



“The Introduction of Mini Body Panels in Australia”

Tony Cripps, Peter Davis (dec) and Ron Moss (dec)

Introduction

ADO15, the Morris 850 Saloon and Van, featured sliding window doors and dry rubber cone suspension¹. In order to satisfy customer demand, windup windows were introduced to the Mini Saloon and Van range in 1965. This was accompanied by the fitment of hydrolastic suspension (previously introduced in 1964 on ADO16) to the YDO5 Morris Mini Deluxe model. These features were also carried through for the introduction of YDO6 Morris Mini Cooper S. We will not consider ADO50, Morris Cooper, in this article which finished in 1964.

- ADO15 Morris 850 Saloon and Van: Rubber cone suspension, sliding windows in doors Jan 1961 – Jan 1966 (10/65 Van).
- YDO5 Saloon Morris Mini Deluxe: Hydrolastic suspension, windup windows Feb 1965 – Jun 1971.
- YDO4 Saloon and Van: Rubber cone suspension, windup windows Jan 1966 (10/65 Van) – June 1971.
- YDO21 Saloon and Van: Rubber cone suspension, windup windows Jul 1971 – Oct 1978.
- YDO22 Saloon: Hydrolastic, June 1971 – 1973, Rubber cone suspension 1973 – Oct 1978.

This article discusses the body panel changes in relation to the above features and their timing of introduction.

Superficially, ADO15 assembled from CKD kits in Australia used UK body panels, but with some modifications for Australian conditions. Local manufacture of panels for the Mini range began in Australia in 1964 for some panels and then 1965 for nearly all panels although there was continued use of UK panels for a year or two to use up stock.

¹ Although both dry rubber cone and hydrolastic suspension use rubber as the springing medium, we refer to the earlier dry system as “rubber cone” and the later wet system as “hydrolastic” in this article.

1. Boot Lid

A boot lid outer panel which accommodates the narrower Australian number plate, HYA1771, was drawn in 1958, well before introduction of the ADO15 vehicle in Australia. However, from first production in 1961 until mid-1964, the UK boot lid 14A5517, which accommodates the long UK style number plate, was used.

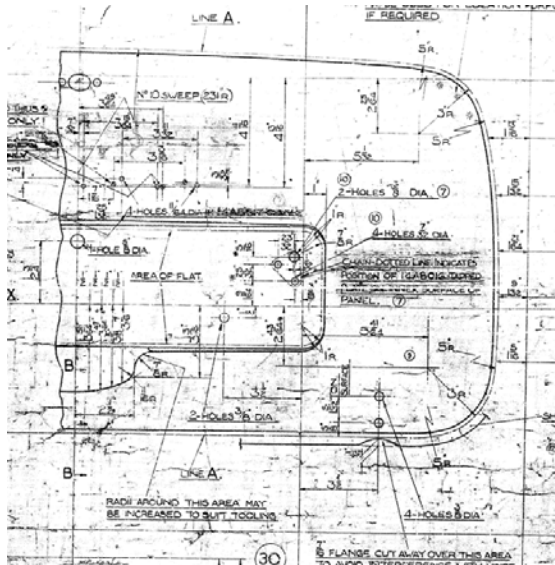


Fig. 1.1 Boot lid outer (UK number plate), 14A5517, 1957.

HYA1771 accommodates and Australian number plate, and dates from May 1958.

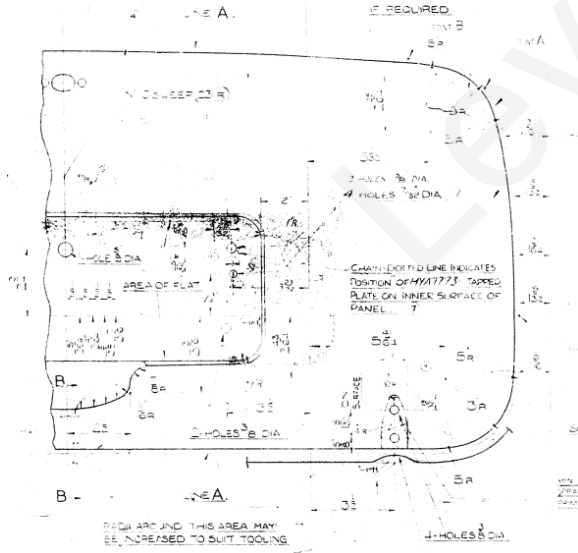


Fig. 1.2 Boot lid outer (Australian number plate), HYA1771, 1958.

Although HYA1771 was not introduced until mid-1964, it is clear that the intention was for the ADO15 boot lid to eventually accommodate an Australian-sized number plate as far back as first release. Somewhat unusually, this drawing is of Austin Longbridge origin despite having an Australian "Y" series drawing number. The badge fixing holes are specified for Austin, Morris and Cooper marques. Date of last revision of HYA1771 is 1973.

2. Floor Assy

2.1 ADO15

The original ADO15 Saloon floor panel assembly is listed as 14A6491 which changed to ALA4593 at Car No. YMA2S1 5361. Details of this running change are not known². Drawing ALA4593 dated 1961 shows an ADO15 Saloon floor with hole for starter button, and various clips for wiring and body slinging brackets. It is a Fisher and Ludlow drawing, last revision 11/63. Various changes listed on the drawing date back to 1961.

