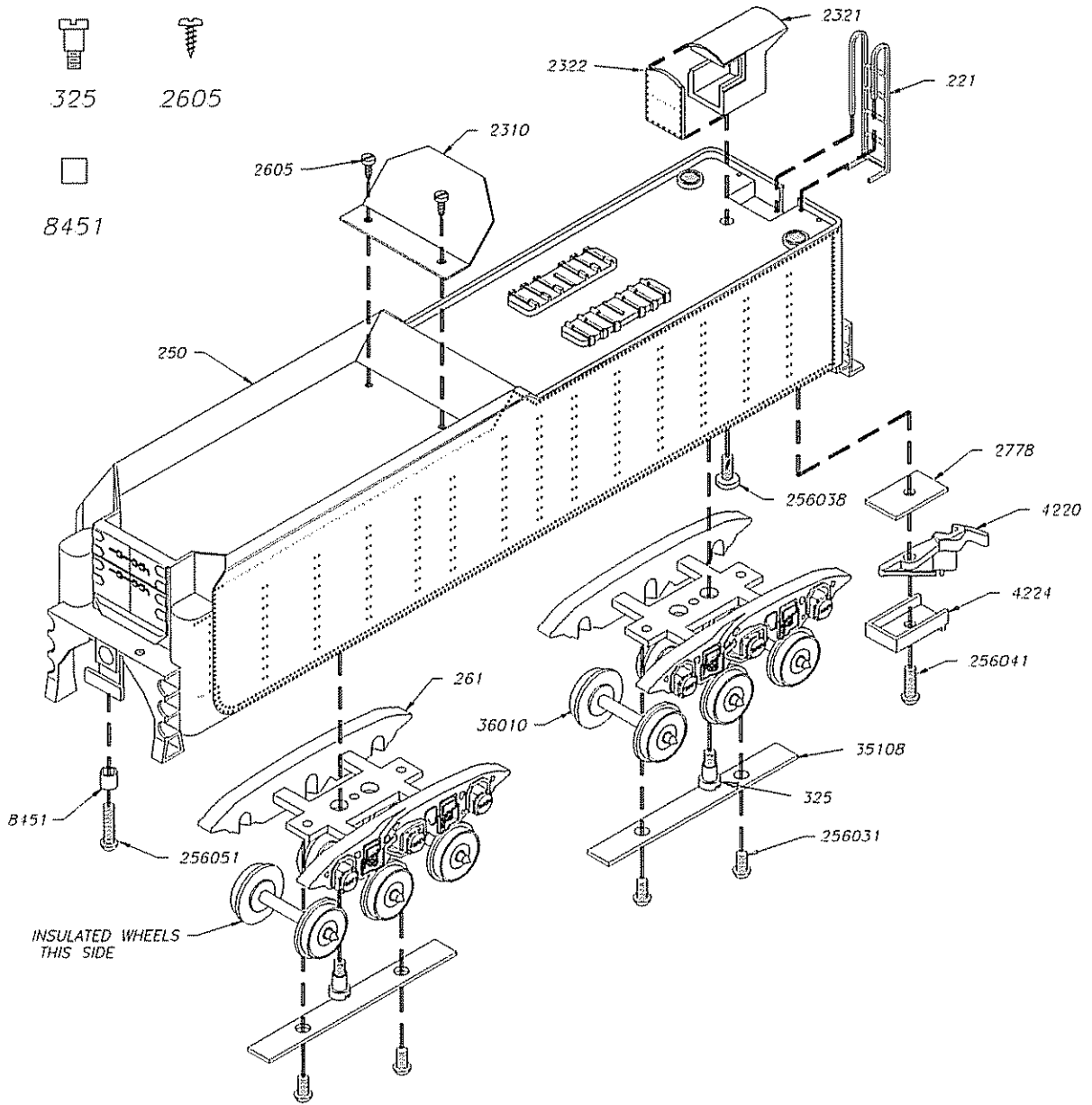
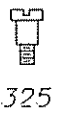


FIGURE 1

FIGURE 2

FIGURE 3

FIGURE 4

FIGURE 5

FIGURE 6

(SCALE: FULL SIZE)

