Finney7

LNER THOMPSON B1



CAUTION.

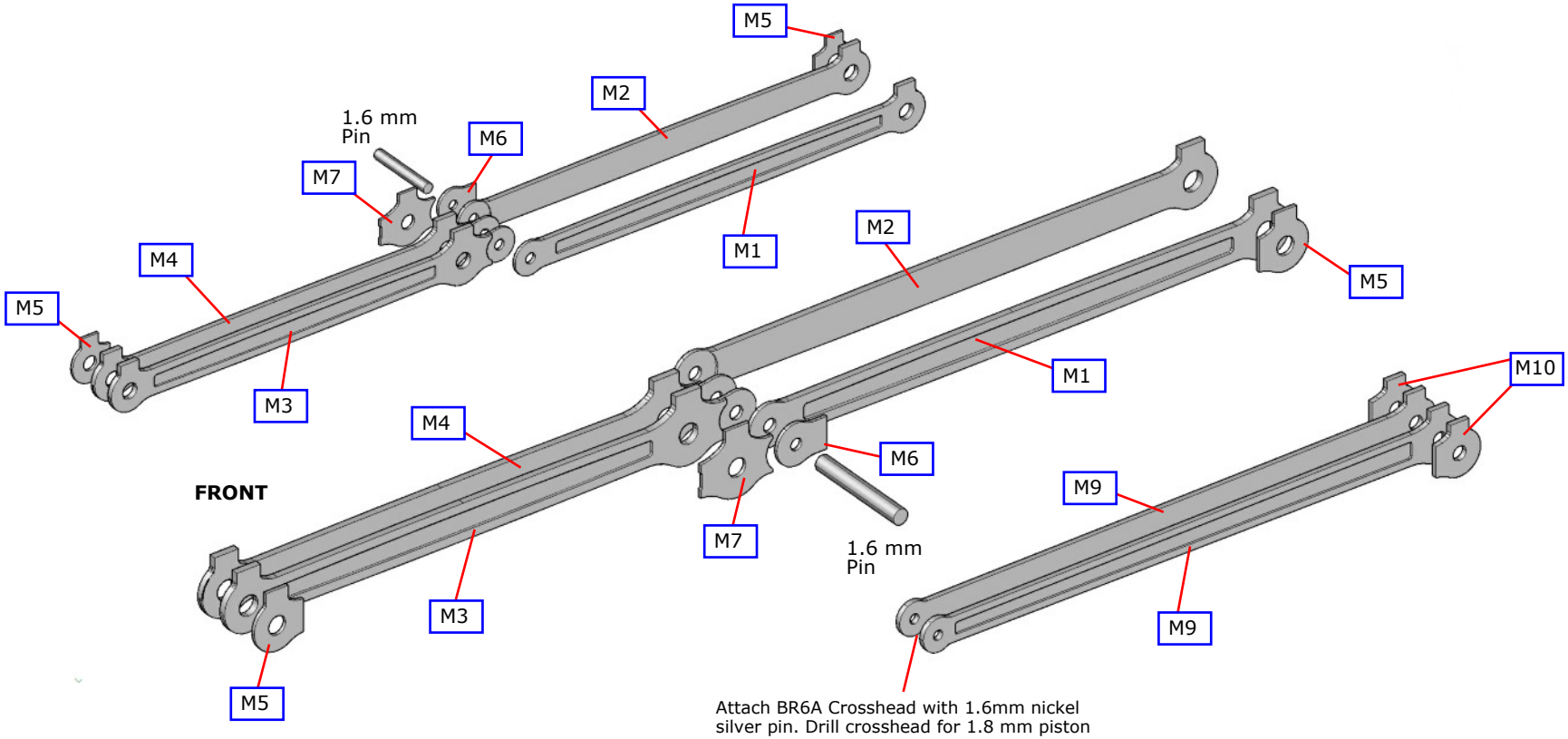
This product contains etched parts with very sharp edges and castings that may contain lead.

Neither the Manufacturer, Distributor or Retailer can accept any liability for illness, injury or consequential damage caused when handling or building this product.

Read any instructions before assembly. Do not eat or drink whilst handling. Wash hands after use.

Recommended wheels, Slaters 7874G driving & 7838MF bogie

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COUPLING RODS

The rods are identical left and right except for the boss over lays.

Laminate M1-M3 and M2-M4 together for left and right sides.

Add boss overlays M5, M6, M7 to the outside of the rods to make left and right hand set, the knuckle joint is to the rear of the middle driving wheel.

Ensure the knuckle joint is free from solder and a snug fit between the front and rear rods, pin with 1.6 mm wire to give a smooth movement.

File back cusps to give a nice smooth finish to the rod edges.

CONNECTING RODS

The rods are identical left and right.

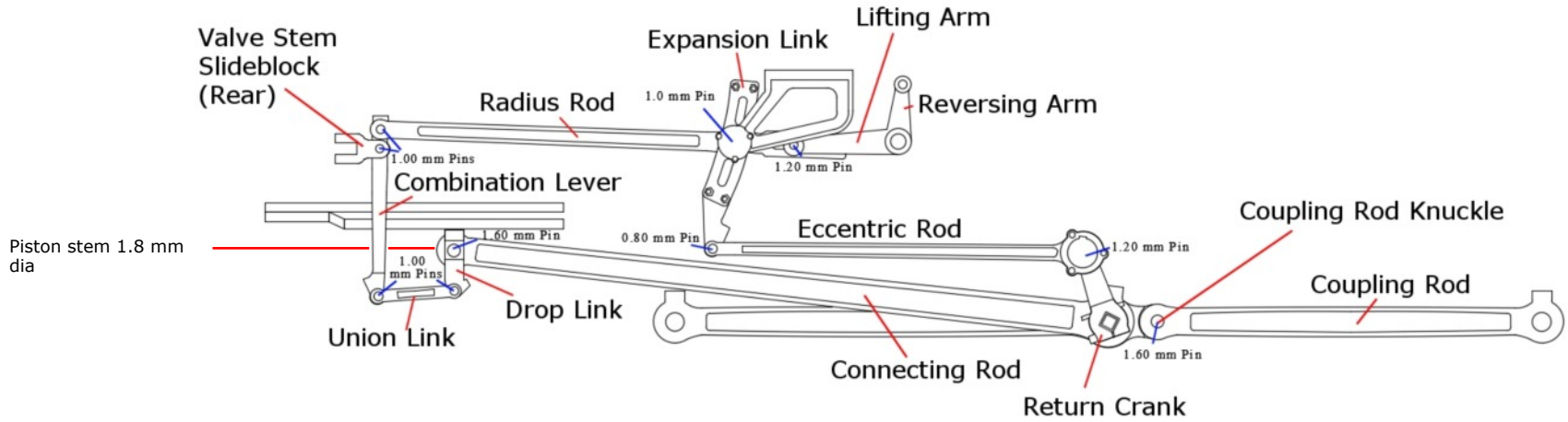
Laminate the two M9 rods together with the flutes to the outside, add boss overlays M10 to both sides. File back cusps to give a nice smooth finish to the rod edges.

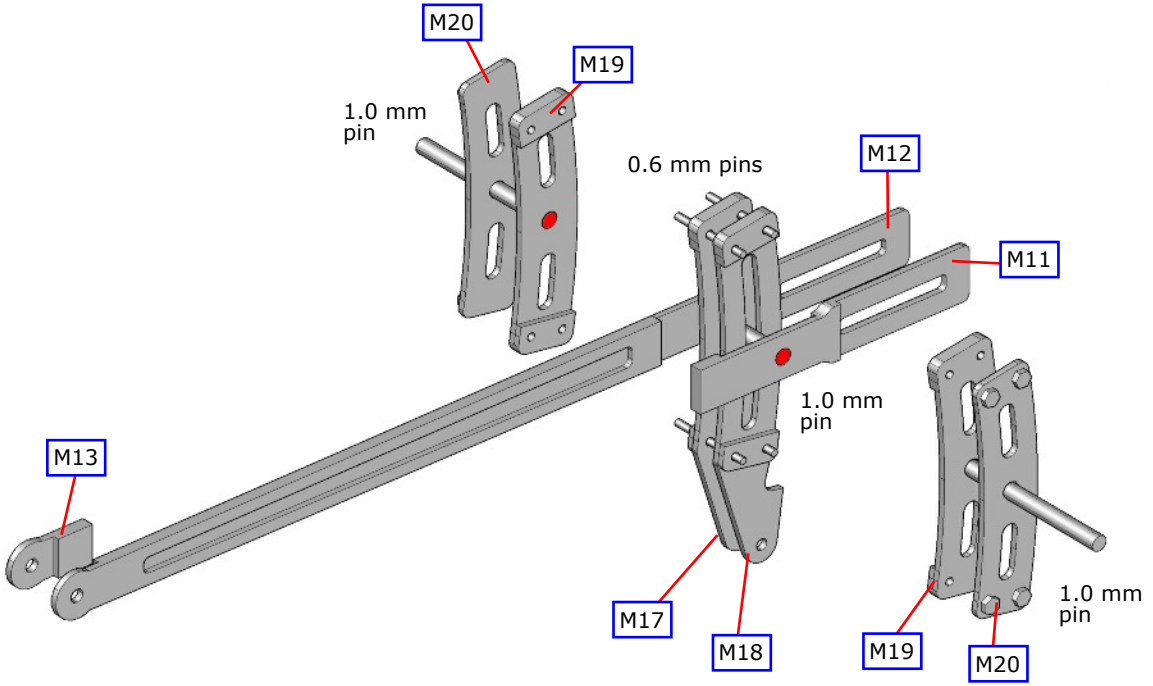
Driving wheels driving - Slaters 7874G

BALANCE WEIGHTS

Refer to prototype photos for types of balance weights fitted and positioning.

VALVE GEAR COMPONENTS





EXPANSION LINK & RADIUS ROD

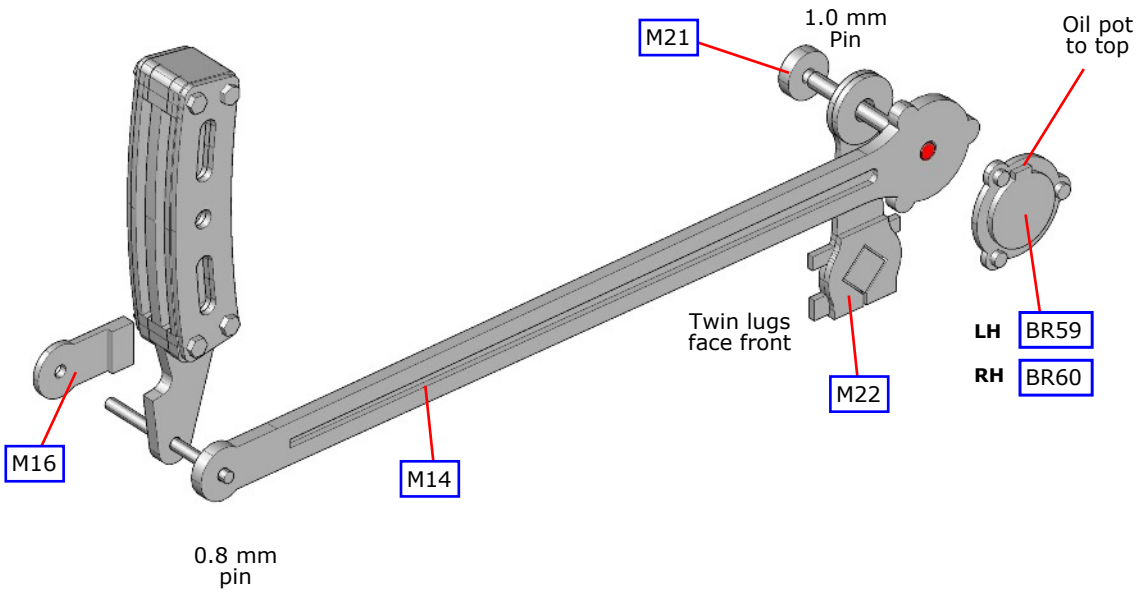
The Radius Rod components are the same both sides, ensure M11 is to the outside on each side to give the correct offset.

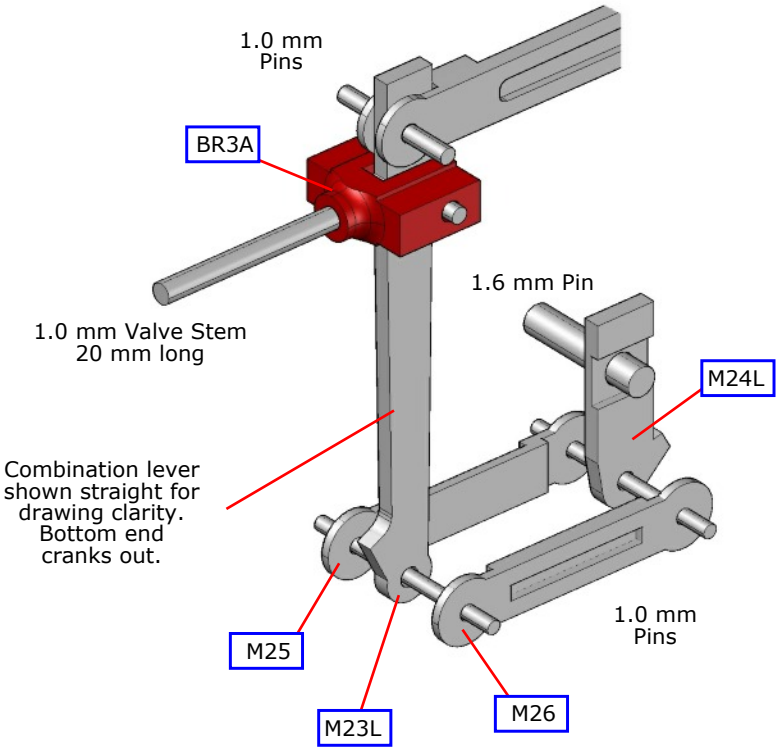
Laminate M17 & M18 back to back and add the four short 0.6 mm pins.

Laminate M11 & M12 trapping M17/18 in the slot, ensure free movement. Pass a 1.0 mm pin through the radius rod to allow the expansion link to slide up and down freely, trim ends of pins flush (**marked RED**) with outside edges (both sides)of assembly. Attach M13 to form a fork joint and clean up radius rod.

Laminate a pair of M19 & 20 to form the outer guides of the expansion block, trim the 0.6 mm pins so that the outer guides can locate and seat flat. Add a length of 1.0 mm rod to the outer guides, ensure inside face is smooth (**marked RED**) and the pin extends outside by 5.0 mm.

Attach the outer guide assemblies using the 0.6 mm pins to locate and clean up the expansion block, ensure radius rod moves freely in the expansion block.





ECCENTRIC ROD & RETURN CRANK

Fit a 1 mm pin to the M14 big end and ensure outside face (**Marked RED**) is flush.

Attach cover plate BR59-BR60, note LH & RH differences, oil pot to the top.

Secure M16 to M14 to form a forked joint, ensure expansion link is free to move in the joint and pin with 0.8 mm nickel silver wire.

NOTE The return cranks are handed (See Motion etch sheet for details)

Fit the relevant crank M22 to the big end pin and secure with a M21 washer.

NOTE, the washers have under etched holes, open out just enough to give a tight fit on the pin and allow free movement of the return crank.

COMBINATION LEVER & UNION LINK

NOTE Combination Levers and Drop Links are handed, see Motion etch for clarity.

Laminate the Union Links M25 & M26, the links are common to each side.

Insert the relevant M24 (L-R) Drop Link and Combination Lever M23 (L-R) and secure with 1.0 mm pins.

Form the off set in the Combination Lever (the lower half cranks outward) and fit into the Radius Rod and secure with a 1.0 mm pin.

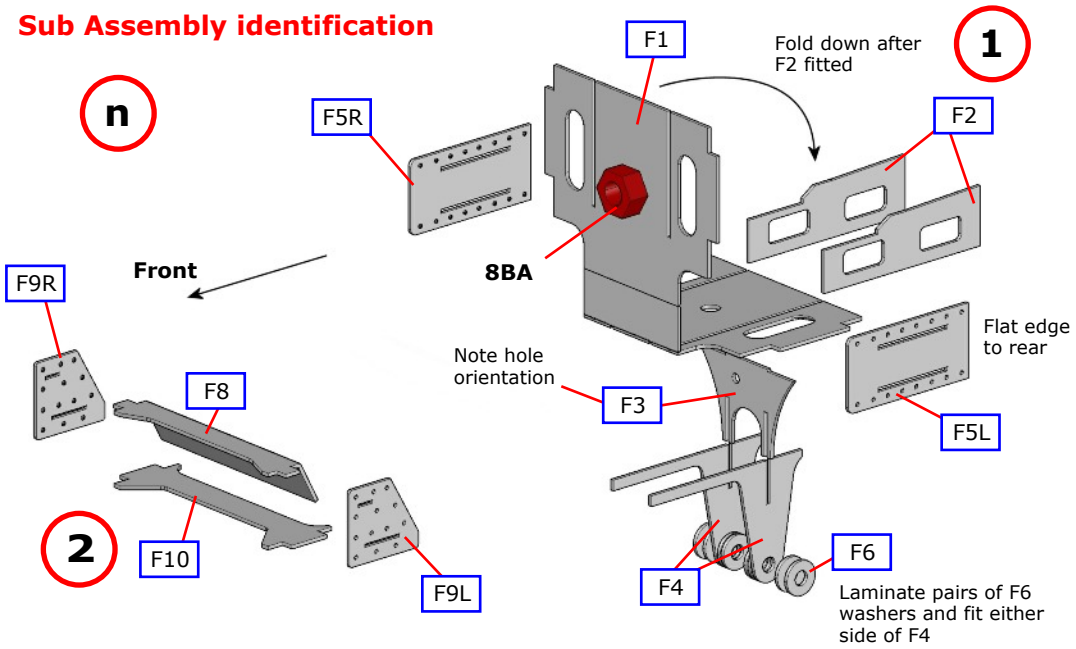
The offset is dependent on model crosshead clearance, 1-2.0 mm is a good starting point, fine tune after assembly to give a close running clearance and straight longitudinal Union Link.

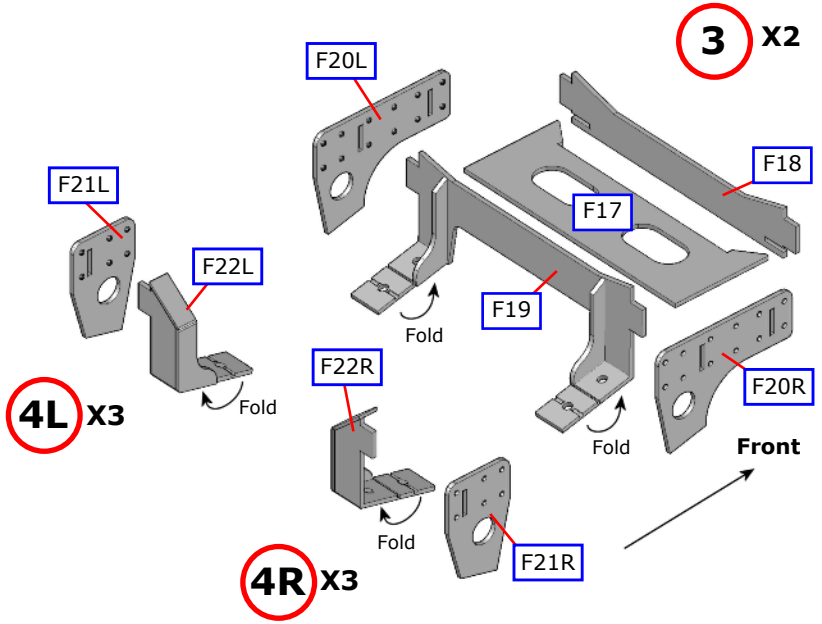
Clean the valve guide block casting BR3A from flash & debris, insert 1.0 mm valve stem 20.0 mm long and test fit in valve guide BR3 for free movement then fit to Combination Lever with a 1.0 mm pin.

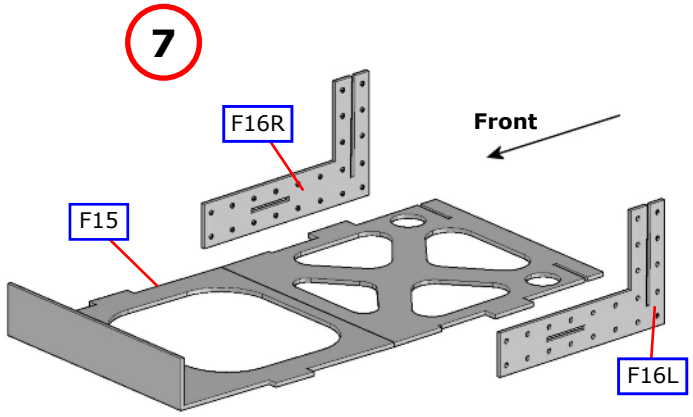
Ensure all joints free to move.

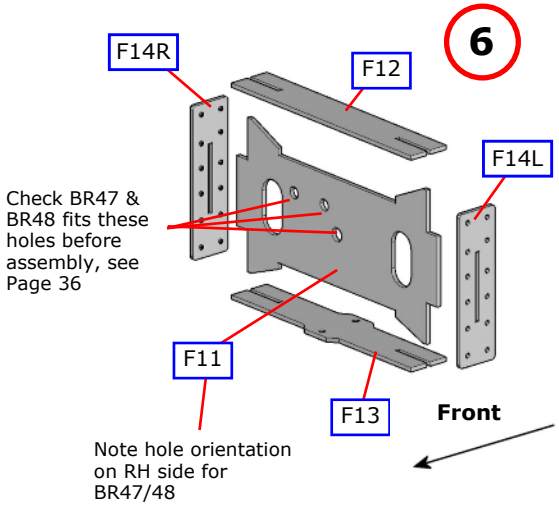
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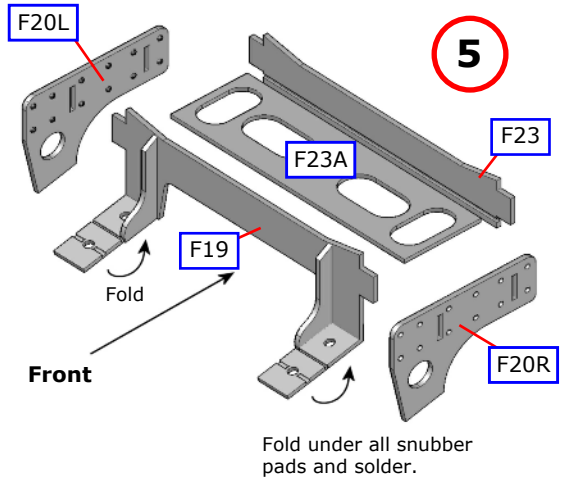
Sub Assembly identification







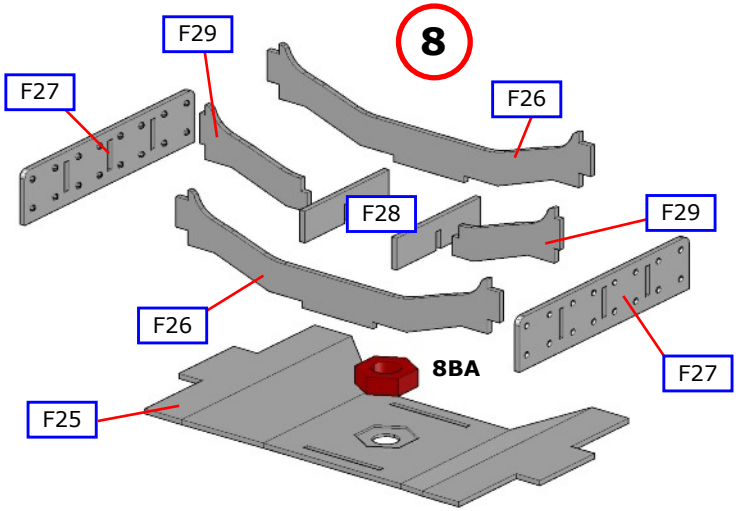


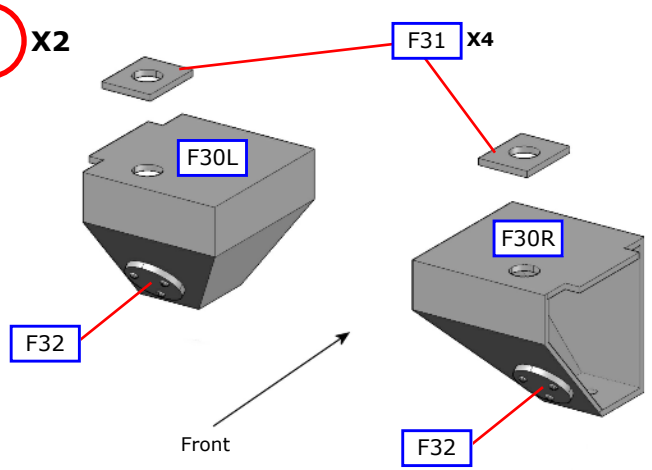


REMOVE CUSP OFF All MATING FACES

FRAME STAYS

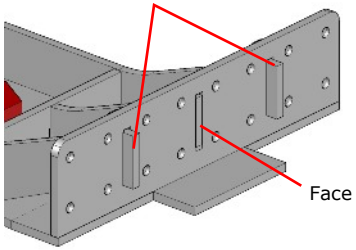
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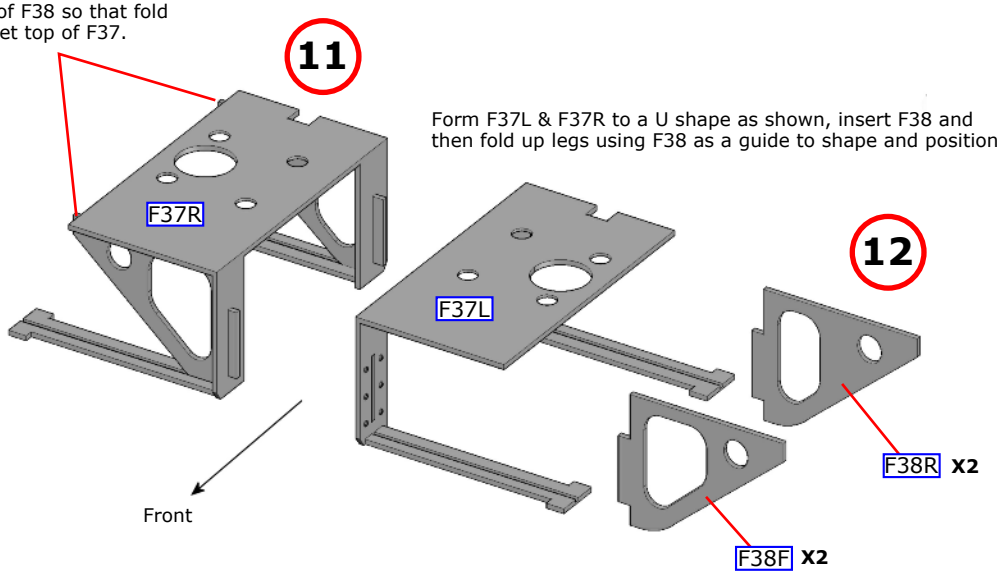
Form sandboxes as shown add details noted and sand traps BR57 before fitting to frames. See next page for orientation details.

Leave extended tabs to aid frame location



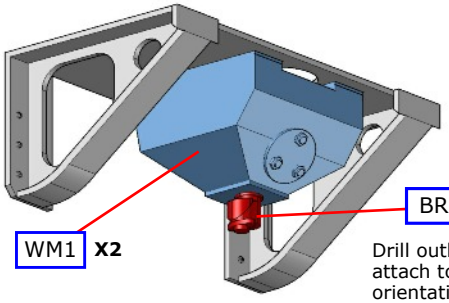
Face to be flush on final assembly

Trim ends of F38 so that fold up legs meet top of F37.

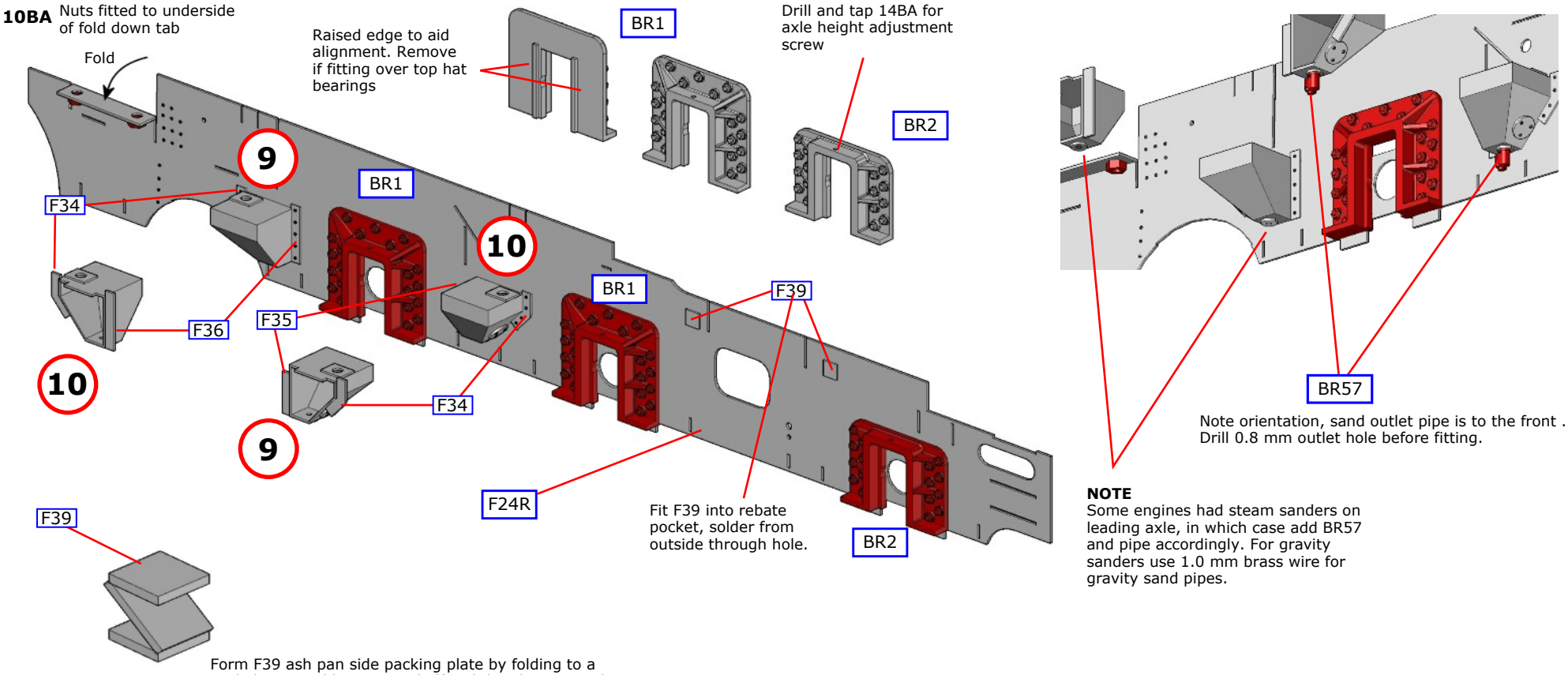


Form F37L & F37R to a U shape as shown, insert F38 and then fold up legs using F38 as a guide to shape and position

Fit WM1 to underside slots in F37L & F37R solder from above through holes.