Various models are referred to on ALA4593 for the floor assembly: Austin (14A9536, 14A8984), and Morris (ALA4593, 14A8989) the only difference appearing to be the arrangement of drain holes. Drawings 14A8984/14A8989 dated Nov 1960 indicate that Austin models had drain holes for a slipper dip, while Morris models did not have drain holes (possibly because of Rotodip). 14A9022 is mentioned on 14A8984 as applying to "ADO15 Commercials" and includes drain holes.

14A8984	FLOOR (WITH SLIPPER DIP DRAIN HOLES) AUSTIN
14A8989	FLOOR (WITHOUT DRAIN HOLES) MORRIS
14A9022	FLOOR (WITH 2" DIA HOLES) ADO15 COMMERCIALS (WITH DRAIN HOLES)

Fig. 2.1.1 Notes for ALA4593.

14A9022 referred to for commercials show that the body slinging bracket at the front is set back towards the rear of the vehicle compared to Saloon 14A8984/14A8989. Later it will be shown that the rear body slinging bracket is set back on to the floor extension piece rather than being on the main floor panel. Also on commercial models, 14A9022, there is no vertical flange at the rear floor edge, it being left flat to accommodate a lap joint with the floor extension.

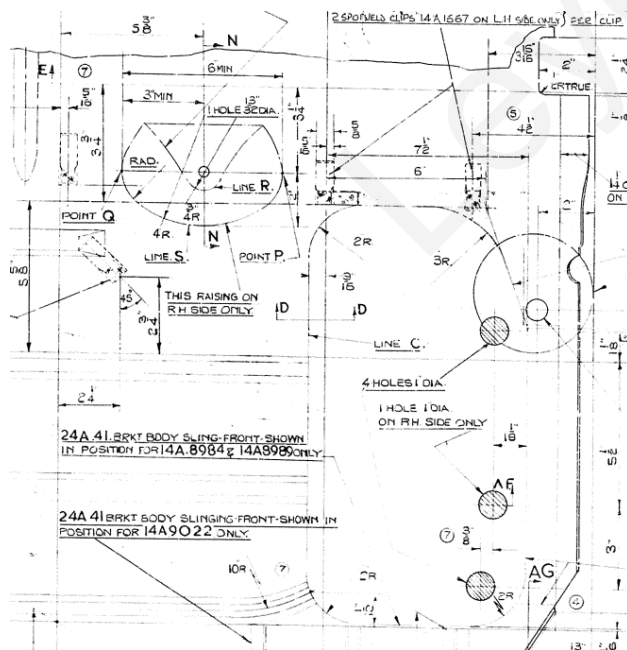


Fig. 2.1.2 Part of front floor panel showing hole for starter button, cut-out for centre gear change, ribs and footwell 14A8984.

² Drawing 14A6491 is not on file.

For local saloon production, 14A8984/14A8989 was further modified for Australian conditions and is drawn as HYA3213. HYA3213 is a retrace of 14A8989 with modifications such as a full-length clip for the battery negative cable down the length of the floor, and elimination of the 1" diameter drain holes.

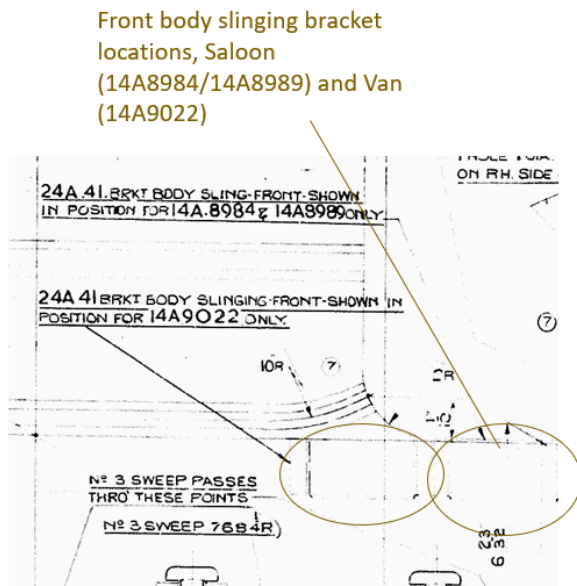


Fig. 2.1.3 Body Slinging Bracket (front) locations, ADO15 Saloon and Van, 14A8984.

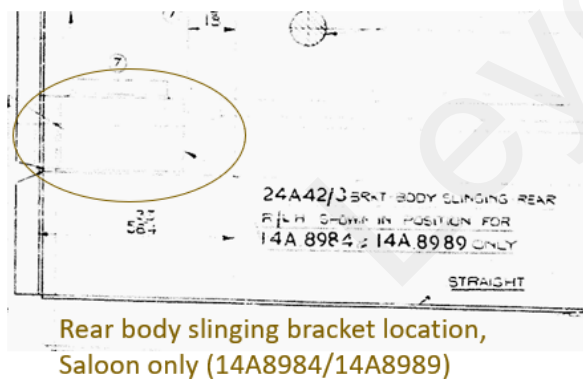


Fig. 2.1.4 Body Slinging Bracket (rear) location, ADO15 Saloon only, 14A8984.