STEP #14

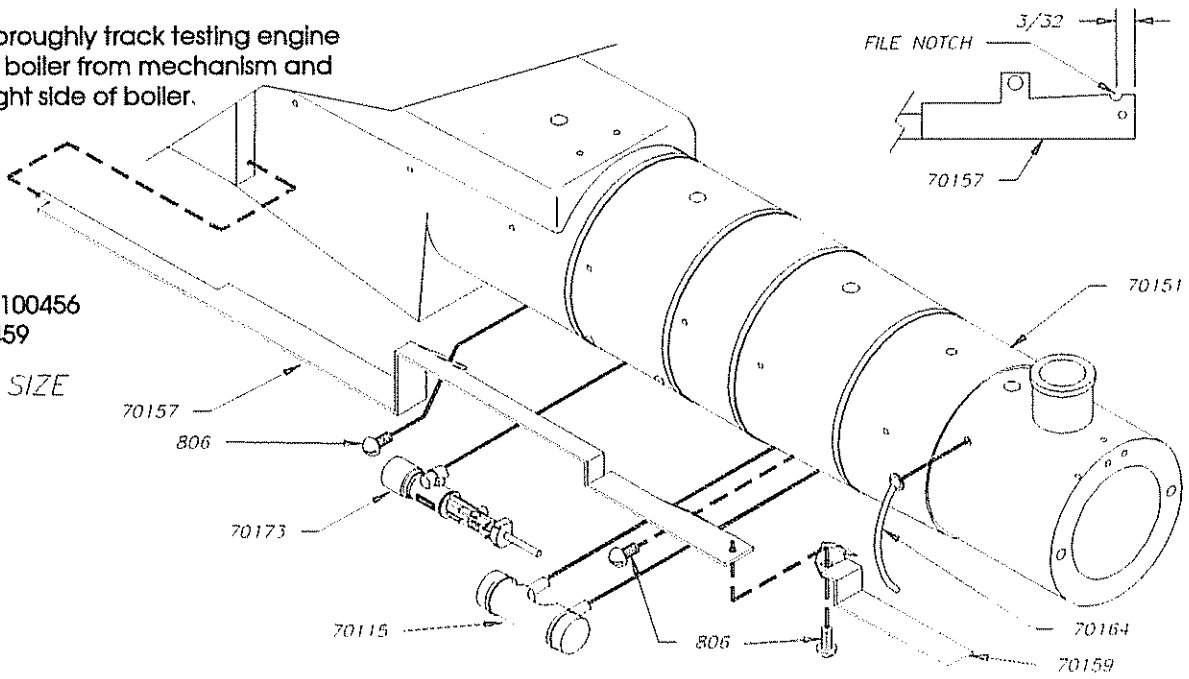
After thoroughly track testing engine remove boiler from mechanism and detail right side of boiler.