Drill outlet hole 0.8 mm and attach to sand box, note orientation, outlet is toward the front of the engine.



HORN GUIDES & SAND BOXES

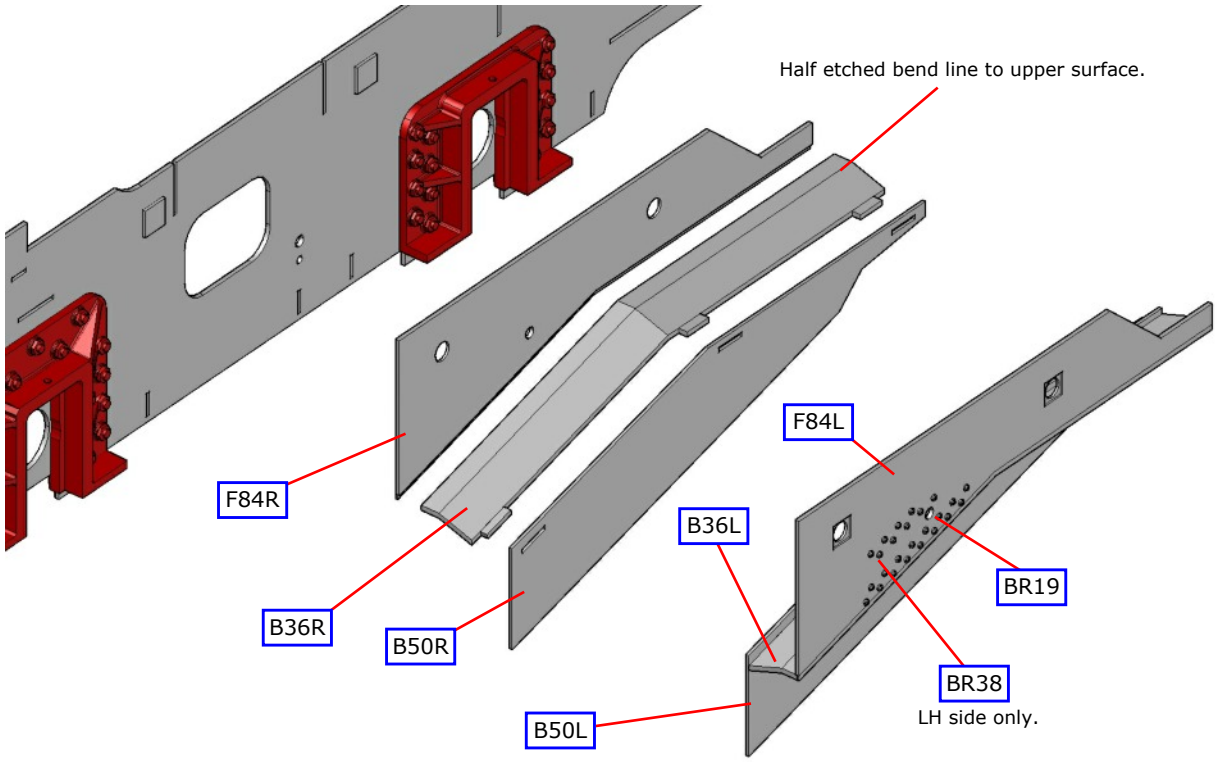
Fit top hat bearings or cast horn guides to suit your choice, use the assembled coupling rods to align your chosen bearings in a chassis assembly jig. If fitting cast horn guides then remove the centre section from the frame using the half etched lines as a guide.

The cast horn guides have two raised edges on the outside to aid location in the frame gap (*these are a guide and should be used in conjunction with a jig*) they also have a notch to clear the top hat bearing if you wish to add them for cosmetic appearance. If fitted with top hat bearings then remove the raised edges on the rear face.

Cast horn guides can be added now or later to the assembled chassis before or after the outer overlays, Page 9-10.

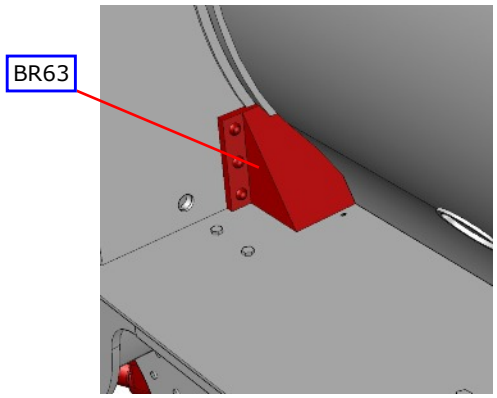
There are two types of cast horn guide, trailing (BR2) and leading/intermediate (BR1), left and right sides are identical.

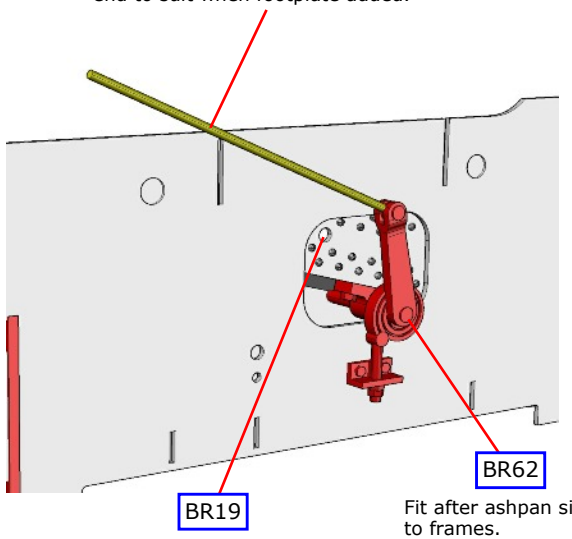
Sand boxes are diagonally identical, fit sand boxes to frames and then solder securing plates as shown. Securing plates are mirrored on each side.



Ash pan mechanism

Not fitted to all engines.





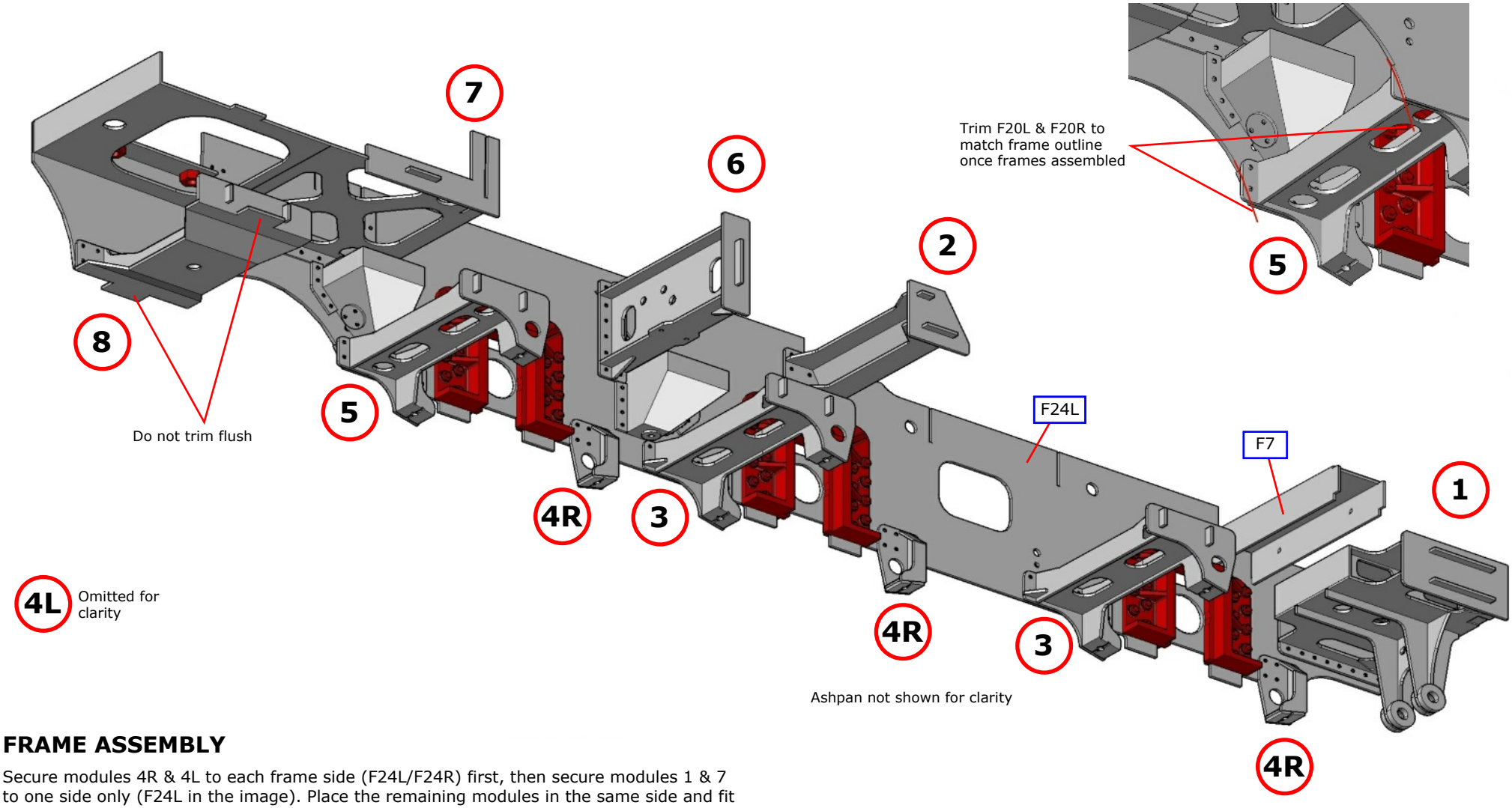
ASH PAN

Ashpan construction shown here for clarity, assemble and fit once main frames are complete on Page 13.

Press the rivets on firebox sides F84L/R and form the ash pan base B36L/R as shown, secure to firebox. Fit ash pan sides B50L/R to tabs on base and secure (note rebate for floor B51 is on the inside).

Attach the firebox sides to the inside of the frames using the square locating pads, solder from the inside through the round holes.

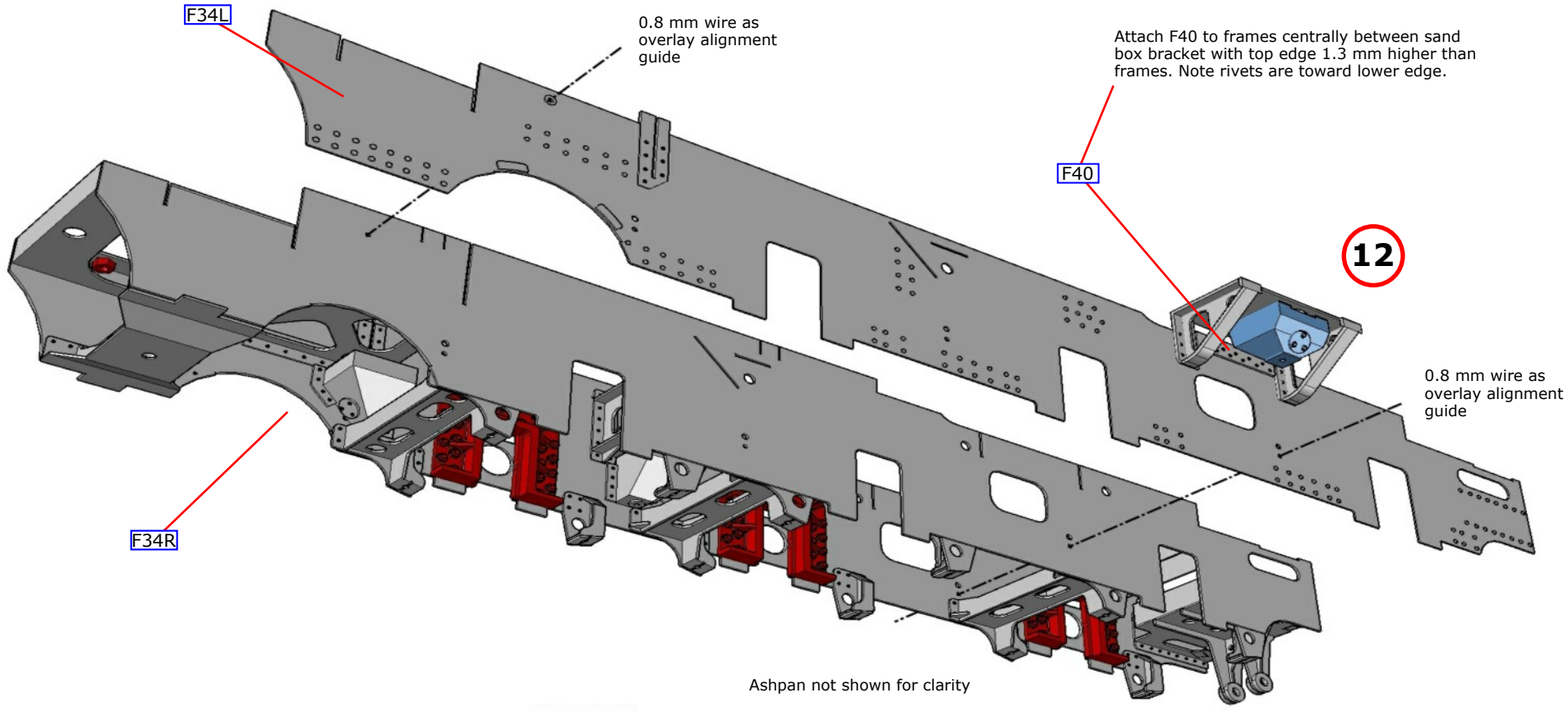
A floor B51 is supplied, trim to fit between ash pan sides and around motor gearbox.



FRAME ASSEMBLY

Secure modules 4R & 4L to each frame side (F24L/F24R) first, then secure modules 1 & 7 to one side only (F24L in the image). Place the remaining modules in the same side and fit the remaining frame side (F24R); ensure the axle alignment is square and the frame straight before soldering all the remaining tabs.

Once complete, dress smooth all exterior tabs (Except the bogie bearing pad plates) flush on the outside face of both frame sides.

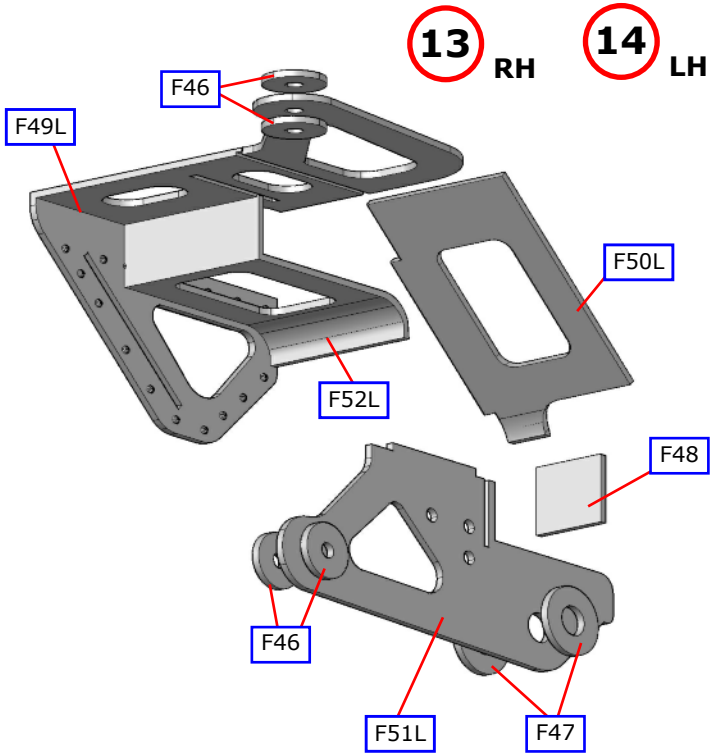


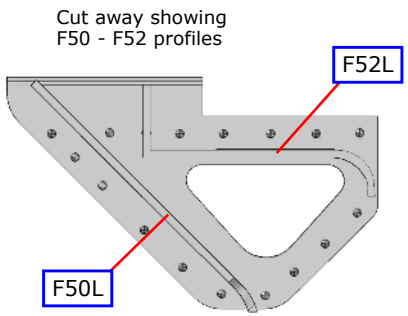
FRAME OVERLAYS

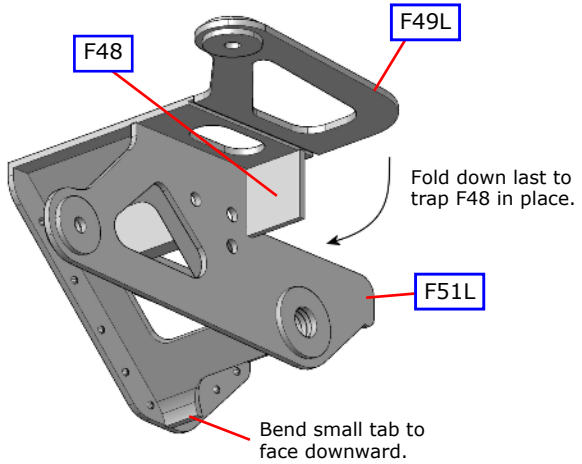
Pass lengths of 0.8 mm wire through the rear brake hanger pivot holes and steam cock lever pivot at the front, use these to aid alignment of frame overlays F34L and F34R.

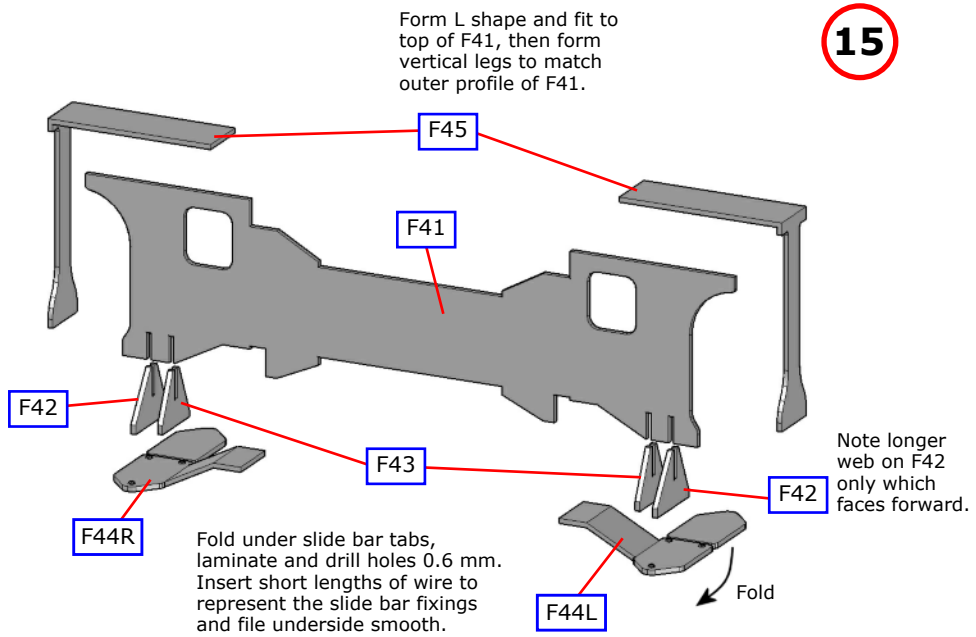
Secure overlays to frame assembly, dress edges smooth and remove wire guides. Fit rear sand boxes & brackets 11 (RH) & 12 (LH) to frame assembly and clean back tabs on inside.

Fit part F40 centrally inside bracket 11 & 12 with top edge 1.3 mm higher than frames.
Note the rivets are offset to the lower edge.









MOTION BRACKETS

Fold F49L, F52L and F50L as shown in the upper diagram, fit F49L and F50L to the rear face of the bracket. Attach one F46 Washer each side of the bracket to form the outer expansion link bearing.

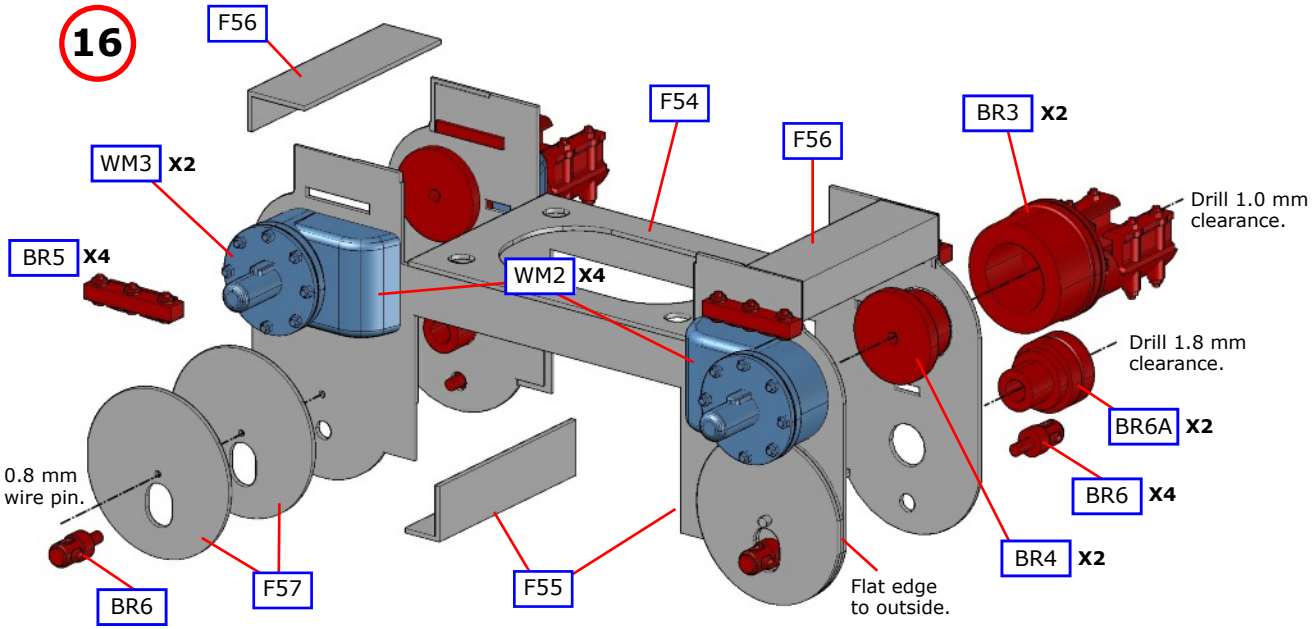
Attach one F46 washer each side of F51L to form the inside expansion link bearing and one F47 washer each side to the reversing lever shaft bearing at the rear.

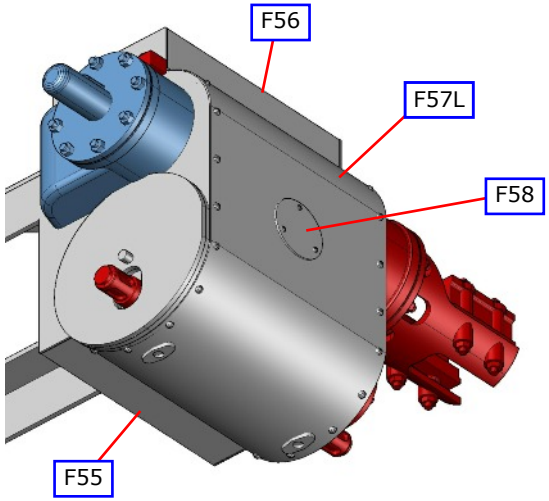
Fit F51L to the bracket (*note slot for F48 faces outward*) and attach the spacer F48, note spacer width might need trimming to fit between F51L and folded down F49L.

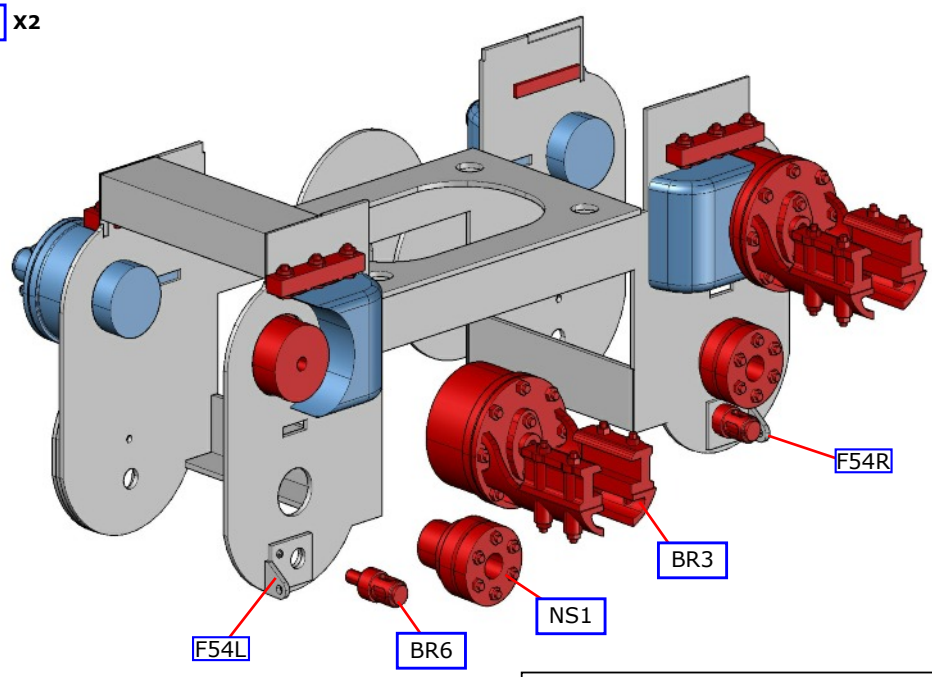
The easiest way is to fold the outside plate almost completely down, trim F48 to fit in the half etched slots and then fold the outside plate completely down and secure.

With care it is possibly to spread the expansion link bearings and squeeze in the expansion link later.

Repeat for RH side using same component numbers and those marked F49R - F52R







CYLINDER BLOCK

Fold F54 to a U shape and fit F56 and F55 to form a rigid and square assembly.

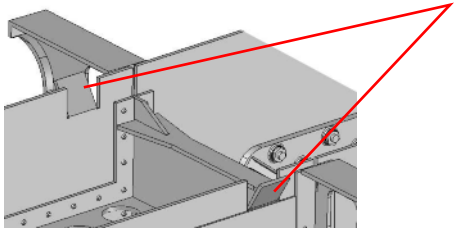
Secure two laminated F57 covers to F54 with a 0.8 mm pin to centralize on each side, trim pin to leave stub at front to represent the cover fixing.

Fit piston covers WM3 to the front face and then the two steam pipe covers WM2; solder from the rear through slots in F54. Finally fit two BR5 cylinder bolted flange plates, note webs go on the underside. *Note flat edge to F57 is to the outside.*

Drill BR3 and BR4 with a 1.0 mm clearance hole for the valve rod, insert BR4 on the inside and secure, locate BR3 over the extended spigot and secure, finally fit remaining WM2 steam covers and BR5 cylinder bolted flange plates.

Drill Piston gland BR7 2.0 mm clearance and secure to F54. Fold and press rivets on F54L/R and secure in place the rear pressure relief valves BR6 as shown. Fit the remaining BR6 valves to the front locations.

Form cylinder wrappers F57L & F57R, ensure steam drain cock flanges are central to the bottom. The wrappers are over length, trim to fit; the top edge joins to F56, the bottom edge joins to F55, fillet joints with solder and dress smooth. Fit cover plates F58 last (*note fixing orientation*).



Fold the four tabs above each sand box as shown, approx 30° outward.

Slide bar bracket 15 slots into the frames, do not secure at this time. Once slotted into the frames then trim and fit flange F53 to the top, ensure bracket can be removed afterward.

Motion brackets 13 & 14 are permanently fixed using the tabs in the rear into the frames, use a length of 1.6 mm rod through the reversing lever bearings to aid alignment, clean up excess tab on the inside once fitted.

Cylinder block 16 is retained with four 10BA screws.

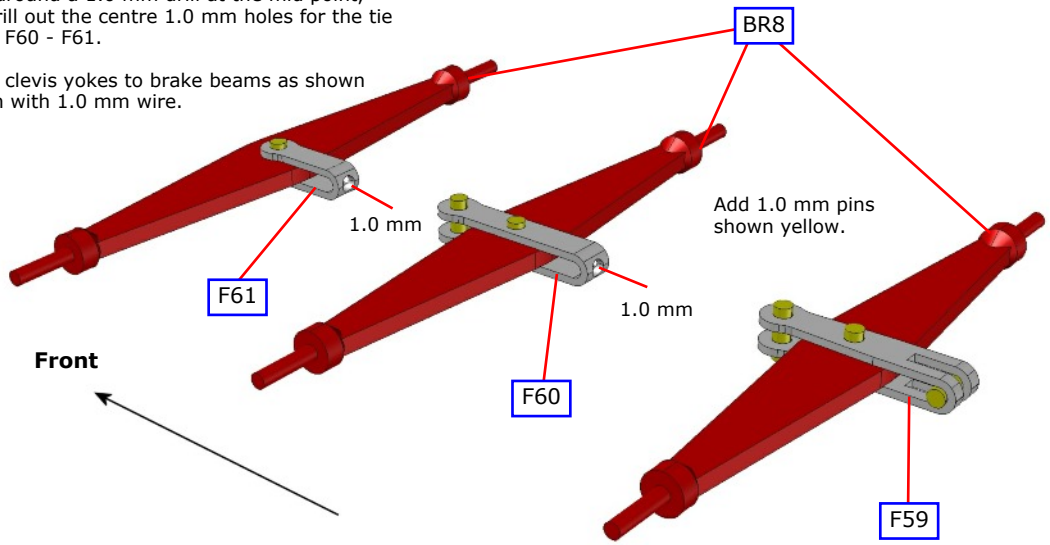
Curve bogie splashers F83, note cut out notch position and half etched rebate on upper surface, this attaches to the frames in the slots provided.

Fit ash pan sides and complete at this stage, see Page 9

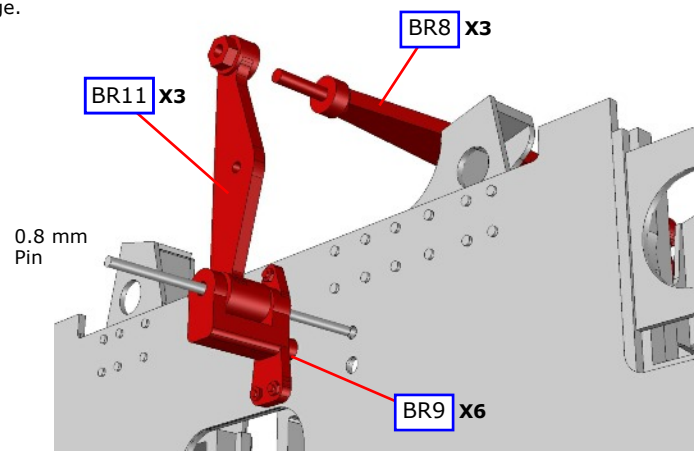
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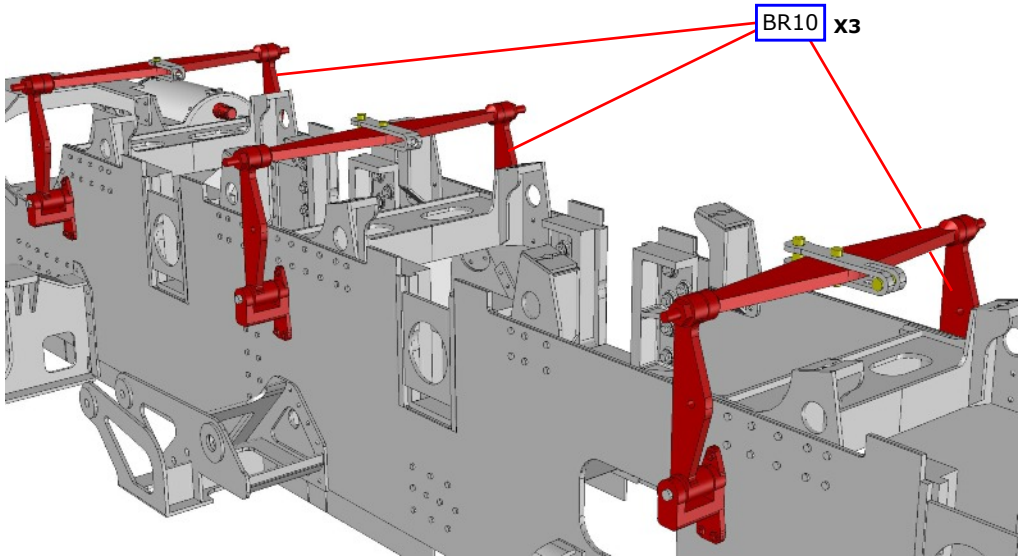
Carefully fold (centre hole to the outside) clevis yokes around a 1.0 mm drill at the mid point, then drill out the centre 1.0 mm holes for the tie rods in F60 - F61.

