

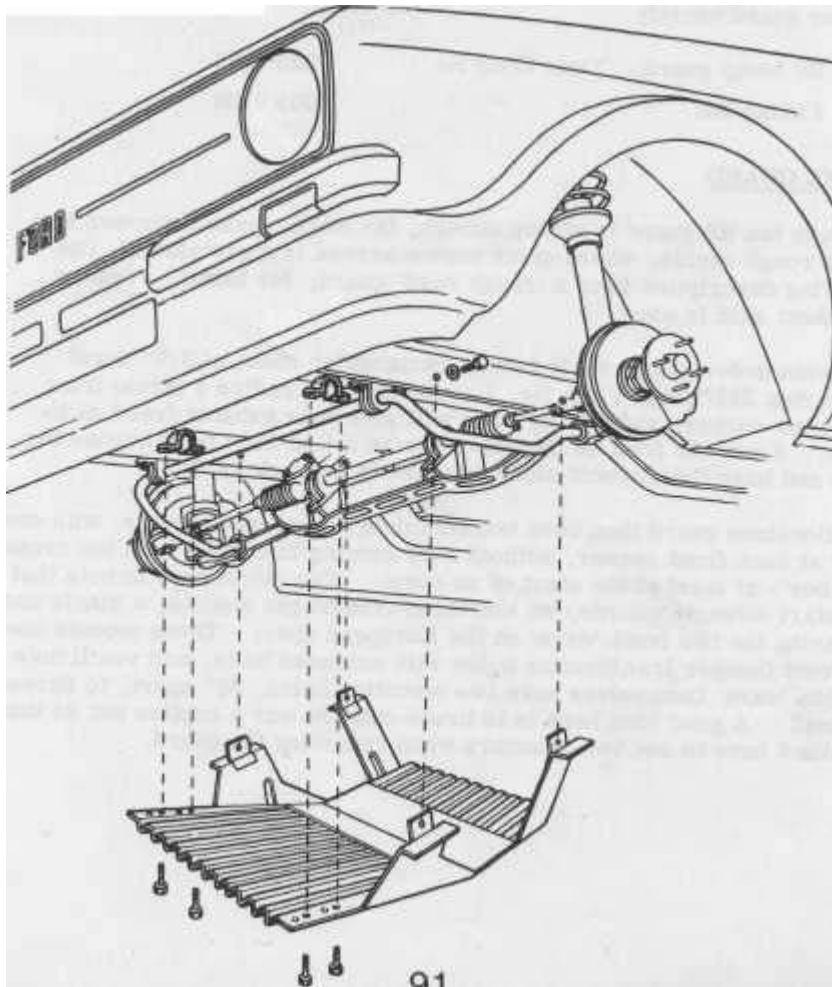
10.0 Underbody Protection

UNDER PROTECTION

10.1. THE RS PARTS SUMP GUARD

A magnesium alloy sump guard was always standard wear for any self-respecting Escort rally machine in the past, but supply problems and soaring costs resulted in RS Parts producing a light, thoroughly proven and engineered guard made of steel.

Latitudinal swages and strategic reinforcements give the guard exceptional strength without any sacrifice in weight. Weighing in at under 24 lbs gives the new steel guard a 6 lb advantage over other magnesium alloy guards. The material used is a special high carbon spring steel which was chosen because of its high impact, strength and resilience, and of course, there are none of the corrosion problems which plague magnesium alloys, therefore the life expectancy is much higher.



Four sturdy mountings bolt onto the chassis side rails and add to the overall strength of the body shell, while two additional mounting points clamp onto the stabilizer bar giving the bar better location and doing away with the necessity of fitting double width stabilizer bar mountings (a great advantage in Group 1).

Initial fitting of the new guard is much simpler, and access to steering and engine components is just a matter of undoing 4 bolts and swinging the guard forward. Another advantage lies in the fact that it does not bolt under the crossmember, which otherwise tends to bend under the pounding of forests.

The new RS sump guard is designed for all derivatives of Escort I and II. You can use it on a Gp 4 car to better effect by cutting off its first two inches, thereby clearing your twin roll bar brackets and anti-roll bar, which will make for easier access when you bend one. Also, if you are using one of these guards, and are having your bodyshell prepared by someone like Safety Devices, make sure you take your guard along with you, as the positioning of the support brackets varies slightly; they will be able to insert and weld the mounting tubes inside the chassis rails to fit your guard exactly.

