

WASH ALL METAL PARTS IN A SOAPY WATER SOLUTION OR ALCOHOL TO REMOVE ANY RESIDUE FROM THE PRODUCTION PROCESS. WASH THE BOILER IN WARM SOAPY WATER AND ALLOW TO DRY.

WE RECOMMEND BUILDING THIS KIT IN SUB-ASSEMBLIES THAT CAN BE PAINTED INDIVIDUALLY BEFORE FINAL ASSEMBLY. IN SOME CASES, WE RECOMMEND ATTACHING PARTS WITH PSA (CANOPY GLUE) IN CASE THEY NEED TO BE REMOVED LATER. ALSO, WHILE WE RECOMMEND USING CA (SUPER) GLUE FOR ASSEMBLY, PSA GLUE CAN HOLD PARTS IN PLACE UNTIL THE CA GLUE IS APPLIED. THIS WORKS ESPECIALLY WELL FOR THE PHOTO-ETCH PARTS.

DECALS ARE APPLIED IN TWO LAYERS. WATERSLIDE DECALS ARE NOT PRE-CUT AND MUST BE CUT AS CLOSE TO THE EDGE OF THE GRAPHIC AS POSSIBLE. SOAK 30-45 SECONDS, FACE UP, FLOATING ON SURFACE OF ROOM TEMP. WATER. PLACE THE WHITE DECALS FIRST, ALLOW TO DRY AND THEN PLACE THE YELLOW DECALS OVER THE WHITE ONES. MICRO-SET CAN BE USED TO FIX THE DECALS IN PLACE.

FOLLOW THE INSTRUCTIONS INCLUDED WITH THE POWER TRUCK (SOLD SEPARATELY) TO PREPARE IT FOR ASSEMBLY INTO THE LOCOMOTIVE SHELL.

CHECK THE FIT OF ALL PARTS BEFORE APPLYING GLUE.

A 1 2 3 4 5 6 7 8 9** 10** 11 12

B 1 2 3 4 5 6 (1-72) 7 (0-80)

C 1 2 3 4 5 6

D 1 2 3

E 1 (0-80) 2 3 4** 5** 6** 7** 8 9 10 11 12 ****REAR TRUCK ASSEMBLY**

F 1 2** 3 4 ****COUPLER ASSEMBLY (5022 ONLY)**

G 1 2** 3** 4 1-72 SCREW ****FRONT TRUCK ASSEMBLY**

H 1 2 3 4 5 6 7 8 9 **PE-2**

I **DECALS**

J 1 2 3 4 5 6 7 **PE-1**

****COUPLER LINK (5023 ONLY)**

MICRO-TRAINS 902 COUPLER ASSEMBLY

****THESE PARTS WILL BE SPECIFIC FOR THE KIT YOU PURCHASED**

ASSEMBLY AND PAINTING

AFTER A THOROUGH WASH, ALL OF THE PARTS WERE CLEANED OF ANY REMAINING FLASH AND PART LINES.

SUB-ASSEMBLIES WERE BUILT ACCORDING TO THE INSTRUCTIONS AND SET ASIDE FOR THE GLUE TO SET. MOST OF THE PARTS WERE ASSEMBLED USING CA TYPE (SUPER) GLUE. SOME OF THEM WERE ASSEMBLED USING CANOPY GLUE TO ALLOW THEM TO BE REMOVED IF NECESSARY.

SOME OF THE FINER PHOTO-ETCHED PARTS WERE ATTACHED USING CANOPY GLUE AND THEN BONDED IN PLACE WITH CA GLUE. TO DO THIS, PUT A FEW DROPS OF CA GLUE ONTO A SMALL PLASTIC SURFACE AND USE A PIN OR WIRE TO REMOVE A TINY DROP OF THE GLUE AND APPLY IT TO THE JOINT. CAPILLARY ACTION SHOULD ALLOW THE GLUE TO FILL THE JOINT.

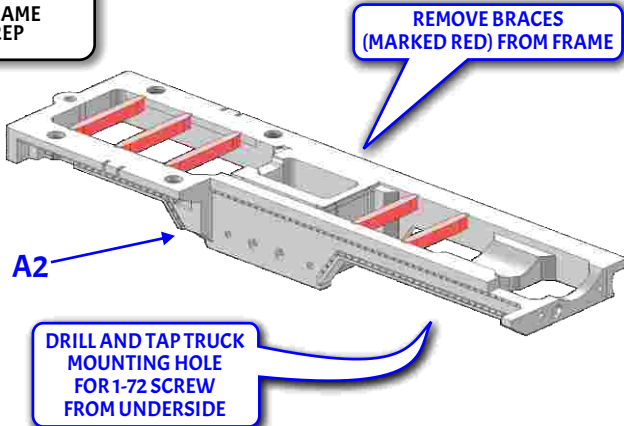
SUB-ASSEMBLIES WERE SPRAY PAINTED WITH TAMIYA SURFACE PRIMER AND THEN WITH TESTORS FLAT BLACK. PASTEL CHALKS OF WHITE AND BLACK AND BROWN WERE LIBERALLY USED ONCE THE PAINT HAD DRIED THOROUGHLY. THEN THE SUB-ASSEMBLIES WERE COMBINED INTO THE FINAL ASSEMBLY.

