

ICI COMMENCE

L'AVENTURE

Literal translation of the Genuine French Citroën publication
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by Chris Stuart, October 2005

"Elsewhere is a word as beautiful as tomorrow"

Paul Morand

Every man has the spirit of a Targui in his heart.

The dream of great spaces and shimmering distances, has been evermore realised since the arrival of the automobile. Initially for the privileged and rich few, then later for many, the car has made the means of going to the end of the world possible, this mythical place where, as in non Euclidean geometry, the parallels meet and where millions of years ago, Asia, Europe, Africa, America merged at a nebulous horizon on a spherical earth.

Of this automobile adventure, Citroen have written several chapters; the first crossing of Tanezrouft with B2 caterpillar tractors in 1922, the crossing of Ténéré by sixty 2CV's in 1973, and the travels of Cruisings Black (1924) and Yellow (1931); the Raids of 1,300 girls and boys from Paris to Kabul (1970) and from Paris to Persépolis (1971), plus a myriad of individual initiatives. The 2 CV, in particular, after the last war has been an irreplaceable instrument of discovery of borders for many young Europeans people.

This tradition and experimental mix of things is the subject of this booklet. Some useful advice, some recommendations undoubtedly. But the essence is in you having a capacity to accommodate, include and understand. These voyages are not an escape, they are a dimension of freedom.

The remainder; technical preparation, and precautions, are directions only. Each one will establish its way of balances sometimes paradoxical in need of consideration. Example: to travel some tracks, the vehicle should be reinforced, but by reinforcing a weak part, one weakens some another part, up to that point that another part originally protected by relative brittleness from the first fails... Another example: it is advisable to have spare parts, but they increase the transported weight, making the vehicle heavier, leading to the chances of more breakage's, calling for a need to carry even more parts... This leads to some specialists saying that the only essential things needed are rags to wipe parts clogged by sand or dust, and wire to use for all other needed repairs.

However one should as far as possible, count initially on oneself. Henry de Monfreid gave this council to the adventurous apprentices: "Pass initially a trade of plumber-tinsmith ", as about everywhere in the world needs some.

Jacques Wolgensinger
Director of information and the Public relations Citroen

"The traveller remembers more than one voyage" wrote André Suarès, not without humour.

It is true that the success of a voyage, whatever the adventures, depends primarily on the talent, the capacity and often quite simply the goodwill of those who do it.

A. BEHAVIOR

Yourself

Expatriation often acts on the character in ways no one cannot envisage due to reactions of living in a voyaging community.

One should not give opinions of others, nor judge behaviour within the group with yours. You will need to continuously use effort to comprehend your fellow travellers and at all times be tolerant of their behaviour. The desert regions (heat + silence + vastness) have an enormous capacity of transform character. The most jovial can suddenly, without realizing it, become the saddest, and softest most aggressive.

Imagine the internal reaction to your fellow vehicle member in the following scenario:

Three or four times in succession he or she drives the car into a sand bank, bogging the car. Each time while pushing the car out, you mutter under your breath that you, "would never have done this".

Of course this will have a bad effect on your relationship. One always believes to be able to do better than the other forgetting what the sand will be like when you are at the wheel.

Useful space in a car (even a convertible) is minute, where it will be necessary to cohabit together for approximately ten hours per day, in obligatory promiscuity. It will be necessary for equipment to be stowed in a particular way, often making it necessary to share personal effects. You will be in a community reduced to accessing convenient packages!

Others

As you travel through countries, the people you will meet will be on their "domain" and it is an absolute rule, that you to respect their way of living. Their culture and their traditions will inevitably be different from yours. Respect this difference and avoid shocking them by the exhibiting malevolent prejudices of your own.

Do not seek to compare their practices or habits with those you are familiar with at home, instead seek to include and understand them. Do not forget that you have changed country and probably a continent.

Independence may still fresh in the history of many countries you visit, where it may well still be a significant thing. Do not succumb to the naive temptation to express an opinion on this subject of most probable sensitivity. It is not for you to judge, question or deliver an opinion unasked, but to discover nations unknown to you. To seek to discuss to prove some political idea will upset the local people, risking an incident and at best wasting your valuable time.

Whatever your personal convictions, do not forget that in the eyes of the local people, you represent your country. Some have excellent memories of your country, seek not to disappoint them. Perhaps others may preserve a certain bitterness which you should you hear without judgement or unfavourable comment.

If the local people appear to live with little equipment, they most probably will not understand the inevitability that you as a European seem to have plenty, and they may seek to provoke you by reducing your meagre possessions. Your behaviour, and your clothing, must take into account the habits of the country where you will be. In particular, in Moslem countries, ladies' should wear garments reflecting the modesty and discretion required there. You do not have anything to gain by shocking the local people. If you went to your home district police station half-naked and eight days unwashed, you would expect a negative reaction from the police chief and his assistants!

Under no circumstances attempt to leave any of the countries you visit illegally, the consequences can be very severe, far exceeding your expectations.

B. FORMALITIES

PERSONAL DOCUMENTS

Before your departure, contact the local representatives of the countries which you will visit (and cross) regarding the formalities and documentation you will need.

National chart of identity

France: Go to the Town Hall or the Police Station in your area and request the required forms. To join an old identity card or the family record book, two recent photographs and a revenue stamp of 105 francs (validity 10 years) will be needed.

Portugal and Austria: Contact your Prefecture or the Police Station.

Netherlands, Belgium, Italy: Contact the Town Hall Secretariat of and the Office of the Declarations of Residence.

Spain: Obtain four photographs and a Certificate of Residence.

Denmark, Sweden, England: Identity papers are not required.

Switzerland: Ask either the Prefecture, or with the Municipal Authorities for requirements.

Passport

France:

Obtain and fill out a printed paper form with a request for passport from the local Town Hall or the Police Station. You will also need two recent photographs, your identity card and a revenue stamp of 335 francs (validity 5 years).

Italy, Norway, Austria, Sweden, Denmark, England, Portugal, Spain:

Obtain and fill in a printed form from the local Prefecture or the Police Station. You will need prove your identity by providing either a birth certificate and or a national identity number. You will also need to supply two recent photographs.

Spain (Extra requirements),

You will also need to provide a certificate of good behaviour obtainable from the Ministry for Justice and, if your less than 38 years, a military exemption licence.

Netherlands and in Belgium:

Contact the local Secretariat of the Town Hall for requirements

Germany:

Ask at the Office Declarations of Residence.

Switzerland:

Contact either the Prefecture, or the Municipal Authorities.

International Driving Licence

Caution for France:

This is not the pink licence with 3 pages!

You need the grey licence book, obtainable from:

1. In Paris from the Prefecture of Police Force.
2. In the Provinces from the Sub-Prefecture of your department if you live.

In both cases you will need to present; your driving licence, identity card, two recent photographs and a revenue stamp of 17 francs.

Netherlands, England, Italy, Norway, Austria, Sweden, Germany, Portugal, Belgium, Spain:

This licence can be obtained from the Car National Club - Touring Club, (ie: AA or RAC) on submission of a printed form and presentation of your driving licence and of a photograph of identity.

Denmark:

Present your driving licence and a photograph to your local Police Station

Switzerland: Contact your Motor Vehicle office for details.

Photographs

Apart from carrying the above documents, it is wise to carry with a number of photographs of yourself for identification purposes and a card showing your blood group.

CONVEYING DOCUMENTS (Documents of Passage)

Apart from vehicle license papers, some countries require a notebook of passage through Customs.

In the various European countries, this notebook can be obtained from the National Car Clubs or from intermediary associations of motorists.

In France:

Try "The Car Club of France", 48, place of the Harmony, 75008 Paris, Tel.. 266.43.00, or your nearest Regional Car Club. The price of this notebook is 355 francs + 435 francs for an annual contribution (valid one year, and including a roadside Assistance subscription).

In England:

Obtain this booklet from your insurance company.

Caution:

To enter certain countries, a guarantee is required. In general the amount is equal to the total monetary value of your vehicle.

INSURANCE

The International Green Card for Automobile Insurance is valid only in certain countries.

Check with your insurer and if necessary obtain additional insurance guarantees for your vehicle's civil liability in the countries that you will visit which are not covered by the Intentional Green Card.

In some countries (Algeria for example), it is necessary to take out insurance at entry, valid for the time of the stay or the transit.

It is advisable to contract International Insurance companies to obtain Medical, Accident, Repatriation and Customs insurance (The latter in the event of vehicle abandonment).

C. PRECAUTIONS

There are many precautions to be taken, starting with the organization of the adventure. ie: It would be better to have two people in the car rather than three, to keep down weight and for psychological reasons. The ideal is, of course, to have four people in two cars.

Planning for the preparation of the vehicle needs to be made, as each detail counts: ie: a white bodied car will be a few degrees cooler than others; luggage, Jerry cans etc. should be inside the vehicle, not on the roof as this will increase fuel consumption, make the car slower, make it unstable in winds and generally unbalance it...

Then you need to consider other precautions: ie: Under no pretext should you: Bathe in a pond or a backwater as the possibility of contracting Bilharzia (a deadly infection caused by a parasite) is high, similarly do not drink untreated water; and under no circumstances should you walk bare footed in bush (hook worm etc.).

