DISMANTLING YOUR DONOR MINI & BUILDING YOUR SCAMP

The following instructions are intended to help and assist the builder towards the completion of the Scamp MK2 and Scamp MK3. An invaluable asset will be a Mini Workshop manual as all the mechanical components will remain basically unaltered.

To answer your questions :-

1)Choosing your donor vehicle.

2)What tools will I need for the job.

3)What you will need from the old Mini?

4)Build up.

1)Choosing your donor vehicle:-

The Scamp can be supplied as a complete Knock Down Unit (KDU) and supplied with every last nut and bolt with all components that you will require to complete as a finished vehicle a true complete component Kit package. Alternatively the Scamp can be supplied as complete body chassis unit to create a new vehicle from a donor vehicle.
Before settling on the donor of your choice, shop around, for there is an inexhaustible supply of donor vehicles for your new Scamp.
Bear in mind that the body and rear sub-frame will be discarded, so even the tattiest donor vehicle, with good mechanicals might supply the necessary parts that you require. Even a severely damaged late example might be considered, if the front sub-frame and power-unit is intact.
However we would suggest that you purchase a "runner" in order to test out the mechanical parts. A good example might be found for as little as £50 after a bit of haggling.
Remember that the seller will attract very few buyers in the circumstances and that you have a definite advantage. For preference, locate a post-76 model with dual circuit brakes and big bolt subframe (though the Scamp chassis will take the earlier subframe and mechanicals). The ultimate find would be the post-76 1275GT or any post -82 Mini equipped with 8.4in diameter front disc-brakes. The 1989 spec. Mini is fitted with a servo and disc brakes.

2)Tool List:-

Basic Tools
Combination A/F and metric spanner and socket sets from 1/4" AF for the rear brake bleed nipples through to 1 5/16" for the steering wheel nut and front hub nuts.
Mole grips, pliers, wire cutters, tin snips (monodex cutters are really handy) and crimping tools for the electrics.
A trolley jack would be really useful, but axle stands are a necessity. Lifting tackle if necessary.
Hammer, cold chisel, centre punch, dowel pin punch (for gear lever removal if required). Impact screw driver. Selection of screwdrivers flat and cross head. Wire brush, penetrating and lubricating oil, hacksaw, selection of files. G clamps 4" and 8". Clean rags & news papers.
Drill bits 3.3mm (1/8"), 3.5mm, 8mm (5/16"). Electric drill 10mm capacity, extension lead, lead light.
Pop rivet gun. Sealant gun.
Special Purpose Tools For Maintenance and Repair:-
Ball joint separator (with scissor action) for the front suspension ball joints and steering track-rod-ends. Deep socket for repairing front suspension ball joints 1 1/2" AF.

Brake adjuster spanners 5/16AF square and square open ended, special six sided brake pipe spanner 7/16AF. Brake fluid and bleed tube with container. Brake pipes and brake hoses can be purchased from The Scamp Motor Company.
Oil can, drip tray, grease gun, emery cloth, cleaning rags brushes and degreaser (jizer).
Bench vice, Torque wrench, Battery charger.
For fault finding :- Electrical multimeter, compression tester, strobe timing light.
Special Mini service tools :- Inner drive shaft remover, flywheel puller, primary gear oil seal remover, suspension compressor.

3)DISMANTLING THE DONOR MINI

To assist the builder towards the completion of the Scamp Kit, a Mini workshop manual (the best that I have found are the genuine Rover or Haynes Workshop Manuals), should be consulted at all times the mechanicals should remain basically unaltered.

When stripping down your old Mini, time and care dismantling the various components will pay dividends later. Old and worn parts, apart from being perhaps dangerous, will look out of place on a new vehicle. It is best if possible to replace these parts now. Many new component packages can be supplied with your Scamp Kit and are available from the Scamp Motor Company.
Suspension parts,such as the front subframe and its contents will benefit enormously from a coat of paint, as will the rear radius arms and trumpets. The engine at this stage could be given a thorough overhaul, clean and a coat of paint.
The wiring should be kept as intact as possible. The Mini is normally wired in two looms one front and rear, these join at the bulkhead, however the Rover Group have made several variations over the years so be careful here. Labelling each wire with its location written on a piece of masking tape at the dismantling stage will save headaches later on.
1. After removing the battery and both its leads to earth and starter-motor solenoid. Remove the wiring loom labelling each connector as described above, try not to separate the loom at the bulkhead, but if this proves necessary it will be a simple case of reconnecting the right colour coded wires back together. Also at this stage the dash board will have to be removed, together with the speedo cable and if fitted, the oil pressure gauge feed pipe and all the switches and connectors.
Continuing with the electrics, the following electrical components will have to be removed:- Head lamp units complete with their bowl, adjusters and wiring loom, front indicators and repeaters with wiring, front side lights (if fitted), rear lamp units will be supplied with your Scamp Kit, number plate lamp, reversing and rear fog lamps, earth strap to engine, horns, starter motor solenoid, fuse box, regulator, windscreen wiper motor and track, windscreen washer pump and system, steering column with switches and all fittings intact, heater unit,

