

THE 2MM SCALE ASSOCIATION

SHEET 1

INSTRUCTIONS LMS 6 WHEEL FISH VAN - PART - S2-518

READ ALL INSTRUCTIONS BEFORE YOU DO ANY WORK!!

PARTS REQUIRED FROM SHOP 2 :-

2-004 7mm DIA WHEELS ON 12.25mm AXLES - 3 AXLES
2-041 TOP HAT BEARINGS - 6 No
2-160 COACH BUFFERS (OR YOUR CHOICE!) - 4 No
2-346 VACUUM CYLINDER - 1No

PARTS REQUIRED FROM SHOP 3:-

3-113 FRAME BUSH P/BRONZE - 2 No

ALSO REQUIRED:- COUPLINGS, 0.3MM WIRE FOR BRAKES, 2No 0.6mm PINS AND 2No 12BA NUTS & BOLTS.

HISTORY

THESE VANS WERE FIRST BUILT 1946 - 7 BY THE LMS. BRITISH RAIL BUILT A FURTHER 90 DURING 1949. THE VANS WERE BUILT TO EXPRESS PASSENGER COACH STANDARDS AND COULD BE SEEN ON EXPRESS FISH TRAINS FROM THE NORTH OF ENGLAND AND EVEN FURTHER NORTH FROM SCOTLAND. SOME ENDED THEIR LIFE AS DEPARTMENTAL STOCK AS LATE AS THE 1990'S.

GENERAL

TAKE CARE WHEN HANDLING ETCHED PARTS, SOME ARE QUITE FRAGILE!!
SEE ATTACHED 'EXPLODED' SKETCH AND PHOTO SHEET FOR GENERAL ARRANGEMENT OF PARTS.
CHECK AND CLEAR AS REQUIRED ALL HOLES FOR 0.3mm BRAKE RODDING ETC.
CHECK SLOTS HAVE CLEARANCE FOR TABS. CLEAN OFF TAB REMNANTS.
IT IS IMPORTANT TO ENSURE THAT THE THREE 'W' IRON ETCHES ARE VERY CAREFULLY BENT TO SHAPE. THEY CAN BE DISTORTED QUITE EASILY! THERE IS LIMITED CLEARANCE FOR THE WHEEL FLANGE TOPS.
THE 'CHASSIS' CAN BE ASSEMBLED AWAY FROM THE BODY BY ATTACHING THE 'W' IRONS TO THE FLOOR FOR TESTING PURPOSES, MAKING SURE THE WHEELS ARE NOT BINDING ETC.
ANYONE WHO HAS ALREADY MADE UP THE BUCHANAN - FENCE HOUSES CLEMINSON CHASSIS WILL BE FAMILIAR WITH THIS KIT, ALTHOUGH SOME DESIGN IMPROVEMENTS HAVE BEEN MADE DUE TO THE DEDICATED RELATIONSHIP OF THIS CHASSIS TO BODY KIT. REFER TO THE PHOTOS 1,2,3,4, AND 5 ON SHEET 3.
WASH AND CLEAN ALL SOLDERED AREAS PRIOR TO PAINTING.

'W' IRONS

CHECK FOR AND FIT TOP HAT BEARINGS IN THE THREE 'W' IRONS. ****CAREFULLY**** BEND TO SHAPE, KEEPING SQUARE AND FLAT ALONG THE TOP. FOLD THE BRAKE SHOE EXTENSIONS TO FORM A 'Z' SHAPE TO FIT AROUND THE WHEELS. CAREFULLY APPLY A SMALL FILLET OF SOLDER TO SECURE THE ETCHED BENDS.
FIT WHEELS AND ADJUST 'W' IRONS TO GET FREE RUNNING. ENSURE BRAKE SHOES ARE NOT BINDING.
IF FITTING THE 'A' FRAMES, THESE SHOULD BE POSITIONED WITH THE END PIPS IN THE HOLES IN THE BRAKE SHOES, AND SOLDERED TOGETHER. TWIST THE MIDDLE EXTENSIONS TO CONNECT TO ANY RIGGING YOU ARE INTENDING TO FIT.
LEAVE 'W' IRON AND WHEELS TO ONE SIDE FOR NOW.