WORKING WITH 3D PRINTED PARTS

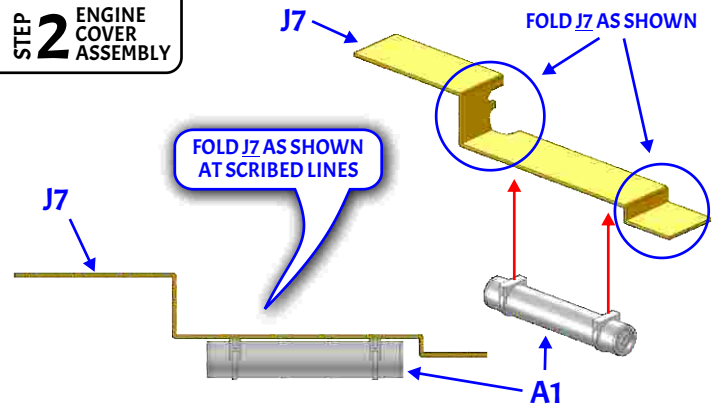
GENERALLY, 3D PRINTED PARTS ARE SIMILAR IN CHARACTERISTICS TO THAT OF RESIN AND MOST STYRENE INJECTION MOLDED PARTS. THE WAY THEY ARE PRODUCED HOWEVER, IS A VERY DIFFERENT. PARTS ARE LITERALLY "GROWN" FROM THE BASE UP AS A LASER CAUTERIZES A RESIN MATERIAL ONE LAYER AT A TIME. FOR THIS TO WORK, EACH PART MUST BE 'SUPPORTED' AS THEY ARE GROWN. THESE SUPPORTS ARE THIN CYLINDERS THAT EXTEND UP FROM THE BOTTOM OF THE BUILD PLATE TO THE PART ITSELF AND ARE PLACED AT CRUCIAL POINTS ALONG THE UNDERSIDE OF THE PART. SOME OF THESE SUPPORTS WILL STILL BE ATTACHED AND CAN BE CAREFULLY REMOVED BY GENTLY PULLING THEM OFF OR WITH A SHARP HOBBY KNIFE.

PAINT THE 3D PRINTED PARTS USING NORMAL METHODS AND BOTH ACRYLIC AND ENAMEL PAINT CAN BE USED. WE RECOMMEND A LACQUER BASED PRIMER BUT CLEANING BEFORE PRIMING IS NOT NECESSARY SINCE THEY HAVE ALREADY BEEN THOROUGHLY WASHED IN ALCOHOL.