RS sump guard: Finis Code No 905 2879

Fitting kit: Finis Code No 905 2780

10. 2. WORKS GUARD

Although the RS guard is strong enough, the works make their own for really rough events, where quick engine access is a premium. The following description is of a 'rough road' guard; for tarmac events a thin short skid is used.

The main undertray is made from a rectangular sheet of 3/8" dural measuring 22½" x 24½" - see fig. 1. Arcing a 6" radius ¼ circle from each rear corner, and cutting away will give your exhaust freedom to move. From the front of the guard scribe a line 11½" back across the plate and have the tray bent along this line to an angle of 8°.

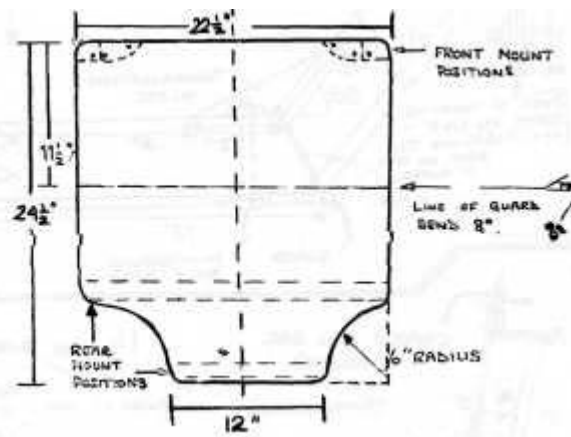
The Boreham guard then uses two complete transverse mounts, with one 'ear' at each front corner, without ever coming in contact with the crossmember - at least at the start of an event! You might care to note that on Safari strength guards, we use three transverse mounts, a single one replacing the two front 'ears' on the European spec. These mounts use the front bumper iron location holes with extended bolts, and you'll note that the 'ears' themselves have two mounting holes, 3¼" apart, to spread the load. A good idea here is to braze onto the ear a captive nut so that you don't have to use two spanners when removing the guard.

The middle mount does not bolt at all to the chassis rails, but with the insert of a hard rubber pad 'Araldited' to the mount, merely sits against them. This middle transverse mount is bolted to the guard just before it narrows down, and when dropping the guard comes down with it.

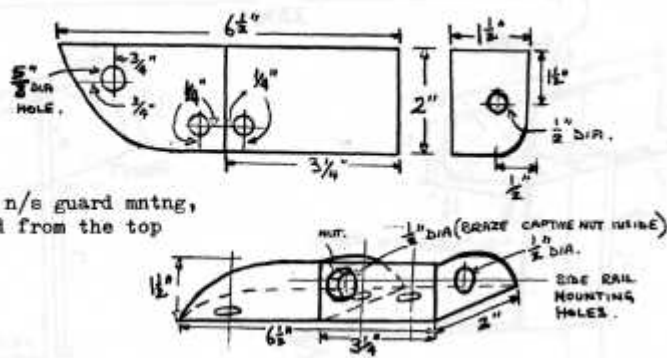
The rearmost mount is again bolted to the guard, and positioned approx 1" from the very back of the dural sheet. The chassis mounting of this is not through the chassis rails, but by a lug welded to the rails. From the drawing (not to scale) you will see the dimensions of the mount, and all Boreham do is duplicate the outer flange and weld one to either chassis rail, and, by one bolt only on either side, (for ease of removal) mount the rearmost mount to the chassis.