PIVOT ARMS

SEE SHEET 3 (PHOTOS AND SKETCHES), THIS SHOWS THE PIVOT ARM ETCH PRIOR TO FOLDING, AND THE VARIOUS STEPS REQUIRED TO COMPLETE THE PROCESS AS FOLLOWS (TWO OF THESE UNITS ARE REQUIRED).
FOLD UP THE FLAPS OF THE PIVOT ARMS AND SOLDER IN PLACE. THIS GIVES STRENGTH TO THE ARMS.
THE NARROW FLAPS ARE SHORT OF THE END OF THE ETCH, WHICH WILL LATER FIT INTO THE SLOTS IN THE CENTRE 'W' IRON. NOTE THESE NARROW FLAPS ARE FOLDED ONTO THE SAME SIDE OF THE ETCH WHICH HAS THE HALF ETCHED 'HINGE' TABS (AND THE SINGLE FOLD LINE AT THE CUT OUT FOR THE PIN HEAD).
THE OTHER FLAPS WITH THE SEMI CIRCULAR CUT OUTS FOLD ONTO THE OTHER SIDE OF THE PIVOT ARM (SEE PHOTO 1)
THE SEMI CIRCULAR CUT OUTS AND THE HOLE MUST BE CONCENTRIC, AND WILL NOW FORM A 'SHELF' FOR THE RIM OF A P/BRONZE BUSH WHICH WILL PROVIDE THE PIVOT POINT.
THREE BENDS ON THE ETCHED FOLD LINES ARE NOW REQUIRED TO FORM THE SHAPE SHOWN IN 'STAGE 1' AND PHOTO 3. AT THIS POINT ONE OF THE OUTER 'W' IRONS CAN BE POSITIONED INTO THE FOLDED ETCH, NOTING THAT THE RAISED MIDDLE OF THE 'W' IRON (WITH PIN HOLE) FITS INTO TWO CUTOUTS IN THE FOLDED PIVOT ETCH (STUDY PHOTOS 4 & 5). NOW INSERT A 0.6MM PIN THROUGH THE FOUR ETCH THICKNESSES TO SECURE THE TWO ETCHES TOGETHER, AND CONTINUE THE FOLD OF THE PIVOT ARM TO TRAP THE PIN HEAD AS SHOWN IN 'STAGE 2', AND PHOTOS 4 AND 5 ON SHEET 3.
CUT OFF THE PROTRUDING END OF THE PIN, LEAVING SUFFICIENT TO RETAIN IN POSITION, BUT NOT FOUL THE COUPLING BOX ON THE VAN FLOOR. AGAIN, REFER TO PHOTOS 4 AND 5.