2. Working on the interior:- remove the seats with all their fittings, the seat belts, the heater ducting, gear lever & gaiter, hand-brake lever & cables, removing the carpets for access unscrew all the front subframe nuts & bolts, steering rack U-bolts, gear-lever securing nuts, extract the brake and clutch master cylinder split and clevis pins, remove the throttle pedal, throttle, choke and heater control cables.

3. Drain and remove the petrol tank, unscrew the front & rear shock absorber top nuts and loosen from their mounting. Remove the alternator, distributor cap with plug leads (numbered 1342 anticlockwise) and rotor arm, disconnect the exhaust system and remove with all its mountings, remove the carburettor, fuel

lines, radiator and hoses, heater and hoses, top engine mounting, brake & clutch master cylinders with clutch flexible hose, disconnecting the brake pipes. The complete front subframe assembly should be ready for removal with the aid of several helpers the Mini body shell can be lifted over the propped up subframe and pushed away on its rear wheels.

4. Remove the remaining components such as the pedal assembly and brake pressure reducing valve if fitted before either jacking up the rear of the shell or rolling it over to reveal the rear suspension. The rear subframe will not be required but you will have to remove the radius arms, pivot shafts, thrust washers & rubber seals, shockabsorbers, suspension trumpet struts, rubber cones, hand brake cables and linkage.

5. Your Scamp will not take any of the glass, doors, bonnet and boot or their fittings and trim, so all this can be sent to the scrap yard with the redundant body shell (keep the number plates and log book for further reference).

4.)BUILD UP

The Scamp chassis should be painted prior to fitting the panels and mechanicals. I use ICI LONGLIFE ETCH PRIMER FOR BOTH CHASSIS & PANELS see: Price lists.

I have also tried Finnigans Smooth and Hammerite with some success.
I have always found it easier to fit the mechanical/running gear before fitting the panels as you will have much more space and access.

1.Fit the rear Suspension Radius Arms with brackets (item No.2), ensure that you replace the washers in their original order. Tighten the pivot nuts before tightening the bolts securing the angled brackets to the chassis. This will give accurate alignment.

2.Fit the rubber cone and trumpet, re-grease the knuckle joint or renew if worn out. Fit the shockabsorbers, this will now lock every thing in position. The scamp will sit rather high at the back without any other mechanical gear fitted in the chassis, so you will need some extra help to weight down the rear of the chassis to fit the shock absorbers. See attached sheet for modifications to alter the spec. of the rear suspension for heavy duty or off the road work.

3.Bolt the brake pressure reducing valve (early single brake line system) or brake T-piece (dual brake line-front/rear split system) to the pre-drilled rear diagonal chassis member and fit the corresponding brake pipes across to their flexible hoses and onto the rear drum brakes. New brake pipes and hoses with new copper washers should be used throughout, see price lists for details. If you now fit the rear wheels the Scamp chassis can be moved around without too much effort.

4.Install the steering rack using item No.1, the alloy blocks. Ensuring that these blocks are fitted the right way round (see inset).The rack assembly should be loosely fitted to the chassis using the correct Mini U-bolts and new locking nuts. DO NOT TIGHTEN the nuts at this stage.

5.Fit the front subframe, if you have additional assistance the Scamp chassis can be lifted over the front sub-frame complete with its engine and gearbox. Though it may be easier to fit the bare subframe followed by the power unit. Drill the front subframe lower mounting holes as required and fit the rubber

6.Refit the front suspension and brakes. Renew as necessary all worn components and always renew the brake pipes. Fit the drive shafts, hubs and front wheels.

7.With the front subframe fitting perfectly and the suspension and brakes rebuilt, refit the power unit, refit the engine mountings and tie bar, which locates in the pre-drilled chassis member with the nuts bolt and washers supplied, not under the master cylinder plate as on a Mini. Fit the remote gear change linkage, the rubber mounts can be bolted to the alloy floor panel later.

