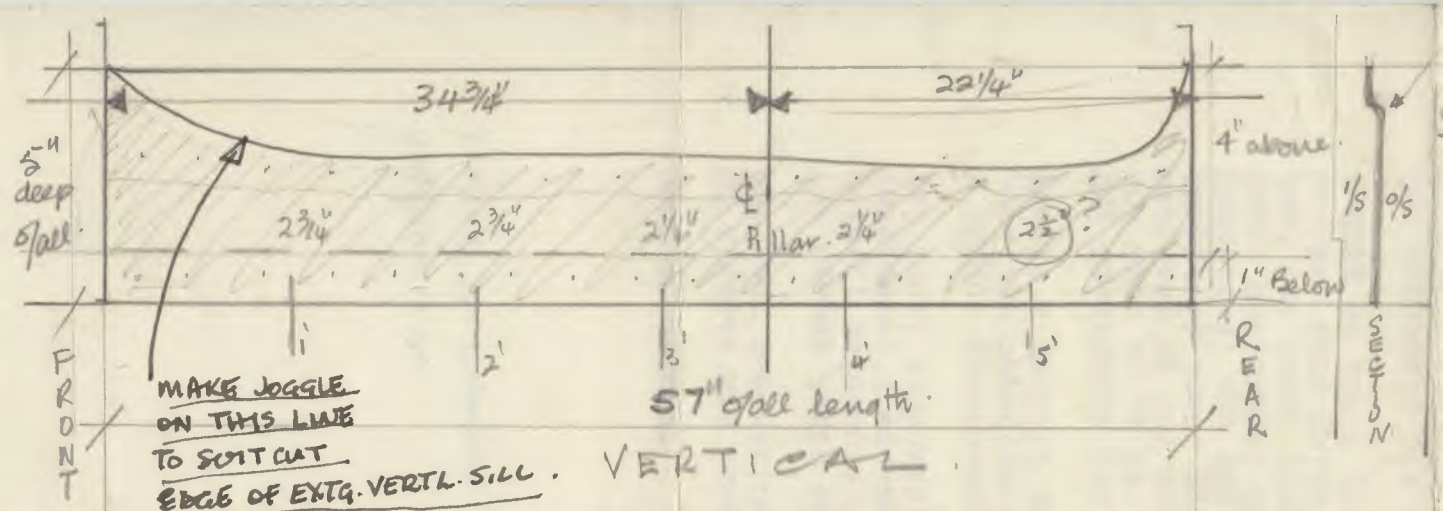
LANCHESTER.

PART IV.

Pages 146–174



Joggle

OUTSIDE VERTICAL PIECE

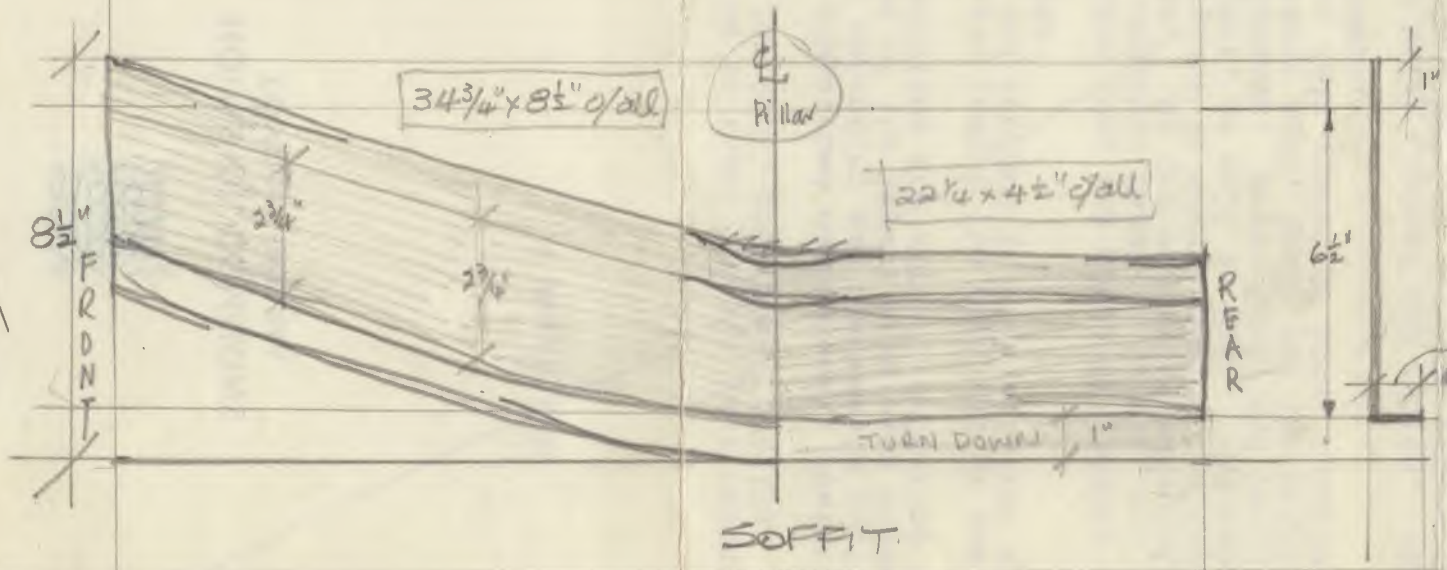
o/all size · 57" × 5" if in one piece ✓

or

if in 2 pieces a) 34¾" × 5"

& b) 22¼" × 5".

2 OFF <N/S & O/S>



SOFFIT.

o/all length 57" × 8½"

if in one piece

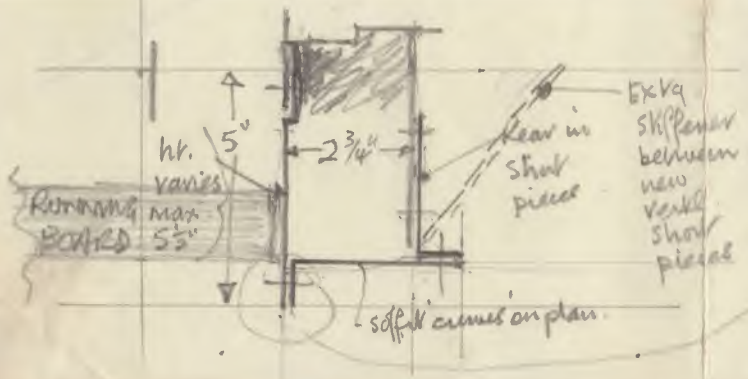
or

if in 2 pieces a) 34¾ × 8½"

& b) 22¼" × 4½"

2 OFF <N/S & O/S>

941



DETAILS MADE FOR CUTTING GALV. M.S. SHEET <from Tues. Tech> for MAKING NEW BOX SECTION SILLS.

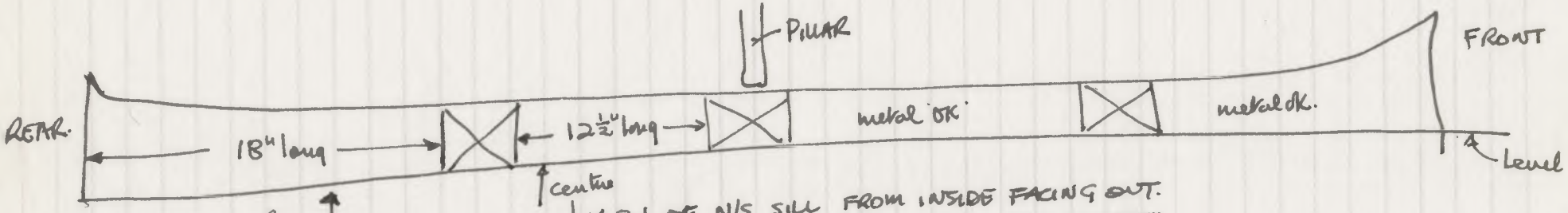
"cut-outs" in this section for 4 brs. beneath running board.

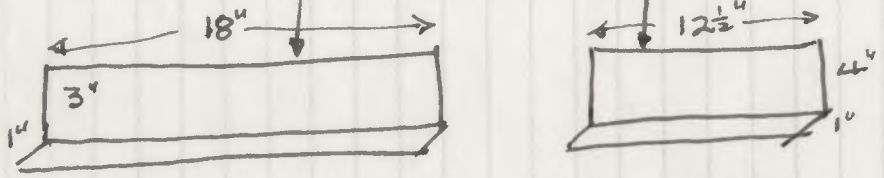
Horizontal scale 1" to 1'0"

Vertical scale ½" to 1".

? Perch – can we bend galv (on plan) to curve – run. to steel sheet

+ Small radius up piece

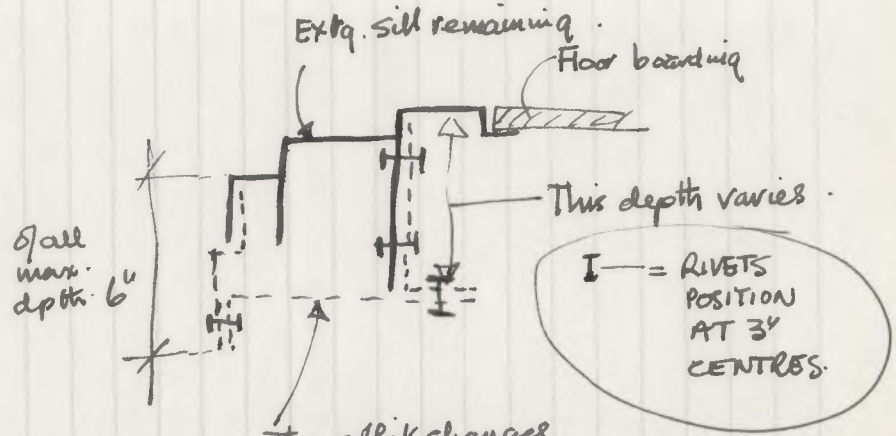




2 OFF. 2 OFF.

FOR N/S & O/S SILLS.

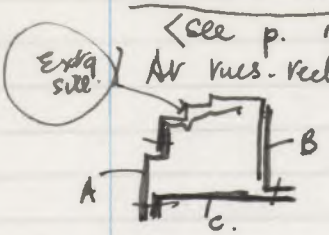
NB.
3.2 m.m. RIVETS used of three lengths to suit the thicknesses of metal to go thro'



SECTION OF SILL.

NEARSIDE SILL.

<see p. 140 re: No. 5 "Helpers".>



All rusty. Needs 3 pieces made. A. B & C.

(A) in one piece & joggled to suit cut-off vertical edge of outer sill piece.

