

## **BUILD-UP MANUAL FOR KIT DUTTON SURF (samurai)**

**This manual - Jan 2017 - takes precedent over all earlier dated editions. Do not download until you have the kit as we are continually upgrading the manual**

If there is anything that does not make sense please advise, we are always interested in any comments that might improve the build-up for the benefit of other builders

It is recommended that you fill in the following and keep this manual with the completed Surf, it will help with obtaining parts at a later date

**DUTTON CHASSIS # (17 digit):- DUTTON4X4SURF\_ \_ \_ \_**  
**SUZUKI CHASSIS # (17 digit): -**  
**SUZUKI REGISTRATION #: -**  
**SUZUKI REGISTRATION YEAR: -**

Most Suzuki's were either made in Japan or Spain, Japanese models have 2 reversing lamps the Spanish have 1

**ITEMS THAT ARE SUPPLIED LOOSE (i.e. not pre-bolted to the hull/deck) ARE HIGHLIGHTED IN GREEN**

Nomenclature: -

LHS = Left as viewed from sitting in car  
RHS = Right as viewed from sitting in car  
LHD = Left hand drive  
RHD = Right hand drive  
PS = passenger side  
DS = drivers side  
Wet side is any part of car that is contactable with water  
Dry side is any part of car that does not come into contact with water  
ss = stainless steel  
Brk = bracket  
Dia = diameter  
# = Suzuki part number  
i/d = inside diameter  
o/d = outside diameter  
IVA = Individual Vehicle Approval  
ffm = full and free movement  
GRP = Glassfibre reinforced plastic (FRP in some countries)  
F = front  
R = rear  
m = male  
f = female  
Nylock = self locking nut  
SVA = Single Vehicle Approval (now obsolete)  
Plain washer = normal outside dia (2 x i/d)

Penny washer = oversize outside dia (3.5 x i/d)  
MS = mild steel  
1" (inch) = 25.4mm  
cyl = cylinder  
hex set = hexagonal headed fully threaded bolt  
damper = what people incorrectly call a "shock absorber"  
WD = WD40 anti fling motorbike chain wax(or  
equiv)

All pipes/hoses/wire/cables etc must be supported every 300mm

We recommend the Haynes manual to aid assembly # 1942

All Non ss parts (axles/suspension etc) fitted to wet side must be properly cleaned, all loose rust removed and painted with grey primer, undercoat and black top coat. (apart from braking surfaces and where for example the brake disc or propshaft etc mates to the axle)

When applying mastic, degrease all surfaces and surround bolt holes with a bead of approx ¼" (5mm) dia

A full list of nuts & bolts/hose clips/wire etc is supplied with the kit

EVERY HOLE THRU THE HULL MUST BE SEALED WITH MASTIC

NEVER USE A SELF TAPPING SCREW UNDER THE WATER LINE THAT BREAKS THRU THE HULL (it could eventually fall out) SIMILARLY ALL NUTS/BOLTS ON THE HULL THAT ARE UNDER THE WATER LINE MUST BE SELF LOCKING

## THE BUILD-UP

### REMOVE THE FOLLOWING: -

DOORS remove from hinge and remember number of any washers fitted

BONNET, knock out brass pins in hinges

REAR LUGGAGE PANEL

JET DRIVE SHAFT COVER

TRANSFER BOX COVER then refit jet drive shaft cover. NEVER STAND ON THE JET DRIVE SHAFT, only remove cover when required

### PAINT

Rub off any sharp parts of GRP and using grey paint, paint inside face of: - bow, engine bay, 4 inner wheel arch, underside bonnet, hard top, targa,

### TRANSFER BOX

This is always factory fitted and requires no further work. SUPPLIED DRY SO FILL WITH EP80 OIL, rather than taking out the filler plug it is easier to remove the gear lever and fill thru this hole so oil is level with base of casting under lever hole

TICK when filled.....

Fit speedo cable, check that it is fully retained by the screw

### STEERING BOX

Grind box flush to original machining face, grind off all paint to ½”



clean surface and face of rubber shaft seal (replace if leaking), mastic face it does not matter if you get mastic on the shaft.



Lay **seal** on top of mastic and press down (upgraded now GRP seal)



Smooth mastic on back face to ensure complete seal. Leave for 24 hours then paint



Paint **front cross member**, bolt steering box to cross member, fit and bolt up to shackle brk then paint all bolts etc

### **STEERING BOX**

Fit steering arm, check that line stamped on end of shaft and arm line up. Remove outer dust shield from steering damper and bolt up with **1 off M8 x 60 12.9 high grade bolt, 1 off M8 nylock, 2 penny washer, 1 off ½" o/d ss sleeve** and on other end **1 off M12 x 55, M12 nylock**

### **FRONT AXLE**

THIS MUST BE FULLY CLEANED AND PAINTED AS DESCRIBED ON 2<sup>nd</sup> PAGE

**NEVER** tow a Suzuki unless you have freewheeling front hubs, if you do you **WILL** destroy the gearbox (refer to Suzuki manual).

If your front springs have weakened because of age or hard use an additional single leaf specifically designed to “beef up” the front can be fitted, these are available from us (details on “parts for modification” sheet)

Bolt up rebound rubbers to hull



Remove vent cap and cut tube to 1/2" proud. Tap [plastic 90 deg elbow](#) into tube, seal with mastic.. Attach [8mm i/d x 21" rubber breather tube](#) using [25mm light ss hose clip](#)

The axle spherical ends must be smooth, if they are rusty they WILL leak so remove the hub and remove all rust and re-paint, if required replace the seals etc, #: -

Rubber ring 09285-00002

Felt 45600-82810

Outer metal ring 45625-63001

Stub axle oil seal 09283-50002



Check EP80 oil level, TICK when filled..... -

Bolt up axle to rear ss brk on hull

Assemble the split Suzuki axle shackles onto front ss brk and axle leaf spring.

Loosen all 4 axle U bolts so leaf springs can settle, then re-tighten

Bolt up front dampers, use **lipped ss washers** in following sequence: - **Lipped ss washer** - half width rubber insulator - fit thru hull - half width rubber block - **lipped ss washer** - self-locking nut. Do not over tighten - just enough so damper is not loose

Bolt up **2 front flexi brake hose**, use mastic thru hull

Fit **breather hose** thru 15mm hole near top RHS damper mount and mastic so approx 3" is inside hull. **P clip** to outside of wheel arch, check ffm



## REAR AXLE

THIS MUST BE FULLY CLEANED AND PAINTED AS DESCRIBED ON 2<sup>nd</sup> PAGE

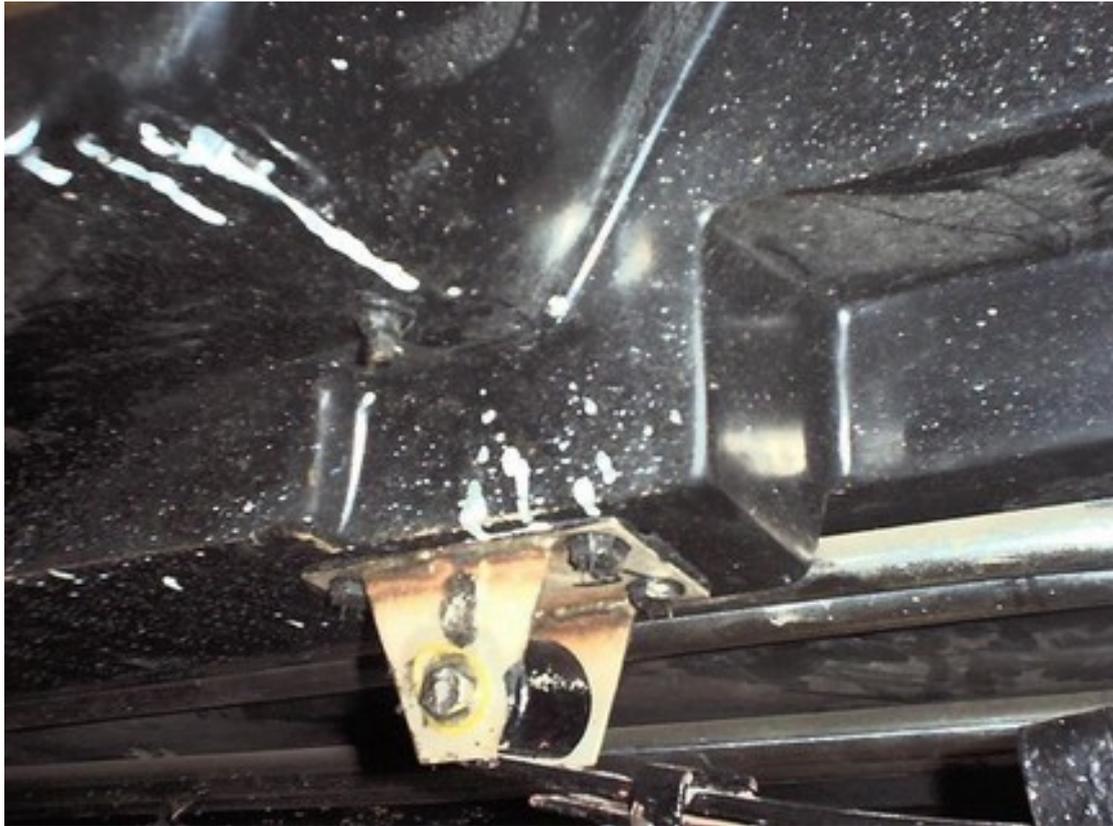
Remove vent cap and cut tube to 1/2" proud. Tap **plastic 90 deg elbow** into tube, seal with mastic.. Attach **8mm i/d x 29"** **rubber breather tube** using **25mm light ss hose clip**

Check EP80 oil level, TICK when filled.....