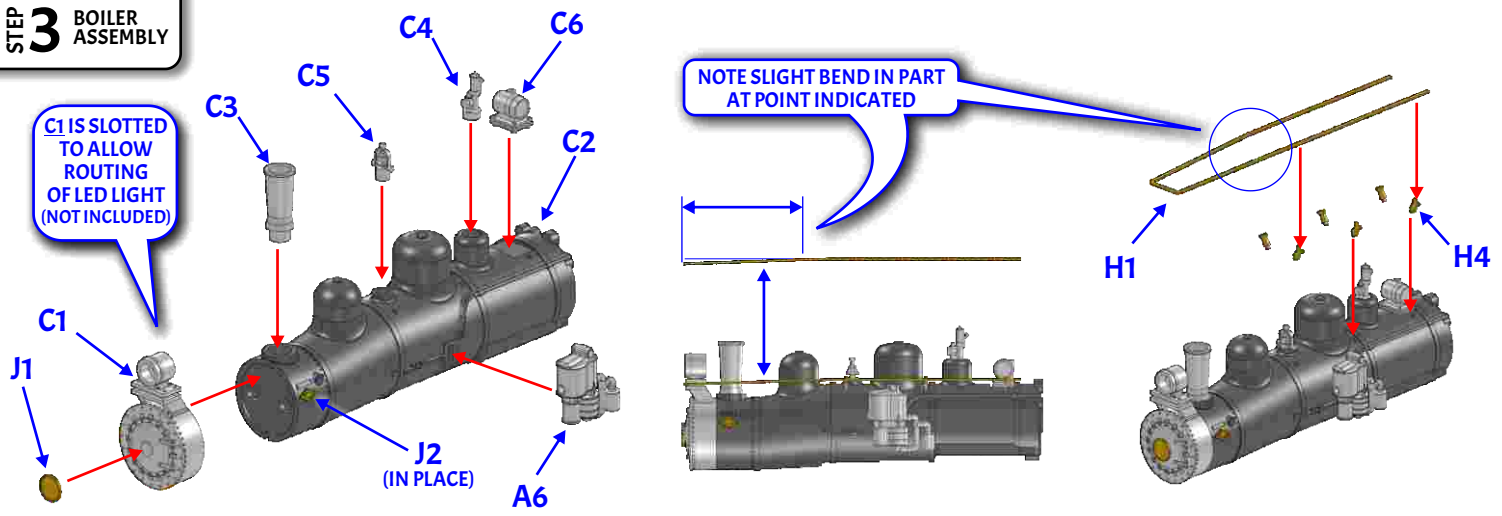
STEP 1 FRAME PREP



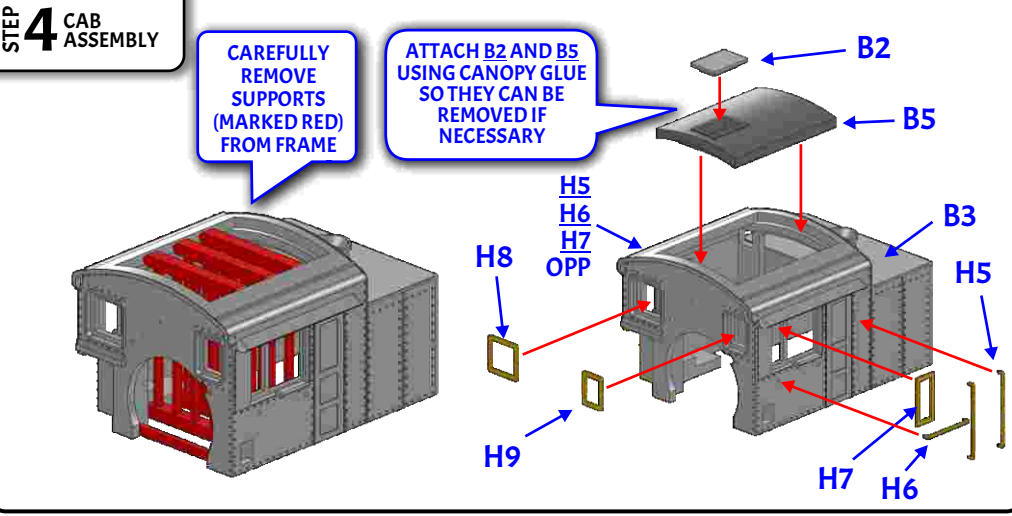
STEP 2 ENGINE COVER ASSEMBLY



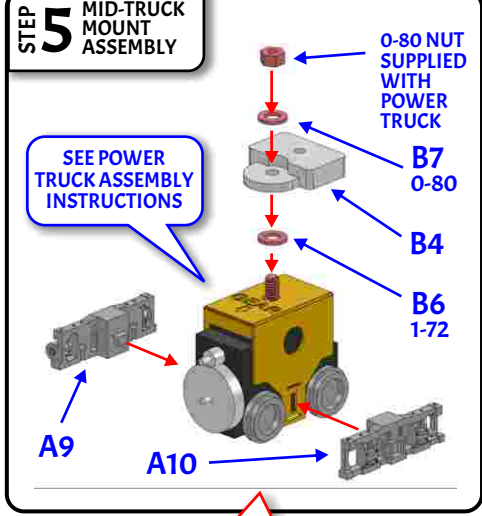
STEP 3 BOILER ASSEMBLY



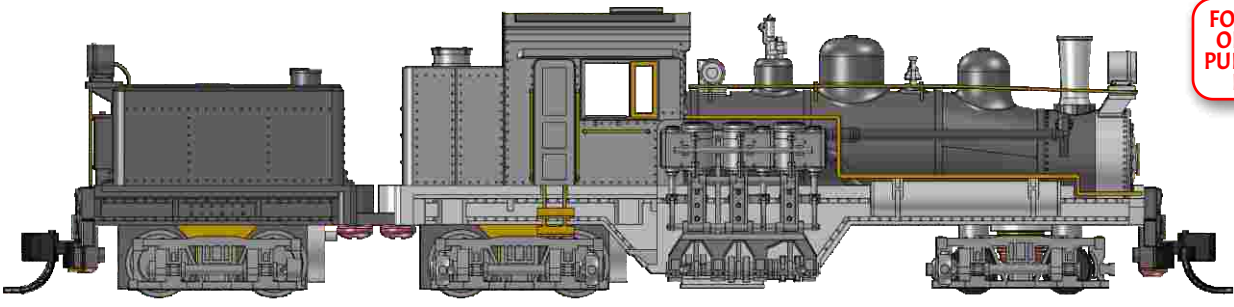
STEP 4 CAB ASSEMBLY



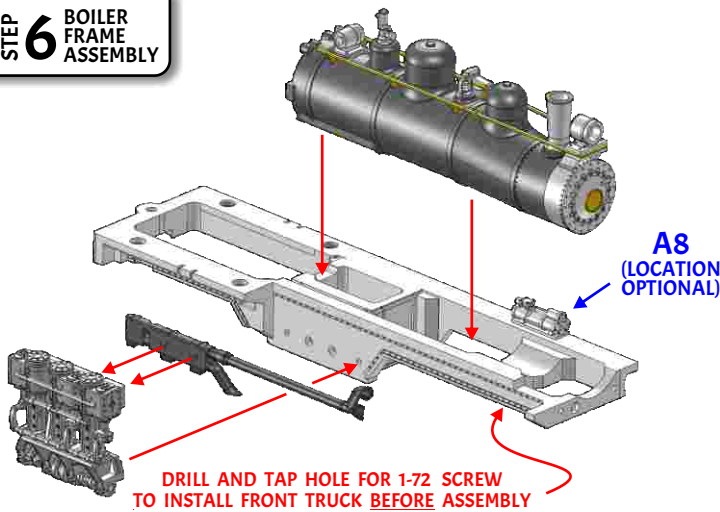
STEP 5 MID-TRUCK MOUNT ASSEMBLY



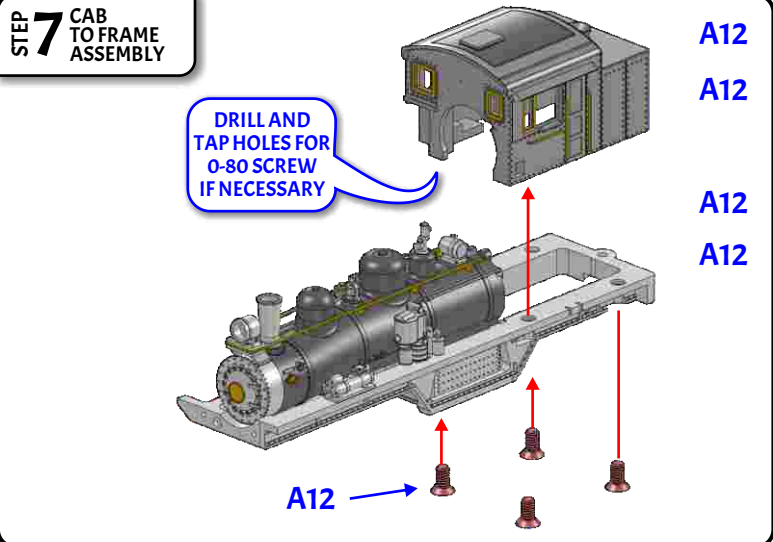
FOR 5023, CHECK CLEARANCE OF ADAPTER WITH WHEELS. PULL OUT AWAY FROM MOTOR HOUSING IF NECESSARY.