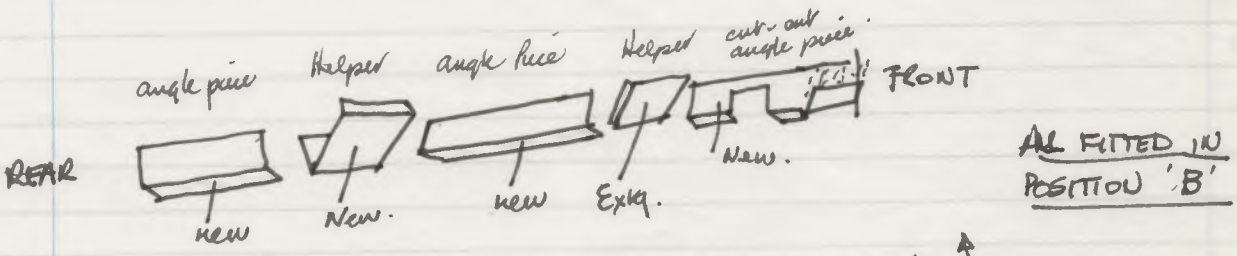
(B) in 2 pieces - long piece to front & short piece to rear. ~~+ a further piece~~ both bent to 'L' shape.

(C) this is in 2 pieces, as above; cut to profile of outer vertical & bent down. + a further piece to "make-up" at front end.

When the running board was taken off it was found to be fitted on 2 specially made cantilever bars. <see p. 137 for notes & treatment given> & the old scrap decking was previously (by another) done away with, and glass filled onto a long. guide plate which was turned over & rev. to the inner upstand & the outer edge turned over.

All this was cut away & discarded, leaving a short vertical edge at the top of the outer vertical sill to which a joggled piece (A) was riveted at 3" c/s. <rivets were long ones & through extg. inner & outer vertical sill pieces & new vertical piece>.

All pieces at A. B & C were done in galv. m.s. each primed at mod. Tech. & later given one coat of red oxide primer prior to fitg.

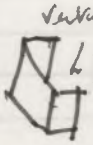


ALL FITTED IN POSITION 'B'

↑ VIEW FROM INSIDE LOOKING OUT. to N/S. ↓

At the front end a vertical L piece made to the box section & fxd. to the to cover & seal the open end of recessed extg. metal post.

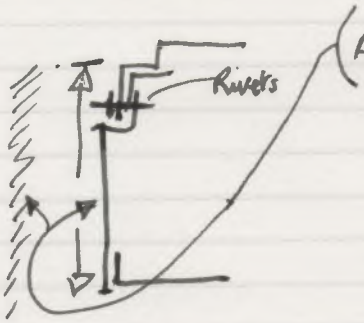
& a further vertical L piece to form a step & curved fixed next to this (towards the rear) to piece where the sill abuts the rear end of the front wing.

At the rear end a vertical  L piece made to close the box section & again for a secondary type fxg. to lower edge of front end of rear wing.

NB. It will be necessary to "inset" fill bet. the rear end of the front wing (at the bottom. corner) & the front edge of the vertical sill to form a curved "joining" piece at a later date. But this can only be done when front wing finally fxd. — Paint touch-up later also.

Final Structural + Finishing Preparation to N/S. sill. and O/S sill.

After the metal was fixed + painted (i.e. from inside + underside) the outer vertical face of the sill had to be completed.
This was done as follows:—



Area hatched.
(1) previous fumigant ho. 1. paint papered off.
(2) Painted 1 cr. glassfibre resin. activator incr.
(3) 2 layers glass fibre matt fxd.
(4) When dry. — all rough bits angle ground off.
(5) Body filler applied / rubbed dn / + further filler till a smooth vertical face obtained.
(6) 2 cts. of Fin. ho. 1. to all area of outer sill, including original top part of metal sill.

---

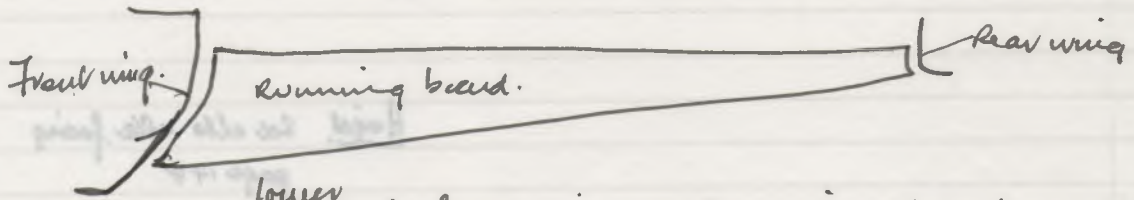
the infill pieces (C) + inner vertical piece (B) were given 2 cts. of red oxide primer (Johnstone Paints) on completion. — i.e. ready for the final paint treatment to the whole of the underside of the body.

After the outer & inner vertical pieces were fitd. + the 2 end pieces, all inside the boxing given a further coat of red oxide paint. & a coat of dark green coach paint. These areas will not be accessable when the soffit piece is fixed (c)

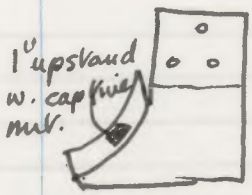
The soffit piece 'c' was finally temp. fitd., cut to shape & then given a further coat of red oxide & a coat of green coach paint prior to final fixing.

Final Fxg. of Running Boards.

It may be possible to fix the running board on 2 brkts. only, leaving a small gap between itself & the wing edges. This will allow the rainwater to get away & not rest on the running board. — Decide what to do later as the R.B. will be the last item to be fixed.



Support for outer lower edge of front wing, next running board.



These made for both running boards (handed) of thick m.s. at Wed Tech. Hded 3x for bolting to soffit of sill.
NB. Packings may be necessary. (decide later)

When all sill structurally completed.
i) Fill w. body filler all edges to close gaps on inside <viewed from centre of vehicle> & give 2 liberal coats of hammerite (silver) to all areas not previously coated.

Support for outer lower edge of rear wing, next running board.

These as for front wing but smaller.

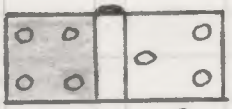
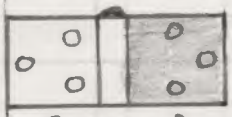
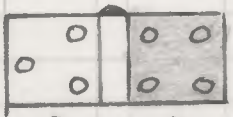
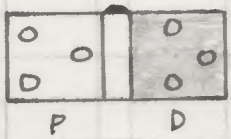
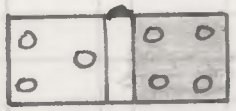
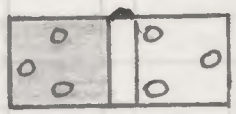
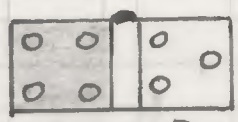
NB. 8 No. CAGES MADE FOR CAPTIVE NUTS. <4 needed — 4 to store>

4 No. cages & nuts mig. welded onto vertical upstands for frog. ends of running board to same.

150

Huiges. See also note facing page 144

DOOR HINGES.

REF.	HINGE.	TYPE.	EXTG. CONDITION.	ACTION.	
A.	O/S. FRONT. TOP.		Sloppy - re-pin if poss.	R.P.	Door hinged at Rear
P.	" BTM.		Ditto.	R.P.	
C.	O/S. REAR. TOP.		Excellent.	✓	Door hinged at Front.
D.	" BTM.		Ditto.	✓	
E.	N/S. FRONT. TOP.		Very slight amt. of play Leave.	✓	Door hinged at Rear
K.	" BTM.		Medium amt. of play - <Think this pin has been replaced w. a threaded pin> Re-pin if possible	R.P.	
G.	N/S. REAR. TOP.		Medium amt. of play - <extra. pin> a little sloppy. Re-pin if possible.	R.P.	Door hinged at Front.
H.	" BTM.		Small amount of play Leave.	✓	

N.B. • Hinge detail (Type column) showing hinge when open.

• All btm. hinges where fxd. to doors are 4x scr-screwed, otherwise all other are 3x.

(under lounge w/drw seat)

5/12/94. Took off all 8 brass door hinges & stamped letters on reverse side to indicate where taken from. <ea. flap stamped>
Also took off 2 door retainer brackets which fit into the aluminium central door pillar.

Cleaned hinges with paraffin & scraped off all remaining black paint down to brass, ready for filing, sanding & polishing.
Took one hinge to Tues. Tech. & made 8 No. new steel pins out of ¼" Ø mild steel bar, threaded one end for a short length & & fitted a nut — then welded nut on + extra weld to make a large blob for grinding down. — Ground down tops & filed to make a head similar to that on the original hinge.
4 Pins only reqd, — ∴ 4 to go into stock.
4 Pins knocked out of hinges A. P. K & G. & new pins fitted.
All brasswork filed, papered & polished ready for refixing.

Set Screws for hinges & door retainers. <sides fxd. to posts only>
(28 + 4)
Cleaned & filed & given a coat of black gloss on heads — put in plastic bag. <N.B. Screws for other side of hinge already done>

Two Cast Aluminium Door Posts. <on body>.
These were tackilly painted & had some grease & oil around the hinge areas — all cleaned off down to bare aluminium <except front edge where paint reasonably good>
Then given 1 ct. of green etch primer (2 pack)
" " " " Finigans No. 1 primer.
The 2 pillars & the 2 sills. (sills previously done - ie. remade) slightly rubbed down & given one brush coat of thin dark blue celulose in order to seal previous primer for fine keying.
These areas are now ready to be dealt with with] Done ✓
[general repainting of body. <6.7 & 8th Dec. 94>

Outside of Bulkhead.
Previously painted 1 ct. red oxide primer or Fin. No. 1. <must check to see which>. — Given 1 brush coat of Johnstones red primer — very lightly rubbed down — filled joints & some holes with filler, rubbed down — given a further brush coat of red primer. <14.12.94>

Now ready for celulose spray @ Tech.

See also p. 129 →

Inside of Bulkhead. This has been previously primed (probably 2x - see notes) already. — Where bulkheads meets top frame, under window, the joint has been filled with filler, & lightly rubbed down.

Similar treatment at bottom of 2 front door frames (where hole) — & all above given 1 cr. red primer. 14.12.94.

N/S Sill. — Paint 1 cr. of red primer on horizontal piece behind sill proper.

NB. Description of Red Primer is :—

Johnstones Armacote SP234 H.B. Zinc Phosphate Primer (R.1B), colour Red.
<For thinning & cleaning use Armasol XB200> (2.5 litres)

Front & Rear Wheel Arches.

These have been previously prepared & primed. Slightly rubbed down to remove nibs & given 1 coat of Leyland Black Gloss paint.