SAFETY

The majority of desert crossings, particularly that of the Sahara, are subject to very strict regulations which are aimed at increasing your safety; it is imperative to get information about these regulations and to comply with them.

For example, for a Sahara crossing, it is necessary to declare your intended passage to the authorities. This makes it possible for them to start a search if you do not arrive at the next station on schedule. Many lives have been saved from this procedure.

MAPS

Generally, use Michelin maps. For the more detailed charts, get charts known as "d'état major" available in France from the National Geographical Institute, 107, Street, Boétie, 75008 Paris.

HEALTH

Vaccinations

Many countries require vaccinations and in many others they are an essential precaution. Well before your date of departure, obtain a list of required vaccinations from the proper authorities (Embassy, Consulate, Tourist bureau, Airline company). Apart from obligatory vaccinations, we advise you obtain a polio vaccination or revaccination, and an anti tetanus vaccination or revaccination (consult your Doctor).

Caution:

The anti tetanus vaccination is a series of three injections over a fifteen days period. Smallpox (Variola) has practically disappeared in the world, but certain countries still require this vaccination.

Validity of the current vaccines:

- Smallpox : more than 8 days, less than 3 years,
- Cholera: more than 6 days, less than 6 months,
- Yellow Fever: more than 10 days, less than 10 years.

(Cholera and Yellow Fever, Vaccination require urine analysis.)

Order of vaccinations (from The Pasteur Institute):

- Yellow Fever,
- 1st Cholera injection (12 days later),
- 2nd Cholera injection (8 days later),
- Smallpox vaccination (5 days later).

In the various European countries, the Yellow Fever vaccination can be only done at approved centres (get information from your Doctor or Medical centre). In France, you can obtain this information from the Pasteur Institute or in one its centres in the Provinces.

Vaccinations against the Cholera and Smallpox can be done by your family practitioner. In this case, it is necessary to get a notebook of vaccination from your pharmacist, or, in France, from The Bookshop Arnet, 2, street Casimir-Delavigne, 75006 Paris, and to have it authorised by your doctor and submitted to the Departmental Management of Health, 57, data base. de Sébastopol, 75001 Paris, or with the prefecture or the resident expert. Vaccinations carried out at the hospital or the Institute Pasteur (25, rue du Docteur-Roux, 75015 Paris, tél. : 306.19.19) are able to authorise international vaccination notebooks as well.

In the various European countries, international vaccination notebooks can be taken to the local hygiene services or the hospital vaccination service for authorisation or, in England, authorised by your doctor.

In Switzerland, the Cantonal Office of Health provides this authorised notebook on presentation of the certificate of vaccination.

Prevention of Malaria

Fifteen days before your departure to, and after 15 days after your return from countries at risk of malaria, it is advisable to take, the prescribed amount of Flavoquine or Nivaquine.

Pharmacy

Composition of the "pharmacy" you should carry on board:
(Many spectacular disinfectants etc. are available, as are others with 90% alcohol, which evaporate in their containers!).

We recommend simple "tincture of iodine" (iodised alcohol) a proven simple product.

In addition to this you will need to include the following to your "medicine chest" which should be kept in a 20 x 15 x 7 cm metal pharmacy cabinet:

- 1 roll of adhesive plaster (5 m X 2 cm),
- bandages Urgo or Band-Aid (large and small),
- 1 tube of aspirin,

- Flavoquine or Nivaquine (100 Mg),
- Drugs for intestinal diarrhoea ie:
 - Intertrix (Beaufour)
 - Ganidan,
- Salt tablets (hot or desert zones),
- Anti chap lipstick for the lips,
- Hand moisturizing cream,
- 1 scissors with round ends,
- 1 tourniquet,
- 1 inflatable splint.

For eye irritation due to dust (which will be everywhere!):

- an eye lotion disinfectant (ChibioBoraline)
- antibiotic eye lotion (Néomycine Diamant),

For dermatological affections:

- weak Dermo-copper
- anti fungal cream such as Tevaryl.

Water

In the desert areas where the existing water points are far apart, in the event of catastrophe such as prolonged immobilization of the vehicle, it is essential that you do not get dehydrated. To survive in hot weather, a minimum drinking water consumption of approximately 10 litres per day per person with a reserve for 5 days is required.

You should also carry Hydroclorazon tablets for drinking water disinfection.

- We also recommend the Katadyne Pocket Filter: which decreases the action of various pathogenic agents, but is simple to work, all it needs is pumping by hand. The Pocket Filter produces approximately 1 litre of clear disinfected water per minute, It takes little space (length 25 cm), weighs 650 grams & it provides pure bacterially free water as long as its ceramic candle is intact. The life of the candle depends on the degree of pollution in the water as well as frequency of use. For any further information, contact: Katadyne France, 24, rue du Château, 94500 Champigny.
- Katadyn Micropur: (Chlorine Dioxide Tablets) for disinfecting small quantities of water for drinking.

Toilet

As opposed to what some may think, complete daily toilet is necessary, as this is best way to prevent many skin diseases, and constitutes the best prevention of them. In certain hot and dry areas, the toilet can be made without soap in order to avoid drying & cracking the skin. Take particular care of folds in the skin, the armpits, groins, etc.

Where necessary, a complete toilet can be made with little water, by using the Saharan method: in a basin, to rinse the hands, then to clean its face, then complete body toilet, then legs and feet. Finally this water is used to rinse its underclothing of the day, and which can then be kept in a sealed container with the water to keep them fresh.

D - CONTROL

Travelling in countries different from our areas requires the adaptation of your driving habits to new circumstances. ie: instead of high-grade petrol with 98-100 octane you usually nourish your car, you may be travelling in a country where you will find only gasoline of 85 octane or less. You will need to modify your way of driving and abstain from accelerating rapidly and working your engine hard.

DRIVING PRECAUTIONS

Generally, on the dirt roads, be wary of the semi-trailers which will probably pass you. They roll along at supersonic speeds, in the centre of the road to avoid the effects of corrugations. You are inconsequential to them, their weight is law. Anyhow they are usually too heavily loaded to slow down. When they pass you, there is considerable danger as the dust plume following them will eliminate your visibility for a long time.

Be careful, especially in Black Africa, with major railway level crossings, often unsigned and extremely rough, where the rails are fond of tire and rims delicacies. Many herds of animals of all kinds spend their

time on the track. Guinea fowls do not damage the vehicle too badly, however, sheep, cows and zebras are a different matter.

Another danger, is when you sound your horn at asses on railway crossings as they often get their legs tangled up in panic.

Another extremely significant point: when passing through small villages in bush, the children, the old men and even the adults are unaccustomed to motor vehicles and do not realize the speed and the danger which they represent. On foot or bicycle, they may abruptly decide to cross your path even when you are as close as ten meters from them.

THE TRACK

Control of vehicles on sand or laterite dirt tracks requires attention and a field of vision covering the distance necessary for total stopping without brutal deceleration.

Obstacles proud of the ground are in general relatively easy to avoid, it is not the same with holes and very uneven ground.

The gold rule is never not to arrive at an obstacle with the brakes locked up, slow as fiercely as you can before it, compatible with the nature of the ground, and completely slacken the pedal just before you arrive at obstacle to allow the car to reach its normal suspension height and loads.

The best solution is to have a sufficient speed and reflexes to avoid the hole or the large stone. Humpbacks and "blackcurrants" must be approached without brake application; it is desirable to make the car rise before them by accelerating at a given time when traversing them. One must be cross these obstacles in skew by a short quick turn of the wheel at the exact moment you reach it, neither too early, nor too late. The goal being to get one only one wheel, if possible, over the bump so the car is not shaken too much. Of course, it is advisable to immediately get the car back on line, to prevent it rolling over!

At all times you must be able to see what you are driving over. Be wary of fords which can conceal a or a number of large holes which may cause evil to your car. Similarly in savannah, be wary in tall grass as it can hide a stock or a large stone.

Remember "the danger is increased when it is not seen it", for this reason one should avoid driving at night or in sand and dust storms.

CORRUGATIONS

Corrugations are a series of ridges in succession perpendicular to the direction of the road. They are caused by traffic after the rainy season, and the contracting of the surface layer as it dries. Corrugated road puts unimaginable stresses on the car and its suspension car. Nothing resists it, everything gets unscrewed and falls loose. The car gives the impression its about disintegrate.

To alleviate the stress on the vehicle and passengers, it should be taken above 60 km/h, the ideal speed often varies according to the type of vehicle, the goal being to obtain a speed at which the tyres only contact the peaks of the undulating ridges. This attenuates the jolts, but gives very little steering control, as its like driving on ice.

Caution: it is imperative to realise and to take into account that stopping distances at these "surfing" speeds on corrugations increases stopping distances by at least double. Use special care when negotiating curves when on corrugations.

If you need to slow down or to stop, you should set out again to reach your original "surfing" speed, usually higher than 60 kmph, which can be obtained with less vibration and vehicle stress by accelerating in a series of large "S" bends.