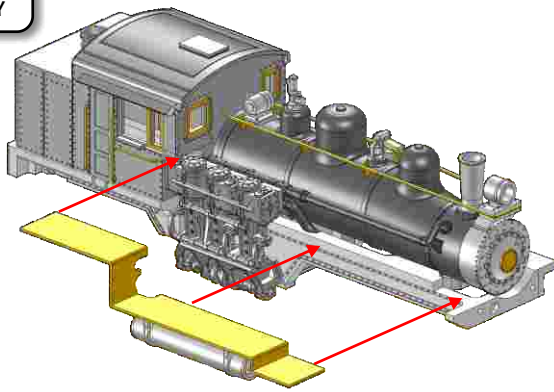
STEP 6 BOILER FRAME ASSEMBLY



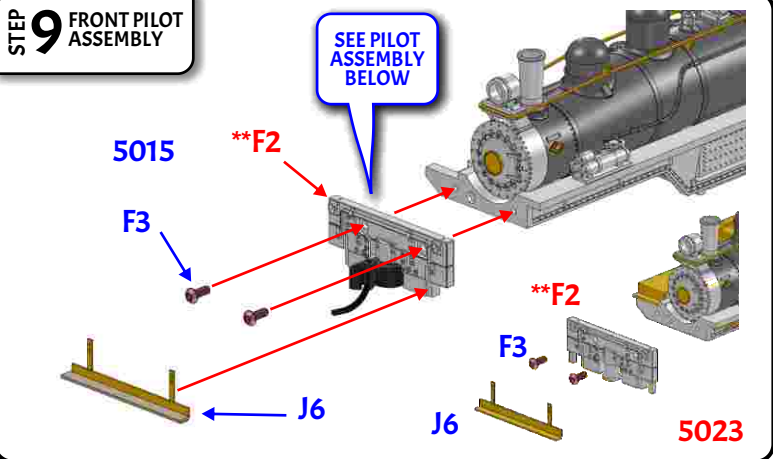
STEP 7 CAB TO FRAME ASSEMBLY



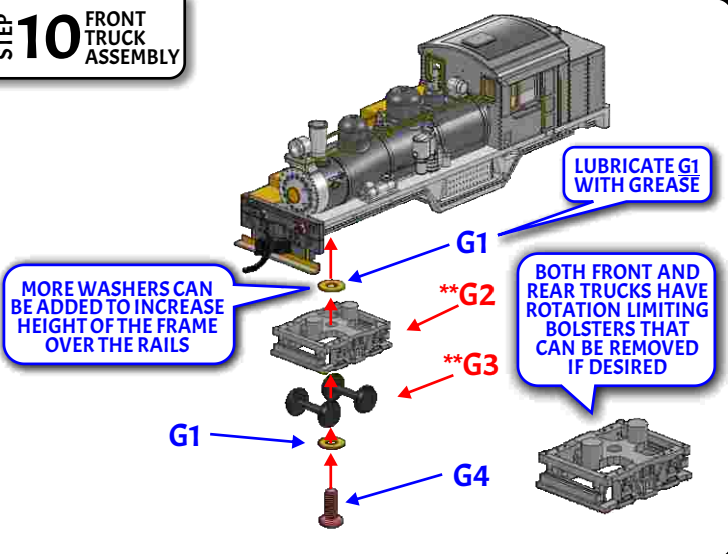
STEP 8 ENGINE COVER ASSEMBLY



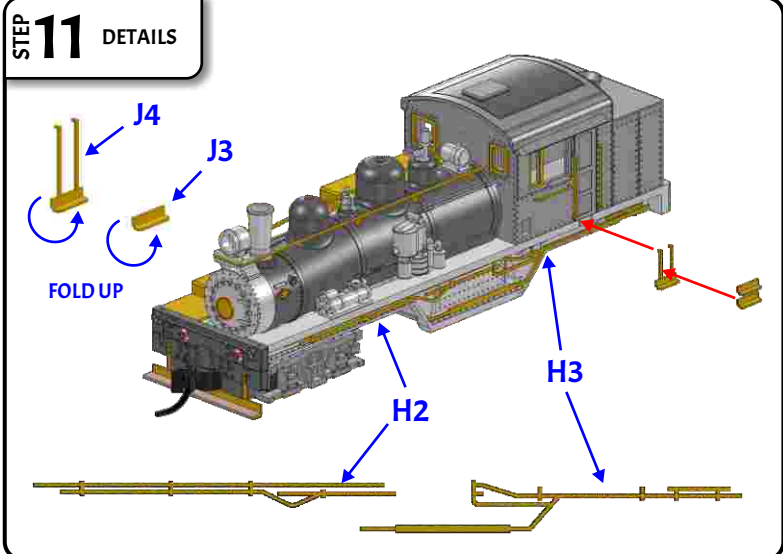