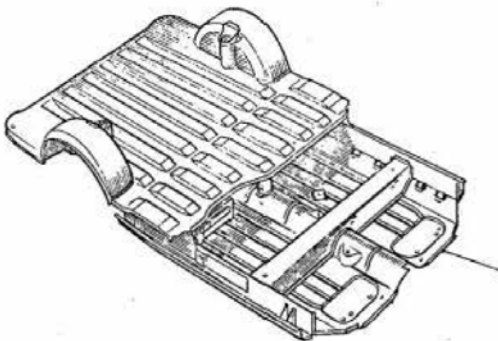


Fig. 2.1.5 Floor assembly ADO15/V, Service Parts List.

For ADO15/V, the original floor *assembly* (front and rear floor welded together with all tabs and holes) is listed as 24A2374³ and appears as illustrated above in the Service Parts book. The ADO15/V floor was imported complete CBU and incorporates a reworked ADO15 saloon floor specified as 14A9022 with an extension piece 14A9023. The extension piece accommodates the extra wheelbase for the Van model. The floor panel 14A9022 differs from Saloon models by not having an upturned flange at the rear edge.

The drawing for the extension piece 14A9023 is dated 1960 and revisions up to 1970 and beyond.

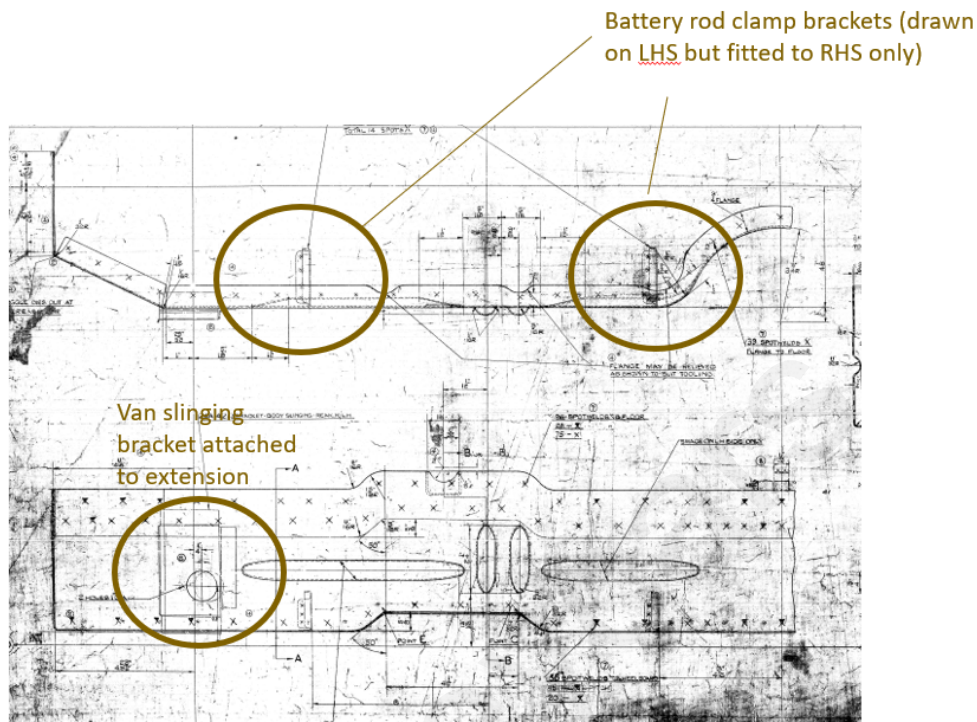


Fig. 2.1.6 Floor Extension (one half shown), 14A9023.

Note that the body slinging bracket is on the floor extension piece for ADO15/V. The slinging brackets front and rear were set back for ADO15/V to accommodate change in centre of mass compared to ADO15 saloon.

2.2 YDO5 Saloon

For hydrolastic suspension, the locally pressed YDO5 Saloon floor panel HYA3502 was drawn in November 1964. It is a rework of ALA4593 ADO15 Saloon floor. Unlike HYA1771 (boot lid), ALA4593 is a locally produced drawing indicating that the introduction of the floor channels for brake and hydrolastic lines is an Australian innovation and was not introduced by UK. The UK hydrolastic floor panel retains the essential features of the original ALA4593 (ADO15) panel. The Australian floor HYA3502 remained in revision up until Feb 1970. It is instructive to list the revisions since these have a bearing on the parallel modification of the existing ADO15 floor.