Secure clevis yokes to brake beams as shown and pin with 1.0 mm wire.



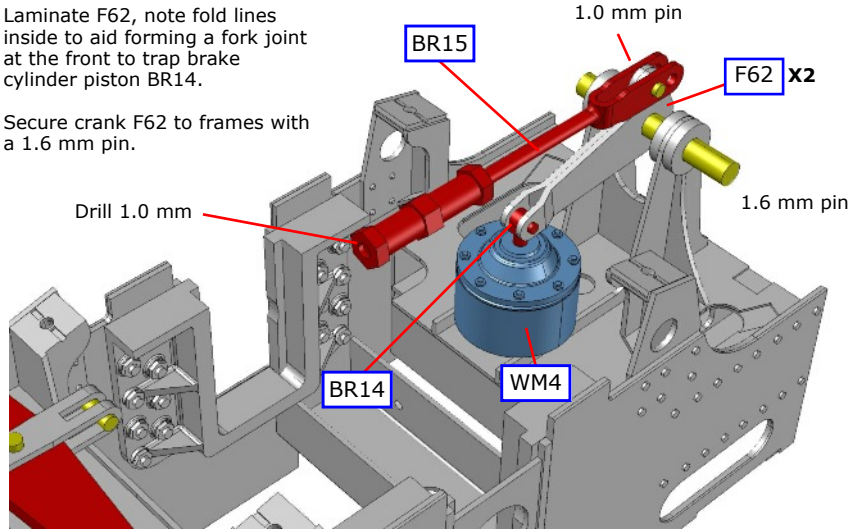
Secure BR9 to frames using cast pin, fit BR10 & BR11 using 0.8 mm pins (*or miniature screws 14BA if you wish to make the brake gear removable*). Trap BR8 between hangers during assembly. Ensure BR8, BR10 and BR11 are free to rotate at this stage.





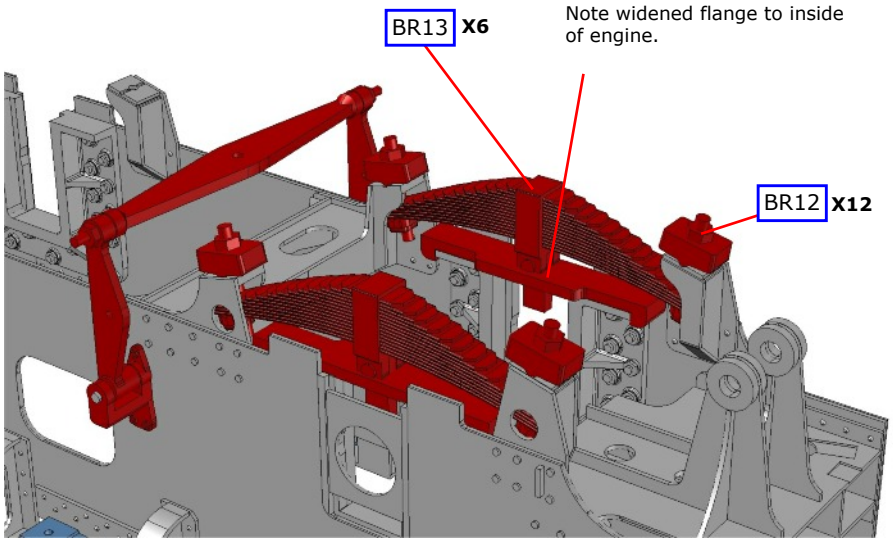
Laminate F62, note fold lines inside to aid forming a fork joint at the front to trap brake cylinder piston BR14.

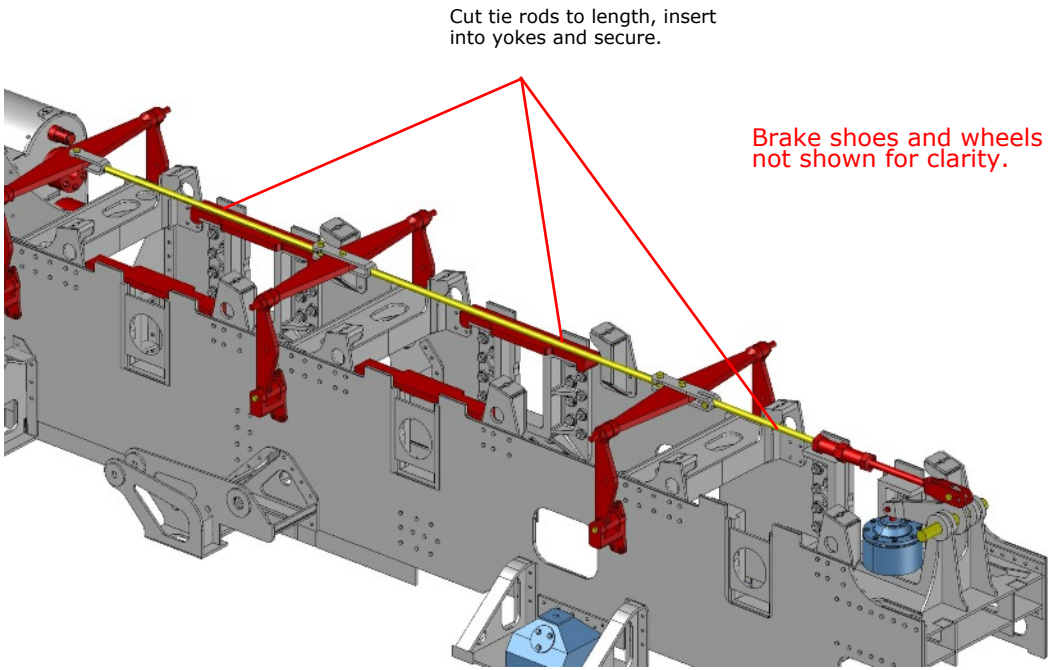
Secure crank F62 to frames with a 1.6 mm pin.



BRAKES 1

LNER B1 17 May 26 14



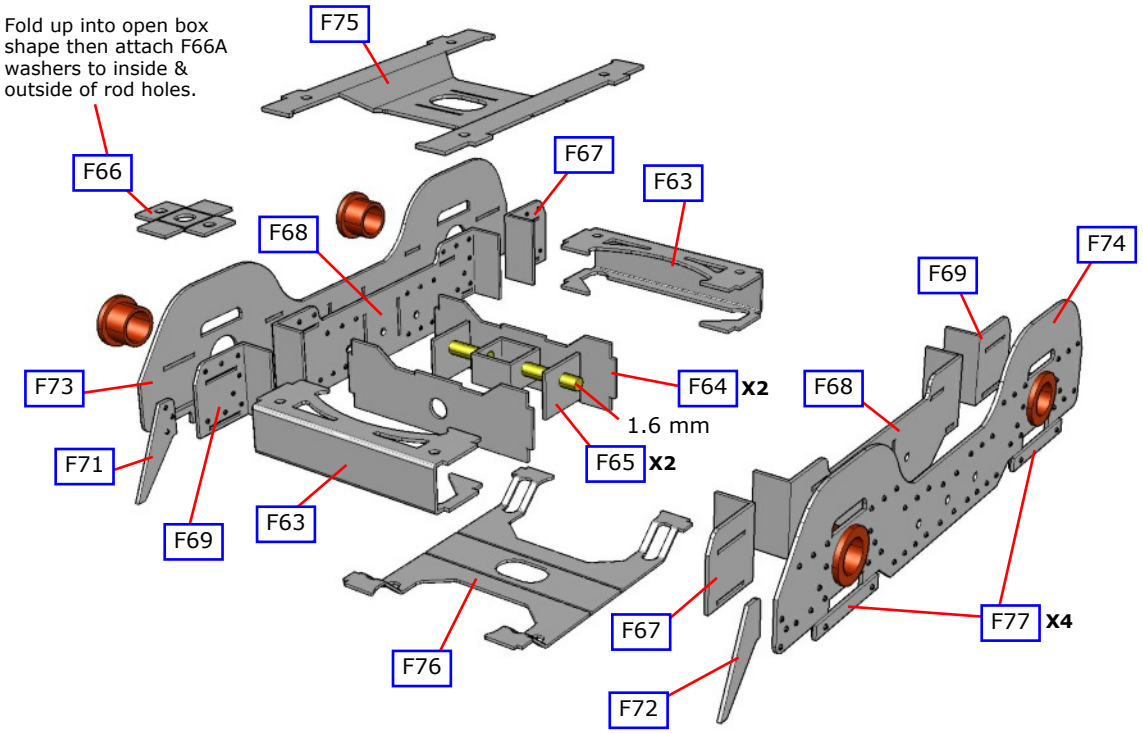


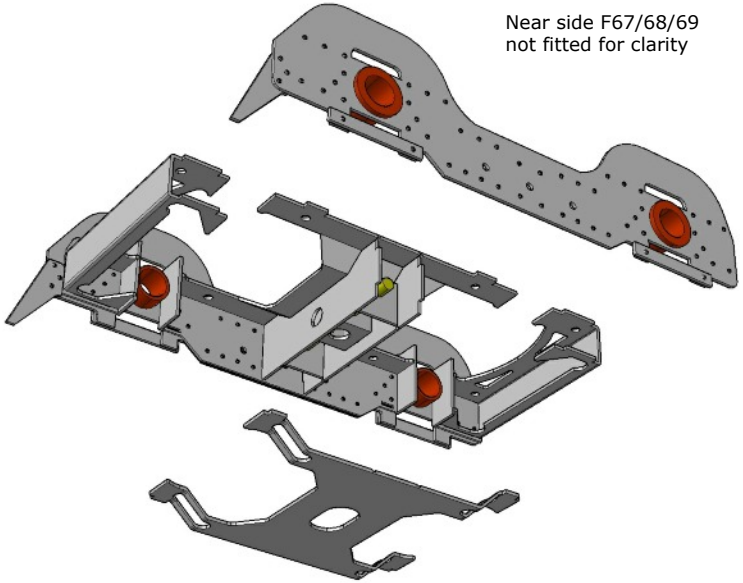
SPRINGS

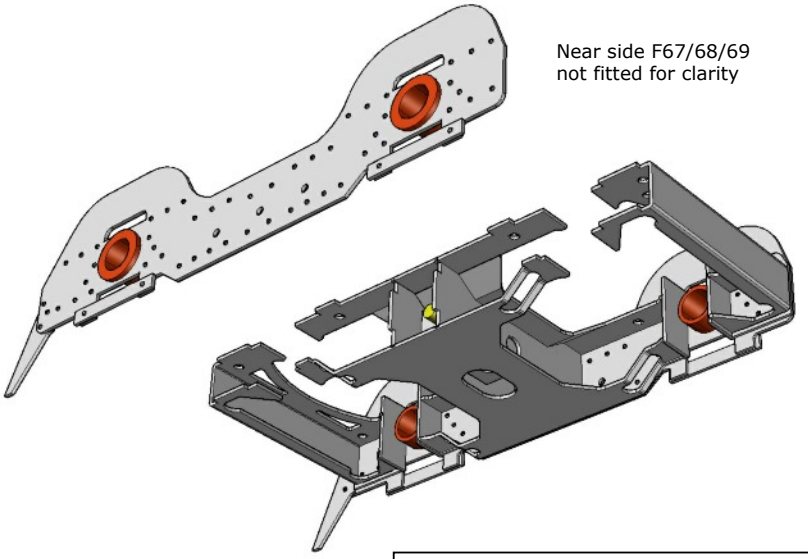
Drill the springs 1.0 mm to clear the snubber tie rods, tilt and slip the springs in and up under the etched hangers then position vertically so that the keep plate butts up to the inside of the frames. Check tie rod holes align (adjust as necessary) and insert snubbers to secure springs in place.

BRAKES 2

Fit the driving wheels and resin brake shoes to their hangers. Position shoes to give wheel rim clearance and tack solder the brake hangers to their brackets (*if permanently fixing*), then tack solder the lower pin joint to the brake beams to form a secure assembly (*make sure the brake beams are square and horizontal*). Carefully measure between the clevis yokes and cut 1.0 mm wire long enough to go inside the yoke trailing centre holes and butt up to the leading pin, solder in place. The rear tie rod butts to the clevis yoke pin and inserts into the slack adjuster casting.







BOGIE 1

Press all rivets before assembly, F63 assemblies are identical front and rear.

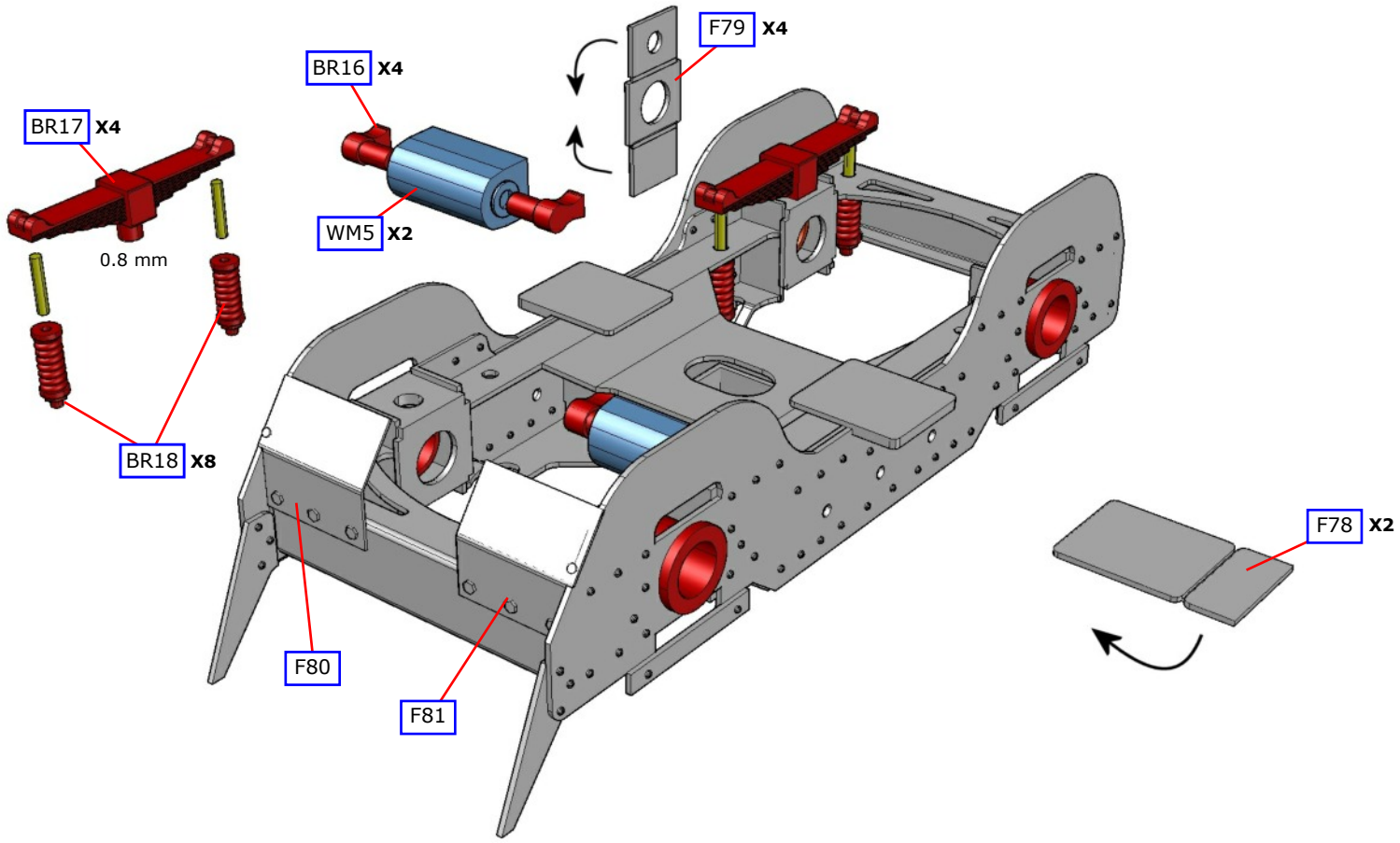
Fold F66 into a box shape and attach two 1.6 mm rods 8 mm long to each side, ensure centre of box clear of rod and open face upward.

Form F75 to top profile of F64 and join all together, Fit two side control springs over the 1.6 mm rods and slide F65 on each side. *Note hole is offset to the top.*

Carefully drop the two F65 plates into the slots in F64 from below. Form F76 as shown and attach to base of F64's, attach F68 to each side (they are identical) to form the side control stay assembly.

Fold F63 and attach F67 & F69 to each side. *Note extended tabs on F63/64/75/76 to slot into F73/74.*

Secure side frames F73 & F74 to the three previous assemblies, ensure bogie is square and level. Attach guard Irons F71 & F72, horn keeps F77 and axle bearings to complete this stage.



BOGIE 2

WM5 drill out side control arm holes 2.0 mm and insert BR16, leave part of the ram exposed. Insert assemblies into bogie bolster front and rear, ensure locating peg on back of WM5 does not foul side control box F65.

Fold F78 as shown, attach to bogie, one to each side aligned centrally fore & aft.

Fold etched axle boxes F79 as shown, fettle to fit into location between F67,68,69 and then attach leaf spring BR17 to the top. Use a dummy axle to ensure running clearance before fixing all in place.

Drill coil springs BR18 0.8 mm hole for the tie rods, insert wire and leave at least 10 mm protruding.

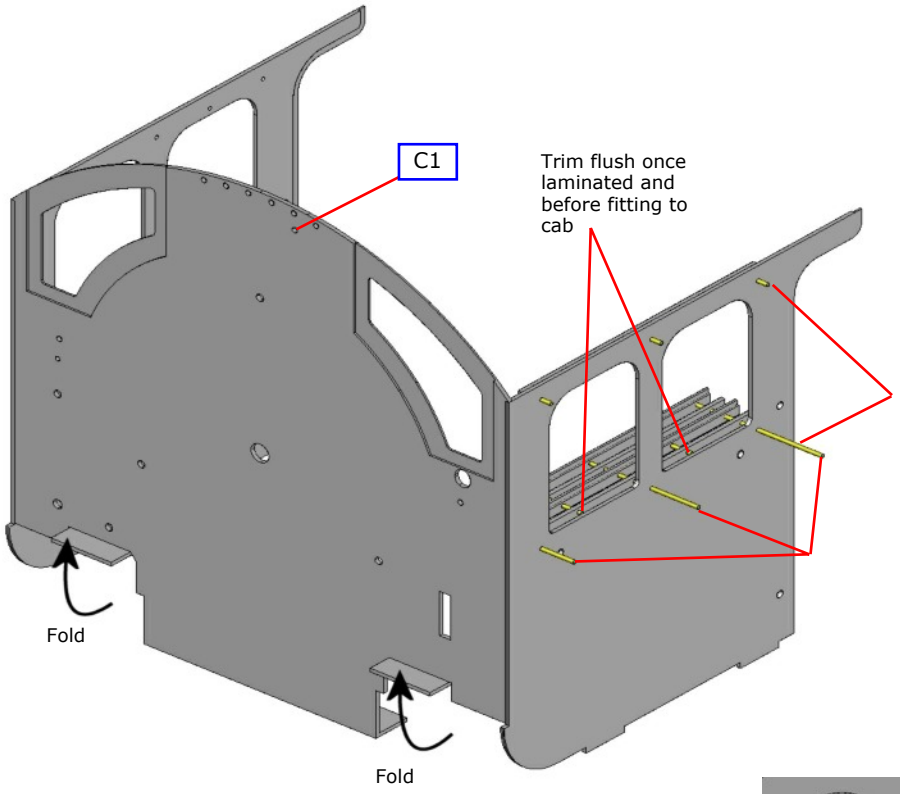
Insert coil springs from below and trim 0.8 mm tie rod until coil spring sits tight under flange on F67,68,69 and secure.

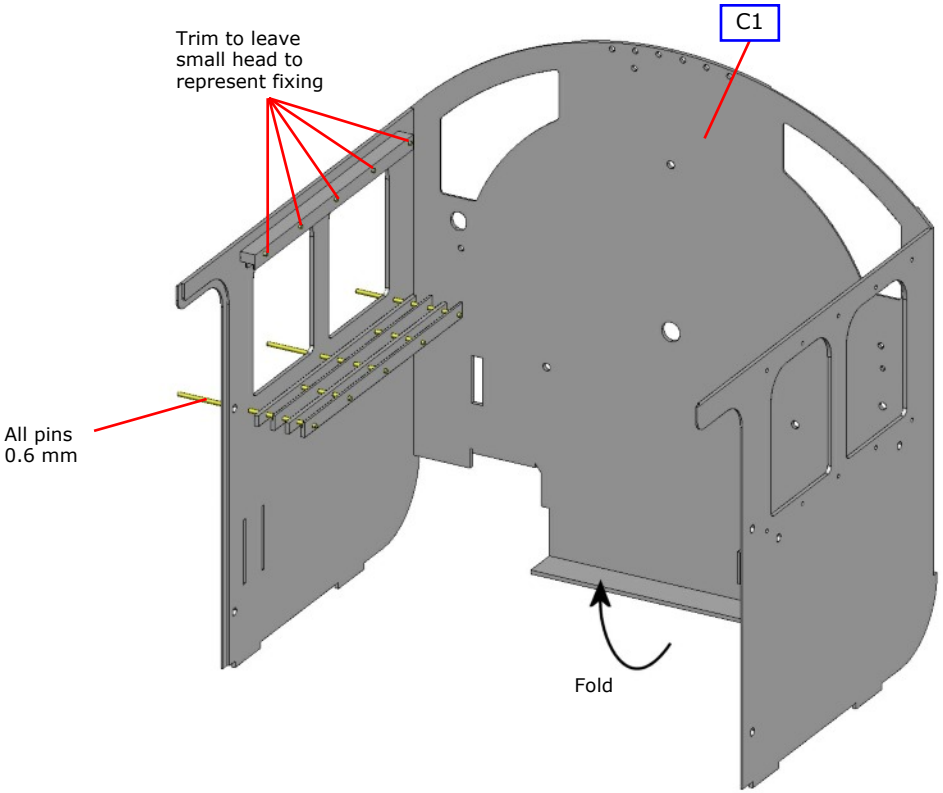
Bend dust shields F80,81 as shown and attach to bogie front stay.

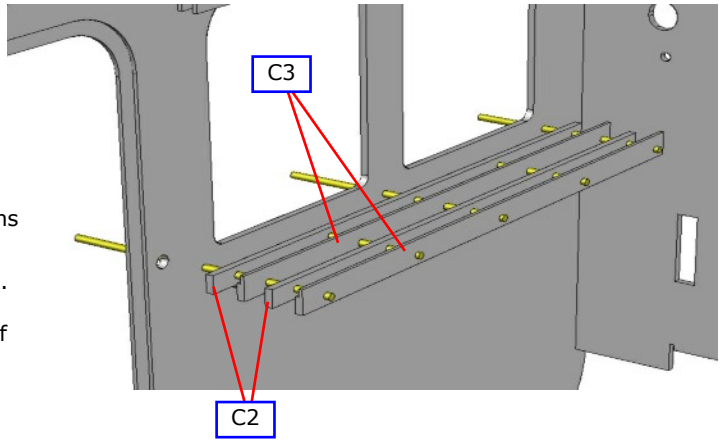
Temporarily fit wheels and bend guard irons to suit gauge.

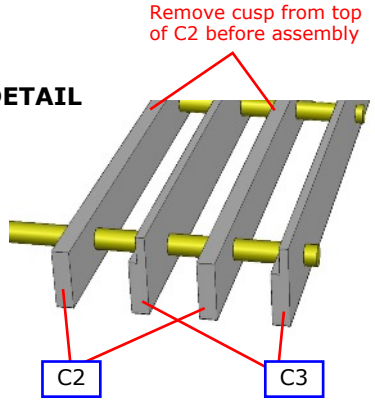
Bogie wheels bogie - Slaters 7838MF

NOTE, cab shown folded, do not fold until next page.







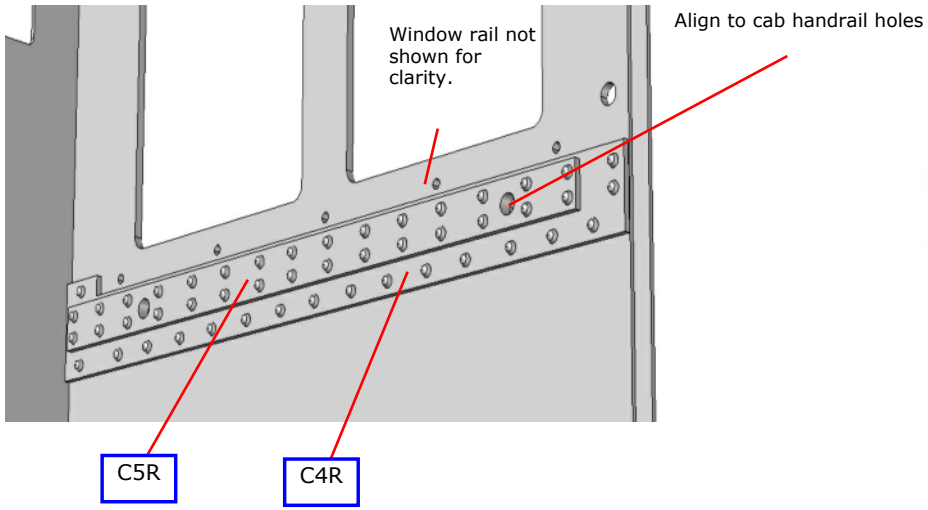


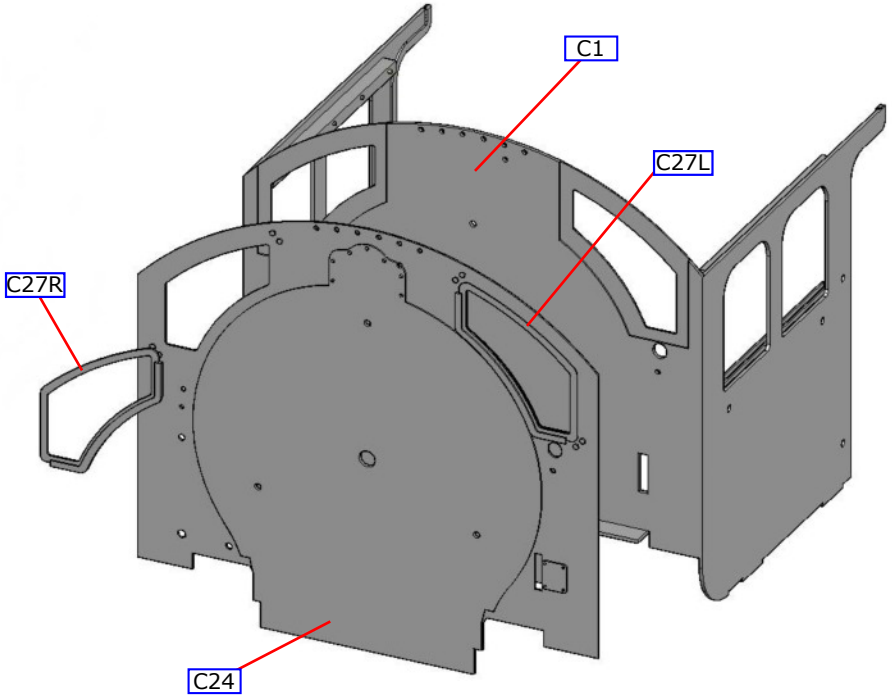
CAB 1

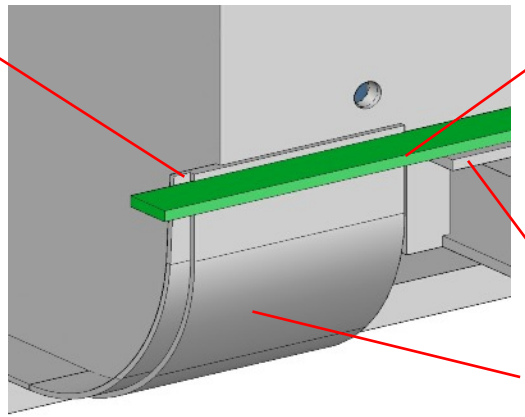
Laminate window rails C1 & C2 as shown, *note pin holes are offset to aid correct alignment between laminations and cab side*. Ensure runner troughs are free from solder.

Trim pins on the inside to leave a raised head to represent the fixing head. Trim pins 2 & 4 flush where they meet the cab side, pins 1, 3, 5 extend through cab to secure rails to cab sheet. Once fitted ensure outside face of cab is smooth.

See P26 for sliding window assembly, assemble one window and test in grooves before fitting rails to cab sides.