STEP 9 FRONT PILOT ASSEMBLY



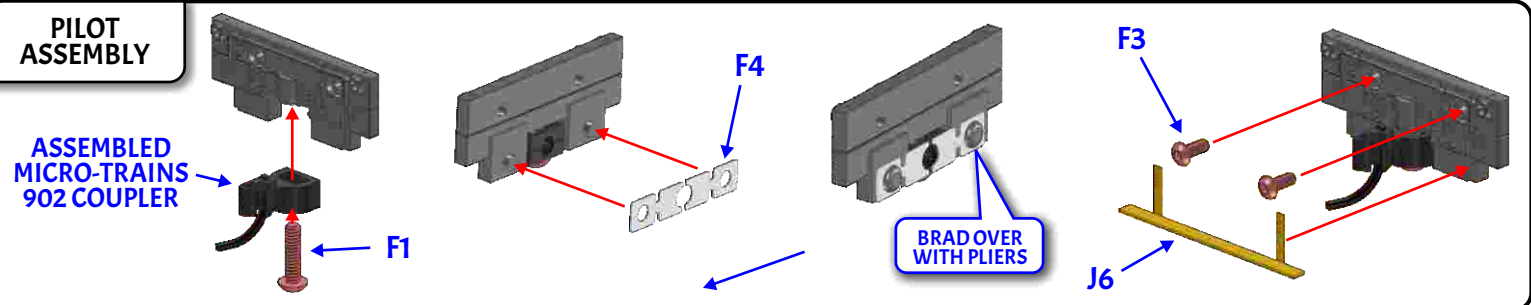
STEP 10 FRONT TRUCK ASSEMBLY



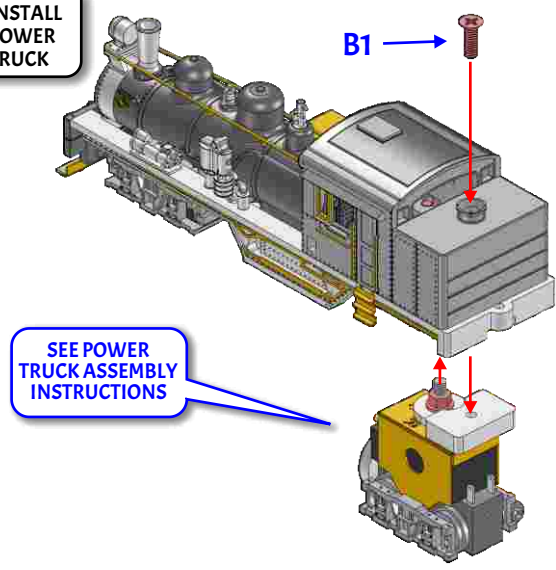
STEP 11 DETAILS



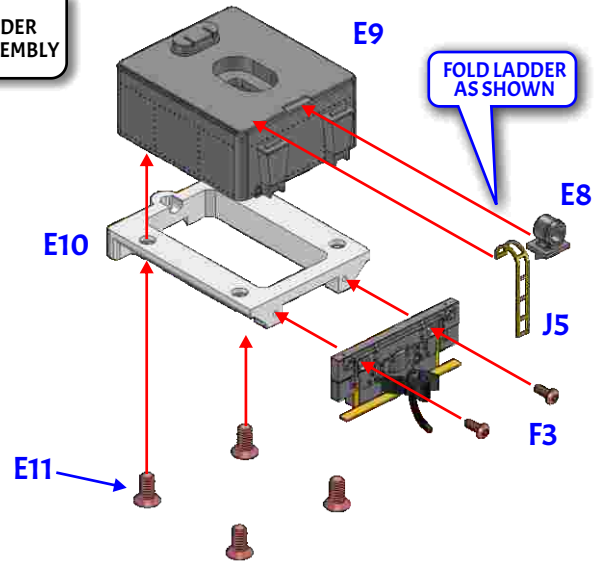
PILOT ASSEMBLY