³ Drawing not on file

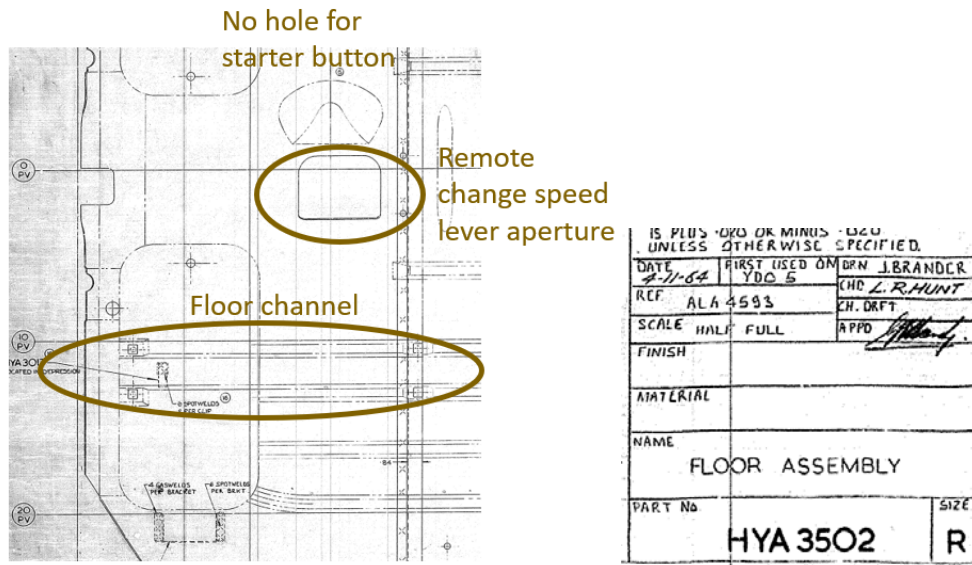


Fig. 2.2.1 Detail of HYA3502 Nov 1964 showing floor channel. Note: hole for remote gear change lever, floor channels for hydrolastic, no starter button hole, forward-positioned body slinging bracket. 1964.

In Australia, ADO15 Saloon continued as the base model alongside YDO5 Saloon and retained the original CBU UK floor panel until later in 1965 or early 1966 whereupon ADO15 was replaced with YDO4 Saloon.

There is a question as to the date of introduction of the YDO5 locally pressed floor. Service Parts lists are inconsistent on this matter. Drawings indicate that the individual pipe covers HYA3812 etc were introduced for YDO5 in Feb 1965 (which would require an ADO15 UK style of floor) and replaced by full length pipe covers HYA3825 in April 1965.

Further research shows that drawings indicate both floors, with and without channels, were active through to the end of 1967. Parts book PUB1012 indicates that the LH hydrolastic pipe AYA4099 (straight style used with channels) was introduced from YMA2S2 501 (1st production) while the same book inconsistently shows RH pipe AYA4098 introduced at Car no 27869 (approx. end of 1967).

Factory personnel active at that time believe that in 1965, either floor could be fitted to YDO5 depending on stock in the SMBD plant.

Drawing HYA3864 for body sealing instructions for YDO4, YDO5 and YDO6 dated July 1965 show floor panel without channels (Sheet 5) and with channels (Sheet 40) where in the latter, sealer is applied to the channel cover fixing bolts.

2.3 YDO4 Saloon

Drawing HYA3505 for YDO4 Saloon is dated 1/65 and incorporated floor channels for brake and fuel lines, but this model did not have hydrolastic suspension. This is a locally produced floor panel.

Interestingly, the list of revisions show only three during 1965, and then from 1966 onwards, a steady series indicating that YDO4 Saloon model was introduced Jan 1966 as is generally believed.

AUTHY	ISSUE	REVISIONS	CHD	DATE
18772	-	RELEASE	4RH	12-16-65
20227	1	HYA3510 DELETED		
	2	HYA3364 DELETED		
	3	UWN104 ADDED		
	4	HYA1308 DELETED		
	5	HYA2625 DELETED		
	6	HYA3017 ADDED	4RH	12-24-65
19331	7	WAS UWN 104	4RH	12-24-65
19494	8	HYA0909 4 OFF		
		DELETED	4RH	12-16-66
22508	9	HYA3997 ADDED	RAC	12-8-66
21900	10	REVISED PICTORIAL	RAC	18-8-66
20968	11	WELDNUT REVISED PICTORIAL	RAC	23-11-66
22639	12	WAS HYA3017		
	13	WAS HYA3017 DELETED		
		NOTE ADDED		
	14	WAS HYA3017 ADDED		
		NOTE ADDED		
	15	PART IN HYA 3017 RELOCATED & SPOT WELD	RAC	23-5-67
		NOTE ADDED		
22639	16	PART IN HYA 3017		
		RELOCATED & SPOT WELD	RAC	23-5-67
		NOTE ADDED		
24361	17	WINING CLIP HYA3017 RELOCATED & RELEVANT INFO ADDED	4RH	12-1-68
23647	18	HYA3504 REV TO DETAIL	4RH	12-7-68
36600	19	d ADDED		
	20	WELD CLASSIFICATION ADDED		
20887	21	HYA3548 DELETED		

Revisions for HYA3505 (YDO4 Saloon) generally follow those listed for HYA3502 (YDO5 Saloon).

2.4 YDO4 Van

Drawings dating from Feb 1964 (e.g. HYA2692) are those specifically for YDO4/V. Note, YDO4/V continued with centre gear change and floor starter. It is not precisely known when YDO4/V was introduced.

Local drawings refer to UK part ALA5505 which appears to be an ADO15/V floor. ALA5505 has no hydrolastic floor channels; a set back front slinging bracket; no floor starter button hole; no remote change. This drawing appears to be dated 1964, and is a Fisher & Ludlow drawing, and is also marked "Morris Australia" in the comments. This appears to be a UK Van floor subsequently modified (see later HYA2692) for Australia and not locally pressed.