SAND

Control on sand requires even more visual anticipation and the maintenance of a constant reasonable speed, without brake application. If it is necessary to stop, it is advisable to do so very gently to avoid bogging the vehicle.

Short patches: Approach the zone with a maximum of dash and power. Long zone: In this case, you can deflate the tires to 1/3 of their normal road pressures. Often, the crossing of sand areas depends primarily on tire inflation pressure. But you should be aware that deflating your tires puts them at risk of a puncture at the first stone you meet.

As you will need to reinflate the tires as you find hard zones (hard earth, rocks, stones), you should be carrying a tyre pump, pressure gauge and a ground plate for the pump (the latter for use in sand).

In addition, if you have a fast car, you must abstain from driving at too high speed on deflated tires because they will overheat.

Drive as far as possible on uneven ground while avoiding the deep gullies etc. in the dunes. Flat sand is usually boggy. Choose places where if your lucky there is vegetation.

Caution: Stranding is always possible and should not be regarded as a dishonour by the driver.

If one realizes that the stranding is most probably inevitable, it is necessary to "give in" and stop before the vehicle is bogged too much. Do not try to drive backwards and forwards when eventually or almost bogged, as this will only make it more difficult to release the vehicle and will risk damage to the clutch and gearbox etc.... Get out of car, evaluate the situation, dig, place sand mats, branches, mats or whatever you have for this work, under the front wheels and gently start pushing the car if possible out of the problem area.

In all the cases, avoid irritation, it generates brutal and disordered operations which will worsen the situation.

TRAVELLING IN CONVOY

On dirt roads and tracks, you must keep your distance from the vehicle in front to maintain visibility.

The distance you need to keep from the car in front is dependent on the density of the dust and the direction of the wind.

When travelling on great wide sandy extents (like the Ténéré), vehicles can spread out into a long wide single line a few meters behind and to the side of each other to avoid the dust from the vehicle in front

The vehicles must however rigorously and unselfishly stay in formation and never try to upset it. Some have become lost by not following this simple formation rule.

Nothing is as misleading as a change in the Sahara, a "hamada" (a rocky area) may sometimes appear entirely undulating. Moreover, it is very difficult to appreciate the distances in the desert.

Many vehicles have become lost when the main convoy becomes suddenly hidden by a dip or rise in the ground. In these cases, it is imperative to turn back immediately and pick up the tracks in the sand of the main convoy and rejoin it.

When in convoy, if the vehicle in front suddenly becomes immobile, the following vehicle should slow down, but not stop, and pass the disabled one, allowing the vehicle behind him (and the others further behind), time to take avoidance action. The vehicle(s) behind can then come to a stop to help the immobile car, while making sure to avoid stopping in soft sections.

CAMPING

You should park your vehicle upwind of your sleeping and eating area to protect from the wind during night.

However, you need to take account the possibility of changes in wind direction during the night, sleepers should install their camp beds against the body, or a wheel of the car, and so avoid the north wind which is sometimes very fresh and which can engulf the bed itself.

Laying a bed directly on the ground is not recommended, due to animals, scorpions, snakes, etc, and horny vegetation.

Never make fire near the vehicle.

The use of the tent is not always essential, the assembly and disassembling sometimes adds to tiredness, and is often useless. Transporting of a tent, its stakes, etc, also can overload of the car.

Time of Saharan travelling: departure with the rising of the sun (all packed and ready to go), snack stop between 9 and 10 am. for 45 minutes, finish driving around 5 pm, set up the camp in the remaining daylight, have dinner, and get to sleep around 6 to 6.30 pm. One or two stops for "relaxation regrouping" will be planned in the course of the day and will be fixed before the departure.

EQUIPMENT

The equipment listed below does not claim to be complete. It is, an indication of those intended for raids in the remote and hot countries, with beautiful starry nights.

Bed

- 1 collapsible camp bed or a mattress of foam,
- 1 partitioned sleeping bag (the nights are often cold with the desert),
- 1 tarpaulin to make a shaded shelter in daytime.

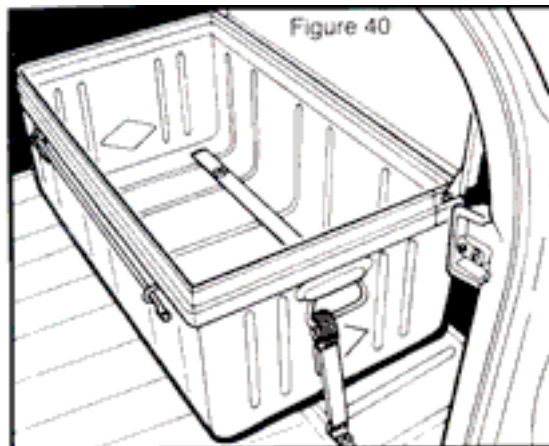
Miscellaneous equipment

- 1 strong light snow shovel, practical for the digging a bogged vehicle out of sand.
- 10 m of light synthetic 11 mm towrope.
- 1 waterproof flashlight with rubber seals and international 1,5 V batteries,
- 1 multiple use camp knife (Swiss Army knife)
- 1 plastic basin
- 2 pairs of green UV protection sand glasses,
- 1 pair of high canvas boots (Palla-Rangers),
- 1 Metal canteen with felt cover for fitting outside on the rear view mirrors to cool its contents,
- 1 mosquito net,
- 1 camping gas ring or similar for cooking,
- 1 set of light nest able pans,
- 1 container for dishwashing detergent.

You are not setting out to make war, do not carry any weapons, they will make your life difficult if you are found with them.

However do carry a camera and associated films etc. "Polaroid" cameras and films are a tremendous idea as you will be able to offer "instantaneous photos" to those you will meet on your adventure and it will help you like a "passport of the friendship".

For security in soft top cars like the 2 CV, we strongly recommend installation of a metal trunk, secured with two padlocks. This metal box must be bolted in place so it cannot be removed without first opening it. (figure 40).



E. THE VEHICLE

Each adventure poses a specific problem: particular preparation of the vehicle is never superfluous. You will find in this booklet the details of preparation of the 2CV Citroen.

A-Choice of the car

Caution: *However sturdy your vehicle, you should never overload it. The lighter your car the better chance you have of problem free travel through rugged areas.*

One of Wolgen decrees in the Raid Africa was: "lightness is the key, if your car is heavy it breaks".

It is better to leave without spare parts and equipment so as not to be heavy, thus removing the essential cause of breakdowns, rather than overload and break parts which cannot be easily repaired. It is easier to write than comply with this edict though. As you will see as we read on, there are many conflicts which are counter to this philosophy. However do not forget that weight is your enemy.

You must weigh your car the car in operating state with its crew, fuel, provisions, luggage and equipment on board. Instead you may wish to weigh the vehicle and all of the items it will carry fully loaded.

If you exceed the following weights, you **MUST** lighten the load, even if it means cutting your tooth brushes in half!

Berlines	2CV	930 kg.
	Dyane	920 kg.
	Mehari 4x2	955 kg.
	Mehari 4x4	1 100 kg.
Vans/Utilities	2CV & Acadiane	1,165 kg

SPECIAL VERSIONS P.O. AND GE.

If you do not yet have a vehicle to accomplish a rugged adventure or the raid, you could consider the possibility of acquiring a special P.O. or GE Citroen model. The majority of the Citroen models, can be purchased in P.O. (Pays d'Outre-mer, meaning for Overseas Countries) or G.E. (Grande Export) versions, which are particularly adapted to conditions of unusual travelling and climatic circumstances. You should seek the special equipment P.O. & GE models as these have features built in during manufacture which cannot simply be added to a standard vehicle. These types of vehicles are not common in Europe and you must specify them when ordering.

2 CV, ACADIANE, MEHARI P.O.

Among the small-engined cars, you have the choice between a 2 CV6, Acadiane light van (all with the P.O. option), or Mehari 4x2 (with two driving wheels) which is made in P.O. form. This special standard P.O. installation comprises of special reinforcements and equipment as follows: secondary dry air filter, reinforced front suspension arms, reinforced bumpers and platform, with a protection plate under engine and gearbox (which is very useful on rough ground).

With this option P.O., you can fit 135-15 X with tube tires, which in France increases the vehicle price by approximately 2,2 to 2,6 % of a normal production car.

B-PREPARATION

Whatever the vehicle of your choice, before your departure your vehicle must be in perfect condition with: an overhauled and properly adjusted engine, new contact points, new lights, new alternator belt, new oil filter and fresh oil.

A new vehicle should have done at least 5,000 km, with proper servicing at 1,000 and 5,000 km, complete with a complete oil change at 5,000 km.

The gearbox needs to be in good condition, with fresh oil as does the clutch. Centrifugal clutches on the 2 CV and Dyane are not recommended. The brakes, battery, and suspension must also be in good condition.

The following is for 2 CV's - DYANE 6's - ACADIANE's - MEHARI 's

STAGE 1

Here is the preparation required a trip from Europe to the East or the Middle East, similar to "Raid Paris - Kabul – Paris"(1970) or "Paris - Persépolis – Paris" (1971), not of extreme difficulty.