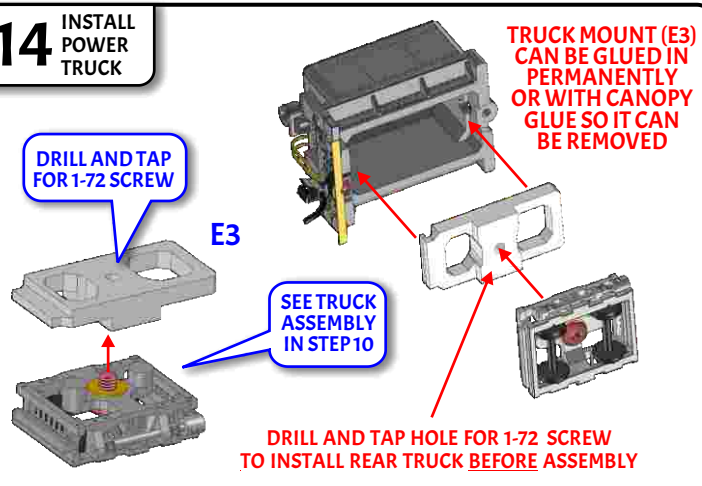
STEP 12 INSTALL POWER TRUCK



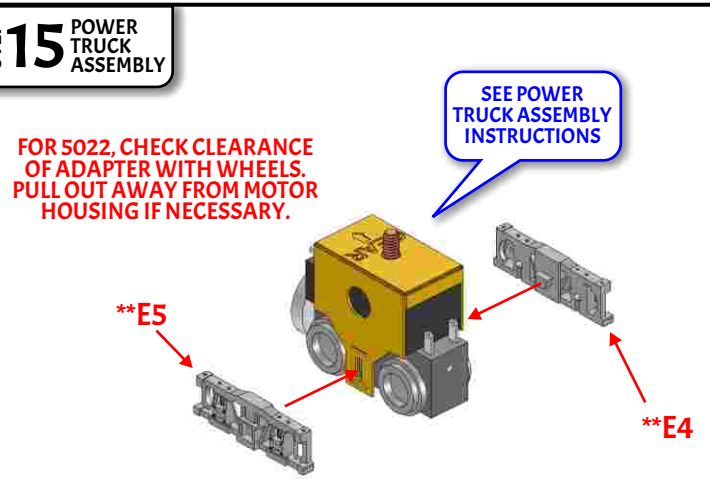
STEP 13 TENDER ASSEMBLY



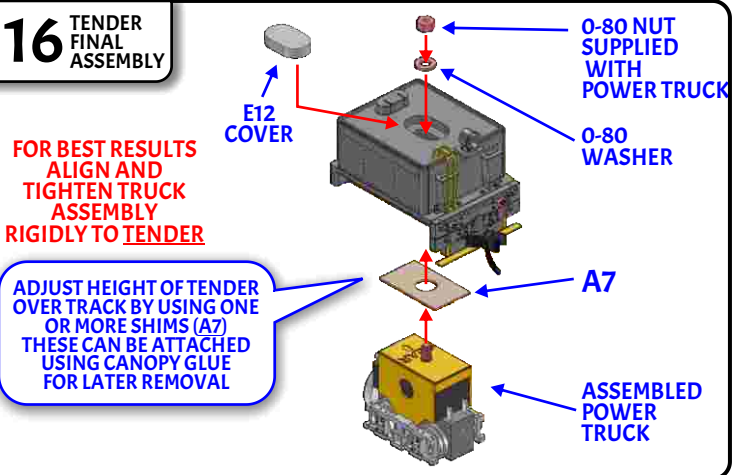
STEP 14 INSTALL POWER TRUCK



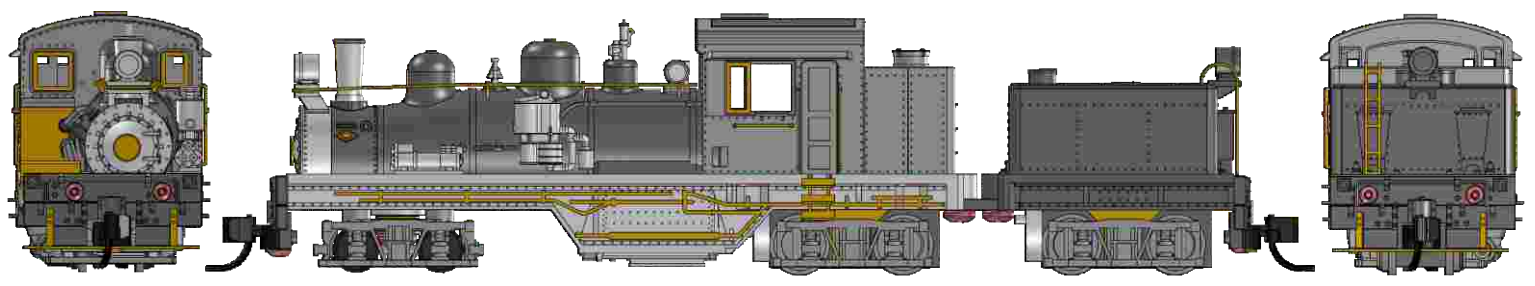