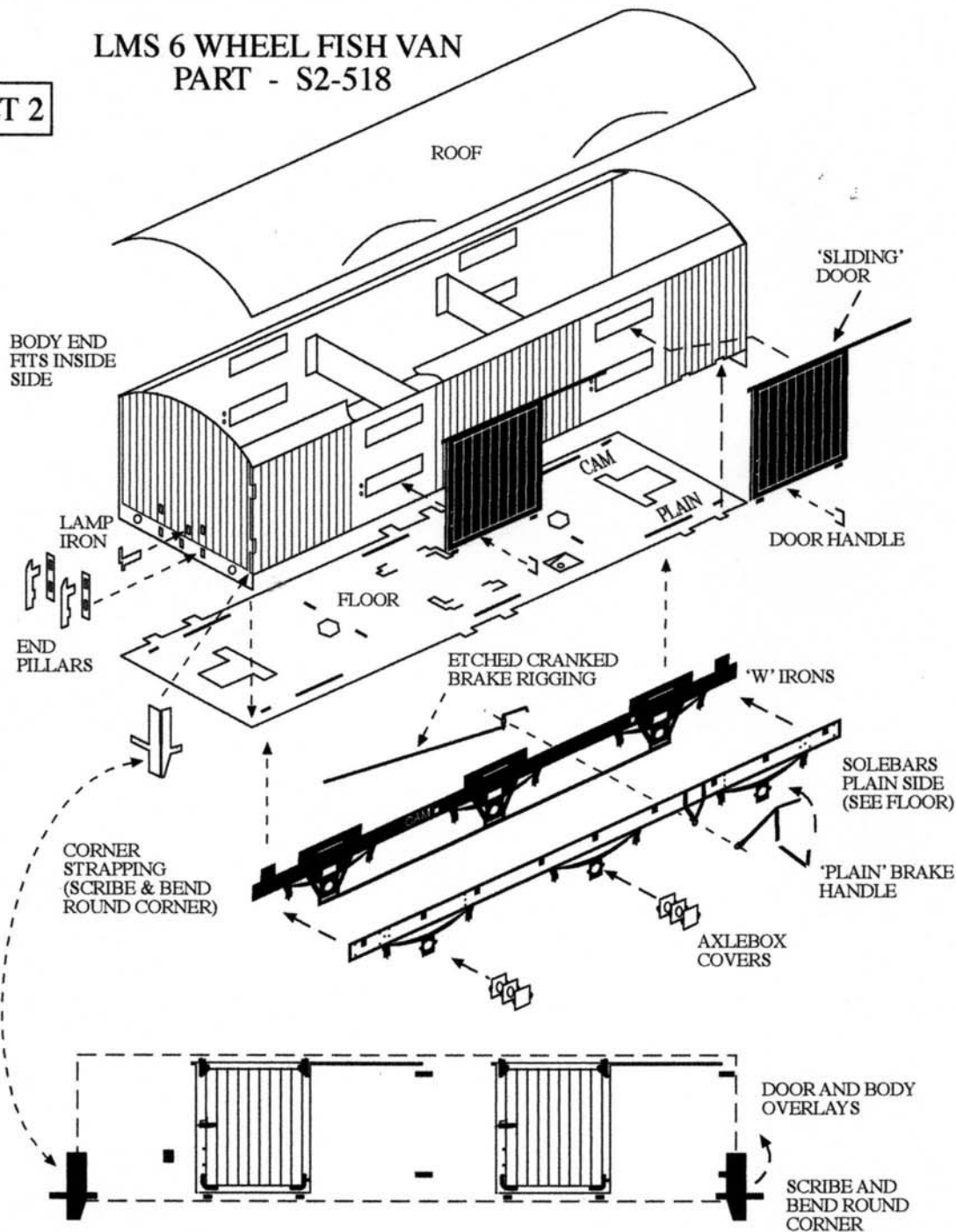
FLOOR

THE FLOOR ETCH HAS WRITING WHICH IS 'ON TOP' AND THIS WILL BE INSIDE THE VAN BODY WHEN FIXED.
TURN THE FLOOR SO THE WRITING IS UNDERNEATH AND YOU CANNOT SEE IT!
FOLD UP AND SOLDER TOGETHER THE TWO PART PIVOT MOUNT, SO THAT THE HALF ETCHED AREA IS UPPERMOST (AS IN THE PHOTOS 4 AND 5), AND THE TWO SMALL SIDE TABS FACE DOWN AND INTO THE SLOTS IN THE FLOOR ETCH. THE HOLE IN THE MOUNT SHOULD ALIGN WITH THE HOLE IN THE FLOOR. SOLDER THE PIVOT MOUNT IN PLACE.
TURN THE FLOOR OVER TO SEE THE WRITING, AND SOLDER TWO 12BA NUTS INTO THE SHAPED HOLES.
PUSH DOWN THE FOUR SHAPED CENTRE TABS, WHICH WILL ACT AS GUIDES FOR THE CENTRE 'W' IRON AND PLACE THE CENTRE 'W' IRON IN POSITION TO CHECK IT SLIDES FREELY FROM SIDE TO SIDE. (SEE PHOTO 4 RIGHT HAND SIDE).
FOLD TO SHAPE THE COUPLING BOXES AT EACH END OF THE FLOOR.
CAREFULLY HANDLE THE FOLLOWING ITEMS (CARE NEEDED WITH FRAGILE TIEBARS ON SOLEBAR/'W' IRONS)
FIX THE TWO COSMETIC SOLEBAR/'W' IRONS VIA THE FIVE TABS THROUGH THE FLOOR, BEND OVER THE TABS ONTO THE FLOOR AND SOLDER IN PLACE. NOTE THESE SOLEBARS ARE IDENTICAL, ****UNLIKE THE SOLEBAR OVERLAYS!*****.
CHECK THE FLOOR UNIT FOR 'PLAIN' AND 'CAM' SIDE. (NOTE THE PLAIN SIDE SOLEBAR IS SHOWN ON SHEET 3)
SOLDER ON THE SOLEBAR OVERLAYS, NOTING THE CAM SIDE HAS THE TWO HOLES IN THE VEE HANGER.
MAKE UP THE AXLEBOXES AND FIX IN PLACE OVER THE SOLEBAR 'W' IRONS (****NOT THE WHEEL CARRYING 'W' IRONS****).
CONFIRM WHICH TYPE OF BRAKE LEVER IS REQUIRED (PLAIN OR CAM). POSITION ETCHED CRANKED RIGGING PIECE AND SOLDER ALL IN POSITION USING 0.3MM DIA WIRE THROUGH VEES AS MEANS OF LOCATION. SEE SHEET 2.