NB. Further coat to be given later. ✓ done

16.12.94.

Boot Edges & Lower Boot Panel.

Rubber seal around boot frame edge has already been removed leaving iron tacks to be removed. — Most were removed but the odd one broke so remaining piece punched well into wood. — <the aluminium covering is slightly hollowed where tack head goes>.

All Bostic removed from where rubber seal removed & all rebates rubbed down. Depressions filled with filler, rubbed down ready for etch. priming.

The panel at the underside rear of the boot had very slight damage at the N/S end & slightly more at the O/S end where filling was found under the paint. — All rubbed down, filled & sanded ready for etch. priming.

NB. Due to very cold weather in Garage. — not suitable for priming so left. To be dried out & primed at a later date. All above areas given 1 cr. green etch primer (2 pack) ✓ done 20.12.94

BOOT HINGES & BOOT HANDLE. 30·1·95.

These were previously taken off & left in roof room.
Generally cleaned & finished off w. Brasso. – some plain & screwed washers missing & these replaced.
The hinges are pitted but could do at a pinch.
EACH HINGE IS DIFFERENT.

Offside hinge No. is 7'2438'3 (WP left)

nearside " " - 7'2439'3 (do)

TAKE CARE WHEN REFIXING TO SEE THAT THE HINGES GO BACK IN PROPER PLACE.

<The backplates have been scratched marked by me N/S & O/S.>

N.B. The hinge joints are slightly cracked so take special care in refixing. — Hinges are possibly obtainable through the Alvis classic Car Club — but the price is exhorbitant.
The O/S hinge has quite a bit of play in it (but as the hinge has a slight crack) that has been left.

The Boot Handle — c.plating is only just acceptable, cleaned & polished with Brasso. <The key is on the ring with the door keys>

Lock ref: No. H.353/3 (A H.353/3)

The keep (in 2 pieces) has already been dealt with & all put under Lounge window seat.

8.2.95. Took off the 4 c.p. on brass door latch plates together with their c.p. screws.
All appear to be identical, cleaned, <all show some wear from door latch>. & put in bag. Lounge wdw. seat.

BODY JOINTING STRIPS. — Note from Morgan Book — the best is

EVERFLEX VYNIDE BOUND BLACK. – take care when fixing to make sure it is right – coat b/s with waxoil prior to fixing, or b/s. of metal to be joined, before fixing, pull right to give a neat fit before finally locking-up.

→ See also p.24 of "The Driving Member" - April 1995 for rubber on three rear bolts. for frg. rear bumper.

Also note how rear overriders on rear bumper are fixed. "upside-down" to front ones.

See also p. 168 for 2. rear bolts.

Offside bracket taken to Kechpm. 11.2.2000 - bent back to shape of nearside one.
<The bolts are made from cast steel - can be bent.>
Some Paint scraped off when bending, filed, rubbed down & Zeta black paplac.
Both bolts fixed to chassis 14/2/2000.

CHASSIS PAINTING RECOMMENDATIONS. <from Morgan>

1. Scrape & wire brush to bare metal to remove all rust.
2. Rust-inhibiting primer, such as BONDA PRIMER.
3. TEKALOID as a finishing paint.

I also consider, after 1, applying Sensilite - prior to 2. above.

NOT WE USE THIS see later

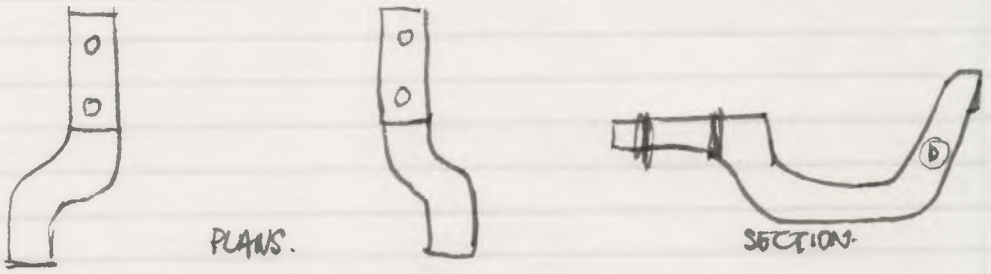
Morgan then recommend using "Waxoil" whilst spray on all chassis & underside + injecting Waxoil into box section.

REAR BUMPER CAST IRON BRACKETS. 3.3.95.

Removed above together with the 2 plates to captivate the bolt heads, which goes in the top of the box section at the rear end of the chassis.

The N/S bracket is ref: P297394A (red oxide)
" O/S. " " " : P297393A. (" " + green glass)
" 2 bracket captive plates are ref: No. 412599.
(Page 33, of parts book)

TAKE SPECIAL CARE WHEN REFITTING TO SEE THAT THEY GO BACK TO THEIR RESPECTIVE SIDES.



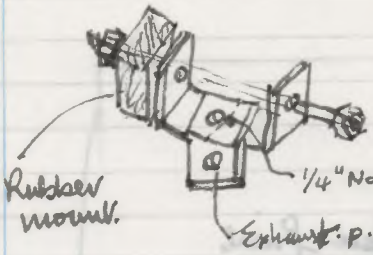
The offside bracket is not vertical at the end, as the N/S one is, therefore when fixing rear bumper it is necessary to pack out same with washers, This makes bumper parallel, but more important by using washers is avoid the lower edge of the boot lid being damaged.

2. New STAINLESS STEEL channel plates made & orig. ones discarded. 'U' section bent at Tech & drilled to suit.

2. Extra. brkts. taken to mud. Tech. - all paint mirrored stripped off & later angle grinded & elect. wire brushed. - treated w. Tech. liquid rust. Killer. — At home, treated w. Sensilite. & given 1 cr. etch primer followed w. 2 cts. red. Johnson's Primer, Rubbed dn. w. wet & dry met. & 1 further coat of red primer. — Rubbed down met. & given 1 cr. Leyland Black, wet. dn. again & a further coat. — rubbed dn. red stopper, wet dn. red stopper & 2 cts. Jaguar. black. — final light wet dn. & final coat of Jaguar black. (16.3.95)

Existing rear exhaust p. bracket.

Fixed under rear o/s chassis member at extreme end.



I think this may not be original.

Nothing done to this other than S Voded.

In Roof Room

CHASSIS IDENTIFICATION MARKS.

& BACK AXLE

on O/S. chassis in Eng. compt.

TYPE LD 10 CAR No.
L 63324
THE LANCHESTER MOTOR CO LTD
COVENTRY ENGLAND

Brass plate.

LIST No.
35052.

Brass plate.

on Back Axle.

AXLE LIST BRAKE.
31358 NGS. 31654

Brass plate.

also. cast on centre of axle.

ENV SERIAL No.

on front suspension Longitudinal leg on N/S.

DAIMLER
ANDRE - GIRLING
SUSPENSION
PAT. No 432157/34

aluminium plate.

Put under Quink Ink Bottle in T.V. cupboard.

NB.

Underside of body.

Although this looks complete, before final fxg. back on to chassis. (ie: when body completely repainted) rub down lightly to form key & give a further coat of coach paint.

AV Tech (Wed). BODY/chassis Fxg. Blocks.

These were V.O. sometime ago & stored. They were covered in old paint and bitumin/undercoat.

Taken to Wed. Tech. & using an angle grinder & soft pad. Top, btm. & all edges cleaned up. & labelled for refixing. as page. 136.

SAT. 18th. March 1995. — Body back on chassis.

Due to chassis & rear axle not bearing started to restore. & that the Wed. Tech. might not be running next year session (eg. Sept 95 on) ~~part done~~ body put back on chassis w. assistance of Joyce, Marion, Julie, Arthur & me. — 14 fixings. (2 of which are bolted to captive nuts under side of rear seat position.)

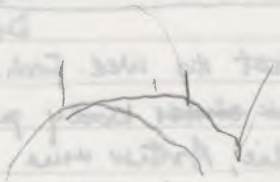
NB. When taking off! keep them 2 separate. & note where each bolt &c., goes as bolts are of differing lengths. Also paint nuts, bolts & washers before refixing & when fxg. coat threads previously with copperslip.

Lanchester — General Notes:

Distributor DVX4-A Ⓐ 40112A.
BS 49 >>> → 848

Points.
Condenser
Insulation Block.

Metal to Metal edging roll.



2/14" 2.8 <vertical lay down>
2/6 2" 12.4 <wing>
2/9" 1.6 <vertical front>
Apron. 4.6
21'0" TOTAL <or 7 metres req'd> + Rear wings.

NB Sample in packet in roof space <on electric drums>

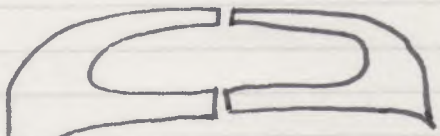
ORDER OF REMOVAL OF INTERNAL LININGS & TRIM.

NB. Prior to major removal the covering to the 2 centre panels (ie. covering to face) & the lower portion of both to 2 rear wheel arches removed in order to prepare these areas for painting etc.

Also carpets & their edgings & vertical coverings to rear seat upstand & 2 sides of front ~~seat~~ footwell previously removed.

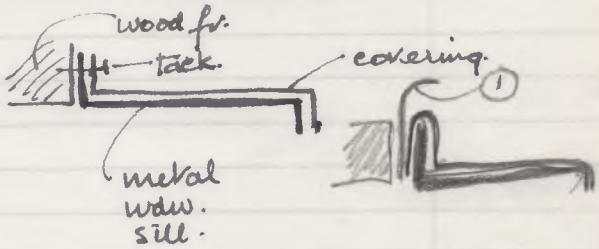
MAJOR REMOVAL.

(1) 2No. Rear window panels.



These are tacked into position using 1" panel pins punched through covering to ash framing. — Note, holes in metal surround holding rear wdw. in place for tacking lining through this.

(2) When (1) is off. the covering to the rear window shelf can be removed, This is pinned & glued.



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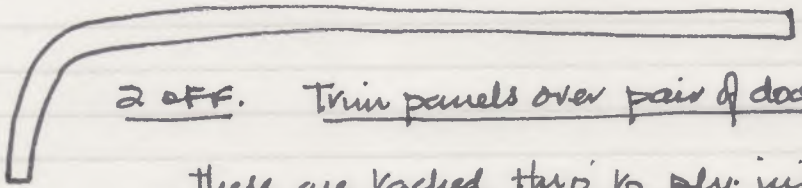
(3) Cover to top of front window.

This is next removed as the 2 extreme ends cover the face of item (4) next.