Installations

If you have a standard vehicle P.O.:

- Fit two extra driving lights with protector grilles and relays.
- Fit a powerful hooter or air horn.
- Carry two wheels with tube tires.

If you do not have a standard vehicle P.O.,

in addition to installations above:

- Fit a P.O. bumper and a protection plate under the engine - essential (see references in table annexes p. 24.)
- Ensure the tires in good condition, and that they are the tubed type.

Spare parts

Mechanical

- 1 complete transmission,
- 1 fuel pump,
- 3 meters of gasoline hose with hose clips,
- 1 engine oil cartridge
- Engine and gearbox oil (change all at 15,000 km.),
- 3 wheel nuts.

Electrical

- 2 headlights,
- 1 set of ignition points,
- 1 condenser,
- 1 ignition coil,
- 1 voltage regulator,
- 1 alternator belt,
- 1 set of alternator diodes,
- 1 box of replacement bulbs,
- 2 fuses (glass type)

Tires

- 2 tire tubes,
- 1 tyre tube repair kit,
- 2 tire tubes,
- 2 valve caps,
- 1 vehicle jack.

Various tools and material

- 1 complete toolkit,
- 1 warning triangle (obligatory in many countries),
- 1 set of tyre levers,
- 1 foot or electric air pump,
- 1 light towing cable (nylon),
- 1 small roll of wire,
- 1 portable flashing warning lamp,
- 1 flashlight with spare batteries,
- Jerry cans of gasoline depending on refuelling distances.
- Drinking water jerry cans according to needs.

STAGE 2

Preparation of a vehicle for a trip of significant travelling difficulty ie: Africa (standard Raid Citroen 1973), India, Nepal, Pakistan, Asia, South America.

For this type of adventure, a P.O. type of vehicle is highly recommended. "Raid Africa" 1973 showed that standard 2CV6 P.O. is perfectly satisfactory for difficult tracks.

Installations

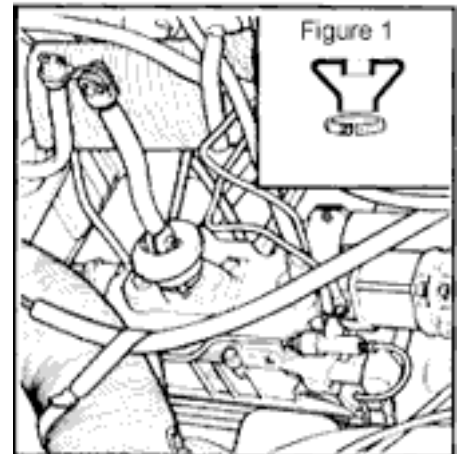
For those who do not have a P.O., we recommend the following preparation which converts standard vehicles to P.O. (except for the chassis frame, which is a special P.O. build). The following conversions were proven reliable during "Raid Africa" 1973 and should continue to do so for this sort of travel.

Engine

- Fit a standard air filter P.O. (see reference in additional table).
- Encase the fuel suction feed pipe within the engine bay, with insulation material to prevent vapour-lock in hot countries.

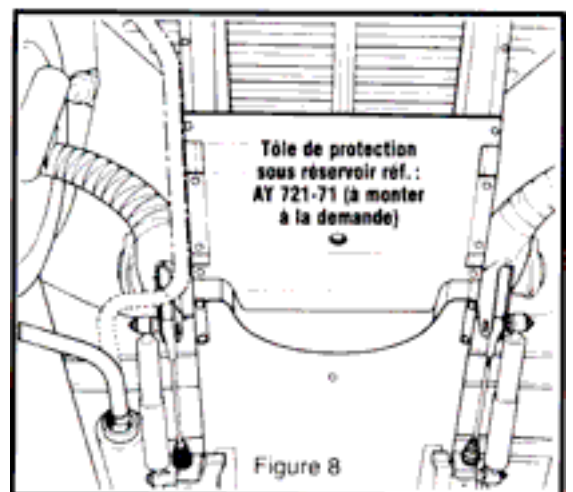
Gear box

Fit a hose clamp or similar to the gear selector lever protective rubber cover as shown in (fig. 1).



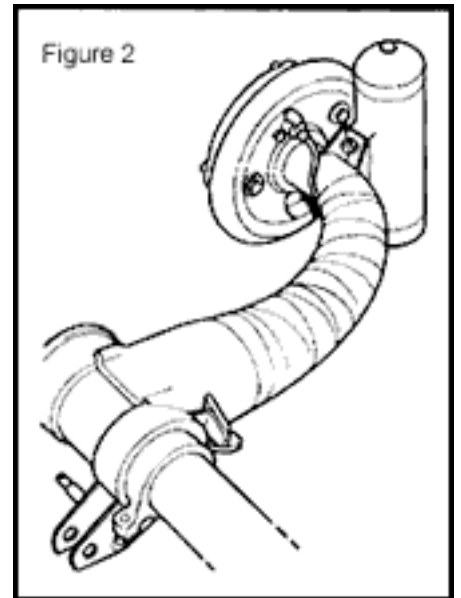
The Exhaust Pipe

Remove the long pipe behind the rear exhaust muffler, shorten it and bend it outwards about 75°, forward of the rear left wheel. (fig. 8).



Braking

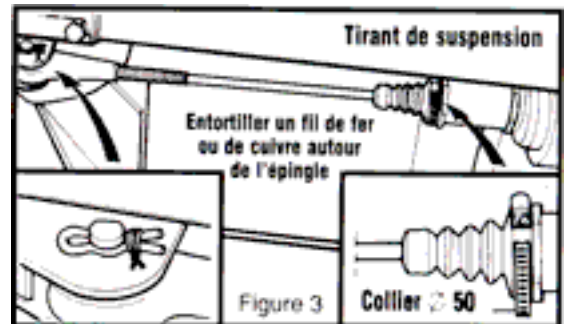
Wrap the rear brake arms and pipes with “Gaffa” heavy duty adhesive tape (fig. 2).



Suspension Spring Units

Battuers are essential for the front and rear inertia suspension cars built before September 1975.

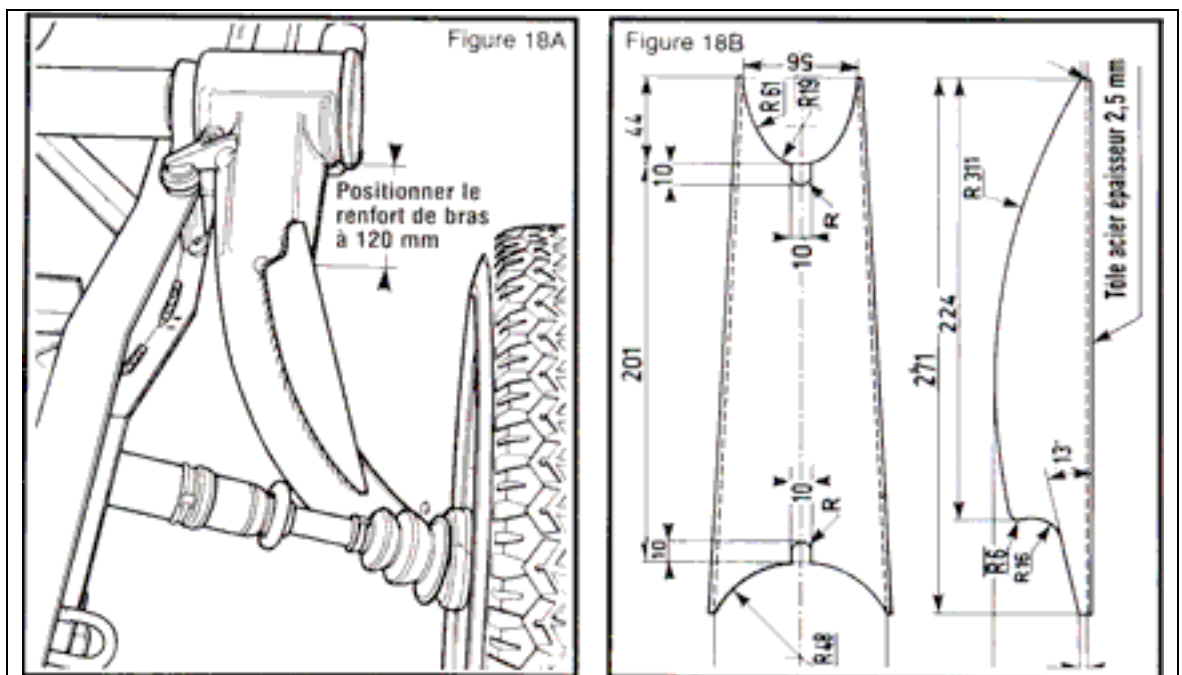
Fit a hose clamp to each of the four rubber dust guards on the end of the spring pots. Fit wire ties to the hairpin clips on the knife edge pins. (fig. 3).