Strip down rear brake cylinders, carefully clean pistons and bore using 1200 wet or dry paper - clean and re-assemble, peel back rubber gaiters and pack with grease, check that grease will not leak out onto the shoes

Locate front retaining strap around leaf springs, if there is any open part of the 3<sup>rd</sup> leaf that is forward of this strap grind off flush with the strap

Bolt up axle to fixed front ss brk on hull



Assemble the split Suzuki axle shackles onto rear ss brk and axle leaf spring.

Loosen all 4 axle U bolts so leaf springs can settle, then re-tighten.

Bolt up rear dampers, by cutting the front shock insulators in half you now have 2 left over, cut these in half and use **lipped washers** in the following sequence: - **Lipped ss washer** - half width rubber insulator - fit thru hull - half width insulator - **lipped ss washer** - self locking nut. Do not over tighten - just enough so damper is not loose

Bolt up **rear flexi brake hose**, use mastic thru hull

Fit **breather hose** thru 15mm hole near top LHS damper mount and mastic, so approx 3" is inside hull, **P clip** to outside of wheel arch, check ffm

Type pressure rear 30 psi



### WHEEL NUTS

The threads must be covered in grease before fitting. Fit 20 plastic covers (filled with grease) over the nuts. If fitting locking wheel nuts do not use key type because they will corrode

### HANDBRAKE CABLES

EARLY TYPE (single main cable): - Fit cable thru hull to single hole in rear seat brk in front of timber panel

MID TYPE (2 short cables and T bracket): - cannot be used, replace with cables listed below, they are a direct replacement

LATE TYPE (twin main cables): -Fit cables thru hull to both holes in rear seat brk in front of timber panel. If the cables are different lengths fit longest on LHS. If replacing cables use longer type as fitted to LWB cars Suzuki # 45068 - 84C00

### AXLE PROP SHAFTS

Check condition of spline rubber boot and replace if damaged, Suzuki # 27153 B 83000

Split f and r props and fit part with female spline to flange on transfer box, these flanges are fitted with pre-welded nuts, use spring washers on these 8 bolts. Slide longer part of prop into splined part and attach to diffs. Check

knuckles are in phase. Grease up rubber boot and seal with cable ties at both ends to make watertight

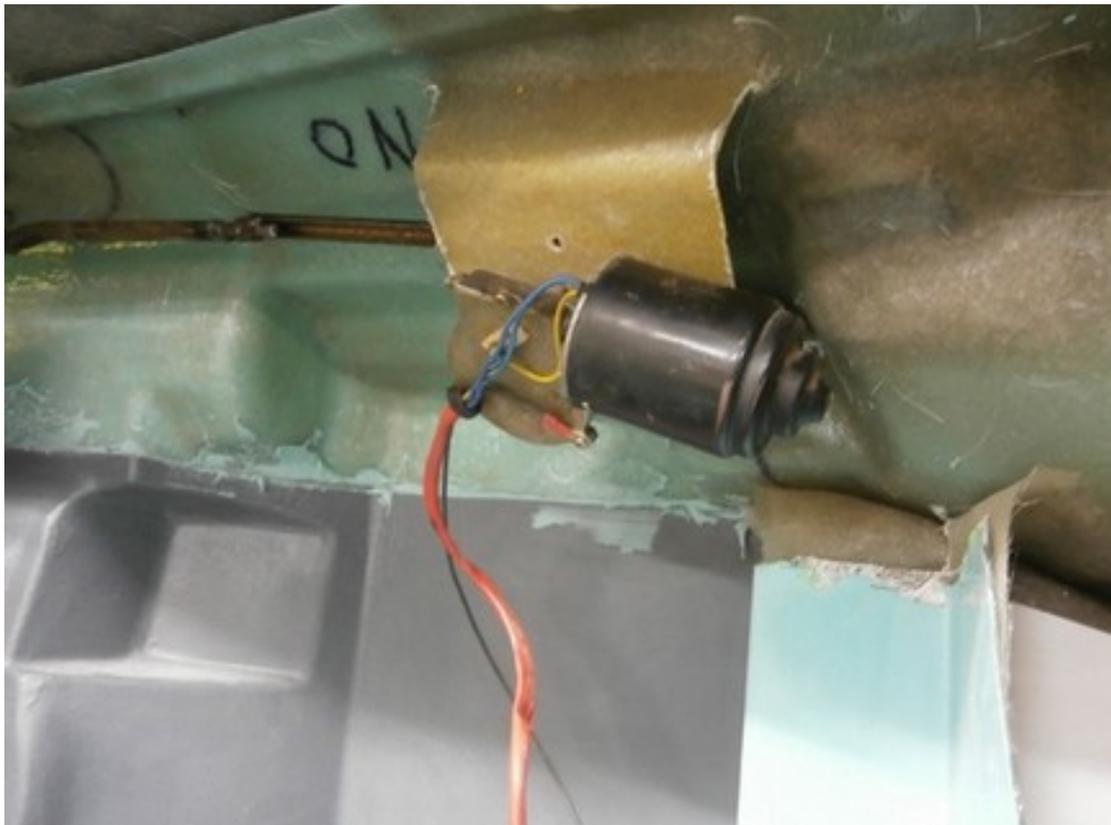
Check that props can close at to at least ½” (12mm) shorter than distance between flanges to allow clearance when axle moves, grease faces of flange before fitting

## WIPER

Bolt up wiper motor using 3 off M5 x 20 bolts + 6 penny washer both sides. Depending on make of motor you may have to cut away part of the GRP mounting to clear motor body.

Remove circlip from both wheel boxes, grease spindles and re-assemble

Bolt up centre wheel box and attach link, temporarily wire up motor - motor body to neg (-) and blue in connector block to pos (+) when motor runs check ffm. The centre wheel box must swing thru an equal arc either side of central, if it does not then adjust the link to suit. Only after this link is adjusted correctly add outer wheel box and 2<sup>nd</sup> link and adjust so it swings thru an equal arc either side of central. Tighten up lock nuts. Wire motor body to earth on dashboard cross member