---

(4)



2 OFF. Trim panels over pair of doors.

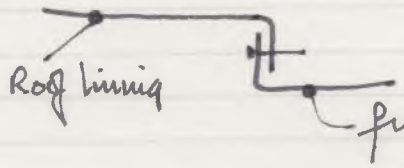
These are tacked thro' to ply. insitu pieces fixed to soffit of door frame heads.

---

(5) 2 OFF. Trim panels at sides of front wdws.

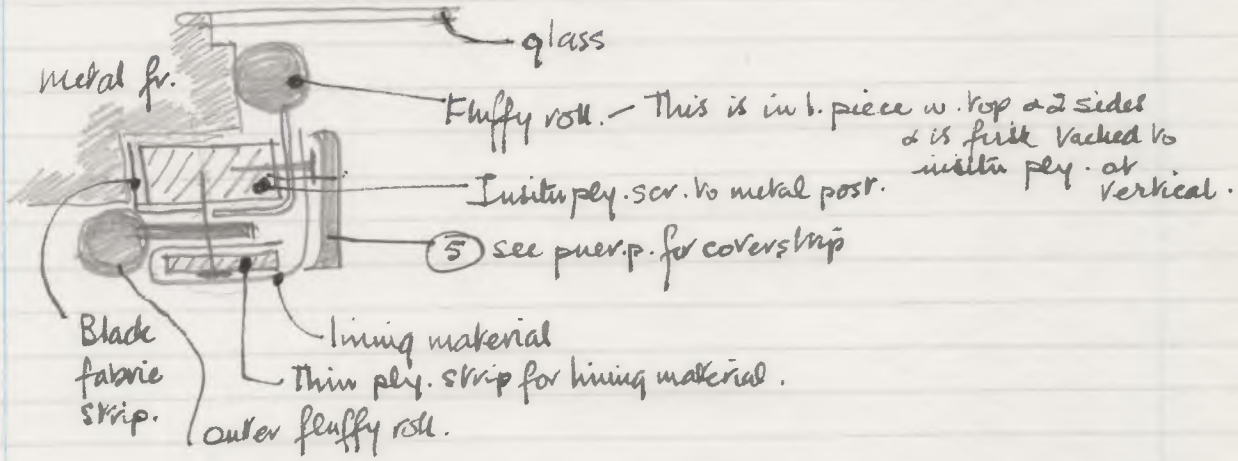
The trim. edge is tacked to top corner of under dash ply. insitu piece.

NB. After the removal of (5) there is a complicated arrangement for fixing the fluffy rolls and the narrow ply. material covered trim pieces (eg. soffit & head together)

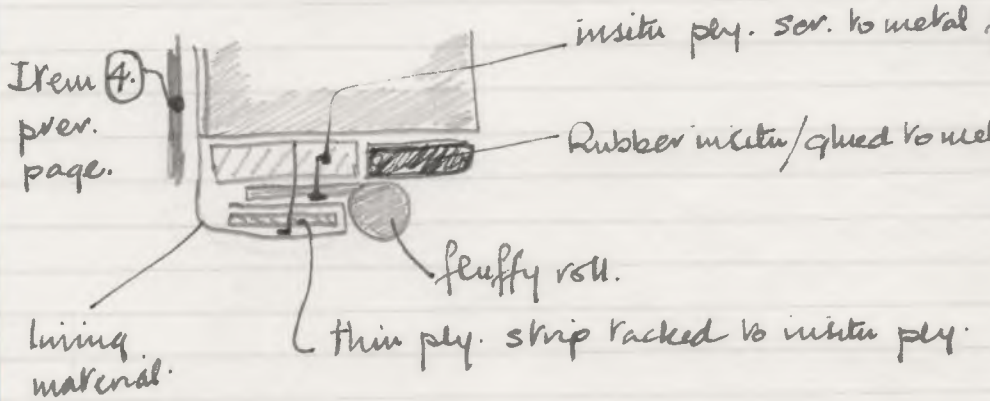


The roof lining is tacked down at the edge over doors & later the door soffit lining is tacked down at vertical face over both coverings.

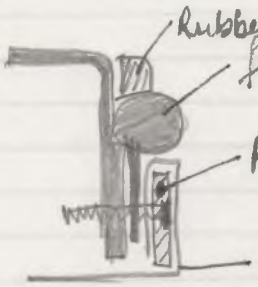
FRONT N/S WDW. PILLAR DETAIL.



FRONT N/S. DOOR HEAD.

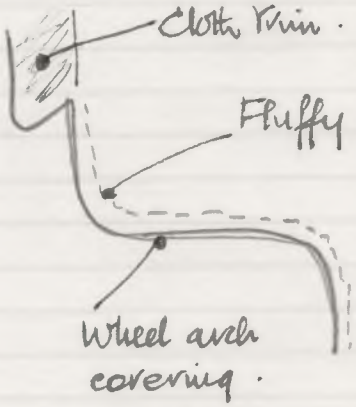


FRONT N/S DOOR POST. (Centre post).

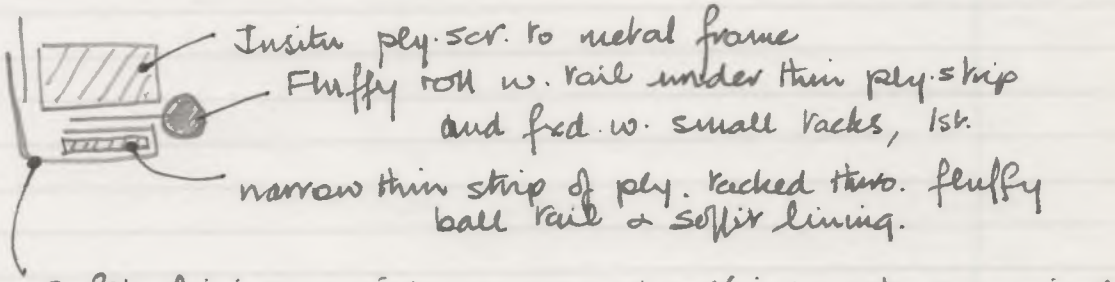


N.B. Lower ends of fluffy roll centre core cut short & material tucked into btm. of hole for ventilation.

REAR N/S DOOR. — Similar at centre post & at head.

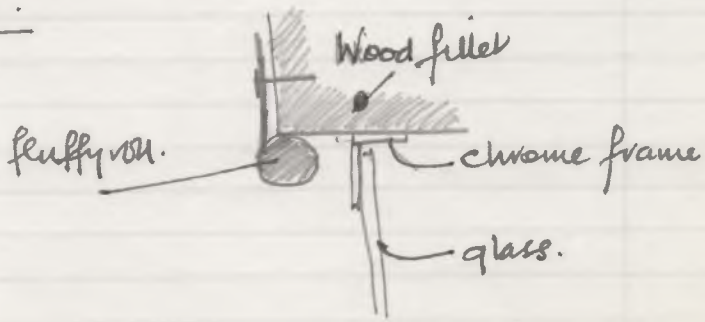


N/S REAR ROOF TO VERTICAL.

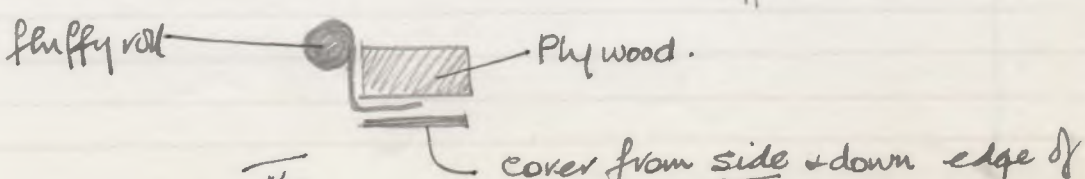


FRONT WINDSCREEN TRIM.

AT HEAD.

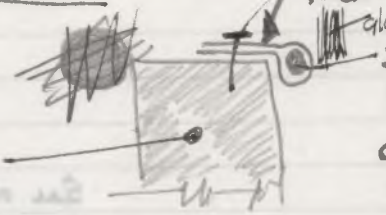


AT BOTH SIDES



Front windscreen (cont'd).

AT BTM. of WINDSCREEN

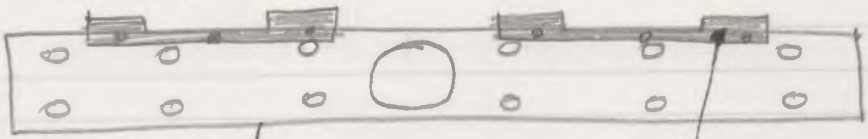


NB. from photo — I think the leatherette roll goes against glass & the leg of the roll is nearest rear of car. Tacked on top of wood side.

Small section brown leatherette tacked on top edge of wd. bearer.

This is the only leatherette now which is around front windscreen

PANEL IN ROOF for SPEAKER.



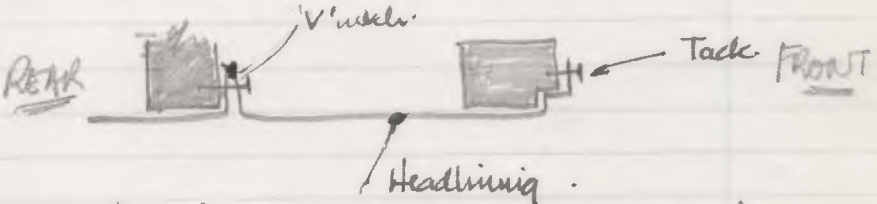
front edge tacked to wood frame over window.

2 metal plates fxd. into slots in rebate of framing in roof.

HEADLINING.

The headlining is taken off from the front working towards the rear.

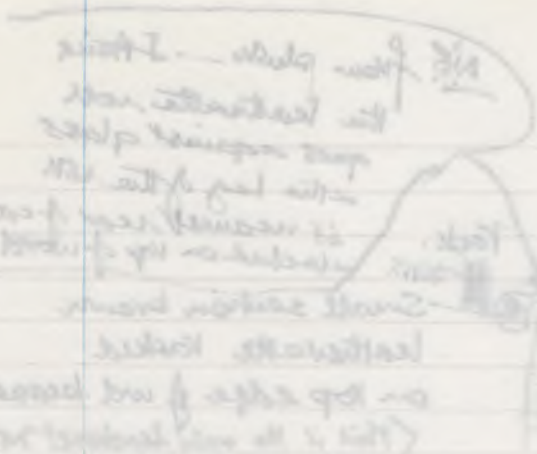
When refixing start at rearmost beam tacking on front vertical edge.



Headlining is stitched together on line of front btm. corner of roof beam and tacked w. very sm. tacks at 1"–2" c/s.

NB. the centre of the roof beams are marked with white chalk & the c/L. of the headlining has a small "V" cut in edge of 1" double upstand.