Front suspension

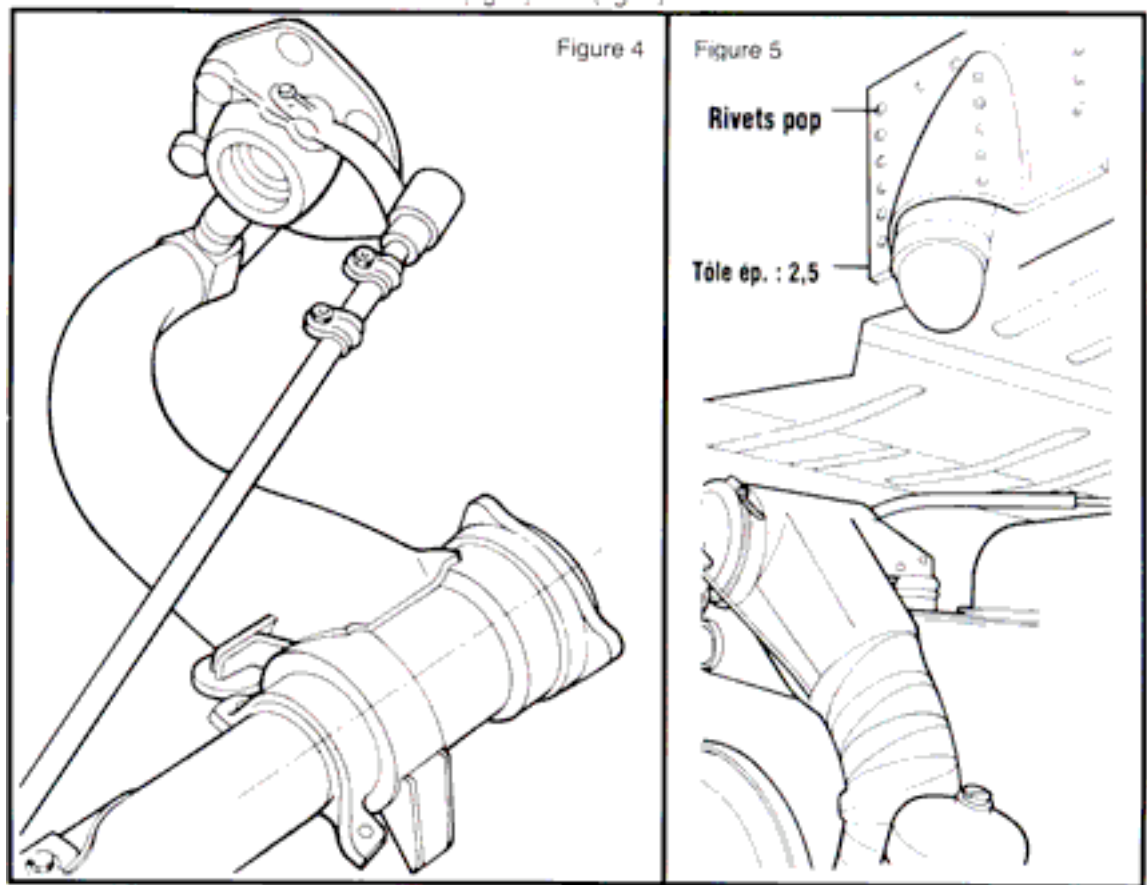
Reinforce the arms by welding a curved plate to the arm's inside, to reinforce the suspension arms (fig. 18).

Ensure the shock absorbers are in perfect condition and ensure the shock absorber plate to axle mounting bolts are torqued to 3,5 to 4 m/kg. On inertia suspension cars make sure the frotteurs are in top condition and that their mounting bolts are torqued to 3,5 to 4 m/kg. The bump stop rubbers also need to be in perfect condition.



Rear suspension

Reinforce suspension arm bump stop mounting on the suspension arm and axle (fig. 2).
Reinforce suspension bump stops on the vehicle body. (fig. 5).



Adjustments

Adjust the suspension heights to the maximum allowable.

Tires

2CV and the Dyane can be equipped with 125-15X, 135-15X or 135-15 XZX tires all with inner tubes.

135 tires are better for sand driving.

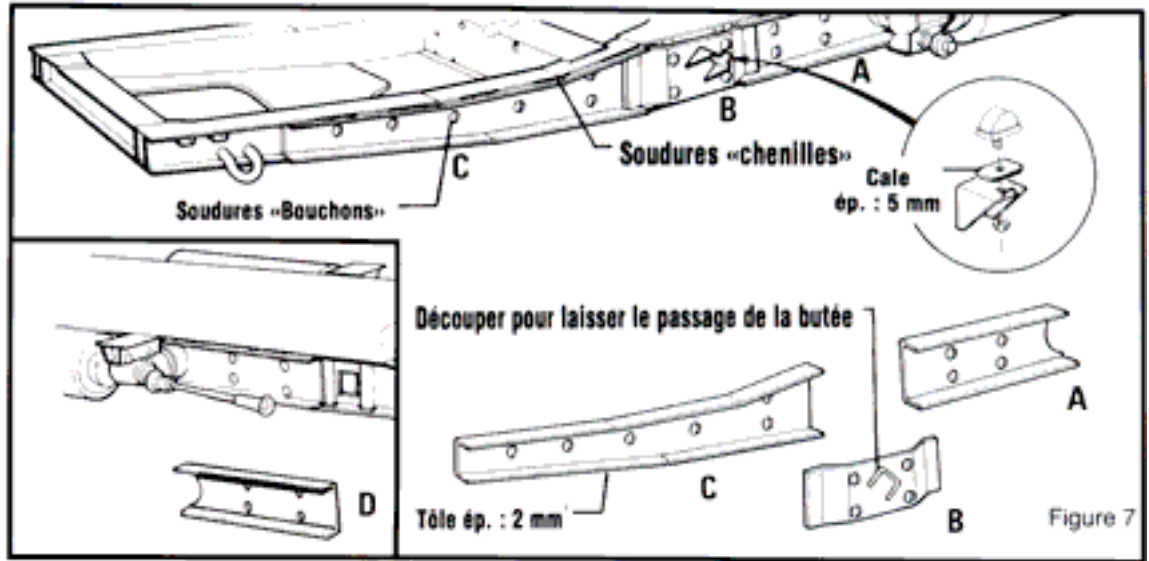
Inflation Pressure (in bar, measured hot)	Front	Back	Spare
Normal	1,8	1,9	2
Very hard tracks (stones, rocks, holes)	2,2	2,2	2
Half tracks, half sands	1,2	1,2	2
Sand	0,6	0,6	2

1 bar is equivalent to 1kg/sq.cm.

Cold Pressure note: Decrease the Inflation pressure by approximately 500 gm./sq.cm (0,5 bar).

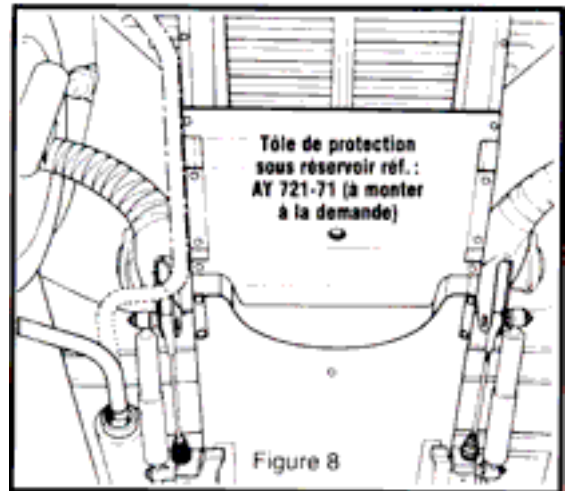
PLATFORM (Chassis)

Reinforce the platform as indicated in (fig. 7). Before doing this, reinforcement of the platform (fig. 7) should have been carried out. For the vehicles (including P.O.) manufactured after December 1972, weld reinforcement A only is needed. For cars made before December 1972, weld reinforcements A, B and C (5 mm) are required. For all types of light vans, additional reinforcement D is needed.



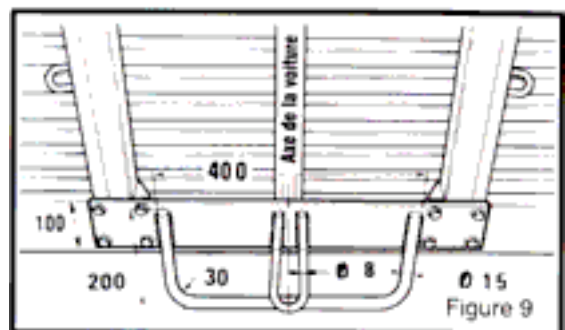
FUEL TANK UNDERSHIELD

Fit a protection plate under the fuel tank (fig. 8).