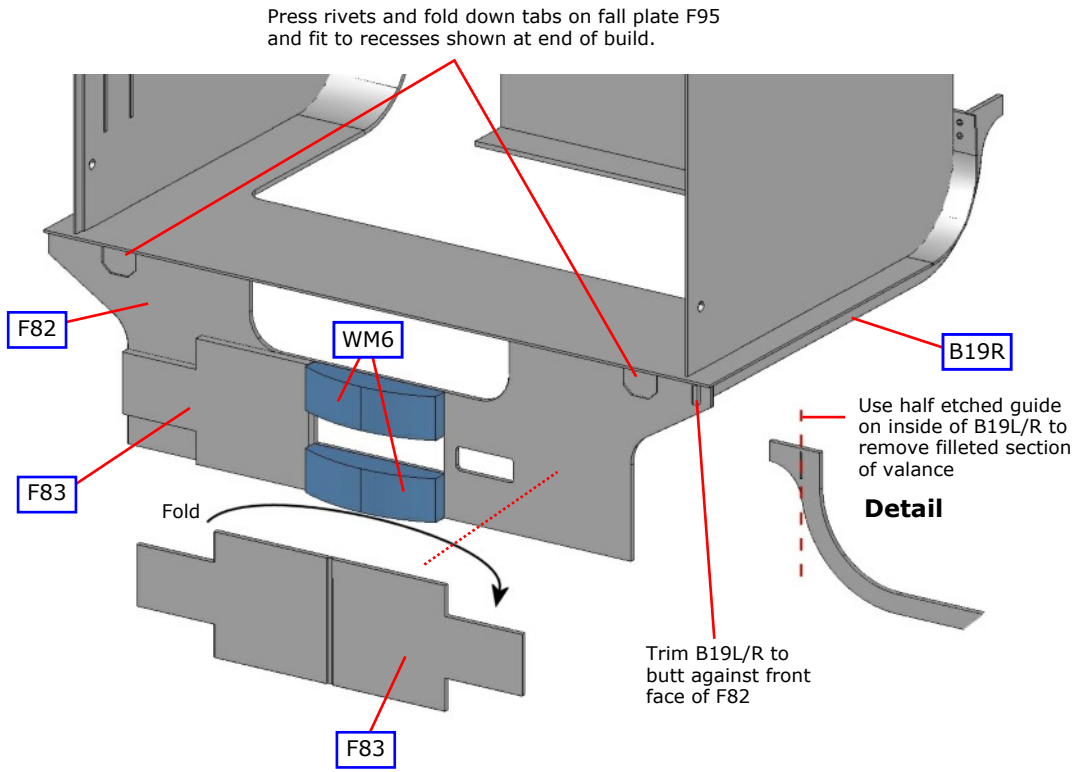
CAB 2

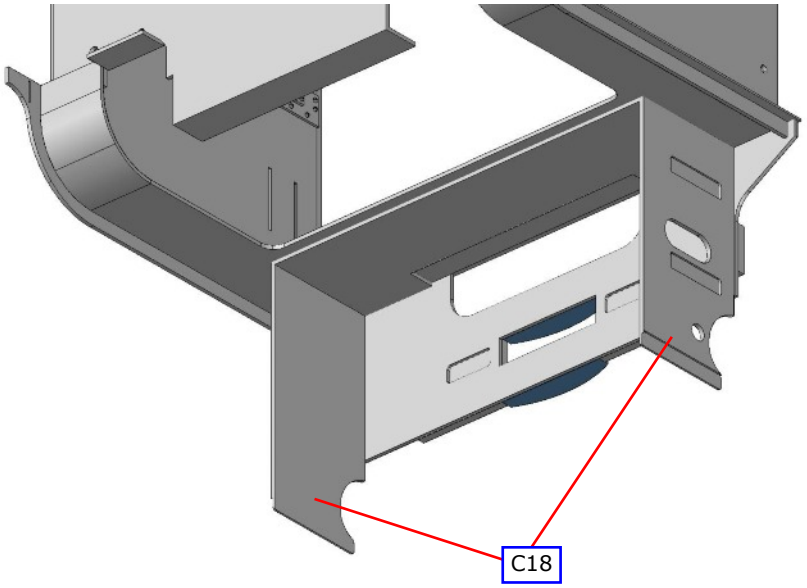
Laminate C4R & C5R (also C4L & C5L) as shown, use cab hand rail holes for alignment and trim ends as noted. The top edge may also need trimming to fit under the cab window rails (not shown for clarity).

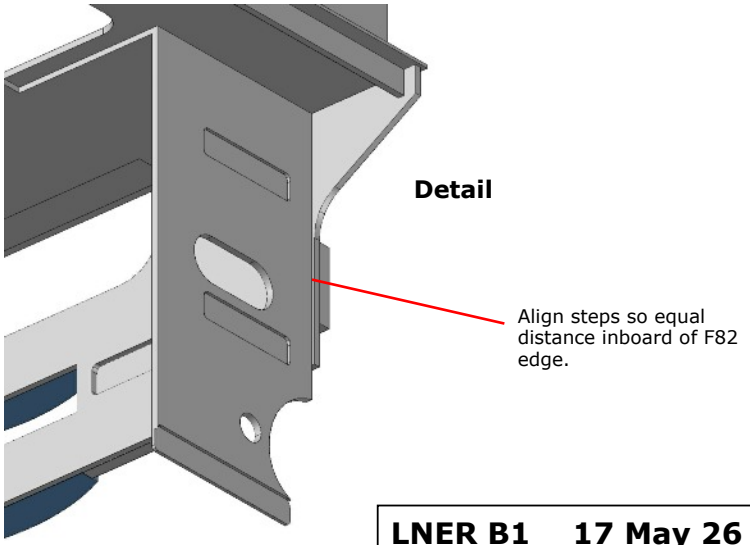
Form C1 to a U shape, ensure square using cab footplate C6 slot and tabs as a guide.

Attach overlays C27L/R to cab front C24 then attach to main cab carcass first. Use the three holes in in the firebox section to aid alignment, temporarily insert 0.8 mm wire to assist. Clean outside edge of C24 flush with folded cab sides.

Form front curved sections and check height using temporary datum plate as shown, trim if necessary. Punch rivets and secure C6 to cab and clean up tabs on base.







CAB 3

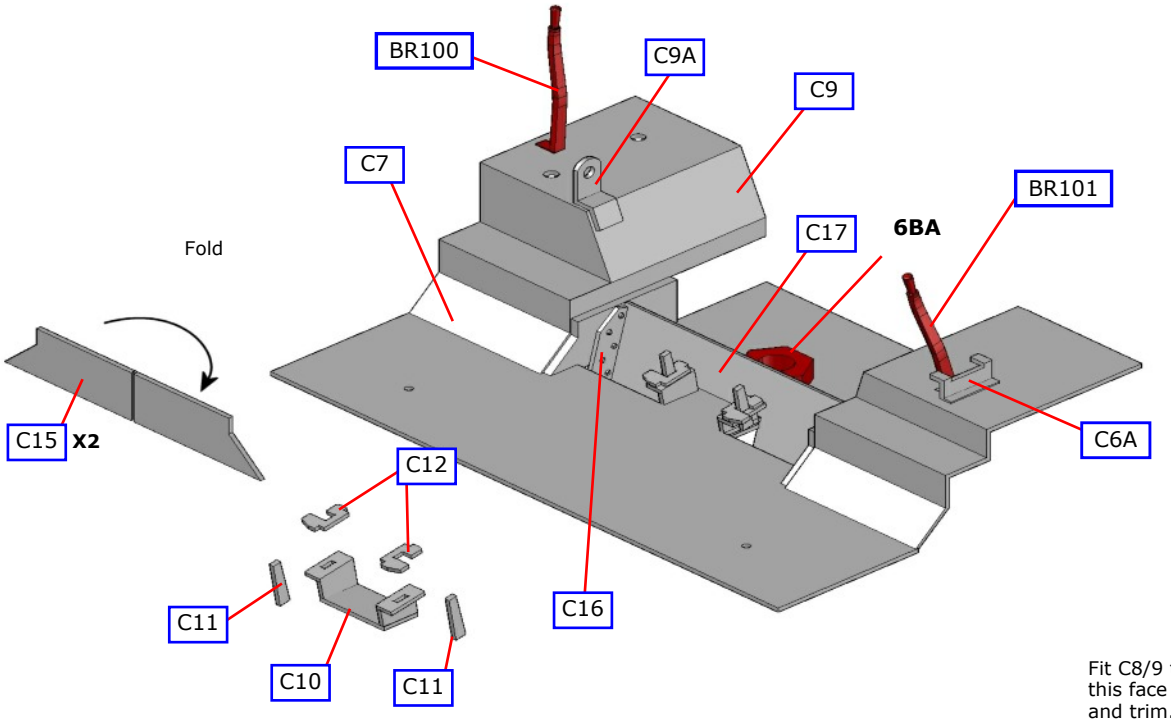
Cab Valance B19L/R is designed for engines with valance fillets; typically Scottish engines. Trim to half etched guide on the inside for engines without fillets.

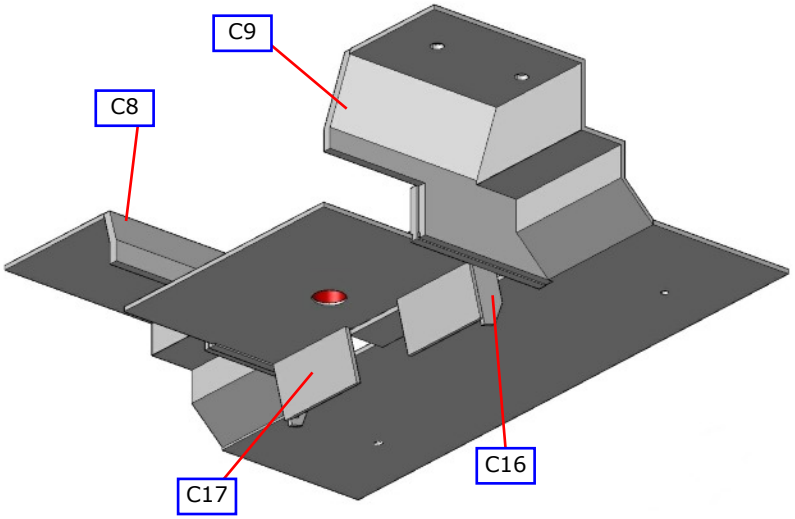
Fit WM6 above and below draw bar opening, fold F83 back to back and attach to F82, trim outer edge to match drag beam F82. Secure F82 to footplate using stepped rebate on underside as a guide, ensure central and 90° to footplate.

Trim cab valances B19L/R if required and fit to cab footplate, trim rear end to butt against F82.

Form C18 to shape and secure to cab footplate and against rear drag beam F82. Position so that steps are equal distance inboard of F82 edge.

Finney7





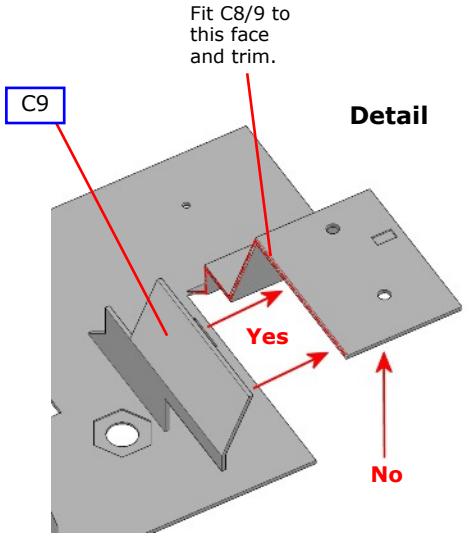
CAB 4

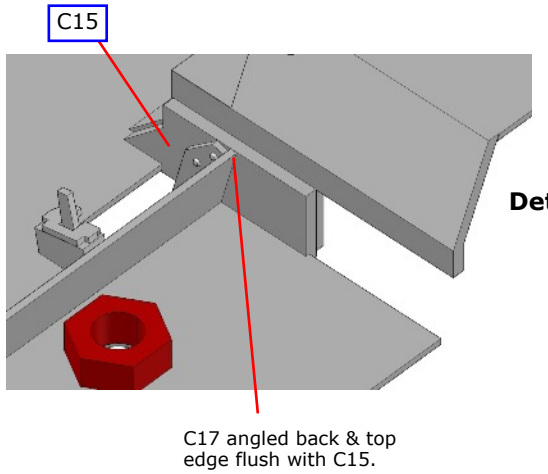
Form the cab floor to produce the two raised sections, use C8 & C9 to aid forming after bending them to suit C7. This is a bit of back and forth to get all three components formed to give neat joints. C8/9 fit onto the inner edge of the raised sections, not the underside.

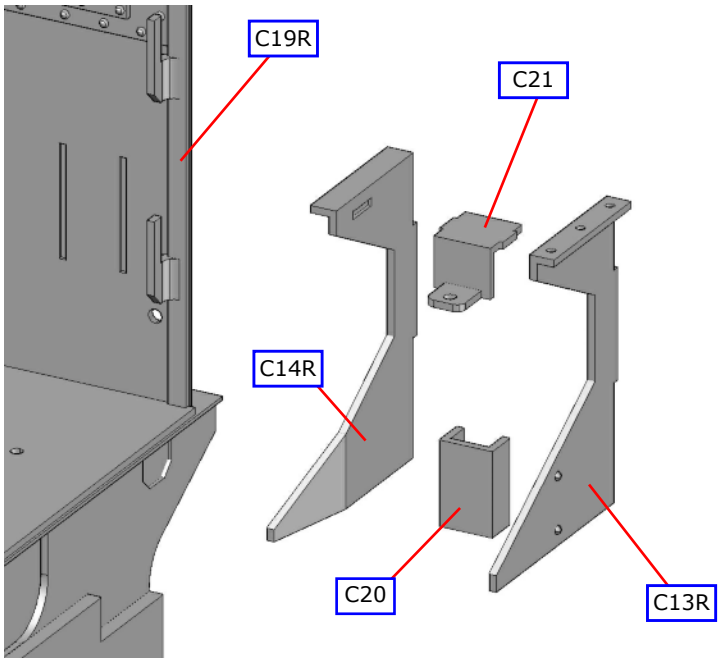
Fold back to back and laminate C15 and attach to the sides of C8/9, trim C17 to fit between the two C15s and drop into the slots in C7, push as far forward as possible in the floor slots and angle the top so that it is level with the top of C15; secure C16 into the corners.

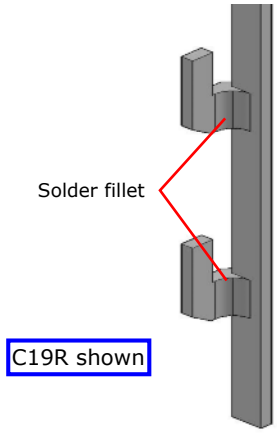
Fold C10 as shown and add the two C11 levers, place C12 over the top, note they are handed and the larger tab goes toward the rear.

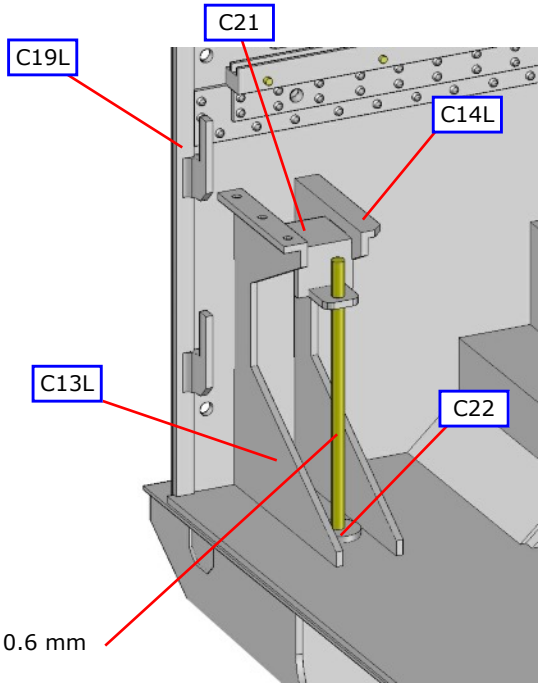
Form and fit C9A as shown and fit, like wise C6A followed by BR101; angle BR101 rearward to represent closed drain cocks. Fit BR100 and and angle slightly forward to represent closed sanding valve.











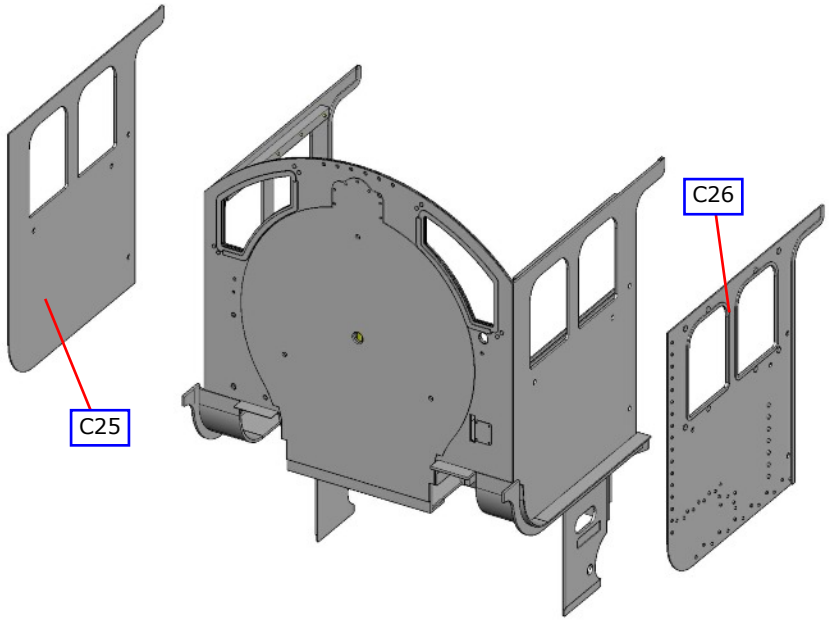
CAB 5

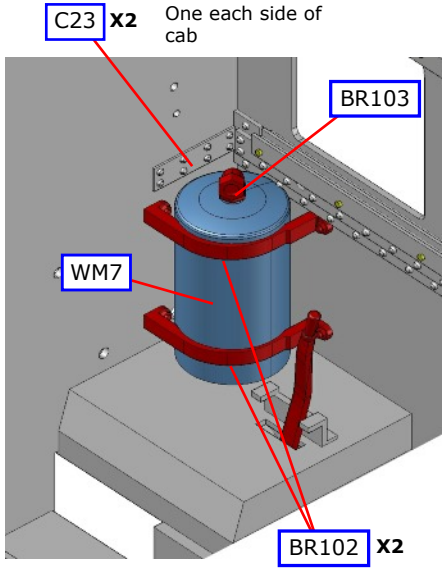
Fold cab seat supports C13L/R, C14L/R, as shown and fit into slots on the inside of the cab side sheet. Note C14R has a bend in the lower support of approx 20° forward.

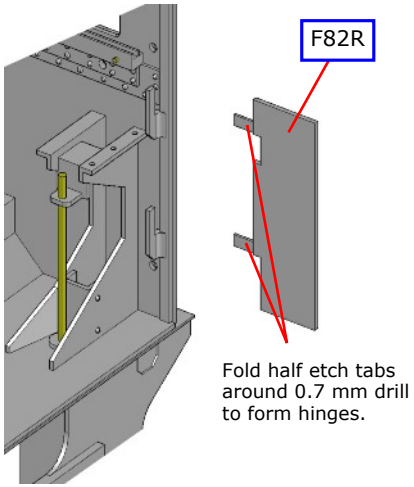
Fold C20 and C21 and insert as shown, C20 is only on the RH side, align folded flange with rivets in C13R and bend in C14R.

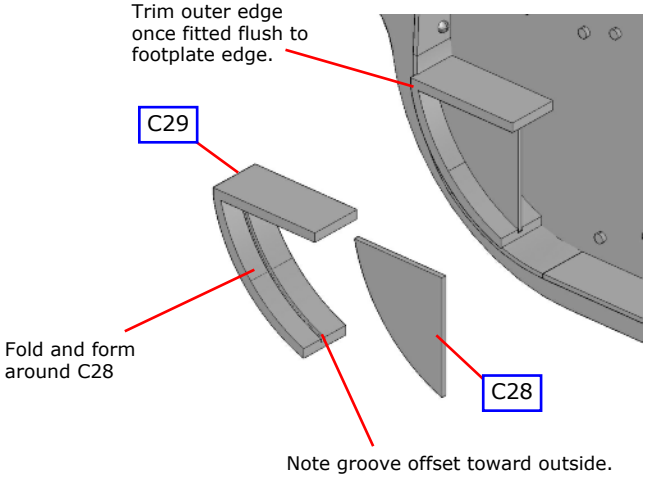
Cut two lengths of 0.6 mm wire and solder one C22 to the end of each, place wire up through bracket C21 and ensure vertical before fixing in place. The wire will be trimmed later once the injector handles are fitted.

Fold the door hinge tabs on C19L/R, fillet the inside joint with solder for strength, fit into the rebate in the cab side and secure.









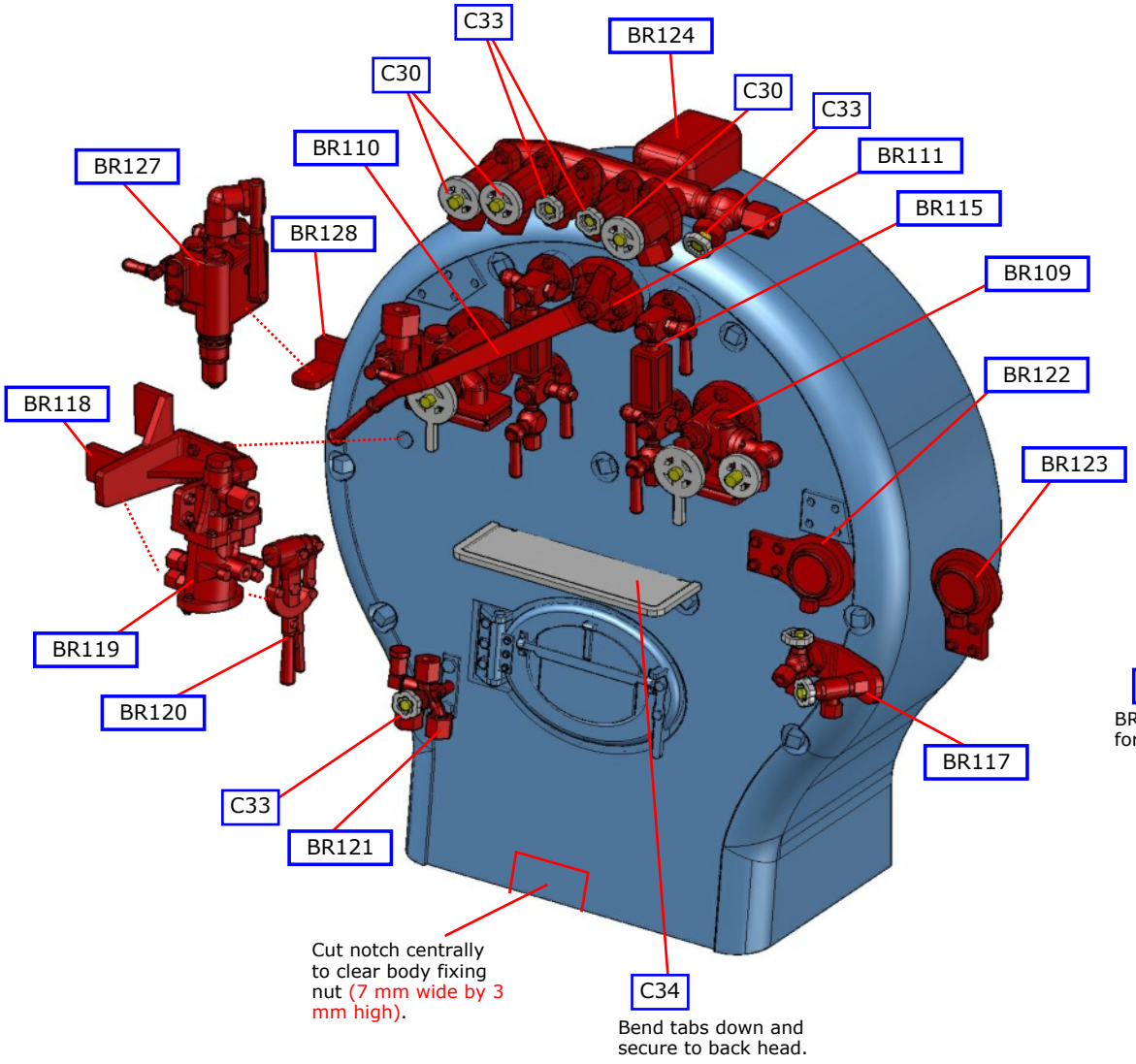
CAB 6

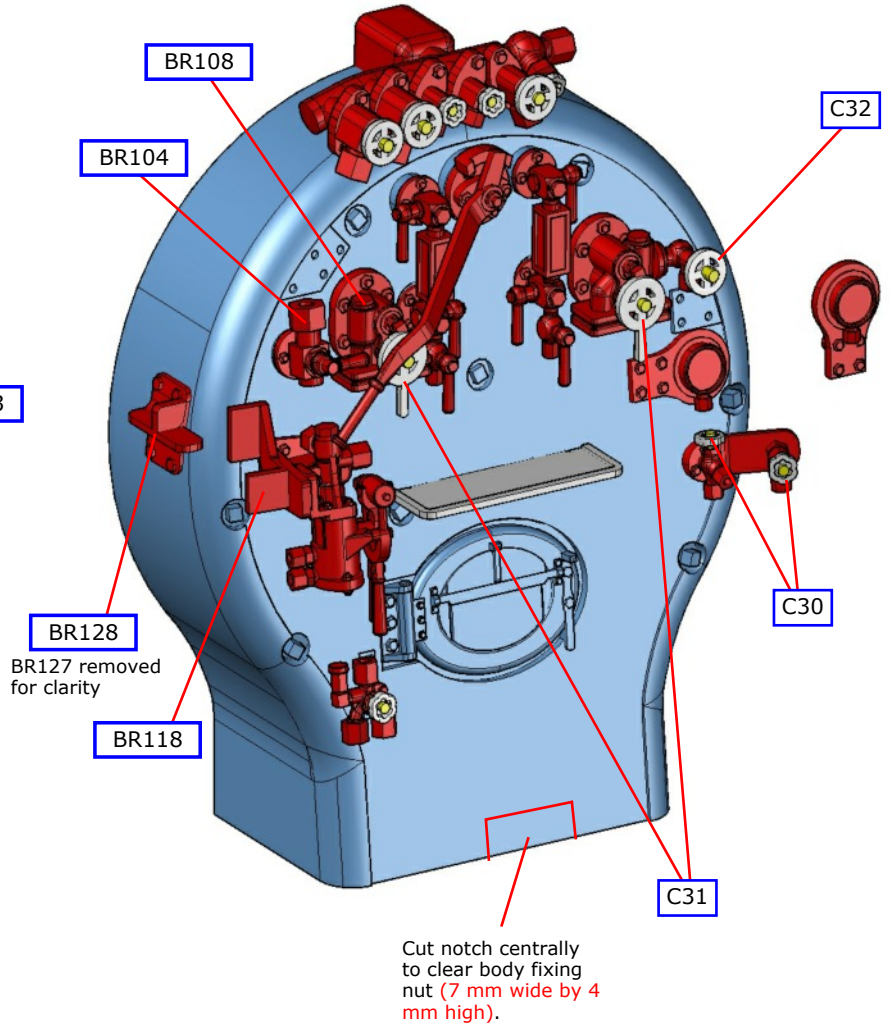
Attach cab sides C25/C26 to cab, use handrail holes as an alignment guide. Trim front of cab side sheets flush with front face once fitted.

Fit rivet strips C23 to cab front as shown. Attach vacuum tank brackets BR102 to tank and pipe elbow BR103. Secure tank to cab corner so brackets touch walls, the best way is with a dab of adhesive to the base of the tank. It may also pay to paint local area behind first.

Fold the half etch tabs on the doors F82L/R around a 0.7 mm drill, it is recommended doors are fitted at the end of construction.