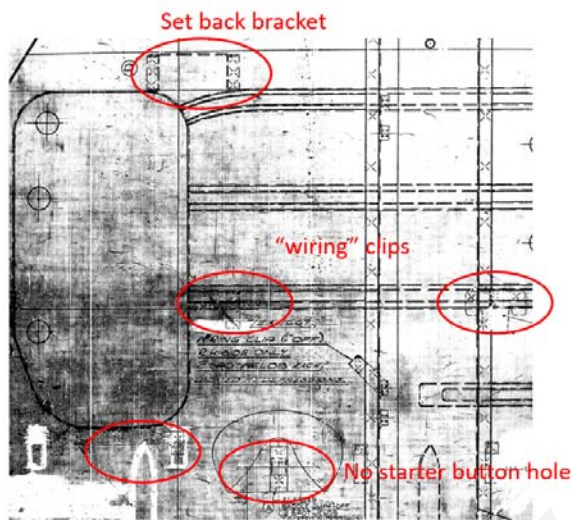


Fig. 2.4.1 YDO4/V Floor ALA5505 dated 2/1964.

Drawing HYA2692 dated 2/1964 local modification is to drill the hole for the floor starter button and to remove the clip that was put in the starter button depression. It appears UK must have gone to a key start with their Mini Van, but Australia had to reintroduce the starter button hole to retain floor starter operation.

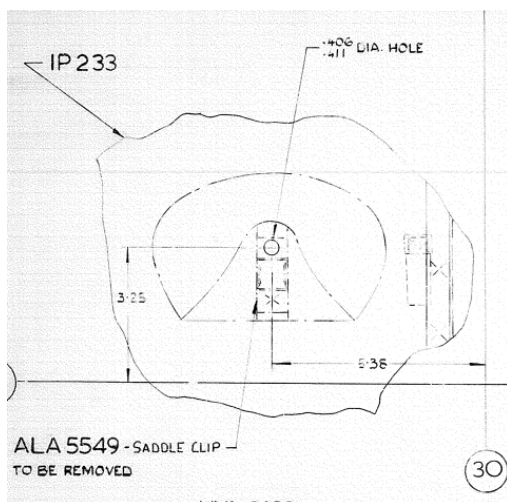


Fig. 2.4.2 HYA2692 2/1964 modification to ALA5505

YDO4/V continued on with the ADO15/V floor assembly (now part no ALA5055) as CBU, with some minor local modifications HYA2692.

This whole floor was supplied complete with floor extension and rear load floor as an assembly.

2.5 YDO21/YDO22 Saloon

Floor assembly for YDO21 Saloon is specified as HYB3403. This floor has no remote gear change aperture, no starter button hole, but does feature floor channels for brake and fuel lines.

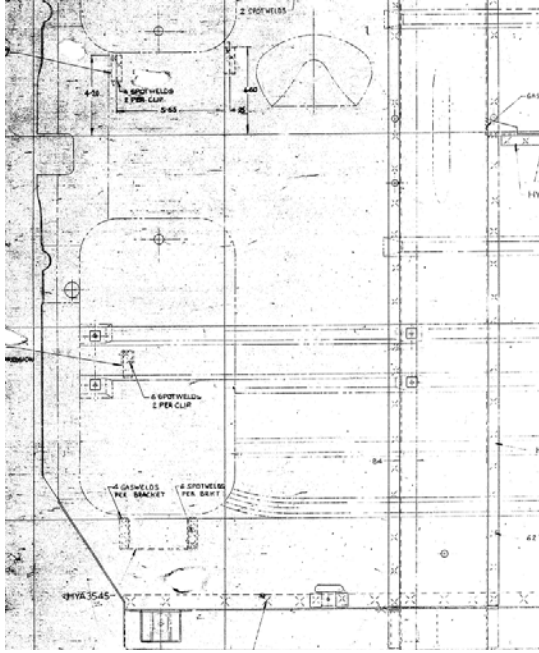


Fig. 2.5.1 Floor assembly YDO21 HYB3401 drawn 1/1970.

Service Parts Book PUB1052 lists this same floor for YDO22 and YDO23, but this is obviously incorrect since those models have a remote gear change and require an aperture cutout.

Microfiche Service Parts List PUB023 lists HYB5066 (drawing HYB4949), for "Clubman Saloon", HYE482 for "Leyland Saloon", and HYE510 for "Clubman Van" and "Leyland Van".

HYB4949 (Clubman Saloon) is similar to HYB3403 but has an aperture for a remote gear change lever.

HYE482 (Leyland Saloon) is similar again but has provision for rod change gearbox.