NB. The rear o/s. edge of the headlining is slightly narrow at the bottom vertical edge, so allow approx. 3/4" more for easier nailing of new lining.



See also p. 158, & p. facing 132

FRONT WINDSCREEN PROPER.

All screws taken out in order to remove whole screen, but found to be a very tight fit. — so refixed screws.
On inside, there was a gap bet. chrome frame & surround so filled with tube filler. (approx. 1/3rd. tube used).

REAR WINDOW SHELF. 26/3/95.

Taken out for stripping & repainting

Refreshing this 12/3/96 — Have not found any notes of what I did to this shelf.
But, I remember, stripping b/s. w. nitromors at Teds; wire brushing, to bare metal, 1 ct. etch. primer, further grey or red primer & about 4 cts. Black Jaguar, rubbed down w. wet & dry (wet) bet. coats.
This & screws for same then refixed in original position.

ROOF TOP. There are a few slight dints on the N/S. over & towards the centre pillar just inside the gutter edge.
— Unable to straighten — so will fill. (filler scraped)

UNDERSIDE OF ROOF. — Prev. (orig) 1 spray ct. of etch primer on alum. but bits missed, & roof beams, 1 ct. celulose black.

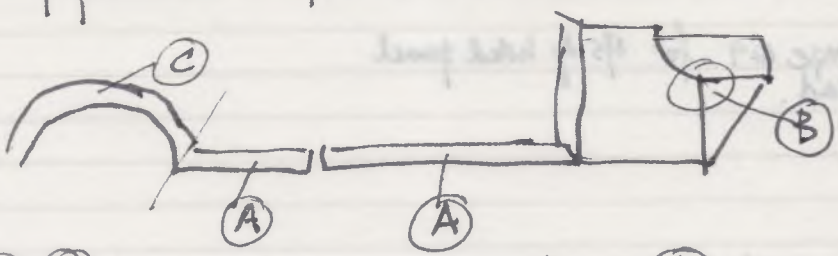
Alum. given 1 brush coat of green etch. primer & 1 ct. alum. paint.

Some screws have rusty heads. — Elect. wire brushed & metalwork given 1 ct. black gloss. & roof beams touched-up w. a thin coat of black gloss.

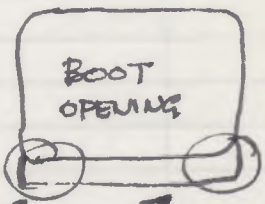
Wiring in roof taken out & details for refixing new, (electrical position) recorded in section one — in space available in that section.

Preparation for a final (1st. Part) painting to O/S of body proper.

(A.) New vertical part to 2 SILLS & original upper part. rubbed down over. finished w. filler, & 3 cts grey cel. primer (w. brush) — rubbed down w. wet & dry (wet) further 2 coats (w. brush) & rub dn. again. a.b. where bare metal found — 1 ct. etch. primer (2 pack) before any further cel. primer was applied.



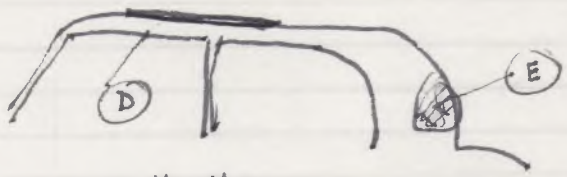
(C) & (B) areas similar treatment as (A.) above



Around boot rebate & under boot vertical edge.

Similar treatment to (A) (B) & (C) above — The 2 lower edges at the extremes at bttm. of boot vertical — later re-filled w. cel. filler & re-primed & rubbed down w. wet & dry.

Roof:



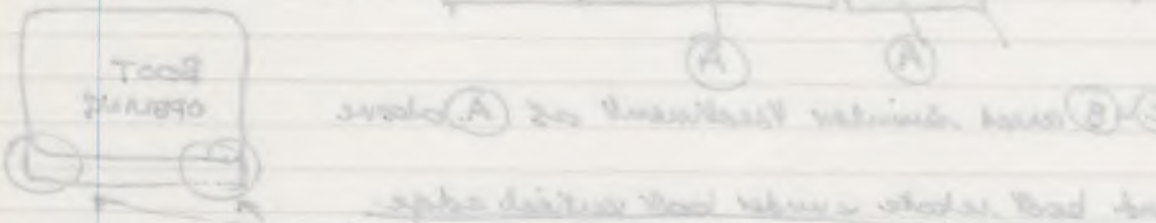
ELEV.ⁿ N/S.

(D) — This area was slightly dented due to a ladder being "Lowered onto this area prior to purchasing car. (ladder was fxd. to garage roof rafters at G.B's. and/or elev. garage).

Area rubbed down dry dn. to bare alum. & filled w. cel. filler, dry sanded & primed (w. brush) 3 cts. cel. primer. Rubbed dn. w. wet & dry (wet) — not satisfied — tried again w. 3 cts. of cel. primer & rubbed dn. as bef. — still not satisfied so both of/s rear 2/3rds of length back dn. to alum. & re-filled & rubbed-dn. dry. — now "O.K." for flashing over with grey spray primer at home.

(E.) This area had a very slight dent (presumably where hands pushing car had made dent a long while ago). — rubbed dn. dry to bare metal & primer, filled, rubbed dn. dry — 3 cts. cel. primer (w. brush) rubbed dn. (wet) — not satisfied — rubbed dn. dry & into bare metal & re-filled — rubbed dn. dry & now OK for flashing over w. grey cel. primer by spray as (D).

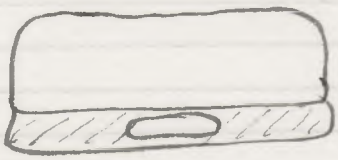
See also page 129 for d/s of hard panel of bulkhead.



(E)

Elev". of O/S. Rear.

Small low spot similar to N/S. Rear (E) rubbed dn. to primer & bare metal (dry) & filled, rubbed dn. again (dry) & 3 cts. grey cel. primer (w. brush), rubbed dn. wet. — not satisfied — rubbed off dry. & started again. — re-filled & rubbed dn. dry. ready for flashing over as last.

(F) 

Area below windscreen

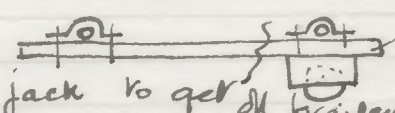
Lightly rubbed dn dry. filled to 3 small areas & rubbed dn. dry & 3 cts grey cel. primer, rubbed dn. wet, lt. grey primer & dry rub dn. ready for flashing over as last.

(G.) Remainder of O/S. of body — (mainly roof) — Rubbed dn. w. a rubbing pad to form key ready to take black cel. finish.

Dexter Paints. 4/5/95. Bought 1 litre Base Cel. black ICI. at 19.74 less 15% + 17½% VAT. = £19.70. — This should (& did - later) complete all cel. paint for Lanchester. (except 1 litre of clearcote) — BELCO FAST BLACK PO309903.

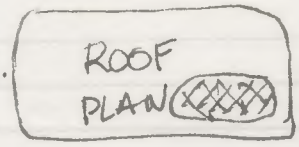
At home (Still!!) Lanchester — over. painted (primed areas) given 3 cts. grey primer w. Martins gun & compressor — rubbed dn. touched-up w. a brush where rubbed through & then finally rubbed dn. ready for repainting at Tech. — when I get loan of a trailer — (N.B. Done all spraying at home by 1st week in May 95".

Visit to Ashcroft & Cuddy — John Gregson introduced me & they offered to take it on their low-loader trailer & return (Tues. pm., back Thurs. am) for £40.00 (actual rate £30.00 ea. journey).

Going over ramps at Tech. 

on off side — used a trolley jack to get off trailer & jacked-up O/S. rear — took off all (2 blks & wood) & replaced w. a channel section steel in lieu of 4x1" swd. — also did the other side to be sure it would had on return journey.

Tues. pm. 23/5/95 — At Tech. finished masking off, particularly wheel arches which had been prim. in black ICI. house gloss. — Stacked to spirit wipe & the day boys (idiots) had put thinners in the spirit wipe bottle — This area moved about ~~about~~ a bit & some orig. black came off as req.

R. 

Front.

Ian annoyed w. lads & he helped me to flat off roof area affected (hatched) again & w. new spirit wipe — cleaned off all roof areas & all areas for painting — then tack ragged w. an air line to blow off dust. Ian gave all over roof 2 very full coats. (nearly 4 litres base black cel. used) took Lanchester out of spray booth same night & next morning w. the help of a good lad, flatted all black w. 800 wet & dry (wet) which took all morning.

In pm. Dexters delivered 1 litre of clear lacquer at £15.08 − 15% (trade) + 17½% VAT = £15.07. With the 2 litres I already had, the lad & Ian together put 2 very full coats using 2½ litres in all, on all black areas. (No thinning of lacquer req'd) — This leaved me with about ¾ litre of lacquer & ⅛th. litre of base black cellulose. — Took out of spray booth sometime between 4 & 5 pm. — Had tea & when evening class arrived put back in spray booth for safety.

Thurs am. 24/5/95.

Went w. A & Cuddy. — picked up L. on low-loader — gave lad who helped me £5.00 & arrived home safely 10.30 am paid A & Cuddy £40.00 cash (no bill) & pulled up L. up Arthur's drive & put in garage.

Prior to putting in Garage — took photo from landing wdw.

Rubbed dn. with wet & dry (wet) all over red painted floor, boot floor & sides, under rear seats & framing at floor level to front (except area inside bulkhead where tiles) — Painted 1 good coat of Johnstone's red primer.

The 4 inner wheel arches (matched-up at Tech) & pow. lightly rubbed down, given 1 ct. of Leyland Gloss Black. — next day (Thurs. 1.6.95) lightly rubbed over with pad (similar to green Kitchen pad) & given 1 last coat of Leyland black gloss to all 4 inner wheel arches.

1.6.95. Took photos of Lanchester in driveway
2.6.95 Rubbed dn. lightly all inside (where last painted Johnstone's Red)
5.6.95 Painted 1 ct. Isoplac Black to inside bulkhead & 1 ct. Leyland Black gloss to all other internal red areas of body. a-to-d.
8 & 9.6.95 Rubbed dn. all last areas w. wet & dry (wet) & given 1 un-thinned coat of Dulux (Teflon) Black gloss all inside a.b.d.

8.6.95 Dexters. Bought 2 pkts (of 2) clean & strip discs + 1 mandrel. 17.10 + 2.64 (less 15% Trade) (plus 17½% VAT = £19.72 } for stripping chassis & back axle, which is all there is left to do paint-wise.