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SHEET 2



BODY

REMOVE BODY ETCHES, FOLD UP AND USING SLOTS/TABS AT CORNERS, SOLDER TOGETHER, MAKING SURE THE BODY IS SQUARE AND LEVEL. ALIGN THE DOORS WITH THE HOLES FOR THE HANDRAILS IN THE BODY AND SOLDER THE DOORS IN PLACE.

CLEAN UP AND TIN THE SIDE AND END STRAPPING OVERLAYS (NOT TOO MUCH SOLDER!) MAYBE DO DOORS SEPARATELY? CUT THE OVERLAYS OUT 'EN BLOC' AND POSITION OVER DOOR / BODY ETCH AS SHOWN ABOVE. SOLDER IN PLACE, WITHOUT EXCESS SOLDER!

NOTE BOTTOM CORNER STRAPS BEND ROUND CORNERS ONTO THE ENDS.

THE END STANCHIONS ARE FORMED FROM TWO PARTS AS SHOWN ABOVE. THREAD THE TABS THROUGH THE END STRAPPING AND THE BODY AND BEND OVER THE TABS INSIDE THE BODY. SOLDER IN PLACE.

FIT THE SINGLE PIECE LAMP IRON BRACKETS IN THE SAME WAY.

FIT ROOF NOW? MAYBE BEST LEFT FOR LATER TO GIVE ACCESS WHILE FITTING THE FLOOR AND CHASSIS.

CONNECT THE FLOOR TO THE BODY BY USING THE SIDE TABS TO FIT THE CUTOUTS IN THE BODY.

THESE FLOOR 'TABS' ARE IN FACT REPRESENTATIONS OF THE BOTTOM SUPPORT FOR THE SLIDING DOOR MECHANISM.

SEE SKETCH FOR THIS AND OTHER ASPECTS OF THE DESIGN/CONSTRUCTION SEQUENCE.

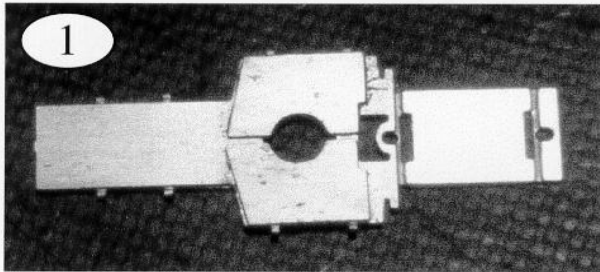
ADD THE BUFFERS, AND IF REQUIRED TO STRENGTHEN THE BODY, THE BULKHEADS CAN BE USED.

FINISH BY WASHING AND CLEANING UP, AND FITTING THE ROOF.

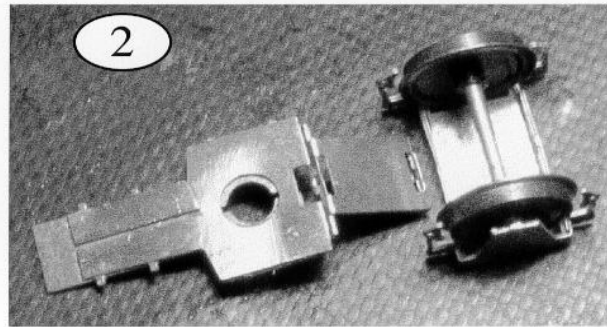
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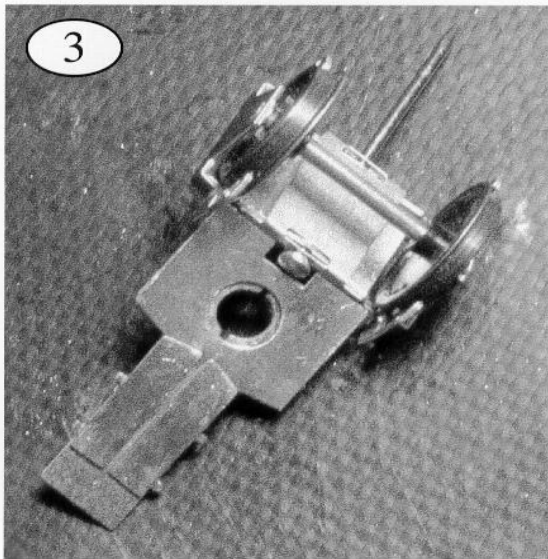
SHEET 3