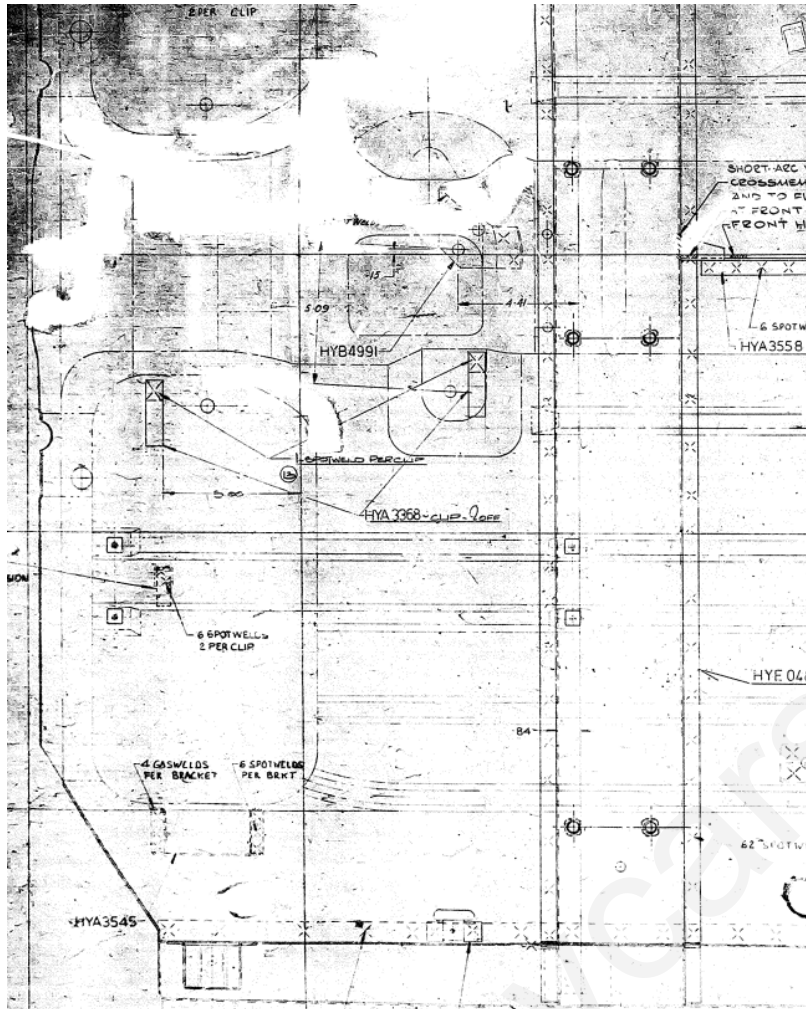


Fig. Floor panel YDO22 YDO23 rod change HYE482.

2.6 YDO21 Van

Information about YDO21 Morris Mini Clubman Van floor is more forthcoming. The floor assembly is listed as Part No. HYB3448 which comprises:

HYB.3448	ASSEMBLY FRONT FLOOR COMPLETE
	<u>COMPRISING:</u>
HYB.3417	Front Floor Assembly
HYB.3643	Heelboard Assembly
HYB.3354	Bracket Assembly - Spare Wheel Clamp
HYA.3546	Bracket - Body Slings - Rear R.H.
HYA.3547	Bracket - Body Slings - Rear L.H.
HYB.3648	Reinforcement Assembly - Floor
14A.9024	Sill Inner R.H.
14A.9025	Sill Inner L.H.

Fig. 2.6.1 Parts comprising HYB3448 YDO21/V

HYB3417 (Front Floor Assy) dated Jan 1970 has no hole for a Remote Shift, and no hole for a starter button hole, indicating it was for a Centre Gear change (as per YDO4/V), but with key operated starter. It has floor channels for pipes, but these carried brake and fuel lines only, this model not having hydrostatic suspension.

One conclusion is that **the locally pressed YDO21 Saloon floor was now being used for YDO21/V, possibly due to nil stock of CBU ADO15/V floors that were used for YDO4/V.**

In HYB3417, the front body slinging bracket is set back, and the position for the saloon slinging bracket has been erased.

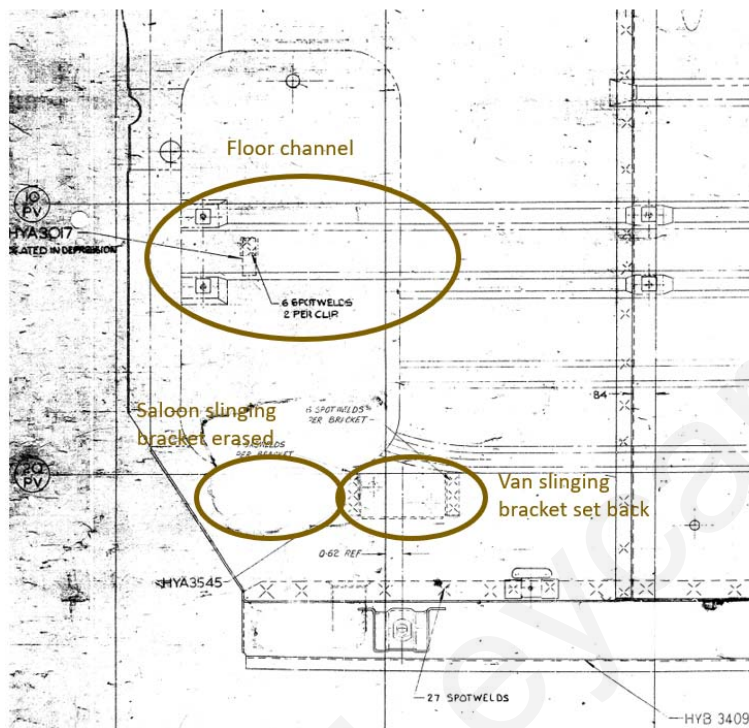


Fig. 2.6.2 YDO21/V HYB3417 (YDO21/V)

HYB3643 is the heelboard assy which itself comprises (amongst other things) 14A9023, the floor extension used for ADO15/V and also for YDO4/V.