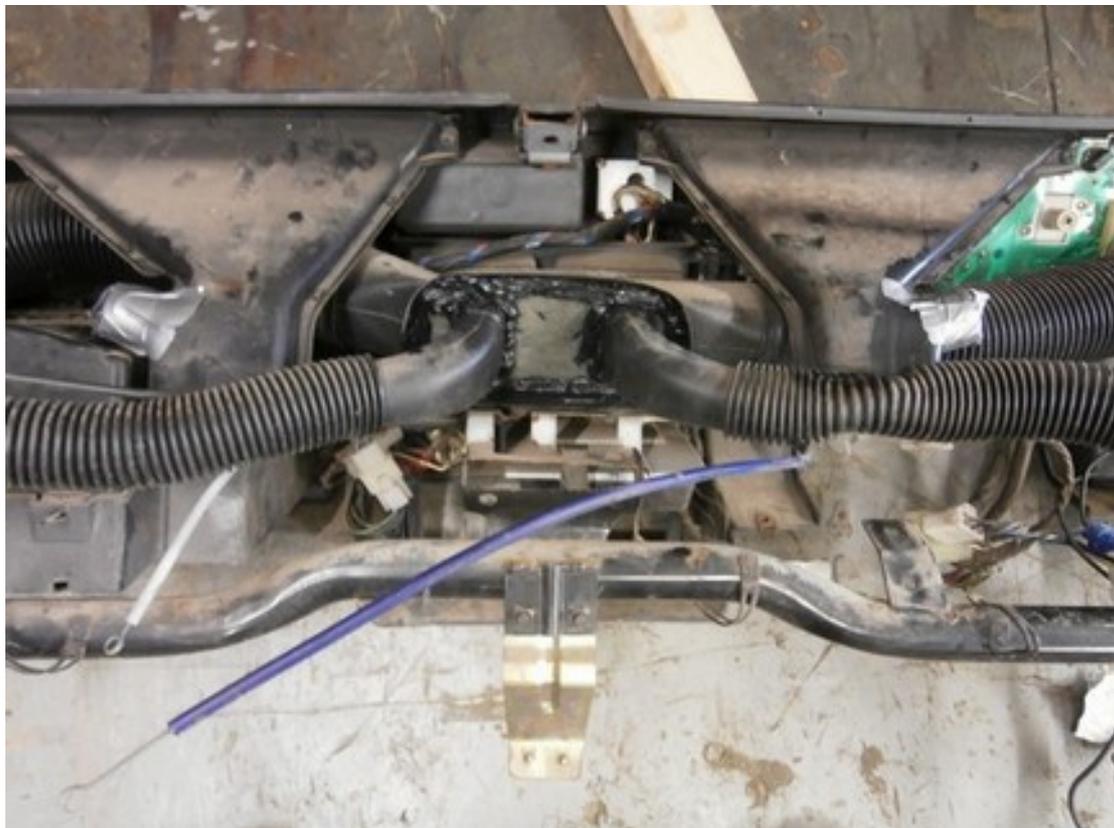
Fit screen washer jet

### HEATER

Mastic rubber water hose gaiter into gearbox tunnel hole, fit heater and bolt front stud thru GRP 1 off M8 nylock, 1 off penny washer. Drill and bolt heater at top where it touches the centre GRP tab on deck 1 off M8 x 20, 1 off M8 nylock, 2 off penny washer. Mastic GRP blanking plate to heater body. Drill 1 1/4" dia hole either side as shown.







Mastic GRP panel to dashboard, Trim side events as shown and mastic to GRP panel

## ENGINE

Remove ss rad crossbar in engine bay

Split engine and gearbox to check clutch and release bearing, re-assemble. Remove gearbox lifting hook and disguard. Remove metal fan, Fit oil sandwich plate so that outlet fittings are at 8 o'clock position.

De-grease engine and gearbox, mask electrical connections, carb inlet etc, remove oil filler cap and dip stick and spray to protect

If you are using a high mileage engine we recommend checking clutch for wear

Fit engine/gearbox as one unit. Grind off locating stud off both insulators, steel shield fits on engine side of insulators, bolt LHS engine mount to engine, lower unit into hull and locate RHS engine mounting into metal mounting, bolt up. Mastic and bolt up LHS engine mount, use penny washers on underside. Bolt up gearbox mount Bolt up prop shaft, check ffm.

Remove thermostat and drill 1/8" (3mm) hole thru valve body, this is to assist in bleeding the water system)

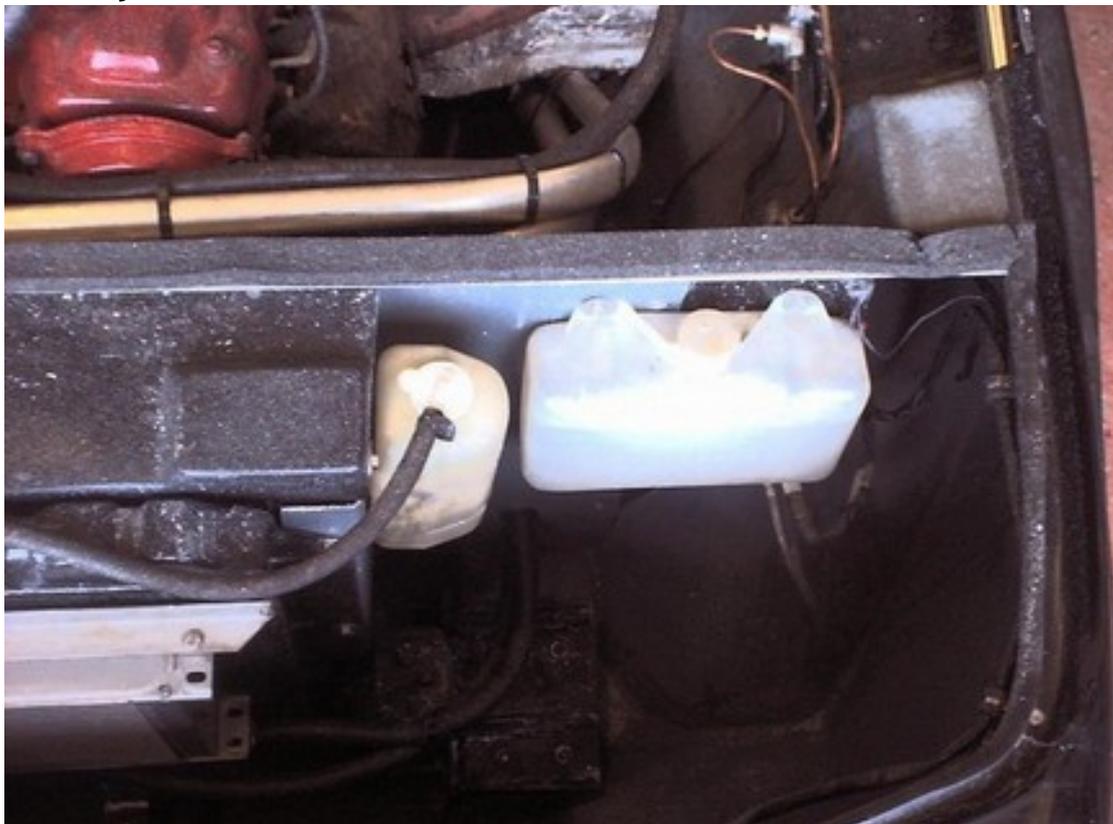
Check EP80 gearbox oil level, TICK when filled.....

Check engine oil, this will have to be topped up after running. TICK when filled.....

Fit ignition coil (this must be earthed) and heater water tap in centre of bulkhead behind cylinder head



Fit screen washer bottle to front face of rad panel LHS, couple up water hose to jet



EXHAUST SYSTEM

Spray non ss parts with heat resistant exhaust paint

Check that manifold slides into top of exhaust system, file to suit.

Bolt modified exhaust manifold to engine using Suzuki gasket

Using 2 Suzuki exhaust rubber insulators attach system to rear pre-fitted mount, push exhaust pipe into manifold until clamp lines up with support strap, check that 2 lower front rubbers are touching hull, bend ss plate to suit if required, fit and bolt up U bolt



Trim GRP panel and fit to exhaust hole so there is a ½” gap around down pipe



Fit **reflective exhaust cloth**, check that NOTHING covers the bay temp sensor (on right of pic). The cloth is to shield the speed cable, rubber water hoses and foot well. Trim around servo

When engine is running restrict end of exhaust pipe to slightly increase pressure to check for leaks. It is very important that no exhaust gasses blow onto the GRP

If you want to reduce the heat transfer to the cockpit we suggest fitting more exhaust cloth



## PEDALS

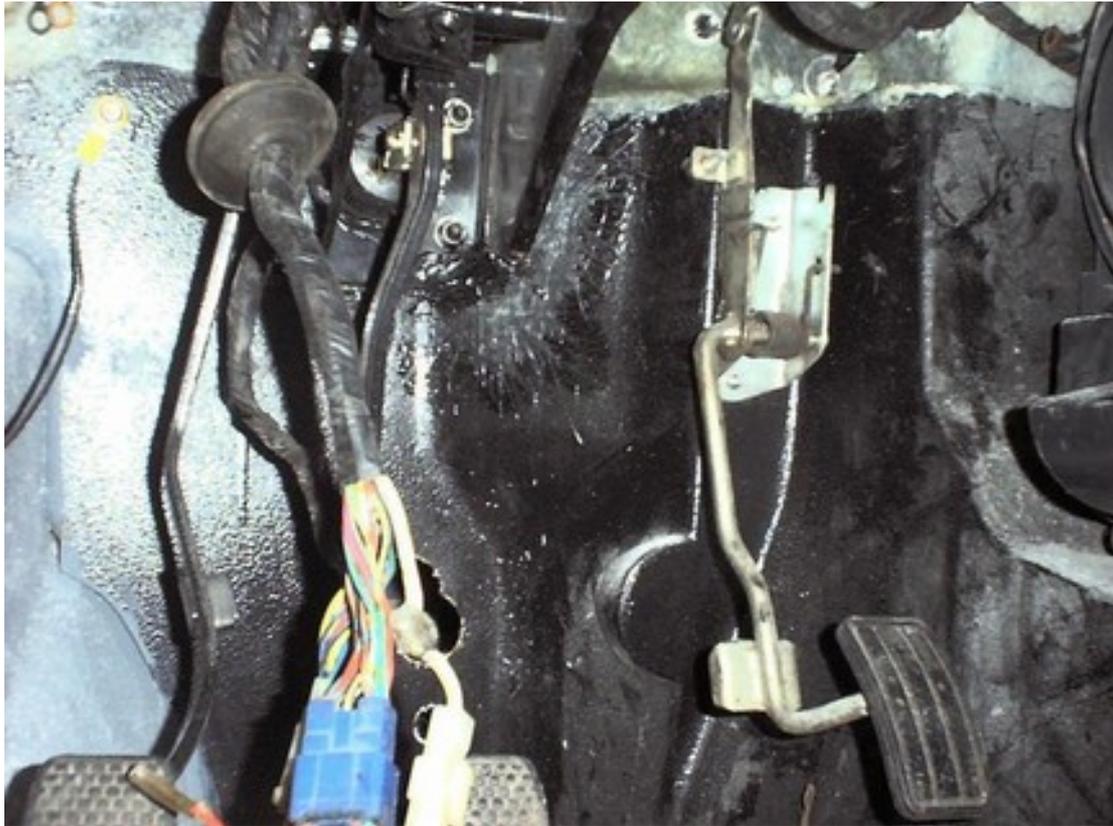
Fit servo thru hole cut in bulkhead and bolt up to pedal box, bolt other end of pedal box to dashboard cross member 2 off M8 x 25, 2 off M8 nylock.