Finney7

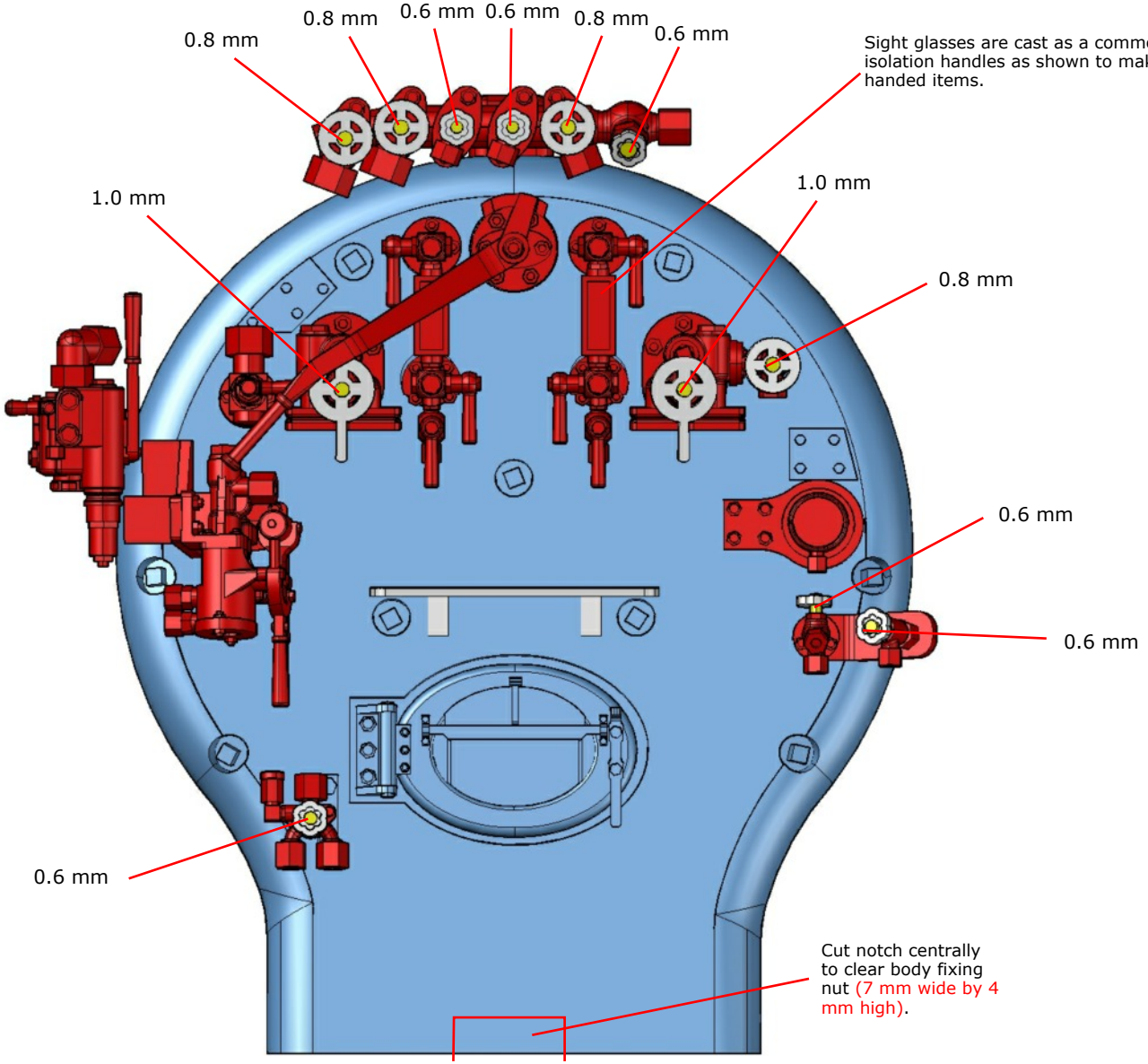




BACK HEAD 1

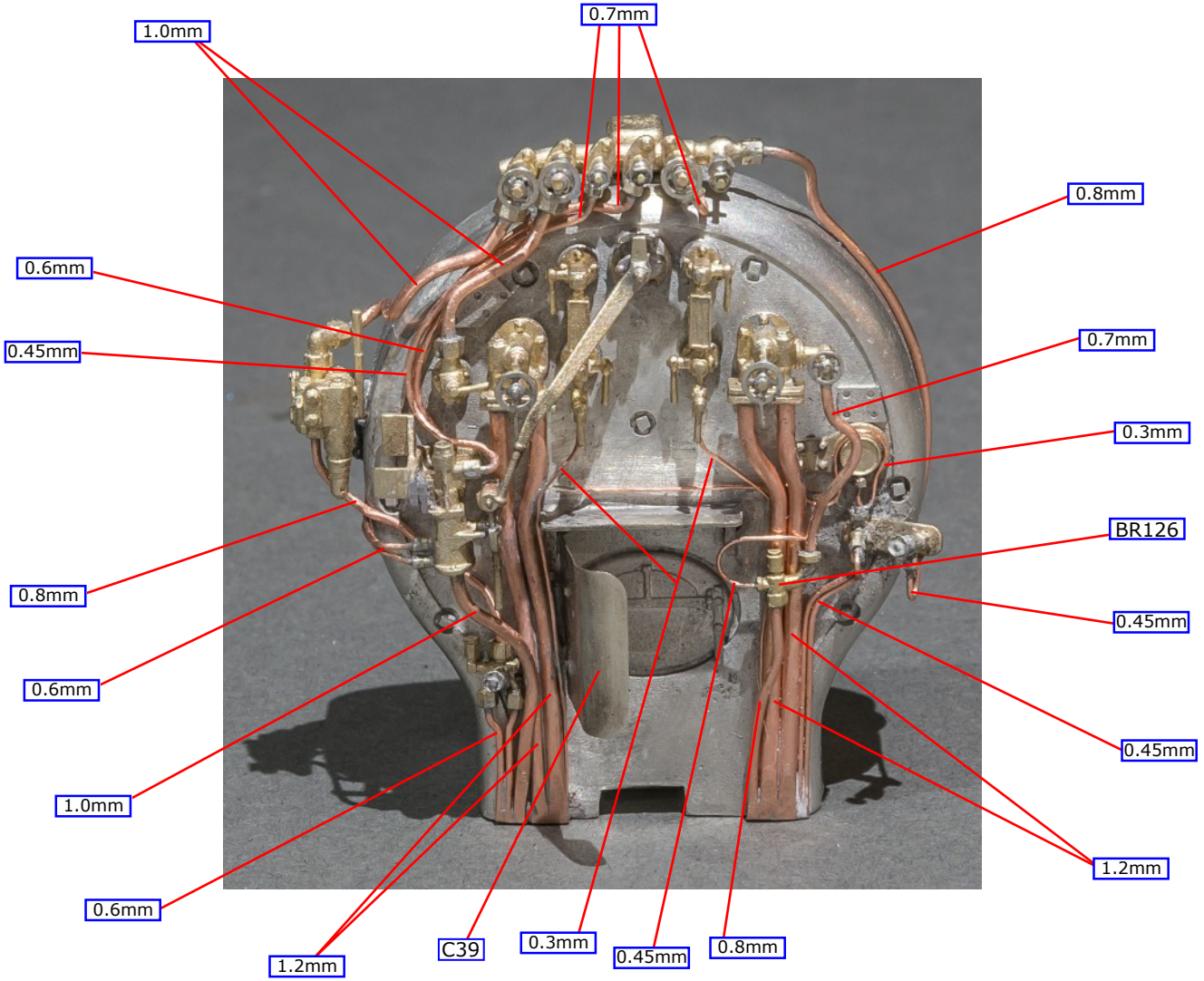
LNER B1 17 May 26 24

Spindle diameters



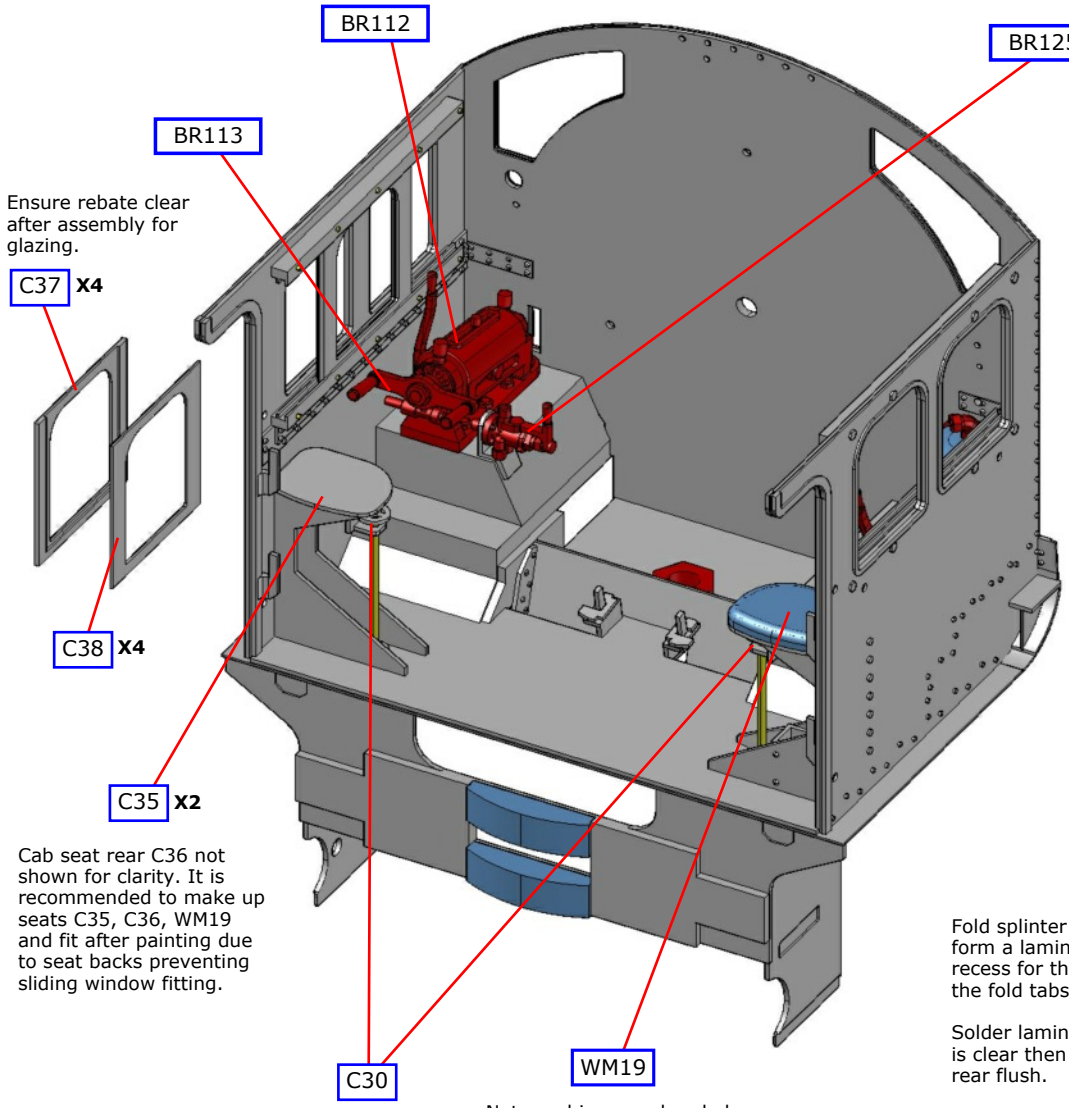
BACK HEAD 2

Finney7



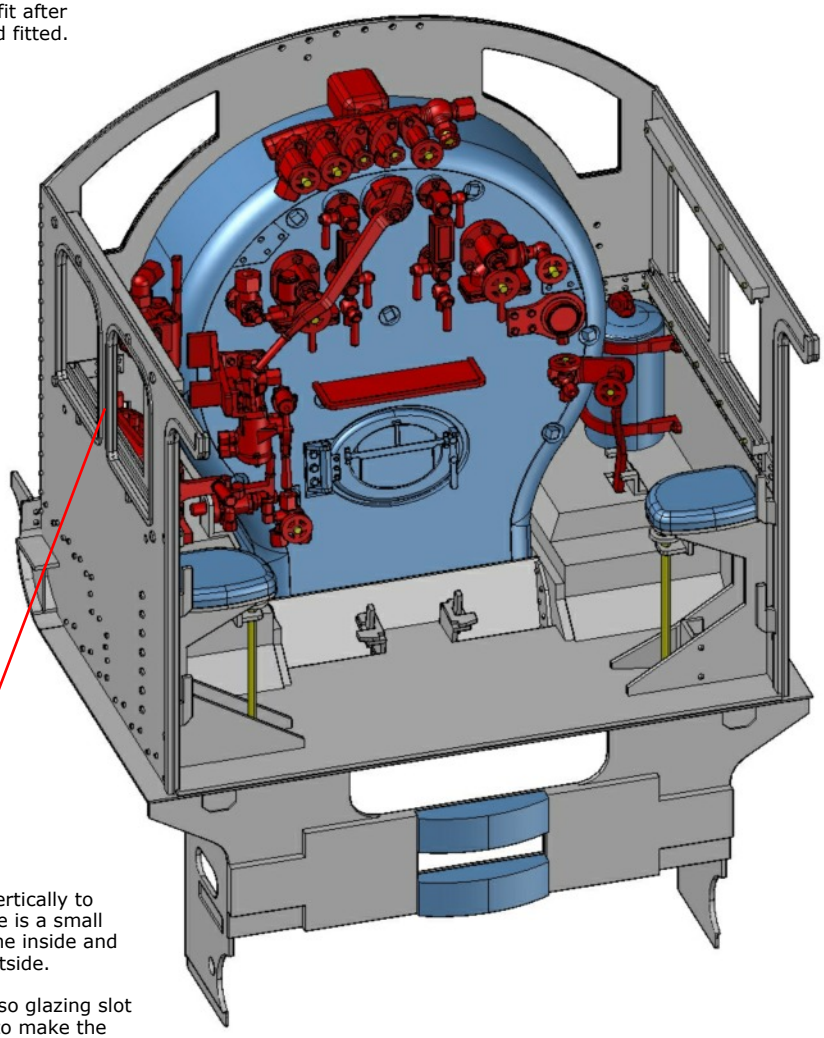
BACK HEAD PIPEWORK

LNER B1 17 May 26 26



Cab seat rear C36 not shown for clarity. It is recommended to make up seats C35, C36, WM19 and fit after painting due to seat backs preventing sliding window fitting.

Note cushions are handed.



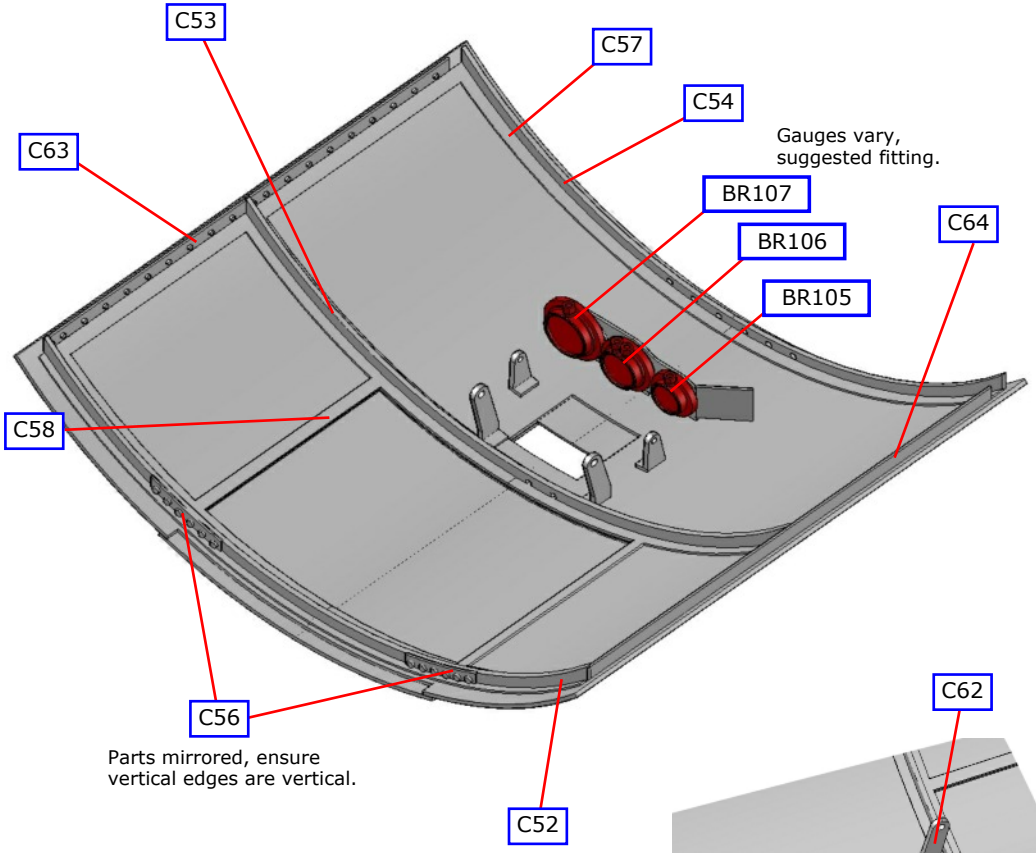
Fold splinter shields C67 vertically to form a laminate, note there is a small recess for the glazing on the inside and the fold tabs are on the outside.

Solder laminates carefully so glazing slot is clear then remove tabs to make the rear flush.

Attach the frames centrally between the two cab windows.

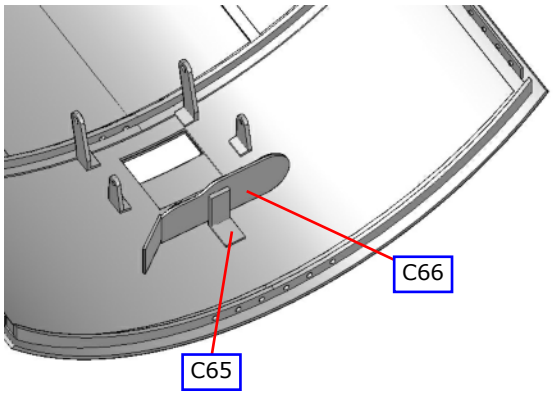
BACK HEAD 3

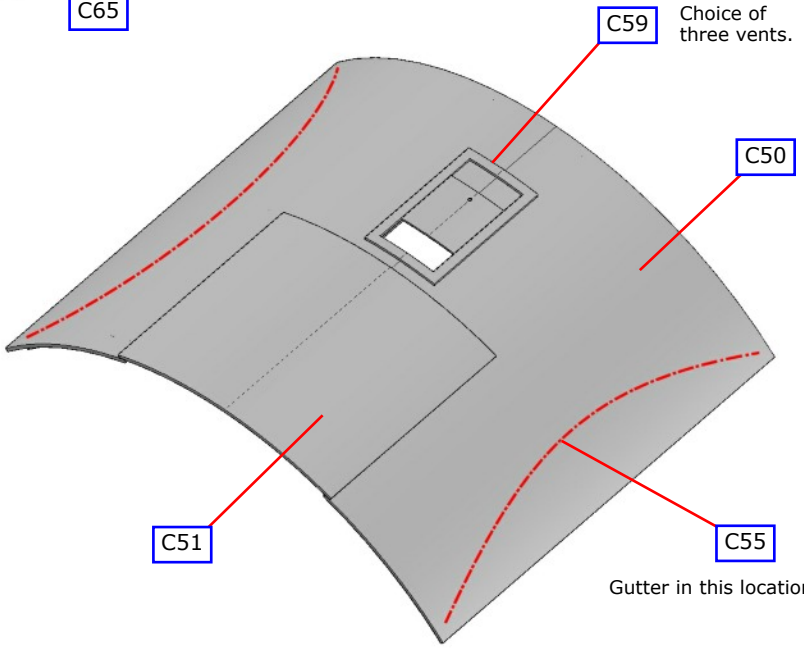
Finney7



Gauges vary, suggested fitting.

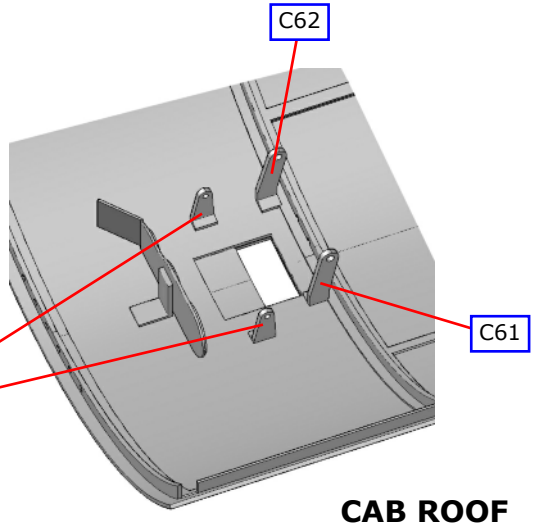
Parts mirrored, ensure vertical edges are vertical.





Choice of three vents.

Gutter in this location



Parts mirrored, feet face inward.

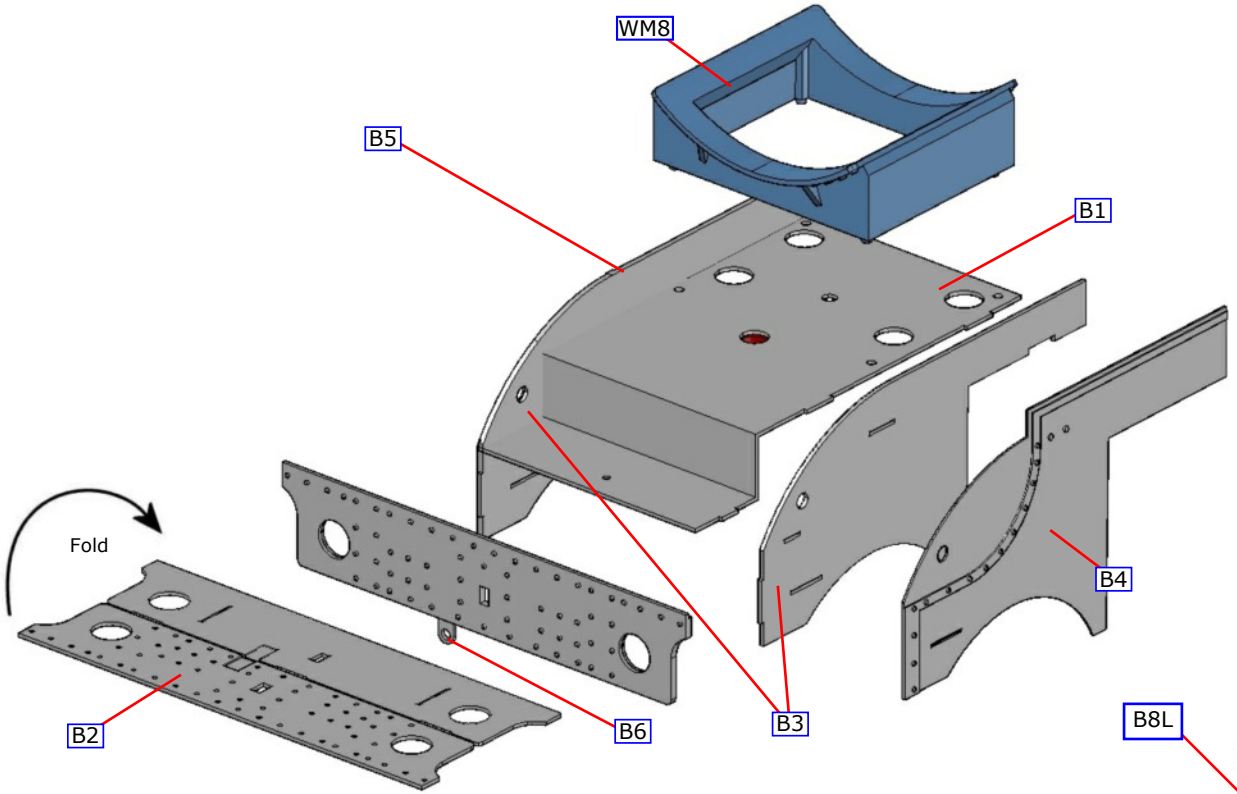
Form cab roof first, add supports C54 & C53 into grooves, note two holes in C53 are to LH side of engine. Add overlays C57 & C58 and finally support C52 in C58 rear groove.

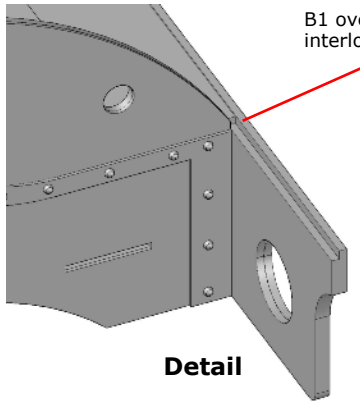
Attach side strips C63/64, ensure they are vertical.

Component rivets not rendered for clarity.

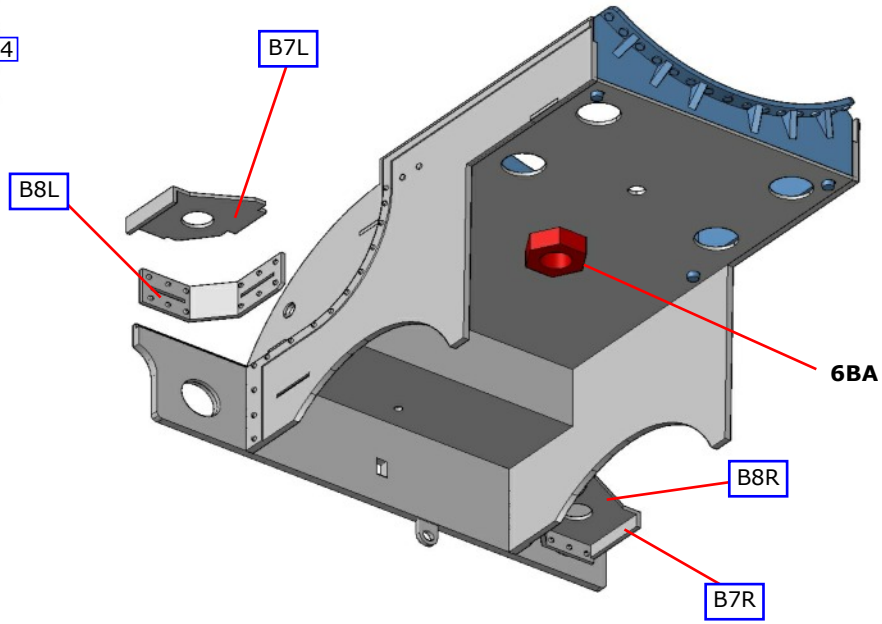
CAB ROOF

LNER B1 17 May 26 28





Detail



FRONT FOOTPLATE 1

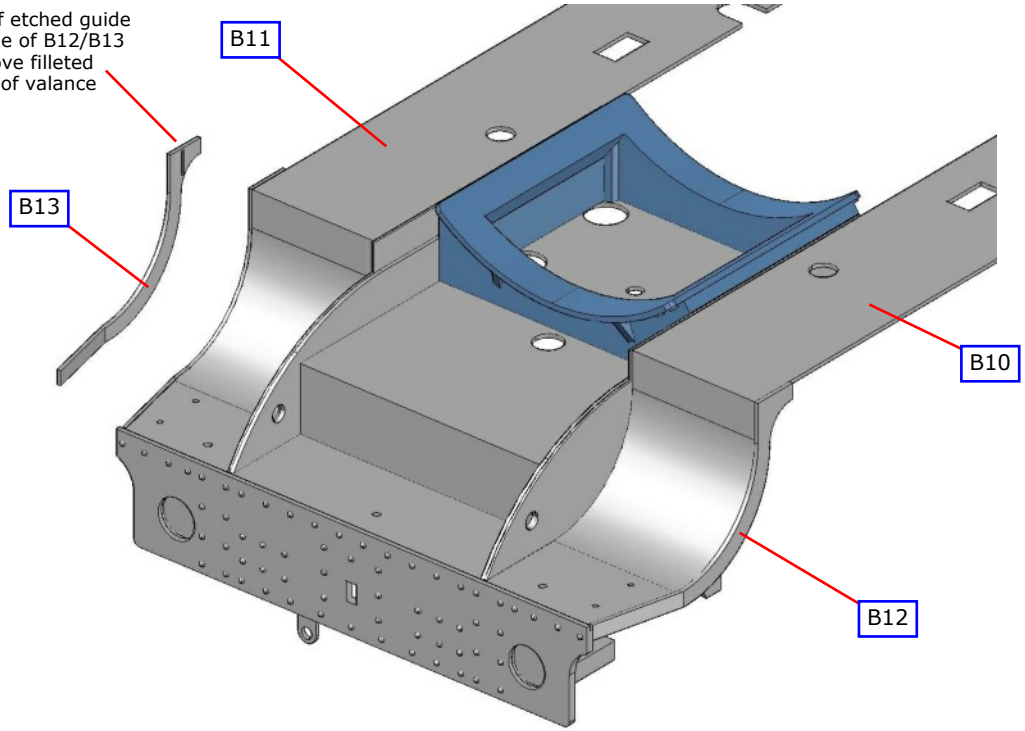
Punch rivets on B4/5 then laminate B3/B4 & B3/B5 to form the frame sides.

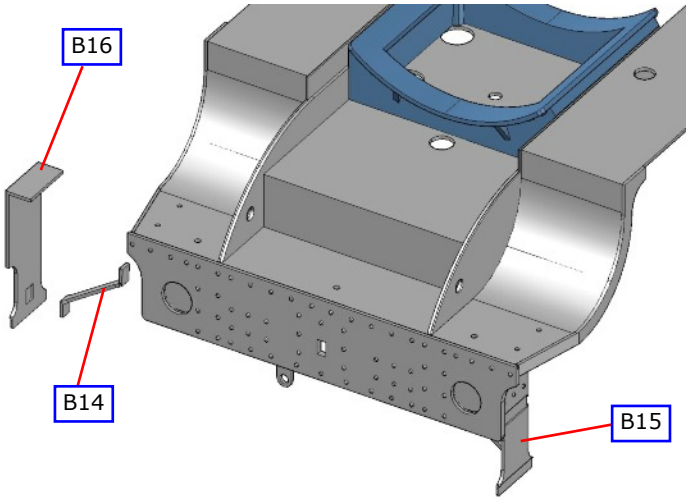
Punch rivets on buffer beam B2 and remove cusp on top edge as shown before folding, insert B6 from below and laminate front and rear halves.

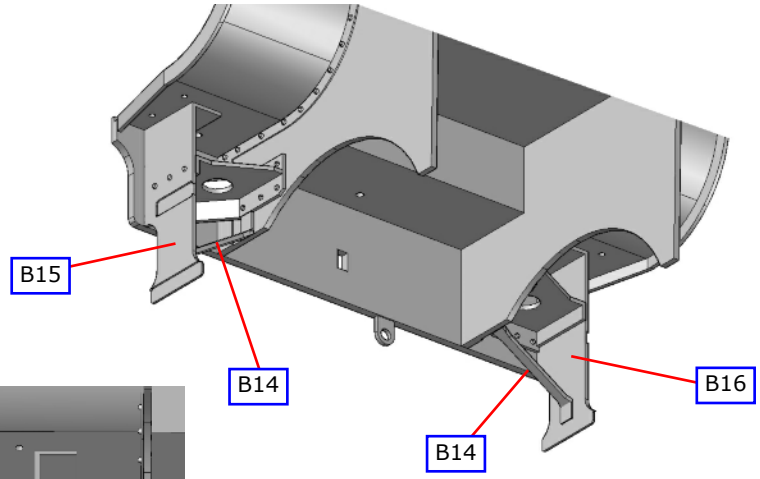
Fold B1 as shown, nut recess is on underside.

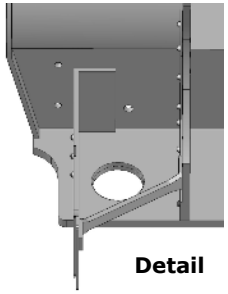
Assemble as shown using slots and tabs as guides, note front of B1 laps into top of B2 (see detail). Test fit WM8 but do not secure.

Buffer beam gussets B7/8L & B7/8R are detail extras, if fitted then the buffers will need to be modified with retentive heads and no rear protrusions except small stub to locate in buffer beam.









Detail

FRONT FOOTPLATE 2

Form B10 & B11 as shown, note curved section half etch relief lines are on the upper surface (*not shown in rendered image*). Form this curve first and smooth underside face.

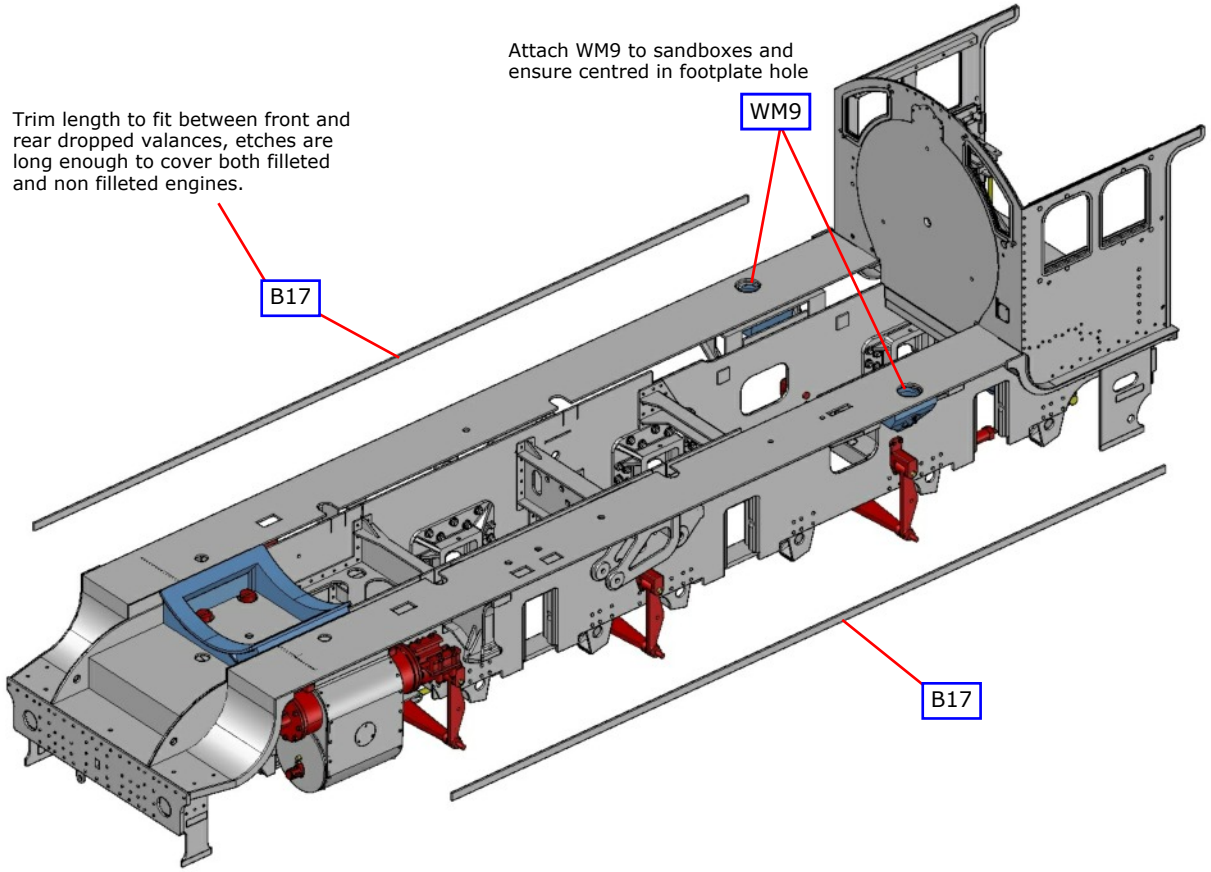
Form the top 90° bend and attach to the front footplate core using the riveted strip on B4/B5 as a guide.