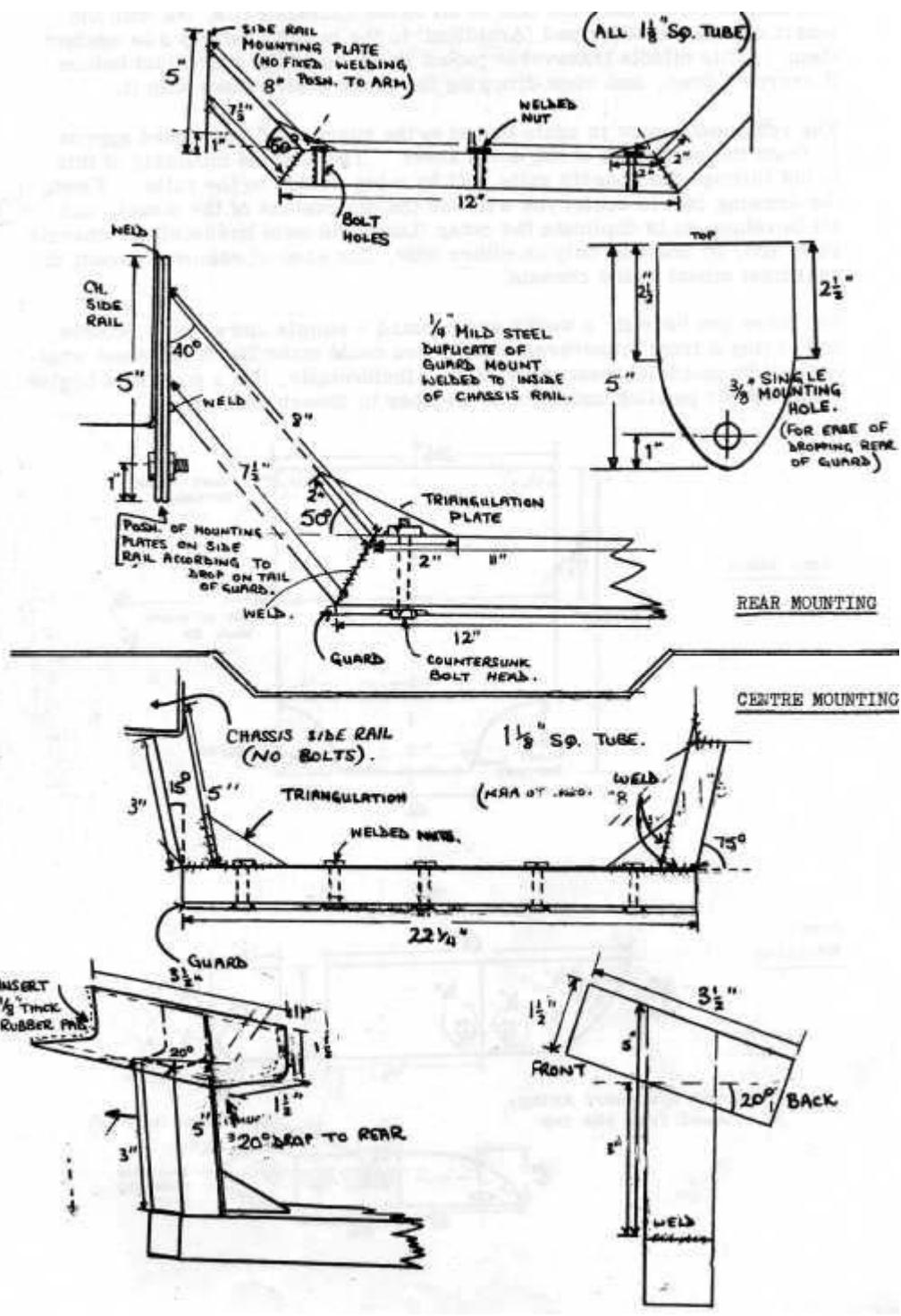
So, there you have it, a works sump guard - simple and easy to remove, and, using a front transverse mount, you could make the dural sheet what-ever width and thickness you wanted. Incidentally, it's a good idea to glue some rubber padding under the X member to absorb thumps.

