

# The Citroen XM Internet Reference

This set of pages is dedicated to all of those internet folks who have contributed to the XM mailing list XM-L.

These pages have been sourced from many areas but mostly from the XM-L mailing list and Citroen Car Club members.

You'll appreciate that I really wanted to get this out so that all of you can have a look and give me your comments.

You can email me directly at *stevel@bristol.st.com*.

I intend to try and refine these pages as time goes by, so be patient!

Best Regards

Steve

(March 1999)

(Parts of this document originally appeared in the Citroen Car Club Magazine – *www.CitroenCarClub.org.uk*)





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# The Electrics, Dashboard and Heater

# 1 Alarm

Dear Groupsters,

Does anyone out there know how to disable the alarm system on my 1993 XM 2.0i Turbo? It gives so many false alarms now, it is pointless having it on anymore....

Thanking you in anticipation of your help,

Keith

## 2 Central Locking

Central locking - remote key fob does not operate. Having found out that if two .0 ('dot' zero) or .1 are in use, the system will not function, the problem is most likely to be in the receiving unit. I have heard, that the receiving units can suffer from 'frequency drift'. Whether this is true or not, cannot be easily checked without access to a frequency scanner/transmitter. The solution seems to be to fit a new unit (including key fobs -the internal pcbs can be exchanged) for which Citroen offer a 'kit'.

### 3 Changing the steering wheel

I saw a comment that earlier XMs had a single spoke steering wheel that did not hide dashboard switches. Where would I get one and are there any fitting problems anyone is aware of ?

From a scrapyards... or try someone like Paul Johnson in Oxford if you're in the South... who specialises in XMs. The wheel itself is a doddle to change. You need a 19mm (I think) socket driver. Simply unscrew the nut, after removing the cover, tug the wheel off and put the replacement on.

The ICE controls are connected via a little plug/socket which is housed with in a recess in the wheel behind the cover. Be careful not to damage the printed circuit board that the socket is housed on.

Keith

## 4 Dashboard Display (replacing bulbs)

### Intermittent gear display

On my last two XMs, which have been automatics, the display on the dashboard (P,N,D,etc) has gone intermittent and a temporary cure is effected by banging the dash with my fist! Is it easy to get in to this area? I guess there is a connector that need cleaning.

====

A sharp whack of the LEFT-HAND (!) side of the dash usually fixes it

====

I have the same problem. I asked my dealer and it appeared that this is a "standard problem". A complete electronic box in the gearbox needs to be replaced, which is quite expensive. Banging th dash didn't help in my case. When I drive around it becomes normal again after some 10 minutes. I the beginning the thing made me quite crazy, but now I just got used to it.

=====

I have also had the problem of the screwed up gear selector display. I have had two automatic XMs from new and they have both had the problem. The current (P reg) one went into the garage a few weeks ago and they said it was a big job costing ?200+ as they had to replace a unit that fits on the gearbox. As it's a company car it is not my problem but today the speedo packed up as well. Add this to the auto gearbox problem that seems to be developing and my 18 month old XM is starting to look pretty poor for an executive car.

Who was it said that later XM's are reliable? I have had three from new and they have all been poor quality. I wonder whether I should go back to a boring old Granada next time, at least it held together!

=====

### How do I get at the instrument cluster?

You will find a couple of plastic caps on the sides of the instrument cowling over the instruments. You can lever these out with a small screwdriver or your fingernails (ouch). Under these caps you will find some 'torx' screws which must be removed. Gently insert a very thin bladed screwdriver or a palette knife into the slot where the base of the cowling meets the front panel of the dash. This slot extends to the entire length of the instrument cowling. You can lift the cowl upwards with the blade and it will pop out. The instrument panel is secured with four 'torx' screws. At the back of the panel, the speedo cable is attached by a lock ring which must be pulled back to release the cable.

Thanks to John Michegan and the Citroenian, the Citroen Car Club Magazine

### Dash (Instrument Cluster) Light Bulb Replacement - Early XM's

Anyone know how to get at the Speedometer and Tachometer light bulbs in a '90 XM V6?

I can remember that I told you earlier.

What exactly is the problem. Did you find all 4 screws?

Then you only have to push the lower end hard towards the windscreen.

=====

Subject: Dash Lights

On top on the inner side are two little screws. At both sides are 2 screws covered by 2 round plastic buttons. After removing the 4 screws you have to push the lower side of the instrument house backwards. It should come loose. Then move the whole shebang in the direction of the windshield. Replace all bulbs.

=====

### **Removing the instrument panel**

The process is very simple.

On the sides of the cowl that is over the instruments there are two plastic caps which must be removed with a small screwdriver or the nails.

Under these caps are two screws with 'torx' heads which must next be removed. Now comes the only tricky bit which is to gently insert a very thin bladed screwdriver or palette knife in the slot where the base of this cowl meets the front panel of the dash.

This slot is in front of the instruments and is as long as the cowl. Once the slot has been penetrated without damage to the cowl, it is a simple matter to just lift the cowl upwards and it will pop out completely. You will then see that the instrument panel is secured with four torx screws.

Release these screws, remove the speedometer cable from behind the speedo by moving the lock ring back and pulling the cable off.

The instrument panel can now be removed. Bulbs, etc. can easily be replaced as they are twist-off bulbs and spares are available from Halfords.

(Thanks to John Michigan)

## 5 Dip-Dip failure

I own a 1992 XM 2.1 turbo diesel auto. Recently, the dim-dip, which operated when the sidelights and the ignition were both on, has stopped working.

I assume that somewhere, there is a little black box (a resistor pack?) which has died.

====

As far as I can see on my RHD 1991 V6 the resistor is the metal cased cylinder mounted at the bottom front nearside of the plastic support/cowling for the cooling fans. You may be able to reach it through the lower air intake aperture.

## 6 Early car problems

Very early cars had problems. So I guess it depends on what you call "early".

Not many dealers know this. And the dealers who do know were instructed to keep it secret.

Citroen could not use any bad publicity nor did they want to alarm their own dealers with a Technical Bulletin describing the problem. Every distributor had about 10 new engines in stock with a complete gasket set just in case an early XM would blow up its engine. We had three cars, a friend of mine two and I know of many others, spread all over Europe.

All with the same problem: Due to improper lubrication of the balance shaft, the bearing (on the non distribution side) broke in two pieces with various, very interesting results.

First Citroen said it was not possible ! "Don't you mean CX sir "? "Or BX ?" " But there are no XM's sold yet in Belgium (Holland) sir, are you sure it's an XM ?".....Bla...bla...bla... "I don't think we can fix it sir...!"

All cars were fixed within 48 hours, at the dealer, by a special team from Paris. We never had such a good service from Citroen in years...

## 7 Earthing blocks

I'm thinking of replacing my long suffering earthing blocks with ring connectors. However, I'm not quite sure if I've located all the main earthing blocks themselves. I've played with the blocks on the insides of the front wings many times, and have also fiddled with the one near the back brake lights. Are there any other blocks which should be replaced?

### Multi-pin connector blocks

The original article, compiled prior to the Northern Rally at Wetherby and printed in the August 1996 issue of the Citroenian, arrived at no definite remedy to the suspension problem suffered by some early XMs. However the situation has changed and I feel once again that I should burden you with my findings.

The following steps, taken in a chronological sequence, resulted finally in a suspension system that is acceptable to me and works fairly close to the way it was designed (I think). REMEMBER, what I am reporting here is the work that I have carried out on my car, you must make your decision on what you think is appropriate for your car.

### Get out your snips!

1) All multi-pin plugs were chopped off!!! Shock therapy is great to get the grey cells working. Seriously, without the use of an 'in between box' checking the various components with the plugs connected is almost impossible, therefore the easy way is to replace said plugs with strip connectors enabling multi-meter readings to be taken off the terminal screws. The multi-pin plugs concerned were:

a) The black 7-pin connector close to the offside Front sphere was replaced with a rather nice component box and cover (Tandy). This was mounted to the bulkhead edge above the clutch operating lever and fitted with a terminal strip for seven cables in and out (14).

Appropriate holes drilled and grommets fitted completed the job but there are two points to consider carefully. Firstly my cable looms were a little on the short side requiring extreme care in the final positioning of the box and secondly, the electro valve cables in positions 6 and 7 are simple (both yellow) but the body sensor cables 2, 3, 4 and 5 are all green albeit with a thin trace line secondary colour. I found it difficult identifying the various cables

through the dirt but maybe this is because I am Red/Green colour blind!

b) The white speed sensor connector requires a replacement two way strip connector. Nothing too involved here but the original connector may be a little difficult to reach.

c) The 11-pin white connector, positioned close to the driver's feet behind the under trim panel, is a two row (A and B) device which I removed and replaced with the following: Steering sensor: Four way strip connector

Accelerator sensor: Three way strip connector Selector switch: Two way strip connector

Anti jolt: Two way strip connector

The anti jolt function is served by two cables. One is connected to all four door pillar switches and the other to the boot lighting switch. If required, full details of the terminal connections I have made can be supplied for the cost of a stamped addressed envelope but my method was to adhere to the same relative positioning as shown in the Citroen suspension wiring diagram XM 580-00/20a.

(Thanks to Jim Davidson and the CCC)

**Sport not auto**

The suspension went out of AUTOMATIC into SPORT. Now, it has to be admitted that in SPORT the car certainly firms up the overall ride. But in this case, I did not require sporty handling but rather a cushioning of the rough roads of Krakow's bumpy pave. To cut a long story short, the problem was traced to the main multi-block connections to 'the brain' or computer, without which your XM will not function. With the ignition off, wiggle the connectors, and back comes the automatic control of the suspension. Bliss again! I have had to clean and use contact cleaner (available from Tandy) several times in the past two years to overcome this problem. You will find these connections under the bonnet in the black box on the off-side of the engine compartment. It seems that the achilles heel of XMs and probably other makes and models, lies in the connectors rather than in the basic electronics.

## 8 Electric Mirrors

Electric mirrors - ceased to function. After checking the connections at the mirrors, suspicion lay with the switch. After disassembling unit (remember to do this with switch upside down, and close to a flat surface, otherwise parts may be lost!) the problem was here. There is no obvious protection from dirt entering from the console area, and the 'pcb' is coated with grease, which then traps the dirt! The contacts are not 'wipers' but are 'ball' shaped, which can ride up on any dirt particles which are then trapped!

## 9 Electric windows

### Switch not working

To remove the switch from the door Just flip out the switch with a screwdriver.

"I extracted the switch, unplugged it, fiddled around a bit, plugged it back in again and it works."

The easiest way to mend the one-touch switch on the drivers side is to buy a new one!!

### Window winder broken

"On my XM 2.0i (1989) I also have a problem with the one touch window switch, but replacing the switch with a brand new one (I didn't had to pay for it) didn't change a thing.

On my car the (old and new) switch itself obviously works fine but the window doesn't go to the lower or upper position automatically most of the time (i.e. it stops somewhere in the middle). But when it went down or up to the end I can hear a clicking sound inside the door after the window stopped moving , so I guess there is something wrong with the electronics inside the door.

Is there anybody out there who nows how to remove the door panels so that I can have a look inside the door ??"

You can get an "electric window repair kit" from Citroen for about 6 pounds. It think it just helps you rethread & repair the mechanism that makes the window move. Sorry to be so vague.

### Replacing bulbs in the electric window switches

"My switches all work but the bulbs inside the drivers doow switch has failed. Was the bulb accessible, I haven't tried to get the switch out to have a look yet."

"Well, I decided to dismantle my switch today to see what had happened to the lighting. Both bulbs have failed. Needless to say, when I put it back the thing didn't work properly so I had to strip it down, clean up all those little spring contacts and put it back together again. I can't see where to get such tiny bulbs so I'm going to try a couple of 12v high intensity LED's. Only problem could be the viewing angle, only about 120 degrees. I'll let you all know how I get on! It'll have to wait for next weekend now though. On the same note, I have no background lighting on my ride-height selector - should that be backlit? I can't remember."

"If they're anything like the switches on my '87 CX25, the bulbs are available at most electronics stores (in Canada/US: Radio Shack or similar). The ones I'm tlaking about are little pea bulbs with two bare wires sticking out, perhaps one inch long."

====

The manual gives the bulbs as "wedge type 5mm diam. 0.36w"

### Not working

My Right hand side electric window has started to make a nasty noise like a gear stripping and the glass now has 100mm play. I have to lift it up into position before pressing the switch to hold it shut. Anyone know what the problem might be?

====

Similar problem on my rear passenger-side window. Took the trim off, eventually managed to get a look inside the door through the access hole- I found that the plastic grip which the cable is attached to to wind the window up has broken, so it twists around on the bottom of the window- this then causes the

gap at the top of the window. Didn't have much time to spend on it though. Not sure how easily fixable it is- there's not much space to get inside the door.

#### **To remove the panel:**

Remove the screw holding the top of the armrest on,

Remove the window switch and remove the screw found underneath it,

Remove the inner door handle surround (clips off)

Oh-so-very-carefully go round the edge of the trim panel and unclip it- you will quite probably snap a few of the clips off, I know I did...

Disconnect the wiring to the kerb lighting, That should do it. I think.... For better instructions get the Haynes manual- that's how I knew about the screw behind the window switch!!

The access hole into the door should be towards the rear of the door, low down. It's big enough to get your hands in, but that's about it.

#### **Repairing the rear window**

When I bought my XM the passenger side rear window wasn't operating. I had to replace the two plastic clips that attach to the glass. Here's what I did to replace them, once I had removed the interior door panel:

To replace the plastic central window guide, which fixes onto the bottom of the window, undo the three bolts holding the winder motor and remove the motor, cables and guide rail assembly. To fix the white plastic guide clip to the vertical slide rail, first soak it in boiling water for ten minutes then snap it onto the rail by force. To fit the top, side guide clip, unclip the centre bottom guide from the glass and lower the glass down. Fix on the new side clip and raise the glass and guide into the correct position before reattaching centre clip.

Actually I did a lot more than this because I didn't know how to do it and I went up lots of blind alleys.

Does anyone know what to do about the clips that break off from all around the inside edge of the interior door panel when you remove the panel? They shouldn't break but always one or two do, sometimes taking the hard foam material the panel is made of with it.

#### **Electric window not winding**

Just as winter approaches one of the rear passenger windows has decided to stop winding. It seems to have come out of its guides and also seems to stop going up some 10 mm before the top of the frame.

Has anybody cured this problem relatively easily? I presume that one of the plastic bits has snapped/worn out!

Can you buy new guides?

----

Any advice welcome as long as it stops the rain coming in!

Steve

=====

Electric window not winding

I had the same problem. It turned out to be the clip which holds the window in the channel. This is quite common apparently, and kits for repair including new clips are available. I let my local Citroen wizard do it, as I tried it and rapidly lost patience with it.

=====

\*\*\*\* We are also interested in a better solution.

We can offer only the complete assembly. That's the only part the Citroen distributor has available. No separate motor, no nylon pieces....

At least in the Netherlands.

CITROEN ANDRE // CXA // ANDRE POL

<http://home.worldonline.nl/~citandre>

<http://home.worldonline.nl/~citandre/icccr.htm>

[citandre@worldonline.nl](mailto:citandre@worldonline.nl)

=====

Electric window not winding

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To fit only the top, side guide clip, unclip the centre bottom guide from the glass and lower the glass down. Fix on the new side clip and raise the glass and guide into the correct position before reattaching centre clip.

I hope this helps. It isn't a hard job. Really I should have tackled it less than a year after I bought the car! Rather than waiting so long!

Yours,

Mark

### **One-touch window switches**

Yes the switches do plug straight in but that doesn't have the desired effect - What we call "one shot" switches in the UK. You also need the relay pack - which has a small wiring loom which replaces some of the wiring in the door. I upgraded mine (88 GTi) with that from a scrapped GTi Turbo.

For the bulbs you can get them from model shops as the same ones are used in Scalextric cars.

### **Front door trim**

Does anybody know how to remove the interior front passenger door trim? The electric window mechanism is getting rather slow closing, so I thought I'd lubricate it before it gets stuck open!

=====

This is a *\*very\** common problem on all pre-94 XM's. I doubt you will ever make it go as fast as the drivers side. Mine is gripped too tightly by the door trim - any dirt therein even scratches the glass! A good polish of the glass normally helps - but if you get any better ideas, I'll take another look at mine!

## 10 Fuel Gauge Problem

### Fuel gauge problem

I had a problem with the fuel gauge that was investigated by the same garage on a previous visit They identified a circuit board that needed replacing but they did not have one. No problem, I thought. Will get it done in UK. However, about a week later the gauge sprang to life by going to full when turning on the ignition and then falling back over about five minutes to the correct reading. I can live with that so have left it if it's working, don't fix it!

### David Evans replies

A dodgy fuel gauge on HoO3 GDP cost me about £70, as I recall because the circuit board is part of a display which has the gear position, water temperature and oil levels as well as the fuel contents. Mine used to go AWOL for shortish periods, but then packed up completely. I remember that when I shelled out for the new unit, I had a sneaky feeling that someone with a knowledge of electronics might have found the fault, though without the appropriate test gear, it might be very difficult.

(Thanks to Nick Dunsford and the CCC)

## 11 Glove Box

Has anyone found an easy way of replacing the gas strut which opens the glove box lid ? Taking most of the dashboard out seems awfully long-winded, is there a short cut ??

====

I have successfully replaced the gas strut in the glove compartment. It is however a very fiddly job, I did it because my glove compartment opening lever had broken as well!

The glove compartment comes out as single piece - including the strut. Remove 4 screws - two at the front lip of the compartment and two at the back.

Before you can remove the ones at the back, you have to take out the screws at the top of the gas strut so the the compartment lid opens up more.

You can now lever the whole of the glove compartment out (carefully)! The locating lugs on the sides can be troublesome.

Half way out, you need to stop and disconnect the electrical connection to the glove compartment light! - this is actually underneath!

Getting it back in is more difficult! It must be placed just right otherwise the opening mechanism does not engage properly and may break. I resorted to swearing and hefty thumps with my fist! The problem is getting all the lugs on the sides and back to all go over the metal lip together.

## 12 Heater (1)

### Blower always on

After some months without technical problems on my XM, it's now time for a new technical challenge:

My blower for the heating system keeps blowing, even if it is switched off (position 0) This happened sometimes before, and cured itself magically. But now it is a non-stop hurricane in my car. I think it's a contact problem because sometimes it is windless for a few seconds. Switching on and off the climate control does not help. Also banging on various places (near the switch and on the blower just above the feet of the passenger) did not help. I cleaned the contacts round the blower without success.

### Dismantling the heater panel

Does anyone know how to open a part of the dashboard near the blower control.

As an answer I'm quoting from the Citroënian (October 1997 issue):

..... To gain access pull off the three rotatable controls in turn (be careful not to lose the metal tabs which give the controls a tight fit on the shaft), pull the sliding control off its shaft. The two screws that hold this small piece of fascia can now be removed, followed by the panel.

=====

### Heater control failure

Does anyone know what could cause the heater control to fail?

ie No climatic control, no speed control - only off or full on when the control is moved to full.

I've checked the connections between the motor control module, the central dashboard control and the sensor in the roof and all is ok.

The sensor in the roof works - multimeter connected across connector in dashboard showed the resistance to change when I put my finger on the thermistor. What should the resistance be?

I also found a dashboard control in a scrapyards, but that didn't make any difference.

I've also changed the power transistors on the motor module - no difference apart from slower motor speed! I now suspect the 'potted' surface mounted components. Does anybody know what waveforms/voltage levels should be found around the circuit?

If it is the motor module, then does anybody know where to get one at a sensible (i.e. a lot less than 70 UK pounds!) price in the UK or mail-order from overseas?

=====

I've just got my heater working again by replacing the blower motor. I could have just replaced the control board within the motor, but Citroen wanted £85 for a circuit board with a few surface mount components and two power transistors. I eventually found a secondhand motor in a scrapyards - but they even wanted £50 for that! It seems that scrapyards buy XM for very little, but then charge prices that reflect the new high prices.

### Heater Computer

Did you know the heater system on an XM has its own computer (situated next to the hydraulic and injection computer [ and ABS]).

Have you reset this computer?

If you don't know how to do that, try disconnect the battery for about 10 minutes. This should reset the computers.

If this does not work you should use an ELIT to read fault diagnosis in the heater computer.

### Servo Motor

Does anyone know how to fix a heater that is continually hot, even although the heater control is switched off.

The car is a 1990 XM SEi 2.0 Auto

====

With mine (1992 2.0i) it was the servo motor that drives an air distribution flap to adjust temperature in response to the temperature sensor in the overhead light fitting and the temperature control on the dashboard. But your system may be quite different.

====

On my SED it was always cold. I replaced the servo motor which I found on the left side of the heater and this did the trick. If you take out the glove box you will see the black device held by 2 screws. It should move when you turn the temperature dial. In the mean time you can attach a wire to the arm the motor moves and control it manually!

Sometimes Breakers will let you try the device you suspect before purchase.

### Blower always stuck on full

My XM's blower stuck on full, then stuck on off unless switched to full.

The cure was to replace the control board on the motor. I actually replaced the whole motor because a secondhand motor was 30 UK pounds cheaper than a new control board.

There is another control board (with micro processor!) behind the three control switches. Remove these switches to get to it. A simple way of removing the switches is to feed a length of tinned copper wire in behind the switch, join the two end together by twisting, then put a screwdriver through the loop and give the wire a sharp tug. The wire will probably snap, but the switch comes off without damaging it or the surrounding plastic.

====

Hi, I had this problem and it turned out to be the metal flat spring inside the blower control knob. Grip the knob with a suitable tool [pliers wrapped in a cloth] and pull it off. look to see if the spring is present or if the plastic that holds it in place is not broken. Mine was broken and I repaired it with araldite. also the knob only goes on one way for it to correctly turn the blower motor settings.

====

On the heater front. I found that removing the heater control knobs and then the panel behind them allows easy access to any bulbs which may be burnt out. I put a rubber washing up glove on and found that this gave just enough friction between my fingers and the controls to pull them away cleanly without damaging them. (Let's see, that's wire, pliers and gloves, any more suggestions?)

### A result!

Thank you all for pointing me in the right direction with regard to my heater problem.

Removal of 4 screws and off came the glove box lid to reveal plastic ducting and coloured wiring looms.

A quick look in the bottom right hand corner and there was the little servo motor but how to unscrew it.

An 'L' shaped philips screwdriver came to my aid, and off it came.

It was jammed solid so I removed 4 tiny screws parting top from bottom and inside I found 4 plastic cogs, all were jammed. A cog had somehow jumped out of its recess.

This was put back into place, all cogs were lined up and the tiny motor checked out ok using a 3 volt torch battery.

The whole ensemble was put back and hey presto it now works perfectly.

====

### **control board**

My 2.0si had the same problem. The cure was to replace the blower motor with a secondhand one. Only the control board attached to it needed replacing, but a complete secondhand motor was cheaper than a new control board £50 for motor £80 for control board!

### **Getting to the control board**

The board is fitted inside the motor assembly. The motor assembly is held under the dash panel by three screws.

To get to the control board you have to remove the motor.... its a push fit into the casing, but rather tight! You should be able to see where the motor assembly is held, push the rubber bits gently with a screwdriver and eventually it will come out.

Unfortunately, apart from two power transistors, the control board itself consists of potted surface mount, I changed the power transistors but that only 'fixed' the on speed - it ran slower :- ( In the end I changed the board, well the motor assembly,

====

you have to remove the heater fan three screws drop the fan out undo the circuit board and ease the fan out of its housing (TIGHT BUT WILL COME ONLY HELD BY RUBBER MOUNTING)you can remove the board components available at rs or farnells but normally the board itself is damaged far better to fit anew one.

=====

Dear David,

Following our recent telephone conversation regarding the heater fan on my 1990 XM 2.0 Si, I promised to inform you of the outcome, so here it is.

You may remember the problem was that following a prolonged period of running on fan position 3, the fan continued to run at that. speed irrespective of switch selection. My "Electrical Friend" checked out the switch and as far as possible the relevant relays (which were slightly different to those shown in the Revue Technique diagrams).

On your advice I phoned Andy Burnett who said the problem was in the Diode Pack bolted to the motor and the best solution was to obtain a complete replacement motor from a scrapyard.

No luck with the local scrap yards (not many XMs round here - even fewer broken ones) and the Citroen dealer quoted £185 for a complete motor or £84 for just the electronics plus VAT of course. So back to the "Electrical Friend".

The motor was easily removed, having first removed the panel under the glove box on the passenger's side. This exposes the fuse box and to be on the safe side Fuse F25 was removed. Three screws and a couple of electrical connectors release the motor. Sure enough there is an electronic pack, held by two

screws, on the motor. Removing the screws and carefully easing the fan away from the motor body gave sufficient clearance to free the electronic pack. (Do not try to remove

the fan from the motor shaft). Investigation showed that among many components there are two transistors, one was found to be open circuit and the other to have a short circuit. The numbers on the transistors (FW26025A) were not recognised but two MJ15004, 140V, 20A, 200W P.N.P. transistors were obtained, fitted and the system re-assembled and checked. I think the fan runs slightly slower now but it is working properly.

## 13 Heater (2)

My guy who fixes my 2Si says that I need a new heater motor as the rheostat is part of the motor. This costs an arm and a leg new. So have any of you experts any advice, in particular

(1) is the motor fixable?

(2) where in the UK breaks XM's

Being relatively new to the XM - my elderly model has been around for a year- I was surprised how quick it is point-to-point for such a heavy car with such a small ( and in my case 8 valve) engine. Which raises the question is the V6 a lot quicker and is it as costly to run as rumour has it?

=====

Subject: Heater Motor

One assumes that the fan is not working, if so the resistor block can be purchased separately ,it is mounted on top of the fan unit and is not to difficult to change .

I do not recommend second hand units as these are generally already duff or will not last to long. The latest units are of a better quality although you might think they are expensive it will be cheaper in the long run

regards Andy Bairsto

=====

Heater Motor

My heater motor control board went as well. I was quoted 80 UK Pounds for a new replacement board (just the board, no motor). I got a complete secondhand motor for 10 UK pounds just before last Christmas and its still going strong.

BR

Michael

=====

First about the fan motor,it is normal that they fail,even in the scrapyard you cannot find a good replacement.The cause is the electronic circuit on the motor.When I have found a solution I will tell you about it. Next the little fan next to the sunroof is the sensor for the climate control,every XM with electronic climate control has one To solve the problem with the ABS light. Follow the wires from the sensors on the wheels and clean every connector then put the connectors together with a smear of Vaseline. Normally the sensors on the front wheels give most trouble Keep up the good work and let them(the XM's ofcourse) survive the critics!

=====

Does anyone know what could cause the heater control to fail? ie No climatic control, no speed control - only off or full on when the control is moved to full. I've checked the connections between the motor control module, the central dashboard control and the sensor in the roof and all is ok. I also found a dashboard control in a scrapyard, but that didn't make I any difference. I've also changed the power transistors on the motor module - no difference apart from slower motor speed! Luckily this is the only electrical fault I've had in 150K miles!

=====

### Heater fan fault finding and solution

Heater fan on a 1990 XM 2.0Si.

The problem was that following a prolonged period of running on fan position three, the fan continued to run at that speed irrespective of switch selection. My "Electrical Friend" checked out the switch and as far as possible the relevant relays (which were slightly different to those shown in the Revue Technique diagrams).

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Sure enough there is an electronic pack, held by two screws, on the motor. Removing the screws and carefully easing the fan away from the motor body gave sufficient clearance to free the electronic pack. (Do not try to remove the fan from the motor shaft). Investigation showed that among many components there are two transistors, one was found to be open circuit and the other to have a short circuit

The numbers on the transistors (FW25025A) were not recognised but two MJ15004, 140V, 20A, 200W P.N.P. transistors were obtained, fitted and the system re-assembled and checked. I think the fan runs slightly slower now but it is working properly. I must say that without the "electrical Friend" I would have widened the search for a scrap unit before swallowing hard and paying the Citroen price.

(Thanks to John Davidson and David Evans)

### Replacing heater controls.

They are a push fit onto a shaft, being kept tight by a piece of spring steel. With age and removal/refitting for fascia bulb renewals, the plastic breaks from the tension of the spring steel. All mine broke, to the extent that I had to use just one to operate all three. I replaced them at a ridiculous cost of £24.55 for the kit of three, pity I hadn't the time to look around a few scrapyards. That's it, keep up the good work. Cheers. (Thanks to Kevin B Spruce and the CCC)

### Cooling systems

I have been given a huge incentive to change my car's coolant by a letter from Dave Weber, He writes

Sorry to hear of H603 GDP's leaking heater. I have had heater problems too, on a massive scale and my experience may be helpful.

In fact, the only problems I have had with my 1990 2.0 Si in the 40,000 miles I have covered since getting the car, a year and a-half ago, have been related to the cooling system.

First to go was a core plug. Then the lower radiator hose sprang a leak. And, a few months later, I too noticed a very wet floor in the driver's compartment, traceable to the heater matrix. I had never ever had a heater matrix fail on a car. A local branch of Serck Marston supplied a new matrix, the same Valeo unit as Citroen uses, and I thought my troubles were over.

Not a bit. Three months later, the new matrix began leaking. The little bending end pipes had broken at the seams, as if it was a defective unit. Serck Marston thought so, too, and replaced it free.