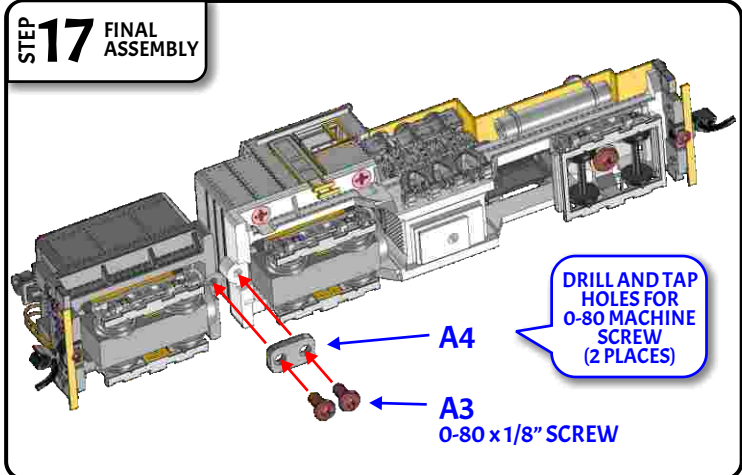
STEP 15 POWER TRUCK ASSEMBLY



STEP 16 TENDER FINAL ASSEMBLY

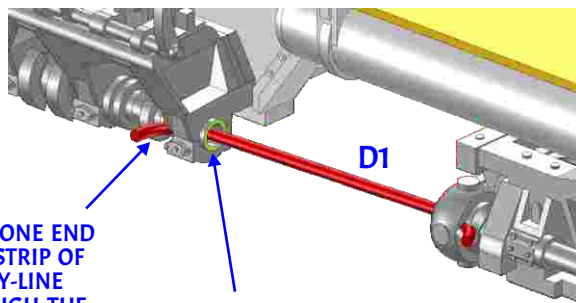
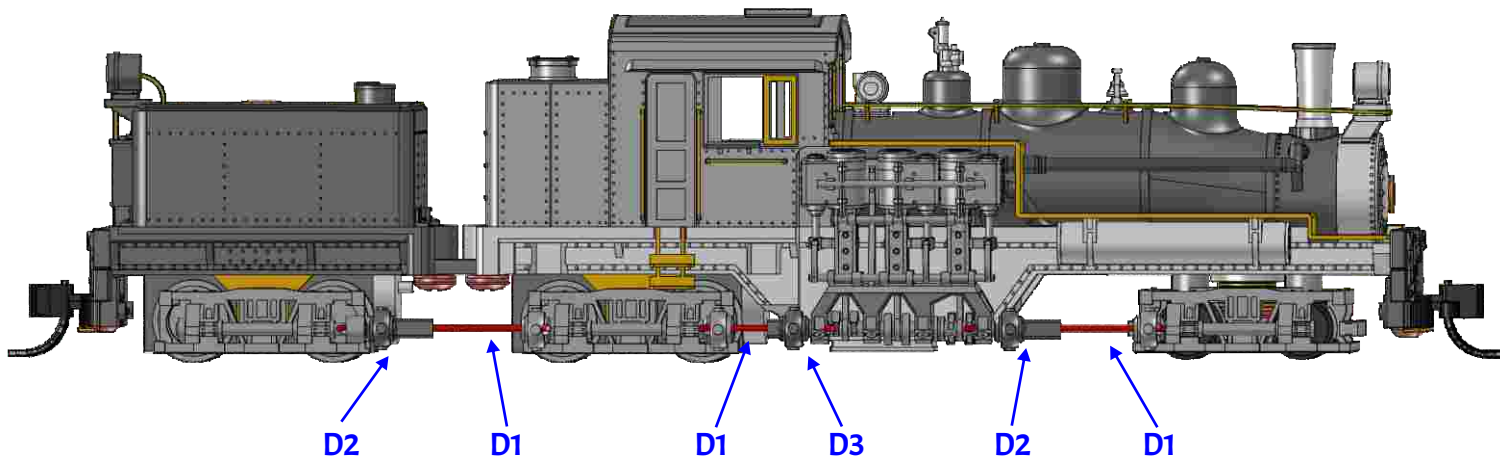
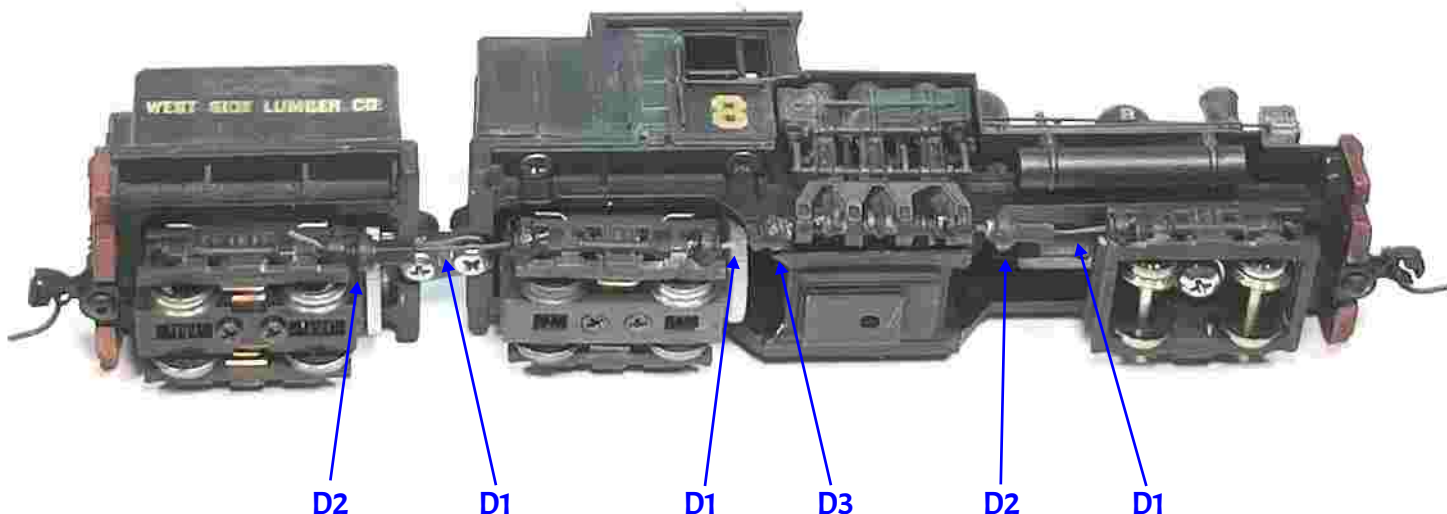