Line up position for clutch cable, drill 5/8" dia hole for cable and rivet 2 off 3/16" x 1/2" to bulkhead. Couple up to engine

Fit accelerator pedal to suit your driving position and bolt to bulkhead, line up position for cable, drill hole for cable and fit to carb



Fit H shaped bracket between rear end of pedal box and top of Suzuki dashboard cross member. 1" steel plate is to attach fuse box

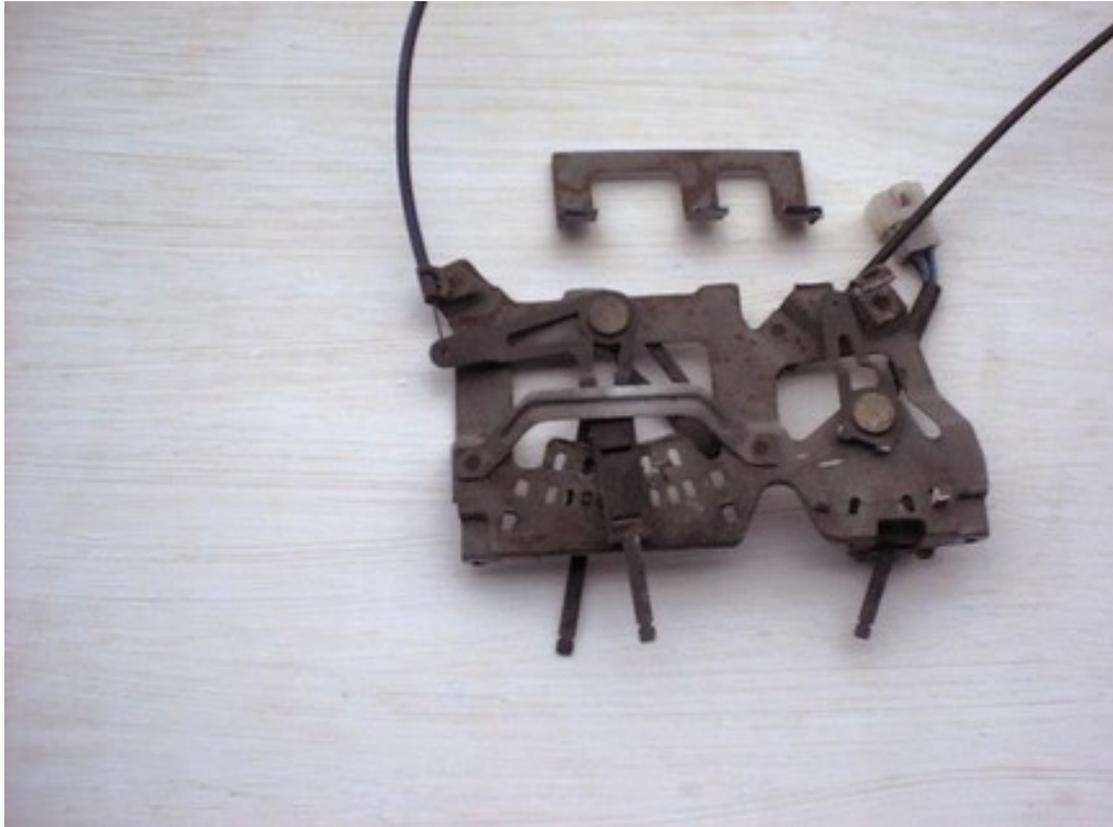


## DASH BOARD

Use complete Suzuki dashboard and steel cross member



Bolt ss plate to each side



Remove air re-circulation lever (above fan switch) on heater slide and cut back off slide unit. Remove all sharp edges



Right side ss plate bolted to cross member



Left side **ss plate** bolted to cross member. Bolt **3 aluminium plates** to dashboard and lower dashboard so top is flush grey GRP panel under windscreen. Centralize dashboard and bolt up

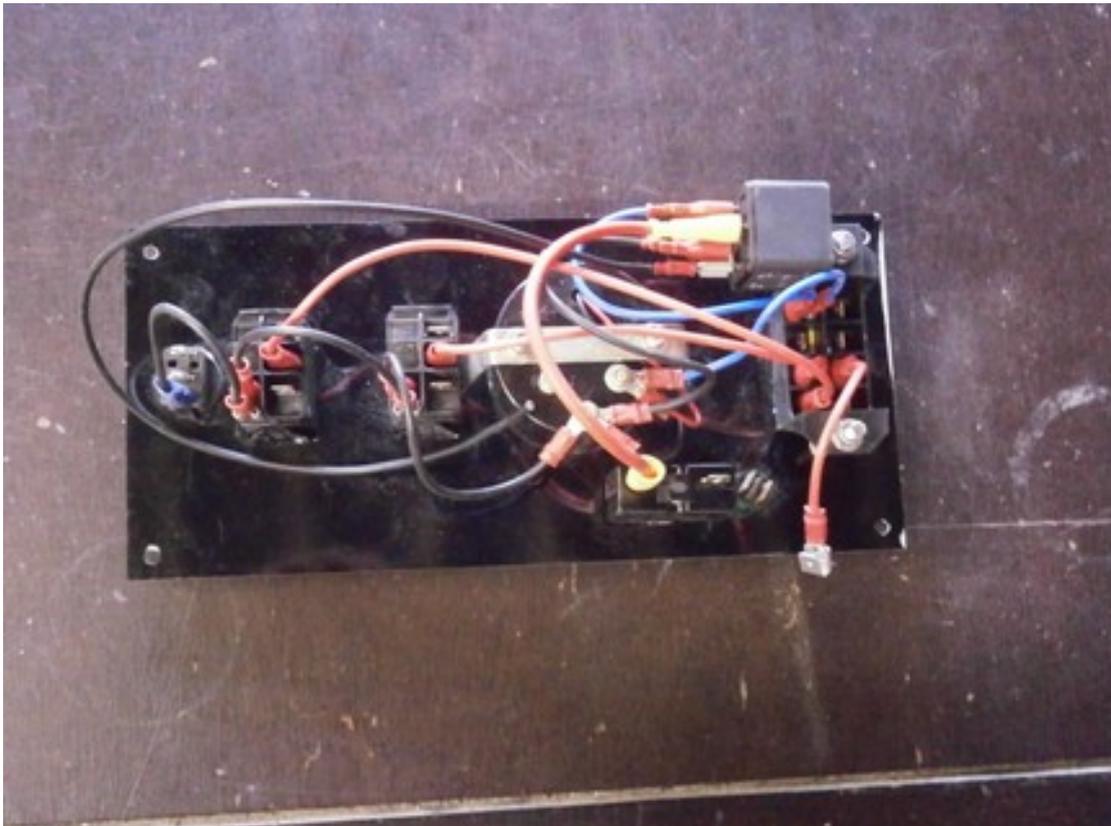
Push the 2 side heater hoses from dash ducting into the 2 side 1 ¼” dia holes cut into top of heater unit



Trim GRP sides to suit dashboard and glue **carpet strips**

**ENGRAVED DASH PANEL**

This is **pre wired**, wire interior lamp and navigation lamp. For wiring see back pages