Note, B10 & B11 overlap top inner edge of buffer beam like B1 to give a lapped joint.

Trim and fit B12 & B13, remove filleted valance section if required. These fit to the outside face of B10 & B11, trim the upper edge to give a smooth surface for the footplate overlays later.

Fold steps B15/16 and brace B14 as shown, attach B14 to pocket on inside of steps.

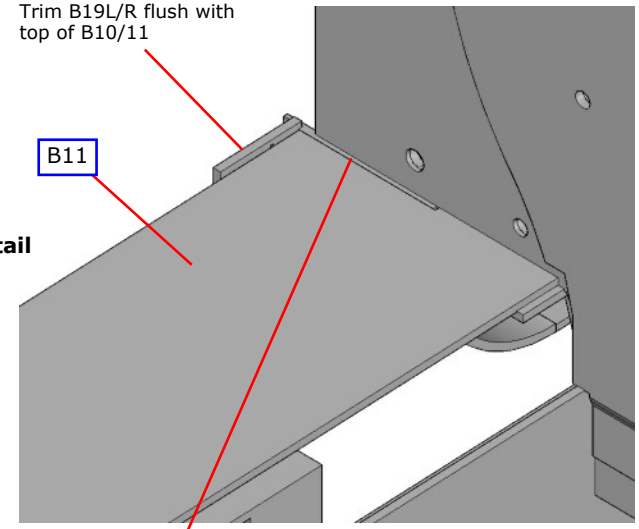
Fit steps to front footplate as shown, if the buffer beam gusset has not been fitted then the steps should be fitted so that the base sits equally between the grab iron and lamp iron holes (*see detail image*)



Trim B19L/R flush with top of B10/11

B11

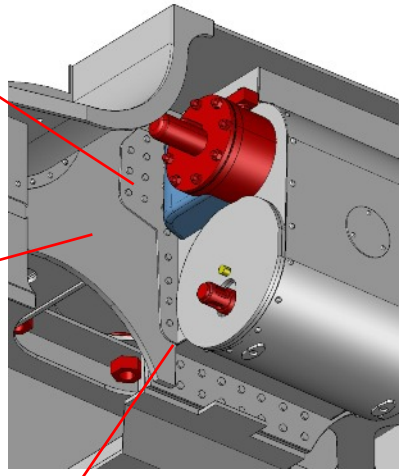
Detail



B10 & B11 interlock around C6 and fit inside valances B19

F96L

B4



Align with base of cylinder block, take care when fitting to not solder to cylinder block.

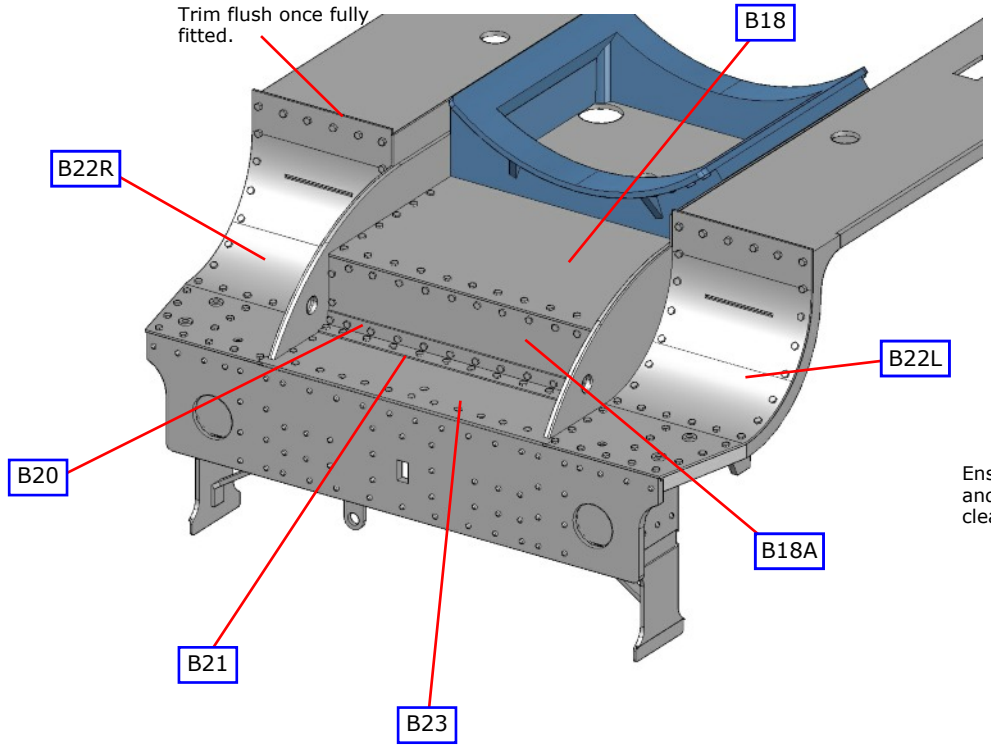
FOOTPLATE 1

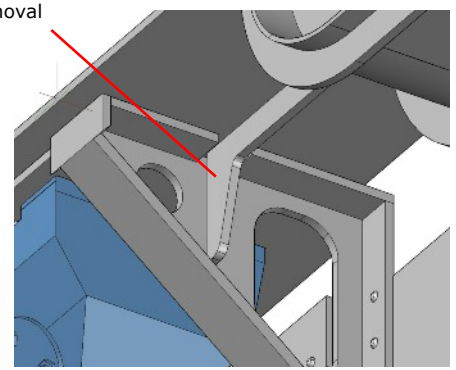
Attach the cab and front footplate sections to the chassis, ensure both components square and cab vertical with respect to frames. Adjust each section until the rear of B10/B11 butt up to the cab face, note B10 and B11 interlock around C6 and sit inside valances B19L/R.

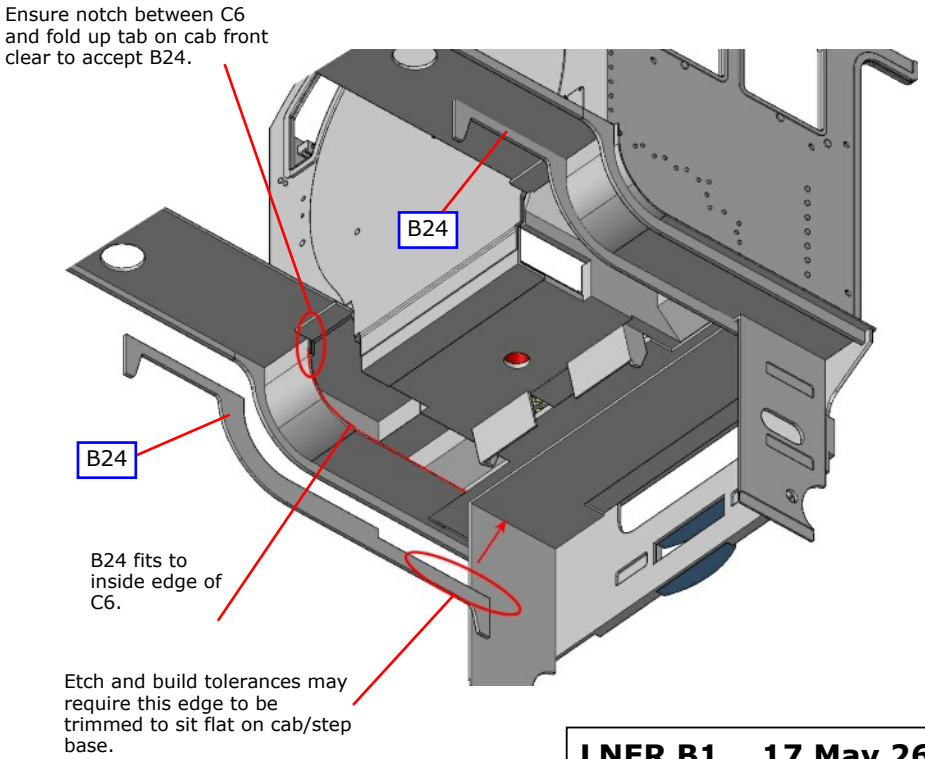
Secure footplate sections to cab front and file top of B19L/R level with top of B10/11.

Once cab is secured, trim and fit valances B17 between the two sections and secure to the outside edge of B10/11 with top edges flush.

Carefully place and fit cylinder flange plates F96L/R to the front section, leave a small working clearance with the cylinder block and ensure base is level with cylinder block.







FOOTPLATE 2

Curve, trim and fit B22L/R first, use handrail holes and lamp iron hole for guidance, there should be a small lip overhang on the buffer beam. Once secure, trim top of overlays level with top of footplate B10/11.

Trim and fit B23 followed by B18A. (*Trim the base of B18A so that the top edge is flush with the top of the former and allow B18 to sit flat*).

Trim B18 so that there is a small overhang over B18A and fit into place.

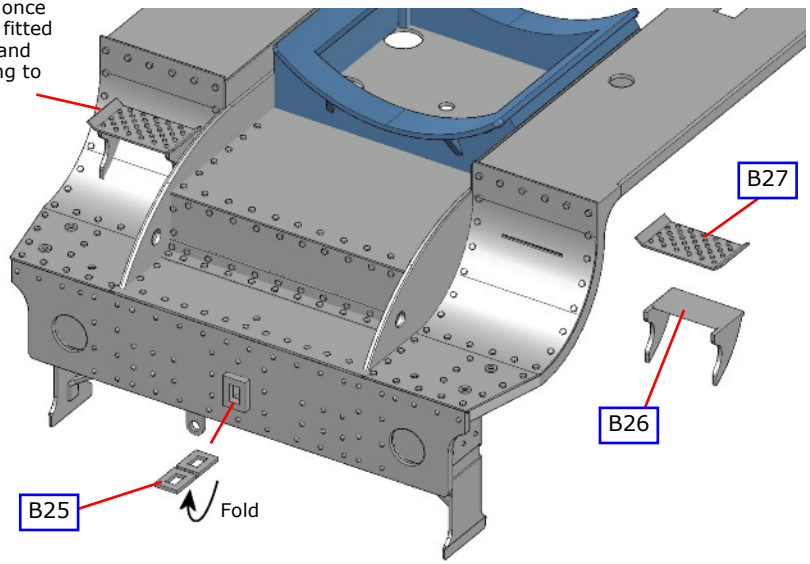
B21 bolt heads are slightly offset, trim the width to fit the gap and ensure rivets are closest to the front edge (more etch to the rear).

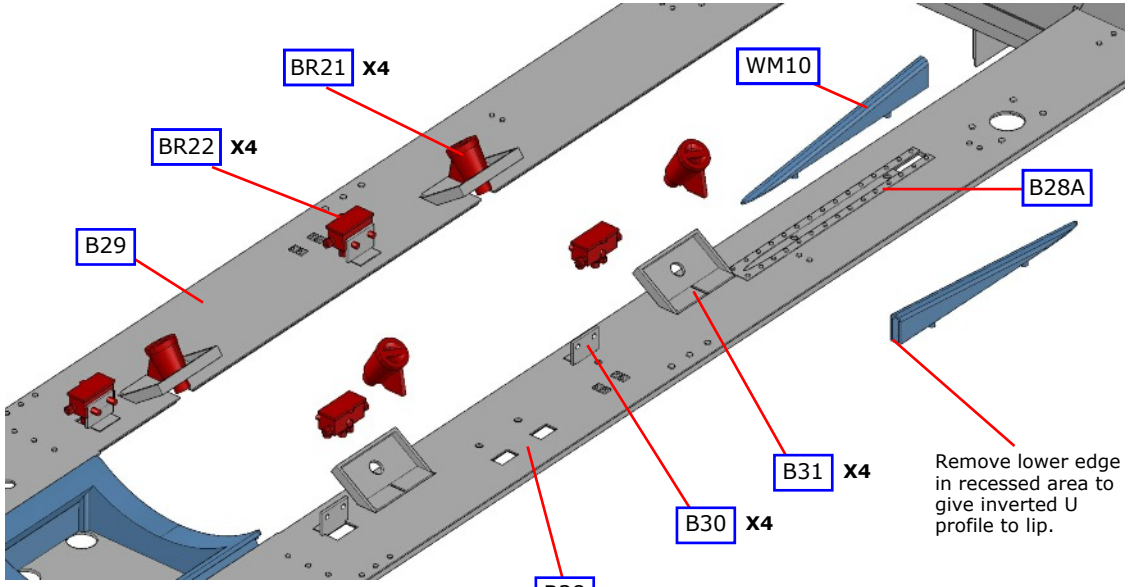
Trim and fit B20 last, the bolt detail is asymmetrical, rotate to suit your choice, fixings aligned with B21 or offset.

Trim and fit B24 as shown to strengthen cab footplate joint.

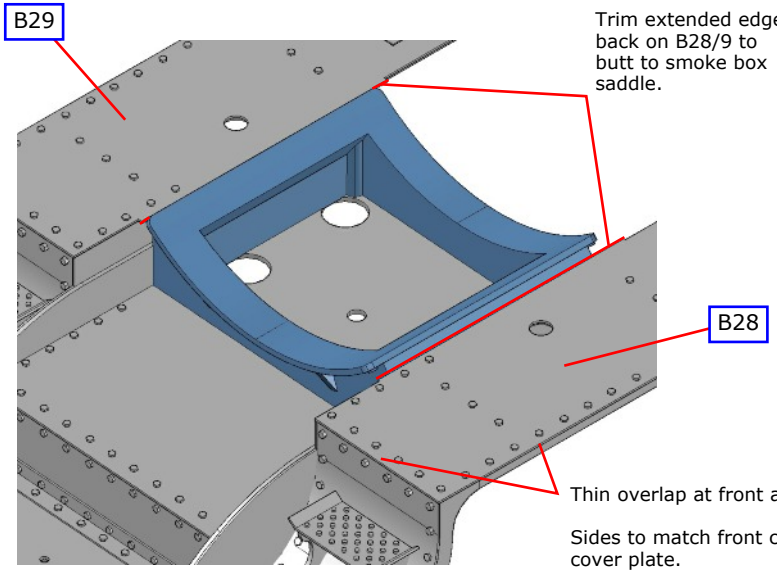
Finney7

Fold edges once tread plate fitted to bracket and before fitting to footplate.





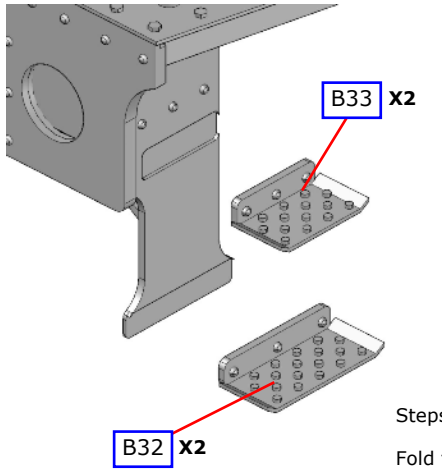
Remove lower edge in recessed area to give inverted U profile to lip.

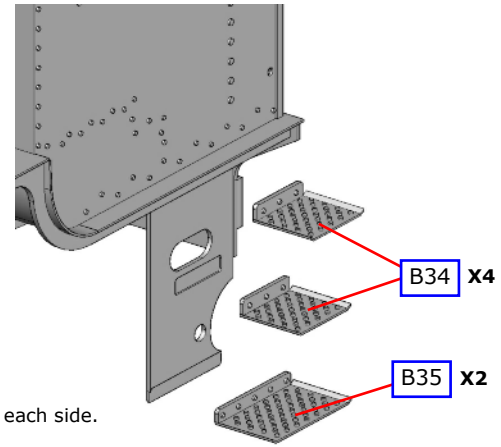


Trim extended edge back on B28/9 to butt to smoke box saddle.

Thin overlap at front and sides.

Sides to match front curved cover plate.





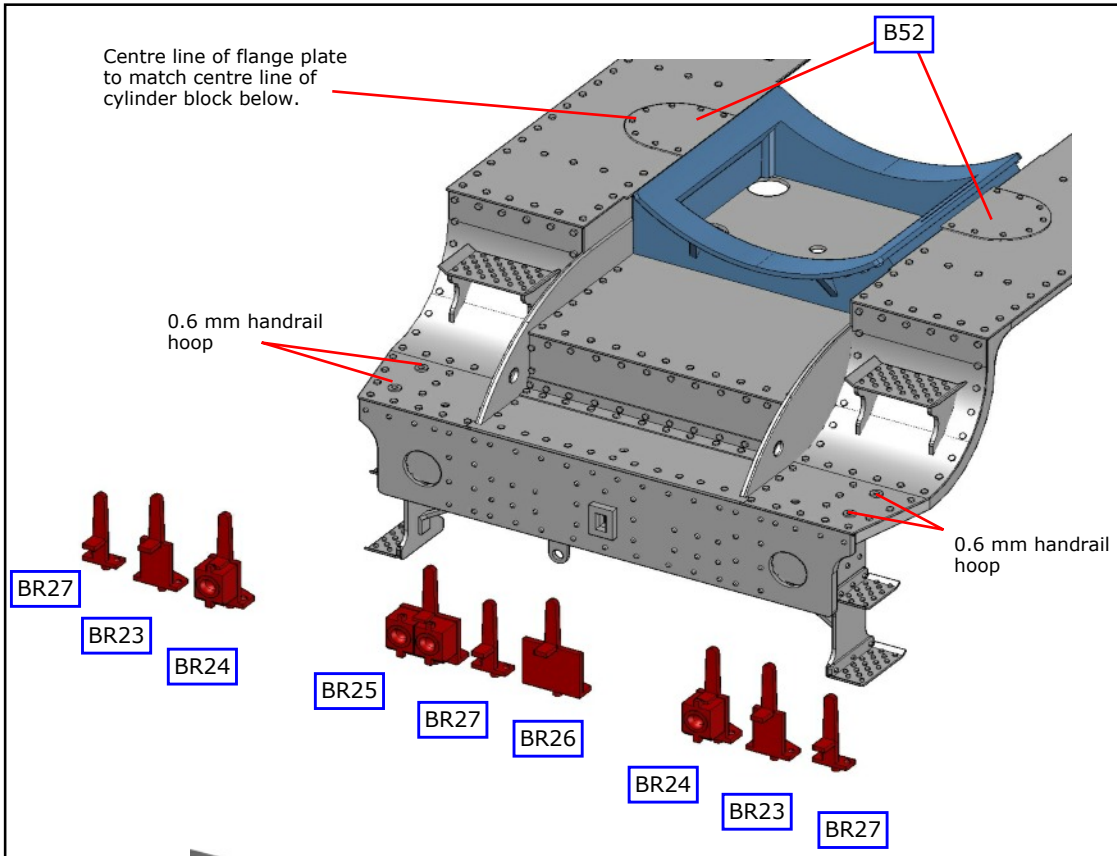
Steps mirrored each side.

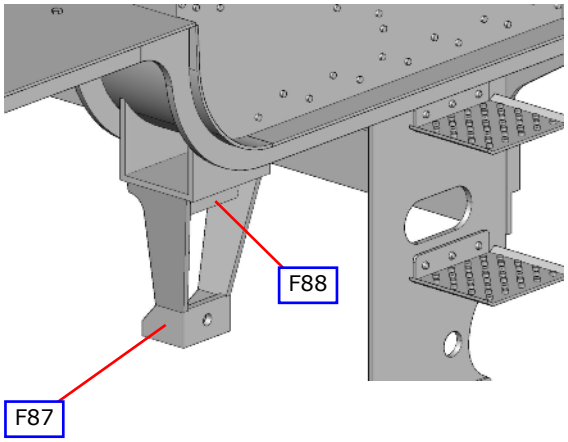
Fold tread ends before fitting.

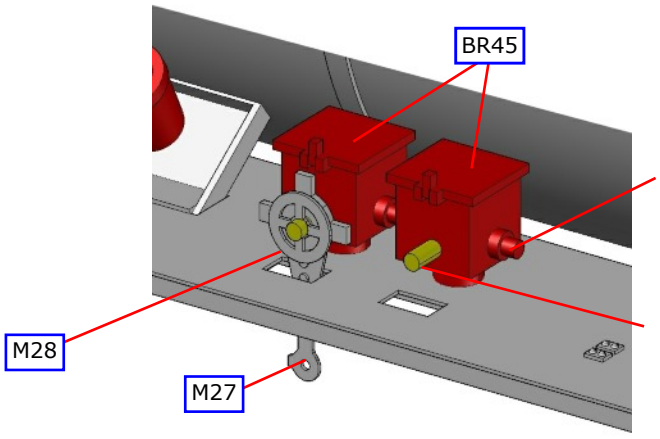
FOOTPLATE 3

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Finney7

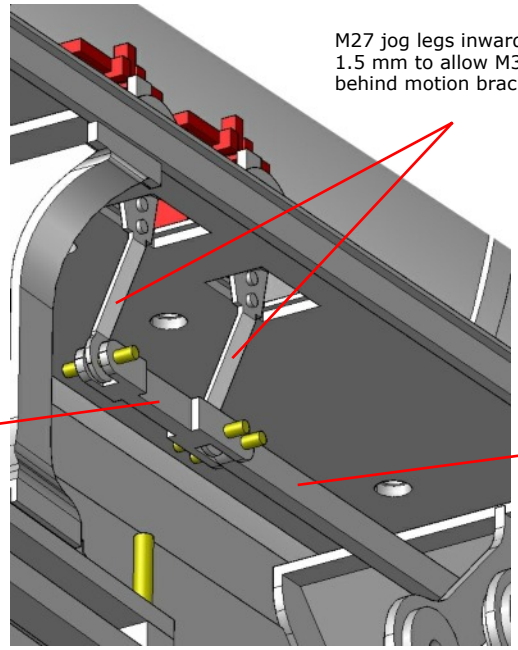






Remove cast spigots and dress side smooth, rotate lubricator so lid hasp is toward the outside.

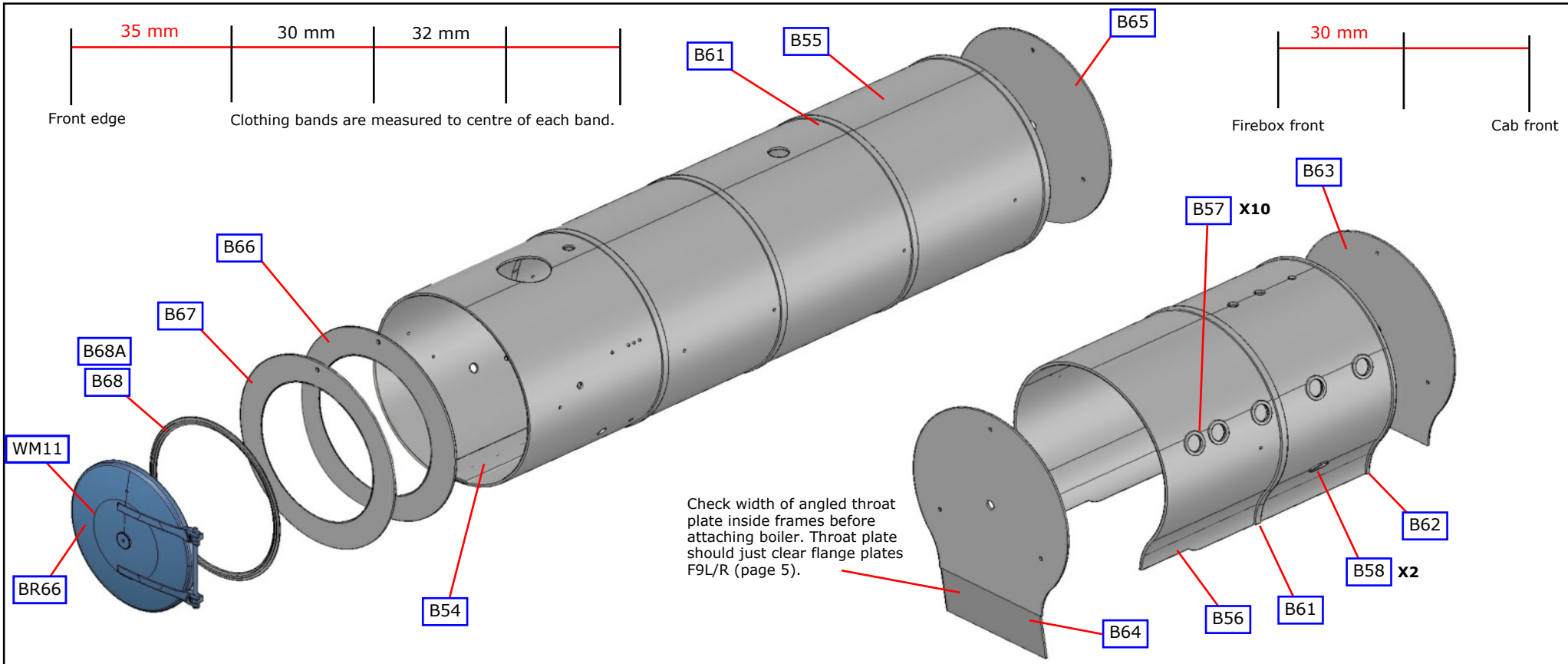
Drill new 0.8 mm hole and add new spigot, ensure spigot extends 3.5 mm from lubricator.



Laminate back to back.

FOOTPLATE 4

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BOILER & FIREBOX 1

Form the firebox wrapper using front and rear spacers B63 & B64, there is a rebate at each end for the spacers to sit inside. Secure spacers and ensure assembly is straight and square.

Curve the washout plug flanges B57 to match the firebox wrapper and attach centrally over each recess, repeat with mud ring flanges B58.

Laminate B66 & B67 together and attach either B68 or B68A depending on door chosen, there are five different door types and two ring types, please pick suitable one for your engine and match door ring to suit. If required, drill a 1.2 mm hole on the LH side of the door (looking rearward) and attach the door knob BR66.

Fit 8BA screw to B65, thread facing firebox. Roll boiler using spacer B65 and previous front face as a guide, reinforce joint on the inside with bridging strip B54 (*align smoke box fixing hole with notches in wrapper*), fit 10BA screw or nut to inside of bridging strip. There is a rebate on the inside of the boiler wrapper at each end for the spacers.

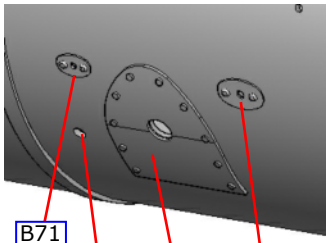
Secure the blast pipe casting WM12 directly below the chimney opening and paint inside surfaces black.

Fit B65 to the inside rear and and ensure rear face is flat & square, secure front face but note B67 protrudes from front or wrapper to give a stepped joint, only B66 sits inside fully (*note recess in base of B65/66 to align over bridging strip B54*).

Attach short lengths of 0.8 mm wire to B64 through the three holes provided and fit boiler, secure two halves with 8BA nut.

Fix clothing bands B61 as shown in diagram top left/right (*in red is critical, the rest can vary slightly*), fit firebox clothing band B62 to rear of firebox when assembly secured to cab to close up any gap. Use clothing band B62 at firebox/boiler joint to close over any gaps.

Clothing band cleats BR65 are provided if required.



Not shown for clarity.

Detail

BOILER 2

Smooth base of chimney WM13 (*bolted or plain*) and dome to thin the flange, fit dome peg WM14 inside Dome WM15 and secure to boiler. Fit chimney centrally over hole in smoke box.

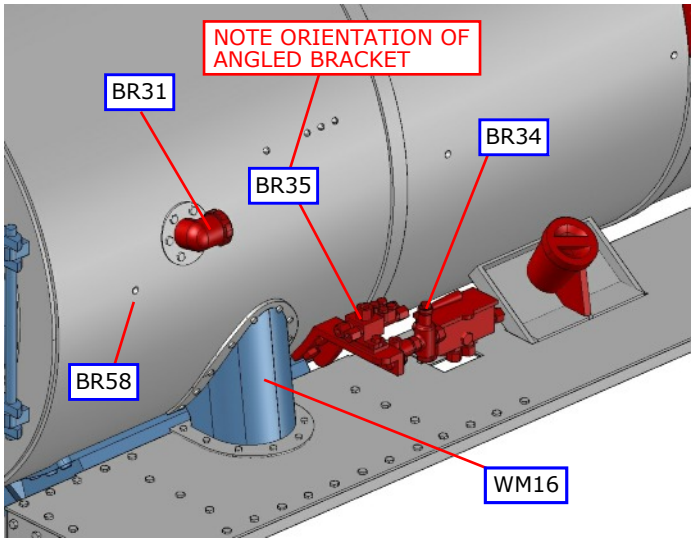
Check your prototype engine for smoke box lamp iron fittings, engines without electric lights often do not have any fitting on the smoke box top. For BR28/29 drill a 1.0 mm locating hole in the top 2.0 mm centrally from the front to aid location.

Temporarily place 1.8 mm rod into BR31 to aid fitting BR32. Ensure rod is horizontal along boiler (use handrail knob holes as guidance) before affixing clamp bases BR32.

Secure washout blanks B69 to short lengths of 0.6 mm wire and fit into firebox recesses, trim stub to leave approx 1 mm protruding; ensure indents face outward.

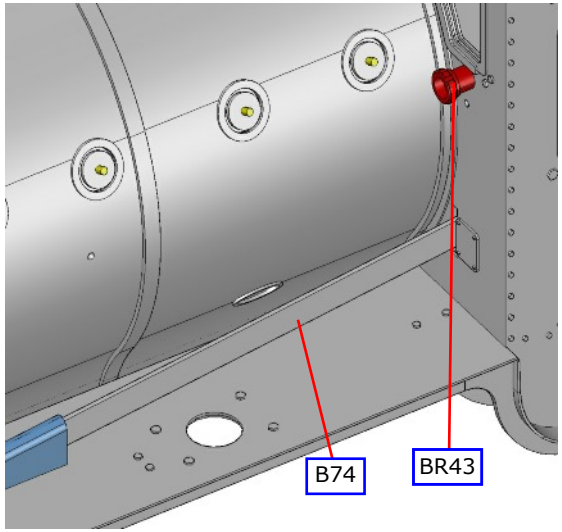
Fit boiler assembly to footplate.

Finney7



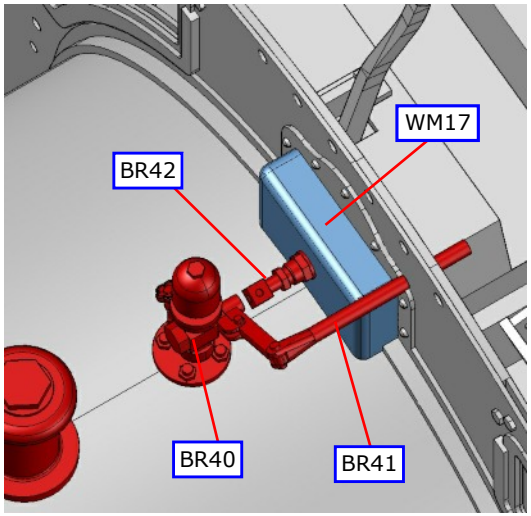
Drill out BR58 outlet 0.6 and BR31 1.8 mm before fitting, see notes on BR43 for fitting BR31.

Fit BR34 to BR35 then assemble to smoke box.