I did think about this time that I might be building up too much pressure in the cooling system caused by either a cracked head or a broken head gasket that was jamming cylinder compression into the system, but we ran a chemical check of the coolant and there was no trace of carbon monoxide.

Wait for it. Exactly three months later, the new matrix burst I was driving home on the M3 when the car suddenly filled with steam and the floor was flooded with that evil-smelling coolant. The RAC came to the rescue. He joined up the flow and return heater hoses so that I could get home. Thank goodness I had a good overcoat and gloves.

This time the same end pipes on the matrix had failed, having been eaten away from the inside. I didn't have the nerve to take this one back, but bought a new one and phoned Andy Burnett instead.

Andy thinks my problem was contaminated coolant, and I have followed his advice and flushed and reverse-flushed the system out several times and then filled up with fresh anti-freeze. He explains how coolant can become contaminated, but the high chemistry eluded me. I am praying Andy got it right I'll be praying extra fervently in mid-June, when the new matrix will have been in service for those fateful three months.

(Thanks to Dave Weber)

## 14 Heater (3)

Simple(ish) question...how do I gain access to the heater matrix on an XM?

====

Remove right console part, 2 bolts from air (feet) outlet and one near seat.

What's the problem? Low capacity is not due to a bad matrix but an electric problem.

====

On my xm remove the right hand cover on the centre consul by undoing the two screws on the heater vent and one nut back by the seat. You will then see the end of the matrix held in by two selftapping screws and pipes are held on by one screw if my memory is right. It may differ on yours on mine is a very early one(1989) all the best

## 15 Heater (4)

I also discovered a problem yesterday while cleaning the car:

When I removed the rubber floor mat on the driver's side I discovered that the carpet was absolutely soaking wet! I checked around the door, but couldn't see any signs indicating that the seal is defective. The passenger side was dry.

Are there any likely places water could seep through? Pedal assembly? Steering coloumn? ???

=====

Look at in air condition drainage if you car equipped

=====

It could be the wind screen. Check under the dashboard if you can trace any water or rust.

### Wet floor - heater matrix

There is an inherent problem with the failure of the heater matrix on XM's. You may be fortunate that it is only the O-ring seals that are leaking, or it may be the matrix that has died. The easy way to find out is to look at your water level in the tank. If the level has dropped, then it will probably be the heater. If the water level has not dropped, then look elsewhere.

Several of us have changed the matrix. So if you do have to change it, it is possible to do so without removing the complete dash ( as Citroen will tell you).

Good luck.

John

=====

If this is the case (on a LHD car) the water would be at the passengers footwell.

=====

It seems that you have got the patented Citroen time delayed swimming pool effect, guaranteed on any XMs with a heater matrix (ie. all of them). I'm told that a failed heater matrix happens to all XMs in time - so mine is still to come :(

=====

Described as a 'common problem' or 'design fault' by most Citroen specialists, the heater matrix will at some stage in an XM's life be responsible for turning the front footwells into paddling pools - paddling pools with antifreeze. Getting heat from the engine into the interior of the car is the sole purpose of the Heater Matrix and it is situated inside the center console (behind the radio). Ironically, it tends to break in the summer when you aren't using it. Perhaps it thinks your feet are hot and need to be splashing around in water. Removing and replacing the matrix is a tricky job because it is very easy to damage the new matrix whilst installing it. Leave it to a specialist....cost to repair approx 120.

=====

Subject: Wet carpet

If it is the aircon that is causing the leak, then all it means is that the drain hole for the condenser is blocked, and instead of draining the water under the car, it finds the next best exit, along the heater pipes to the bottom of the fan. If it is this, you may notice it actually leak water when you turn right sharply.

Hope this helps.

Jesus

=====

I only know because someone told me on this mail list a few months ago. The drain pipe is situated under the car, level with the dash, to the left(seen from inside the car)of the exhaust, so I've been told. I'm having it done this week as my XM is in for its MOT and service.

=====

### **Wet Carpet**

Could this be water leaking through the bottom from air con condenser???

Although this happens on the passenger side in UK right hand drive car!

Hope this helps

=====

So far I think this is the most likely explanation. After the first tip that it might be the air-con I switched it off; since then it appears no more water has entered. As it has been pouring down every day for the last 2-3 weeks I therefore assume that it's the air-con and not the windshield seal.

The question now is where do I look to see if it really is the condenser? I was hoping to find at least a hint in the Haynes book but... well I guess you all know what it has to say about it...

=====

Subject: wet carpet

Well, took my car to the local dealer's garage yesterday to fix the water leak, rear foglight, heated seats ++ (might as well take advantage of that 3-year guarantee agreement the previous owner bought).

It turned out to be the windshield seal after all...

## 16 Instrument panel oil gauge

Also on the instrument panel, the very last indicator next to the oil level gauge, there is a Max and a Min indicator. The red bar is = indicating Min can someone tell me what it is for please?

=====

The gauge you describe is the engine oil level gauge which comes on when you turn the key and start the engine. It should go up to the top of the bar and drop back when the engine is running. If it doesn't then check the level manually. Your handbook should give you all the information.

### Oil level indicator

>The oil gauge on my XM has never really worked - mostly stays where it is when I turn on the ignition.

>Has anybody got any idea where the pressure sensor is?

The oil gauge is a level indicator not a pressure gauge. It shows the oil level before you start the engine. As soon as you start the engine the gauge should go back to its rest position. I don't know where the sensor is, I'd like to though, my gauges backlight sometimes flashes when I'm driving which is a bit annoying to say the least.

=====

The rightmost gauge is an oil level gauge. This operates when you turn the ignition on without starting the engine. As soon as the engine turns over, the oil level changes and the reading is then useless, so the gauge turns itself off. A known problem with this gauge, is with the sensor unit getting gummed up. This can be easily cured by replacement of the sender unit. Problems manifest themselves with the gauges backlight occasionally flashing as the vehicle is driven. This is most annoying at night. The 'P' simply indicates the current position of the gear selector (in Park of course!)

## 17 Key Plip

Does anyone know where I can get a replacement pcb for the XM plip (1991, key folds back into plip) in the UK at a reasonable price, or what the price is from a dealer. If I call and ask I may have a heart attack!

=====

When I bought one 2 years ago I paid about 44 ukp for it they will need the code No and they have to order them .mine has stopped working when I got it wet the next one will be covered in tape to keep it dry.

=====

I started this plip thread so now I can give it a happy ending (for me anyway).

I removed all the through-hole components from the PCB and pressed down the pins of the surface mount chips with a fine soldering iron. I brushed the board clean to get rid of any salts and replaced the leaded components.

Hey presto - it works again (for how long I don't know).

BTW when it was not working the red LED stayed on for about twice the length time it does when it is working.

## 18 Not starting

### Fuel Pump problems

If your XM won't start but turns over perfectly happily and it behaves as though it has run out of petrol, you have the dreaded electrical problem concerning the supply to the fuel pump. Try jiggling the electrical connectors/leads that go under the LHM tank. If it starts then make sure you get someone to hard wire these connections asap.

There is some talk about hard-wiring all the connectors you find on the XM, this may or may not be a good idea -there are a lot of them!

One set of connectors that you could try hard wiring (though I haven't yet done it) are the common earthing blocks on the inner front wings of the car. These are electrically very dodgy and should be replaced using eyelets and locking nuts and serrated washers.

The rumour is that Citroen skimped on the quality of the electrical wiring, using grade 3 wiring where BMW was using grade 1 wiring. The resulting electrical unreliability proved to be the final straw in the XM very poor sales rating -Sales continue to be poor even though the latest XM is a completely different product in terms of quality and reliability.

### Ignition module

I've also had this happen on my car. However the problem has been a faulty ignition module. The symptoms you describe are the same, except there is no spark and nothing going to the coil. Replacing the ignition module proved to be the answer.

## 19 Radios etc

There is however one small, but very important problem - how do I get the radio to work ? With the ignition off there is a red light flashing near the word Code, however when the ignition is on and you press the on/off switch the display shows 123 but nothing happens, do I have to put a code in to activate the radio and if so how ??

====

Sounds like you will need the code for your radio. I'll check my manual tonight. If you bought the car from a Citroen Dealer, I would expect that they will be able to find it out for you from Citroen's computerised service recording system. It may still be lurking in one of the handbooks if the previous owner recorded it somewhere. If not, its a trip down to your local Clarion dealer for a chip change.

Incidentally, Clarion make an excellent 6 disc changer to complement the Citroen Unit - the original Citroen badged CD player is no-longer available. This is a 'wired' unit, and supports all the features of the head unit, including utilisation of the steering wheel controls...

This is of course assuming that your Clarion is one of the Citroen badged variants from pre-94, when the standard fit changed to Phillips (?).

While I'm rattling on, the other common problem with this unit is that its 'Diversity' chip stops working - which means no RDS, Traffic Info, etc.

Another interesting fact is that the XM radio (in pre-94 cars at least) is short in depth (not quite DIN standard), so if you decide to change it, beware...

====

A word of warning. I once bought a CD player for my XM which would fit in the slot below the existing radio. It would not work because of the steep angle of the housing. Most CD players will only work up to a certain angle from the horizontal or vertical depending upon design so check before buying.

### CD Player

The head unit to which I refer is the PC 302 Citroen badged Clarion Unit fitted in 92/93 (maybe also earlier/later).

The optional Clarion CD-Player that works with it is the CDC605 6-Disc Changer, priced at approx. 300 UKP. (25 UKP should see it fitted at a Clarion Dealer)

The larger 12 disc unit cannot be used with the PC 302.

The EXM button allows discs to be forward skipped, the arrow button, individual tracks.

### Radio Codes

If a radio security code is required on the PC 302, it should prompt on power-up with:

'CODE IN'

You then have 3 attempts.

If you fail, after two minutes or on the next power-up you should get:

'SECURITY'

You then have 3 more attempts.

If you fail again, you have to wait 2-3 hours with the Unit powered-up before

being allowed another 3 attempts.

### **two aerials**

Just to put clear something that was said about 'diversity' regarding the Clarion radio in early XM's. Diversity is in fact concerned with picking up the best possible signal for your radio. Most of us know that XM's have two aerials, one on the roof and also the rear screen heater element. The radio unit in the centre console has two tuners which are always tuned into the same frequency, the frequency that you select. A chip in the radio 'listens' to both resulting demodulated signals and decides which signal will give the best quality sound. The radio switches very quickly to the best signal. The switching is not noticeable. The further apart the two aerials are the better. If one of your aerials has suffered reduced performance it may never be selected.

### **Clarion and codes**

Thanks to everyone who made suggestions about sorting out the radio on my XM - I think we now have it sorted. I spoke to Clarion who agree that the machine is asking for a code and they confirm that if I take the car to any Citroen dealer they can re code it. Apparently Citroen do not keep records, but Clarion do and providing it is a Citroen dealer who faxes the information through to them they can solve the problem, I am going tomorrow so I let you know the cost !

Whilst speaking to Clarion's technical dept - who were extremely helpful - I asked about CDs, the chap informed me that subject to the Radio you have fitted, some do not support CD control (the PU-9358 doesn't) you might also need a FMC200 controller to enable the steering wheel controls to work; it would appear that this unit - whatever it is - changes the CD signal to a radio frequency and allows the CD to be played via the radio controls, sounds highly technical to me, but he said it worked very well.

If anyone is interested the phone number for Clarion is 01793 870400.

### **FMC200 controller**

> you might also

>need a FMC200 controller to enable the steering wheel controls to work; it

>would appear that this unit - whatever it is - changes the CD signal to a

>radio frequency and allows the CD to be played via the radio controls, sounds

>highly technical to me, but he said it worked very well.

There is a trick used on some CD players which enables it to be connected to the radio via the aerial. Basically you feed the output of the CD player into a small FM transmitter which is connected in via the aerial cable, you then tune this signal in on a spare radio preset and bingo you have a hifi sound connection without cutting into wires etc. I guess that this is what the guy is talking about.

### **12 CD changer**

You also have (in my case) a 12 disc CD multichanger with remote control, through a very normal looking head unit - making it nick proof, as they don't know it's there! The remote is about the size of a credit card, box of matches thickness, and on the end of a nice long cable.

Tune the radio into the whatever frequency, turn the CD on, and you're laughing! All you need to provide is power, and stick the aerial cable in.

You do need to turn the CD off to get normal radio though.

John "Audio Perfectionist" Glynn on the CX list advised me to chuck it all and start again, as you lose some "detail" on the sound. In a car, that's the least problem for the audio installation!

### **Earthing**

Ensure earth from radio to ground is excellent. Ensure aerial screening to radio is excellent. These points are often neglected.

### **lights/illumination**

Does anybody know if the lights/illumination bulbs can be replaced on the "Diversity" range of audio systems on an XM Turbo Prestige 1994. The left - hand side of the unit is not lit, and having just disassembled the dash to replace all the bulbs including the LED's on the dot matrix, I was wondering if the audio system would be any harder?

=====

Make sure you have the code for your audio before starting:

Remove the radio:

Remove the front cover, secured by four small screws (two at either side) You should see two, or maybe three small bulbs soldered into the circuit board. The offending one(s) will need de-soldering and replacement. Be careful to use the correct rating for your replacement bulbs.

## 20 Rear bulb warnings

I have found a cure for the irritating message which pops up from time to time when indicating.

I have had my XM since May, and soon after taking it over I was receiving these erroneous messages and followed the advice of cleaning the contacts and putting vaseline on them. It was only a matter of weeks before i was getting the same message again, so I repeated the process. two day later "WARNING REAR BULB FAILURE". This time I didnt touch the contacts, they were left as they were, all I did was put one of those small bags of silica gel (found in camera bags, binocular bags etc.) in each side between the bulb holders and the wires. Three months, and several nocturnal rain storms, latter no bulb warning messages.

===

I have had this problem on my 2 XMs. Now apart from the modifications with the negative ground wires, one should simply change the bulbs when the light comes on again. Of course this sounds both logical and foolish BUT it helps! In a way new bulbs can handle the 12V power better. As my garagist told me bulbs will get worn after a few years.

=====

A common complaint from owners of early XMs is of the on board computer lying about the status of the rear lamps.

The common remedy for this is to clean the rear lamp contacts and smear them with petroleum jelly. This, I and others have found, seldom cures the problem for more than a couple of weeks. Those who have a graphical representation of the car on their dashboard tend to live with it, whilst those who have a dot matrix display that also beeps, tend to stick a hammer through their dashboard.

I have however found a permanent cure! Follow the common remedy and then leave the rear lamp cluster covers in the luggage compartment open, thereby keeping the clusters well ventilated and free from condensation (a very tiny amount of which causes the problem in the first place). Simple eh? This has worked on at least three XMs, it looks untidy if you ever stick your head in the luggage compartment, but if your worried about that then you really should get out more often.

## 21 Sidelights

Dear listfolk

As a mechanic I feel very silly asking this , but we all have our limits don't we ?????

My 1980 2.0 has a wierd problem with the lights ; when I turn them on to the first position the little green indicator light on the dash comes on , the clock/temp dims , but the sidelights do not come on. The second switch position brings the headlights on OK ( then dip & full beams work OK ) but still no sidelights (or switch illumination ). I realise it's probably just a bad connection somewhere but can anybody PLEASE tell me where ?? It's driving me crazy , I've checked everywhere I can get to & no luck !! Oh , and just to confuse things , once or twice recently they've come on OK but then the green indicator lamp doesn't !!

Thanx in anticipation & hope I can return the favour sometime !!

Mark Linzell

XM Registrar, CCC (UK)

Plymouth. Devon

<[http://welcome.to/linzell\\_world](http://welcome.to/linzell_world)>

=====

Did Mark Linzell with the little old red-XM try talking to that other XM mechanic man - Andy Burnett?  
Always worth a try for anything (big) Cit especially.

## 22 Speedometer

Dear all,

For a few weeks my speedometer was "wiggeling" +/- 5 km/h while driving around 50 km/h.

Now it stopped completely pointing out the speed and distance.

Is it a common fault?

I like to have this problem solved soon because driving this V6 without speedometer will cost a lot for driving too fast.

=====

Arold,

I also got this problem from first getting my 2.0Si Turbo.

However at 70-80 mph it becomes steady so I always aim to drive at that speed.

Seriously - I have take the car back to the dealer who apparently greased the cable but it then stopped working completely - like yours. Apparently it had become disconnected.

It was re-greased and reconnected which solved the problem - but only for about a week. It is now wiggling again.

You could use the rev-counter to judge your speed - not so easy in an automatic unless you are sure which gear you are in.

I would also be interested if anyone in the group has any more ideas.

John Goldfinch

### Speedometer

I had exactly the same problem, the problem is the mechanical cable that links the speedo to the gearbox(?) apparently the upper cable is a weakness and tends to wear out. When my cable broke it took the actual speedo with it, which was expensive (200 UKP). Citroen realised this was a problem and they changed to an electronic speedo in roughly 1993.

hope this helps, even with a new cable and speedo it still wiggles a little bit <+/- 1 mph

Stuart Blair-Watt

### Speedometer

I have a 1990 2.0 Sei and at about 50,000 Miles I experioenced the same problem with the oscillating Speedo needle. Having seen this on older cars I knew what the problem was. It was definitely the upper speedo cable that has a joint just inside the engine bay and then leads up to the speedo head. The cable runs through a tube in the back of the passenger bulkhead and it would be very difficult to feed this through. However, there is a simple way. Citroen told me they need 1.5 hours to do this job. It took me about 45 minutes.

You need to remove the instrument panel and disconnect the speedo cable at the head end. Ten unscrew the cable where it joins the other down cable in the engine bay.

I found it was relatively simple to change the cable by attaching a stiff electric cable (about 2.5 mm square) to the existing cable at the head end and pulling the old cable through with the wire attached. Then attaching the new cable to the wire and feeding it through the same path as the old cable.

Greasing the cable was a fix in the old days to lubricate it as it used to stick to the sides of the sheath. Modern cables have a plastic lining which guarantees smooth running. When this lining fails there is only one cure and that is to replace the cable.

regards,

John

### **Speedo Wobble**

My first two XMs developed wobbly speedos after about 30K miles presumably due to a sticking speedo cable. My latest P reg (with the new dashboard) was going OK but today after 59K miles the speedo started doing crazy things and went intermittent on me. I have a suspicion, however that that on the new dashboard models that the speedo is electrically driven. Am I right and if so where is the sensor?

=====

The earlier Mk1 XM's had standard speedometer cables passed across the back of the dash to suit RHD and this did cause much needle jitter.

On your "P" registered car the drive is electric, therefore you should not experience any jitter problems but I guess you could still have electrical faults.

=====

## 23 Stop lights

Okay knowledgeable people, I wonder if anyone has an answer for this one:

When I indicate left, and sometimes right, the warning on the display says that my stop lights are not working (defective). It started off as an intermitent fault, but now does it all the time. Yet my brake lights are fine, as I've had my wife drive behind me to test this out. It seems to happen more at speed. The car is a 90 2.0i Sei .

=====

This is an inherent problem with these cars. There is a monitoring device for the rear lamp circuits to give warning of bulb failure. The monitor is looking for high resistance in the lamp circuits at the rear. The lamp holders suffer from oxidation where the bulb fits into the sockets and the plug socket connections. This results in high impedance and random indication of failed bulbs.

The solution is to remove the lamp assemblies (which are located behind a flap held with one button on each side of the boot). First remove the plug connectors. Then pull the flap off the button and you will see a long plastic device that holds all the bulbs. There is a single pair of clips that you press together to release the assembly and carefully withdraw. Carefully, so as not to damage the bulbs.

Once out remove the bulbs and clean the sockets and the bulbs, where contact is made, with emery or a fine file. Then replace and the problem will disappear.

I find I have to do this about once a year.

=====

Now, I do not profess to be a great expert in these matters, but this sounds like there is a dodgy earth somewhere around the rear lights. I recommend taking all the bulbs out, giving the contacts a good rub down with glasspaper. You also need to disconnect the cables to the rear light clusters and clean the contacts *\*very\** well with glasspaper if poss. The connectors also need smearing with vaseline. Another dodgy area may be an earthing point - check all you can find, take em to bits and get em shiny.

=====

The lamp holders suffer from oxidation where the bulb fits into the sockets and the plug socket connections. This results in high impedance and random indication of failed bulbs.

=====

Subject to expert correction, when it becomes necessary my plan is to apply a smidgeon of copper-loaded grease (brake anti-squeal/battery terminal) to the contacts before reinserting - not *\*too\** much to avoid shorting; that should cut down on the oxidation.

### Stop lights (\*!\*)

I had the same fault in my XM I solved it by running two new earth wire from the rear bulb holder earth to a good earth point, in the later cars they had it already done

bry k faulkner

## 24 Sunroof

From: "G.Janacek" <G.Janacek@uea.ac.uk>

Date: Mon, 16 Nov 1998 08:56:36 +0000

My 2Si has a sunroof and as seems inevitable it is leaking and scewing up my central locking. I'm about to unscrew the wind deflector etc to get a better look. Before I do has anyone any advice? Thanks

Jan

=====

Don't yet. I had an identical problem and it drove me nuts. Finally, I got some silicone lubricant spray and sprayed it onto the rubbers of the sunroof and massaged it in well. This fixed it right away. You should be able to get the stuff from a decent auto shop.

Liam

### Sunroof

Mine works sometimes, and not others. I've had the switch out, and poked around in the roof a bit, but not much more. Does anyone know how to get at the sunroof motor properly? Does it involve having to remove a lot of trim? When my sun roof doesn't work, there is a clicking noise, but no movement.

=====

Does anyone know what is making a buzzing noise from my sunroof control panel. At first I thought it was a trapped fly but it goes off when I take the key out. Do they have electric flies in France? Who wants a dull car anyway?

I have written to Tom to tell him that it is not an angry French fly in his roof console, but a dry bearing on the thermostat fan motor. It takes 10 minutes and a squirt of WD40 to solve this problem, if my car is a good example. Follow the driver's handbook instructions for manual operation of the sunroof, and you will be able to pull out the offending unit for attention. Of course, any help for Tom's alarm problems would be greatly appreciated. I personally hate car alarms and feel that the immobilises and decent deadlocks are the answer. Who takes any notice of car alarms anyway? I notice Tom was not arrested or questioned by the authorities.

## 25 Water temperature warning

Temperature of water-cool of the engine is always about 80 90 degreesC, in the middle of the scale of the thermometer in the right of the dashboard, but sometime I hear a click of a relay under the dashboard and the yellow or red light of "Temperature too high" is lighting. I think the problem is in the water temperature and level box, but I don't know where is it.

The water level sensor is in the expansion barrel near the computer. the bitron module which handles the ventilators is under the glovebox near the heater motor.

====

### Bitron

The bitron module controls the ventilators even when the engine is shut off. When the water temp. is very hot after driving the vents. may work a few minutes after you shut off the engine. You should be able to see the module when you look under the glove box near the heater motor. It is a little black box (10cm x 15cm x 5cm). The word Bitron is written on it.

### Sensors

Does someone know where the water temperature sensor is ?

It is situated behind the thermostate on the right side of the cilinder head. There are 3 sensors , one for water temp. indication, one for water too hot warning, and one for giving watertemp. signals to the computer. Each has a different color. I don't know which color you should pick.

## 26 Wet boot problem

Look underneath the boot lining material on the left hand side. I always get wetness there after rain - WHY?

Congratulations - you've found the single most annoying XM fault!!!

=====

Note, the problem is not the roof rack holes.

It's raining in Hampshire today. I opened the tailgate and noticed water running correctly down the aperture surround and it occurred to me that a possible source of aquatic ingress might be the lower strut mounting which on my car has a rubber grommet to prevent water from doing just this. Now on older cars, the grommet may have stiffened and thereby allows water to seep past it. Can't imagine why it should be confined to only one side however.

=====

If you have a sun roof and the drains are blocked then water spills out into the boot. I did this on my BX GTI and on my XM, fiddly to clear but it cured my problem, (in the BX you could hear the water in the rear roof pillars).

=====

The pipe for the rear window washer runs behind the trim at the far rear of the headlining... it has a joint in there which had separated.

Easy fix... very baffling at first though!

=====

Some of the earlier XM's had a small defect that caused wet rear ends when it rained. Yes, mine suffers from this problem too. I have still to determine the cause of this one. If anyone out there knows more,

I'd be delighted to hear from you. I have heard of someone who managed to cure the problem by removing the little bit of triangular trim from above the rear door and filling the space with mastic then replacing the trim. This bit of trim has to be cut out of its housing and I'm a bit doubtful about trying this little job!

## 27 Windscreen Washer empty warning always displayed

On my UK RHD drive car. I can't tell if you are in the UK or not. The washer bottle is on the passenger side. Put the car onto maximum height. Take off the plastic wheel arch surround (quite easy). You can then see/feel the washer bottle.

Two solutions - Just pull off the sensor connector entirely, thats what I did, or get a new sensor from Citroen.

Thats it - now put back the wheel arch surround.

Some people have recommended running a kettle de-scaler solution through the system. I have not tried it.

### **Washer needs filling warning.**

"Washer needs filling" warning is a common fault on earlier XM's.

Remove washer reservoir from nearside wing. (bolt under air cleaner then wheel arch liner out.)

Washer level sensor will be badly corroded. It may respond to cleaning up but may need to be replaced.

### **'Empty' windscreen wash tank**

I now have a problem with the windscreen wash tank showing empty permanently. I guess I will probably disconnect it altogether as it is a nuisance. Citroen recommended that I connect it in parallel with the washer switch so that it only comes on when the washer is used. Good idea. *(Thanks to John Michigan)*

## 28 XM won't start

I have quite an urgent problem. I live in the countryside and just as I really needed my car to get into the town it won't start. The car is a XM -90, injection multipoint. What happens is that the starterengine turns around OK, but the engine fails to ignite. Sometimes i can here it start for a very short while, but then nothing more.

Does anyone know what to check? Perhaps a sensor or a relay? I'm not very good at cars, especially not injection-engines, so I would appreciate quite a good description of where to look.

=====

I had the same on mine it was the wire to the fuel pump try listerning to it and see if it is working .

=====

Hi, check the cable harness block situated just under the air ducting from the air filter to the mixture? block. The block is just forward of the distributor when you look at it from the left wing. I believe it the lead coloured yellow. you have to jump the cable connector block,with another lead, just cut into the fuel pump lead on both sides of the connector block.

I dont know what the connector pin number is.

A known fault my garage told me!

=====

This time the problem was with the fuel pump connector. I removed it, and then put it back again, and that was all I had to do.

It's accessible from the inner compartment, under the right rear seat. You'll find it under a plastic lid.

=====

Had this not too long ago as well, my 2.0i didn't start. Called the AA and they just touched the wiring inside. electrical wiring is extremely bad on early models. Just carefully check the plugs and the wiring right of the engine. Have the wires replaced or grouped as soon as you get the chance.



# The Body

## 29 Alloy Wheel Refurbishment

Hi,

I have an '91 XM V6 Sei that I've had for the last 4 years and the alloy wheels are now looking distinctly ugly (corrosion & laquer coating flaking).

I'm wondering about getting the wheels refurbished as an alternative to replacement as my Citroen garage are quoting 165 UKP + VAT per wheel for the original alloys (Speedlines).

Has anyone else had experience in this area that they'd like to share ?

Many Thanks,

=====

Jeff

If you live up North, there's a travelling guy who operates from the back of his lorry. I only know of him through my local Citroen guru, who uses this guy to all his regular customers' cars....

He charges £70+VAT to do a set of wheels. Or he did the last time I was there. Drop me a line, if that sounds right.

Regards, Keith

P.S., It was a BX 16V's wheels I had done and he had them looking like they mirror-finished

=====

I've also heard about services like this - they tend to only do the front face of the wheel, rather than the more expensive services who demount the tyre, and do the whole wheel. If you're having porosity problems, then this is what you need. It's what I'd go for (and will do very shortly on my CX GTi), as if the job is worth doing, it's worth doing properly, to my mind - and just doing the front face seems not to be as good to me as the whole wheel.

Can anybody recommend anybody in London/South East to do this? I know there's a company mentioned in this week's Autocar & Motor (who collect), and I know of Diamond Styling in North London (who don't). Anybody had good experience of any others? I live on the Herts/Bucks border, and am currently working in Hook, Hants.

Adrian.

=====

Alloy Wheel Refurbishment / Tyres

Adrian (& others !),

Many Thanks for the information about getting alloy wheels refurbished. I'm sorry I've taken so long to respond, but work has been very hectic recently !

Unfortunately I live in the Reading area, so the MSS people in Leeds are not so convenient - however maybe I could take a long (long) week end in the Leeds were I have some family.

Does anyone have a contact telephone number for MSS ? TIA   Yep, the wheels are going to have to have the "full monty" 'cos when I replaced all the tyres recently (gulp) the tyre people mentioned that they'd had difficulty getting pressure retention.

However, I've checked them regularly since then and they don't seem to be a problem.

BTW, I've mostly used Michelin's on my XM, my wife's BX GTi and previous Citroens (Visa GTi's) - having briefly flirted with Pirrelli's - didn't seem to wear particularly well.

What are other people's experiences ?

=====

BTW - There are others about - there's Diamond Styling (North London, 0181 969 9690) and an outfit called Spit & Polish (?) near Welwyn (Herts, on the A1). The classic car mags regularly have adverts for outfits doing this, as would people like the fast car mags, and your local alloy selling people should be able to help, too.