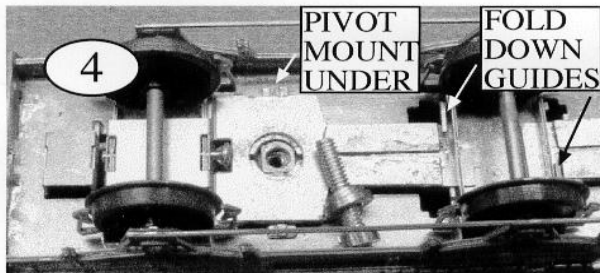
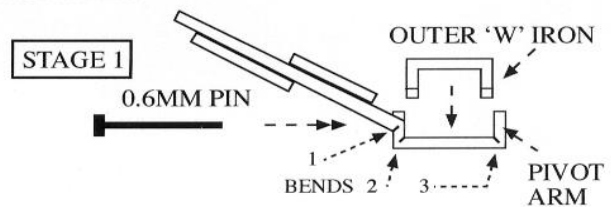
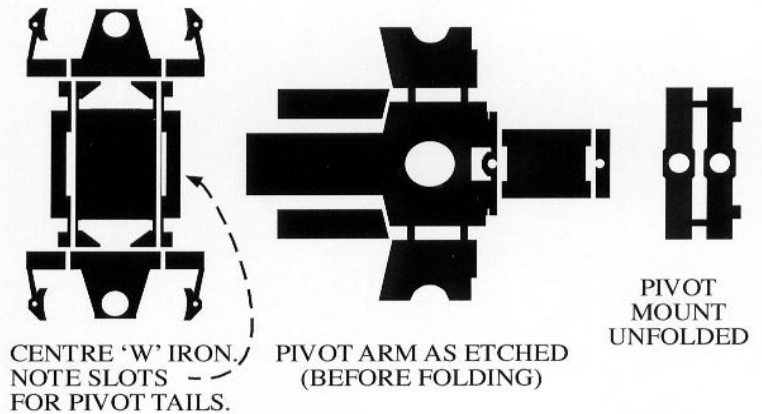
1
PIVOT ARM FLAPS FOLDED UP, NOTE FLAPS ON ALTERNATE SIDES (TOP AND BOTTOM) AND 'HINGES' STILL TO REMOVE



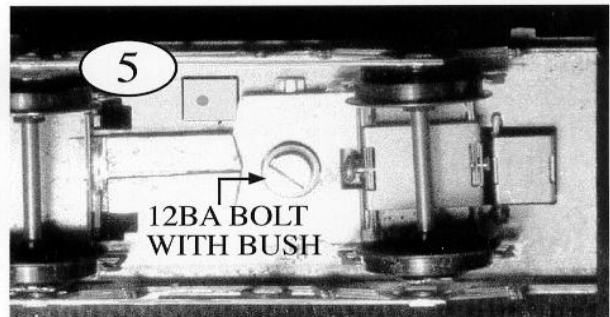
2
PIVOT ARM EXTN. FOLDED 45 DEG. & OUTER 'W' IRON. NOTE HOLE TO TAKE P. B. BEARING BUSH HEAD AND THE ARM IS SHOWN OPPOSITE SIDE TO PHOTOGRAPH 1).



3
PIN CONNECTING PIVOT ARM TO OUTER 'W' IRON. ARM STILL TO BE BENT FLAT TO TRAP PIN HEAD.



PIVOT ARM, OUTER AND CENTRE 'W' IRONS IN PLACE, WITH TAILS OF ARMS ENGAGED IN SLOTS OF CENTRE 'W' IRON. HOLE FOR BUSH OVER PIVOT MOUNTING WITH BOLT & BUSH ALONGSIDE. NOTE GUIDES EACH SIDE OF CENTRE 'W' IRON.



AS OPPOSITE BUT THIS TIME SHOWING 12BA BOLT HEAD SECURING THE PIVOT ARM. RH COUPLING BOX IN FRONT OF OUTER 'W' IRON