8.Fit the pedal assembly, the mountings are pre drilled on the front subframe top chassis cross member, but not on the dash cross member.

9.Fit the steering rack, drill holes for the top bracket which must also securely support the pedal bracket assembly. Readjust the steering rack position to suit the steering column and tighten up the locking nuts on the steering rack only.

10.Fit panel 4, the scuttle/toe panel. To do this, remove the steering column and pedal bracket assembly. Centralise this panel and clamp in position to the sloping section of the front floor-well. Split the panel to give clearance for the pedal and master cylinder linkage, do not cut this section out as it can be folded back to form a seal in front of the linkage. Refit the pedal bracket assembly. Drill a small hole for the and refit the steering column, ensuring that all nuts and bolts are tight and secure. NOTE:- if you think the column veers to the right, don't worry this is perfectly correct and will not affect the handling of your Scamp.

11.Install the remaining brake pipes, the master cylinders can be fitted later.

FITTING THE PANELS

12.Prior to fitting, the panels should be painted with aluminium etch primer which can be supplied with your kit, I use ICI Autocolor Long Life Etch Primer + activator, which can be brush or spray painted and dries very quickly. The panels can now be glued and/or riveted in place, any joint that presents itself to the outside should be sealed off with the sealer supplied. The polyester adhesive sealer is strong enough if the adjoining surfaces are clean and grease free to glue the panels in position. The adhesive takes about 2 hours to go off so the panels would have to be clamped in position for this period. (extra tubes can be ordered from the Scamp Motor Company). Once all the panels are fitted the Scamp can be given its top coat of paint, though you may like to fit all the remaining components so as not to scratch the paint if further holes have to be drilled.

13.Fit the panels 3a and 3b to the scuttle/toe panel 4, they are handed left and right and should match the end contour of panel 4

14.Fit the dash panel 5 which joins under the cross-member you will have to trim away a small section to clear thee steering column and pedal brackets. This panel also fills in the gap from the scuttle/toe panel to the cross member and follows the leading contour of the A-frame.

15.Fit the throttle cable and pedal using the scuttle/toe panel as a base for it, ensuring that it has enough travel for full throttle and won'get caught under you foot when applying the brake.

16.Fit the front wings 11a and 11b. on the Scamp MK2 these form a gutter channel which supports the bonnet. Try the bonnet at this stage for a good fit and fit the bonnet rear locating chanel panel 12 against the scuttle/toe panel 5 and windscreen wiper panel 5a and bonnet return/stop angle strip 15. The spare wheel can be bolted through the bonnet to a supporting frame available as an optional extra, or it can be situated behind the front seats, on the rear hood frame, on the roof panel, on the rear chassis or on our specially fabricated swing out spare wheel carrier.

17.Fit the head lamp panels 8a and 8b, ensuring that the grill 9 and 10 fits with these.

18.Install the front inner wing/mudguard panels 7a and 7b (with the cooling holes for the radiator). these panels may be attached to the front subframe lip with self tapping screws for ease of maintenance access.

19.Fit the small panels 6a and 6b handed left and right, to seal off the engine bay from road wheel dirt.

20.Fit the main side panels 18.

21.Fit the rear mudguard panels 20a and 20b, handed on the MK3 with the lower lip facing inwards to support the rear floor. On the Scamp MK2, remove the shockabsorber to drill its hole through the panel.

22.Fit the rear flat panels for the rear lamp units and mud guard ends. Also fit the rear lamp units, ensuring that the indicator lamps are above the stop and tail lamps, earth leads can be taken from the rear lamp fixing bolts or screws and should be greased for trouble free service.

23.Fit the rear panel/tail gate panel and rear floor panel to complete the rear body work.

24.Fit the grill and grill panel. The SCAMP logo can be glued to the grill frame with the polyester adhesive.

25.Fit the handbrake cables with the cable guides bolted through the centre hole in the rear chassis cross member using the lock-nut and bolt supplied. (the latest single cable at the rear and single cable to the hand brake lever will fit the best, saloon cables for the SWB and estate/van cables for the LWB and MK2). The later type handbrake lever will bolt directly to the chassis without any further brackets with the nuts, bolts and washers supplied, several spacing washers are supplied to provide clearance. The cable with this set up will be completely outside the bodywork. The earlier twin cable set up will fit equally as well with the two brackets supplied for mounting the handbrake lever on the chassis .Holes will have to be cut for the cable to go through the floor.