## 30 Blowout

I just want to say to all those doubters..... My XM saved my life the other day. I had an almighty blowout on the motorway, I was probably doing in the region of 85-90mph when the car suddenly jinked to the left. I immediately guessed that a tyre had suffered a sudden deflation. The thing is, once I had straightened the swerve, the car was easily controllable for me to stop gently. The XM travelled straight and turned, when I gently steered. Very impressive. What is more impressive is the fact that all that was left of my drivers' side front tyre was a couple of strips of rubber.... there was nothing resembling a tyre left. So effectively the car was running on an alloy rim as it came to a stop.

Thankyou Citroen

===== I had a flat in my XM on the way to take my kid to the childminder a few months ago. The thing must've been flat overnight (rear nearside). I didn't even notice for three miles until I went to get back into the car and noticed it as I went past. Yeah pretty good.

## 31 Door hinges

(Note this happens on my XM as well - here is an idea on how to cure it taken from the CS list)

It is more a rule than an exception that the door hinges on CX's makes a loud clicking noise when you open a door. The symptom also gets worse with time.

With time the little steel plate that holds the U shaped hinge lock pin together will get worn and the holes in it larger. This along with play in the lock pin mounts will make the mechanism snap.

What you do is make a new plate from 3-5mm thick steel with new holes with a snug fit on the lock pin. Use the old plate as a template for the new one and place the holes a bit closer together than on the original. It is important that the size of the holes are exact. Preferably the holes are so small you have to drive the plate to position with a hammer. This will ensure there is no play. Also when reassembling the locking mechanism put MolySlip grease (dark grey goo) everywhere. Moly slip is the only grease that we've found can take the high surface pressure. If you use something else the door will start creaking.

After the operation the door will sound as new... that is... not at all!

The trick is to get the hole precise and a bit closer. By putting them a bit closer the U-shaped pin won't be in straight angle (90degrees) anymore and the "two" pins won't be parallel. This will make the snap much softer since it then "creeps" over the locking cam.

Both my CX's have had all four doors done with great results. Other CX owner are usually quite impressed by the silent hinges.

## 32 Grinding noise from front of car

- > Looks as if my XM may be going in for attention very soon after all.
- > It's developed a sort of graunching noise from the front end under
- > acceleration when the front wheels are not pointing straight ahead.

====

Check if your wheel nuts are tightened.

(This is no joke!!!)

It ruined my holiday last summer, I thought I had a worn drive shaft.

====

My BX GTi suffered from this - it was due to wear in the lower suspension arm bearings where the arm is attached to the sub frame. Given that the XM front suspension is BX derived, it might be worth investigating. Cheers!

## 33 Headlights

If anyone has a good idea re left-hand front indicator/fog lamps, I shall be interested - I need one too (and a right hand one less urgently). All the silvering has come of the fog lamp reflector which means that almost no light comes out of it.

Apologies from a new boy if this is an FAQ, but the dipped headlights on my car are very poor - commented on at today's MOT test but not failed. They just look very dirty and dusty inside - is it possible to clean them (relatively easily)?

====

In terms of reality the best replacement headlamps to get are the post 1995 models units with Halford's Xenon lamps in the dipped position and Halfords All-Weather in the full beam slot ( these give a funky blue/yellow colour and certainly make people get out of your way when they are doing 50 mph in the outside lane of the motorway.). Both these bulbs cost 10UKP each at Halfords, but in my opinion are worth the money.

=====

The glass cover on front of the headlamp unit is held in place by spring clips. There is a seal between the glass and the headlamp unit and this can sometimes perish, allowing a very small (and I mean small) amount of condensation to build not on the outer glass, but on the inner lens (where the heat is), and cause a slight amount of discolouration. The headlamps can be pulled apart, but it's not a job I would like to do. The headlamps will of course need to be re-aligned afterwards.

## 34 Michelin tyres

My book said that you should use the Michelin tyres as fitted otherwise there could be problems and potential safety issues. Someone once explained to me that this was due to the very soft side walls on Michelin and that it was very important with the Citroen type of geometry setup (something about scrub angles etc). This might all be a load of \*\*\*\*\*s but when my XM company car came back once from the tyre people with Avons and I pointed it out to the leasing company (who made some enquiries) they told me to put Michelins on it! Of course, I wasn't paying so I did.

=====

I have new front tyres on my XM since 2 weeks:

Michelin Pilot CX-KL 205/60/15

These are much more comfortable than the Pilot HX. They also make less noise.

I didn't notice any oddities.

=====

My XM 2.0i is running on 4 new Michelin Classic 195/60 for two months now.

These tyres are less expensive than the original Michelin MXV2's (or its successor the MXV3), but the man at the tyre shop said the Classic's won't last as long as the MXV3's will.

For me the Classic tyres are just fine. I didn't notice any differences compared with the original MXV2's that were on the car before.

=====

Next time try Michelin Pilot CX-KL 205/60/15 . These are VERYYYYYYYYYYYYY comfortable

=====

Tyres are boring, but as I nearly found out by way of a serious accident, I recommend that you only fit the Michelin tyres recommended. I went to a well known tyre fitting centre and was sold a set of their own brand new tyres at a cost of 75 each. Two weeks later I had to perform an emergency stop whilst travelling at 50mph. The front tyres span on the rims and the rear tyres lost adhesion. It could have been messy. The walls of the front tyres had blistered so I took the car to a local independent tyre fitting specialist and they removed all of the tyres and replaced them with Michelins. They informed me (and showed me for that matter) that the 'new' tyres I had been sold were in fact double skinned remoulds, and that the outer skin had spun on the inner. Utterly useless. There is a loophole in the law that allows these 'new' tyres to be sold. The Michelins not only make the car feel more sure footed, they also improved the ride quality by about 80%.

=====

## 35 Outside temperature sensor whereabouts

The righthand LCD temperature display has decided that it is 27C outside, despite it being 4C above freezing!

Does anyone know of this problem or how it might be cured or even where this sensor is? Lets hope it's not connected to the ECU!!

=====

The temperature sensor is in the bottom of the left-hand door mirror. In a little bump in the plastic moulding. I haven't got any circuit diagrams here at work, but I've got one of the heater circuit at home. I'll look tonight to see if the external temperature sensor is on it.

=====

I had just this problem and a new sensor in the door mirror cured it but I believe it was difficult to fit (at least that is what the garage said)

=====

the sensor on mine is below the front bumper look for a 5mm dome with wires. By the way my temperature display reads in F.

Ditto. My XM is a 1990 registered vehicle. perhaps newer ones have more useful readouts. I wish I could get a reading in 'C and keep English messages!

=====

Citroen must have gone to some trouble to convert the display from degrees C to F, probably for the American market (were XMs ever sold in the US ?).

My owners manual specifically states that the display is in Centigrade, but it aint !

By the way, does anyone know what it means if the little "F" is flashing

=====

The 'C or 'F flashes at 0,1,2 & 3 'C, to warn of the danger of Ice/Frost on the road!

It also flashes between 0 and -4 but then stops flashing below that! Presumably, the computer looks for values between 0 and 4 but ignores the polarity.... a bug maybe?

=====

Hi temperature list,

Plus to minus 4 makes sense to me! That's the danger zone for black ice. Above it's too warm, and below too cold. When temps drop lower, snow and ice become quite grippy again, the danger always is at that inbetween stage.

=====

You can change the language by changing the fuses - whether a C/English combination is possible I know not.

=====

My XM is a February 1990 model (UK RHD) and my temperature gauge reads in Centigrade and the sensor is under the bumper, I appear to be on my own with this age/temp scale combo.

=====

You will find the sensor inside the left mirror. You can remove the mirror glass by releasing a small wire clip at the lower edge of the mirror glass.

Replacing the sensor will take about 5 minutes. But I spend a lot more time on reassembling the mirror glass itself..

=====

Is that always the left mirror regardless of being Left Hand Drive and Right Hand Drive Cars?

-- no, mine is in the front bumper and reads the temperture in F.

– Below the left fog lamp.

=====

Trouble with the external temperature gauge, usually reads high, can be corrected by changing the external sensor mounted in the lower side of the nearside mirror. Twin wires will need to be cut and then soldered as loom is complex and well hidden. Mirror glass can be removed by pulling sideways a small wire clip just visible on lower edge of glass. Many thanks to Harry Boswell for this tip.

## 36 Repairing bumpers

There is a firm in Bristol (England) called Bristol Plastic Repair ,Specialists (How do they think up these scintillating names???) who do ..... (I will allow you three guesses) ..... including plastic bumpers. I expect there are others dotted around the world. It must be big business because of the huge number of cars with plastic bits, and the enormous insurance market. I have heard that the cost savings are considerable, but have not tried them for myself - though I might if I wind up the enthusiasm to take the bits off my GTi.

## 37 Replacement wing mirror glass

Anybody in the UK know where to get wing mirror glass on the cheap. Citroen charged me 28 pounds for the heated wing mirror glass alone!!

The trick is to make a template -- perhaps reversed from the other side? Or from someone else's car? -- and take that to a good glass cutter: they will be able to make you another for a \*lot\* less!

====

I have two different sizes of wing mirror glass on my car! The nearside glass is smaller than the offside glass! There being a kind of plastic insert around the glass. The offside wing mirror is bigger and does not have this plastic insert!

Citroen confirmed that the mirror glass size changed during 1990 but that they don't have an exact RP number for when it happened!

On the nearside the plastic insert holds the temperature sensor - I think!!

Maybe they changed the wing mirror glass size AND the front bumper moulding during 1990.

## 38 Roof Rack

Where exactly are the roof rack mounting holes? Are they under a bit of trim or something 'cos they ain't obvious mate :-)

Exactly! If you have a close look at the trim you'll see where they are. You'll have to remove a bit of the trim.

Open one of the doors and pull the rubber trim away from the roof - you will then see a piece of adhesive tape (looks like insulating tape) which you peel away and viola - there are the mounting holes.

I had a look at this today. The holes, covered with tape, are blind and were bone dry.

## 39 Rust

XM's do rust, but not at the age that you are talking about. Early XM's rust along the weatherseal at the bottom of the doors.

## 40 Tow bar

I think I am right in remembering that the power cables are hidden in the centre

console, as well as the connector for the immobiliser keypad. Even if the required cables are not there I would think all that would be required would be direct some extra power cables to the seat (switches and motors are in the seats).



# The Engine and other mechanicals

## 41 150HP engine

Is it the 145 or the 150HP engine? i.e. <7/94 or >7/94?

## 42 Cambelt pulley

In the CCC mag this month (Nov issue) there is a mention of the 'special' way of reassembling the crankshaft cam belt pulley to the crankshaft. Apparently there is a special Citroen method and that if it isn't used then you risk the oil pump drive slipping and the engine seizing. I am having my cambelt changed next week and this means the crankshaft pulley has to come off. Has anybody any knowledge of the special method of refitting of this pulley?

## 43 Clunk behind Front wheel

2) I'm hearing this noise (like "thunk") from the left front wheel when driving over bumps and in holes, and it isn't the (what's it called in English?) vertical rod behind the wheel. Any idea what it could be?

=====

the clunk behind the wheel is the drop rod very easy and cheap to replace do them both at the same time

=====

Knocks from the front suspension, if not the anti roll bar links, could be the lower ball joints.

These are low down on the outermost point of the lower link (wishbone) close to the wheels.

=====

Re think on front suspension check track rod end or lower ball joint if its not drop link.

=====

You mention the drop rod. Is this what causes my XM to make strange noises over uneven road surfaces? It sort of clonks, as is the "spring" was broken, on the left side of the front wheel (at least that where I think when I am driving). ???

=====

If traveling over a rough surface, such as one of Britain's roads (once the cable companies and other utilities have got hold of them) and you notice a pattering come from one or both of the front wheels, it is a sign that the link rods between the roll-bar and the front suspension is wearing. This is because at both ends of the rod are ball joints which are constantly being agitated, and in a matter of time will get VERY annoying.

At a Citroen Dealer the rods are approx.. 25UKP and both sides (or just one) takes 1.5 hours labour + V.A.T. If the pattering is heard all the time (not just on rough roads) it is the ball joint on the steering that has gone. This is a fairly easy job to do and any garage can do it, so it is probably cheaper to get a non-franchise local garage to do the work. Many thanks to Stuart Blair-Wattfor this tip.

## 44 Engine management system

My beloved 2.0si XM has gone wrong!

The engine management failure light is permanently on.

It came on three times during my journey home last night, but each time went out after a second or so, but this morning oh dear :-((((

The engine sounds a little rough, could it be the 'distributor'? Has anyone got any ideas?

I almost expected the alpha-numeric display to show ££££££££££

====

Try to disconnect the battery for 10 minutes.

This will reset the injection computer.

If you're lucky the problem might be gone.

====

Try phoning the service manager and asking for a quotation for a computer diagnostic test only.

This may cost you no more than about £25 and should point you in the right direction.

If you have a catalytic equipped car then correcting and management faults is urgent to avoid catalytic poisoning.

====

The French Car Co. have now fixed my XM. Hooray!

The diagnostic computer could find no fault with the ECU - the ECU kept saying it was ok!

'Traditional' searching found a bad contact on the ignition coil.

A bit annoying really as I could have found that type of fault... but it is cold outside!

## 45 Engine noise

I am led to believe that there is a 'problem' with a batch of 2.0i 16v engines produced late 1994/early 1995 ?

My XM estate (RP6744) has developed a noise similar to 'lazy tappet', but I have told that it is possibly from the little end/piston, and that a replacement unit (@30,000 miles!) may be necessary.

I have noticed several low mileage vehicles similar to mine for sale, and included in the description is 'replacement engine'.

Has anyone further information on this problem? ie cause (design defect I have heard?), engine numbers for units in question, have 'Citroen' acknowledged they may have a problem?

=====

This problem should only appear at cold start.

After 5 minutes this sound should be gone. The problem is pistons that are slightly too small. If the engine warms up they extend and the sound is gone.

I know Citroën replaces the pistons and rings but there will be a moment that they stop this guarantee.

=====

## 46 Engines

The 2.0 Liter XM engine is developed in 1986, in the Tremery, factory for PSA. The versions in the XM are called

XU 10J2 ( EFI )

XU10M ( Monopoint )

XU10 ( Carb, discontinued )

## 47 Idle speed wobbles

My XM (1992 2.0i) occasionally seems to lose track of idle speed. It happens in Neutral or Park; from an ordinary sort of speed (about 900 rpm on the clock) it speeds up over a few seconds to 1500, 2000, 2500 or faster. No foot on the throttle, nothing. It's never happened when idling in gear.

When it happens, the way to get the engine back to normal speed turns out to be to press the switch that cuts out the air conditioner (it's got airconditioning but not the pushbutton computerised ventilation control panel). This has worked every time so far.

I presume it's a poor connection on some sensor or earth somewhere; does anyone have a suggestion?

## 48 Juddering and vibration

1. the possible cause of a juddering/vibration on my 54,000 mile 1994 L Reg XM 2.0i Turbo, particularly when pulling under power. Citroen agents have tried a drive shaft, new susp. sphere, speed sensor, turbo electric valve, wheel balancing, wheel alignment, and suspension height settings. I've also just had to replace 4 tyres after 12,000 miles with (Pirelli agree) uneven wear; Pirelli say its not the materials or manufacture....could this be linked to the juddering. I'm getting desperate, but don't want to abandon Citroens

=====

The problem is the '92-'94 145 HP Turbo engine. The shape of the pistons, the computer and the head cause this problem. Citroën changed the engine in Summer 1994 to a 150 HP Turbo engine.

=====

My 94 XM does not do it. Was yours a Manual or Auto? Maybe there is a Mapping problem in the ECU

=====

Mine was an auto, I am sure that it was a mapping problem and that a new software version would fix it but have you ever tried to explain this sort of concept to a Citroen dealer?

=====

Mine is a manual.

The problem is always there but is worst when the engine is cold. Citroen say it's not just a mapping problem.

## 49 Models and DIRAVI

I have heard that the CX self-centering type steering was available on continental XMs. Is this true and if so what models and years?

Also in 1989 there was a 2l non-injection model on the books. Was this actually made? Was it a CX engine?

Also I heard rumours of non-hydractive suspension models being offered for sale in France, is this true?

Can anyone shed any light on these?

====

Self centering (diravi) system was standard on all V6 XMs till july94.

2L non injection was a XM engine for Belgium and France.

Non hydractive XM was produced for French market. (Must have a lovely ride!

====

2.0 Carburettored with \_cast iron\_ not alloy block !! Same head as injection cars though (except a distributor stuck on the end of the camshaft ) & still stutters just like an injection car ! (Light load acceleration, as if you need telling !).

Only way to replace it when the rod went through the side was to get one from a Pug 605 !

I'm hoping it'll be a museum piece one day ( that's my excuse for keeping it anyway ! ).

====

DIRAVI was LHD only, unfortunately - not worth the hassle of re-engineering for UK, as usual - else I could be tempted, all other "issues" excluded....!

And, yes, the 2.0 carb was a UK model, until Cats came in (too difficult to make work with a carb) - base spec only. Different engine to CX, completely.

Range went, IIRC,

2.0

2.0i

2.0Si

2.1d

2.1Sd

2.1SEd

3.0SEi

## 50 Oil

Secondly, what is the best oil to use in these..... and how often to change? I use Mobil One in the 2.0i Turbo and change it every 6,000 miles - I intend to mollycoddle the Diesel to the same extent.....

=====

### Motor Oil

In last Saturdays daily telegraph motoring section there was an article about synthetic oil ,it appears that the million mile BMW run on synthetic oil was in no better condition tha one run on duckhams green oil .The article also went onto say that by using synthet oil in certain engines,especially worn or engines with certain type gasgets will cause damage when one considers the cost of synthetic oil it hardly seems worth the bother ,I think the old addage is best use a good quality oil and gchange it often for along engine life.

## 51 Play in ball joints

I have found some play in the ball joint that links the drop bar to the driver's side wheel/suspension thing. What is the worst that can happen if the ball joint fails completely? Will the car become dangerous, and if so how? Is it easily replaceable (it looks it, but with an XM you never know!)? and will it do other damage if it fails?

Many thanks, fellow sufferers

## 52 Servicing Intervals

Any advice on how often to have my 2 litre Turbo Petrol serviced. As I do over 20,000 miles pa and I pay for the car myself I would anticipate having it serviced every 10,000 miles or so and merely topping up the fluids between times as I have for my previous Saabs. Or is this not adequate ? Is there anything in particular to watch out for between services ?

====

My last two XMs (second one a 2.0 turbo) both did over 100K miles in 2.5 years. The latest (2.0 16v estate) is on 52K after 15 months. They tend to do long runs only and get serviced at slightly over the recommended intervals. When they go in for servicing the oil still looks clean and probably could do a few thousand miles more. At no time have I ever have to top the oil up between servicing. These are company cars, however on my wife's cars I always change the oil early after all it is the only thing that really matters in a service (what else is there to do now?).

As a matter of interest I make a note of all petrol that goes into my cars and feed it into a spreadsheet program. the overall figures for my three XMs mainly doing long motorway runs at 80/90mph are.

2.0i manual hatch 32mpg

2.0 CT turbo auto hatch 30.5mpg

2.0 16v auto estate 32.5mpg

plus

ZX 1.9turbo diesel 52mpg (and it will outperform any of the XMs!)

## 53 Spark plugs

My former XM2.0i failed after fitting Bosch F7D plugs instead of F7DCOR. This was the day before I wanted to leave for the 10th ICCCR. I was desperate. I checked all electric equipment etcetera as you described.

Finally my dealer told me to fit original spark plugs. The car started right away.

Last week I changed spark plugs in my XM 2.0i Turbo.

Guess what..... The plugs of a V6 came out.

No wonder my engine got too hot and I had low power despite of the turbo.

I suggest one should always get plugs from the dealer and ask them to show you that they are the right plugs.

Apparently one can never be too careful.

====

A spark plug is just a pair of electrodes and the only variable is the gap.....I wonder therefore if your problem was that the gap on the old plugs was so high that a very large voltage was required to jump it and the subsequent interference and induced voltages elsewhere were the cause of the problem.

\*\*\* If it was that simple.....Unfortunately not ! Many other plugs are tested. Not only by us but by the Citroen distributor and the factory. The problem is only cured with the Bosch plugs FR8LDC. Problems are back the moment you put other plugs in. I figure it has something to do with the insulation or a better earth than other plugs.

CITROEN ANDRE // CXA // ANDRE POL

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## 54 Valve stem oil seals

These fail on early XMs with a 2.0litre petrol engine (and Peugeot 405's for that matter- same engine - or designer - I don't know!), and cause all of the engine oil to flow straight through the exhaust pipe.

Now, this doesn't mean that you shouldn't buy one, but if there is a small amount of smoke puffing from the exhaust at operating temperature then walk away - unless you are buying the car from a dealer that supplies a warranty, if so, buy the car and use the warranty! Cost to , repair approx. 500-600.

### **Worn valve seals**

Do you have a 2.0i XM? They may suffer from worn valve seals which causes oil consumption.

They can be replaced easily and it takes about 3 hrs. work.

## 55 Water leak

My XM has started a steady drip-drip type water leak. The leak seems to stop when about 1 litre of water has dissappeared from the water tank. There is no steam or other outward sign of a problem. The drips only seem to be warm - not hot.

====

This leak turned out to be from the pipe leading down from the expansion tank. With a little grief this was replaced and the leak has gone away.

# Suspension

## 56 Accelerator pedal sensor

Would anyone be willing to disconnect their accelerator pedal position sensor at the plug and socket just by the sensor and tell me what happens to your hydractive system.

I found that my sensor wasn't working properly so I have disconnected it for the time being and now it is stuck in soft mode, which is at least better than being stuck in sport. When I reconnect the sensor it goes back to how it was, going into sport mode if I move the pedal at all, up or down!

So, is it normal, with the accelerator pedal sensor disconnected to be stuck in soft mode or have I a computer problem?

### Electro-valve check

As I have had some problems with my suspension (ride) I've spoken to my local dealer and he told me that you can check the operation of the accelerator sensor and Electro-valve by doing the following...

With the ignition switched on, reach down and pull the accelerator sensor arm forward. You should hear the Electro-valve under the floor pan 'click' as the sensor is moved. This means the sensor is operating and the electro-valve is switching to the sports setting.

====

Clever bit of engineering having the sensor on the accelerator pedal. With the ignition on I manually operated the switch and I can hear the solenoid working. Switch off the ignition and for 30 seconds or so I could still work the solenoid, after which I couldn't. So it's not the accel sensor causing the hard setting. Can you tell me where the other sensors are located?

## 57 Auto/sport Suspension Problem

Hi, can anyone tell me how to disconnect the "auto-mode" so that it's never go into "sport" suspension. Or, how to get the "sport-mode" bulb to light up every time it's goes into "sport" when it's in the "auto-mode". Or even better: How to modify the el.system so that the switch (sport - auto) sets the car in sport or "soft" mode (i.e. no automatic).

It is a '91 mod. 2.0 injection. (PR 4950). Thanx...

Asgeir Jordahl

ajordahl@online.no

=====

Most citroen dealers have a small test-box (size approx. 15x5x3 cm) that can be connected to the suspension-computer and it does exactly that. It's rather primitive, so I think it's just a matter of shorting some pins on the connector. If you're able to figure out how this box works (which must be simple) you will have the solution to your problem.

I had such a testbox more or less for over a year in my '89 Xm because the suspension-computer failed badly in this early car. I gave it away together with this dammed red beast...

=====

On my XM '90 model I found that I had a faulty accelerator pedal sensor. I have disconnected the electrical connector next to the sensor, by the pedal, and now the suspension never goes into sport mode and therefore stays soft all the time regardless of driving style. I would be very interested to know if you have the same effect if you try this. It appears to be a cheap(free), simple and reversible way of keeping the car's suspension soft.

Yours,

Mark

=====

The sensor is on the accelerator pedal itself and the plug is on the lead attached to the sensor, very near to the sensor. It really is no work at all, you just have to move the seat back and the steering wheel up and lie on the seat with your head by the pedals! Check with your doctor that it is safe for you to assume this position.

Also the system did fail safe to 'hard' when the sensor failed, but \*disconnecting\* the sensor and expecting it to fail safe is a bit like disconnecting the hydraulic pipes from the brakes and expecting them to fail safe.

Mark

=====

disconnecting something is like "cable broken" which should be detected in all cases. Furthermore, a connector might get unplugged accidentally or by mechanical stress which is also an unexpected failure. btw: "disconnecting" a hydraulic pipe from a brake \_is\_ tolerated by the system. (as long as you don't unplug all four brakes at the same time ;-)

## 58 BX Sphere on XMs

Several mentions of the BX spheres - my only experience of such on XMs has been appalling - a real wallowing disaster and not to be recommended - I suggest you try looking elsewhere for the faults, and/or get the sphere pressures checked. Here in the London (England) area, everyone I know who tried BX spheres has now changed back again.

=====

### Front Suspension Spheres

I, like many others it seems, am not totally happy with the ride comfort on the XM, even after having the spheres recharged. If the Hydractive is not working as it should, the ride quality is totally unacceptable, and as you know if any fault in the system is detected by the Hydractive computer then 'sport' mode is automatically engaged.

While sorting the faults (in much the same way as John Davidson, August issue) a temporary solution was to fit BX 500cc front spheres. They are a tight fit in the space provided, but isn't this the norm for our marque? As mentioned by Andy Burnett these give a very soft ride in 'automatic' but in 'sport' gives a very pleasant ride. In fact I've decided to keep them fitted in favour of the originals, although some would say it is a touch too soft, but personally I prefer this. It sends my two children to sleep quicker when travelling, which has to be a plus point to any family man! (Thanks to Kevin B Spruce and the CCC)

## 59 Changing Spheres

Has anybody renewed their front/rear spheres with the intention of getting a smoother ride out of an early XM.

I'm considering using BX 500cc spheres in the front. Andyspars do a sphere for XMs called 'Comfort Spheres' which originate from Holland (I think). They are supposed to deliver a softer ride.

Has anybody any experiences?

Also how easy is it to change the spheres - can I do it at home or is it easier to get a garage to do it?

Whats the procedure concerning hydractive suspension?

### **Comfort Spheres**

These Comfort Spheres are just great - I replaced all spheres on my brand new (1997) XM which presents - with the original spheres - a quite hard ride that makes me think of a BMW (I hate german cars!). BTW, I also used these spheres on my previous XM 24 valves, with quite encouraging results. Just don't forget to specify the exact type of your XM - it seems that there are different types.

## 60 Clicking Hydraulic pump

I changed the accumulator sphere, but I always hear the clicking of the idraulic pump. Some Citroen mechanics in Rome (my city) say me it's all ok, but I don't think so.

====

Probably the accumulator itself suffers from internal leakage. so i mean the thing where the acc. sphere is mounted on. the garage should be able to test this.

## 61 Comfort Spheres

Well to be exact, we do not really have a \_new\_ XM, but our 1989 XM 2.0i certainly drives like new with 2 new front spheres (at Hfl 100,- (50 US\$) a piece) and all the other (5) spheres refilled.

Until last friday I thought our XM was not optimal in suspension comfort in the normal-mode and pretty hard in the sports-mode. I was wrong ! Our XM was bad in normal-mode and stone hard in sports-mode !

Friday I went to Cypharse in the Netherlands to have the spheres checked. As it turned out the two outer front spheres were dead and almost dead, the inner sphere was 10 or 20 bars low. So basically the cars front suspension consisted of the inner sphere alone. On the rear axis things were not that bad, all spheres were 10 or 20 bars low in pressure.

We replaced the two front spheres with two so called "comfort spheres", these spheres have slightly bigger damper holes which makes the suspension softer. The inner front sphere was just refilled. On the two rear spheres we made the pressure a bit higher then normal (this also makes the suspension a bit softer) in order to adapt to the new front spheres. The inner rear sphere was also just refilled. (Refilling the spheres costs Hfl 100,- (50 US\$) for five (5) spheres.) The accumulator sphere was also refilled.

As a result our XM now is really very comfortable. The difference between the XM and a DS is not too much anymore now !!

I can really recommend to have the pressure of the spheres in your XM's checked, and I can also recommend those "comfort-spheres", they really bring a XM close to a DS regarding suspension comfort.

### Series II

Has anyone put "comfort spheres" in an XM with Hydra-active II suspension? What difference did it make to the car's behaviour whilst driving, apart from (hopefully) improving the ride? I've got a new(ish) v6 Exclusive, and the ride just isn't as good as my DS or CXs.

====

Is this your first XM? Suspension may be a bit harder on XMs but roadholding and handling

is better than on DS and CX. Don't try any tricks with comfort spheres. If your XM really is a new one, the suspension should be much softer than earlier XMs. I think you just have to get used to it.

I did (I own a DS, CX and XM) too but it took a while.

If you want to be sure, have the spheres checked. Some XMs have been in stock for quite some while. Spheres loose 1-3 bars pressure every year when they are in stock. Also check tyre pressures.

## 62 Diravi on an XM

Steve,

As far as I heard it, all the early LHD 3-litre XMs had DIRAVI steering. So my July 1989 Issue of Car tells me, anyway. Shame we never got it here in England. Doesn't Diravi sound so much nicer than "Varipower"?

Just out of interest, what is the derivation of the name, Diravi. Is it from the French for Direction Assistee?

Regards, Keith

## 63 Electro-valve and hard ride

Hello my friends

For some time now I have been trying to discover why my Mk1 XM suspension rides hard.

I have fixed the earth problem in the front wings.