Subkit 100456 & 100459

FULL SIZE



806



STEP #15

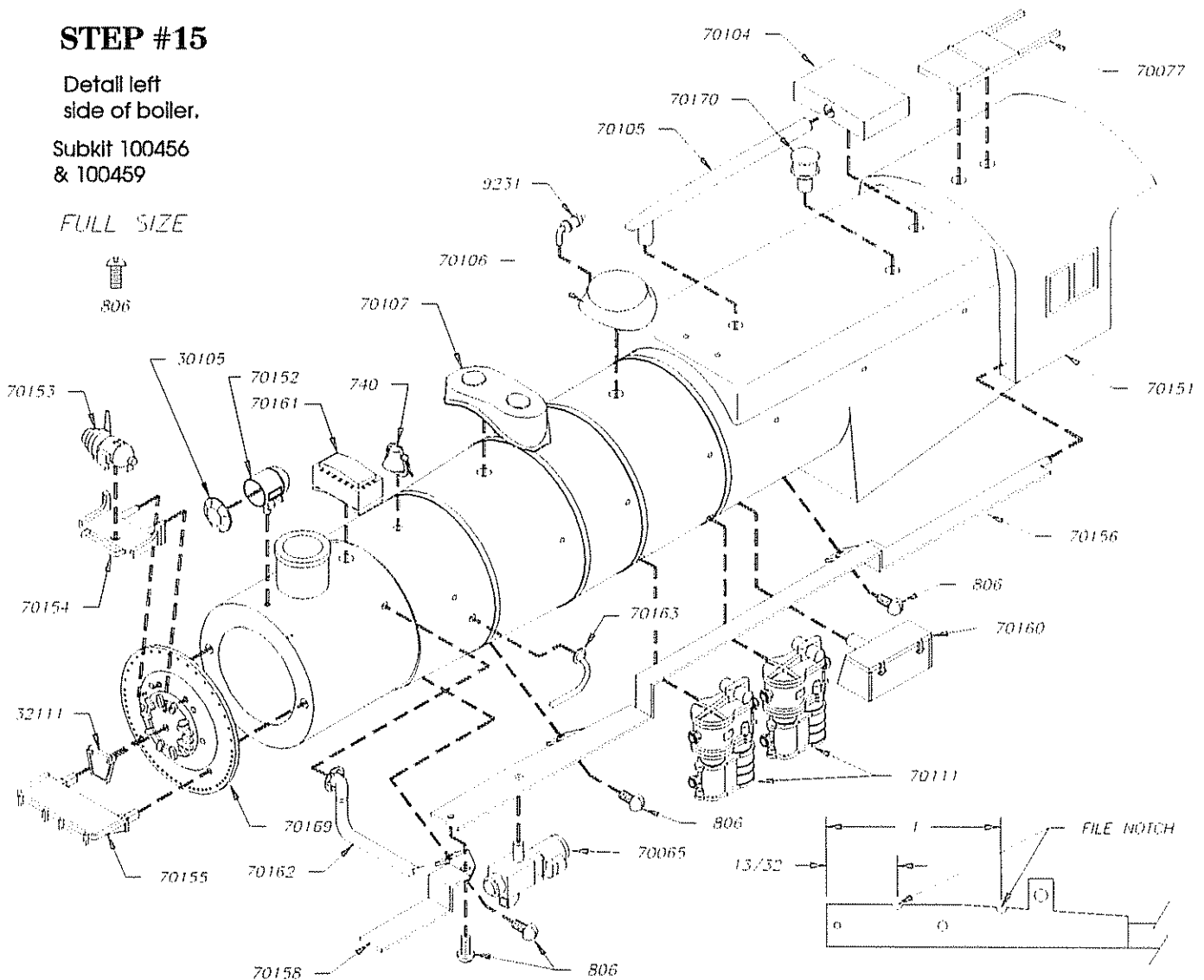
Detail left side of boiler.