REAR TOWING HOOK

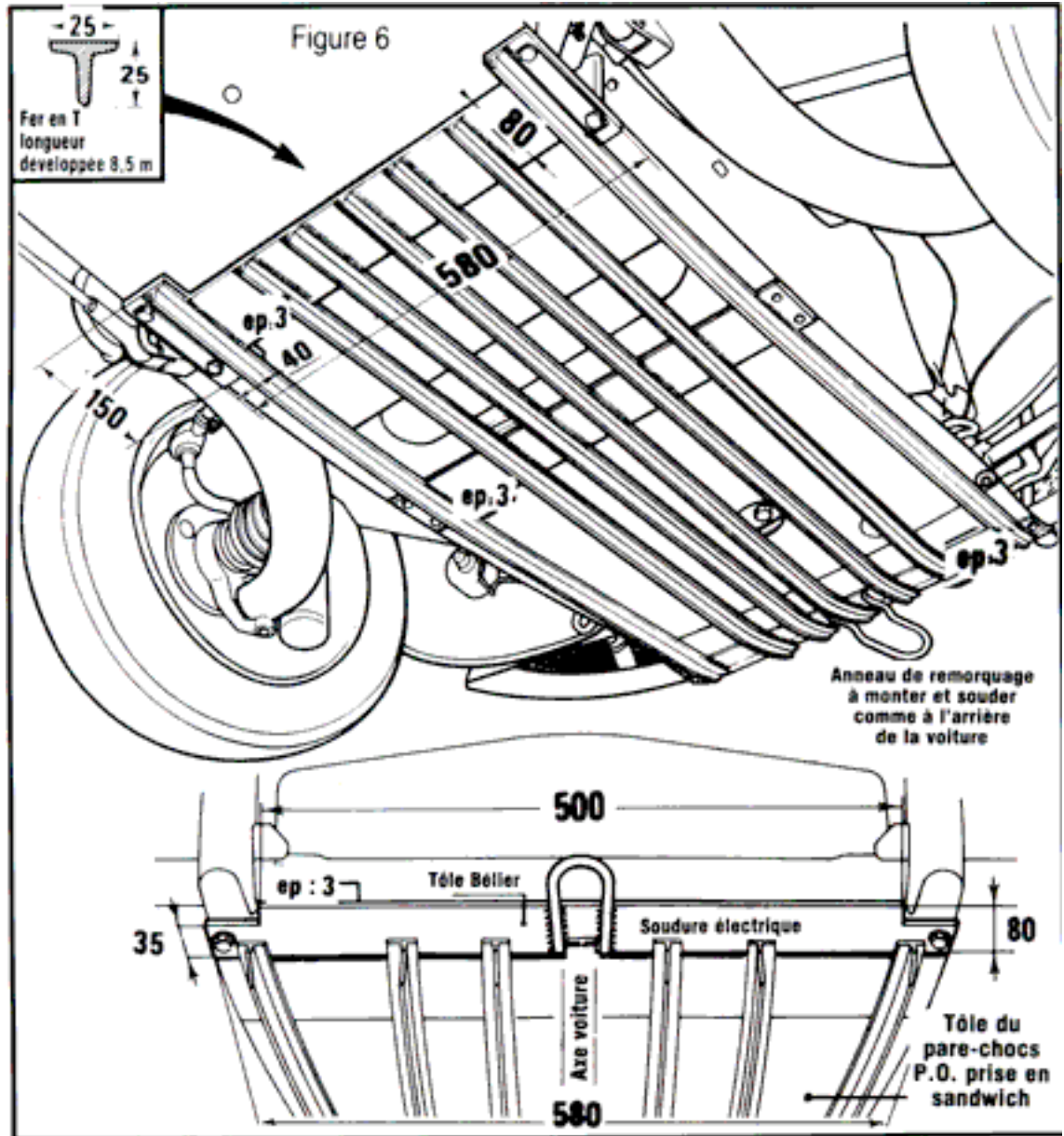
Remove the original rear bumper bar and fit the towing hook (fig. 9)



FRONT UNDER SHIELD

Fit the modified bumper bar and P.O. under engine protection system (refer Fig. 6).

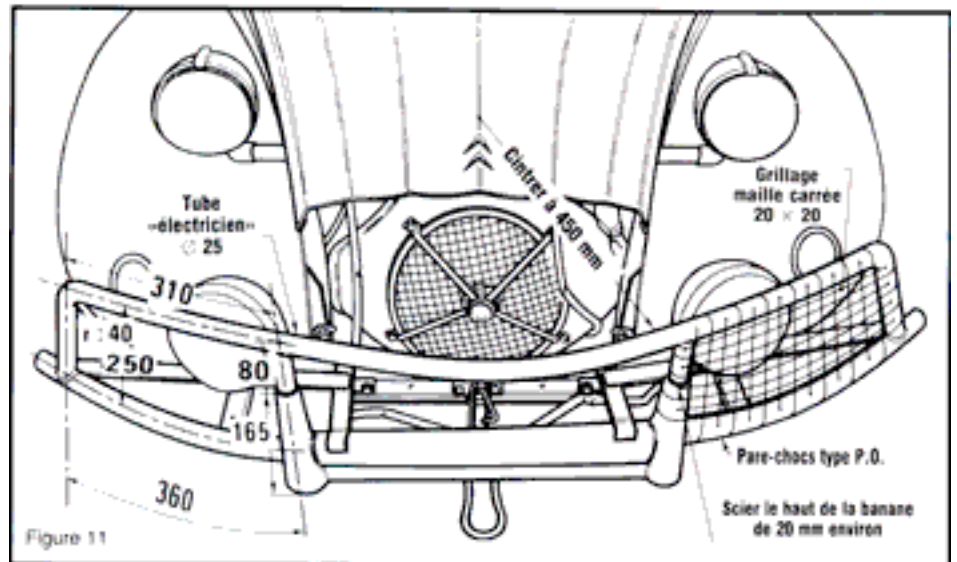
Make and the engine and gear box under protection cage with towing hook in fig. 6. Don't forget access for the engine and gearbox oil drain plugs and the two fastening bolts in front of the engine. Fix the rear of the under shield frame cross-piece to the vehicle frame using longer front axle mounting bolts.



EXTERNAL INSTALLATIONS

Front Bumper Bar (fig. 11).
Make with overriders

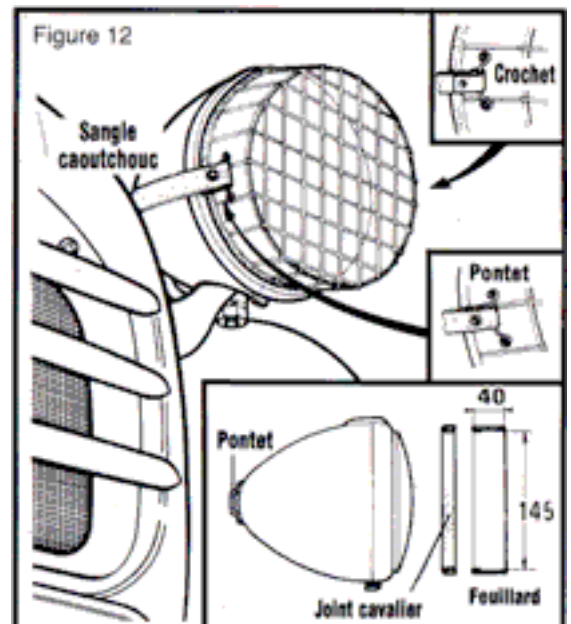
Long Range Lights (fig. 11).
Fit with two with relays.
Fit metal mesh nettings to protect these s from flying debris



Headlight Protectors

You will need to make protection guards for the standard round headlights as shown in (fig. 12).

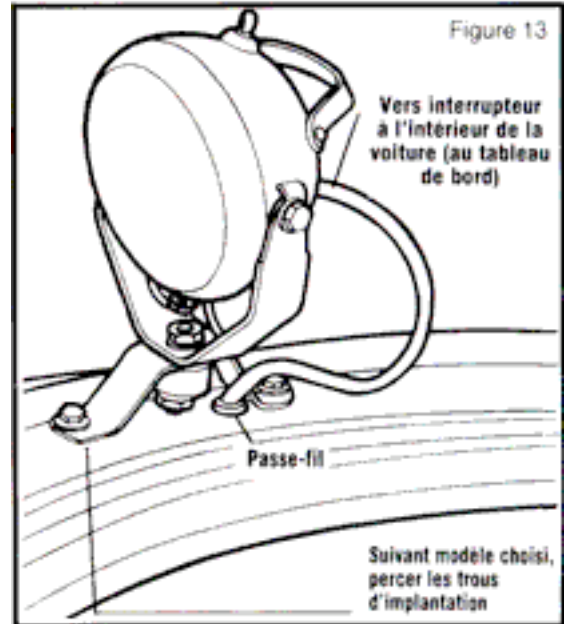
You can purchase part no. ZC 9 866 078 for rectangular headlights



Swivelling Spot Light (Optional)

Assemble and fit above the driver's door (fig. 13).