N.B Brian Grimes Tech. Offic's 'phone number is ~~352 352 Ext. 2326~~ changed when site moved over the road.

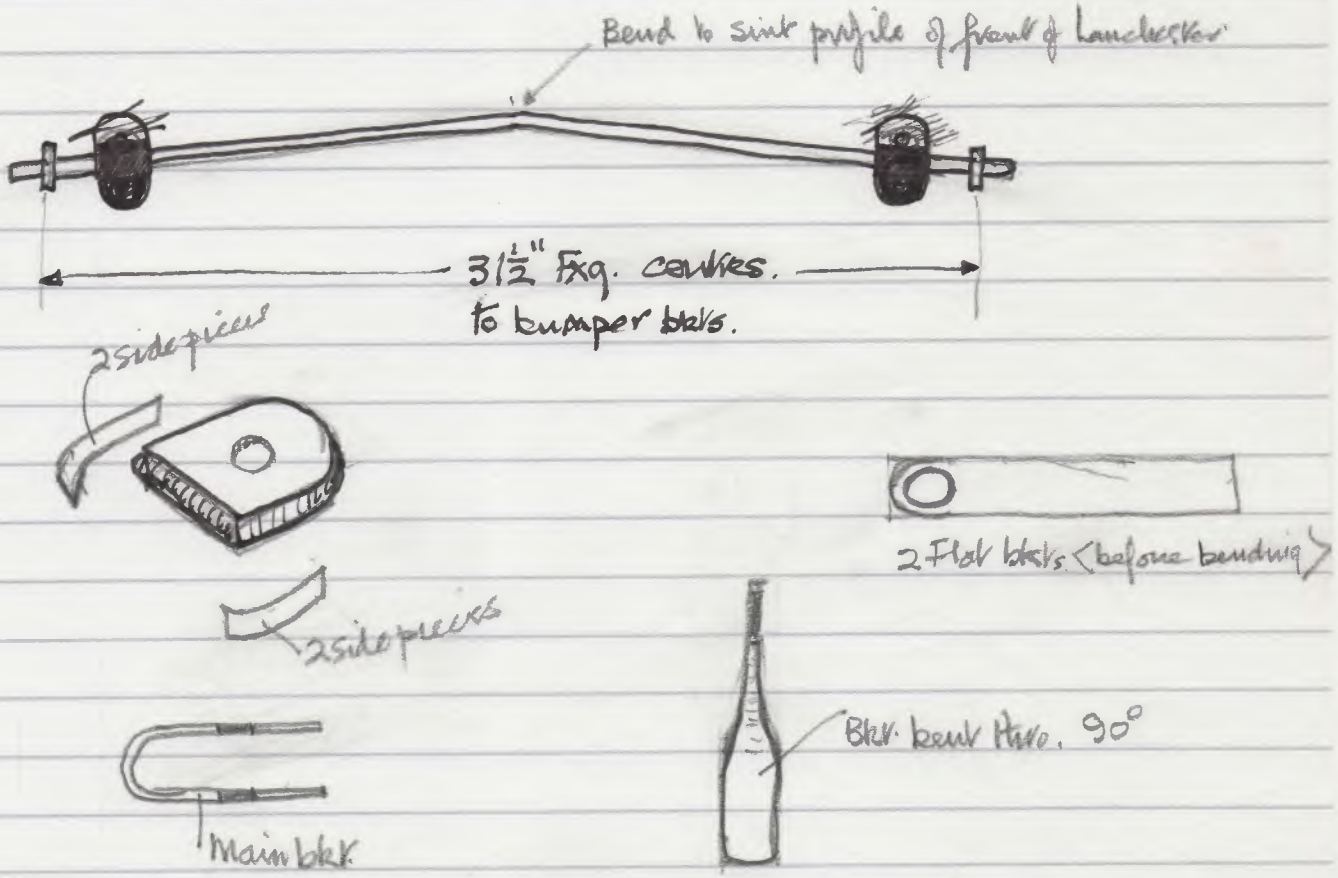
Spot lamp Bar.

N.B. The spot lamp bar that was on the Lanchester was made (prob. by George Birkett) out of m.s.L. & 2 m.s. slotted bkts bolted together & onto the ends of the front bumper frg. bkts. — the old & orig. bar has been discarded

New bar made from tubular stainless steel, the ends fitted w. blank s.s pieces & welded on at Tues. Tech. — 2 s.s. bases made for frg. spot lamps to these also welded to tube. — the new bkts. have been made from mild steel cut from a sheet, bent thro' 90° & shaped & slotted for tube and frg. slots.

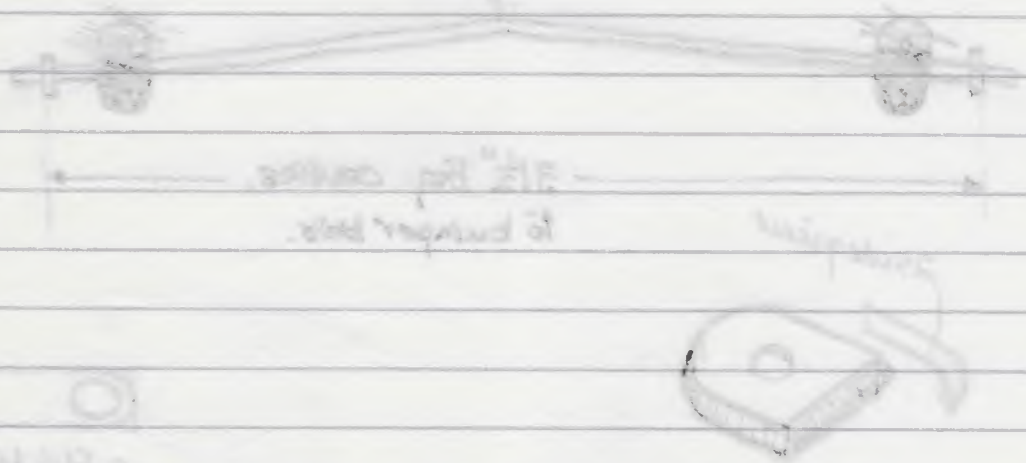
S.S. has been filed clean & all s.s welds filed smooth & later polished. The bkts. have been etch primed, + 2 cts. red primer + 2 cts. gloss black, all coats rubbed down w. wet & dry or earlier coats dry.

All wrapped up & put in reg. room.



N.B. In order to weld bkts. a temporary jig had to be made to ensure bkts. frd. at 31½" c/s. & plumb i.e. at 90° to bar.

See also p. 123 for notes on rear brakes.



BACK AXLE. <N.B. Hubs & inner fittgs. to hubs prev. done>.

References: Engraved on cover of extreme ends, } 287863.

on centre of N/S hub, stamped 791 & AVFS (J. Hunk)
on brass filler screw plug (nickel 404682)
on oil filler body cast, on top 136-24.
cast on top of louvred front of axle casing
stamped on body of oil filler NM (Jmc)
cast on brake rod bkt. on axle tube 10474
Stamped on main front top of axle body NM1
Stamped on top of axle flange 26461
Stamped on off side top of axle shaft 5.
on brass plate 2 x riveted to front body of axle flange

ENV serial No. 158 OR

AXLE LIST BRAKE
MCS
31358 31654

(plate taken off, polished & refixed w. 2 new rivets.

Pegs for frg. brake shoes on back plates.

O/S TOP 15/16"
O/S BTM. } 1"
N/S TOP }
N/S BTM } all to. cleaned & refixed at 1".

Rear axle prev. to. & stored in garage. — this was very deeply rusted to upper surfaces of all areas, lower 1/3rd. of diff. was caked in muck & oil.

1. All oil & muck scraped off.
2. All axle brushed with paraffin & dried.
3. All areas rust (worst of) scraped off with a scraper.
4. " " 2 stripping discs on drill + 2 cup wire brushes on drill used to remove all rust.
5. " " wire brushed w. strong brush on angle grinder.
6. " " Wiped clean w. a. paraffin rag & dried.
7. 4 brake shoe pins T.O. cleaned & refitted at 1" projection.
8. Axle brought into Sunlounge & all surfaces treated w. Jenolite.
9. 28/8/95. — all surfaces 1 ct. 2 pack etch primer (green) brushed
10. 29/8. to 30/8 — 2 thick coats of Johnsons red primer by brush.
11. 31/1 — 1 ct. by brush NU-SPEED chromated grey primer, including on prev. etch. primed outsides of both backplates.
leave all to thoroughly dry in Sunlounge during hols.
12. 12/9/95 — Rub down all areas (except O/s of back plates) with wet & dry (wet).
& // 1 ct. grey N.U. speed primer.

P.T.O.

13 Sept 95. 1 ctr. grey NU-Speed primer (mixed with a little black gloss) to give diff. colour.
+ 1 ctr. ditto, but sl. diff cd. again.

18/Sept/95. All rubbed dn. w. wet & dry (wet) <took a long time> !!
& 1 ctr. Heyland Gloss black. (8th coat)

19/Sept/95. All rubbed dn. w.a. rubbing pad to matt black finish & cleaned-off with rags.

20/Sept/95 Final coat of black Japlac to all areas.

Finally. — 2 holes drilled & brass plate fitd. w. rivets.
— Sump plug to., cleaned & refitted.
— old oil put back in <for final bearing>
— Brass filler plug polished & re-fitted.

following day — small amount of oil from sump plug on floor.
— took out sump plug, cleaned, wrapped threads w. P.T.F.E. tape & refitted.
— all now correctly fitd. 23/9/95 finished

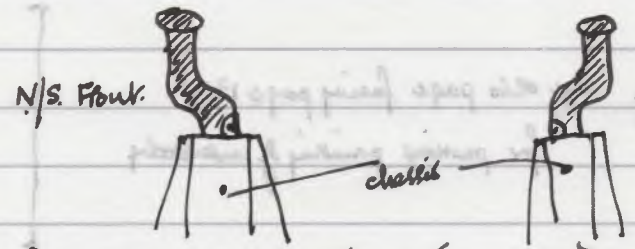
Later noticed oil coming from nose of diff. housing because when axle rested on floor the nose touches floor sits below the axle shaft level ∴ oil runs thro. seal. — According to Arthur, these oil seals do not completely seal & if lower than axle usually a little oil runs out; as in this case. No problem here. — Axle nose of diff. propped up to level & no oil escapes now.

Arthur recommends me not to get into axle as all would be set-up correctly — so leave well alone.

FRONT BUMPER CAST IRON BRACKETS.

offside. 297346 A. <N.B. See p. 155 for Rear similar brackets>
nearside. 297345 A.