I have checked the spheres; as I thought two had lost internal pressure because the fluid level in the oil tank fell so as the warning lamp flashed. This turned out to be a small leak in a hose.

Now I have a theory that I would like to share with you... sorry if you have heard it before :-)

When I have driven the car with the rear door open (as when carrying some timber the other day) I found that the suspension was lovely and soft and quite comfortable. I switched from auto to sport and the ride went hard..OK. Then I tried switching back to Auto and the ride remained hard..OK. Next I switched off the engine and restarted with Auto selected and the ride was soft again.

So I got to thinking...If when the door is open, the car switches the electro-valve to a position to 'equalise' the hydraulics, (apparently to avoid sudden drops in the body when you start engine with extra weight in car) then leaving the door open and starting the engine makes the computer keep the electro-valve in soft position.

So to keep the ride soft but still have sport over-ride so to speak, all I need to do is cut the wire going to the computer from the rear door boot lamp switch.

Have any others come up with this solution and tried it out ?

The correct solution I suspect is to find out why the computer selects hard all the time... I think this is most probably one of the sensors for steering, brake, body position etc. that has gone faulty. Difficult to find.

=====

Your on the right track,

all of the doors including the tailgate are conected to the suspention ecu,so that it can antisipate a load,so check your door switches, also check for a dry solder joint on the electro valve resistor,

this can be found by removing the ecu cover, it's the big green one that stands up from the pcb.

one more thing to check is the small inline filters, one next to the safty valve and one inline from the main accumulator.

=====

Hang on didn't this guy say that the ride was softer with the door open. I thought the idea was that the suspension hardened up with doors open so as to reduce movement when people get in and out.

=====

## 64 Electro-valve diagnostic

Andy Burnett supplied a serviceable ECU which when commented to my car resulted in the car changing immediately to AUTO. Changing back resulted in a rapid return to permanent Sports mode. This was good enough proof for me but Andy suggested I run with it for a few days in case it was the electro valve that was the culprit. The car was sheer luxury to drive but my good lady threatened me with dire consequences if I even looked at the selector switch and so it remains AUTO selected to this day.

### Diagnostic light

Thanking Andy profusely I now started work on his suggestion of fitting a diagnostic lamp wired to the electro valve to allow the driver to observe when the electro valve was energised (Soft) and De-energised (Sport). This would indicate when each sensor was operated and would be an extremely helpful device for future fault finding. A simple enough job with cable entry to the car being the most difficult and as this was going to be a permanent fitment I positioned the lamp and bracket in the aperture below the radio. It's cheaper than a CD player and more useful. Remember, the operating voltage of the electro valve is 5- 6 volts but a 12 volt indicating bulb will give adequate illumination.

### Checking the ECU for faults

The old ECU was opened and the circuit board removed for examination under an illuminated bench magnifying glass. No visible damage to components was evident but a few suspected dry soldered joints were noticed, one very bad with a component (resistor) actually loose. I passed the board to an electronic friend of mine who examined, confirmed, removed the protective varnish and resoldered the offending joints. As a born optimist he informed me that everything would, not should, work correctly again. This I will try sometime in the distant future when I feel confident enough but it would be ironic if this was the answer to all our problems DRY JOINTS.

(Thanks to Jim Davidson and the CCC)

## 65 Hard suspension

I am having trouble with 'hard' suspension as well. It is soft when the engine is first turned on, but goes hard when the car is driven. This implies an electrical problem, possibly with one of the sensors. I made the mistake of taking the car (XM 2.0si 1990) to a Citroen dealer (Sands of Bernham, near Slough) to have the computer tested. They immediately recommended changing three of the spheres (problem - I've had them all recharged recently, and there quote was \*very\* high). I insisted that they test the computer, which revealed a problem with the accelerator sensor. At this point, the dealer was stumped. The mechanic simply didn't know what to do, and wanted to charge me labour for looking through the manuals to find out how to proceed. I decided to get my car back, and was presented with an 86 UK pound bill. (35 pounds for re-earthing the computer, 26 pounds for testing the computer, 10 pounds for a road test + parts + vat).

I paid up (mutter mutter), and have performed a bodge job which works fine until I sort my problem out. I have connected the electro-magnetic valve (located almost directly under the driver's feet on the RHS rear of the front suspension sub frame) which switches the suspension between 'sport' and 'normal' directly to a 12v power source (the battery). By means of a switch I have located next to the steering wheel, I can now switch the suspension between 'sport' and 'normal' at will. I have disconnected the computer from the electro-magnetic valve, but left everything else intact. The handling of the car doesn't appear to be too adversely affected. There is more roll on corners, and the car 'rears up' slightly during acceleration, but the car is still kept steady during braking and doesn't bounce around when being driven at speed on the motorways. The big plus, of course, is the ride is now lovely and soft again.

I have gone on to test my accelerator sensor with a multimeter. It gives varying resistance readings as the lever on it is moved, implying that it is still OK, although I'm not sure. I plan to try and source a second hand sensor and to test the wires between the sensor and the computer.

On earlier models the electro-magnetic valve makes a very distinct click when it is turned on to engage 'normal' suspension. If this isn't heard, then it may be part of your problem James.

=====

I have all along suspected an electro-magnetic valve, but had not come across any other believer. On both occasions that the ride has reverted to the magic carpet-ride, I (stupidly) moved the switch from Auto to Sports and back again, to see if I could replicate the soft and magical ride. But no, it was back to the old harsh ride with the rear almost seeming as if the spheres were empty. So it looks as though a connection is not activating an electro-magnetic valve.

Finally, what is the little taped-up ballast resistor for, situated just in front of the box containing the computers ?. I disconnected it and drove down the road. The suspension acted as if the ride-height was on the high position. I quickly reconnected this little whatever.

Once again George, thanks for suggesting a whole new approach. It would also be interesting to hear the responses from others with similar problems.

## 66 Height correctors

### Maybe its binding struts

The problem you mention most probably lies elsewhere, provided the sphere seals are not leaking. Try raising and lowering the car a number of times, it may clear the height correctors. Your problem may be the front struts binding. I can send a gif. showing what happens to cause the BX strut to bind, I believe the XM front suspension is similar.

### Overhaul

Height correctors can't be overhauled (in the sense I understand this word) by normal human beings. They are machined with an accuracy in the range of 1 micrometer and that is pretty difficult to do !! Apart from that they hardly wear out. What you can do is clean them internally (that is easy enough), after removing them from the car (I don't know how difficult that is on a XM).

### Greasing up a height corrector

Instead of looking for a "sticking valve" I would search for a "sticking height corrector control rod". Just crawl under your car (please use proper car stands !!) and try to find the height correctors and the control arms that are connected to the anti-roll torsion bars. On a XM (in contrast to a DS) these control rods have bearings mounted to chassis on one side.

On older XM's these bearings are made of brass or copper (or so) but on newer XM's these are made of Teflon (or so) (I was told so by my Cit dealer). These older bearings (copper or brass) tend to get stuck, or heavy going after some time because of corrosion. In that case the height control of the car doesn't work properly any more and you have a car that is driving in a suspension position that is too high (or too low theoretically, but I didn't notice that on my car). Now we all know that the suspension of a Citroen with hydraulic suspension gets (much) harder when we put it in a higher position !

Moving the car from its lowest position the heighest and back a few times will loosen up the control rod bearing for a while but not for long. But putting some grease on the bearing works !! I did that myself on the front bearing of my 1989 XM. The bearings are hard to find and hard to reach however. Of course it would be better to remove the bearings and grease them properly or exchange them with the newer type. (My Cit dealer suggested the last option)

## 67 How to change the spheres

> I managed to change my front spheres quite easily at the weekend. But does > anyone know how to free up stuck fast rear spheres, wouldn't budge under > the extreme force of my chain wrench?

====

Keep engine running and car in driving position height. Turn rear spheres 1/4.

Turn bleed screw on accumulator.

Lower car to lowest position.

Remove spheres.

====

I understand that the centre rear sphere is the most difficult to remove.

One clue I have heard is that the spheres may still be under hydraulic pressure and that this will lock the thread.

There is a way of releasing the pressure that remains in the centre sphere even after the main system has been depressurised.

If you find out how to do it please let me know.

====

\*\*\* De-pressurising the hydraulic circuits takes 12 pages in the handbook...For some operations special equipment is required.

## 68 Hydractive 1 and Hydractive 2 explained

Three computers or ECUs were in use during the Hydractive I phase and each was different from its predecessor.

### H1

The first one was fitted to most 'G' plate vehicles and had external anti-jolt diodes, which were also housed in the computer box at the o/s/f under the bonnet. You can identify these as like old type in-line fuses, i.e. 2" long black plastic pods.

### H2

From RP no. 4859 the next ECU, stamped 'H2' replaced the earlier ones and it had internal diodes.

### H3

From RP no. 5539 (approx. late J-reg.) along came the next ECU, stamped 'H3' and it brought with it improved parameters allowing greater leeway before switching to 'Sport' mode; more importantly, it coincided with greatly improved wiring looms and the elimination of the stupid and troublesome earth-blocks under the bonnet on each front Fitch panel and elsewhere, and replace them with simple, sound, earth blocks, secured on the same points by nuts and serrated washers.

If your XM is one of the early ones with these earthing blocks, I strongly recommend you cut them off and solder on M6 earth rings and likewise re-secure to earth with serrated washers and nut.

In all these H I systems, the ECU given signals from its five sensors (steering wheel, accelerator pedal, body movement, road speed and brake switch) compared them with inbuilt parameters and either energised or isolated the (one) suspension electro-valve. When energised, the electrovalve allowed fluid passage to the central sphere on both axles (soft mode) when the vehicle rides on the diaphragms of all three spheres on each axle. When the electro-valve is not energised (firm state), the central sphere on both axles is cut off, as is all cross-vehicle movement of fluid and the vehicle rides firmly on its four isolated outer spheres only. This firm state can of course be chosen by the driver by the over-ride switch in the cabin, but, in truth, the system could be extremely annoying in that it automatically switched to the 'firm' mode all too readily, even when operating correctly (e.g. traversing a sweeping motorway bend) and of course, if a fault occurred anywhere, the system cut off the supply to the electro-valve and thus, an unnecessary and annoying lack of comfort at times.

### Enter Hydractive 2!

As from RP no. 5929 (approx. mid-'93) - ECU marked 'H4' - a totally different system as used by the then new Xantia VSX was introduced. In this system, the main differences from previous ones are:

(1) The single electro valve, which controlled via hydraulics the lock-out of the centre sphere on both axles is replaced by two new electro-valves incorporated in new-style stiffness regulators at the centre spheres on both axles. Both operate simultaneously on the system switching from 'Soft' to 'Firm' mode and vice versa.

(2) The H4 computer now has two sets of inbuilt parameters, one for 'Normal' suspension and one for 'Sport', i.e. there are now two suspension stiffness states and two damping

states. Further, the new design of the stiffness regulators, incorporating a simple ball-valve automatically cuts down body roll by preventing cross-body transfer of fluid between the suspension units on both axles. This allows the parameters governing the change-over from 'Soft' to 'Firm' mode to be changed for both settings giving a more comfortable ride.

The difference compared with the Hydractive I system is very obviously much improved giving the vehicle a much more comfortable ride over a much wider range of manoeuvres and speeds than was allowed previously, and with no corresponding increase in body roll. The operating principles and sensors are as per Hydractive 1, the only change being the fitment of a one-piece steering wheel sensor, which has been in use since RP no. 5852. The markings on the suspension switch in the cabin now reads 'Normal' and 'Sport', with the dot-matrix message likewise modified.

With the introduction of the 'New XM' with its many, many improvements internally and externally, came the addition of the anti-sink suspension system. This incorporates a specific antisink valve, which acts as a lock within the suspension hydraulic system, with an extra 500cc accumulator sphere housed on the rear axle to 'back-up' the system, thus preventing the vehicle from sinking down on its stops for a much longer period of time. It does not affect or interfere with the Hydractive part of the system.

The electronic speed sensor, which previously fed information to the Hydractive ECU now shares the information to drive the electronic speedometer now fitted, with the sensor itself modified in that it no longer drives a speedo cable.

There are slight modifications to the latest Hydractive ECUs, mainly with regard to different parameters to cover extra weight or torque features in some models, e.g. the 25TD models, but the operating principles and features remain the same to date.

(Thanks to Andy Burnett and the CCC)

## 69 Hydractive 2 suspension

All of the foregoing might be true of the Mk 1 XM but it is certainly not true of Hydractive 2 suspended cars. I say might because although I have never driven a Mk 1 car, those road tests I have read make no mention of these phenomena - see Jints comments below.

On the Hydractive 2 cars, there is no subjective difference in ride quality at all between Normal and Sports settings - both offer a level, smooth ride with very little body roll. Where there is a difference between the two settings is in the handling - in Normal mode it is typical big Citroen - understeer (albeit slight). In the Sports setting, handling becomes more neutral (although understeer still occurs in extremis) and the steering feels sharper with more precise turn in.

The XMs ride is not perfect - it still doesnt like short frequency undulations or sharp discontinuities in the road surface such as are to be found on some British motorways which are surfaced with enormous great concrete slabs. There is a section of road on my way home from work over which the XM feels very choppy. Driving my wifes non-Hydractive Xantia over the same stretch was a revelation - the Xantia was much smoother. However, the Xantia rolls much more in the corners and understeers far more strongly than the XM, all of which conspire to make the Xantia significantly harder work to drive quickly.

Other oddities with the XM are its propensity to adjust its attitude when stationary in traffic queues, the transmission of road noise into the cabin - though whether this is down to the low profile tyres or not is a moot point - and a slightly harsh low speed (below 50mph/80 kph) ride - but then every hydropneumatic Citroen suffers from this to a greater or lesser degree.

The XM is not however the latest iteration of the hydropneumatic system - that honour belongs to the Xantia Activa and the following comments are based on one test drive of about 15 minutes duration a year or so ago. The Activa felt just like the XM but without any noticeable body roll. As a drivers car, it has few peers but I suspect that passengers would find it less satisfactory since they will be thrown around the interior of the car due to much higher lateral G forces than are comfortable or are likely to be found in a more conventional vehicle. The problem is that the high levels of grip coupled with the lack of roll and excellent handling encourage press-on motoring. Certain aspects of the Activas ride were worse than that of the XM - low speed ride was harsher and the attitude adjustment was even more noticeable including as it did both lateral and diagonal rocking accompanied by hissing when stationary. Road noise seemed more marked too.

I believe that Citroen were of the opinion that you can get away with a very soft ride on cars with (relatively) low performance. However, cars with high performance must have the handling/ride dichotomy biased in favour of handling and this is what happened with the faster CXs and BXs. Where the Mk 2 XM scores is that it provides a better reconciliation of these two conflicting requirements than almost any other car. On the Activa, the balance is tipped slightly closer to the handling end of the equation.

And Jint Nijman added

>If this is the case with your car there is something wrong I would think.  
>The difference between "sports" mode and "normal" is certainly clearly  
>noticeable, but a good XM doesn't become so hard that it will "rock your  
>hard".  
>I'm talking about a series 1 XM (with hydractive 1) here. Newer XM's should  
>even be better.

See my comments above.

>I never got this feeling in our XM (1990 model year). If the suspension  
>get harder in corners it feels like it is going on a rail road track (I  
>mean it is exactly going the way you want it). Quite different from all the  
>DS's I drove for example !

Exactly - it goes where you point it - without fuss or drama - although tyre squeal can be readily provoked.

>I do have the feeling that the system switches to "sports mode" far to  
>early in a long Autobahn curve. As soon as I get above 140 km/h the  
>suspension gets harder in almost any significant curve, this is a bit  
>uncomfortable but not really dramatic.  
>As I understand it, this was improved on later XM's.

Again, see my comments above. Driving on de-restricted Autobahnen recently at 200 kph plus did not result in any noticeable hardening of the suspension when going round curves. The only time the suspension draws attention to itself is on short frequency undulations, discontinuities in concrete surfaces and at low speeds. The rest of the time it is utterly unobtrusive.

>"Sports" setting on a XM is still more comfortable than a Opel Vectra for example !

Having had a (Vauxhall) Vectra 2,0 16V as a company car a couple of years ago, I confirm this. In fact I would go as far as saying that the XM offers a better ride than anything I have ever driven (and that includes a long list of DS, SM, GS, GSA, CX, BX and Xantia). Yes, some of these may offer a softer ride but it is at the expense of pitch, yaw, body roll, dive and squat - all motions that bear little relationship to the road surface but which are indicative of a certain lack of control. If you couple this with the high levels of understeer (masked in the SM and CX thanks to DIRAVI) which these cars provide, this makes for a less pleasant driving experience than is offered in the Hydractive 2 cars - and less pleasant for passengers too, especially those who suffer from motion sickness.

Of course this discussion really ought to be taking place on the XM List so I have copied it there so that people with more experience of the Mk 1 XM can have their say.

Julian Marsh

<http://web.ukonline.co.uk/Members/jr.marsh>

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Wanted!

Neither Dead Nor Alive

Schrödinger's Cat

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## 70 Hydraflush

I've just had a revelation and thought I'd share it with those of you who have similar problems.

My 1990 G 2.0 carb model had been getting very lazy at pumping up and was equally quick dropping (about 5 mins), I replaced the LHM with Hydraflush and within an hour's running it's changed to a car that pumps up in less than 10 secs from overnight standing and stays up for hours (oh , fond memories , but that's another story !). Also the steering is much improved and the ride's better too !! So take my advice , if you've got over 100k on the clock , flush the system & get a new car !

=====

This is remarkable. After 100K the car sinks sooner and rises slower because of a worn brakeservo or command (don't know the word in English). This was shown last week at a technical event by Citroën in the Netherlands. I don't see how hydroflush can help if one has a worn brake thingy?

=====

I agree, this is most interesting, what other effects did this stuff have Mark, did it help free up the front suspension (some say it helps get rid of the creaks and groans on strut suspension).

Apparently Arthur, the rear brake pressure on the BX leaks off thru the "Brake Valve", which causes the back end to droop quickly after stopping. This flushing stuff, which is pretty expensive, must free up the seals.

Mark, I am sure the BX list would be interested in this as well.

=====

Arthur .. yes it surprised me too ! Another 200 miles and it's still getting better !

Chris .. yes it has helped the creaks and groans and the pump's quieter too !

As to the cost , £15 supplied & 'fitted' by my local specialist ( in Plymouth UK), I leave it in for 1000miles and then change back to LHM. I reckon that to be very well worth it!!

=====

Were all the filters and the tank cleaned out when the fluid was changed?

To use the cleaner, just change the fluid (cleaning filters and tank), then put in the flush instead of new fluid. You will need to bleed it through the brakes.

After about 1000miles of normal use, repeat the change & clean. Again, bleed it through the brakes - everything else is bled from the main bleed screw

### In and Out

Just how thorough do you have to be when changing LHM.

Presumably you just change what is left in the reservoir when you are at minimum height. So there is always old LHM left in the pipes.

Same question goes when you use this hydraflush stuff. Would the people who have actually used it come forward and actually tell us the procedure they have used to get it into and out of the LHM system!

=====

I used hydraflush in my XM recently.

Lower the car and most of the LHM will return to the reservoir. It is 'impossible' to get all of the old LHM out and it is also unnecessary. Most important thing here is to clean the filters. I myself used brand new filters which cost about US\$17.

Fill the reservoir with hydraflush and drive the car for about 2000 kms. The old LHM that was left will be mixed with the hydraflush and clean the pipes, height correctors, pump and valves. After 1 day one experiences that the car rises within a few seconds to its driving height from cold start on. After 2000 kms remove hydraflush and clean the filters again. Fill up the reservoir with nice clean TOTAL LHM and bleed the system using the bolt on the accumulator.

ONE CAN SIMPLY AVOID THIS BY CHANGING LHM EVERY 2 YEARS OR 40,000 KMS MAXIMUM!!!! OF COURSE ONE SHOULD DO THIS FROM THE BEGINNING. SO IT'S NO USE STARTING TO TREAT THE LHM SYSTEM WITH CARE AFTER 100,000 KMS!!!

#### **From the CX list**

Buy a gallon of LHM system flushing fluid (the one I got was Total brand - are there others?) and a gallon of LHM (try Andysparses, Plaeides or M&C Lockwoods).

Interestingly the LHM I got from Lockwoods was made by Morris lubricants and apparently is supplied OE to Rolls-Royce for their hydraulic systems - I know Royce pay royalties to Citroen for use of the system for height correction only - having conventional springs for suspension.

Set the car to the low setting on the height selection switch / lever.

Turn the pressure release valve screw on the accumulator body 1&1/2 turns (usually 12mm spanner) and leave for a few minutes so that pressure is released from the system and most of the fluid is returned to the LHM tank.

Release and remove the filter housing from the top of the LHM tank and wait for all the LHM to drain into the tank (the filters hold about 50cc but it seems like a lot more than that when its running onto the floor...

Unhook the stay bar that hold the LHM tank in its cup holder arrangement and remove the tank from the car - carefully so as not to spill the old LHM.

Remove the two filters from the mass of pipes that are left hanging down - one is a cone shape that locks inside the housing, the other is a D shape which clips onto it.

Empty the LHM somewhere suitable (local authority collection point for used engine oil or some such DO NOT PUT IT DOWN A DRAIN - ITS ILLEGAL).

Clean out the tank and the filters and sometimes theres a disc filter in the bottom of the tank. Use petrol or white spirit to clean up.

Half fill the tank with the flushing fluid (it looks pretty much like normal brake fluid and is a bit un-nerving to put in the LHM tank) and place it back in its holder and lock it back. Fill the tank to about three quarters full and replace the top with the filters back in.

Re-tighten the pressure relief valve, set the height selector to normal and start the engine. Hold the revs at about 1500 until the suspension comes up to normal height, then set the selector to "high".

With the engine running, top the tank up using the float sight. Drive the car normally for a few weeks with the flushing fluid in - it will act just like normal LHM. After, say, a month repeat the above process but replacing normal LHM in the tank. To be pedantic, you should bleed the brake systems through both times as well.

An addendum to when this was typed was that I hadn't bled the brakes through and I got - you guessed it - some kind of air lock - hard to see how, but when I bled them they felt a lot better - cured the slight

braking judder at low speed that other listers have spoken about (the I are about a year old) and also seems to have cured the intermittent ABS fault.

## 71 LHM

### Molycote

I learnt from my local Cit dealer that one can add molycote to the LHM. This would serve several problems.

It would for example make the pistons in the suspension cilinders move smoother.

Anybody tried this?

“Arthur mentioned adding graphite or molydisulphide to LHM, I have a feeling the black stuff found in the bottom of new LHM oil containers may be this.”

### LHM change

My suspension got worse \*after\* I changed the LHM fluid! Now can you explain that...

Seriously, my only explanation is that you have not tightened the spheres up enough. There was one report in the CCC magazine that said that suspension ride problems were cured when the spheres were tightened up further.

(But be careful - all things in moderation)!

### Rotten ride

Has anyone experienced XM Suspension problems on 2 litre early XM's (1989-90)?

Took of all 4 corner spheres and refitted them, had an improved ride for a short journey, then back to the rear finding all the pot-holes. would welcome suggestions and views.

Sticky valve? I have to regularly raise my car to its highest position then lower it again. I get a little thump and everything is fine for a while. I'll get someone to take a look at this one of these days. It's annoying.

“One possible explanation for this is gummed up/jammed height correctors. They are at both the front and the rear of the car and open to the elements. Try giving them a good clean and a grease. Tell me how you get on if you try this.

I had both my height correctors overhauled at Pleides the hydraulic specialists some 3 years ago. They do a very good brochure and price list of Citroen stuff.

### Bleeding the system

Hi, Just changed the LHM and had oddities with the brakes.

Re bled all 5 points again VERY thoroughly and all problems vanished.

I have come to the conclusion that all the problems that get blamed on the ABS are simply related to inadequate bleeding of the system. Was it Alan that said that there is no way the ABS unit could introduce delays and other problems into the system, he is right.

=====

### Hydraurinqage

Folks! Hydraurinqage is made by Total, and is sold in an orange coloured 5liter can. The power steering on my XM is now 200% of what it used to be.

Important is that you change it for normal LHM again within max. 5000kms. A little bit earlier might be even better.

Before I put Hydroetcetera in my XM the LHM was BLACK and so where the filters.

I think changing LHM in an XM needs to be done every 40,000 kms at least!

=====

Pleaidés in Cambridgeshire sell a fluid called 'Hydroflush' for cleaning out LHM systems, which I think is similar.

I tried it last year, and it seemed to improve things a bit. The instructions just say that you should cycle the suspension a few times, operate brakes and steering, and then leave it overnight. I drove 100 km or so with it, but no further - perhaps I should have kept it in for as long as Paul suggests.

### Leaks

I put the car up high and gently dab around with a white tissue. Sure enough I get tell tale green stains and see the odd drip. Where is it coming from – we couldnt find an obvious leak.

=====

I had a XM LHM leak once which entailed replacing the power steering ram. It was a 1992 model and the guy in the garage said they often go.

====

May be from the upper bearing of the power steering control valve, very slow but not self sealing.

### Exercise

Good habit is to regularly do some "hight workout". i.e. with engine running alternate between lowest and highest position. Your neighbours might think you're a bit loopy but hey, you ought to be, you have a Citroen :-)

This can clear a clogged hight corrector.

### From the CX list

I try it on my CX25GTI (serie 1, 1984, 200000 km). It was magic : my CX now gets up in less than 20 sec. It took before more than 2 minutes to 'wake up' ... Power steering is softer, no more hydraulic noise at all when I turn it. Suspension is more better : quicker.

You need to throw away old LHM, clean the 2 filters before, just fill with HydroClean (Hydraurinqage ).

Drive with it for at least about 2000km, even if the notice tells you to keep it only 500km. After 500km, you will see the first effect of the cleaning.

Keep hydroclean about 2000km as far as you can. You will see, after about 2000km, the chemical characteristic of hydroclean changes : strange dynamic reaction of the car like you have unpressurized sphere suspension. Don't worry : it is just time to put some new real LHM. Don't forget to clean again the 2 filters which must be dirty ...

**Brake lines**

How to replace LHM ? Haynes manual method does not seem to bleed all the pipes to the wheels etc.

I am replacing the front brake pads on Sunday so I will attempt it then.

**Rear suspension not rising**

Changing LHM on a XM may cause some problems due to air that got into the LHM hoses. After the last LHM change on my XM it wouldn't rise for about half an hour.

I think you should wait with the change of the rear legs until you're absolutely sure that that is the problem. Also you shouldn't pay for the height corrector and have your own one put back into your car.

You have to try to bleed the system a lot of times and then the car might rise again. You could also try some hydraulic fluid, LHM cleaning stuff that has to be changed again after 3000 kms of driving.

**LHM and Dexron**

General feeling is that LHM is the only stuff to use - everything else has different frictional properties and viscosity profiles, even if it is compatible with the seals. On semi-auto Ds, it makes the gearshift decidedly odd, apparently. On an XM in the UK, I'd say you'd be mad to use Dexron (which is more expensive here than LHM).

And as for expensive - from what I've seen, stateside it's about the same price as here in the UK, but you pay approx 1/4 what we do for petrol. Now stop complaining. (grin)

If you use the proper LHM, you won't need to replace it twice a year, every 18 months or so should do.

=====

**Hydraulic Fluid and Filters**

The importance of changing the fluid every two years and cleaning the hydraulic filters regularly cannot be stressed enough. A properly maintained system makes

a Citroen an absolute delight to own, abuse it at your peril. My XM was suffering from jittery and heavy steering and loss of hydraulic pressure on start-up. You covered the process of renewing fluid recently, just one tip I'd like to add. Remove and clean the hydraulic filters (mine were absolutely black, dealer serviced from new?) in a strong mixture of detergent (washing-up liquid ideal) and warm water, scrub carefully inside and out with an old toothbrush. Rinse well and blow-dry with a hairdryer. Results in perfectly clean filters, and you don't end up stinking of petrol!

If after renewing the fluid and having primed the pump, etc., you can't get any hydraulic pressure on start-up, as I couldn't - panic! - I discovered an airlock in the pump supply pipe at its lowest point, and rectified it by removing pipe from pump, dropping end below the lowest point until fluid flowed out and quickly reconnected pipe to pump. Fluid everywhere but it was the only option left.

After all this the hydraulics were better but still not right, the pump was working overtime, slow operating suspension, etc. Accumulator sphere maybe? But I'd had it recharged only three months previous, and I've had no problem with recharged accumulator spheres in the past contrary to your article recently. On investigation I found the accumulator sphere was very loose, hence the low pressure. Always make sure spheres are tight. All was OK then. just the brakes to bleed now (removes all old fluid from lines, changing the fluid in the reservoir doesn't renew this fluid!) after I've renewed discs and pads.

=====

The annual clean up of the filters is fairly simple and is an opportunity to clean up an area under the bonnet that always seems a bit mucky. I siphon off or pump out as much of the LHM as possible, with the suspension in low and the maximum of LHM back in the tank.

=====

Having replaced the reservoir and LHM, the car was fired up and the hydraulic failed to pressurise. After 10 minutes of revving I remembered something from my days at a GSA owner. So I released the bleed screw on the accumulator/ regulator . . . primed the pump intake tube with LHM . . . and after refitting the tube the engine was run for a minute or so to bleed the pump/accumulator circuit.