HYB.3643 HEELBOARD ASSEMBLY

COMPRISING:

- 14A.7141 Heelboard
- 14A.9023 Extension Floor
- HYB.3644 Stiffening Angle Assembly - Heelboard R.H.
- HYB.3645 Stiffening Angle Assembly - Heelboard L.H.
- 14A.7575 Bracket Spare Wheel
- HYB.3646 Front Filler Assembly - Rear Wheelarch R.H.
- HYB.3647 Front Filler Assembly - Rear Wheelarch L.H.

Fig. 2.6.3 Parts comprising HYB3643

The heelboard mentioned above 14A7141 dates from 1959.

For YDO21V Leyland Mini Van, rod change gearbox was introduced along with changes to ignition switch and instruments. This resulted in HYE510 with provision for rod change housing.

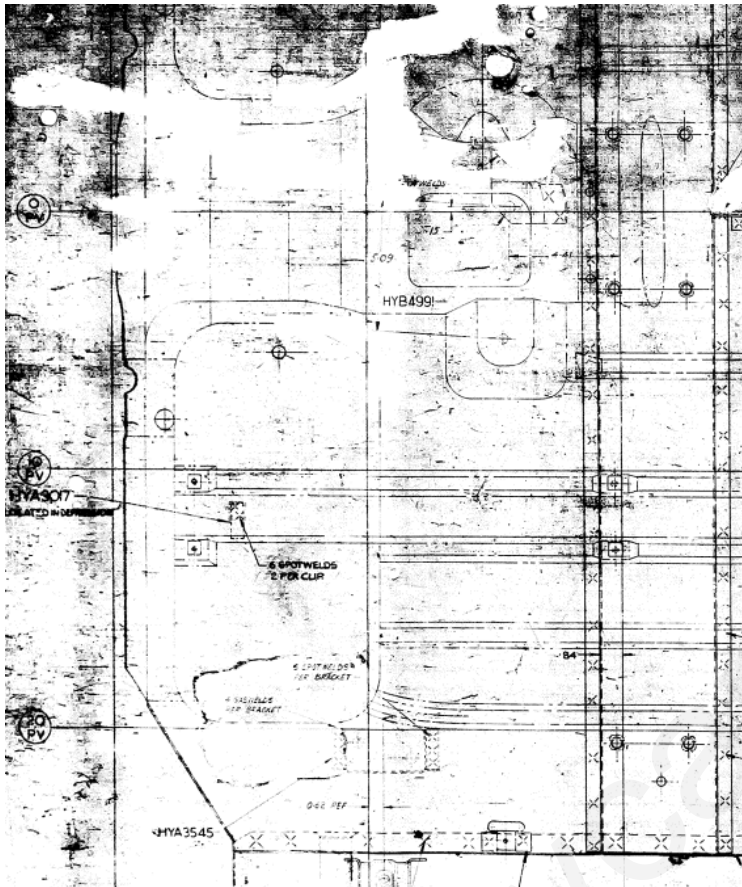


Fig. 2.6.4 YDO21/V HYE510 rod change 10/1977.

Note, although this drawing is dated 1977, rod change for YDO21/V was introduced in 1973.

Footnote:

An interesting reference, but from an unverifiable source, for Australian produced floors can be found in a modern parts catalogue where the date is given 1965-1978:

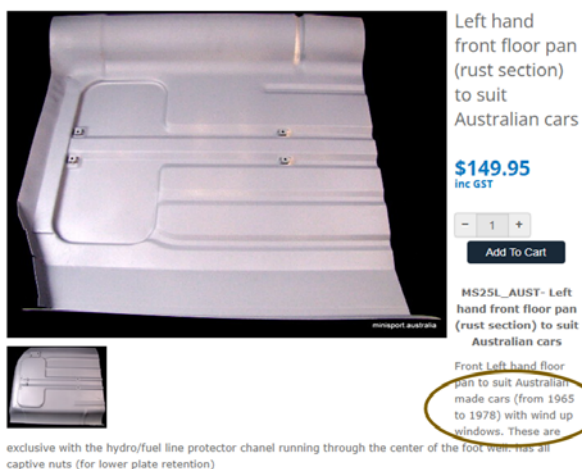


Fig. 2.6.5 Sales catalogue for replacement floor panel (Minisport).

According to one of the present authors, the rework of the side panel was done by hand in SMBD by heating the panel and hand forming to shape in a jig. The rework was also done on completed bodies by the person who did body repairs on completed bodies. This rework was not done by dealers.

The cover plate, HYA3707 is drawn October 1964 and is specified for YDO4, YDO5 and YDO6, and so it is assumed that the body side panels for these saloon vehicles are all modified ADO15 body side panels and incorporate the cover plate which in turn allows fitment of the winding window style striker plate.