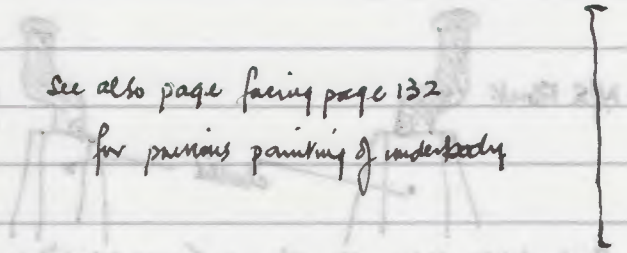
Previously painted with 2 cts. silver hammerite with part of front of chassis.
Each bkt. has 2/3/8" B.S.F. bolts & star washers with bolt dried to chassis. <i.e. no nut>.



Both bkts. taken to Thurs. <was Wed.> bath. & nitromors stripped & rough rusty areas ground down with an angle grinder (21/9/95) to remove most of bad casting marks. The undersides of the bkts. were more rusty than the rear ones (p.155). Further filing off of casting marks & with new spike-shaped wire brush on drill <both ways>. Also wire brushed all areas of brackets. Small depressions filled w. filler & dry sanded down. – Treated with 2 cts. of Nitromors rust preventative & dried.

– 2 cts. etch. primer.
– 2 cts. red primer a.b.d. [250 Armaclad SP 234 Red oxide 2/Pack RIB RED]
– 1 ct. grey primer (chromated.)
– Rub dn. w. wet & dry (wet).
– 1 ct. grey primer.
– Rub dn. on outside only. (wet)
– 1 ct. black gloss.
Rub dn. all areas (wet.) (All black is Leyland Black)
– 1 ct. black gloss.
Rub dn. dry.
– 1 final coat black gloss. (completed 6/3/96)

4 Bolts., cleaned, filed, wire brushed, 1 ct. etch. primer (all) (& 2 cts. black gloss on heads)
+ 4 further bolts & nuts which are in good condition, these are B.S.F. & cleaned & put in bag. <use these if possible>.
All this page put in 2 paper parcels & put in 1 plastic bag. & in box on floor in roof room.



See also page facing page 132
for previous painting of underbody

Body Unbolted from Chassis & put on 2 scaffolding poles in rear of garage / all frgs.
12 bolts, &c, each separately put in plastic bags & all put together in 1 bag
& in large cardboard box on floor of roof room. 28/9/95

NB. Bolts, &c, will require paint finishing when eventually the body goes permanently back on chassis. [illegible]

Underside of Body on scaffolding Poles.

All grey areas previously painted given 1 final coat of grey coach paint.
All black areas ditto, with Japlac gloss.

This completes painting of body at 27/9/95.

CHASSIS: (Oct. '95.) Started slowly scraping by hand the chassis.
(21 Nov '95) Bought from Preston one 2½ ltr. 250 Armaccle SP234 Red oxide / Phos. RIB Red primer (12.60 + 221.= £14.81

[NB. No scraping of chassis done during winter months.]

All oil, bitumen, grease, road dirt &c., scraped off. by hand to remove the greater portion of the debris. <It must be borne in mind that the Lanchester has'nt been "on the road", other than a couple of runs around the block when Martin was a lad>. The chassis was therefore quite dry; although it was noticed one winter <though it probably happened more than once> that there were beads of condensation evident. The front of the chassis <see photographs> was scraped to bare metal & painted & given 2 cts. of silver hammerite approx. 3-4 years ago this was in good order except where chipping occured so I decided to scrape all this off. There were some areas quite rusty, mainly around the rear springs & wheel arches, at the rear.

All chassis scraped & wire brushed using hand & many elect. circ. wire brushes, generally down to bare metal. It was not possible to get all the rust out of the rear box sections to ea. side.

The first coat was then applied to the whole area which was done in 2 pack etch. primer obtained from Tech. <Brian>.

Time taken for the whole of the above is approximately 10 - 12 half days. i.e. 5-6 full days.

All prior to 31.5.96

(Continued on p. 170)

Whilst scraping chassis it was found that on the front suspension to chassis front member a 2 OFF.

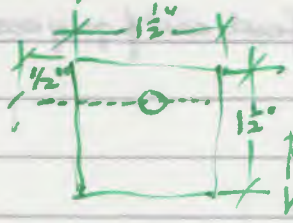


plate with ¼" Ø hole was fastened to the chassis member.

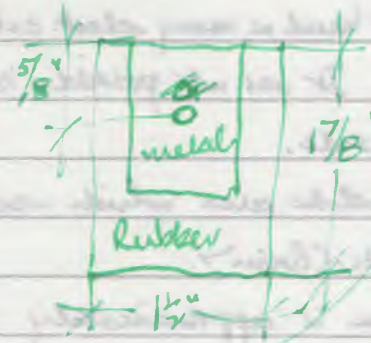
This plate had a perished 1⅞" x 1½" x 1¾" rubber block glued thereon. This item was a "bump-stop" for the longitudinal suspension arm.

A piece of rubber (found in road) was cut into two pieces & this made two bump stops which are a little larger than the original

These were glued to the metal plates at Tech. with Araldite.

They have not been fxd. to chassis as yet as the engine is not in the chassis only when it is will the space between chassis & longitudinal suspension arm be large enough to accommodate them.

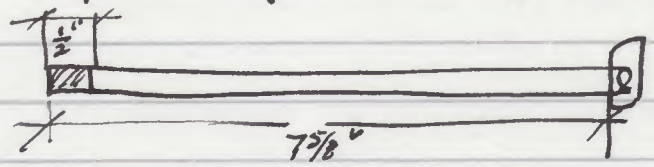
new metal & rubber is as below:—



The 1 No OFF metal plate & rubber, 2 x screwed thereto, has been remade.

This fixes on the top of the chassis in the offside rear footwell in the hole in the chassis to stop the floor board flexing & going onto the exhaust pipe/silencer.

29 May '96. During returning to scraping chassis the shaft for the gear & brake pedals r.o. of chassis. <see p.28-29 of Parts catalogue> Part No. Stamped on shaft is 298561 ~~but in book is~~

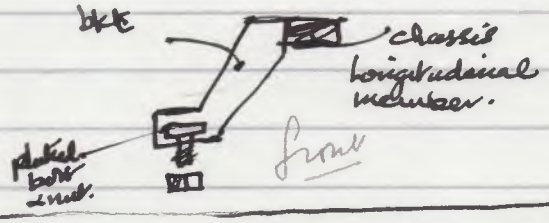


[see also. p. 126]

This shaft has a nut, spring washer & plain washer <but these are not with the shaft when r. o. — <look for same w. brake & gear change pedal packets finished some time ago.> [This shaft is fixed from o/s of chassis member to o/s do.]

Also T.O. at same time 2 No. plates with bolts welded on & having one composite nut each. These beg. w. shaft above cleaned & given one thin coat of 2pack etch primer, for time being.

All 3 pieces (i.e. 2 plates & shaft) put in plastic bag & put in box in roof near rear.



Chassis. (Cont'd) ~~Left over Summer 96 work here~~

The 2 rear box sections <previously described> i.e. where plates on inner face, given 2 full coats of silver hammerite. Whilst hammerite does chip, I consider this is the best treatment for this area. as its position is unlikely to receive chipping & hammerite will be the best treatment where the rust has not been able to be thoroughly removed.

The remainder of the chassis:—

A. 1 Coat Finnigans No. 1. Primer. ½ day

B. Turn. over, & 1 cr. ditto ½ day.

this left to "cure" for 5 weeks whilst on Summer holiday.

C. 6 weeks after painting / 1 cr. Finnigans No. 1. Primer:— I painted 1 cr. Johnstons red primer } 1½ days.

D. Turn. over, 2 cr. ditto.

E. One coat of Green Coach finish. 1½ days.

(This was International Pinchin & Johnson.
NU-SPEED. superfine coach finish.
finishing clover green 6207T 3239 X 2190
(Courtaulds Group.)) Mon. 29/7/96.

F. Subsequently After painting 1 ctr. 2pack etch primer
1 ctr. Finishing No. 1.
1 ctr. Johnstone's Red primer.
& 1 ctr. Green Coach finish

N.B. No ~~flatting~~ rubbing down between coats was done as I wanted to build-up a good thickness of primers (all put on quite thickly). this of course produced a now too smooth finish & as I want to finish in gloss black I decided to rub all surfaces (except inside box section at rear) with wet & dry (wet). (down in 2½ days) — this took. 1 full day.
[to 2 Aug. 1996]

Finial Coats.

White & Black Dulux Gloss mixed to make a dark grey gloss finish & this applied by brush to all areas. 1½ Days.

The Last coat was then lightly rubbed over with a pan scrub (green material) to remove all "pips". Also used fine production paper on the rougher areas = 3-½ days.

The finial coat of Black high-gloss Japlac was applied. 1½ Days.

& finally, where paint had run into silver hammerite in box section this tidied-up.

The whole of the chassis now completed is left for _____ to fully dry, before proceeding to fit previously completed back axle, &c.

These notes obtained from Adrian Hammell. /4

NOTES ON BOLT TIGHTENING

The importance of correct bolt tightening cannot be over emphasised. Determining the correct torque can however present problems.

Approximately 90% of the applied torque is employed in overcoming friction, 50% at the bearing face of the nut and 40% between the mating threads. It can therefore be seen that only something in the order of 10% effort is employed in inducing axial load in the bolt.

Unfortunately, because of the variations in the frictional conditions, torque figures can give widely varying bolt tensions. The main precaution that can be taken is to calibrate the torque wrench for each batch of bolts. It is recognised however, that in many cases this is impracticable and for the majority of cases, the figures given in the table overleaf may be taken as a useful guide.

The torque figures quoted are approximate figures and are applicable to fasteners in the self colour condition only.
They do not take into account the effect of plated finishes, special lubricants or the effect of hard and smooth mating surfaces such as hardened washers etc.

The torque figures quoted have been based on a theoretical bolt load equal to 85% of the proof load of the bolting material. Where the proof load is not quoted in the specification, this has been taken as 95% of the yield stress.

For bolt loads and diameters not shown in the chart the following formula may be used :–

$$\text{Torque (lb f ft)} = \frac{0.2 \times \text{Bolt Load (lb)} \times \text{Nominal Bolt dia. (in)}}{12}$$

Where 0.2 = Constant

During tightening two stresses are applied to the bolt, torsion due to friction and tension in stretching the bolt. After tightening however, only tension remains. In a rigid joint, if the bolt tension exceeds the external tensile loads, the bolt will experience no further stress and will not fail, providing of course that the correct bolts have been selected and the joints have been adequately designed for the anticipated loads. It is important therefore that the clamping load in the joint is always greater than the external loading.