## 72 Link rods/stabilisers

If this was not enough the suspension/wheel at the front drivers side (RHD car) is making a hell of a noise when travelling over badl laid/repared roads. I have tried tightening the wheel nuts but this made no difference. Does anyone know what this is before I drag myself and my wallet to the Citroen garage? I had a similar problem with a BX but the noise was louder and less frequent, unfortunately somebody wrote my car off before I could find out what it as and get it fixed by the garage that I bought it from.

You'll have to change the stabilizers. This is a general XM failure. In Holland they cost about 70 guilders each which is about 20 GBP. It's very easy to do it yourself.

=====

The problem mentioned sounds like the internal bumper stop plate and snap ring which retain the internal rubber buffer have come off. A strut overhaul or exchange is probably needed.

=====

I had both Links rods between the front wheels and anti roll bar replaced as there was a knocking coming from the front offside (RHD) on rough roads (of which there is nothing but, where I live). The knocking sound never really went away, but now it has become a duller, deeper and more repetitive thud (still only on rough roads and when going over potholes etc.) Is there anything else that could be making this sound I have heard that the steering ball joints make this noise but that this is all the time?

=====

The front suspension of my XM makes pretty loud banging noises. According to my Cit-dealer this is due to worn out torsion-bar connect rods (the vertical rod between the suspension cylinder and the torsion bar).

Is this also your experience ?

And is it easy to replace those rods ?

=====

Hi, Yes, Yes

A bit of heat maybe required at the top end. Use a very wet large rag with someone spraying water on the rag at the same time. The rag to cover the brake pipes and other items behind the connect rods

=====

I recently had this problem - it was very annoying. When last serviced the joints to the anti-roll bar we replaced, now I only hear the noise from the wheel bearings/gearbox. The parts we quite cheap and the labour was not excessive.

The car has done about 115K miles now.

=====

i replaced both link rods in under half an hour so your garage charged you 180 gp per hour not bad .your other noise sounds like a drive shaft coming to the end of its life,will go along time before complete failure i do not know what these cost in uk but i fitted mine in under two hours a side,

=====

Another XM problem is wear of the suspension arm.

The only way to solve this is replacement of the complete part. Deep inside the arm is a kind of teflon ring that makes the noise. It cannot be replaced.

Cheapest option is turning the radio volume up.

=====

### **SUSPENSION LINK RODS**

These have had to be changed yet again. I am given to understand that a new supplier has been found by Citroen. Certainly, the old heavy adjustable rod has gone and a simple rod replaces it (at reduced cost, too!). This is very easy to change as all you need to do is remove the wheel and undo the two lock-tite nuts and then lever down on the torsion bar to remove. The new one goes straight back in by the same process and there is no adjustment possible. Peace now reigns at the front end!

## 73 Noisy hydraulic pump

>can anyone tell me if you can rebuild xm hydraulic pump as mine is noisy, or must i buy anew one and how much do these cost. also which fuse number converts the outside temp.display fromcent. to

fahr.regards andy e,mail abairsto@hotmail.com

====

The hydraulic pump on my XM was very 'raspy' until I spotted a leak from my pressure regulator. Once I had replaced the pressure regulator, and repressurised the system, the hydraulic pump stopped making any noise!

====

you don't actually specify where your leak is. Mine was from the pressure regulator (seperate from the pump as I'm sure you know). Initially I had hoped that one of the pipes connected to the regulator was lose. However, the leak was from the end of the regulator itself. I couldn't repair it, and so removed it, and installed a second hand replacement. I don't know if the pump is a serviceable unit or whether it is a replacement job. Definatly check for leaks in the connections with the hydraulic pipework before buying any expensive components though.

## 74 Pressure Regulators

I'm having fun with the hydraulics on my XM. I have a 1990 XM2.0si which has developed a leaky pressure regulator. After tightening everything up, and speaking to Citroen, it turned out that it was broken 'internally' and needed replacing. I purchased a second hand replacement (ukp 45 + vat from Europarts), and fitted it.

The problem is, the suspension wants to be in rock hard mode all the time. If I start the car up and raise and lower the suspension, it goes 'soft' and I can bounce the car around, but after a few hundred yards of driving, it goes hard. Having not worked on XM hydraulics before, I suspect that I am not bleeding the system properly. I've read something about the high pressure pump needing to be primed etc. Does anyone know the proper procedure to be followed? One thing I should mention is that the suspension was behaving like this shortly before I changed the leaky pressure regulator, as well as after. The spheres were recharged four months ago.

====

This is a standard problem with all early XM's

It may be caused by bad earthing on any of the wiring that applies to the suspension or it may be caused by poor joints in the suspension computer.

### **Self-bleeding**

The suspension and steering circuits is self-bleeding - if the car rises, it'll bleed itself.

The brakes are bled as normal. If the pump needs priming (after taking the reservoir out), then no LHM will get to the pump, as it'll be sucking air in only. The car won't rise.

I'd say it's time to change the fluid, and it probably needs a damn good clean - there's stuff out there that you put in in place of the LHM to flush it all out, then change it for LHM after a while. If it's soft at first, then it's unlikely to be the spheres flat.

## 75 Re-gassing vs replacing

Some facts about spheres:

1. Initial static factory pressures are given at 68F./20C.
2. If you lay your hand on a sphere after a long drive you can feel that the temperature of the spheres are a lot higher than 68F./20C.
3. Nitrogen escapes not only through the diaphragm but also through the body.
4. Diaphragms get torn if they are driven at too low pressure. Under normal conditions the diaphragm will never hit the end of the sphere where it will get torn due to the sharp assembly inside (only welded type spheres)
5. The sphere, the closests to the exhaust manifold usually goes first.
6. Re-gassing should be done slowly. Too fast means that the temperature will drop way too far (see 1.).
7. Re-gassing should be done with the correct "dry" nitrogen.
8. Temperature and fluid-quility effect the life of a sphere more than age and use.

A recharged sphere will be equally good as a new one if the residual pressure was not too low and if it's done properly (see above).

The choice "recharge or new" depends on what you have to pay for recharging, if it can be done locally and if not, what you have to pay for shipping.

Recharging usually cost US\$ 12,- up to US\$ 27,50

New spheres cost US\$ 40,- up to 65,-

(Ex. shipping, at current bad exchange rate)

CITROEN ANDRE // CXA // ANDRE POL

<http://home.worldonline.nl/~citandre>

<http://home.worldonline.nl/~citandre/icccr.htm>

[citandre@worldonline.nl](mailto:citandre@worldonline.nl)

## 76 Rear Suspension Bearings

### Rear Suspension Bearings

The old Achilles heel of all hydraulic Citroens from the CX-on.

Wouldn't you think that Citroen would have learn's from the past and tried at least to improve on this design. It is in enhance a good piece of engineering but once a few years have passed by the damn things always give trouble, unless of course the lubrication modification has been carried out by a past careful owner. Invariably this has not been done.

I'm not going into the modification details as it has been mentioned many times within the Citroenian pages, but I will mention that when I dismantled my rear arms to mod. them up I found no trace of grease at all and the bearings had started to crumble.

This on a car only five years old is quite disgraceful. I think the 'penny pinchers' at PSA have gone a little far with not including lubrication where the eye can't see. I now have the replacement bearings (from Andyspares at a very reasonable cost) and seals, and will carry out the relatively simple task of fitting very soon.

If you intend to keep your XM I would recommend a peek at these bearings. Wear can be detected by pulling and pushing the relevant arm with the wheel off and looking for any undue movement at the pivoting end of the arm. However, as I have found on many past Citroens, this can be quite misleading and the only real test is to dismantle the arm on a bench and inspect thoroughly. Sorry, but that's the way it is! A point of note is that the bearings themselves are relatively cheap, but if left unattended can cause immense financial outlay (bolts, thrust washers, spacer bar and even a new arm or secondhand off a CX or XM if you can find one).

Worn rear suspension bearings can cause the car to wander, which may appear at first to be a tracking problem, until you find that the front tyres are not wearing unevenly. When bearing wear is extreme the rear wheels will appear splayed, the rear ride quality can become stiff and a squeaking noise will be heard from the rear on any suspension movement.

(Thanks to Kevin B Spruce and the CCC)

=====

### NOISY SUSPENSION

This has been cured after a discussion with Andy Burnett - what would we do without his expert advice and depth of experience! I drilled a small hole in the rear suspension arm so that a pressure oil gun can be used to re-lubricate the rear suspension bushes/bearings without the need for a massive strip down. It works! Now, many readers may be familiar with Andy's description of doing this to the old CX. If you have his writings on the topic, it is well worthwhile going through the process all over again, so dig out the back numbers of the Citroenian. As the XM has virtually inherited the CX GTi rear end, the task is nearly the same. Remove the back wheel, with the car suitably and securely raised and then remove the rear disc plate/shield (three set screws).

This will allow access to the arm, using a slim power drill to drill a 4mm hole right through the alloy suspension arm, feeling for the moment that the drill goes through to the steel pin. Stop drilling at this point. Take steps to remove the swarf from drilling after the job is done. Pump in some reasonably heavy oil, until it gently pumps back from the hole. Protect the drive from drips if that is where you do the job! Result? Within a few miles all creaks and groans have gone and I do declare that the ride from the back is better. By the way, Andy tells me that even NEW Cits. can have a jerky rise to ride height if the height corrector linkage is sticky, so while you have the opportunity, do this job at the same time. My car was very slow to rise at the rear and then suddenly (with much groaning) she would rocket to the correct height. Not any more! All is silky smooth and reasuring once again.

## 77 Refilling spheres

I don't agree with Arthur. Refilling a sphere makes sense but only if the= membrane (diaphragm) is still ok of course. Cypharse (in Soesterberg) refills spheres for Hfl 20,- (this includes getting the sphere off and on the car). New spheres cost Hfl 100,- or so.=

You might also consider getting the so called "comfort" spheres if you ne= ed new spheres and if you like a DS like ride

Jint

=====

Do as Arthur says it will save you time and further expense.

When we tested so called refurbished units there was a mish masm of varing pressures.

## 78 Sinking feeling

I start up in the morning, it takes quite a while to pump up, (as you know from my past epistles, I've cleaned system & changed fluid etc!) then appears OK. However I turn the corner at the end of the road (10 metres) and then after about another fifty metres the front suspension drops to the ground - whilst moving!- then comes back up again fairly quickly. It's very unnerving and I get some very strange looks from people coming the other way !!

## 79 Sorting out the suspension

Suspension of my XM (engine 3.0 24 ventils, 5 years old) has been too hard since few weeks. If switch is in position "Automatic suspension", then front suspension is hard, rear is correct. Nobody knows, what to dowith it. Has anybody had a similar problems?

====

You can do several things to solve the problem:

- 1) You could open the switch and clean it.
- 2) you could reset the hydractive computer by disconnecting the battery for 10 minutes.
- 3) Change the LHM fluid and do this every 40000 kms!!!!
- 4) Bleed the system 3 times
- 5) Check the front height corrector
- 6) Spray WD-40 or similar on each connector that is part of the hydractive system.
- 7) If these do not work, buy a new XM. Todays 3.0i-24v is a better car.

### **Opto-sensor**

Try all the sensors for Hydractive mode, because if there is a fault condition the car will lock itself into sports mode - this isn't indicated anywhere on the car unless you want to rig test gear up to the solenoid!

The worst is the opto-sensor on the anti roll bar... being under thecar, it gets a lot of dirt and stuff nearby...

## 80 Spheres

Well, they don't last for ever. They can lose pressure so that they just need a recharge or they can suffer actual damage and require replacement. The cost of replacement can be very high if a large number needs replacing. There are seven spheres on an XM, you can see two of them at the top of the suspension struts under the bonnet and one hiding behind the radiator.

But how does the suspension actually work? Ah, I thought you might ask that one. The spheres are gas filled and the vehicle basically bounces along on the gas. Of course, it's not quite that simple. In the Hydractive type I system, there are three spheres to each axle and an accumulator sphere. Two spheres on each axle provide suspension for each corner of the car and the one in the middle is used to link the two at that end of the car allowing fluid to flow from one side to the other as the car corners and from end to end as the vehicle accelerates and brakes (and hits bumps, etc). When in 'sport' mode, a valve is closed which isolates the four corner spheres, this results in a harder ride and is done to cut down on body roll. The computer decides what mode should be used at any time by reading parameters from five sensors (steering wheel, accelerator pedal, body movement, road speed and brake switch). The Hydractive 2 system is similar except for the use of two valves instead of one and a different set of parameters. The new system allows for a wider range of 'circumstances' to be allowed for and a better ride has been achieved with no increase in body roll. This new system also incorporates an 'anti-sink' valve which prevents the XM sinking as fast as the older model once the engine has been turned off. Thanks to Andy Burnett and the Citroenian, the Citroen Car Club Magazine

### I thought you said the spheres were gas filled!

They are. There's a diaphragm in the sphere keeping the gas and the hydraulic fluid apart. The fluid allows the balance and height of the vehicle to be changed as the gas is 'compressed' by body movement. The pressure for the hydraulic system is provided by a pump feeding the accumulator sphere. Ride height can be varied by changing pressure. The higher the pressure, the higher up in the world your car will be.

What else should I know about the accumulator sphere? The accumulator sphere acts as a damper for the output of the pump. Without this damping action, failure of a number of components would be very likely in short order. Failure of this sphere is usually accompanied by fairly loud and regular ticking noises from the front of the vehicle (every few seconds). It is important to fix this problem without too much delay since hydraulic failure will stop your vehicle in its tracks. You can test for this condition by following this procedure: You should start the engine, wait until the car assumes normal ride height and then push your foot on the brake pedal. You should be able to apply it between 16 and 25 times before you hear the clicking of the pump. It's a relatively easy task to recharge or replace the accumulator sphere. The life expectancy is about 100 000 km. Thanks to Julian Marsh

What are the **problems** with the Hydractive type 1 suspension?

The computer controlling the suspension relied on some dubious multi-point earths. Some early XM's still have the old earthing blocks which can cause lots of problems. See the electrical questions sections for further details. Problems here result in the suspension being switched to 'sport' mode for no apparent reason, resulting in an annoyingly harsh ride. The parameters used by the computer to determine which mode the suspension should be in are a bit stringent and result in switching to 'sport' mode when the driver would not expect. Around late J-reg (RP 5539 and above) the computer (stamped H3) had more generous parameters. The H3 stamped ECU also came with an improvement to the wiring loom, the multi-point earths which caused so many problems to earlier XM's were dropped Thanks to Andy Burnett and the Citroenian, the Citroen Car Club Magazine

## 81 Spheres - replace or regas?

Hi arthur

I dont agree with you. I have done so, replace all sphere instead of filling it. Then I 1 1/2 year later let my local service man check the spheres, the front one only held 25-30 kg presure, it should be 50-60 kg, I suppose. He refill them and the car were much better in the suspension than before. Thats i different i ride. I mean do I replace them with new one. The car is a V6 1992 wich today had cover 100 000 miles.

Urban

=====

It's nice that you mention this. Before I mounted the new spheres I checked them myself on the pressure machine. Two of the seven new spheres had about 5 bars short of pressure. I ordered two new ones. The other six spheres were only one bar short of pressure, f.a. my front suspension spheres in my XM turbo should have 50 bars pressure, they had 49 and 48. This means that when the spheres leave the factory in Caen(F) they don't even have the adequate pressure. BUt the fact that the diaphragm is new gives the car a comfortable ride anyway. So probably the most comfortable sphere is a new one and regass it with 5 bars more pressure than required.

And on the other hand, it depends how one drives his car. The diaphragm is still a soft membrane than can tear if one drives like a maniac. You aren't surprised if I tell you that most right front spheres (left front in the U.K.) go first are you?

Arthur

=====

### Sphere Re-Charging

The saga was nearing completion but one thing continued to nag me whether or not the spheres needed charging. A comment often made, when a suspension problem is proving to be troublesome is 'your spheres need recharging or changing.'

This did not I ring true but the unknown state of my spheres did arouse my curiosity, therefore at the National Rally I managed to have all seven spheres checked and re-charged by Doug, from Westroen. They were all down in pressure, one front sphere at a fifth of normal pressure, the rest between half and two thirds down. Contrary to popular belief, my personal feeling is that the car is not quite so comfortable as it was before recharging but maybe I was expecting too much. The car is certainly improved on hump-backed bridges and the like, feels better on cornering with less body roll and together with the knowledge that the spheres are now up to specification, makes the expense well worth while.

In conclusion, I hope that my jottings have been of some use or interest to those of you who own one of these fine but sometimes troublesome cars.

(Thanks to Jim Davidson and the CCC)

=====

### SPHERE INFORMATION

Andy Burnett has now corrected my short guide to XM spheres. Here are the basics, and I have a lot of information available in addition to this, so ring me if you think I can help. I will publish more later.

Main Accumulators - always fit genuine new Citroen replacements.

Main Front Spheres - fit normal replacements (see later) when your Hydractive system is working correctly' If the Hydractive is NOT working properly, some relief can be gained by using BXspheres which run at the same pressure as the XM. The BX 500cc sphere will just fit the XM and if the Hydractive system is naff, fitting a sphere with a 1.65 by-pass orifice will give you a much softer ride. As Andy says, a 500cc sphere will have more resilience than the 400cc unit.

New or Recharged?—Phil Wells (dive le Citroen, Keston, Kent) says always fit new spheres. He has had good results from pattern parts from Belgium, which are cheaper than genuine Cit. parts, but he advised me to fit only a genuine main accumulator. The well-known names in re-charging can be relied upon to do a good job with refurbished spheres and I have had many readers extolling the virtues of those who advertise in the magazine.

## 82 Spheres with less damping?

Hi!

Is there anybody out there who knows a manufacturer that builds XM-spheres with a lower damping-rate than the standard-spheres? IMHO, the gas-volume is ok, but the damping is too high and is responsible for the "rough-ride" compared to real Citroens like a DS. Okay, the Xm isn't bad, but it could be better ;-) My current Xm got modified spheres, but these simply provide a bigger gas-volume which results in a suspension which is far too smooth (and probably dangerous...).

For my next Xm (which I ordered these days, the 3rd one) I would really appreciate a "citroen-like" suspension.

Any hints?

Harald Krake (mailto:harald@krake.de)

=====

Subject: Spheres with less damping?

The original spheres have small damper holes in them.

Rear spheres 0.5 mm , front spheres 0.7 mm.

Increase the diameter with 0.2 mm.

So the front spheres would become 0.9 mm and the rearspheres 0.7 mm. If you increase more than that roadholding will become absolutely dangerous.

Viel erfolg!

Arthur

=====

Subject: Spheres with less damping?

Could you explain this a little more Arthur. I know the basics of how the suspension works, but not the details of the actual spheres. I presume it is fluid going through the hole and this is what is providing the damping action. Hmm... thinknig about it, a diagram would be useful...

Regards

---

Richard Williamson

Email: --- richwill@innotts.co.uk

Home page: --- <http://www.innotts.co.uk/~richwill>

William Crane School homepage: ---

<http://www.campus.bt.com/CampusWorld/orgs/org2823>

=====

Subject: Spheres with less damping?

I never thought that the new "citroen-high-tech-spheres" are as simple as the old DS-spheres where the dampers could even be replaced separately from the sphere (you're right: my DS runs perfectly :-))

Is this really all about? A simple hole? Not even several layers of metal-plates with some magic arrangements? Did really nothing happen in the past 40 years?

Hmm... I'm a little bit disappointed...

Enlarging from 0.5mm to 0.7mm gives essentially half the original damping, which I think is really "challenging".

Do you have any experiences with +0.1mm ?

This would lower the damping for the front-spheres by 1.44 and for the rear spheres by 1.31 (if a hole is really all about citroen-dampers...). Wouldn't that be a good compromise?

=====

Subject: Spheres with less damping?

Hmm, I thought those so called "comfort spheres" have holes that have a 0.1mm bigger diameter. 0.2 mm sounds like too much to me.

I think that Cypharse told me that the damper hole is 0.1 mm bigger on comfort spheres.

My XM has "comfort spheres" on the front axle. They are ok. If they have a 0.1mm bigger damper hole, then 0.2 mm bigger is certainly way too much !

regards

Jint

=====

Subject: Spheres with less damping?

The standard XM comfort spheres comes with a 0.1 mm wider center hole.

We have tried 0.2 and 0.3 wider, also 0.1 (0.2) front and 0.2 (0.3) rear and most people prefer the 0.2 version.

But, it depends a little bit on your driving style and how much you want to compromise.

The larger the center hole, the slower you can take "speedbumps". Personally I prefer 0.2 extra, front and rear.

CITROEN ANDRE // CXA // ANDRE POL

<http://home.worldonline.nl/~citandre>

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[citandre@worldonline.nl](mailto:citandre@worldonline.nl)

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=====

Subject: Spheres with less damping?

Do you know where to buy these spheres? My Citroen-Dealer has no idea (or doesn't want to know...)

--

Harald Krake (mailto:harald@krake.de)

KRAKE SOFTWARETECHNIK            phone: +49 7722 9508-0

Bergstr. 48, 78098 Triberg        fax: +49 7722 9508-30

<http://www.krake.de>, <http://www.krake.com>

<ftp://ftp.krake.de>, <ftp://ftp.krake.com>

alias mail-accounts: [hostmaster@suedwest.net](mailto:hostmaster@suedwest.net), [info@krake.de](mailto:info@krake.de),

[harald@krake.com](mailto:harald@krake.com), [harald@krake.net](mailto:harald@krake.net)

=====

Subject: Spheres with less damping?

Today I visited my citroen dealer. He showed me a sphere that is used for the current Xm-production. There are no damper holes! Probably the holes are covered by a metal-plate which seems not to be removable.

Did citroen change the spheres so that nobody can modify the damper holes anymore?

Greetings,

=====

\*\*\* No Harald,

but you mixing up damper holes and the center hole. The hole in the center works like a by-pass; undamped hydraulic fluid flows freely through this hole. Large center hole; less damping. Small hole; more damping. While the rest of the fluid will be damped, going through the holes that are covered with metal plates. Actually these metal plates are called valves. The hydraulic fluid has to push them away in order to pass. Thick valves; a lot of damping. Thin valves; less damping.

CITROEN ANDRE // CXA // ANDRE POL

<http://home.worldonline.nl/~citandre>

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## 83 Sport/Auto self changing phenomenon

I also had problems with the auto/sport "self changing" phenomenon, I found the immediate and total cure to be simply removing ALL the earth 'Lucar' connectors & blocks on the two inner wings behind the headlamps and fitting ring terminals which were simply fitted straight on to the mounting studs revealed when the blocks were taken off. Easy !! – Later cars already have this feature fitted.

=====

Something I forgot to mention is that when the suspension is working normally, moving the Auto/Sport switch on the console causes a telltale on the dashboard to light up after a very short delay. When it's locked itself into Sport mode, moving the switch doesn't cause the light to come on. Does this give a clue?

=====

I mentioned a while ago that my '92 XM2.0i was sometimes locking the suspension on the "hard" setting for no apparent reason.

A couple of people suggested the earthing points on the front wings. My car didn't have the earthing blocks as described, but spade terminals. Nevertheless I took them off, cleaned everything and reassembled them with a bit of petroleum jelly, and for two or three weeks everything worked perfectly.

Today it stuck in "hard" again. I remembered that I'd set off in a hurry, turning the key straight from off to start without waiting for the diagnostics. Could this have been the cause?

I have also formed the hypothesis that when it sticks in "hard" the system can be tricked into going back to normal by stopping and opening the door. I've tried this twice, and it worked each time (today without even stopping the engine). Does this make sense?

=====

I have heard that early XM's can appear to set the suspension into sports mode if the front wheels are not pointing forward when the ignition is switched on. The sensor on the turning angle is read when the ignition is first switched on and this is assumed to be the straight ahead position. As you can see when the wheels are then turned to be straight ahead the computer believes you are now turning a corner and isolates the 3rd sphere.

=====

I understand that one of the most likely causes of intermittent switching of the suspension to "sport" is poor connections within the suspension computer.

One of the three semi sealed electronic boxes on the right side of the engine bay contains this computer.

Get someone who is an electronic engineer to open up and examine all the printed board contacts, preferably under a Ledu magnifying lamp.

## 84 Suspension

On Hydractive 2 cars, the switch is actually quite useful - handling becomes sharper and there is improved damping as a result of selecting "Sports" suspension. Ride quality is unaltered. AFAIK on H1 cars, selecting "Sport" ruined the ride.

According to the 97/98 French and Belgian brochures I have, the XM is (was?) still available with "normal" hydropneumatic suspension on base petrol and diesel models.

=====

Subject: Suspension question

Arthur is correct as, to an extent, is Andre.

Let's begin with where I believe Andre to be right:-

Points 1 through 5 and 8 are indisputably correct.

However, if a sphere loses pressure and this is not due to damage, it is because the diaphragm has become gas permeable. Recharging a sphere therefore serves little purpose other than to line the pockets of the person doing the recharging. Once the diaphragm has become permeable, no amount of regassing will cure it. If ride quality has deteriorated to the extent that something must be done, it is reasonable to assume that the membranes are porous.

However, there is an alternative to replacing the spheres with very costly Citroen "pieces d'origine" - pattern parts - made to the same standards as the originals but approximately half the price.

Someone mentioned that "Comfort" spheres are available (these are probably pattern parts) - my understanding is that these convert the sharp handling XM into an ersatz DS - soggy handling becomes the norm.

Finally, remember that we are not just talking about ride comfort here - there is also the matter of safety to consider - and a car, any car (including a Citroen) with compromised suspension components is an accident waiting to happen.

Julian Marsh

<http://web.ukonline.co.uk/Members/jr.marsh/index.html>

## 85 Suspension computer

When investigating the suspension computer wiring on my XM I was surprised to see that there was a connection from the courtesy light to the computer. Apparently this is to provide an anti-jolt function !! The idea is that when you open any door or tailgate with the ignition off, the suspension computer is switched on, it then opens some sort of valve which allows the pressure in the suspension to equalise as you load heavy passengers or luggage into the car. If it did not do this then there would be a big jolt when you first turn on the ignition after loading something heavy.

## 86 Suspension Explanation

Citroen hydractive suspension

Citroen was a pioneer of sophisticated suspension design, launching their unique self-levelling hydropneumatic system on the DS model of 1955.

Hydropneumatic suspension works on the principle of having a nitrogen gas spring (very similar in construction to the accumulator used in an ABS actuator unit) connected to the suspension arm by means of a hydraulic ram. The ram can be lengthened or shortened (and hence the ride height altered) by changing the pressure of the fluid supplied to it. Pressurized fluid is provided by an engine-driven pump and supplied to each spring through a network of small-diameter pipes. Pressure, and therefore ride height, is regulated by mechanical control valves that sense the body-to axle displacement at each end of the vehicle and distribute the fluid accordingly.

Although hydropneumatic suspension was a spectacular success when first launched, its superiority became less evident as conventional suspension systems were progressively improved. To restore the appeal of their hydropneumatic system, Citroen took the decision to add computer control. This system, first seen on the XM model, is called Hydractive suspension. It gives exceptional ride comfort, combined with precise wheel control when the need arises.

Hydractive operation

The major components of the Hydractive system are illustrated in Figure 7.24. It is a semi-active suspension system that offers two spring rates ('Sport' and 'Comfort') and two damping forces ('Soft' and 'Firm').

Hydractive uses hydraulic rams acting on, nitrogen gas springs. The big difference is the inclusion of a third gas spring for each axle. During

normal driving the microcomputer-based ECU actuates the solenoid valves to bring the 'third spring' into the hydraulic circuit of each axle. This increases the volume of compressible gas by 50% and so reduces the suspension stiffness, improving ride comfort. Damping force is also reduced, since each solenoid valve additionally opens an orifice to permit fluid to flow between all three springs on each axle. Conversely, when the ECU decides that driving conditions demand a firmer suspension setting, it actuates the solenoid valves to isolate the 'third spring' assemblies from the system and stop the transverse flow of fluid between the main suspension struts. This results in an increased spring stiffness, firmer damping and an anti-roll characteristic.

### Sensors

The ECU responds to eight signals; position of the control switch (SPORT or COMFORT), steering wheel position and rate of turning, vehicle speed, accelerator pedal movement, braking force, body displacement and door and boot light switches. The steering wheel and body displacement sensors are of the twin photo-interrupter type and operate in a similar way to those described for the Mitsubishi ECS system.

The vehicle speed sensor, which is shared with the instrument pack, is a simple Hall-effect detector installed in the final drive housing. A take-off shaft, which is driven by the gearbox output shaft, is fitted with a polar ring (a magnetic ring composed of several alternate north and south poles). The Hall-effect detector faces the polar ring and produces a small Hall voltage pulse (about 1 mV) each time a north pole moves past it. The gearing is arranged such that one pulse is obtained for each 20 cm of vehicle travel, giving a highly accurate method of speed measurement. Accelerator pedal position is derived from the throttle position sensor; a conventional rotary potentiometer is used. Braking force is measured indirectly, using a pressure switch. When the fluid pressure in the braking circuit exceeds 35

bar the switch is open circuit and so the ECU input rises to 5 V. This indicates firm braking. If the brake pressure is below 35 bar, the switch grounds the ECU input, indicating a low braking force. The SPORT switch is a dashboard mounted switch that allows the driver to select a suspension control program that is more suited to fast or 'sporty' driving.