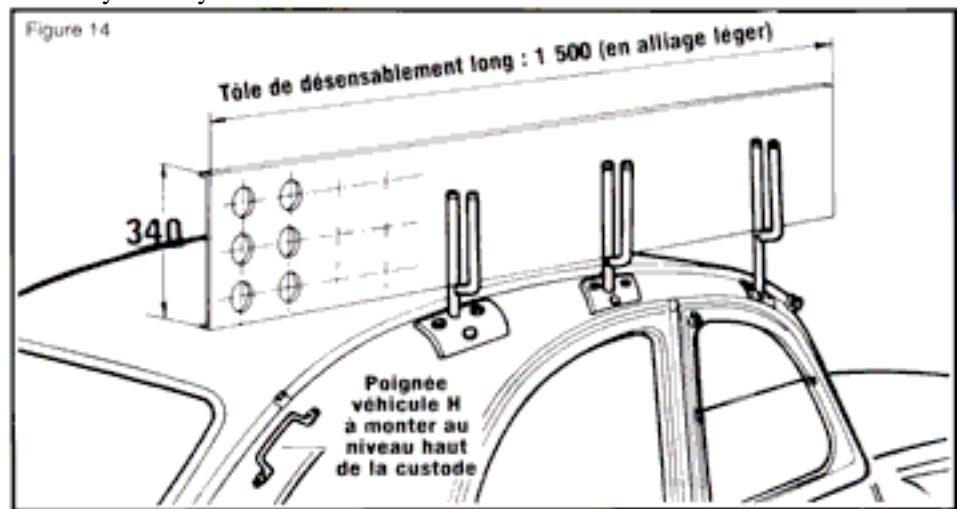
You could use a portable for this.



Sand Mats

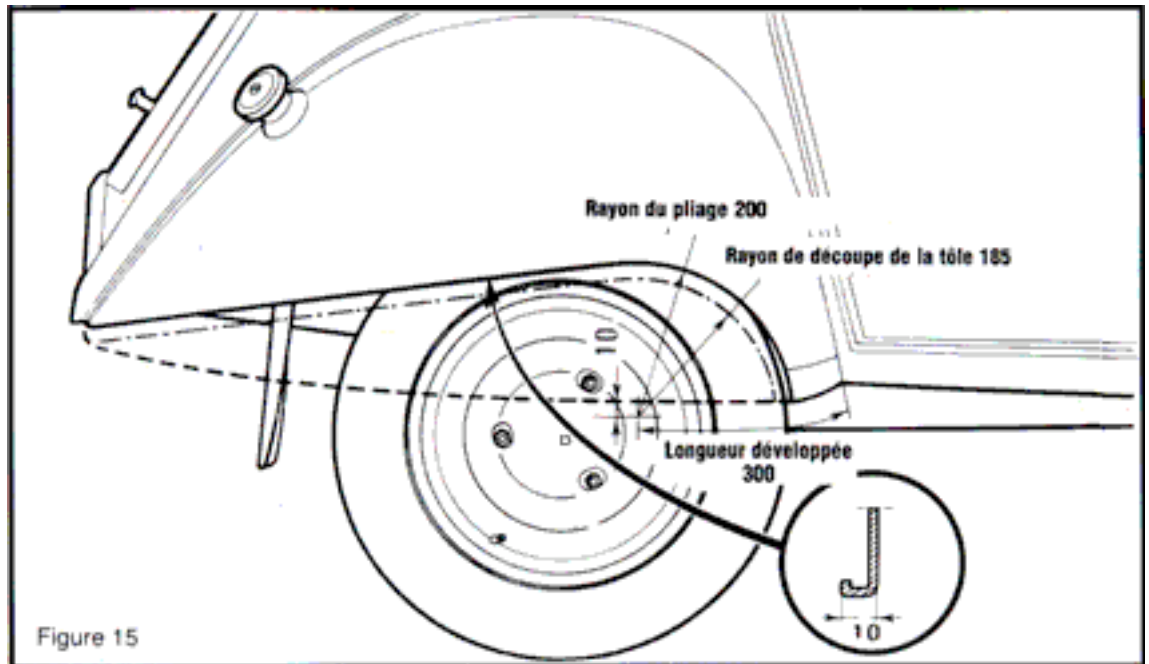
For travelling in sandy conditions, fit a series of three vertical "posts" for holding light alloy or plastic "sand mats" (fig. 14).

We recommend you carry two of these mats.



Rear Mudguards (Optional):

Cut out the back mudguards (fig. 15).



Interior installation

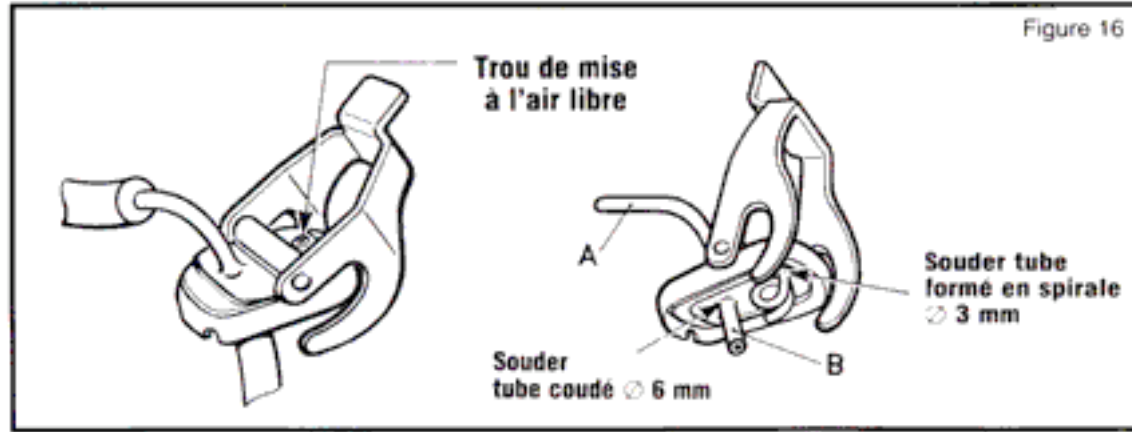
Depending upon your route, you may have to cover distances between refuelling places exceeding your car's standard fuel capacity. Do not forget that your fuel consumption when driving in sand will be far higher than normal (up to three times more) and is also dependent on the temperature.

We thus advise you carry a sufficient number of Jerry cans for the additional fuel required. You will need to properly secure them within the vehicle, taking care to not to unbalance it. You should also carry a filter and funnel for decanting the fuel into the vehicles main fuel tank. As you move into areas where this additional fuel capacity is not required, you may be able to sell these Jerry cans to gain space and reduce vehicle weight.

Jerry can "break-down mechanic"

It is wise to carry a special Jerry can lid prepared so a standard Jerry can be converted into an emergency tank in event of failure of the vehicle's main fuel tank (fig. 16).

Bore the lid of a standard "US" Army style Jerry can, braze in a 6 mms diameter tube with free protrusions each side. Install a 3 mm. spiralled tube on the inside for tank ventilation. Fit a 6mm. fuel hose on the "inside" side of this emergency lid to reach the bottom of a Jerry can, and install a filter at its base. Carry sufficient 6mm rubber hose to connect the outlet to the engine. In the event of problem, remove the lid of a Jerry can and fit the emergency lid (the "break-down mechanic") and assemble the hose connection to the engine.



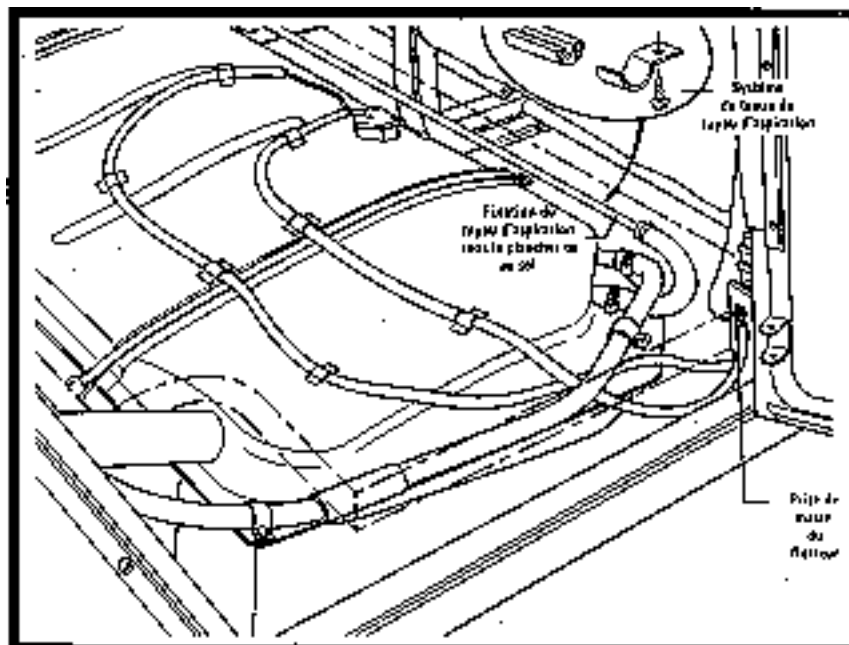
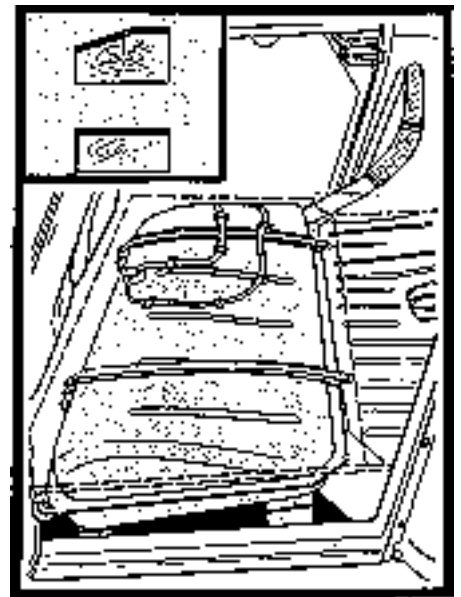
Auxiliary tank

A more sophisticated solution which avoids carrying cumbersome and heavy Jerry cans is the installation of an additional tank. This must be done absolutely meticulously!