Correct pre-loading of the bolt resists the effects of fatigue. Providing that the bolt pre-load is greater than an applied load, the fatigue life of the bolt will be infinite. The correct pre-load reduces the amplitude of the stress change in the bolt to a safe value.

ALWAYS REMEMBER THAT THE BEST METHOD OF KEEPING A NUT ON A BOLT IS BY PROPER TIGHTENING.

For technical details or advice on tightening problems, contact our Technical Sales Department.

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TIGHTENING TORQUES

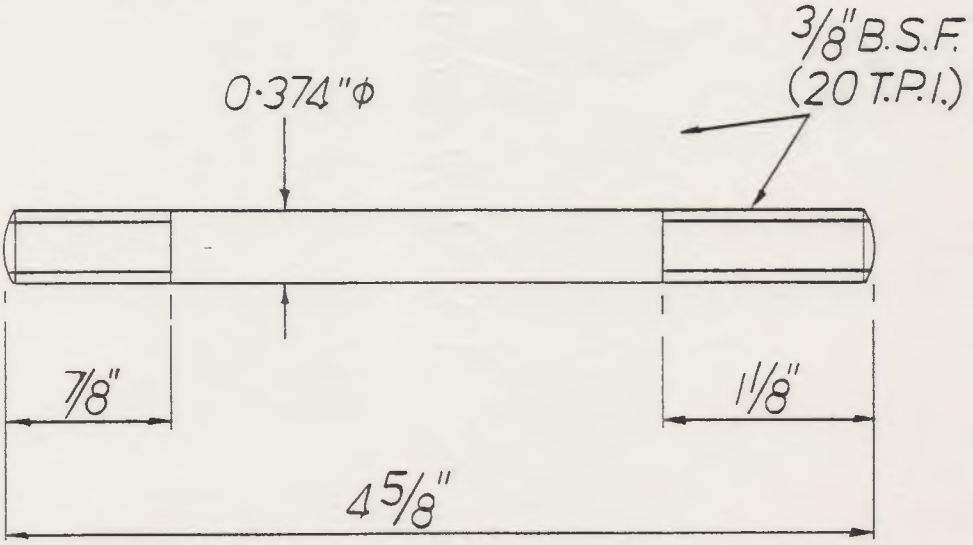
				DIAMETERS												
				¼"	5/16"	⅜"	7/16"	½"	9/16"	⅝"	¾"	⅞"	1"	1⅛"	1¼"	1⅜"	1½"
U.N.C.	THREADS PER INCH			20	18	16	14	13	12	11	10	9	8	7	7	6	6
	TENSILE STRESS AREA		in²	·0324	·0532	·0786	·1078	·1438	·184	·229	·338	·467	·612	·771	·978	1·166	1·418
	Bolt Tension Based on 85% of Proof Load	A* (Mild Steel) S T V	ton f	0·39 1·05 1·13 1·36	0·64 1·72 1·85 2·34	0·95 2·54 2·74 3·31	1·31 3·48 3·76 4·53	1·74 4·65 5·01 6·05	2·23 5·94 6·41 7·74	2·77 7·40 7·98 9·63	4·09 10·91 11·78 14·22	5·66 15·08 16·27 19·65	7·41 19·77 21·33 25·76	9·34 24·90 26·87 32·44	11·85 31·59 34·09 41·15	14·12 37·68 40·63 49·06	17·18 45·81 49·43 59·67
	Approx. Torque	A (Mild Steel) S T V	lb f ft	3·7 9·8 10 13	7·5 20 22 26	13 36 38 46	21 55 60 75	32 90 95 115	47 125 135 160	65 175 185 220	115 310 320 400	185 490 540 640	280 740 800 960	390 1050 1150 1350	560 1450 1600 1900	720 1950 2100 2500	960 2550 2750 3350
UNF UP TO 1" DIA. UN–8 T.P.I. FOR 1⅛" DIA. AND ABOVE	THREADS PER INCH			28	24	24	20	20	18	18	16	14	12	8	8	8	8
	TENSILE STRESS AREA		in²	·0368	·0587	·0886	·1198	·1612	·205	·258	·375	·513	·667	·798	1·008	1·242	1·502
	Bolt Tension Based on 85% of Proof Load	A* (Mild Steel) S T V	ton f	0·45 1·19 1·28 1·55	0·71 1·89 2·05 2·47	1·05 2·86 3·09 3·73	1·45 3·87 4·17 5·04	1·95 5·21 5·62 6·78	2·48 6·62 7·15 8·63	3·13 8·33 8·99 10·85	4·54 12·11 13·07 15·78	6·21 16·57 17·88 21·58	8·08 21·54 23·25 28·06	9·67 25·77 27·81 33·58	12·21 32·55 35·13 42·41	15·04 40·12 43·28 52·26	18·19 48·51 52·34 63·20
	Approx. Torque	A (Mild Steel) S T V	lb f ft	4·1 11 12 14	8·3 22 24 29	15 40 43 50	24 65 70 80	36 95 105 125	50 140 150 180	75 195 200 250	125 340 360 440	200 540 580 700	300 800 860 1050	410 1100 1150 1400	560 1500 1650 2000	780 2050 2200 2700	1000 2700 2950 3550
B.S.W.	THREADS PER INCH			20	18	16	14	12	12	11	10	9	8	7	7	–	6
	TENSILE STRESS AREA		in²	·0320	·0527	·0779	·1069	·1385	·183	·227	·336	·463	·608	·767	·973	–	1·409
	Bolt Tension Based on 85% of Proof Load	A* (Mild Steel) R* T* V*	ton f	0·39 0·88 1·12 1·35	0·64 1·45 1·84 2·22	0·94 2·14 2·71 3·28	1·29 2·93 3·73 4·50	1·68 3·80 4·83 5·83	2·22 5·02 6·38 7·70	2·75 6·23 7·91 9·55	4·07 9·22 11·71 14·14	5·61 12·71 16·14 19·48	7·36 16·69 21·19 25·58	9·29 21·06 26·73 32·27	11·79 26·71 33·91 40·94	– – – –	17·07 38·68 49·10 59·28
	Approx. Torque	A (Mild Steel) R T V	lb f ft	3·6 8·2 10 13	7·4 17 21 26	13 30 38 46	21 48 60 75	31 70 90 110	47 105 135 160	65 145 185 220	115 260 320 400	185 415 520 640	270 620 800 960	390 880 1100 1350	540 1200 1600 1900	– – – –	950 2175 2750 3300
B.S.F.	THREADS PER INCH			26	22	20	18	16	16	14	12	11	10	9	9	8	8
	TENSILE STRESS AREA		in²	·0356	·0567	·0839	·1158	·152	·198	·243	·352	·487	·642	·8147	1·027	1·237	1·496
	Bolt Tension Based on 85% of Proof Load	A* (Mild Steel) R* T* V*	ton f	0·43 0·98 1·24 1·50	0·69 1·56 1·98 2·39	1·07 2·30 2·92 3·53	1·40 3·18 4·04 4·87	1·84 4·17 5·30 6·40	2·40 5·44 6·90 8·33	2·94 6·67 8·47 10·22	4·26 9·66 12·27 14·81	5·90 13·37 16·97 20·49	7·78 17·63 22·37 27·01	9·87 22·37 28·39 34·28	12·44 28·20 35·79 43·21	14·98 33·96 43·11 52·05	18·12 41·07 52·14 62·94
	Approx. Torque	A (Mild Steel) R T V	lb f ft	4·0 9·1 12 14	8·0 18 23 28	14 32 41 50	23 50 65 80	34 80 100 120	50 115 145 170	70 155 [illegible]	120 270 340 420	195 435 560 660	290 660 840 1000	410 940 1200 1450	580 1300 1650 2000	760 1750 2200 2650	1000 2300 [illegible]

*THEORETICAL PROOF LOADS BASED ON 95% OF YIELD STRESS

Engine cylinder head stud for the Lanchester L.D.10.

Lanchester part no. 404031. (10 off per engine).

Sketch of oringinel Lanchester stud.

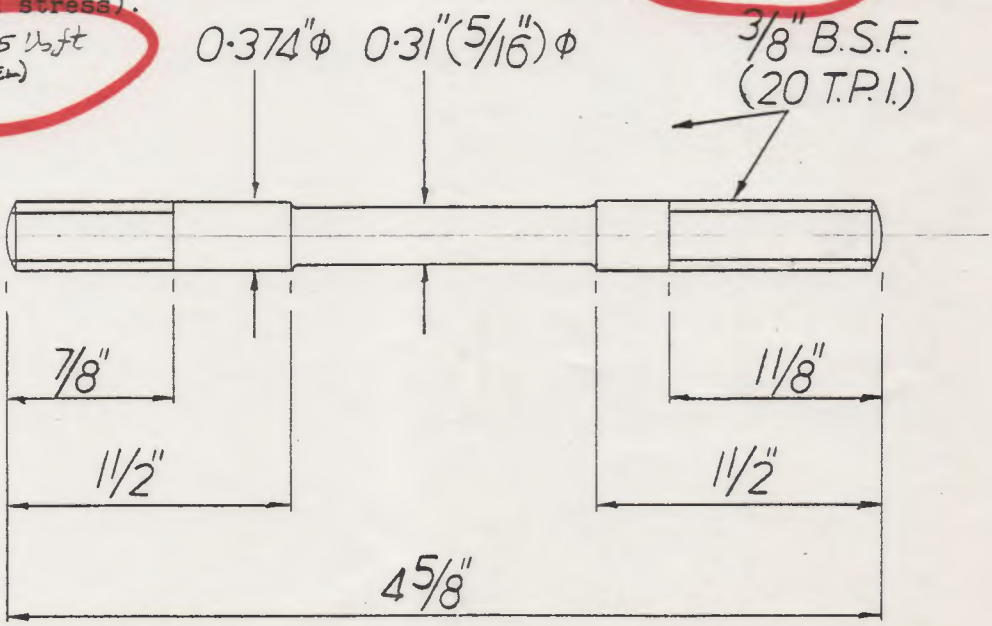


Material.
An original stud was Vicker's hardness tested (Nov 1985) using a proof load of 10 kg and was found to have a hardness of 247 V.P.N. (Vicker's pyramid number).

It is therefore almost certainly an 'S' quality stud (about 50 tons tensile).

The torque setting figure for such a stud would be 36 lbs ft (calculated on 95% of yeild stress).

1 USB 45 lbsft
(37 FEET)



The above sketch shows a re-designed stud which may be used if new ones are to be manufactured. This design will give a stronger stud which will be more resistant to thread stretch and less suceptable to loosening from gasget compression etc.

(See 'A' pages - which follow)