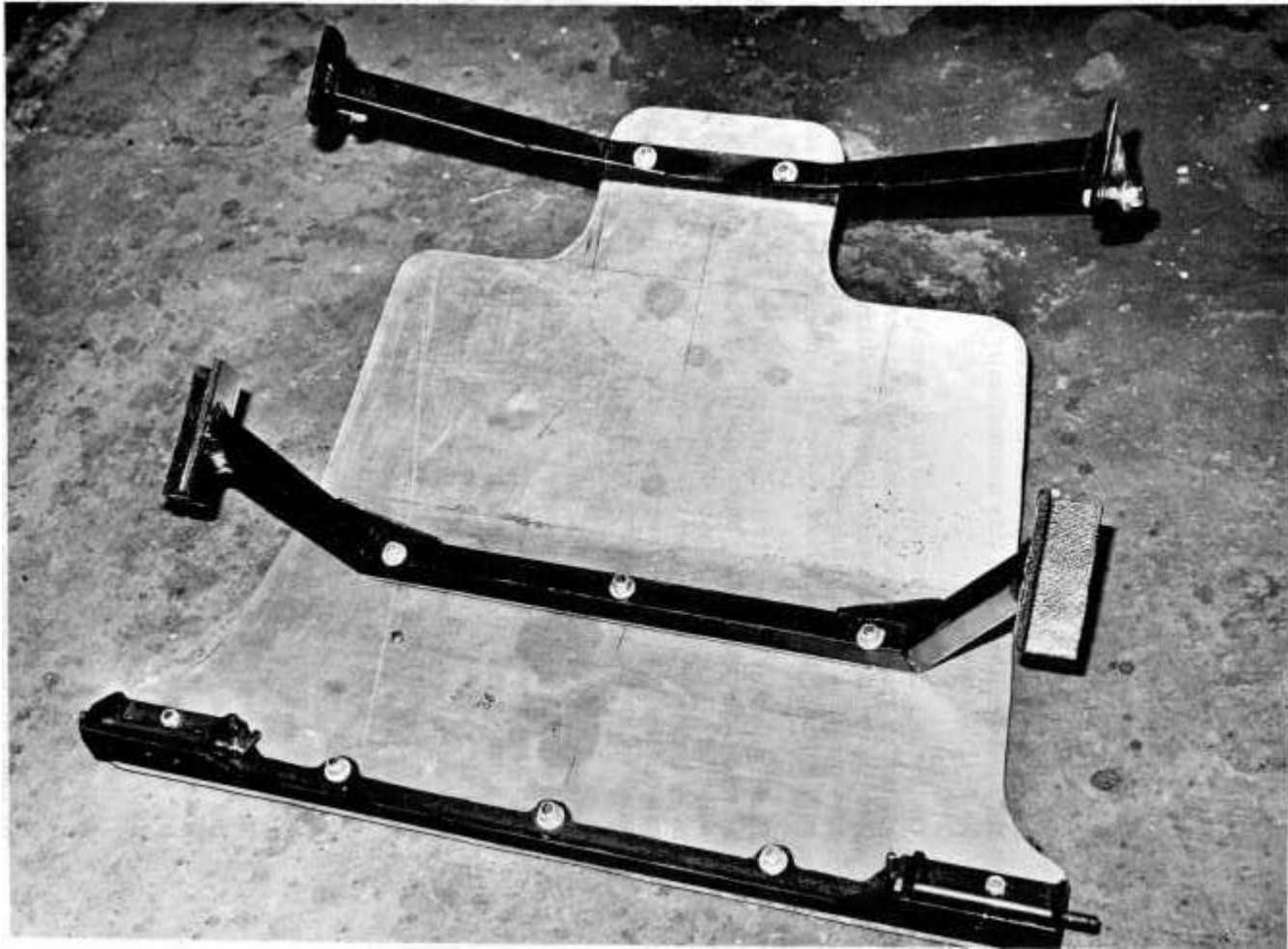
Sump Guard



Front Mounting







Boreham Sumpguard Complete

10. 3. UNDER THE CHASSIS

Under the car, pay attention to the leading edge of the chassis rails, since where these reach their lowest point is the most vulnerable area on the floor pan. The constant pounding from rough roads, rocks and dips can severely effect the strength of a body shell at that point. It is therefore advisable that you should make up a skid from 16 swg sheet steel and weld it from the inner edge of the chassis rail to the edge of the bottom sill panel, flush with the front edge of the doors.

Safety Devices, incidentally, make some very effective skids for both Mk I and Mk IPs, which they automatically fit when they prepare a Gp 2/4 body shell.

The brake and fuel pipes should be disconnected and fed inside the passenger compartment by rerouting and bending where necessary. Use grommets where 'bundy' pipes pass through sheet metal. Also pay special attention to the safety rules from the RAC 'Blue Book' and ensure petrol pipes are double covered when inside the passenger area.

Brake pipe shields, particularly around the back axle, are a must, and a few hours spent making these up will pay real dividends in terms of reliability. Besides, losing the use of rear brakes on a forest will make a driver age very rapidly. While we're on the subject, always use flexible hose coil protectors, and always run the piping behind the axle, rather than above or in front.