#### Actuators

The Hydractive actuator units are solenoid valves termed 'electro-valves', which are fitted to each 'third spring' (Figure 7.25). With no power applied, the electro-valve is held in the OFF position by a strong return spring. This isolates the third spring and so places the suspension in the FIRM mode (two springs per axle) with FIRM damping. To switch to the SOFT state (three springs per axle, mild damping), the ECU energizes the electro-valve. This is accomplished by supplying the coil with maximum voltage (about 13.5 V) for a half-second to 'pull-in' the plunger, and then 'chopping' the current at 1 kHz to obtain a 'holdin' current which averages to about 0.5 A. To safeguard against open or short-circuited solenoid windings the ECU uses 'smart' transistors which continuously check for the specified coil resistance (about 5  $\Omega$ ). The output current is shut off if an incorrect resistance is detected, and the system defaults to the 'FIRM' mode.

[Image]

#### Hydractive ECU

The Hydractive ECU is a sealed unit mounted in the engine compartment. It uses two microprocessors to validate, compare and perform calculations on data obtained from the sensors to estimate longitudinal, lateral and vertical body accelerations. To determine the optimum suspension setting for

the prevailing driving conditions, all sensor values are continuously compared with pre-programmed thresholds (which are adjusted in proportion to road speed). Normally the ECU maintains the electro-valves in the ON state and so the suspension operates in the SOFT mode. However, when a sensor value exceeds its threshold, the microprocessors make a decision to switch the suspension to the FIRM state and the electro-valves are de-energized. This process occurs very quickly (less than 2 ms).

Once the sensor value drops below its threshold, and after a pre-set time delay, the suspension is returned to the SOFT setting.

When the driver moves the SPORT control switch to the SPORT position, the ECU lowers the signal value thresholds by 33%. Thus the suspension system still switches between SOFT and FIRM modes, but it switches to FIRM far more readily.

[Image]

I am indebted to Eric Chowanietz the author of Automobile Electronics from whose book this section has been lifted without permission.

If you are interested in vehicle electronics then this is the book to get!

ISBN 0-7506-1878-7

## 87 Suspension question

In the UK, ALL Xms had Hyperactive - Mk1 had "normal", Mk2 has Hyperactive II. All with, will have the switch. Pointless though it may be....

## 88 Suspension strut drama

A big BIG disaster just happened on a friends V6 Series 1, the right hand suspension strut mounting let go and the sphere etc. has punched a hole thru the bonnet (hood). The whole rubber support on the suspension tower gave away.

Has any one ever heard of this happening before.

====

It happened to me a few months ago. I had just parked my car went inside got some stuff. When I came out I noticed a bulge in my bonnet. When I opened the bonnet the strut top was forcing the sphere onto the rim of the body. It was that rim under the hood that stop the struct from pushing right up. I opened the bonnet and left it up. In the days to follow the strut came right up out of the engine compartment. After this the other side went while the car was still down.

====

I guess this is the rubber mounting only that is failing and not the steel pressing that forms the mounting point. XM's resist rust.

The first question to ask is. Was the car driven with the suspension spheres low pressure or with the setting on 'high' as either of these conditions would hammer the mountings.

Another possibility is under bonnet heat affecting the rubber composition, especially on the V6 version.

## 89 Suspension V6

I got myself a new job and bought XM V6 Ambiance (Ambiance = with ABS + lots of el. stuff: type only in the Netherlands?) from 1991 (12 valves, ORGA NO. close to 4950) a few day's ago.

Lots of small work to be done. The first thing done is to get the spheres checked at my local CX specialist next week. He claims that a XM V6 has 8 spheres. Another Citroen specialist told me about 9 spheres (only V6) and the XM Faq only mentioned 7 spheres (only 4 cyl?).

I want to be sure that my local Citroen specialist won't forget 1 sphere, so can somebody tell me the truth?

How much spheres do I own and if there are more than 7: were are the extra spheres used for?

=====

There are seven spheres on your XM, six for the suspension and one that acts as a pressure reservoir.

Recharging the spheres with nitrogen gas should cost the equivalent of £15 sterling each. Replacing them with new spheres should be about £28 each.

=====

If you have a 1991 V6 organumber 4950=29 may 1990 you should have: 2 rear spheres 1 rear hydractive sphere 2 front spheres 1 front hydractive sphere 1 accumulator and 1 extra brake accumulator sphere in combination with the Diravi power steering. That makes 8 spheres in total.

If you don't think that's enough , buy a Xantia Activa, they have 11 spheres.

Tell this garagist of yours to replace the spheres with new ones instead of refilling them. It's a waist of money.

## 90 Suspension variants

BTW: Does anyone here know what variants of the hydraulic suspension have been used in the XM? As I understand it, all Citroens with Hydractivesuspension have a switch to select between "normal" and "sport" modes, but my '96 2.1TD does not. Also, compared to a 2.5TD I considered buying (which had this switch), my car is missing one of the "black boxes" (ECUs) placed front left under the bonnet.



# The brakes

## 91 ABS and Brake delay.

Hmmm... far be it from me to put my spoke in where others obviously have more experienced spokes, but I feel the need to add my experiences to the fray:

After work to the hydraulic system on my 24v, I experienced problems with the brakes. In my case, any pressure on the brake pedal took approx 1.5sec to be transmitted to the brakes. This caused much distress and near accidents, until I took the car back and waited while the brakes were bled (from the actual calipers). They were then fine.

Now, I haven't studied the XM braking system in any great detail but I assume that there is a single hydraulic line going to the caliper, through which pressure is transmitted to the pads. I assume that if air somehow manages to get into this part of the line, the only way to remove it would be by bleeding from the brakes. I am eager to be corrected on this however.

Does this sound reasonable?

Regards

---

Richard Williamson

=====

Right on all counts Richard.

Air in the hydraulic lines close to the brake callipers will cause an alarming but usually very brief braking delay.

The air in the space needs to be compressed before the pads can start to pinch the discs. In a conventional system 'pumping' the pedal does just this. On our system where we just release pre-pressurised fluid into the calliper pipes the delay is an obvious result.

Your 'Brake malfunction diagnostic certificate' is in the post.

Harry

=====

It doesn't just sound reasonable - it is right.

The hydraulics for the suspension and steering will bleed themselves - they have return lines for the air to come back to the reservoir - but the brakes cannot bleed themselves. They will need manually bleeding. If the ABS is the problem, though, I can't see it'll help.

## 92 ABS OUT OF USE showing on display.

Has anyone cheaply corrected the fault indication of 'ABS OUT OF USE'. This indication is common in all XM's, even the latest, and appears without rhyme or apparent reason. Many months and thousands of miles/kilometers may pass between appearances and it quickly corrects itself when the car is next used.

=====

One of the ABS sensors is faulty. The only solution is to replace it/them. The wire is worn but sometimes the connection is just O.K. It's not safe to drive with a worn ABS sensor. I CAN TELL YOU!! I KNOW!!!

Arthur

=====

I don't know very much about the ABS-system, so I think I'm missing the point; Why would it be dangerous to drive with a worn sensor? My sensor is worn, and I'm planning to cut the wires and connect them with a 1000 ohm rheostat.

As I see it all that could happen is that the ABS would really stop working, and then I wouldn't know about it. I'll just drive more carefully (which you should always do).

=====

Thank's, I guess I'll by a new sensor instead of by-passing it.

Am I right when I conclude that the sensor is not just sending alarms, but it also takes active part in the braking?

=====

If the sensor is faulty, the ABS computer receives wrong signals. One of the odd things that happen is that ABS starts working when nothing is wrong at 5 MPH. This appears often when braking and taking corners at the same time. Then again, only when doing 5 MPH.

I replaced my sensor 16 months ago and never had the problem since.

=====

The sensor sends pulses as the wheel rotates, allowing the ABS unit to determine the wheel's rotation speed. If you simply short the wires to the sensor the ABS unit will think that the wheel is locked, and release pressure to the brake on that wheel to try to get it rolling again.

Fortunately the ABS unit is smart enough to quickly understand that when it still doesn't get pulses from the sensor, the sensor must be broken. (It has to be, otherwise a sensor fault could easily lead to disaster). It will have to make this discovery anew each time the ignition is turned on however, as it uses this "event" to reset itself (in case someone fixed the problem when the ignition was off).

DISCLAIMER: I don't know any details of the ABS system in the XM; what I've described here are merely general working principles.

=====

I really do feel that the fault expressed by Glyn Roberts on 16 October is an 'air in brake circuit' problem.

ABS sensor problems should not cause brake failure as a 'fail safe' function must, by necessity be built in.

If any vehicle was to suffer catastrophic brake failure whenever the exposed and sensitive sensors gave up, it would be immediately recalled by the manufacturer.

Removing all the sensors or even just cutting all the connecting cables should leave the vehicle with fully functional brakes with no ABS.

If Fredrik has an ABS OUT OF USE indication it should be safe to continue to drive remembering that only the sophisticated anti block function is lost.

Will do some experiments on my Exclusive with sensors disabled.

=====

I might be wrong but this happened to me too many times on 3 XMs!!!! My 1st XM suffered from this problem and it was never sold. My second XM suffered from the same symptoms and was cured after 8 visits to the garage. Our company XM also had the problems and was cured immediately after changing the front sensors. It is an electronic failure (apart from the ABS OUT OF USE warning), you can feel it. It has nothing to do with air in the system. BTW, the XM doesn't need any bleeding, the car will do that itself.

And again Harry, I know it doesn't make any sense what I'm telling you, but believe me, when you've experienced something on 3 cars, you MIGHT be right after all.

Good luck!

Arthur

=====

Disconnecting the sensors will not show the same behaviour as what we are discussing here.

## 93 ABS sensors

I own a xm2ltr sei 1990 and my abs error light keeps coming on when I come to a stop say at a crossroad, then goes out when I move off again. Local garage says it is the left rear sensor, so I change it at #74 plus vat. Same problem still, then I Measure out all sensors the left rear measures 2500 ohms, all other 3 1500 ohms.

An imbalance? garage says I have to change right rear to balance out rear axle.

No thank you,, what about supplying the correct one I ask, dont make them anymore is the reply, so I'm off to the scrap yard. any one had the same problem? all wiring and plugs cleaned and checked. I thought it maybe another earth problem.

=====

I have had many ABS problems on my XMs. Last XM was a real p.i.t.a. I had to change the left front sensor twice within 2 years and then the problem was gone, although all sensors give different measurement values. The cables on which the sensors are attached are not reliable. They are easily damaged inside because of steering etc.

We have had these discussions before, but my opinion is that it's the sensor cables that are the problem.

=====2

ABS- light comes on, and stays on, when first starting. Can be 'cancelled' by restarting engine (ie turning ignition off, and then on again) after travelling a short distance (from 1m to 1km!) Diagnostic tests indicate a problem with the left rear sensor. Solution, do nothing, alledgedly there is a batch of 'over sensitive' (?!?) ABS units which have been installed on some series 2 XMs.

=====

Hi fellow readers, well I tried putting a 2.5 kohm res in parallel with the left rear sensor so that at standstill they all read the same value ie approx 1.5 k ohms. It didnt work., because the sensor is a magnetic circuit and when the rotor on the wheel turns it induces in the sensor, or changes the magnetic field, and this is fed to the abs processor and of course we all know what happens then ????? Any way Citroen in Slough told me that one has to fit the same type of sensor on the rear axle, and that the pre 94 model sensor are unobtainable. The point I make is that if one rear sensor gives up the ghost, then its a case of buying a set, very expensive, GB pounds 74 + vat each. So I did go to the scrap yard and fir GB 15, got one, and it works, Thanks for all your comments and help.

=====

The reported change to the ABS sensors, post 1994, (and probably now sourced from the 'corporate parts bin' and therefore no longer XMspecific?) maybe goes some way to explaining the alleged 'over sensitive' system on my mk2 estate!

==

Regarding the guy with the Mk2 XM with sensitive abs. I would not have thought that the sensitivity of abs sensors would affect how soon the abs system operates. Surely the system only switches on when a wheel is skidding ie stopped relative to the sensor.

### ABS Warning Light- Mk2 2.0 16v

Any ideas on this one, as 'diagnostics' show that 'no fault' exists!

I have carried out my own 'experiments', and for simplicity, will describe the problem as follows:

On a winter morning:

Start vehicle, ABS warning light extinguishes.

With vehicle still stationary, and engine temperature at an indicated 65C, switch off engine and restart. ABS warning light now remains on.

Still stationary,brakes untouched, and engine now at (indicated) running temperature, switch off engine and restart. ABS warning light extinguishes.

On a Summer morning (higher ambient temp), ABS light remains on after first starting, but can be extinguished by restarting, when engine bay up to temperature(as above).

Clearly the fault is related to engine bay temperature, but which component?

If the diagnostics show 'no fault', is the problem in the warning light circuit?

Should I be looking for a relay somewhere?

===

The problems I had with my 2 XMs ABS where sensors that needed to be changed ,although diagnostics didn't show any faults. After changing sensors I never had problems again. Engine bay temperature may not have anything to do with it.

### **ABS out of use**

Can anybody help with this ABS query: I keep getting the "ABS Out Of Use" message on about 90% of my journeys (started baout 4 days ago). But it sometimes doesn't come on for 30 odd minutes or so, sometimes it's only after a couple. It seems to happen mostly in the hot weather we're having at the moment- it didn't happen last night when I was driving around midnight. Could it be because my brake pads are getting near replacement time? Or is it more serious?

=====

Your abs problem is most likely a wheel sensor playing up. These are checked after car starts rolling. To test disconnect connector and use a test meter to verify there is circuit. Front sensors go often about £80 new or go to breakers.

## 94 Bleeding the Brakes

Bleeding the brakes. Vehicles all types. Official operation.

Bleed the brakes with the suspension in the HIGH position after having operated the suspension as follows:

LOW>HIGH>LOW>HIGH

Jack up the vehicle with the road wheels hanging free.

Remove the wheels.

Cars with Bendix ABS:

Drain the hydraulic valve block

-Engine running

-Slacken the two hydraulic valve block bleed screws ( 5mm Allen key or 11 mm open end spanner)

-SLIGHTLY depress the brake pedal. Hold it depressed for a few seconds, then release it.

-Tighten the two screws to 0.9 m.daN

Bleed the brakes in the following order:

RH rear

LH rear

RH front

LH front

-Engine running

-Fit a transparent tube to the bleed screw and connect it up to a receptacle

-Press the brake pedal lightly or load the pedal with a

weight ( 5 to 6 Kg)

-Slacken the bleed screw, let the fluid escape till free of air bubbles

-Retighten the screw

-Top up the LHM fluid reservoir

XM fitted with ABS:

The circuit bleeding operation can be made easier by speeding the hydraulic valve block with the help of the Souriau 26A Station or the Elit test unit.

At your service,

CITROEN ANDRE // CXA // ANDRE POL

<http://www.worldonline.nl/~citandre> or

(temp) <http://home.worldonline.nl/~citandre>

[citandre@worldonline.nl](mailto:citandre@worldonline.nl)

## 95 Brake Disks

### Replacing the brake discs

While the front wheels were off to bleed the brakes, the opportunity was taken to check the thickness of the brake pad material and the discs themselves. Brake pads OK discs recording 22.5mm only! On this late model, the discs start at 26mm and should be replaced at 24mm. The piggy bank had to be raided to fund the purchase of a pair of discs at around £45 each (Citroen dealer price in the region of £120 each!)

To start off with the replacement, the parking brake levers on the calliper were levered back (brake off, of course) so that the cables could be pulled out of their locations. The tiny locking clip was pulled out of the retaining pin, which was itself then knocked out, which released the anti-rattle plate and freed the brake pads. The brake wear warning leads were then disconnected. The calliper assembly was then swung upwards and retained there temporarily while the piston in each calliper was pressed in while being wound clockwise back into the calliper at the same time.

### Calliper and disc removal

Removal of the calliper was by taking out the two 18mm bolts and it was then tied up out of the way. Then the two disc retaining screws were removed (cross head or torx screws have been fined at different times so get the correct tool ready fret). The discs fumed out to be almost rusted on to the hubs and had to be "assisted" with a lump hammer. The new discs themselves and their mating faces on the hubs were cleaned of dirt, grit, rust and grease before fitting.

### Checking the run-out

With the retaining screws tight and the calliper bolted back into position, it was possible to check that there was no visible run-out when the disc was fumed (0.005mm is allowed). New pads were fined and everything else replaced. The brake pedal was operated to make sure that the pads were in contact before driving off.

For those who would like to do the job more professionally, tools are available to back off the calliper piston.

Sykes-Pickeviant offer a superb tool, Ref. No. 660665 with adaptor for the XM Ref. No. 036109. at around £45.50;

Draper tools offer Ref. No. 33606 with XM adaptor at around £75 and Citroen Tool OUT10901 IT also sells at about £45.50.'

(Thanks to Brian Primmer and the CCC)

## 96 Brake Pads

Cost of front pads £22.84 UKP + VAT make Bendix from S & J Motor Factors Bradford

Bendix LHM £2.44 UKP per Ltr.

01274 723027.

Very easy to fit.

=====

## 97 Brakes

In my case, just a check and dust removal exercise. Watch the dust and spray with a dust subduing substance and wear a face mask to be really careful. Remember, release the parking brake cables by pushing on the operating lever and pulling off the cable end. Push the cable back out and under the car a little way, otherwise you will crack the outer casing of the cable. Pull out the pin retaining clip and drive out with a pin punch, the pin which keeps the calliper housing in place. You can then swing the calliper upwards, whereupon the pads usually fall out. If changing the pads, remember that the pistons must be rotated as they are pushed back into the housing to allow enough clearance for the new pads. I use an old hub puller of the bar type (left over from motor-cycle days) in reverse to push the pads back and a 3/4 " chisel to do the turning bit. You can buy a proper tool for this, or make one without too much difficulty. Ensure that the little pin on the pads slots between a slot in the piston face, or you will be in trouble here. It's very obvious what to do if you take your time over it. I would allow half an hour a side once the car is on jacks and the wheels are off. Use copper grease on the pins. In my case, this time the pads were OK, although the fronts will need renewal in the next 5,000 miles. Remember that as pads wear down, they are less effective in dissipating heat and may pass on more heat to the discs. My discs will need replacing (on the front) before 100,000 miles. Replace the pads in good time!

### Brake Pads

There is one item I MUST correct! In an earlier article in 1994, I explained how, working 'blind' without a manual, I changed the front brake pads. To do this, I removed the massive pivot pin which fixes the calmer housing to the brake support assembly. Philip Wells tells me this is NOT a good thing to do, because the pivot is given a coating of anti-shake fluid which 'bursts' as the pin is screwed into position, thus sealing the threads and locking the pin in position. I thought it was hard to get out! The correct way is to drive out the calliper locking pin on the lower front of the callipers (similar in fact to most front end set-ups these days on other cars), unhinge the parking brake cable and then swing the callipers upwards to give access to the pads.

The parking brake must be released for this operation.

If you need to buy the tool which screws the pistons round and at the same time presses them back into the housing, let me know. Philip Wells can get them for about £6 each and would not mind us having the address of the supplier. This would be cheaper than the Citroen tool, in all probability, and it fits on the end of a square drive shaft out of the socket set you all must surely have to hand.

## 98 Brakes not working

### Brakes not working - maybe its your spheres!

The car, being a turbo diesel estate of 1992 vintage will vary in some respects from the earlier and petrol and saloon models.

I cannot speak too highly of the assistance given by other XM owners when I was temporarily flummoxed. They will know who they are.

The first job was to find out why the foot brake suddenly developed a time-lag when the pedal was pressed. (Most upsetting for my passenger and me when I seemed to be making no effort to slow down, followed by a sudden deceleration). Air in the system was diagnosed and the brakes were bled, both front and back, resulting in the expulsion of a lot of air mixed with a black sediment in the drain container which seemed to point to no previous brake bleeding and/ or no fluid change in earlier life. For perhaps 50 miles the brake was OK, then the symptom returned.

Another thorough bleeding session gave a good brake at last. But, where had the air come from in this sealed hydraulic system? It was, of course, in the system already; compressed gas in the accumulator sphere! The diaphragm had split or punctured and released its contents into the fluid. Even though the sphere was dated August 1995 and it was only June 1996(whentheproblem came to light) the non-genuine sphere had failed. I wish I knew who fitted it in the first place a chisel had even been used to tighten it! With a proper chain wrench (and what an awful job compared with a CX) it was replaced with a service exchange unit from Pleiades, sadly not on a service exchange price basis.

As the front calliper brake nipples have a very restricted access, a thin-walled pipe is called for, so the fuel filler air bleed tube was borrowed and proved ideal. The LHM was replaced at the same time and its filters were petrol-washed a job that is always worthwhile.'

XMinations comments: I am convinced from both experience and other owners' experiences, that poor quality replacements, especially for the main accumulator, is not good practice. There is little doubt that having only one sphere to cope with brakes, steering and suspension, it has to be good. My personal view is expect to change them every two years. There is little doubt, again from accumulated (get it) experience, that many company-owned cars may have a full service record, but tend to get only the bits that break put right with scant attention paid to things like changing the life-blood of the car (LHM, of course). Well thanks, Brian. Next time, we will look at brake disc changing.

(Thanks to Brian Primrner and David Evans of the Citroen Car Club)

## 99 Front brake pads

Is there anybody out there that has any experience with replacing the front brake pads ?

Yesterday evening I spent about an hour screwing the piston back (on one side) so that the much thicker new brake pads would fit.

Maybe somebody invented a faster method of screwing the piston back ?

====

I don't think there is another way. I always use the garages tool and say that I will bring it back within half an hour.

## 100 Loss of Brakes

I have an XM 2.1 Turbo Diesel Automatic 1992 Right hand drive (UK registered and driven).

New brakes were fitted 1 month ago - all went well. The brakes work fine without any juddering (so I guess the discs are OK), however on occasions the brakes give total fade at about 5mph after normal braking from a higher speed - ie: there is total brake loss for about 1 second before the brakes then work again. No pumping is required to regain the brake - it just loses it for about 1 second then returns. Even at this low speed it is pretty disconcerting to have total brake fade, and I am concerned that this may be the start of something nasty (and expensive if I hit something!). Any suggestions please - thanks

=====

Try bleeding the brakes as this is a very common symptom.

Just letting a small quantity of fluid out of each of the four nipples with the brake pedal held constantly down with a broom handle may be the magic answer.

=====

This happened more than once on my XMs. It is a faulty ABS sensor. I took my XM to the garage 8!!! times to have this problem solved. THE 9th time we found out that it was a faulty ABS sensor. It is probably one of the front sensors (on my car the left one). Does the problem also occur while steering and braking in a corner? Many XMs fitted with ABS suffer from this problem.

Arthur Fryling

=====

I had exactly the same symptoms recently when I had both discs and pads replaced. I was told by the Citroen dealer that until the pads bed in, this is not uncommon. New discs added to the problem - due to soft disc material and hard asbestos-free pads. When used lightly, a glaze builds up. I was told to "test the ABS" a few times or drive down a steep hill on the brakes. It cured it without bleeding.

=====

Try bleeding the brakes as this is a very common symptom. Just letting a small quantity of fluid out of each of the four nipples with the brake pedal held constantly down with a broom handle may be the magic answer.

Alternatively, you could always ask your spouse/partner/lover/friend/child/neighbour to put their foot on the pedal..

## 101 Parking Brakes

### Renewing the parking brake cable

Since renewing the front discs on my XM, few items have claimed my attention, though having seen the parking brake cables looking a bit tatty, I took the precaution of obtaining a pair for replacement purposes when time allowed. As it happened, one day the front pedal controlling the parking brake went down quite a few notches further than usual and parking on a steep slope was inadvisable due to the resultant inefficiency. It turned out that the nearside cable had parted at one of the locating points and the rear half of the cable had actually dropped out onto the road and disappeared!

Luckily I have a friend who was willing to let me use his inspection pit and this made the replacement so much easier. The first job is the removal of the sound-absorbing plastic cover from beneath the engine/gearbox. A previous user had found so many of the captive nuts in the chassis so corroded/seized/missing that he had re-fitted the plastic cover with plastic cable-ties to support it. A sharp knife dealt with these and the mucky plastic cover then dropped down and was put to one side for later attention.

### Where is that compensating linkage?

At first look I just could not find the location of the compensating linkage to which the rear end of the cables were attached! Eventually, it was located behind a cover plate beside the exhaust pipe in the 'transmission tunnel' and two bolts had to be removed to gain access.

The cables, already released from the levers on the callipers, were then carefully traced along the tortuous paths through their guide loops before being pulled through to give space for their replacements. When these were eventually settled in place and loosely connected to the levers in the callipers, it was then the time to locate them in the compensator at the other end. At this stage, the shield over the compensator was left off because it was all too easy to push the inner cable back while adjusting it at the calliper end which, of course, released it from the compensator again. When the adjusting nuts at the calliper end were both finger-tight, a final check of the compensator was made to confirm its equal setting on each cable before replacing its shield. The parking brake was then applied four 'clicks' and final adjustments made at the calliper ends (equal amounts each side) until the discs were just free to turn. Then the lock-nuts on the cables were tightened. The final check was to ensure that both discs were immovable when between six and 12 'clicks' were applied.

The paths of the cables must be correct; both to provide a smooth track for easy operation and to prevent any fouling on other components underneath the engine/gearbox at all suspension heights.

The source of supply for the cables can, of course, be a Citroen dealer, but as the cable-life (even of genuine cables) is so relatively short and a pair of cables costs about £45 from the dealer, it seems logical to go to one of the suppliers of pattern parts (some advertise in the Citroenian) and pay less than £30. It's your choice!

(Thanks to Brian Primmer and the CCC)

=====

### FRONT PARKING BRAKE CABLES

Well, they are only on the front, of course! Mine were cracked and rusting, and as you may recall from my concerns at last year's MoT, do not inspire much confidence as stoppers on the move. I found that my parking pedal went down rather a long way, while we were away in France. The reason was very simple—one of the cables had broken totally in half, inner and outer. With the car secured up as high as possible, I traced the cables to a compensating device which links the two wheel cables with the single cable which comes down from the foot application pedal. This is located inside what would be a prop shaft tunnel on a lesser make of motor car. BUT, it is almost totally out of sight and reach unless you remove the heat shield which surrounds the exhaust system at this point. So, remove the four (10mm)

nuts and washers, disengage the shield and revolve it round the exhaust until you can set it aside. Much fine filth will by now have filled your eyes, ears and nose by this time! The important thing is to disengage the cables at the lever on the front calipers and to push the inners back into the outer covering. It's a bit of a fiddle, but not too bad a job to disengage the inner cables from the compensating linkage. Fitting the new ones is the reverse of removal, but I found it helpful to tape the cables at the wheel end to present the maximum free end where it is most difficult to work in encouraging the nipples into their resting places, viz up in the 'prop shaft' tunnel. Adjust the cables evenly to give renewed holding ability to your parking brakes.

While I was about it, I renewed the brake wear indicator wiring looms as both were broken and the MoT man would not like it. Cost? £17 EACH! The fixing points seem to have been changed on these replacements, ensuring that there is more loop in the cables, and hopefully, less risk of them breaking as frequently as they have in the past. Here's hoping anyway!

=====

Keith writes: 'a must for the tool box is a large screwdriver cut at the end with a "V" as this makes a great tool for releasing the (hand?!) brake cables which Jam on the release unit.' Now, this catastrophe has not happened to me (yet). Do any other XM-ers have experience of this? Come on, you lot, Keith is the only one to respond to this column (March '94).

## 102 Warped front discs

My XM is suffering from warped front discs only 9 000 miles/14 400 km since they were replaced. The dealer says "Yes, it often happens." Any ideas why?

===

Our company car (XM turbo ct 1997) had the same problem.

The discs were treated and the advice of the garagist was not to use the parking brake. The temperature of the discs would lower sooner at the spot where the brake pad touches the disc. If you don't use the parking brake the temperature of the discs will lower more equally



# Auto and manual gearboxes

## 103 Auto Box

There is some interesting material on the XM auto box on

<http://www.jie.com/citrotrans.htm>

and ZF also have a Web site, [www.zf.com](http://www.zf.com).

=====

With XM automatic gearboxes it is important to change the fluid often with an occasional complete change by removing the filter housing.

These boxes are sensitive to abuse by unsuitable selection or moving into drive with higher revs than basic idle, so treat it well, keep the fluid fresh and it will last forever.

=====

On inspection, it was decided to send the box away to specialists for rebuilding as a lower cost option to a straight exchange box, and this has been done successfully. In the next issue, I hope to give you a complete breakdown of what was wrong inside the box and the list of parts which were required to bring it up to scratch. One factor which delayed return of the car was the discovery that there is a recommended change to the pipes which lead to the auto box heat exchanger. As fitted, these are made of a flexible rubber type material. because

the engine/gearbox assembly needs to move-rigid pipes will not do. It has come to light that these pipes generally behave themselves if left alone. Any movement of the pipes, as, for example, when disconnecting them, can cause the walls to break up and the rubbish to circulate in the gearbox, with possibly dire results. Modified pipes are available and were ordered in my case - hence the delay. Another factor is associated with the air-conditioning system, which has proved reluctant to stay gas-tight on a union connection with the air receiver. This is a radiator which is situated in front of the water cooling radiator. It appears that the threads have become distorted and a new receiver will cost about £350, unless a repair can be effected. I am hoping like anything it can be repaired. Now, the advantage of using Phil Wells is that he does not give up easily by fitting new parts unless forced so to do. It may take a little longer his way, but if it saves money it has to be the best way. As I have earlier remarked, the advantage with Phil is that you can talk to him at any stage of an overhaul and also visit the workshops while work is in progress. The main dealer workshop managers (understandably) do not encourage this approach, unless in extreme circumstances.