### STEERING COLUMN

- (4) M8 x 20 + (4) nylock + (8) penny
- (2) M8 x 25 + (2) nylock + (4) washer



Remove flange from front end of outer steer column



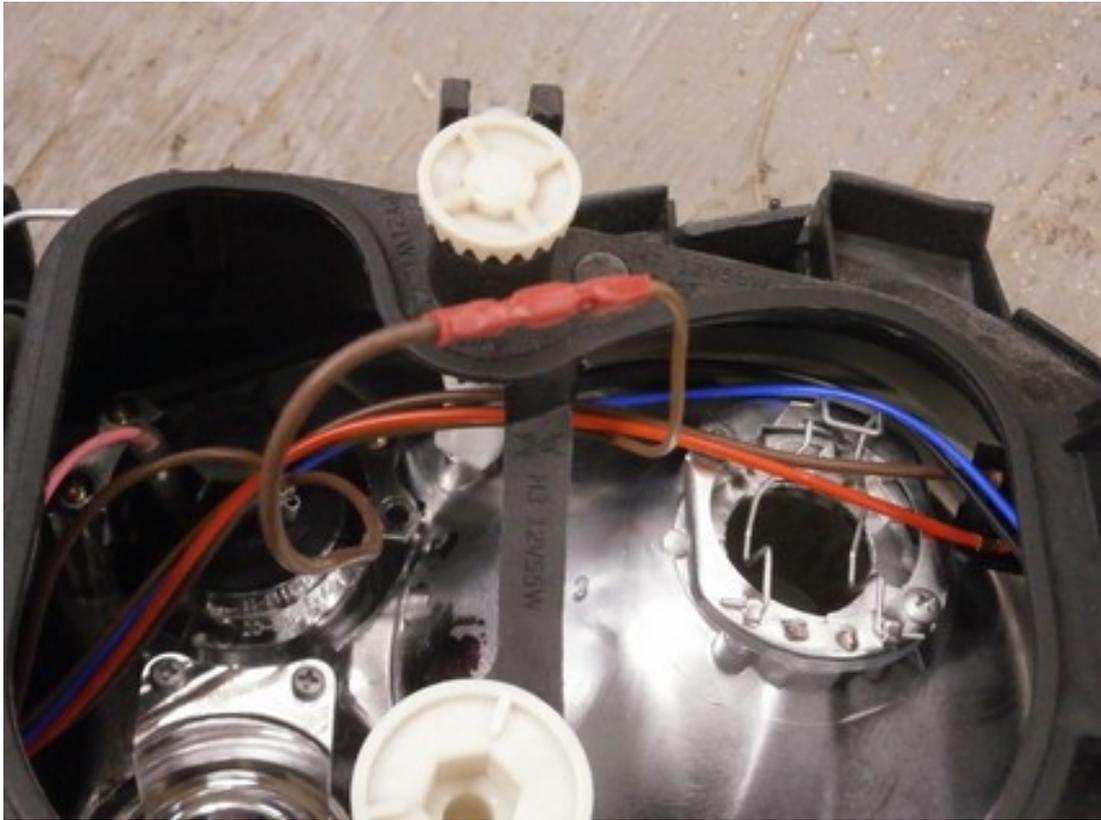
Upper column is assembled as follows:-

Slide GRP tube over outer column far enough to expose the splined shaft.  
Attach lower column. Feed column assembly thru from inside car, locate

lower column onto steer box. Centralize column in hole cut on GRP foot well and attach column to steel dash support. Slide GRP tube down to GRP foot well, mastic and bolt to foot well.

### FRONT LAMPS ( full wiring at back of manual)

Use Mk4 VW Golf headlamps that comply with your local specifications.  
Bolt to ss bracket fitted to deck



Change internal wiring:-

- 1/ trace br earth wire that goes from indicator to headlamp and cut off from headlamp plug
- 2/ trace br from headlamp lifter (no longer used) and couple up to br wire from indicator



Trim lower mounting brk on headlamp

### REAR LAMPS

Fit Suzuki rear lamps and # plate lamp to black GRP lamp panel, (and registration # if already registered)

### BATTERY

Bolt battery onto GRP moulding RHS engine bay. If your battery is too small fit 6  $\frac{3}{4}$ " X 10  $\frac{3}{4}$ " plate inside moulding. Battery for be forward most in moulding with terminals to face out

Use Suzuki strap and screw clamps





## WIRING

Consult back pages for non Suzuki wiring

Fit main loom inside cockpit and over top of heater (check it is clear of the wiper system) couple up to dash loom. Feed wiring for LHS lamps/screen wash/oil warning lamp thru hole drilled in blanking panel besides the exhaust hole on LHS fit  $\frac{3}{4}$ " i/d grommet to GRP

Feed wiring for RHS lamps/starter/alternator/carb/horn/battery master switch/brake fluid low warning/coil/reverse switch thru hole drilled behind and to the left of the engine block fit  $\frac{1}{4}$ " i/d grommet to GRP

Some items will require an additional earth, there are 5 major earth wires: -

Neg terminal battery to alternator adjuster strap (starter motor cable) Neg terminal battery to ss rad crossmember (28) black

Distributor housing to master cylinder (44) black

Rear of gearbox to handbrake brk (28) black

Handbrake brk to fuel tank (sender side) (28) black

Locate the following and attach: -

Engine bay temp sender

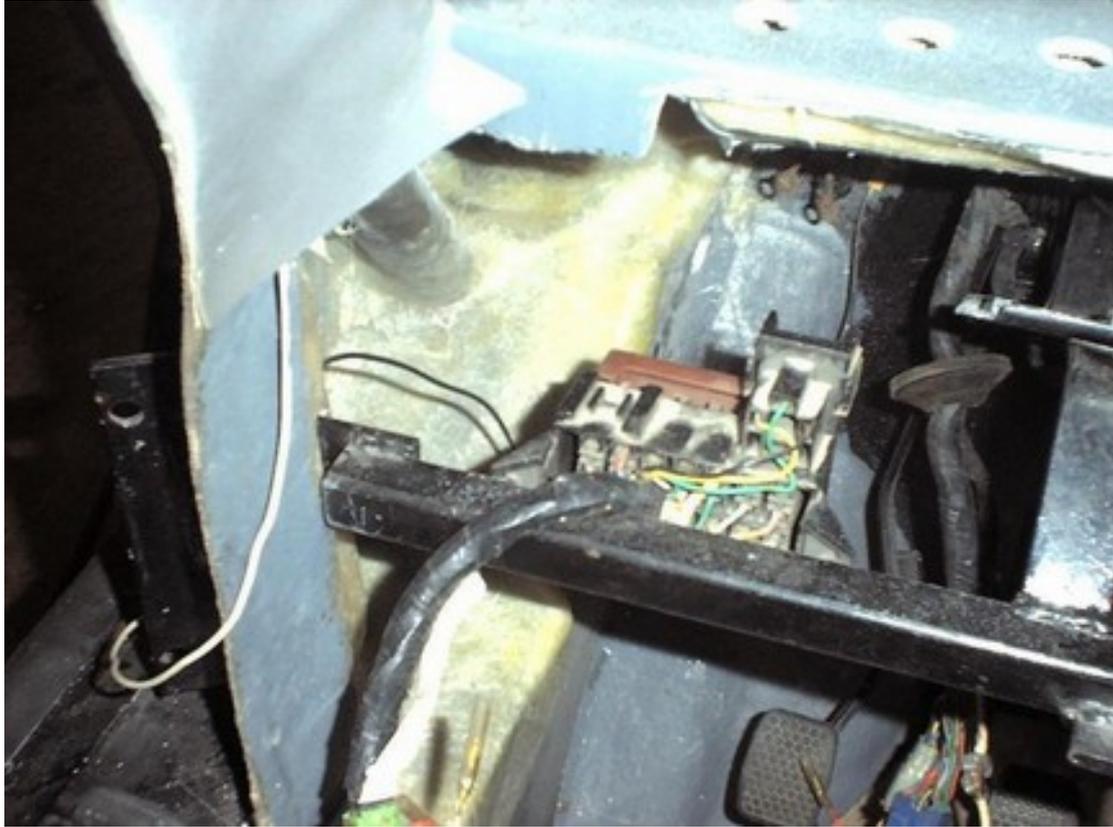
Handbrake warning lamp

Transfer box 4wd warning lamp

Reverse switch

Interior lamp.