Differential guards are described in the chapter on axles, which leaves the rear valence. This tends to get destroyed very rapidly, as it gets regularly ripped off when the rear suspension is on full bump. One idea is to cut off the valence area directly below the rear floor pan, which will also help keep the car light. A good alternative (very necessary on Gp 1 cars) is to fit a valence skid. This is fitted in production on most export models, and you should order one from your local Ford Dealer. This is a mainstream (ie not RS Parts) part, and comes under finis code 144 4450, both for Mk I and Mk II models.

10. 4. EXHAUST SYSTEMS

The first thing to remember when fitting exhaust systems, is that even the best and most expensive system will not be a straightforward fit on to your car. You have to be prepared to spend quite a few hours making it fit, tailoring it to the shape of your floor pan, and most important, fitting it as snugly to the body as possible.

Golden rules are to skid all silencers both on the front and rear edges and to doubly secure mounting rubbers by loosely fixing a loop of wire to prevent the exhaust falling on the track, should the rubber 'O' rings split " or come off the mounting hooks.

Equally so, it is inadvisable to clamp the joints between manifold and centre pipe, as well as that between centre pipe and tail pipe, as all the vibrations created by an excessively rigid system, tend to fatigue exhaust manifolds which end up cracking. The best idea here is to weld two 5/16" nuts on both sides of the exhaust, with each of the two nuts on either side of the joint, and to loop these together with wire. This will hold the two pipes together, allowing them to move within each other, thereby reducing the ill effects of vibration.

The following exhaust systems are available from RS Parts:

Escort RS Mk I RHD Only		Escort Mexico Mk I RHP Only	
Manifold	905 1876	Manifold (W/Cup)	905 1427
Connecting Pipe	905 1292	Connecting Pipe	905 1292
Tail Pipe	905 2064	Tail Pipe	905 2064
Group 4 Escort RS 1600 /RS 1800 Mk I and Mk II			
Manifold	905 4006		
Connecting Pipe	905 4007		
Tail Pipe	905 4008		

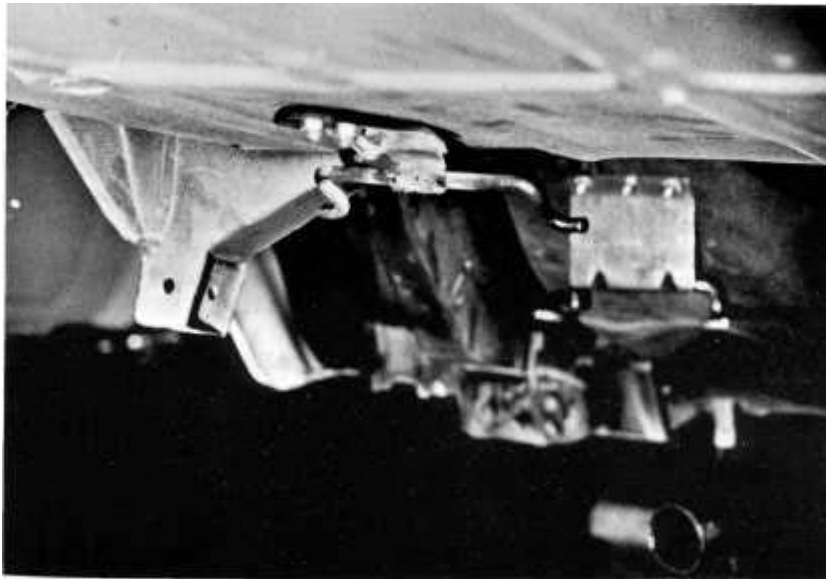
The first system listed (Mk I RS1600) is only really suitable in the case of 1600cc or 1800cc BDA engines. For any Escort SOHC derivatives, you can obtain suitable systems from Janspeed.

On the central downpipe, try to get this as near the propshaft tunnel as possible, and, if you can, make a recess the length of the car just on the corner of the tunnel in which the pipe can sit.

10. 5. EXHAUST MOUNTINGS TO BODY

The works put one mounting in front of the rear axle, one behind the rear axle, one on the extreme rear of the silencer, and one at the base of the downpipe; this means that the system is free to move about in the middle section. About one inch of upward movement is left before the system starts to hit the car floor. The actual mountings used are standard Ford rubber 'O' rings.

For additional protection, mount skid plates on the manifold, centre section, and rear section. These are basically simply steel strips tacked on. On the works cars, no exhaust clamps are used at all.



rearmost silencer mount with Panhard rod mount in background



Front silencer mount



Tight exhaust manifold fit on I.h.d. car