=====

### Auto-transmission

I drained down by removing the three little bolts that hold a triangular plate in position at the lowest point of the gearbox. As my box had been expertly set at the correct oil level very important, by the way - by Philip Wells at Vive le Citroen, Keston, I replaced what came out with fresh DEXTRON 2. Inspecting the magnet in the drain plate, my heart sank. The remains of a large and very thin 'crinkly' washer was held fast by the magnet. Has it been loose in the gearbox all the time, or has it come off something important? You will know the feeling when finding this sort of thing! I began to wish now that I hadn't changed the oil on an annual basis. Citroen originally recommended a long interval for changing the auto box fluid - 45,000 miles?—but, I believe that this may have been reduced more recently. Can anyone comment? However, the gearbox is continuing to function smoothly, so I am doing my best to put washers out of my mind!

=====

Some time ago I had a leaflet from a Citroen mechanic who loves French cars and services and repairs them at very modest rates. He is Philip Wells of Keston, near Bromley in Kent. I popped in to see him a

week or two ago and found him very honest in his approach to the problems of early XMs (and more recent ones for that matter!). The latest versions, he says, have overcome most of the difficulties we owners of '89 to '91 models have to cope with. In the December 1993 issue of the Citroenian, Andy Burnett confirms just how much better the later XMs are. Philip Wells advises all owners of early XMs to throw away the multi connect earthing points behind the headlamps and use new ring terminals bolted firmly to a good clean earth, using the existing stud. Again, Andy advises us to do the same. If you go to see Philip Wells at Keston, don't be put off by the horse manure and the horse boxes. Just aim for the familiar red and white chevron and Philip will be ready to help with one, two, three or multi-horse problems!

=====

### **Draining the Automatic Gearbox**

I 'chickened out' on this task. Talking to Philip Wells about it, he said that the; main problem is getting the maximum of the old oil out. The handbook recommends changing the oil at 48,000 miles, but I understand from Philip via a main Citroen dealership that Citroen now recommend that the oil should be changed more frequently, presumably to ensure greater dilution of the remnant of old oil remaining. As you may know the gearbox is a ZF unit, and is used on a number of other cars. Alfa Romeo use it in the 164, for example, and the handbook recommends that you change the gearbox fluid with the engine running! Sounds a bit messy to me and I assume it is done to remove as much oil as possible. In view of the fact that the oil performs a lubricating as well as a hydraulic function, this sounds a drastic way of doing the job. The method suggested by one automatic gearbox specialist is to disconnect one of the oil cooler connection pipes and run the engine while feeding new oil into the gearbox. This is a bit messy, Philip tells me - he tried it on GDP - and requires a careful check to ensure that the correct level is finally arrived at. It also wastes some oil. But again, GDP is running very well since its transfusion. If any owners have changed the oil in the ZF box themselves, I would like to hear from them, please.

## 104 Auto gearbox oil level

It's the automatic gearbox. Hence the hot/cold markings...

Check the oil by putting the car in neutral after shifting a few times from park to reverse. Remember to keep the parking brake on. Check the gearbox oil when the engine is running, and use the cold side. Use hot if the car has been driven a good distance or in town, hot is more accurate.

=====

### **Auto box Sump**

Yes, the oblong tank with orange(yellow) dipstick is the auto box sump containing dexron auto fluid.

The crescent gauge is engine sump oil level and reads ony when firstswitching ignition.

Harry.

## 105 Clutch slip in Auto Gearbox

An Auto gearbox in a 2.0 Sei 1990 Model

Interestingly my 2l Sei suffers from the same problem I think.

It exhibits a kind of rev racing - clutch slip - type of thing between 3rd & 4th. Once I'm in 4th everything is OK however I always now leave it in 3rd for in town work.

===

The Automatic gearbox on my 2 litre injection (non-turbo) XM is beginning to play up.

It races/slips when changing from 3rd to 4th. This only happend in normal acceleration. In heavy acceleration or kickdown the change feels normal.

No other gear changes are affected.

The car has done about 120k miles - how long do these auto boxes last?

"This is about it. Usually after 120K \*KILOMETERS\* severe problems rise. These problems show on any kind of XM Auto."

===

Yes my XM 16v auto estate has just started doing this but at about 40K miles and 12 months old. It has been like it for the past 10K miles and doesn't seem to have got worse but I wonder if I am compensating for it by throttling back unconsciously. My last L reg turbo auto XM went over 100K miles without any such problems.

I have assumed that the problem is in the engine management system and that we are seeing is the failure of the engine to throttle back momentarily during the gear change. This is more noticeable on the 3/4 gear change I guess because the torque convertor is not used at high 3rd or 4th gear.

===

He did suggest that the problem might be caused by the various clutches sticking through lack of use and that a lot of Auto box manufacturers recommend that you drive it like a manual occasionally to keep everything loosened up. This might sound like a load of b\*\*\*\*\* but it is worth a try.

===

Well, I have just returned from seeing the gearbox specialist (sent there by the

Citroen dealer who couldn't fix the problem) and it's bad news. The problem is the car sometimes stays in neutral for a second or two when going from 3rd to 4th. This exercises the rev counter somewhat. The fault started at about 40K miles and I have now got to 72K. The verdict is that it has all got to come apart, engine out etc and we are looking at about 30 hours labour plus parts = approximately ?1500. The car (XM 2.0 16v estate) is two years old in August.

### Ageing

Your comment about automatic boxes lasting 120 KM applies to all such boxes of every model XM? or only the models prior to 1993?

Yes: As far as I know all boxes untill the new intelligent autobox appeared last year.

For those of you who have an automatic gearbox I would only advise to change the fluid more often than the manual says

====

I just asked an expert on this matter.

He says only V6 XMs suffer from these autogearbox problems. The 2.0i models have less problems.

====

## 106 Clutch difficult to operate

Hi,

I've just bought a 92er XM 2.0 technic.

It has an exchange engine for about 6 TKM.

The clutch is very difficult to operate (german word hakelig :-)) and it's not very easy to change gears, e.g. I have to move around to find the correct position to fit the gear (german word rühren).

Is this normal for XMs? It's my first XM and I think this is not normal. What can I do to make change gears working better? Where do I have to look for the problem to identify it? (btw the clutch is very short, the pedal has only a few centimeters until the clutch is, äh, shut. Short way to clutching. Does anyone understand what I mean :-)?

Bye

Arne

PS: Sorry for my cruel technical-english :-)

=====

Subject: RE : Clutch difficult to operate

The clutch on our 1989 XM 2.0i Technic isn't ideal either but not too bad.

The few XM's that I had for a test drive didn't have clutch problems, so I would think that your cars bad clutch is not typical.

One thing I really like about our XM is the shifting, it's really very smooth and exact. Not unprecise at all !!

>>Is this normal for XMs? It's my first XM and I think this is not normal. =

I'd think you are right.

>>What can I do to make change gears working better?

There are XM's with a cable controlled gear box, i.e. the connection from shift stick to gearbox is not done with rods but with cables. I think I once read that the earlier version of this cable control are not too good. But I'm not sure of this, and I don't know to which type of XM this applies. Somebody else ?

>>Where do I have to look for the problem to identify it? (btw

>>the clutch is very short, the pedal has only a few centimeters

>>until the clutch is, =E4h, shut. Short way to clutching. Does

>>anyone understand what I mean :-)? =

I would think that any garage should be able to adjust this.

regards

Jint Nijman

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=====

**Subject: Clutches!**

Today, the clutch cable failed in an XM I am borrowing. This is the second time in 3 months that the small plastic clip that fastens the cable to the pedal has failed in less than ideal circumstances. This = got me thinking: Over the past 5 years, the following clutch cable failures have happened to me:

2 in a Seat Ibiza

2 in a Fiat Regatta

4 in a BX TZD

2 in an XM V6

I don't think that this has anything to do with the way I drive (as has = been suggested) as I don't let my foot rest on the pedal - people who = have stripped gearboxes down seldom do!), I don't do violent gear = changes. Over this period of time I have also run many examples of = Metros (sorry!) and/or Minis - these have hydraulic clutches and I have = never had any problem with one.

Cable operated clutches are mechanically simpler and should logically = last longer as they have been in existence long enough to "evolve" = (sorry for the Renaultspeak) into something reliable. Hydraulic = clutches rely on precision engineered parts and should therefore be more = susceptible to the vagaries of missed services, dirty fluid etc. What = is wrong with this line of thinking?

Further thought reminded me that Citroen have been known to us = hydraulics in the past :^) and so should really be a dab hand at it by = now. It should really not be beyond the wit of a Citroen design = engineer, or any engineering graduate, to design a system which uses the = ready supply of hydraulic power in an XM to operate an electronic shift =

up / shift down system as used in F1 cars. The electrically controlled = hydraulic actuators are already available, and the cable operated gear = change should make this even simpler in an XM. If I had an old = knackered XM (sorry, make that "another"), I might even be tempted to = have a go myself. =20

Any thoughts on the matter?

---

Richard Williamson

Email: --- richwill@innotts.co.uk

Home page: --- <http://www.innotts.co.uk/~richwill>

William Crane School homepage: ---

<http://www.campus.bt.com/CampusWorld/orgs/org2823>

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### Replacing the clutch cable

Problem 1 solved by replacing the clutch cable at £55 plus VAT, quite a substantial part/cost. Working without a manual (XMinations comment: Don 't forget the Peter Russek guides are available!) air filter box and hydraulic reservoir removed for easier access. Receptacle placed under return pipe to catch spillage. End of clutch cable removed easily from actuating lever and outer from bracket on bell housing, but typically I wasted time by dropping a retaining clip behind the gearbox - about half an hour spent groping around. Outer end of cable was then unhooked from the hook above the pedal by lying upside down with head under dash, and then withdrawing old cable from the bulkhead. Replacement was more difficult with the tighter cable and no means of adjustment. I regretted not wedging the arm in position before removing the old cable. In retrospect, I think there is a sleeve provided with the cable for this very purpose (!). Anyway, I pushed the new cable through the bulkhead, making sure that various washers and rubbers had their notches aligned, and hooked the nylon eye on the pedal. Then I eventually managed to lever the actuating arm to the 'no drive position' (de-clutched) by a combination of temporarily reinstating the old cable at the clutch end and levering on the bell crank and also levering between the arm and a nut on the bell housing. A long lever, about three feet long is required, which is then somehow wedged. (XMinations comment: Well done that man! The Peter Russek guide points out that the clutch cable has a self-adjusting element to it, which probably accounts for the high cost of the part. However, I don't think the guide would have been any more help to David than by finding out the hard way. Anyone out there cure to comment?).

Cable installation completed, while the reservoir was off the car I removed the old alarm and began installation of a new one. I discovered a useful wiring duct (unused) between the underside of the glovebox and the engine compartment, installed for our convenience by the manufacturer (!). It looks like a bit of green garden hose.

## 107 Gearbox

My 94 Turbo petrol 2 litre has developed a nasty leak from the top selector shaft. The local main dealer reckons it could be either a worn seal or a worn selector shaft or both, but either way they want 500 ukp just to remove and replace the gear box, never mind attending to the problem.

Has anyone experienced this fault? Does it really require removing the gear box and, if so, how long should it take ?

I sometimes drive past Woodlinkin Motors at Langley Mill, Notts who frequently have XMs parked outside for repair. Anyone used them ?

=====

I have \*frequently\* used Woodlinkin Motors for various problems I encountered with my BX. I even bought my XM from there. The XM, however, seems to have a very difficult to locate problem with the engine management that is causing uneven running (I'll post details and a plea for help later) and Manuel (the boss) has spent the best part of 3 months trying to sort it out - all under warranty.

These guys really live and breathe Cits - just check out his SM!

=====

It is possible to change the clutch without removing the engine. I don't know whether the whole gearbox can be removed.

Arthur

=====

Re: XM Gearbox

When the main agents fitted a new auto box in one of our xms they removed the front panel and radiator and then the engine and gearbox together. They said it was the easiest and quickest way, the car was ready in a day so it seems that's the way to go

regards Andy Bairsto

=====

It appears that the **five-speed manual** has problems too.

Mine started jumping out of fifth gear, which I thought was a possible synchro fault. Not so. On advice from a very helpful Citroen dealer at Grantham I drained the gearbox oil, removed the end cover (behind plastic cover in nearside wheel arch) and found, as was predicted, that the nuts on the ends of the primary and secondary shafts had worked loose. These nuts are just peened over, and quite poorly I must add. So I torqued them both up and refitted everything. Fifth gear selector should be removed to gain proper access to the secondary shaft nut, but it is possible to tighten without. Refilled gearbox with oil.

All was then OK . . . until about two weeks later when second started to get difficult to engage. Within about a week it couldn't be engaged at all while on the move. So now we have to select third from first. I'm now on the lookout for a replacement gearbox. Some have said 'It's your clutch, mate' but all other gears including reverse are Me to engage, however I will replace the complete clutch on gearbox removal as a matter of course.

(Thanks to Levi B Spruce and the CCC)

## 108 V6 Auto boxes

I heard of a problem with V6 autoboxes - what is that, how can I tell if it's on it's way and can it be avoided? Does it happen with the other engines as well? I definately want auto.

=====

Remarkable how soon these rumours get off the list. The first few years XM autoboxes on the V6 where of poor quality. Not the 2 Liter versions! I guess changing the oil frequently is a good idea.

All XMs from 1993 on are technically O.K.

=====

I must agree there..... I have heard a few (off list) horror stories about autoboxes on XMs. I even suffered one on a test drive myself, not a pleasant prospect at all. My Citroen guru insists that the gearbox oil is changed whenever we do our 6K miles oil changes. It prolongs the life of the box and costs a damned sight less than the cost of a new 'box. If the XM you are looking at has evidence of regular oil changes and now sign of being used as a tow-vehicle, you'll be OK.

My XM guru suggests, as a beginning, that if you have to have major gearbox woes, put a Thousand pounds aside..... to begin with

Best of luck!

My choice for the perfect XM..... and this is mythical..... is a 24v series

One with an automatic gearbox, definately in BLACK



# Air-conditioning

## 109 Adding Air-con

Yes..... get in touch with a company like Alpinair. A friend of mine asked for a quote on a Volvo - and it was going to cost in the region of £2,000. They did say that they would use original Volvo switches and it would have been identical in operation to the standard manufacturer installation. At that price, I would probably say, trade yours in for an SEi Turbo.....

## 110 Air Conditioning

Could anyone with experience of the air-conditioning system advise what a hissing noise inside the car might be caused by. I've noticed the noise over the past few weeks whenever the compressor is running (and the radio isn't). I don't think it has lost any refrigerant. Is it likely to be terminal?

The car is a 1991 V6 auto with 98k miles on the clock.

As far as I know the only thing that can be responsible for that sound is indeed the loss of refrigerant. Under the bonnet near the radiator must be something like a 'bottle' however not made out of glass which has a little 'window' on top. If you see little bubbles in there the system is empty and needs a refill.

You should be able to get a refill for about 50 GBP. (Maybe a bit more for the R134 system).

### Burning out

I'm planning to get my Air Conditioning regassed (on my XM). However one of my friends recently caused a 1000 pounds worth of damage to his car (a saab) by failing to get his air con oil refilled when the air con was regassed.

What seems to have happened is that the air conditioning compressor has seized, burning out the clutch completely. So, new compressor, more gas etc.

The first thing the repairers asked was did you get the oil level checked.

Does anyone know if the XM also works the same way and how to check the oil?

====

It all depends on exactly which compressor you have, the ability to add oil, and the quantities are not the same, but as a general rule, check the compressor for a large (5-8mm head size) screw on the upper outside face, close to the rear. This is quite often labelled "Oil" on a small blue/silver sticker.

If it's there, you can remove it and look inside for oil. If you've ever topped up the dashpot on a Mini or similar, it's the same kind of job. Use an oilcan and 15/40W engine oil, but it takes a very small amount, don't fill it to the brim (it expands when hot!). This really is the kind of job best left to the A/C man.

Your friend should claim against the firm who regassed his AC, it is supposed to be part of the regassing job, checking the oil level.

====

If the car was originally filled with R12 (a CFC) it will have used a mineral oil this will depend on the age and the intended market. In the UK R12 is no longer generally available so is now generally replaced with R134a (a HFC) this requires a change to a ester oil i.e. synthetic. Never open any plug or disconnect any pipe on a refrigeration system the release of any refrigerant is illegal And in the UK can lead to a prison term. When changing from a CFC to a modern refrigerant it is not a one time/shot job.

The old refrigerant will have to be recovered the oil changed and new refrigerant added but as the oils do not mix this has to be repeated as many times as necessary to flush the old oil. The oil must be tested every time.

With industrial plant it takes upwards of 3 times. And the cost start at £1000 per compressor but that includes many times more refrigerant. A car will take 0.25 - 1 kg per charge an industrial plant 15 kg upwards per charge at a wholesale cost of £12 per kg.

Three more things the new refrigerants have smaller molecules so any small leaks you have that have little effect now will seem like very much largerleaks. Next a car compressor has a shaft out to the pulley this will have a plastic/rubber shaft seal and we do not yet know the effect the new oil refrigerant

combination will have on the life of this seal. And last The new refrigerants are only a stopgap they will be superseded later at more expense.

### **Drain tube for condensor**

Yes there is a drain tube for the air con condenser.

It is under the middle of the car, you need to put the car on ramps to find it.

When you do, stick a piece of wire up it to clear it, but don't have your eye looking at it when you do it!!!

It's roughly level with the middle of the car and just to the left of the exhaust looking from the inside of the car and forward under the dashboard.

### **Air conditioning again!**

You also asked if anyone had any work done on an a/c system. Well, last year my a/c failed. The symptom was that the temp. did not drop and the compressor clutch would not engage. It was at this time that I met Mr. Pierre L'Allier (our Club Treasurer) who lives quite close by and who offered to help.

Anyway, it fumed out that the a/c condenser had corroded. This is the device that is located behind the radiator and is basically a heat exchanger. Any moisture entering the a/c system converts the coolant to a corrosive acid and it starts eating the condenser from within. Replacement is the only solution. Citroen's price was about £800. VAT. But I would have to purchase a conversion kit as the refrigerant was R12, which is now obsolete (environmentally unfriendly) for another £300. The further problem, explained by a refrigeration engineer friend, was that you must never use parts that have been exposed to the atmosphere. So scrapyards are taboo for a/c components.

I eventually located a company Staines way that sold standard sized condensers. I bought one approximately the same size, removed the fixing brackets from the old condenser, pop-riveted them to the new condenser, filed some part off the housing in the car and fitted to the car. I also had to purchase two new pipes as the terminal connections were not in exactly the same place. This system has been in operation since early last year without any problems. I will say that it is impossible to complete these repairs without the help and understanding of a knowledgeable refrigeration engineer. It is not a job for the fainthearted.

(Thanks to John Michigan)

### **Air conditioning problems - one solution**

If you remember, my air-conditioning system iced up after about an hour and there was no air flow. I took your advice and had the freon topped and checked for leaks. All appeared well but the system still iced up so took to using the system by manually selecting air-con on and off.

Went to France at the beginning of August **and rang the** Citroen garage in Angouleme. They ran the diagnostic over it and replaced the following parts:

Motoreduct Part No. P00006447tj4

Adapteur P00006445P9

RESI. 1/41,8 KOHMS PACR25218

Since then the system has worked perfectly. I do not know what the replaced parts were as my French is not that good. However, I gather a valve motor was replaced. My XM has done 80,000 kms and goes well.

(Thanks to Nick Dunsford and the CCC)

## 111 Air conditioning drain

Dear all, but especialy Geoff Rotheron.

I wonder if anyone can help me with these:

1) Some time ago Geoff told me that there was an air conditioning drain which on my 90 2.0sei was blocked. He also told me how to find it. Only problem is that I can't, for the life of me, find it at all, despite spending 30 minutes under the car (on a ramp), with a torch.

Can Geoff, or anyone, please tell me where the thing is, and what it looks like (ie. is it a plastic tube, a hole, or what??).

## 112 ECU - Air conditioning

\* A new ecu has been installed since R.P. 5424 in XM's with automatic climat control.

I have no idea if they can be identified by the color of the sockets though. XM's with a standard airco have been equipped with a new improved evaporator sensor since R.P. 5471 and this sensor can be identified by the lettercode. The improved ecu is marked 1PE, replacing 1P, stamped just above the connector.

The partnumber for the improved version is 92 561 535. Reason for this change is that the evaporators got frozen due to incorrect info from the sensor resulting in reduced or no airflow at all.

## 113 Converting to R134A

With further reflection I would think all retro fit upgrades for so-called luxury equipment would more or less depend on what's in the wiring loom on the the car in question. Is there an expert on looms out there.

### Air con (2)

I have posted the following note to the CXList & it may be of interest to those of you preparing for summer:

I had my air con "converted" to R134a and it worked pretty well each time for 15 minutes or so, then it stopped working, and it was cooler to open the windows, turn the air off and close the recycle flap. The shutdown air con system, for some reason turned into a really good heater after this time, handy when its 35 or so! This vendor said the problem was that the car was a Citroen!

By luck I found someone competent in air con, who re worked this R134a reagas attempt and the Grande Exportation air (dual unit) is now as good as my old 2400 on R12 used to be, which was excellent.

I am told by the competent bloke:

- a) An R134a dryer is a must (which should be up front in the radiator air intake, not inside the engine bay ),
- b) The correct charge volume is vital(knowing how to do this bit seems to be the secret, they used a large volume measuring glass cylinder with calibration marks, and would say nowt about it, there is more to it than pressure measurement apparently).
- c) The standard factory full frontal condenser is apparently ok.
- d) Recycle is essential for decent cooling.

I have:

- 1) Closed off the thru flow vents on the rear pillars with tape (remove the embellishers to get access).
- 2) Put Police approved 3M Solar tint on the windows except the windscreen (the law here doesn't allow windscreen treatment).
- 3) Looped out the heater water pipes in the engine bay.

====

I have a Turbo Prestige Auto, and have just had the Air Con looked at after fitting of a replacement gearbox. Main Dealers said there was no gas in the system, but a specialist checked it out and there was a blockage in the system. To remedy this he reverse connected the flow pipes and cleared the block, reconnected it and re-gassed up the system. It worked a treat, I can now make my own ice creams in the cabin.



## 3.0 Litre Cars

## 114 3.0L suspension problem

I own a 1989 Citroen XM, 3.0 L petrol. I have a problem with the engine. I took it to a Citroen dealer and did a complete tune up. They tested the car's Computer and didn't find any faults in the system. The problem still persists. My problem is that while I am driving the car, especially when I'm in traffic the car starts bucking back and forth. In order to stop it from doing that I have to press the clutch in and release it. It happens very often. Any advice would be greatly appreciated. Thank you.

=====

I had the same problem with my 1991 V6.24. Citroen replaced the so called "Drosselklappen-Potentiometer" and all was fine.

Don't blame me for that ugly German term - technician, but I really don't know the English word for that.

Hope that helps (probably you need a special dictionary too :-))

--

Harald Krake (mailto:harald@krake.de)

=====

Hmmm... this sounds a bit like a long standing problem with my 24v. In my case, the throttle response can be unpredictable at small throttle openings, with the car often jerking forwards when it should be cruising. This fault has baffled \*many\* "specialists". Did this happen with both of you?

Could the Drosselklappen-Potentiometer be the throttle potentiometer? Or is that a little too obvious?

If anyone else has any hints for this fault, I would be very pleased to hear from them as I really want my car back!

Regards

Richard Williamson

=====

You're right! My dictionary says that a throttle is a "Drosselklappe". Never thought that this is so easy to translate...

=====

Well, I own a '91 XM V6 with 190,000 km since a few weeks. I noticed the same. Specially while driving below 10 km/h in a traffic jam. I think it is caused by the worn tolerance in the gearbox and the driven axle. It seems to me that the gearbox and axle are elastic, winded up - power released - acceleration - elastic rubber has lost its energy -> deceleration - engine winds up the rubber band - reaction driver!

My BMW K100 motorcycle has some tolerance in the gearbox and it behaves sometimes more or less the same.

Both engines do have more than enough power to keep the vehicle moving while running idle. Both have fuel injection.

Maybe the following will occur:

It seems to me that the engine is not the problem because it runs fine. Well, to be honest: sometimes the engine doesn't run idle at constant rpm's (it varies sometimes between 750 - 1000 rpm). Maybe the throttle potentiometer causes this "jittering"? Possible.

## 115 Engine management specialist - help!!!!

I have finally got my 24v back after much work under warranty. The main problem was a problem with the engine management (we think) making the car's performance unpredictable. The car is better but it is still not performing as it should: at certain times there is a distinct lack of power, which can suddenly right itself. My local Citroen guru who has been trying to fix this says that the problem can correct itself after dipping the clutch ( I haven't had time to check this myself). The work done is as follows:

Throttle pot - new

Lambda sensors - new

Temp sensor - new

Many other sensors - checked or replaced

Mechanical condition - heads off and everything checked; all as new ( 81Kmi)

Consultation - 4 other "specialists" consulted including a main dealer (hah!)

Has anyone got a vague idea what this could be, going from my vague description?

Who are THE engine management specialists in the UK? Will any of them work for a 'no win - no fee' basis?

Any ideas will be thoroughly appreciated by myself and Manuel - my local Citroen guru.

Regards

=====

This may sound ridiculous but try new spark plugs (the right ones).

I wouldn't be surprised if the problem is solved. It happened many

=====

Tried 2 sets already, I can't remember specifically, but it's the multi-electrode type.

Do you know where I can get hold of the tech info regarding the expected outputs of the various engine sensors? I need this as I am going to try and borrow a 12V oscilloscope to test the sensors while the car is actually performing its misdeeds.

Further info on the problem - the engine behaves marvellously at full throttle: the acceleration is nearly as good as my Mini when it had its fast engine in (no, really, it's true!).

Any more ideas anyone.....?

=====

Did you have the potentio-meter changed?

Arthur

=====

Twice. :(

regards

---

Richard Williamson

## 116 Oil Pump

So you haven't had the problem classic to the 24v yet, where the oil pump isn't really man enough for the job with all those hydraulic tappets to feed? I gather most engines were replaced under warranty, although I don't believe the replacements were altered in any way....

Not that I want to worry you....

Adrian.

=====

I've heard about this, and as I recall, the cam followers are the first to go. During the exploits my car has been through, the heads have come off and been examined. I saw the engine in this condition and it was absolutely gleaming! The cam lobes were measured and there was no wear at all. So I'm 99.9% sure the engine is not at fault. Almost everything else has been examined - most bits by several specialists, with nothing found at fault. The latest ploy is to replace the wiring loom - \*not\* a job I would like!

Regards

---

Richard Williamson

Email: --- [richwill@innotts.co.uk](mailto:richwill@innotts.co.uk)

Home page: --- <http://www.innotts.co.uk/~richwill>

William Crane School homepage: ---

<http://www.campus.bt.com/CampusWorld/orgs/org2823>

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## 117 Potentiometer problems?

Hi all,

I have investigated my angina management problem further and I think the problem may lie with the throttle potentiometer. Manuel (my Citroen guru) has changed the throttle pot with another 24v and the behaviour of = both were unchanged: ie mine was still running erratically, and the other was fine.

The problem is, I'm not fully aquatinted with how a throttle pot works. I assume that it is like any other potentiometer in that its resistance increases from 0 ohms to a maximum in either a linear or a logarithmic manner. =20

According to the specs, when the throttle is closed, the voltage across pins 1 and 2 (presumably earth and voltage take-off) should be 0.4 - 0.6V. This should change to 4.5V as soon as the throttle is opened. The book does not say how the voltage should change as the throttle is opened further.

This sounds a bit odd to me as the resistance (if the specs are correct) should change from high to low with a very small movement. I have disconnected (electrically) the pot and checked its resistance throughout its movement range. It changes smoothly apart from a spot in the centre of the movement where the resistance suddenly rises. My intuition tells me that this is not correct.

Questions:

- 1) What should the voltage feed to the pot be? In my case it is 4.88V with the engine not running. Should it be 5V?
- 2) What should the resistance characteristics of a throttle pot be?
- 3) Is there a separate voltage regulator for the pot, or does it come straight from the management computer?
- 4) What further tests could I do on it?

Regards - (sorry for the length of this!)

---

Richard Williamson

Email: --- [richwill@innotts.co.uk](mailto:richwill@innotts.co.uk)

Home page: --- <http://www.innotts.co.uk/~richwill>

William Crane School homepage: ---

<http://www.campus.bt.com/CampusWorld/orgs/org2823>

## 118 The source of all misery Cracked back manifold

Well, I have the same experience with my XM V6. But the garage noticed that the back exhaust manifold (is this proper English?) was cracked. The idea is that fresh air enters the exhaust system and will fool the Lambda sonde.

Next week I will get a (new) second hand one. We'll see.

mailto:arold@euronet.nl

dv8

visit Arold's Africa Adventure @ <http://www.euronet.nl/users/arold>

=====

The more I think about it, this sounds more and more like the problem as it behaves best when starting from cold - when the crack wouldn't have opened up properly.