26.The floor panels can now be fitted after trimming to clear each corner and roll bars. Sealer should be used around the edge to form a leak proof passenger compartment. Panels 4a may be necessary for the Scamp MK3 to extend the scuttle panel 5 to meet the floor panel. Don't forget to cut holes for the seat belt mountings and remote gearlever. Bolt the gearlever mountings

27.Install the clutch and brake master cylinders with their brake and clutch pipes, fit the clevis pins with new split pins.

28.The windscreen wipers are fitted by drilling holes for the wheelbox spindles in panel 5 or 5a for the MK3, so that they clear the bonnet location channel 12. They should be positioned and spaced as on the Mini, though the larger windscreen will take 12 inch wiper blades. You will also have to replace the wheelbox rubber spacers, I have found that the front suspension tie bar bushes are a perfect fit with out any modification and will form the right angle of attack with the windscreen. Another neat trick, to hide the wiper track, can be achieved by dismantling the wiper tracking and reassembling the wheelboxes upside down, so putting the tracking high up out of the way. The wiper arms and wheel boxes will have to be repositioned accordingly. If the wiper arms self park in the upright position, then you will have to reposition the switch ramp on the drive gear wheel inside the wiper motor assembly.

29.Fit the windscreen washers on panel 5/5a and redirect the jet as necessary. I prefer to use an after market jet washer which are far more durable and adjustable than the plastic Mini type. There is room also on panel 5 to locate the washer bottle and electric screen wash pump if fitted. I wrapped a short length of the screen wash hose around the heater hose-an ideal improvement for those colder winter mornings.

30.As mentioned at the beginning, if you have taken care and time to dismantle the wiring, it should prove reasonably easy to re-install. You will need to drill a hole through panel 5 to run the necessary wires to the dash panel 17. The other wires can be taken across the bulkhead, and through at the furthest possible left hand point. You can either trail the loom to the rear along the near side or, preferably, secure it to the inside top flange of the left hand side panel. Note that if an electrical fuel pump is used it can be located under the bonnet slightly below the level of the carburettor float chamber (ensure that the electric feed wire from the loom or fuse box turns off with the ignition). Also the live of the interior courtesy light can be disconnected and used as an accessory live feed. The wire to the fuel gauge sender unit should be extended from the loom as required.

31.The instrument panel is pre-cut to accept the large Mini speedometer and has room enough to accommodate other instruments and switches, to the preference of the builder. Remember when laying out your instruments, to give them a good field of view and keep them within reach of the driver. The Mini Clubman and 1275GT type instrument panels will fit into the dash panel, but will require some minor cosmetic trim to finish off.

32.The earlier Mini Metro instrument panel will also slot straight in and looks perfect as it provides all necessary gauges and dials in one component, the MG Metro instrument panel will also provide a tachometer, though the speedo may need recalibrating. The electricals will require joining through a connection-block, a simple operation of matching up the colour coded wires with the Mini wiring loom and supplying a live feed for the clock etc. A metro speedo cable will fit the Mini gearbox.

33.The remaining electrical components should now be fitted and connected up, earthing leads can be taken directly from the body work, though if the panels are purely glued on, each earthing panel will have to be earthed separately to the chassis.

34.The windscreen is glued into its frame with the adhesive/sealer and secured in place with the angled strips, which can be either riveted or clamped in position while the adhesive dries. Excess sealer can be wiped off with a clean rag soaked in "brake cleaner", but make sure you don't take the paint off with it.

35.EXHAUST:- For the Scamp MK2 and LWB MK3 a standard Mini Van/Estate exhaust should be used and mountings can be taken from the centre/rear chassis cross-member and the rear mount can be bolted to the rear suspension support using standard Mini Brackets. The Scamp MK3 SWB will take either systems suitably shortened, the joint can be welded or sleeved with an over-sized tube split and clamped together with U-bolts. For those with a tuned engine most types of special tubular manifolds will fit, even for the Metro twin down pipes. I can recommend the three branch manifold for durability, this type is a two piece welded pressing and would normally be used on the 1275GT Mini.

36.WHEELS AND TYRES As a brief guide line, your donor vehicles wheels and tyres should be used on your Scamp so as not to effect the original handling, noise, braking and gear ratio characteristics. You may wish to fit chunky and wider off road wheels and tyres to give a more aggressive and practical off the road appearance, mud&snow pattern tyres should be available in most sizes-see your local tyre specialist for further advice.
The Scamp Motor company should be contacted for further advice if non-standard wheels and tyres are to be used.