STEP 17 FINAL ASSEMBLY



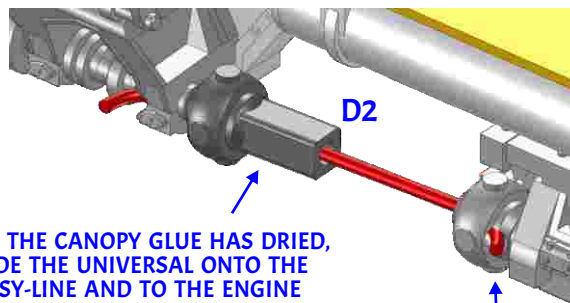
DRIVE LINE ASSEMBLY

INCLUDED IN THIS KIT ARE A SET OF INDIVIDUAL UNIVERSAL JOINTS FOR YOU TO USE TO SIMULATE THE DRIVE CHAIN FOR THE SHAY LOCOMOTIVE. ALSO INCLUDED IS A LENGTH OF EASY-LINE ELASTIC FILAMENT TO ALLOW THE TRUCKS TO ROTATE (TO A LIMITED DEGREE) WHEN RUNNING. WHEN ASSEMBLING, DO NOT STRETCH THE EASY-LINE TIGHT BUT ONLY STRAIGHTEN IT. USE THE INSTRUCTIONS BELOW FOR ASSEMBLING THE DRIVE LINE.



GUIDE ONE END OF A STRIP OF EASY-LINE THROUGH THE HOLE IN THE ENGINE FRAME AND GLUE WITH A TINY DROP OF SUPER GLUE.

APPLY CANOPY GLUE TO THE JOINT OF THE HOLE AND THE EASY-LINE AS SHOWN



ONCE THE CANOPY GLUE HAS DRIED, SLIDE THE UNIVERSAL ONTO THE EASY-LINE AND TO THE ENGINE FRAME. THIS WILL ATTACH THE UNIVERSAL TO THE ENGINE BUT LEAVE IT A FLEXIBLE JOINT.

GUIDE ONE END OF A STRIP OF EASY-LINE THROUGH THE HOLE IN THE UNIVERSAL ON THE FRONT TRUCK AND GLUE IT IN PLACE WITH SUPER GLUE.

PULL THE LINE STRAIGHT BUT DO NOT PULL ANY TENSION ON THE EASY-LINE OR IT MAY PULL THE FRONT TRUCK OFF THE TRACK ON SHARP CURVES.