Questions:

- 1) Is there an easy way to detect cracks in manifolds. I presume the crack could be very small and unnoticeable?
- 2) I assume the manifolds are cast iron. Is it possible to weld cast iron with acceptable results?
- 3) Would replacing an exhaust manifold be an engine out job? I suspect = it would - especially for the back one :(
- 4) An unrelated question: On the V6 I was lent while the work was being done on my 24V, the coolant temp rarely rose above 70 degrees C while driving. In my 24V the temp is at a fairly constant 93 degrees C while driving. It will occasionally go above 100 when stuck in traffic after a good blast. So, was the other XM running too cold, or is mine running too hot?

Please note that I will not be overly pleased by being informed that it is the radiator getting blocked as I suspect that I will need to remortgage = my house to buy a new one!

BTW has anyone checked out the price of new HT leads? =A3130!!! And that isn't an errant "1" that slipped in front of the "30". How can Citroen justify this? I can buy a premium set of HT leads with a lifetime guarantee for my Mini for =A315. I know we're not comparing like with like here but I think you'll agree that there is a significant difference here.

How much does one get for selling kidneys these days?

Regards

---

Richard Williamson

=====

I've heard that the 2 litres are suffering with this problem also. They told me that it was very difficult to weld. It won't last for long. Well, that's what I'm told.

My V6 12V stays at 75-80 degr.C. and will go up to 90 in the city. I think at 90 degr.C the vent will start. Maybe the temperature is measured on another pace? 95 degr.C is OK I think.

=====

After the previous thoughts, there have been new developments. The happenings went a little like this:

We went out in the car this afternoon. The weather was great and the car performed beautifully.

I washed the car and then went out in it. The performance was terrible.

While still out, the performance was terrible for most of the time - then we noticed!

The performance only deteriorated when I put the rear screen heater on. We followed this up by switching the heated seats and the heater full on. The engine was so bad that it was \*very\* difficult to pull away from traffic lights. When everything was turned off, everything was OK. This would explain the car's good behaviour in the afternoon as the heater motor didn't have to work to heat the car up, no lights were needed and the rear screen heater was off. After washing the car, however, the front and rear screens needed demisting (is this usual BTW?), hence the poor performance. Earlier in the day after speaking to Manuel, my Citroen guru, it turns out that when he was setting up the throttle potentiometer, it was on the lowest voltage permitted in the specs.

Would further voltage drop in the system from seat heaters etc. cock things up with the output from the throttle pot?

Any ideas from people who are more experienced than me at cursing XMs - sorry - solving problems with them?

## 119 V6 24v Engine management specialist needed

Does anyone know of an expert in V6 24v engine management - or a general engine management specialist? I am looking for the type of specialist who can examine all inputs and outputs of the management while on a rolling road. This is because my persistent problem with poor running has been looked at by several places including a main dealer (although I'm not sure how much this is worth!) and they are all perplexed.

Any ideas are much appreciated!

=====

It would be a help to know where you are, but, if by the remotest chance you're near Plymouth in the UK then I can recommend Alan Jefferies of Plympton. He builds and races very high spec motors.

From

Mark Linzell

XM Registrar, CCC (UK)

Plymouth. Devon

<[http://welcome.to/linzell\\_world](http://welcome.to/linzell_world)>

# General Information

## 120 Andyspares

I phoned yesterday for a price list and received it today. Its 50 pages long,very comprehensive and useful. Everyone should have one.

Telephone 0118 951 26 26 and ask for a catalogue.

## 121 Back from the XM factory

Hi guys

I'm back from vacation and my visit to the XM and Xantia factory. It was a hell of a journey but it was worth it.

We went with 20 members of the Dutch CX Club by bus which took 11 hours from the Belgian border to Rennes-la-Janais.

Xsara, Xantia and Xm are assembled in this factory and the amazing part was that this factory uses less robots than the factories on Aulnay and Vigo(Spain). After the bodies were welded they were painted. And after that, all interior parts were put in the cars by men. Only the windows were put in place by a very accurate robot.

We were allowed to sit in the cars as they went through the final quality test phase. The cars are in a room then where the front wheels are placed upon rolls that turn very fast. You have to speed the car up to 140 kms/h and do several tests with the brakes whilst the computers test the ABS system and motor management.

At the final quality test there were only 7 XMs and on the production line only 2. However they told us that 35 XMs are being assembled every day. This is about 9000 every year.

1,041,000 CXs were produced, but I think the XM won't reach the 500,000 limit.

The Xm will be replaced in 2001 and will have the Peugeot 607? floorpan. The Xantia will be replaced in 2000 (Project X-4).

When the show was over we could sit in an XM MULTIMEDIA

<http://www.citroen.com/eng/3000/3400/3450/3450eg.htm>

and this really is my absolute dream. The car is a V6-24 with all gimmicks you can think of and is painted in Rouge d'Enfer (from the Xantia Activa).

During lunch I spoke with 2 directors of the factory and I also gave them the files with the 'Wishes for the new Xm' which were translated and analysed immediately

I hope to go back there some day and maybe we could set up a XM-L meeting there. Who else wants to go.....?

## 122 Books

### Pocket Mechanic

By the way - have you all purchased the Peter Russek book - Citroen XM pocket mechanic - it is pretty good, at least until the Haynes manual comes out. Petrol only though.

Peter Russek : 01494 440829 Fax : 01494 473980 Email : russek@globalnet.co.uk

### Citroen XM

I think the book is the Citroen XM by Alberto Martinez and Maurice Sauzay ISBN 2-85120-315-0 and it is the story of th XM from design to building.

\*\*\* This book was given to us at the introduction of the XM in France in 1989.

It was available through the Citroen dealers for a short time. The book is published by EPA in France but above ISBN number is for the French edition.

====

There is also a book by Jan P.Norbye put out by Automobilia, ISBN 88-85880-18-5 which is also about the XM from before design concept to completion. It's hardbound, 11.25 by 10 inches.

I bough my copy back in 1988/89 when it was first published.

### DesignTechniches

I was in Grenoble earlier this week and noticed an XM manual in the "Design Techniches" series. It looked as though it covered most things a Haynes manuals would cover.

### Official Manual

It's almost impossible to cover the entire electr. system of the XM. Up to now there have been published 34 XM Manuals and updates.... Check "Technical BookStore" on our site for a complete overview:

### Haynes manual

I'm not impressed with it, not up to haynes usual standard and the electrical section is I think a waste of paper.

There is too much info on servicing and not enough on repairs, and the photos are also of poor quality. Just my view, what do you think?

> -----

Admittedly there are no diagrams for the suspension electronics and also not enough detail on the description of the fuel injection system, in terms of diagnosis without a diagnostic computer.

However , I feel that the readability of the wiring diagrams has > dramatically improved compared to the Xantia manual that I had been using. Well worth buying the manual for. It is obvious that a fair amount of the text is straight out of the Xantia manual.

The manual it says that on early 2 litre cars the engines were fitted, concurrently, with both the Bosch and Magnetti Marelli multipoint injection engine management systems. I had previously believed that for a year they all had Bosch systems then Magnetti Marelli systems until catalytic converters were introduced.

My early (10th May 1990 manufacture date) car has a Magnetti Marelli system so I had always assumed that someone had replaced the engine at some point. Can someone shed any light on this?

**Workshop manuals**

The entire set of original XM Manuals comes in 89 sets of, separately packed, manuals and updates which has to be filed in 9 binders.

Total costs about a \$ 1000,- Not counting the hours we spent updating the set. Removing/replacing pages, adding updates....

Total weight, incl. binders about \$ 15 Kg.....

(The complete CX manual fits in one binder and weighs only 2.5 Kg)

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Distribution on CD ROM obviously can do a lot to reduce paper and distribution costs. The spare parts catalogues could be distributed on CD ROM as well.

## 123 Burning XM's

Okay. I think you'll find the 20 XMs which are flammable were actually 89 build, 2.0 carb models. They had a plastic de-aeration chamber for the fuel, which is mounted on the engine block and could catch fire. Later models have an alloy canister which looks like a coil.

Other causes could be wiring faults (it's very easy to get wires trapped and shorted out when removing/replacing the glovebox on the S1 XM).

Eitherway, I think most XMs claimed to have caught fire, were actually torched by the owners... Early models could be very frustrating ;)

=====

If engine fire then most likely pipes on fuel line bursting due to being brittle and or wiring loom shorts due to engine heat baking wires. Other option is they could be deliberate fires to claim insurance money!

=====

In the short time I have owned my 1991 24v, 2 underbonnet fuel hoses have ruptured leading to a general spraying of the surroundings with petrol.

Fortunately I have managed to survive these despite driving for around 50miles in the wilds of Scotland with my wife claiming she could smell petrol, and me telling her not to be daft!

=====

Those of you living in countries where heated seats are not mounted need not worry, when buying a 1990 XM check and maybe replace the seat heater (remember some models has got heated back seats as well, although they may not have been worn),

## 124 Buying an XM

Front doors seem to rust on the inside on early XMs, along the seal.

Remember the spare wheel and toolkit under the back! It's amazing how many people just assume they are there :)

### 3.0 issues...

24v has weak followers, usually need attention after 60,000 miles... and on 24 valves, that's a lot of labour.

### Check operation of Hydractive system.

Automatic gearbox. Check oil level and colour. Auto boxes have a reputation for going, one car I know of did 70,000 miles with one driver, no problems, he loaned the car to a friend and the box broke... so could be driver specific.

### The sunroof

Early models have a surround on the sunroof, as if it was added later (it was). These one's also have poor earthing points, and suffer the most electrical maladies.

Other things to watch for? Rust in tailgate, wheel alignment, engine mount condition (they're expensive) - interior is remarkably hardwearing. Check the instruments are all lighting up - there's a knack to dealing with the dashboard on series one cars - and if they aren't, try and knock another fifty quid off the asking price - it takes around two hours to change all the bulbs, and there are around 40 bulbs to replace! If you just get the blown ones, sods law dictates that when everything is reassembled, one you didn't change will blow.

make sure the sunroof works properly. I broke mine by trying to tilt it when the car was moving and the roof bars were fitted, so it must be quite weak. It's a pig to repair.

3.0 should have alloys, computer. Probably leather as well.

Personally, I would love to replace my 2.0 with one - so I hope you find a good one and can reassure me that it is worth having ;) the 2.0 does 90 on the motorway all day, returns around 45mpg in those conditions, and doesn't break down too often - given I hadn't used it for a year.

### 3.0l 24v

The 3,0 litre is thirsty, the 24 valve even more so.

Again, the pundits reckon that the best XM is the 2,0 litre turbo (the 150 bhp version) which is nearly as quick as the 3,0 litre but more economical.

The sensible choice is the 2,5TD - if only they did it with an autobox...

Headlights on dipped beam are so bad as to be dangerous - this is a function of their design and cannot be rectified by fitting more powerful bulbs.

Hydractive 2 is a great improvement over Hydractive - there is no change in subjective ride quality when in Sport mode - in the earlier cars, selecting Sport merely ruined the ride.

Servicing costs are horrendous - if I had to fund my car, I would be driving a Xantia...

The upside is that there is nothing remotely like an XM to look at or to drive.

### 3.0l 24v

DON'T DO IT!

Never buy a pre 1992 XM ever!

Automatic gearboxes in XMs only last about 120K kilometers.

====

Please do not take this literally !!

The bad reputation of early XM's makes them (very) inexpensive. Use that in your favor !!

Buy one, they are really not as bad as people (see above) want to make you believe

We have a august 1989 XM 2.0i Tecnic (the luxury version in Germany) for almost two years now and we love it, especially since I had the spheres checked and refilled (two new spheres were necessary). We bought the car with 75.000 km, now it has 110.000 km. We didn't have any real problems until now. The car sometimes switches to sports suspension without any apparent reason, but this never takes long (maximal 5 - 10 minutes), and if the spheres are Ok this is not too bad (not great either, that's true).

I changed all the brake pads, that's really easy. All the electrical gadget like the seats, the mirrors etc still work. The only thing that is really terrible on our XM (because its only working 30% or so of the time) is the fuel gauge. Some day I'll fix that also.

Older XM's sometime can have some electrical problems, especially with the suspension, but problems can be cured. Most problem are caused by bad earthing, this is easy to solve and most probably already done by (one of) the previous owner(s).

The first version of the computer controlling the suspension has a tendency to switch to sports mode (is hard suspension) rather early, i.e. when you as a driver would not consider that necessary yet. But it is really not as bad as some people want to make us believe.

If the difference between normal and sports is too big (check that using the switch in front of the gear stick), one or more of the spheres are probably bad. Refilling spheres is inexpensive (US\$ 15,- a piece, but not at a Citroen dealer), new spheres are US\$ 60,- a piece (these are prices valid in the Netehrlands)

I can not judge on the suspension of the later models compared with the earlier models but I've been driving DS's and a GSA for the last 9 years and I say must that the XM comes close enough when talking about suspension comfort. But only if all the spheres are Ok ! If you like it really soft (close to a DS) get so called "Comfort" spheres (with less damping) I also drove a new Xantia 1.8i break (basic model) recently, and compared with that a XM is certainly one class better (as it is supposed to be).

If the front suspension makes a lot of noise the connection rods between struts and anti-roll bar are probably worn out. Not expensive and easy to repair.

I've not yet seen any XM with rust, apart from one which had some minor rust below a rubber almost at the bottom end of a front door. The build quality of XM's seems to be very good.

The seats are just great. The 2.0i engine is noisy (for a luxury car) and not very refined, the manual gearbox shifts very smooth (apart from the reverse). 2.0i engine can use a lot of oil.

I've not heard any bad things about the old 3.0 V6 apart from the fact that isn't too refined either. I do not have experience with the V6 or with the Turbo's. If you drive a lot get a Diesel.

There were quite some stories about broken auto gearboxes on this list, so I would stay away from that.

====

Why should one buy a car with all this trouble that can be solved easily?! Buy a '93 XM or younger and have a fine car. A car is not built to be repaired but to transport people and items from one place to the other. Of course cars need to be serviced and that is the only thing that newer XMs require.

Anyway, people should decide for themselves what they like and what they want to buy.

I remember that I was happy with my first 1990 XM 2.0i ambiance.

## 125 Citroen specialists

Everyone seems to think that there is nobody down here in SW England (Devon) who likes XM's or CX's ..... There is (sorry ..are) . Two people come immediately to mind..

Mike Drake of St Judes in Plymouth (Mike or Neil) and Euroservice of Lee Mill (Rob or John) ..(about 8 miles out on A38 from Plymouth), I can find their numbers if you really want them but they're both in the book. Parts wise I always recommend Europarts of Tavistock (Phil or Dave) ..(no connection with Euroservice) they're always breaking CX's and XM'S and more helpful lads I've yet to find!

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If you decide to change the fluid etc. I can thoroughly recommend the French Car Co. Ashley Road, Parkstone, Poole (01202) 716019.

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If there are any Citroen owners/enthusiasts in the West Wales (Cardigan Area) who are looking for a specialist Citroen technician, I can recommend

Peter Hammond

Neaudd Garage

Ciliau Aeron

Ceredigion

West Wales

Tel: 01570 470643

I have been taking my CX's and XM's to Peter for years. He has some 20 years plus Citroen experience, and he is an enthusiast himself. If you want good honest advice with excellent labour rates in the West Wales area, then look no further.

## 126 Facelift models

Arthur,

: I like Series 2 better than the old looking thing.

: Only for the dashboard you may be right.

“Old looking thing”? That’s not a very nice thing to say. Phase One or Mark One maybe, but not Old looking thing..... The later models are not different-looking enough to warrant the differentiation. As far as I can see, the only advantage of the facelifted model over the original is the fact that the chevrons are bigger on the front and (quite rightly) centrally mounted.

We’ve had this thread of discussion before, but if memory served me right, more people sided with the look of the Earlier models than the later one.

Regards, Keith

P.S., Let's have a competition: Name a facelift car that looks better than the original. I can only think of one - The shark-Nosed Deese looks nicer than the earlier ones.

=====

XM facelift models

Regarding the XM, I like the earlier models better. The dash of the later models is as a boring as such a thing can get (in my eyes), it looks like a copy of a VW (or so) dash

regards

Jint =

## 127 Genuine & Aftermarket parts

Hi all

The original Citroen exhaust on my sister's AX14TZS lasted from 1988 to 1996 before it was replaced with a Bosal (OE supplier with a 2 yr warranty) system which seems to be wearing very well. Ever seen an exhaust being made? - not much to it, still generally a very low tech & handling intensive operation.

It is possible to buy OE supplied parts from the aftermarket for very competitive prices. Malcolm Lockwood & Andyspares have some excellent bargains. Rarely do Citroen chose to compete, indeed many Citroen dealers use independents because they can make a better GP buying from the them rather than buying from Citroen. The parts manufacturers tolerate this situation & supply the independents as usually they make a much better job of \*selling\* in volume than does the car maker. Why do you think Ford & many others want to severely curtail this activity?

The true cost of many parts would surprise many, this is real world for popular parts:

eg Brake pads: manufacturers cost:	2.50GBP
wholesaler cost:	5.00GBP
central mark up applied at wholesaler:	1.50 GBP
therefore cost charged to wholesalers outlet:	6.50GBP
wholesaler sells to motor factor:	10.00GBP
motor factor sells to garage:	16.50GBP
garage sells to customer (you/me):	29.50GBP

The real cost of many oil filters is well under 1GBP

All plus VAT of course, garage makes little money on labour any more on a job like this & with revenues from servicing ever diminishing, parts remain one of the few areas where Mr Garage may make a reasonable profit. It's the price we pay for lengthening service intervals, availability & "sophisticated" distribution.

Dominic

## 128 Powersteering problems

Just had a very dangerous situation with my XM. I was driving on the highway (around 100km/h) and had to break at the end of it for traffic lights. When I lifted my foot from the gas-pedal (whatever it is called) the engine stopped running , causing the powersteering to stop service. I can tell you that it is quite hard to make a turn in a 1300 kilogram car without powersteering!!

How come this happened and what can I do about it?

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If the engine stops running it is obvious that also the powersteering is out of order.

You have to search for the engine fault.

With these electronics it is better to drive to a Citroen garage and have the fault diagnosis computer analyse the fault.

Based on my experiences I think that your motor management cable is worn. Till 1992 they were made of very poor quality isolation material.

## 129 Prices

Contact Finn Likke customer relations for people wishing to purchase

citroens in denmark and take to other eu states

tel no 0045 36180256

## 130 RP (Replacement Parts) Numbers

The RP number is a four digit number that identifies the cars production run to Citroen. This number is stencilled on the nearside (left-side) front door pillar. This number is essential when ordering parts for your XM.

## 131 RP numbers

Using the RP number to date calculator I read about on this list (I lost the address, can anyone help me there?)

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You'll find it at :

[http://ourworld.compuserve.com/homepages/jint\\_nijman](http://ourworld.compuserve.com/homepages/jint_nijman) in the "general" section

=====

### **What are RP numbers (and why you should know yours)**

The RP (Replacement Part) number is more widely used to identify your exact car than the chassis number.

The RP number is a four digit number (ea. 5545) and you will find it stencilled in either black or white lettering that is about 15 mm high on the left hand (nearside) front door pillar.

On a given day of production, every Citroen that rolls off the production line is given the same RP number. So your XM may have the same RP number as several others although their actual dates of registration (and numberplate letter) may be very different

The purpose of the RP number is important for ordering spare parts. In Citroen terms modifications and spares are always specified using the RP number.

For example when there was a modification to the front brake pads on the XM, the modified pads were fitted 'with effect from RP number 5229'. So when you go to your Citroen agent for a new set of front pads, and give your RP number, you will get the correct set of brake pads for your car.

The XM was a car which in the early days, required a mass of modifications, particularly to electronic and electrical components and the hydraactive suspension. These can all be correlated with the RP number. So remember yours

(Thanks to Andy Burnett and the CCC)

## 132 Series 2 inside looks

The interior on the later models looks more like a Xantia - that is the biggest visible change. Build quality is improved, allegedly, the script on the boot, the space under the foglights is solid, the badge is central, the radio is moved down and has no cover. The spoiler is a nasty little thing, not the attractive original item or even better, none at all. Horrible steering wheel, unlike early XMs with a single spoke job. Different alloys, designed to match whatever was popular rather than to suit the car.

Airbag models have a tiny glovebox.

Functionally I think Hydractive II was introduced, the 2.0 carb was dropped, trim levels matched to that of the Xantia, 16v engine introduced. 24v was dropped.

Personally, I prefer the earlier model. Especially in V6 SEi form. You'll no doubt have read about the 24v problems. I think, if you like the S2 CX interior, you would prefer Phase 1 XMs. Phase 2 looks like a Carlton or any other Eurobox inside.

The V6 is adequate. IIRC, it's inoffensive and has no major problems, unlike the 24v model. Ask anyone who owns a 605/Volvo 760/Renault whatever they call big Renaults now.

My 2.0 has 105K, and needs valve stem seals.

All XM autoboxes seem to be at risk. I know of two people whose 'boxes failed at 70,000 miles - one was installed in a 2.0i, the other in a 2.0CT Turbo. Interestingly, the Turbo box failed after the owner loaned it to someone else.

Richard

--

Richard Kilpatrick

=====

Thank God! I thought I were the only person in the world that thought Citroen spoilt the look of the XM when they facelifted it. I have a later phase I XM and the first job I did was remove that awful Two spoke atrocity and place the single-spoke item that the dashboard was designed around. I can see all my switches now.... allelujah!

Yes.... those MK1 wheels were such nice items to view. Similar to SM wheel covers and suited the car perfectly. The replacement ones look like cheap aftermarket wheeltrims.... they don't even look like alloys, now.

## 133 Spares to carry

I've got engine oil, LHM, petrol, water and an oil-pressure switch. I'm a member of a (European-wide) breakdown service which can supply people to fit bits and pieces but which most certainly won't carry CX components around with them. I'm concerned about ordinary travelling in the UK, where Citroens are common, and a possible trip to central Europe, where they are rare.

I now carry a few spare lengths of hydraulic piping -- at least one each of the three different sizes -- complete, of course, with attached fittings. I don't know what it's like in Europe, but over here (North America) it is virtually impossible to find anyone with the gear to make the Citroen pipe ends. And after two breaks in my main pipe that goes from the HP pump into the main accumulator, I now also carry the proper replacement pipe for that.

====

Add fuses, spare light bulbs, water and LHM pump belts and a roll of self amalgamating tape which is good for most things like split water hoses and electrical items. Pleiades in the UK supply a hydraulic repair kit which includes a flaring tool.

====

My ideas:

EFI models:

Ignition computer, coils & sensors (common as snowballs in hell).

Fuel pump (remote areas only)

Generally:

1 Litre of green blood, complete set of drive belts, pack of fuses, water.

Points & condenser.

Reliability enhancement:

Replace all coolant hoses, the de-airiator & "H" piece and any other plastic stuff in the coolant flow system, hydraulic pump suction line and accumulator block to body pipe every 5 years or so.

Replace any hardened engine hoses as soon as practicable

Check wiring around engine regularly for damage & hardening.

Long range stuff:

1 metre of each of the 3 hydraulic pipe sizes plus flaring tool

1 metre of reinforced plastic hose to fit each of the above.

Reinforced tape to fix any of those small drain lines that break (super glue as well).

=====

Be aware of the return hose from the pressure regulator. This hose is under constant stress as the regulator cuts in or out and is prone to burst sooner or later (when you least expect it, of course). This hose consist of not one but several small return hoses and is a bit of a pain to replace and expensive too. Usually the hose burst just a few dm's from the regulator a nice and easy way to stay safe is to carry a spare pice of reinforced hose, a metal tube and a few hose clips to hold it together with. Tools needed; screwdriver and knife. The best thing is that this repair is easy to do even on the roadside and if done properly it lasts for many years. Good ain't it?!

Unfortunately I don't live as I learn and don't carry this with me, although I know I should. In my car I simply carry screwdrivers, water, windscreen wash, engine oil and blood.

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## 134 The first XM club

A UK XM club would be a very good thing and I'd be all for it.

I do think that we should be running it as a special section of the Citroen Car Club.

This has many advantages. They already hold meetings around the country and have the experience we would need in organising an event.

Maybe we could aim to hold a special XM section meeting at the next Citroen Car Club meeting sometime in the spring.

Steve

=====

Steve & Keith

I think you are both absolutely right - the time is right for a formalisation of XM support, and that the XM "club" should be a part of the CCC. There's already several models with dedicated sections, with varying levels of activity - from SeMantics (SM section, with newsletters, tours and plenty of exclusively SM events) to CX (with a rally, and CX of the Year at the national rally). BX, GS also have sections, as opposed to regular columns.

I would hate to see a move away from taking advantage of the CCC for such a model-focus, and would hesitate to say it wouldn't work - most people only want to join one club, and many many XMers also have BX/AX/Whatever else which would mean the CCC would come first for them.

By the way - my local expert CitFixer (Louis Barbour, Great Missenden, Bucks - 01494 864112 - plug, plug - can I have a discount on the 4x4 2cv, Louis?) reckons he works on NO XMs now, and mine is the only CX he looks after... I'm sure, however, that the majority of the 380 XMs sold in the UK last year are around me, as I regularly see R & S reg XMs. (Aug '97- date registered!) Is it that earlier XMs are starting to disappear? I know I wouldn't fancy one that's been home-fixed by somebody who just wants it because it's a cheap tank....

Bearing in mind next year is the 10th anniversary of the XM, and the 50th of the CCC, can I suggest that this is a damn good opportunity - I am sure that Julian Marsh and I would be glad to propose/second it's formalisation at a CCC committee meeting some time.

Adrian Chapman

Webmaster

Citroen Car Club

## 135 Total failure

Having once had total brake and steering failure on the autobahn at quite a high speed due to fluid leak caused by my bad parking and causing pipe damage ,I can think of no other make of car that could put you in such a dangerous position ,brake or steering loss but not both. If the abs sensor does cause this temporary lack of braking then there is a very danderous design fault at 220 kpm you go along way in a second and has been previously said a sensor failure should not effect the braking system in any way .

I am sure there must be another reason for this as i do not believe auto manufacturers would allow this to happen. I also think that new models to come will have much better safety features because they will not pass the new TÜV safety checks in the present form

=====

Subject: 'total failure '

A complete hydraulic system failure is a uniquely Citroen thing - but you do have two spheres full of reserve pressure, and a priority valve ensuring that as pressure goes, it will go to the "unimportant" (relatively) things first. Suspension and back brakes first, then steering, then (finally) front brakes.

## 136 Who designed what

SM AND the CX (and also the GS and AMI 8) were designed by Frenchmen Robert Opron. In 1975 he moved to Renault. There he designed: Renaults 9/11 (in America Encore and Alliance), Renault 25, Renault Fuego, Renault Trafic and Master, Renault Express, Renault Super 5, Renault 21 Nevada and some more.

====

The SM originates, like the CX and the GS, from the french designer Robert Opron. When you compare the 3 cars you can clearly see the same lines coming back. Compare for instance the sides of the car, and you will see that they all "stop" beneath the doors. This gives the impression of a "box-type" chassis. When you look at the first series of the cars you also can see the lack of side-strips and other fancy striping. Three car clubs in the Netherlands invited 2 years ago Robert Opron to celebrate the 25th anniversary of the GS and SM and the 20th of the CX. For this event also a special book is made named "style opron". By the way, Opron also did the restyling of the DS, and the third nose is drawn by him !!!

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## 137 XM Prestige

When I was looking to buy an XM, amongst a few SEi's I test drove two J reg Prestige's. They were very different to each other. One was in every detail identical to an SEi, I suspect that it was an unsold SEi, rebadged and sold at a lower price. The other Prestige had a cat, a two spoke steering wheel, no rear inner glass screen, leather seats without electrical adjustment, new style alloy wheels (see the cutaway XM at this web address:

<http://web.ukonline.co.uk/Members/jr.marsh/xm.htm> , thankyou

Julian Marsh)

So which is the Prestige featured in the brochure? Do any of you own one or other of these Prestige types?

I bet Adrian's thinking, why couldn't Citroen have stretched the XM to make a real Prestige? Are there any limo XM's?

=====

My 92 Prestige has the said alloy wheels leather non elec seats, a/con no cat and the injection system does not match any of the information in the Haynes manual as far as I can see.

=====

If you saw mine, you wouldn't be able to place what it was..... 1993 2.0i Turbo but with parcel shelf screen, single spoke wheel (all Citroens should always have these), alloy wheels and leather interior - A pain now, as it does not have Air con....

=====

## 138 XM Replacement

Just out of interest has anybody any idea what Peugeot are planning to do with the 605 replacement. Is there one planned given that the 605 was a real sales disaster and will it share components like the floorpan with the XM ?

\*\*\* Definate "Go !" for the XM replacement is given not so long ago. I think it was early this year.

The design, development and marketing research for the 605 was already in process at that time.

Final decision was only given when all problems with the 605/XM were solved. Since two years most dealers have no problems anymore with the XM's. Specially the XM V6 with the new engine seems to be perfect now. I hear from several dealers that they are selling cars now to people who got rid of their XM's already in 89 / 90 and bought something German again.

So finally some good news on the XM.

Infact Citroen is not doing so bad at all:

Sales in Europe ex. France: + 25% ( 21% Western Europe, 54% Rest of the world).

Along with the "Tiara" (AX) a new, Saxo-based car will be sold in Maleisie, under the Proton brandname.

The ZX is currently produced at a rate of 160/day (vs 48 last year) in China.

Starting 1999 the Berlingo will be produced also in Argentina