Subkit 100456 & 100459

FULL SIZE



806

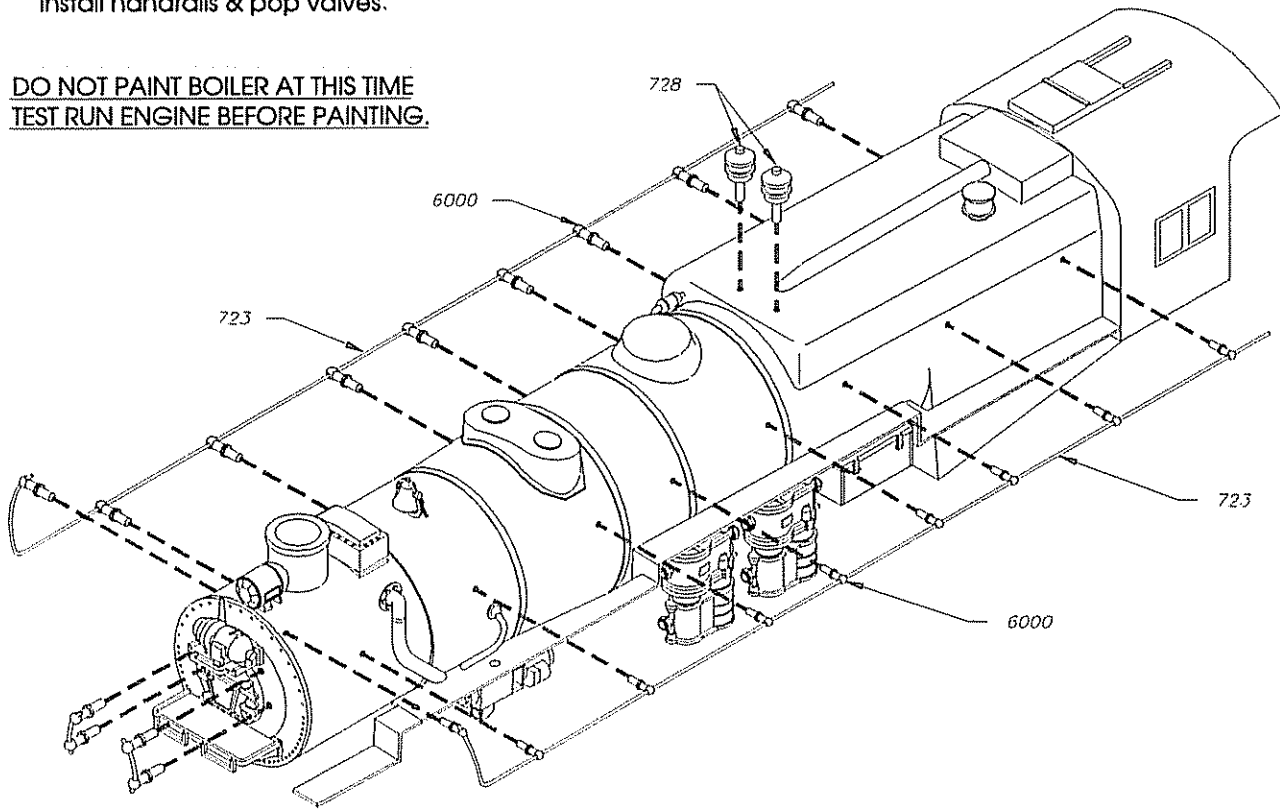


M1-100456-9 01.12.97 13:27

STEP #16

Install handrails & pop valves.

DO NOT PAINT BOILER AT THIS TIME
TEST RUN ENGINE BEFORE PAINTING.



STEP #17

Assemble pilot & air tank to mechanism.

Subkit 100404

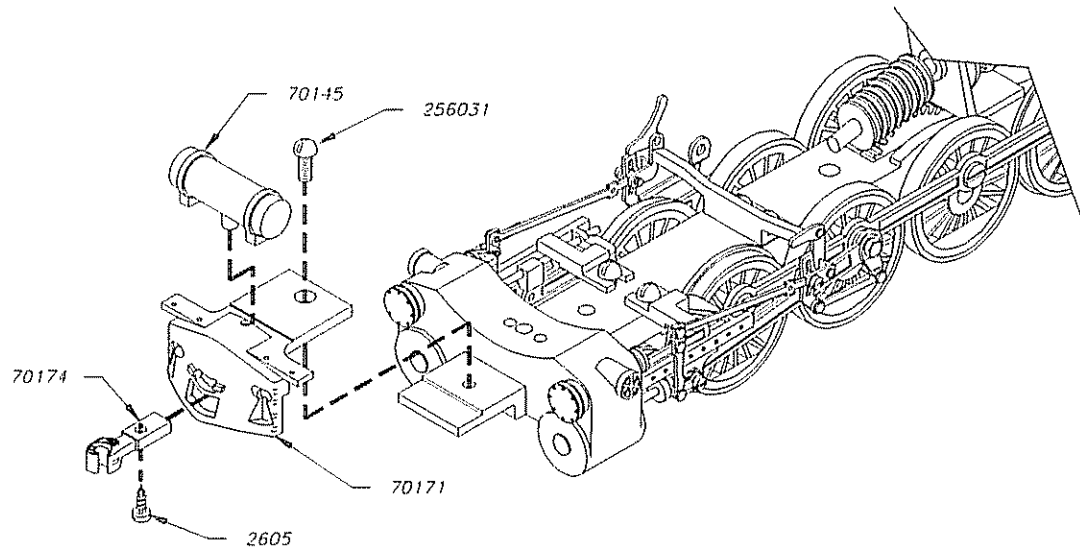
FULL SIZE



256031



2605



STEP #18

Disassemble mechanism. Clean, paint, reassemble and ENJOY.