Glue windscreen A post grey vinyl to rear edge of A post, leave 24 hour then trim off excess



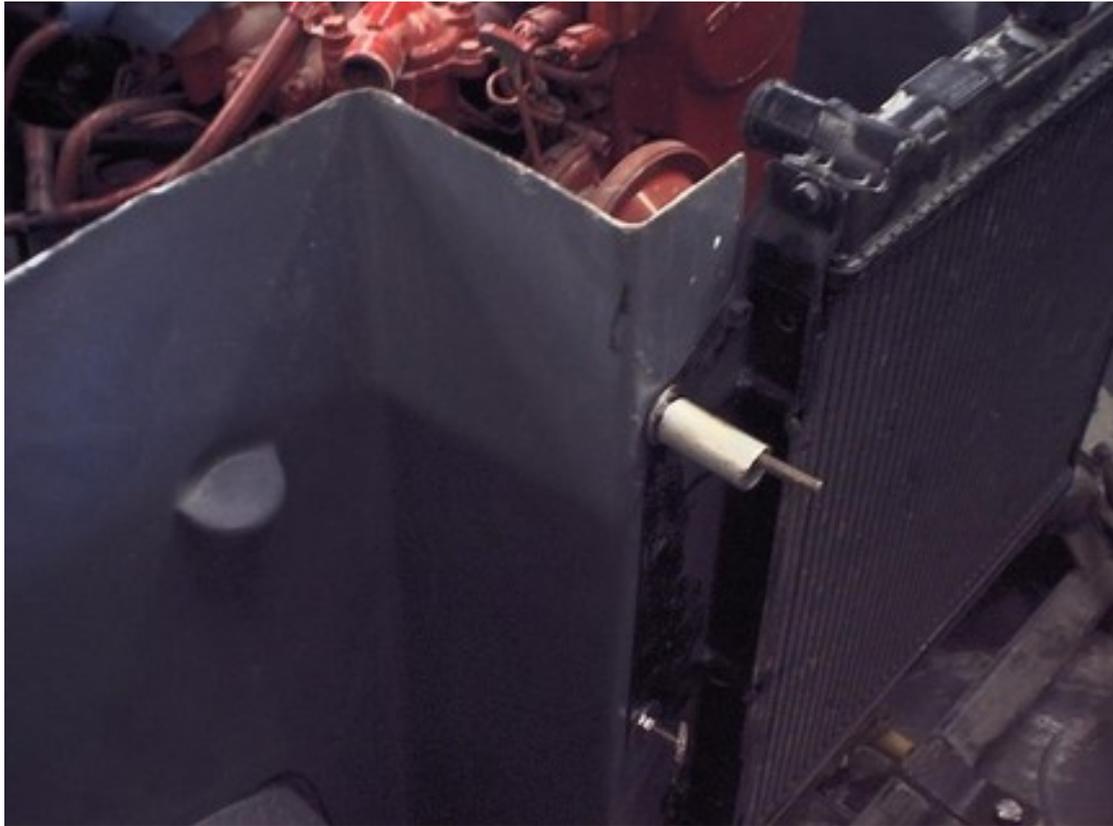
### **SURF ENGRAVED DASH PANEL**

This is supplied fully wired

### **RADIATOR**

Cut off 3" straight part of Suzuki bottom hose and attach to rad

Make a note of sequence of 3 studs/bolt to attach fan/rad/oil cooler, fit self adhesive 1" X ½" foam along lower edge of rad to make air tight seal when up against the GRP. Lay rad against GRP panel. bolt up with penny washers both sides, check bottom hose does not rub on GRP



Add 2 aluminium spacers to top bolts then ss oil cooler brk, check when it is fitted that it does not rub against rad core, fit 1" X ½" foam around all 4 edges of oil cooler to make seal against rad. Fit 2 off banjo to oil cooler to face towards LHS. Bolt oil cooler 2 off M6 x 20, 2 off M6 nylock, 2 penny washer to ss brk, bolt ss brk to top rad studs with banjo outlets at bottom and facing LHS

Use Suzuki brk and attach overflow bottle to LHS of rad panel ( see screen bottle pic ), couple up overflow hose to top of rad

### **RAD FAN and SHROUD**

s/h Ford fan and black plastic Ford shroud



Lay shroud behind rad and note where bottom hose touches, remove and cut out shroud (a semicircle approx 1" high X 2" wide should be enough) so there is clearance with hose and so that top edge of shroud lines up with lip attaching top header tank to rad gills

Holding shroud level mark out thru 2 off RHS rad attachment holes and drill. Remove both RHS bolts, fit thru shroud and bolt up

Push shroud forward on LHS into GRP panel and drill hole thru GRP and shroud near lower LHS sensor hole (unused) and bolt up. Drill thru top LHS corner of shroud, check that it clears rad and bolt up



Refit ss cross brk and GRP top panel

### OIL HOSES

Couple up rubber ½” i/d oil hoses as follows: -

From	to
Heat exchanger (inner)	top fitting on engine sandwich plate (30”)
Heat exchanger (outer)	oil cooler (56”)
Oil cooler	bottom fitting on engine sandwich plate (32”)

The inside surface of the rubber oil hose where it attaches to the fittings MUST be dry and free of any oil contamination

For oil hose clips you must only use type 6 off 20mm hose clip stamped HI-GRIP and tighten so outer face of ss strap sinks into rubber so it is flush with outer diameter of rubber hose

Fit 2 off ¾” i/d grommet into GRP rad panel to protect both hoses that go to the oil cooler

### WATER PIPES

Fit 4” long rubber hoses to ss heat exchangers. Fit 3 off 1¼” dia aluminium pipes and original Suzuki rubber hoses cut to suit as follows: -

Pipe length  
Short  
Long  
Long

from  
rad bottom  
inner heat exchanger  
outer heat exchanger

to  
engine block  
rad top  
engine top



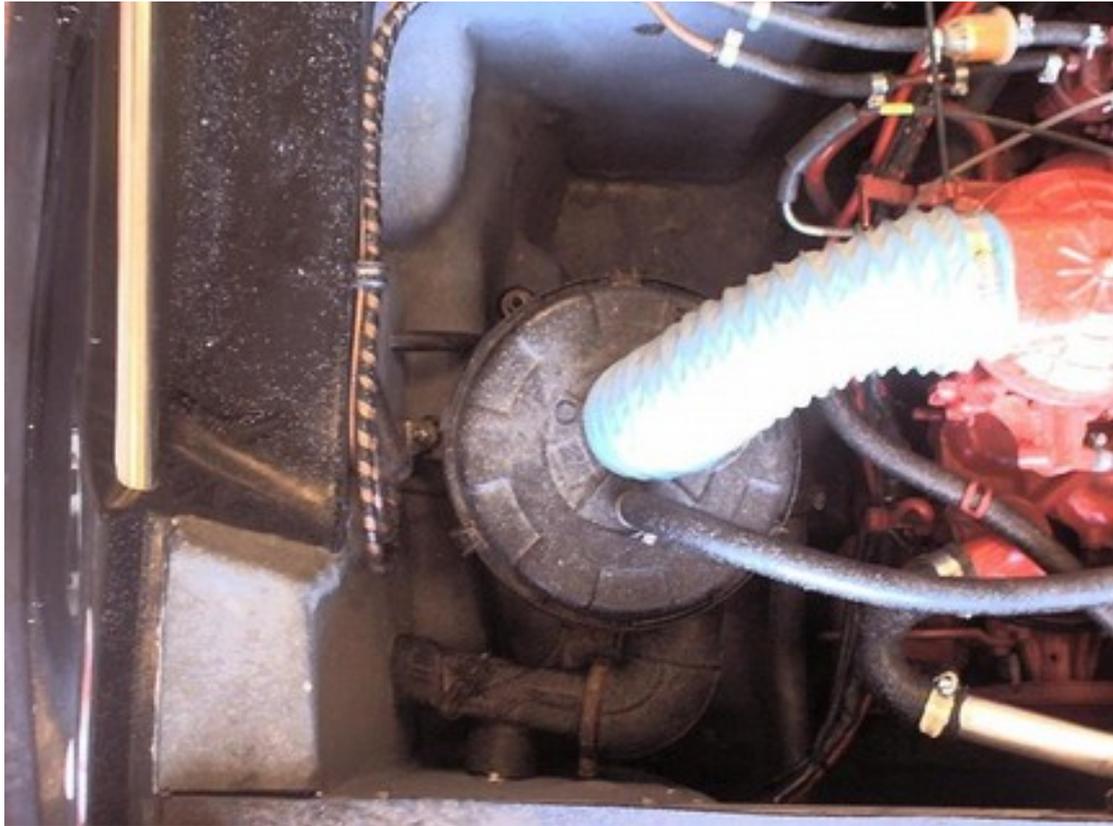
The long aluminium pipes can easily be bend to suit exact requirements

### ENGINE WATER

Water cooling system will require a 1<sup>st</sup> use prime. Fit rad cap, disconnect top hose at thermostat housing and force water thru thermostat housing using house mains pressure until water pours out of the open end. Once this has been done the rad can be topped up using the rad cap as normal

### AIR FILTER

Lock air temp flap in HOT position (closest to engine) using cable tie. Attach to carb. Bolt outer mounting to plinth on inner wheel arch



### FUEL TANK Suzuki

Lay tank on top of rear ss tank brk pre fitted to back of hull and bolt up 2 off M8 x 25, 2 off M8 nylock, 2 off plain washer. Bolt front brk to tank, 2 off M8 x 25, 2 off M8 nylock, 2 off plain washer, lay onto hull and drill and attach to hull 2 off M8 x 30, 2 off M8, 2 off penny washer on underside.