Drawing HYA7271 dated October 66 for YDO4 body side panel shows the Cover Plate deleted indicating a more integral accommodation of the triangular striker plate compared to the ADO15 rework.

3.2 Van

The striker plate is attached to the Door Aperture panel in a Van which is the front portion of a saloon body side panel.

ADO15 Van uses door aperture panel 14A6899 with three vertical holes for striker plate. Service Parts book show no further change to this part number for further models, but this cannot be correct since YDO4 with winding windows would have required an aperture panel which could accommodate the newer striker plate.

Since YDO4/V was fitted with winding windows it must have used the cover plate HYA3707 and photographs indicate this is the case.

4. Sealing instructions

Sealing instruction drawings show various body features which are of interest to the topics of this article. For YDO4, YDO5 and YDO6, the drawings (HYA3864) are dated July 1965 and include Van sealing instructions.

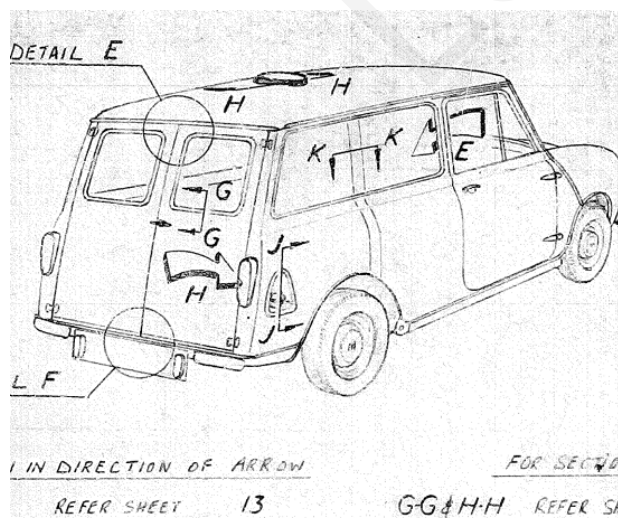


Fig. 4.1 Sealing instruction introduction YDO4/V dated 7/1965

These drawings would appear to indicate that body development for YDO4 and YDO4/V progressed in parallel.

The drawings show two versions of the floor panel, but both are dated July 1965.

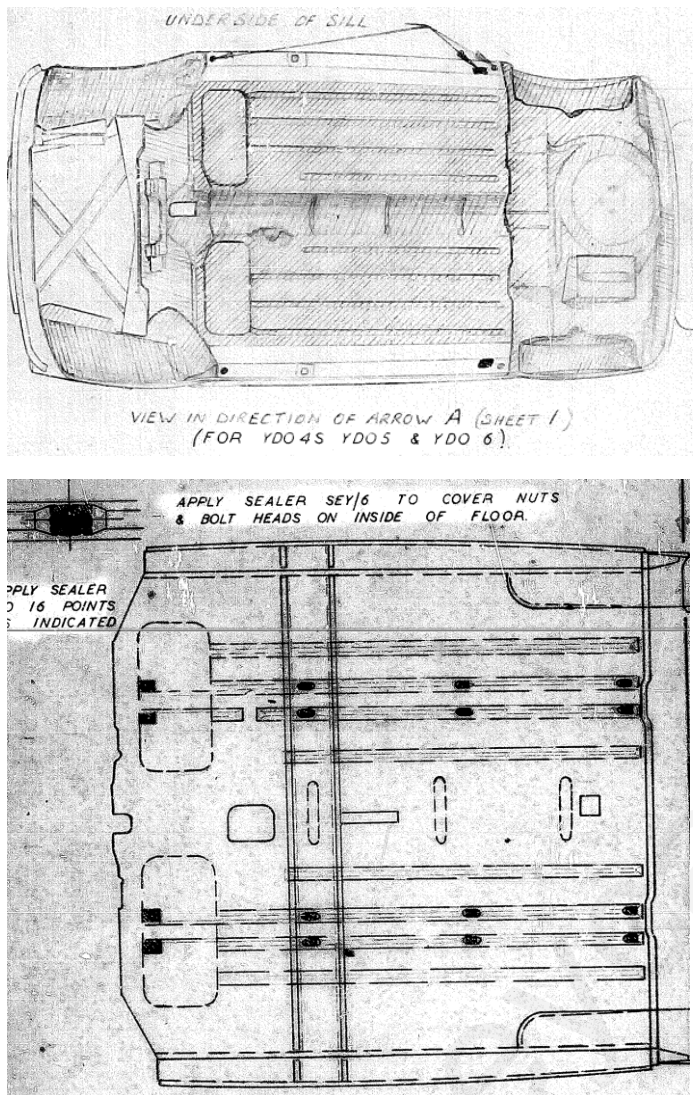


Fig. 4.3 Sealing instruction YDO4, YDO5, YDO6 dated 7/1965 showing no floor channels (Sheet 5) and with floor channels (Sheet 40).

This article was prepared by Tony Cripps, Peter Davis and Ron Moss during the year before Davis and Moss decease in 2022/2023 respectively.

Tony Cripps, Feb 2024