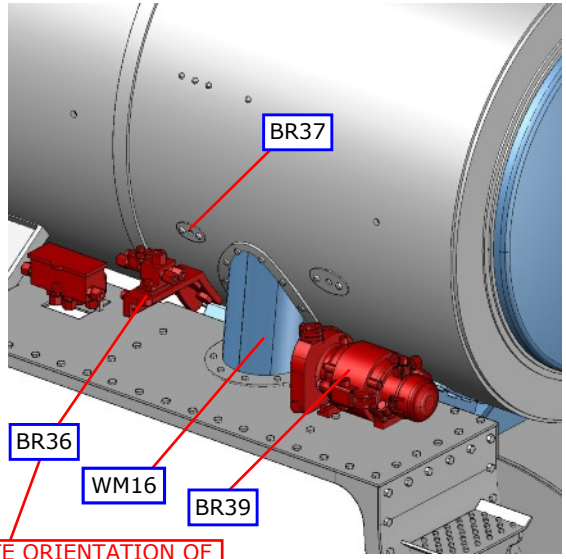


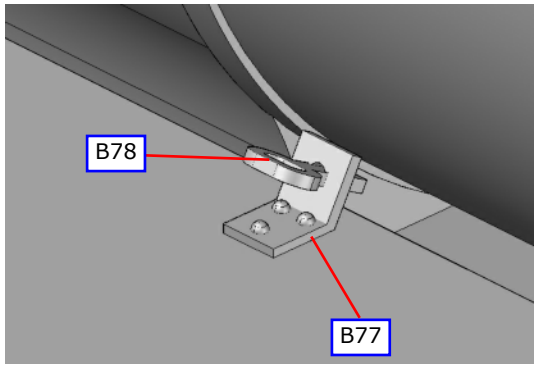
Drill out BR43 1.8 mm, cut length of 1.8 mm rod to fit between BR31 and BR43 (*note pipe jogs out at firebox end near cab front*).

Secure BR31 & BR 43 to pipe, pass BR43 through cab and secure BR31 at front. Do this stage after back head fitted to ensure BR43 does not foul cab fittings. Likewise, fit B74 after reversing lever assembly BR112.



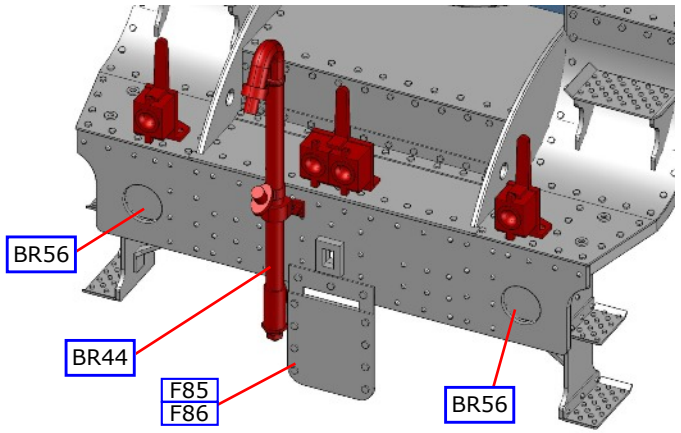
Fit BR42 to WM17 and then to cab front first. Fit whistle BR40 then trim square shaft on BR41 to fit lever between whistle and hole in cab front.





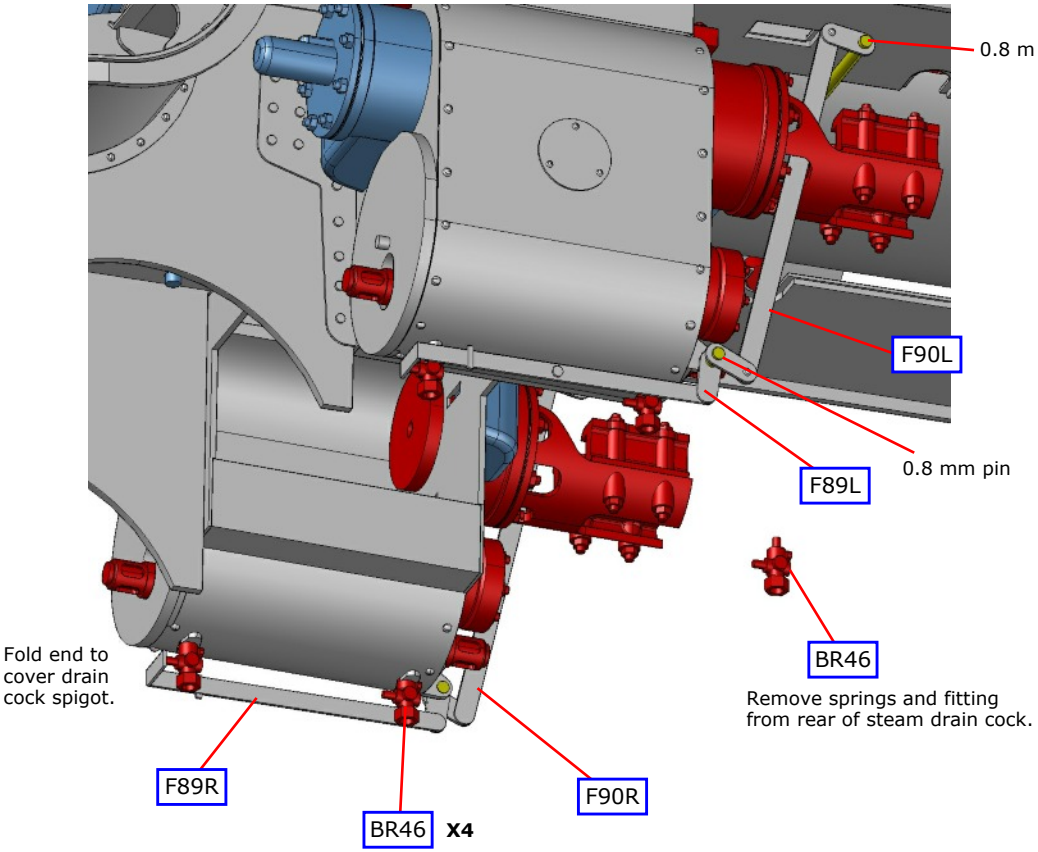
Place just ahead of fire box throat ring on RH side.

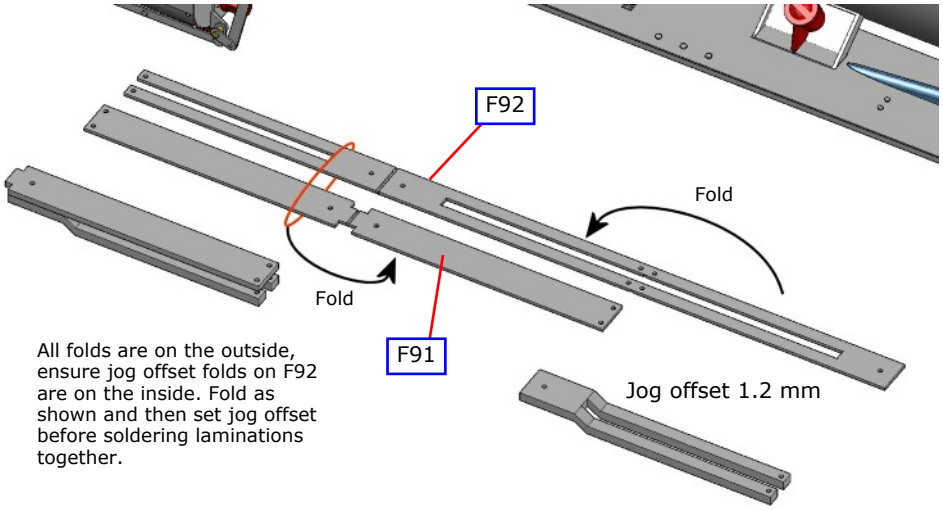
NOTE BR56 - Slaters buffers 7909 - supplied.



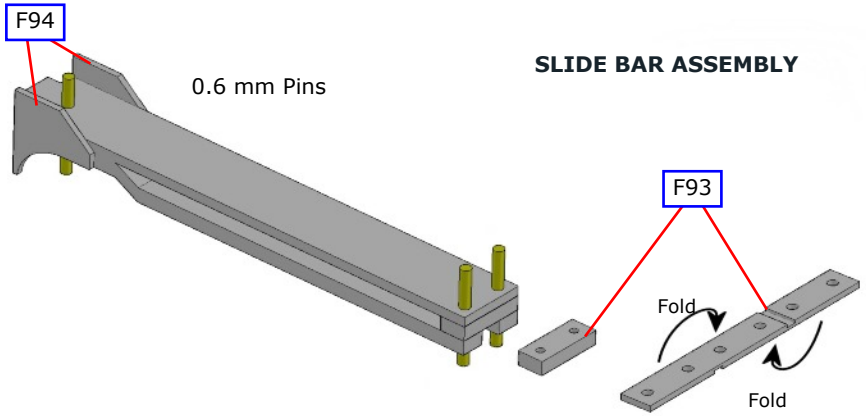
Modify buffers to self contained if buffer beam support webs have been fitted, or make hole in web to suit buffer shank

BOILER 3





All folds are on the outside, ensure jog offset folds on F92 are on the inside. Fold as shown and then set jog offset before soldering laminations together.



DRAIN COCKS & SLIDE BARS

Insert short length of 0.8 mm wire to drain cock anchor brackets F54L/R.

Remove return spring and housing from rear of drain cocks and drill drain pipe hole before fitting to cylinder cover. Trim spigots to point where diameter changes (half length).

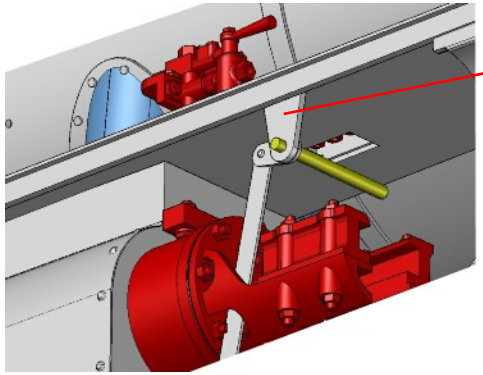
Attach F89R/L to 0,8 mm pin and fold front end 90° to meet leading drain cock spigot.

Guide F90L/R through the valve guide casting and secure lower end to 0.8 mm pin. Insert a length of 0.8 mm wire to the crank at the top and in toward the frames, length is dependent on builders choice.

All folds are on the outside, form F93 as shown and place between slide bars, locate using 0.6 mm wire.

Pin front of slide bars and solder together at the front only, clean pin off once secure. Attach F94 each side as shown, when fitting to the cylinder block the lower tangs will need to be curved out and around the stuffing gland.

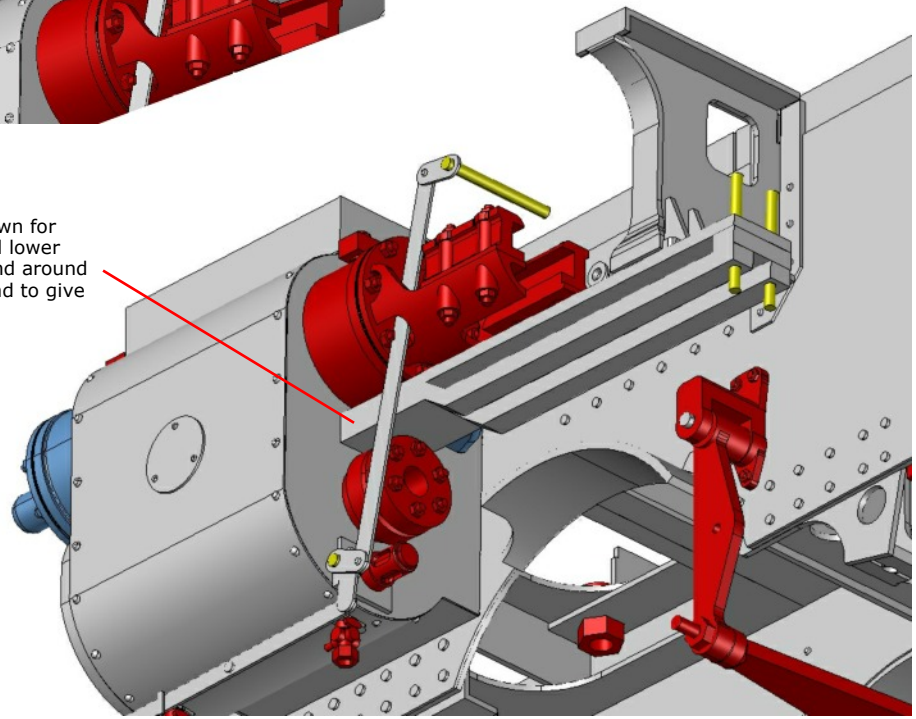
Remove rear pins and block and save for later.



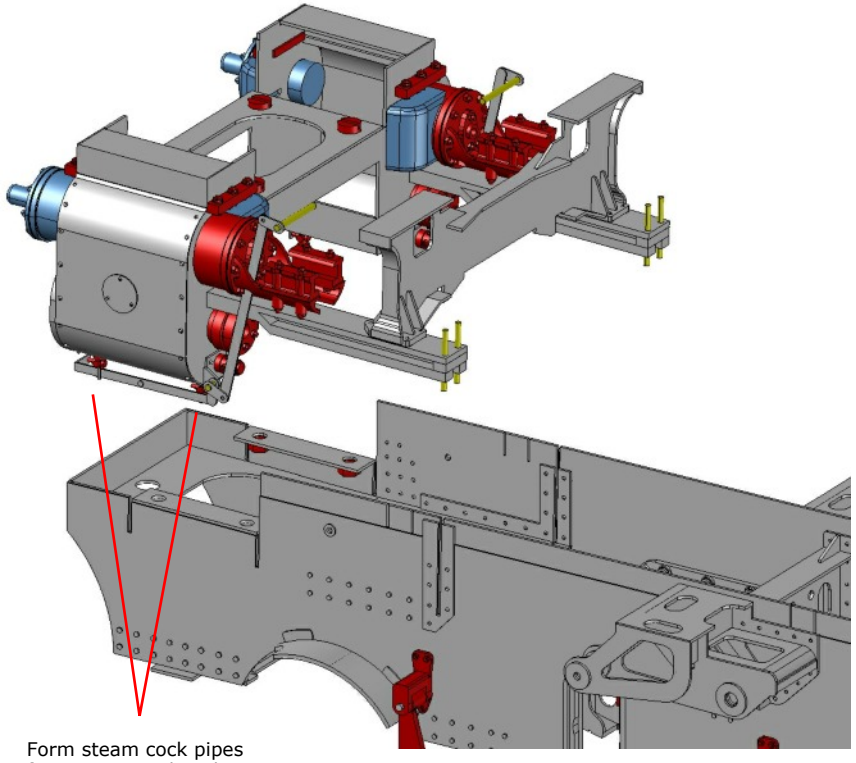
F97

Add short length of 0.8 mm wire, flush at rear, protruding at front, place chassis under body and trim F97 height so pins align. Secure F97 to underside of footplate and clear of F90L.

Repeat on RH side.



F94 not shown for clarity, bend lower tangs out and around stuffing gland to give a snug fit.



Form steam cock pipes from 0.5 mm phosphor bronze wire. Add clips F98 as required.

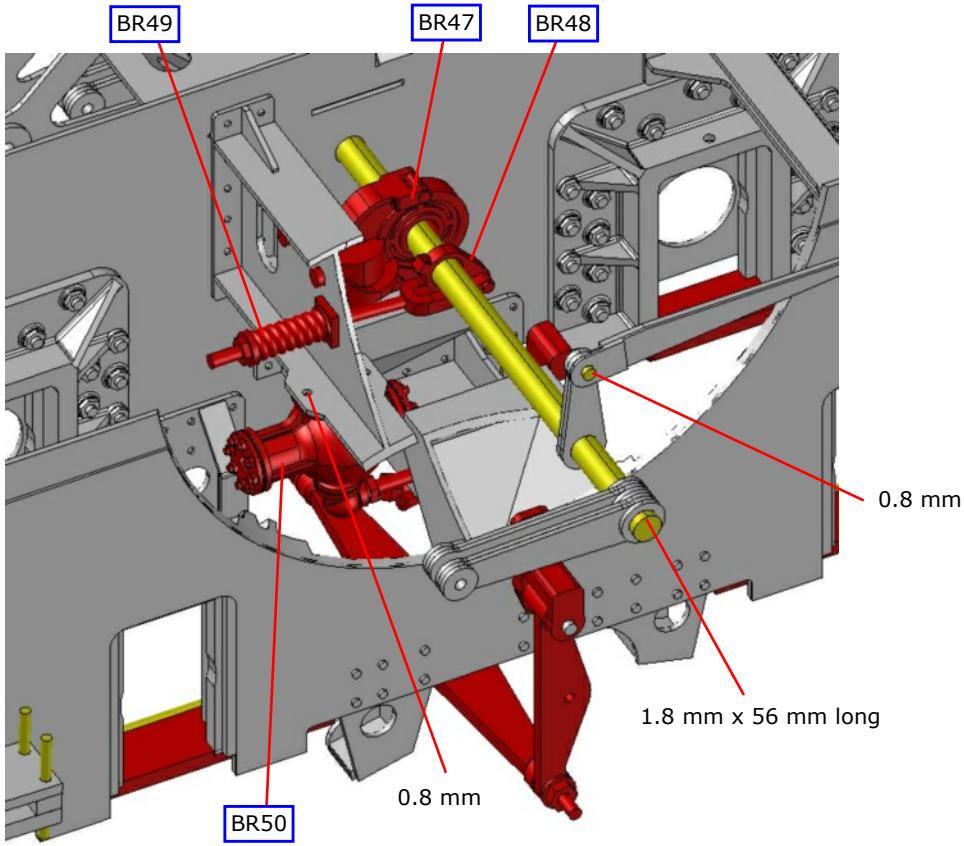
SLIDE BARS & CYLINDER BLOCK

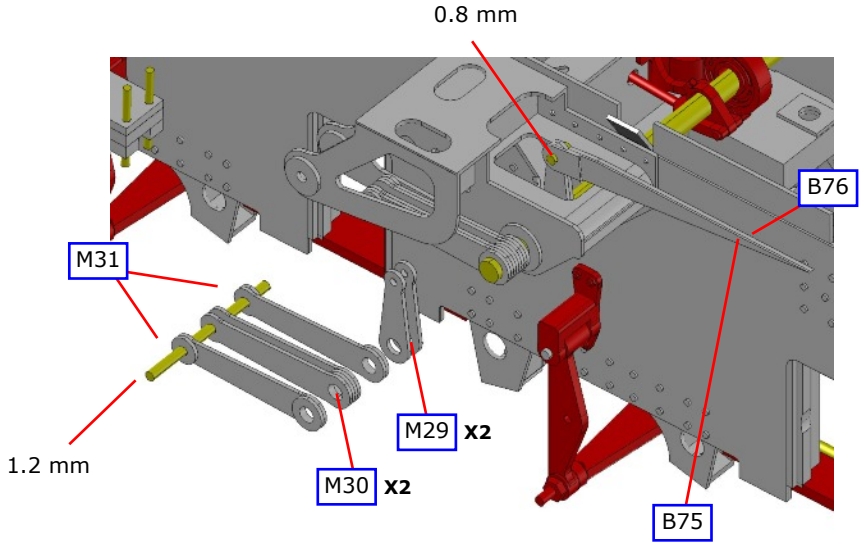
Slot the slide bars into the rear cylinder face and align with motion bracket, ensure parallel with frames and central over stuffing glad and affix to the motion bracket and rear cylinder face from the inside.

Fit the centre driver and crosshead (BR6A) connecting rod assembly, test to make sure the cross head has free and full travel, fettle as required. It may be necessary to trim the cross head front or rear guide faces or slide bar rear block to maintain full travel.

Inset the slide bar rear block and pin after final assembly. Alternatively, tap the two holes and fit small screws to hold the block in place.

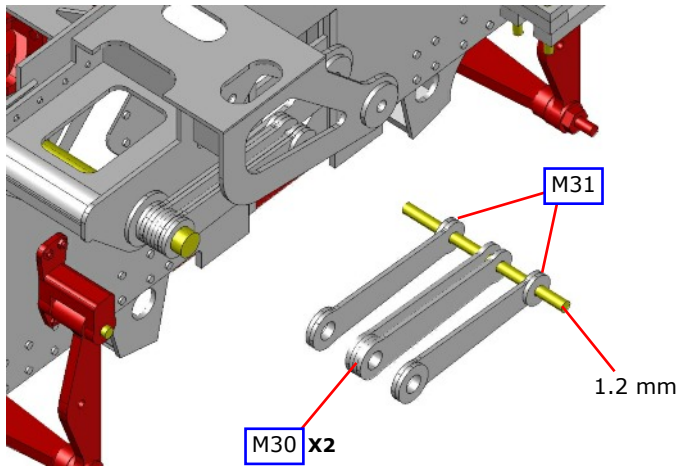
Release the four cylinder fixing screws and check the whole assembly is free to be removed, take care to not stress the slide bar joint with the cylinder or motion bracket.





Left Hand

Right Hand



REVERSING LEVER LINKS

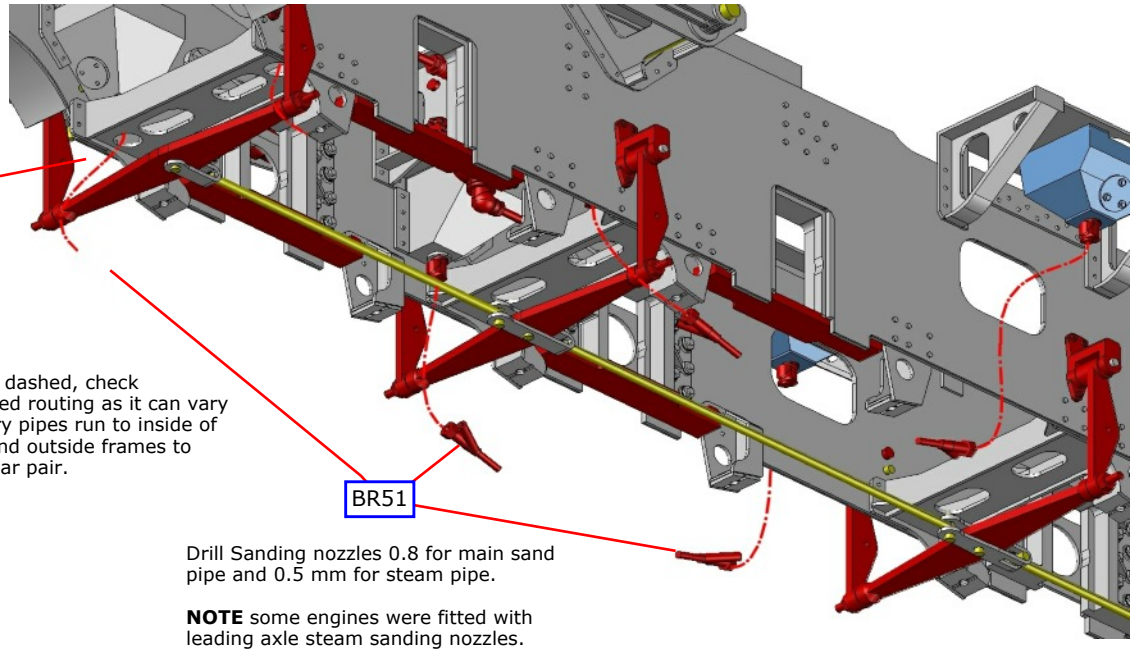
Pass the 1.8 mm weigh shaft through the motion bracket bearings and laminated M29, feed through clutch BR47 and spring cam BR48 (*note shaft of BR48 passes through hole in stay*). Secure cam spring BR49 to end of BR48 shaft and tight against frame stay.

Drill grease trap pipe holes 2.0 mm and add 0.8 mm pins, attach to stay as shown.

Laminate lifting links M30/31 as shown and secure to weigh shaft, ensure long arms are central in motion bracket and at 90° with M29. Ensure shaft free to rotate to facilitate pinning to radius rod during final assembly

Laminate B75/76 and pin to LH lifting link crank, ensure top edge is flat and parallel with footplate, this step best left to end after final assembly.

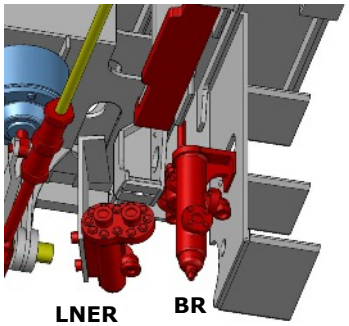
Finney7



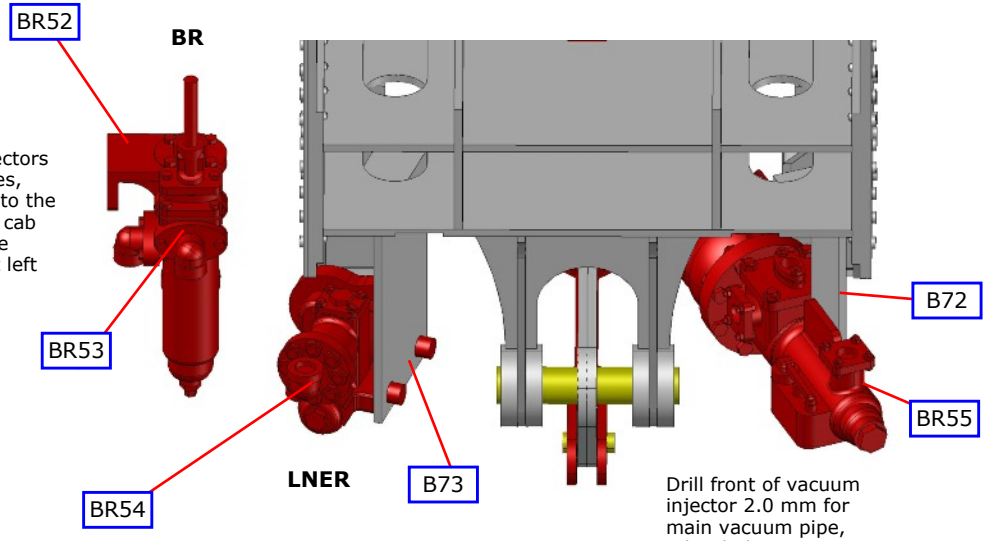
Sand pipe runs shown dashed, check photographs for detailed routing as it can vary slightly. Steam delivery pipes run to inside of frames on front pair and outside frames to behind sand box on rear pair.

Drill Sanding nozzles 0.8 for main sand pipe and 0.5 mm for steam pipe.

NOTE some engines were fitted with leading axle steam sanding nozzles.

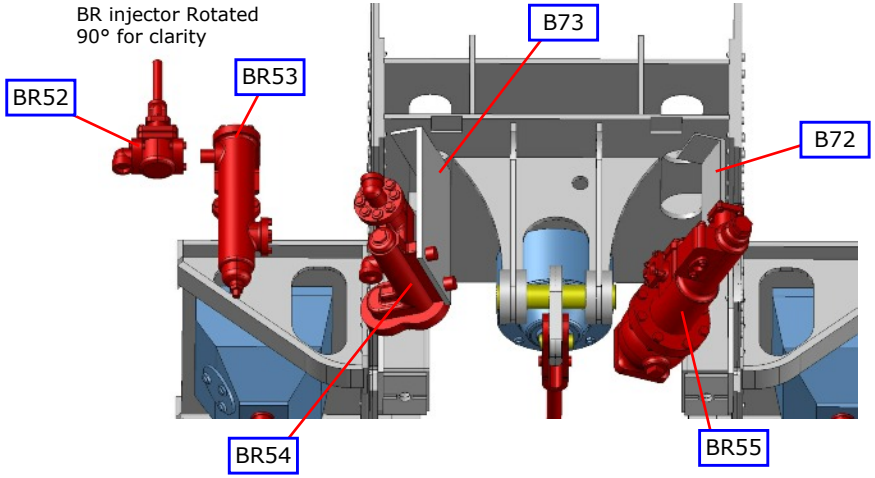


Many engines received BR injectors in their later lives, these are fitted to the inside of the LH cab step, B73 can be removed or just left in place with no injector fitted.

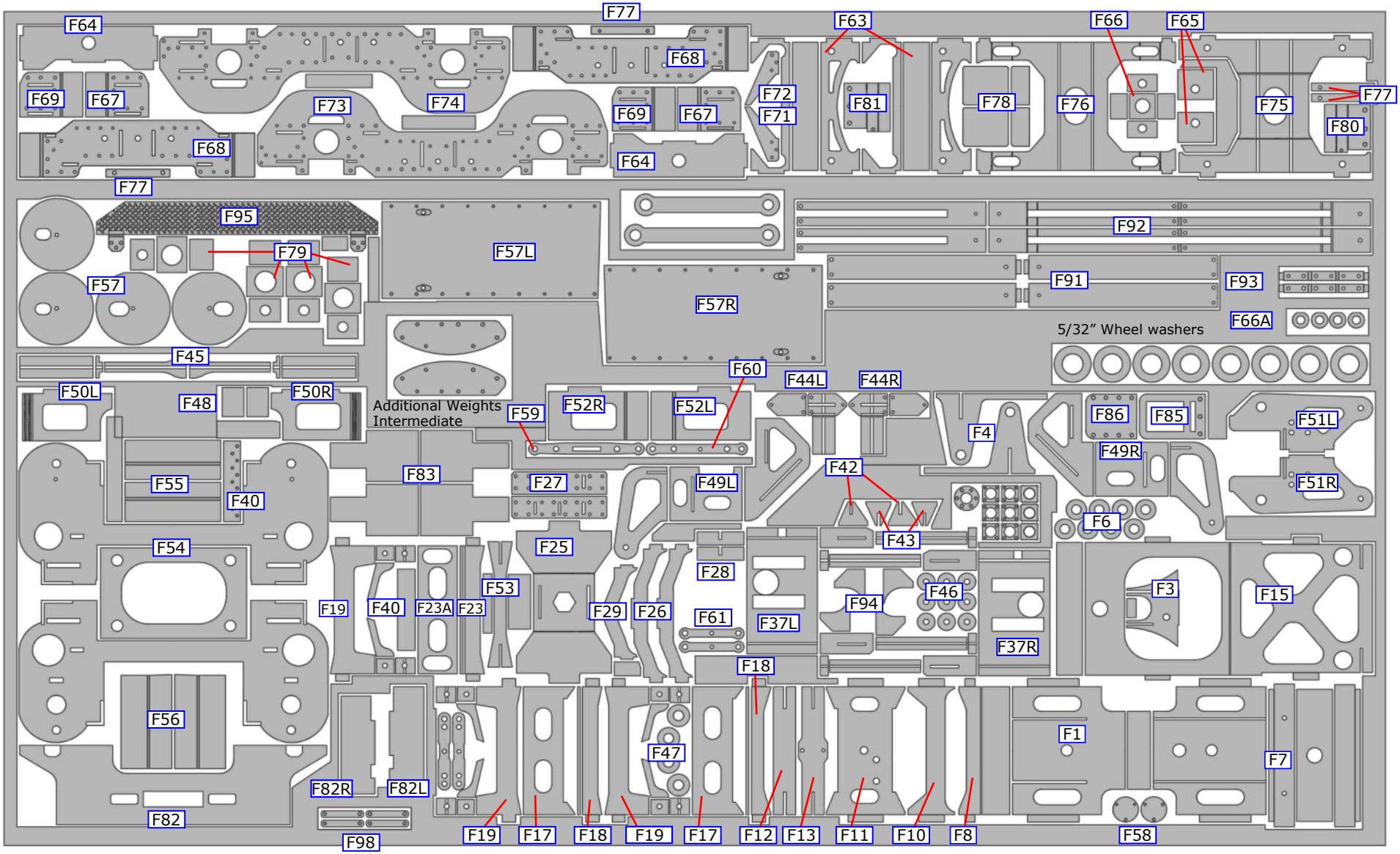


Drill front of vacuum injector 2.0 mm for main vacuum pipe, other holes to suit pipe work fitted.