On "Raid Africa" an additional 65 litre fuel tank from the DS, was fitted on the floor in front of the rear seat on the 2 CV's. This proved to be a practical and elegant solution. But today DS tanks are increasingly difficult to find...

Those who wish to equip to these tanks on their 2CV's or Dyane's, can obtain detailed installation instructions from the Public relations of Citroen.

It is, in particular, advisable to take out the complete rear seat and leave it off the vehicle. A three way valve is needed on the feeder pipe and an electric fuel gauge should be fitted. The tank should be well strapped into the car and have felt anti rubbing strips to prevent chafing and leakage.



Other Installations

You will find it very useful to fit:

- **Air Horn**
Fit a powerful electrical compressor type air horn.
Avoid those which make musical, military or police siren sounds, as they only serve to upset people.
- **Fire Extinguisher**
Firmly strap in a quickly releasable 1 kg. fire extinguisher, within easy reach, preferably on the floor, close to the door, resistant to corrugated road vibration.
- **Cigar Lighter**
Fit a cigar lighter socket for plugging in for
 - camera battery rechargers,
 - portable lighting,
 - electric razors etc.

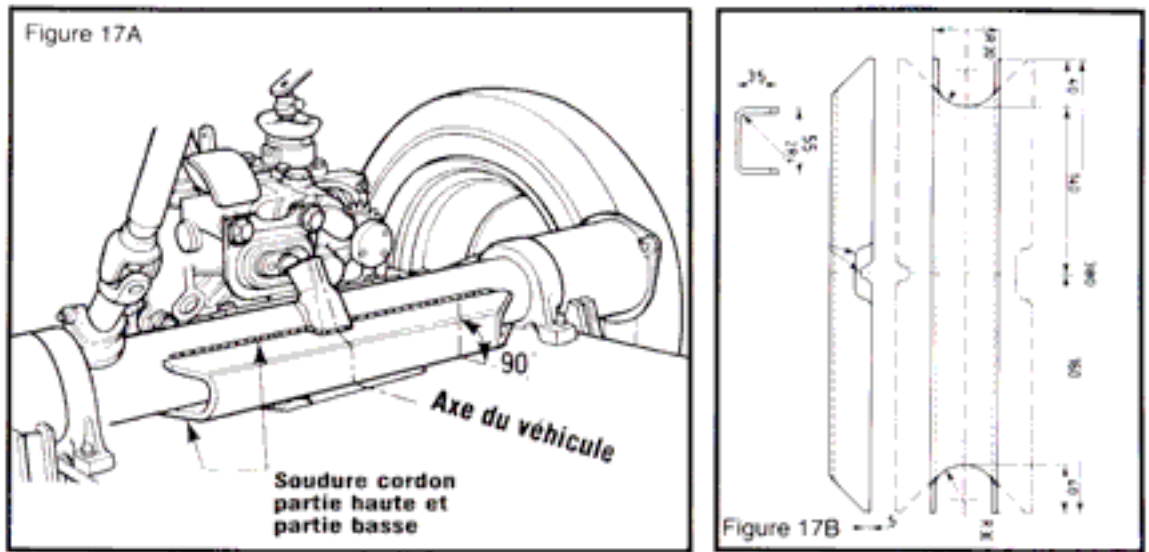
F. SPECIFIC MEHARI 4X4 PREPARATIONS

The Mehari 4x4 model was specially developed for cross country driving and has:

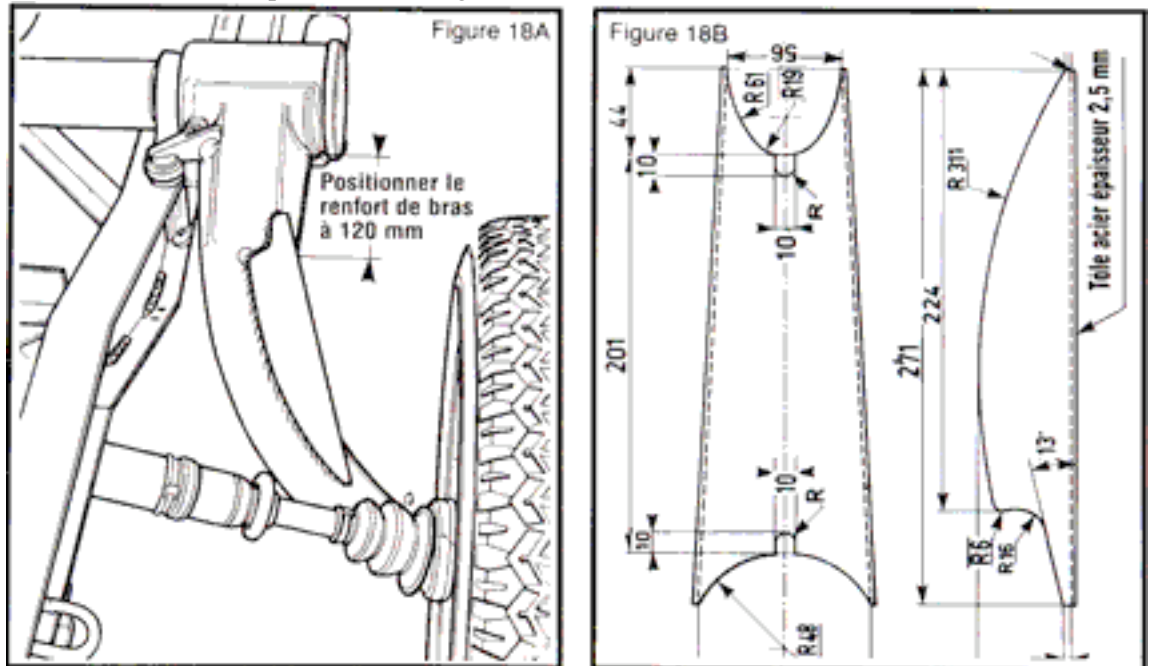
- Four wheel drive
- Low range gearbox
- Locking differential on rear wheels
- Special chassis for rough terrain.
- Reinforced front suspension arms
- Protection plates under the engine and gearbox.
- Protection plate under fuel tank.
- Michelin 135-15 XM – S8 Tyres

The preparation below is recommended. The ten medical Mehari 4x4 cars in Raid Paris Dakar 1980 were prepared this way and arrived at Dakar completing their mission without incident.

Weld a U shaped stiffener onto the front axle/cross beam (fig. 17 A and B).



Additionally reinforce the front suspension arms (fig. 18A and B).



Replace the knife edges with spacer held in place with bolts.

Worn 145-15 XZX Tires mounts are recommended for sand.

G. CONVOY SPARE PARTS CHECK LIST

For

2 CV's, Dyanes, Acadianes, all types of Mehari's

The heavier and bulky items in the list below should be sent forward on by larger vehicles or carried on heavier duty convoy escort vehicles accompanying the main group.

Mechanical

- 1 complete transmission,
- 1 fuel pump,
- 3 meters of gasoline hose with hose clips,
- 4 rear axle/cross-piece-frame fastening bolts,
- 2 suspension knife edges,
- 4 knife edge clips,
- 1 suspension pot,
- 1 front suspension tie boot,
- 1 rear suspension tie rod boot,
- 1 spring postpones suspension,
- 1 oil filler crankcase-vent unit,
- 1 clutch disk,
- 1 engine oil filter
- engine lube oil (distance dependent),
- 3 nuts of wheel,
- 1 air filter cartridge.
- 1 right front suspension arm
- 1 right front suspension arm
- 1 front axle/crossbeam.

Electrical

- 2 headlights
- 1 set of headlight wiring,
- 1 ignition coil &
- 1 complete points box with condenser,
- 1 alternator,
- 1 voltage regulator,
- 1 reel of electrical wire,
- 1 set of fuses,
- 1 box of light bulbs,
- 1 alternator drive belt.

Tools

- 1 complete toolkit,
- 1 set of tyre levers,
- 1 electric foot or air pump,
- 1 pressure gauge,
- 1 cable of light towing (nylon),
- 1 small roll of wire,
- 1 roller of "Gaffer" broad adhesive tape,
- 1 flashlight with spare batteries.
- 1 safety triangle,
- 2 sand mats,
- 1 shovel for vehicle recovery (aluminium).
- A "Technical Review" repair manual of the car you will be using,
(available from "Revue Technique de l'Automobile" 22, rue de la Saussière, 92100 Boulogne Billancourt)

Tires

- 2 spare wheels and 2 tires,
- 6 tire tubes,
- 1 tyre repair kit,
- 3 tire tube valve caps and 3 valves,
- 1 car jack.