The rubber sender seal must be in perfect condition # 34825-67012. Sender # 34810-80700



### FUEL CAP & BREATHER

Fit cap 3 off c'sunk self tappers and breather attach breather to tank using 30" x 5/8" i/d rubber hose and 2 off 25mm hose clips. Attach aluminium filler tube to cap and tank using original Suzuki rubber neck and 4 off 48mm hose clips

### FUEL LINES

Both fuel lines (8mm and 6mm diameter) run on the opposite side from the exhaust manifold down the longer plastic poly tube, the copper pipes must not rub against each other so fit black spiral cable wrap on one of the 8mm fuel line along its entire length. This spiral wrap must be visible from both ends of the poly tube to comply with SVA. Fit both pipes together, both ends of the poly tube must be blocked with mastic to stop water entering. ALL fuel pipes MUST have swaged ends.

We strongly recommend fitting a fuel filter in the engine bay

To allow for engine movement rubber hoses between engine and solid fuel lines must be approx 8" long. Use 8 off 13/16mm hose clip.

If a mechanical fuel pump is fitted and it has the additional drain tube under the main body this must be coupled to a flexible hose exiting to OUTSIDE the hull. This MUST NOT dump inside the car

Fill tank slowly and check for leaks, do not over tighten the sender or pump mountings

## BRAKE LINES

Rear brake line runs on servo side down the plastic poly tube, when fitted block both ends of plastic tube with mastic to stop water entering. Fit any balance valve in the same orientation as it was originally fitted near the back axle. This can now be fitted in the engine bay



Fit brake T-junction to pre drilled hole above poly tube outlets, fit: -

Master cyl to T-junction 18" m/m

PS front wheel (behind and above engine) to T-junction 90" m/f

DS front wheel to T-junction 21" m/f

Master cylinder to rear RHS 165" m/f RHD or 200" LHD

Early rear axle 50" m/m or late axle 18" m/m + 43" m/m

Remember the rear brake line attaches to the front master cylinder tapping and front brake pipe attaches to rear master cylinder tapping (for reasons better known to Suzuki)

To comply with SVA all brake pipes must be supported every 300mm (or in the poly tube)

### TOW BRACKET

If ordered this is pre drilled. Fit the wiring socket inside car on forward face of wooden bulkhead behind a rear seats

### BONNET SEAL

Loosen 2 off top attachment bolts on top of ss rad crossbar. Fit **rubber seal** to top edge to make a seal with bonnet. Retighten 2 attachment bolts

Fit **rubber lip** to front edge of deck - note direction of lip and refit bonnet, tap in brass pins



Fit **rubber lip** to rear edge - note direction of lip



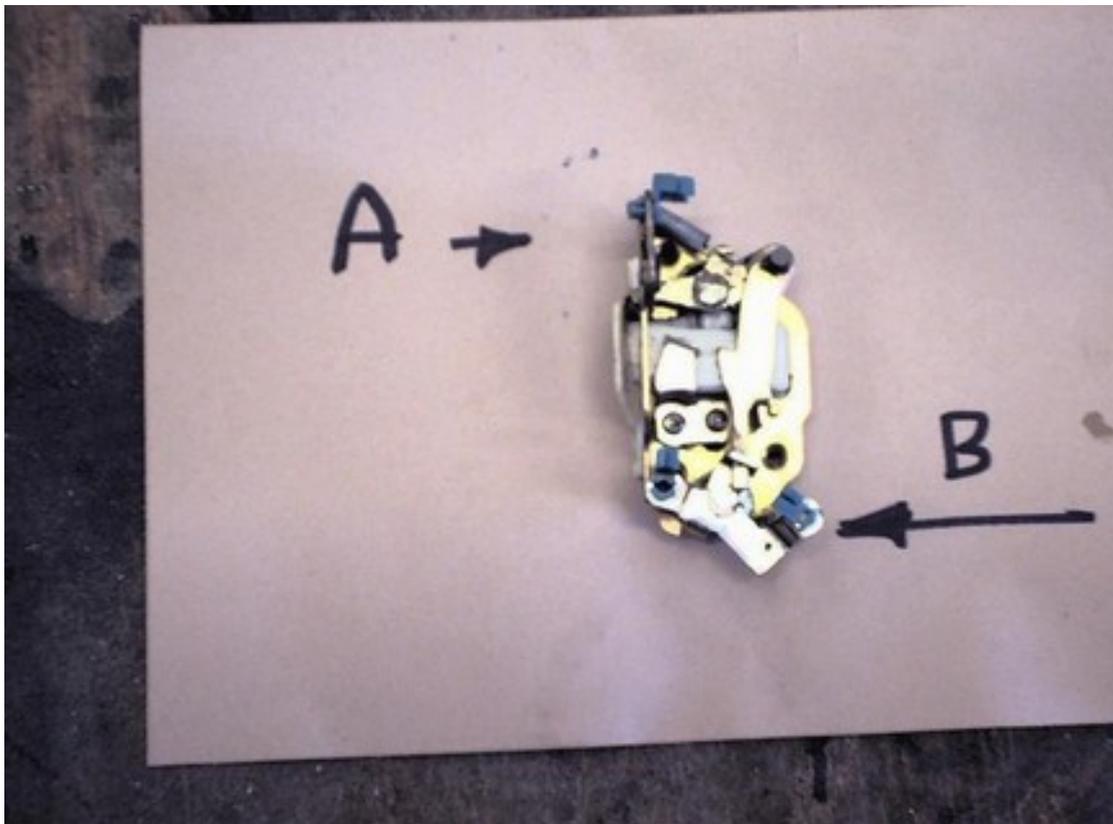
## DOORS

Modify lock: -

Remove plastic link rod retainer for interior handle (A) and refit from other side



Fit Suzuki mirrors



Remove passenger lock barrel, link rod and clip (B). Bolt lock to door using M6 c'sunk screws. Twist inner handle link rod 180 deg so lock end is facing

opposite direction and fit onto door. 3/16 rivet handle to door. Rivet Suzuki inner handle escutcheon onto inner door

Bolt outer handles to door and adjust threaded link if required to operate lock

De-grease drivers side lock barrel and door and mastic barrel to door so the key slot is vertical and the arm is facing backwards. After mastic has set hard (24 hrs) couple up to lock using **link rod**, this may be modified to suit

### Fit 2 off interior lock knob control rod

Re-bolt door to hinge using any spacers originally fitted, fit striker plate into lock and close door, mark out striker plate 3/4" (19mm) out from GRP lip, adjust for correct height so door does not rub on sill, drill and bolt using c'sunk screws,

### HANDBRAKE LEVER

Bolt Suzuki handbrake lever to brk, lay handbrake cable into slot on top of drive shaft cover, attach **handbrake rod** to lever, cut down to correct length and adjust to suit.

### REAR LOOM

Cut rear loom 3" (80mm) behind the tail that attaches to the 4wd switch on transfer box, locate hole LHS of gearbox tunnel behind heater and feed rear loom into **25mm dia x 30" conduit** and fit this thru the hole and along side of gearbox towards back of car

Extend rear loom approx 130" (3300mm)

Lay extended loom into slot on top of drive shaft cover, clip up to clear handbrake cable

### REAR LAMPS

Use Samurai lamps

### FRONT SEATBELTS

Lay belt reel inside sill and bolt to rear mounting at base of rollover bar



Slide other end of belt thru GRP inner panel and attach to top mounting on roll bar



This pic is shown for clarity without the inner panel fitted, in the final assembly the GRP inner panel would be fitted before the top mount is bolted on



Remove M12 bolt and fit open end of belt with brk

Slide other end of belt thru GRP inner panel and attach to front mounting at base of rollover

Pic shows front mounting, the top mounting is shown attached for clarity, in the final assembly the GRP inner panel would be fitted before the top mount is bolted on

Mastic **black plastic seat belt guide** into GRP inner panel

Bolt both inner stalks to centre mounting on RHS of tunnel with release button facing each seat

### **REAR SEAT BELTS**

Use lap only seat belts. New lap only rear seat belts are available from us (details are on “parts for modification” sheet”)

Fit buckle to outer 12mm hole drilled in rear wheel arch and other belt to inner 12mm hole on hull moulding near centre of car. Use mastic and 4” square spreader plates on underside. Check the M12 bolts are marked “80” and not “70”

### **CARPET**

pair side panel  
rear panel  
pair dashboard sides  
pair rear glove box  
pair door inners

the foam backing on carpet needs to be removed (use wire brush) before glueing



Glue carpet along top edge, trim flush with timber



Glue top edge of carpet parallel to both aluminium plates (door lip and glove box)



Cut slot for front seat belt.