BR injector Rotated 90° for clarity



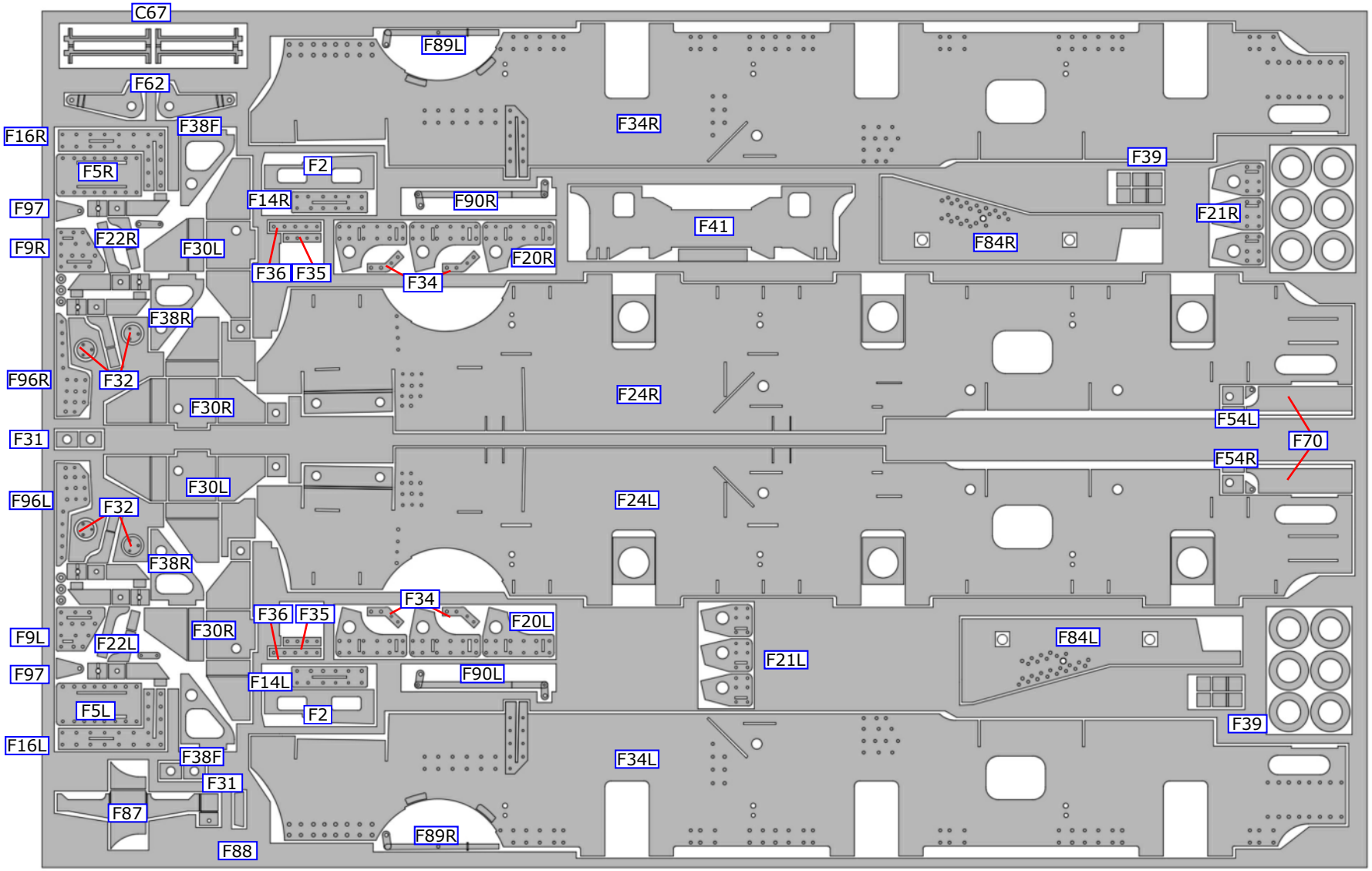
Finney7



ETCH SHEET F1

LNER B1 17 May 26 42

Finney7



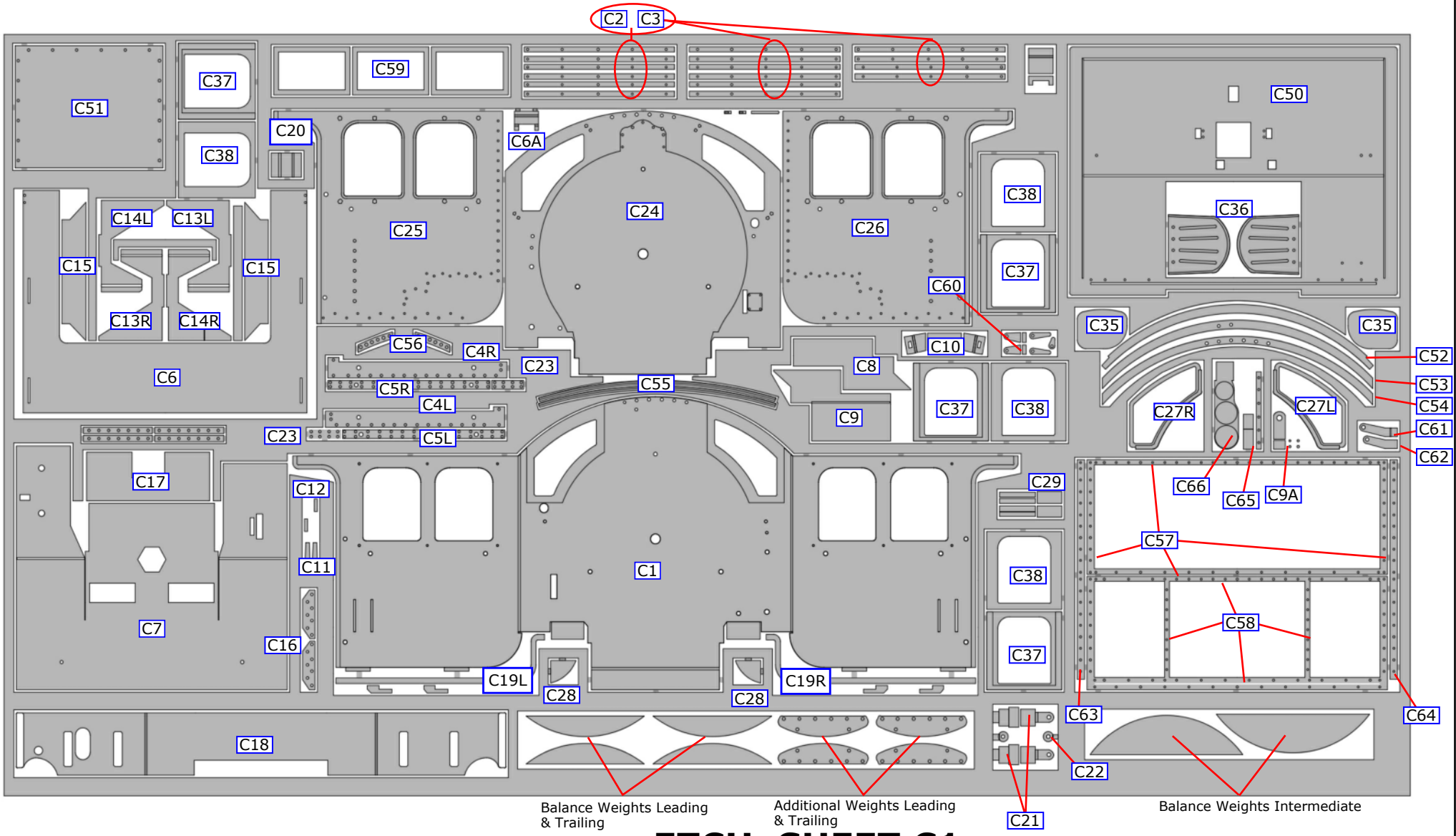
3/16″
Wheel washers

3/16″
Wheel washers

ETCH SHEET F2

LNER B1 17 May 26 43

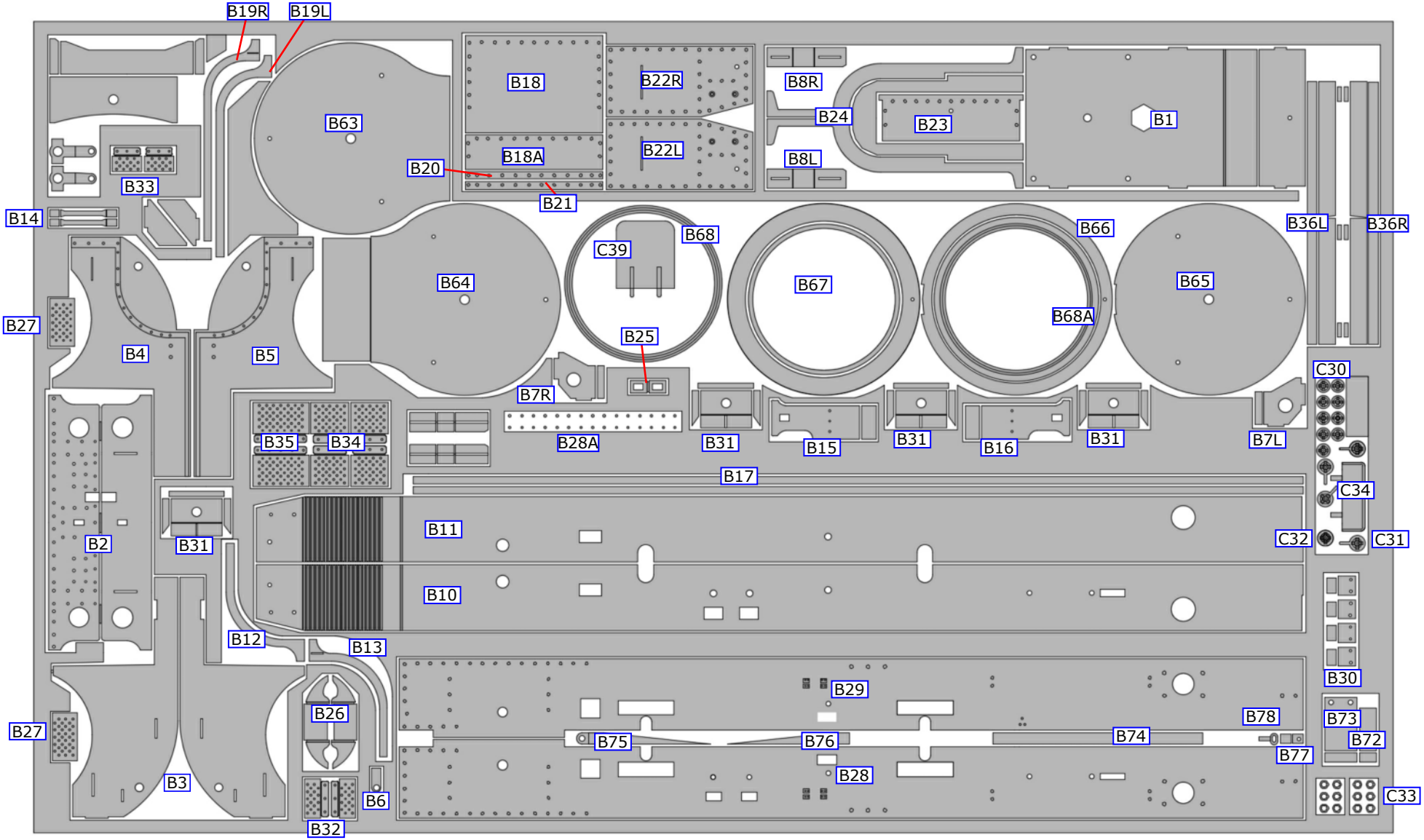
Finney7



ETCH SHEET C1

LNER B1 17 May 26 44

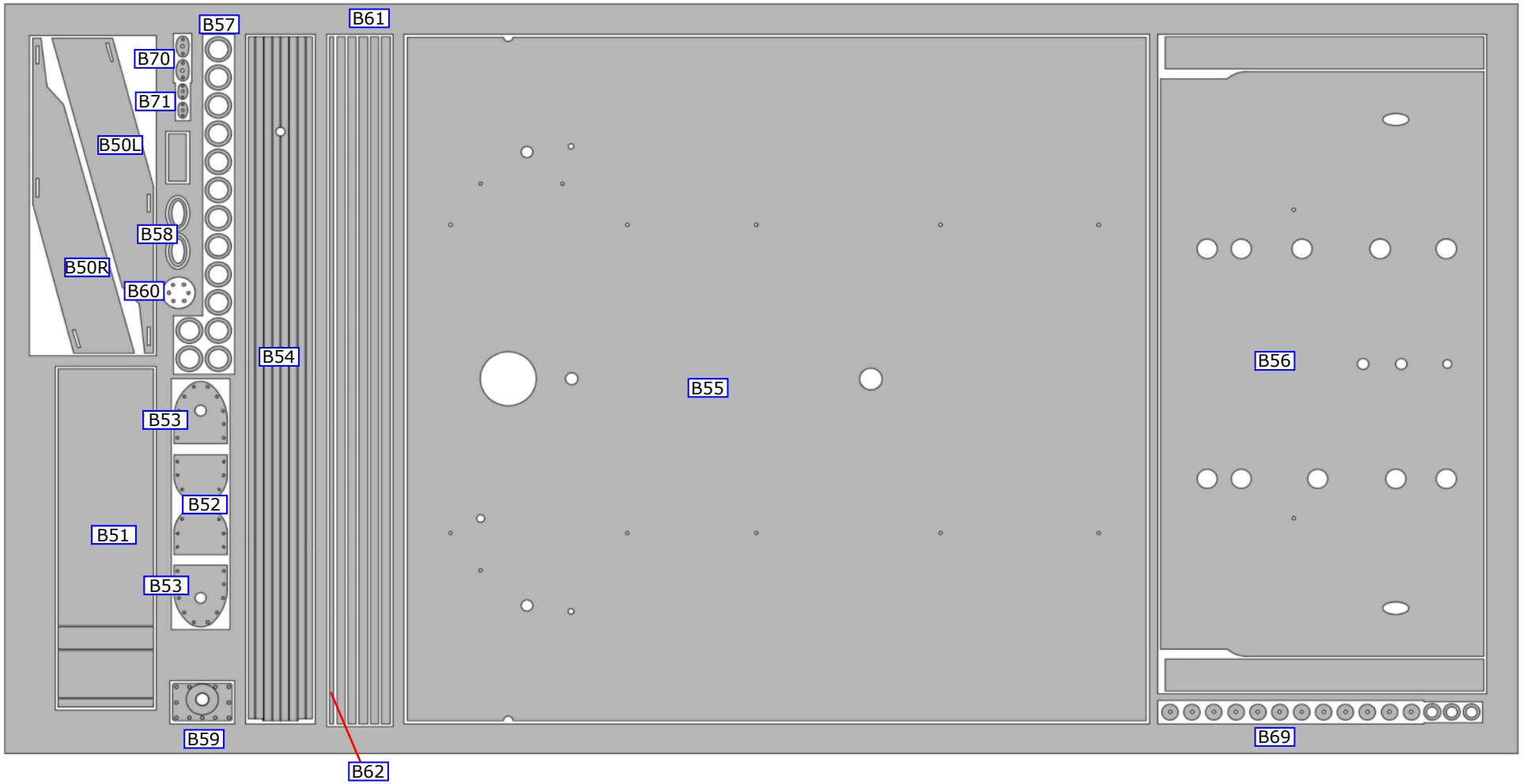
Finney7



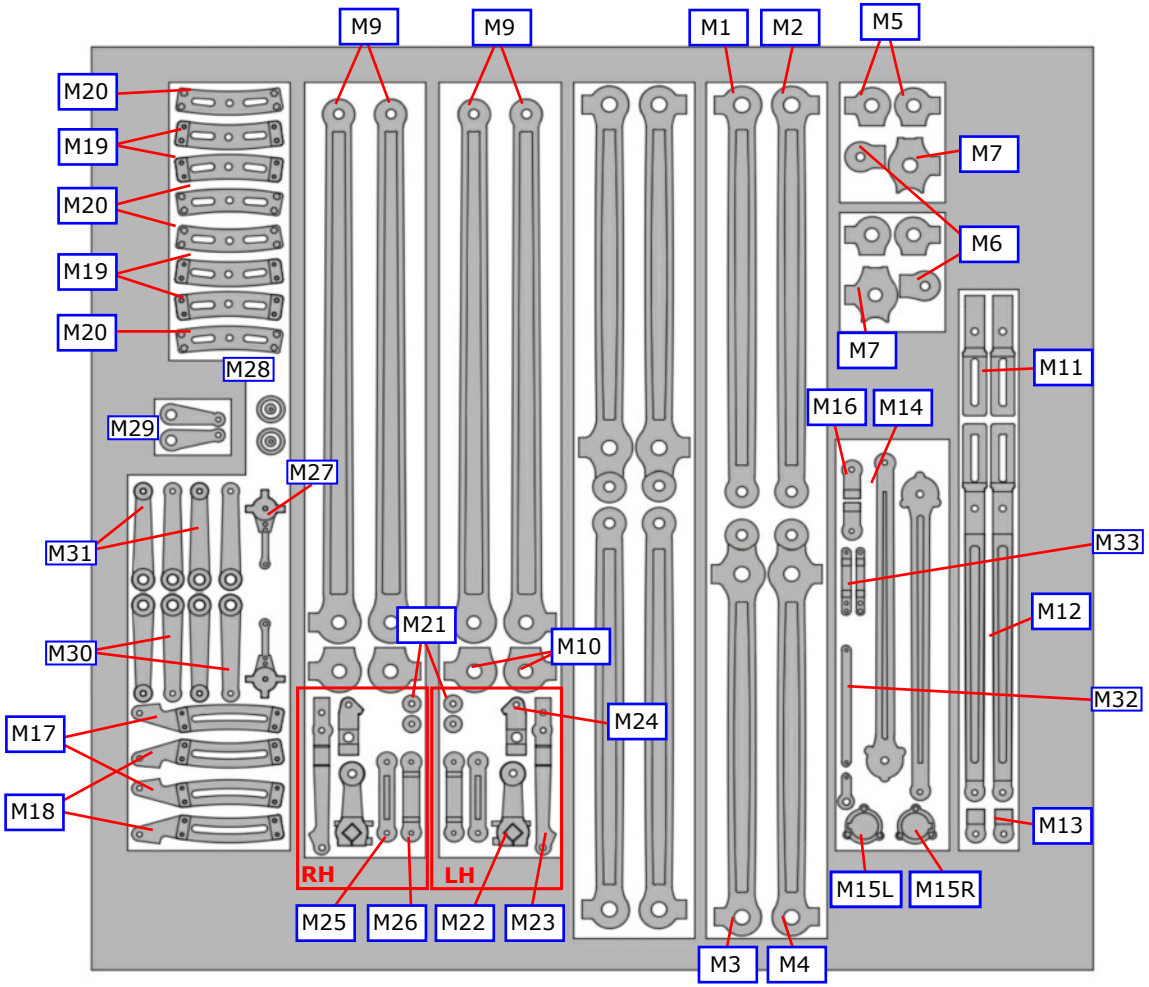
ETCH SHEET B1

LNER B1 17 May 26 45

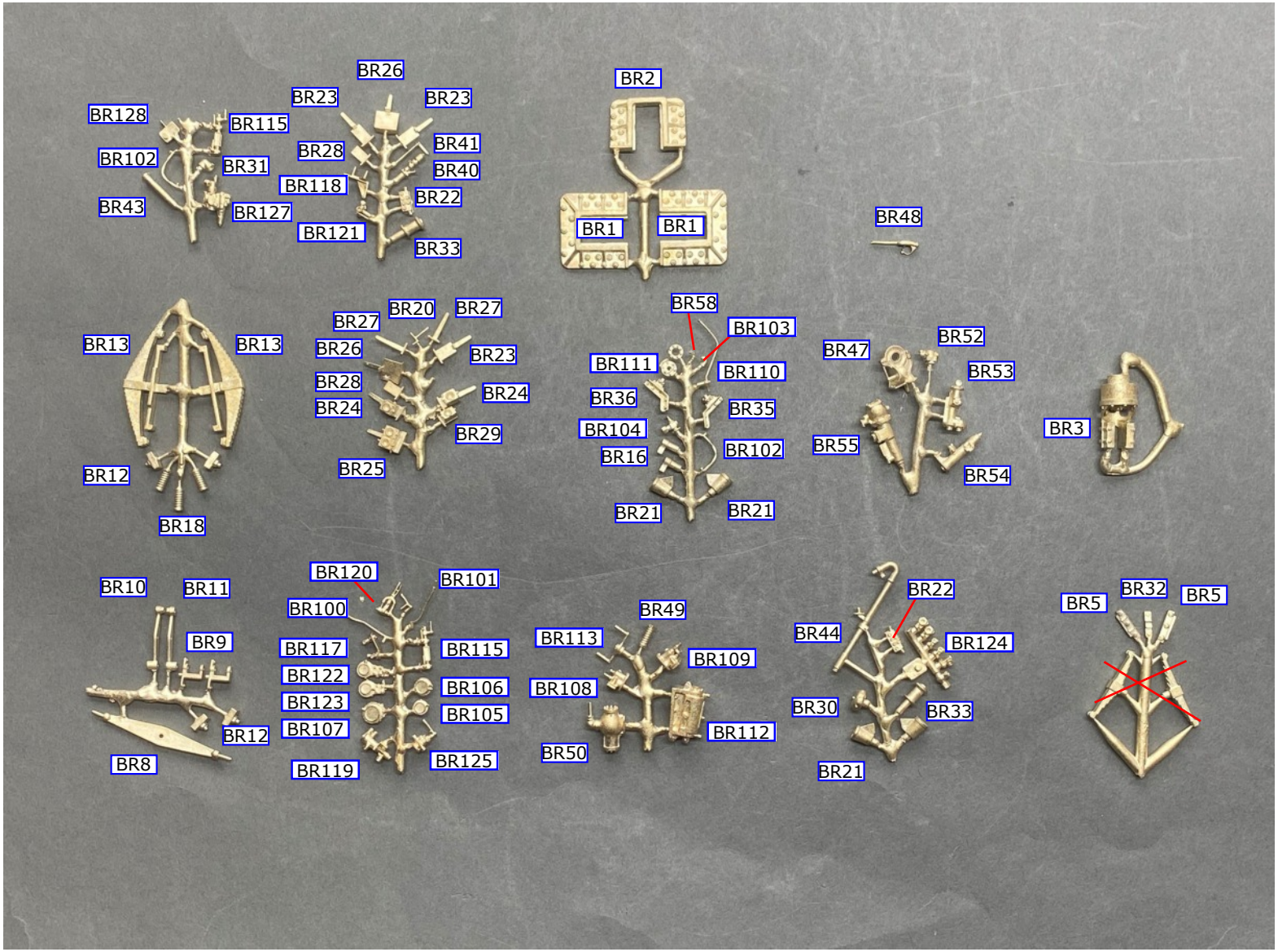
Finney7



ETCH SHEET B2



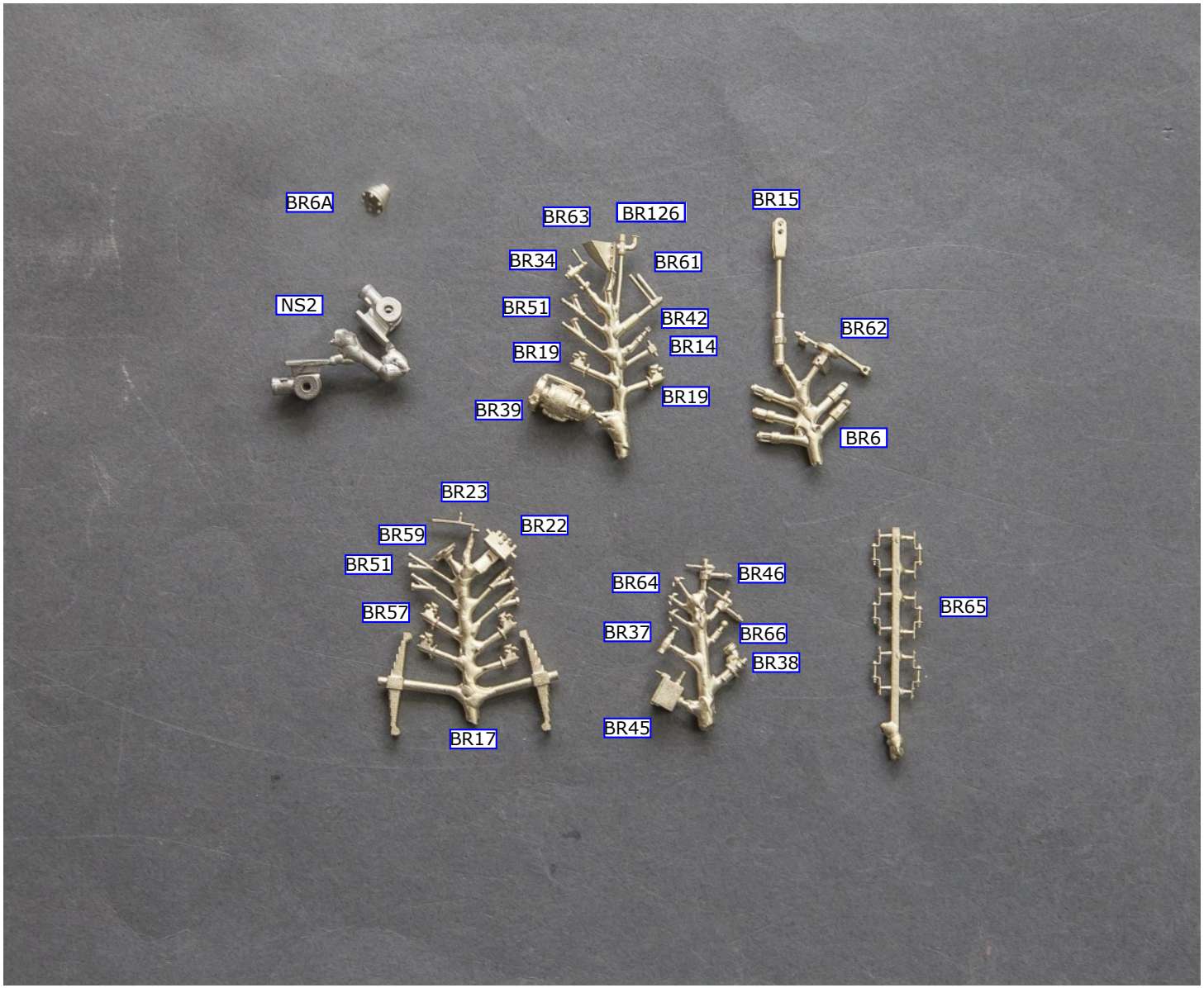
ETCH SHEET M1

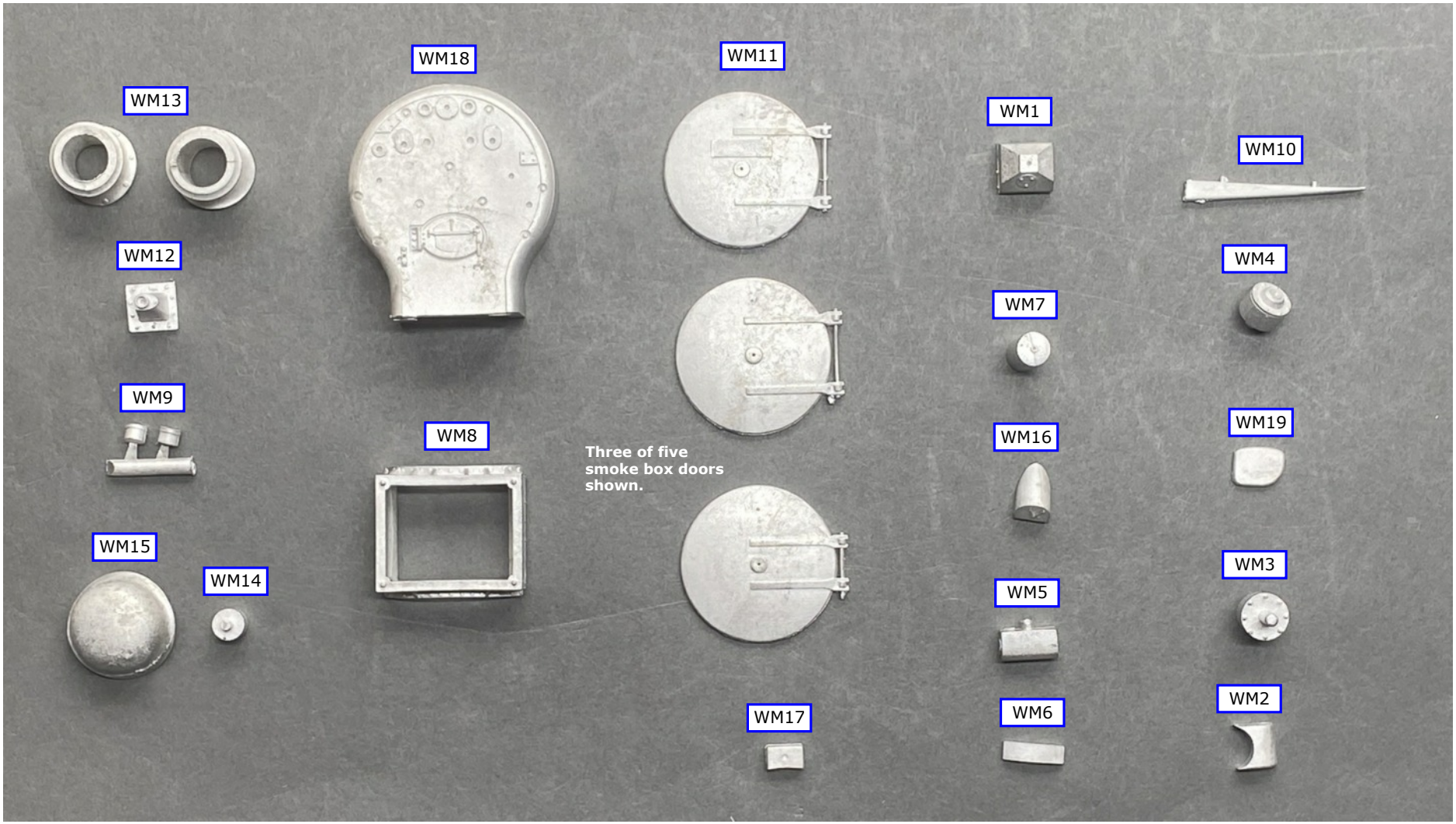


BR3 design revised, fixing is now a recess to fit over BR4 (not shown), see Page 12

BRASS CASTINGS

Finney7


BR6A
NS2
BR63
BR126
BR34
BR61
BR51
BR42
BR19
BR14
BR39
BR19
BR15
BR62
BR6
BR23
BR59
BR22
BR51
BR57
BR17
BR64
BR46
BR37
BR66
BR38
BR45
BR65



WHITE METAL CASTINGS

LNER B1 17 May 26 50