#### INNER PANELS

These are pre trimmed at factory and have to be fitted at the same time as the front seat belts as the belt has to be fitted thru the rectangular slot. Always fit RHS first then LHS.  
Use 3/16" rivets. Fit 1 rivet either side at top thru roll bar



fit fabric 10" X 6" to cover join

## JET

When new this is a tight fit in the GRP hull, to free up start engine and select 1<sup>st</sup> gear and N, slowly release clutch and accelerate, if jet rotates then increase speed until it runs in 3<sup>rd</sup> gear at 2000 rpm (there will be a smell of hot plastic as the impellor cuts into the Hull) Because of splinters DO NOT PUT FACE NEAR BACK OF JET WHEN RUNNING

If impellor locks up then put gearbox into reverse, then into forward until impellor is free.

Until jet had run for a few hours it will sound very loud (as the hull acts like a large loudspeaker)

If you are bringing down your Amphijep to the factory for it's free check-up then we can do this running in for you

## RUDDER

After aligning steering wheel during road trials the rudder will need to be adjusted to run straight in water, straighten steering wheel, undo M8 nut on top of rudder shaft and adjust to straight ahead. During water trials if the Amphijep does not run straight when steering wheel is ahead then the rudder must be re-adjusted. Because of hydrodynamics it is normal that it is not exactly in-line with the hull, for maximum efficiency the steering wheel must be straight ahead when going straight in the water

## REAR POUPE DECK (if ordered instead of the sun deck)

Fit 1" x ¼" foam to all edges of panel, for maximum sound deadening it is important that there are NO gaps when the panel is screwed down. Do not over tighten.

## FRONT SEATS

Front seat LHS: - bend front mounts on both runners so they lie flat then bolt to ss pods 4 off M8 x 20, 4 off M8 nylock, 8 off plain washer

Front seat RHS: - bolt rear mounts to projecting bolts already fitted to floor 2 off M8 nylock, 2 off plain washer, front mounting outer to ss pod 1 off M8 x 20, 1 off M8 nylock, 2 off plain washer. Front mounting inner bolt ss extension tube to runner 1 off M8 x 20, M8 nylock, 2 off plain washer, then drill 8mm thru extension tube and hull and bolt up M8 x 40, 1 off M8 nylock, 1 off plain washer, 1 off penny washer on wet side

## REAR SEATS

Bolt rear seats to floor, to comply with SVA rear seats must not hinge and the rear mounts must be bolted up 8 off M8 nylock, 8 off plain washer

## DOORS

Re fit doors using any spacers. Mastic along entire length of aluminium lower door lip to seal then fit rubber door seal to deck. Fit rubber door seal to rear of GRP roll over bar surround

## SERVICING

We offer full servicing facilities for all Amphibious Duttons

## SURF SPECIFIC WIRING DIAGRAMS

Wire supplied is referred to by the number of copper strands (x) and colour and is rated as: -

Strands	Amp	Typical use (see Haynes manual)
(14)	8	All lighting and most other systems
(28)	17	Rear earth
(44)	27	Main earth/charging circuit
(65)	35	Engine fan

## COLOURS:-

B	black (earth)
Br	brown
Bl	blue
R	red
Y	yellow
P	purple
W	white
G	green

All Surf wiring unless otherwise stated is (14)

CB = circuit breaker

Wires on diagrams that cross over each other are NOT connected unless shown with a large dot at the point of intersection

Switches, relays and gauges are viewed from the backwards  
check rotation of engine fan, if required swap - and + wires to reverse rotation

## HEADLAMP

Use a modified VW 1998 to 2004 Golf Mk4 headlamp (spot not used). Modify internally:-

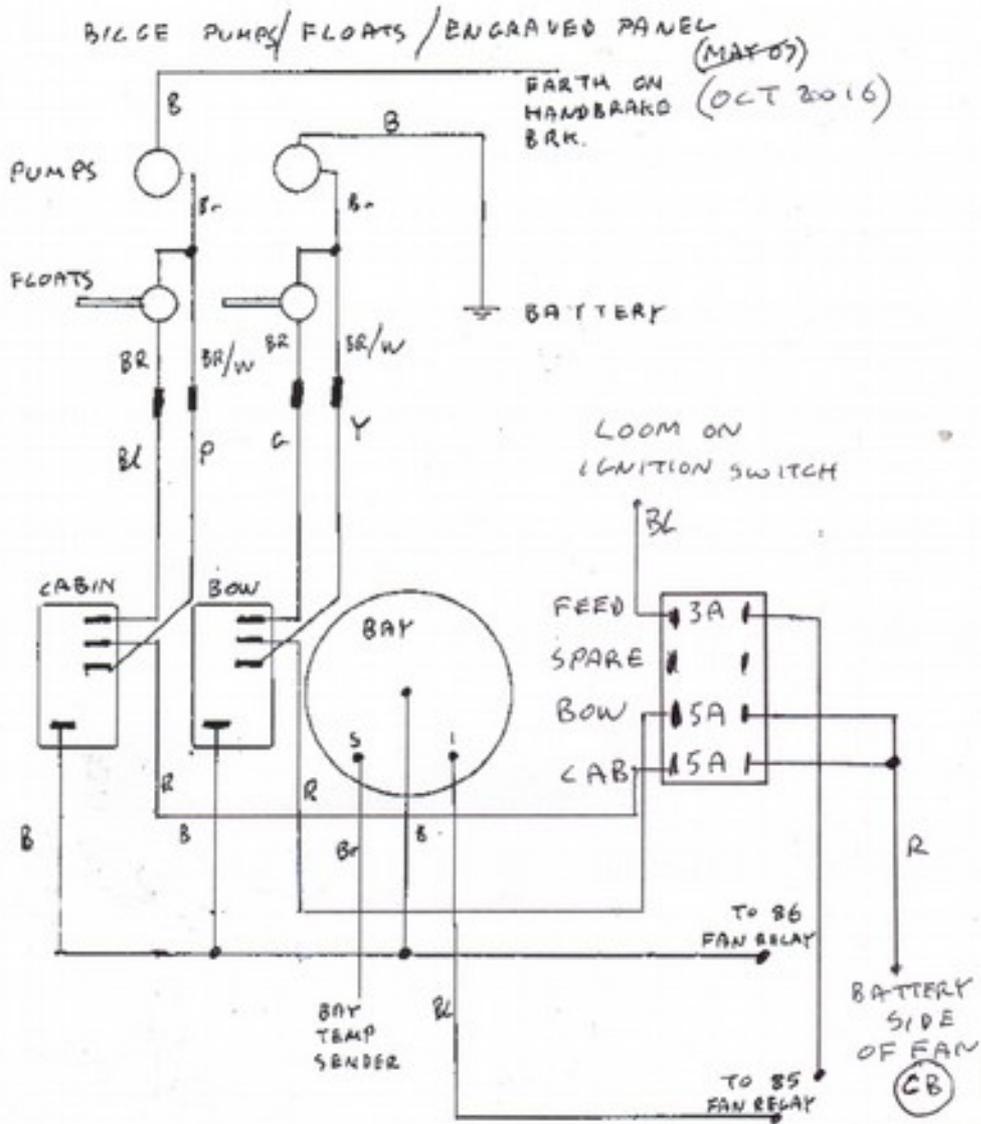
locate brown wire from indicator to headlamp and cut off at headlamp plug. Locate brown wire from micro plug (headlamp lifter) and joint to brown from indicator

MAIN LOOM	EXTEND COLOUR	H/L TERMINAL
Headlamp RED	RED	5
RED/WHITE	WHITE	4
WHITE/BLUE (LHS)	BLUE	9 (link to 7)
WHITE/RED (RHS)	BLUE	9 (link to 7)
Indicator GREEN/RED (LHS)	GREEN	8
GREEN/YELLOW (RHS)	GREEN	8
BLACK (join to Sidelamp)	BLACK	2
Sidelamp RED/YELLOW	YELLOW	10
BLACK (join to indicator)		

IGNORE terminals 1,3,6 and 3 pin Jimny headlamp lift loom

Terminals viewed from back of headlamp use [2mm spade connects](#)

1	2	3	4	5
6	7	8	9	10



FAN

~~(SEP 04)~~  
(MAR 2014)  
(OCT 2016)

