

Removing a V12 engine.

Had a few requests, so here goes.

Based on the Series and XJS cars, with a touch on the Carby version, as asked.

NOTE:

This is NOT a Bible on how to do it, it is from memory, as its been years since I had the pleasure.

EVERY removal will have little “this and that” items that are unique to YOUR car, and I have NO idea what they may or may not be.

You are intelligent, you own a V12, so that is a given, use your brains, SLOW down, and take the time to look for little things that may hang you up as you start the withdrawal.

The 1st removal took me 6 hours, I had NO idea, the others were out on the floor withing 4 hours.

You will preferably need to have the front of the car raised off the ground, as there are topside and underside items that need doing one after the other. Read it ALL, then read it again, and I reckon it will all come apart easily.

I STRONGLY suggest a Camera, and/or some Masking Tape and a pen, TAKE SNAPS, TAG everything, your memory is not as good as you think it is, FACT.

CARBY CARS

I remove the 4 carbies. If something goes wrong, snapping a carby will really ruin the day. Other items will anger you, but can usually be replaced/repared easier than a carby.

I strongly suggest buying/making, one of these engine support beams. Essential for safely supporting this engine during the following scribe.



- 1) Remove the bonnet/hood, then the 2 fender cross braces.
- 2) Remove the radiator, A/C condensor, Oil cooler.
- 3) Remove the engine driven fan. Too easily damaged, best out of the way.

- 4) Remove ALL the related coolant hoses, there are some at the rear you will need to look carefully for, Fuel hoses, etc.
- 5) Remove the air filter covers AND backing plates.
- 6) Undo the 2 hoses AT the steer pump, tie them back well clear.
- 7) Remove the engine oil cooler hoses. They will dangle and foul.
- 8) Remove the remaining A/C hoses, CAREFULLY. The one that runs to the TX valve at the back, DO NOT TOUCH the rear connector AT the TX valve until the engine is out. The risk of snapping the evaporator tube is in the 90% region. So tie it back well clear of the work area WITHOUT straining things, for now.
- 9) Remove the throttle cable, tie it well clear.
- 10) Remove the brake booster Vac hose at the manifold, tie it back clear. On EFI cars tag and remove the small vac hoses at the rear of the A bank Inlet manifold.
- 11) Remove the exhaust centre section, by that I mean between the triangle joint at the downpipes, to the joint just before the rear cradle. Lay then well clear of the work area.
- 12) Remove the exhaust heat shields from the tunnel.
- 13) Remove the transmission selector cable, tie it well clear of the area.
- 14) remove the speedo electrical connector, OR the speedo cable from the dive unit.
- 15) Remove the 4 bolts and nuts securing the prop shaft to the transmission.
- 16) LOOSEN, the 4 bolts holding the transmission mounting frame TO the body.
NOTE, there are spacer in here, so take snaps, make notes, whatever.

SIDE NOTE

Access to the #15 can be a PAIN, and the transmission mount may need to be dismantled to give that access. That transmission spring WILL HURT, so pay attention. There are many threads on removing that thing safely. I have a PDF on that fiasco if needed, so simple ask if you need it.

- 17) Supporting the transmission while tackling that mounting is best done with a support beam as pictured above, across the rear of the engine, and sitting in the fender channel. Attach chains, threaded rod if you are fancy, and ensure that this bar has taken the weight of the engine and is secure. Remember, you will be under this thing very soon. When the time comes to lower the mount/trans unit, I use one of the kids old skate boards, so the mount pin can sit on the board and run forward during extraction, as apposed to dragging it on the concrete.
- 18) Undo the top nuts of the front engine mounts, A bit of a pain, but doable.
- 19) Remove the battery cable at the starter solenoid, AND the smaller White/Red solenoid wire.
- 19/1) Find and remove the engine earth straps. Originally, they were located at the LH engine mount. One strap, engine to cradle, one strap cradle to chassis. Many owners have fitted additional earth straps, so LOOK AROUND.
- 20) Unplug the exciter wire at the alternator

21) Unplug the EFI loom, and LOOK AROUND for other wires, such as, Temp sender, Oil senders, Ign coil connections (LABEL THEM WELL) etc etc. EFI cars will have Coolant Sensor, Air Temp Sensor, and so on.

22) Drain the engine oil, its easier now than on the floor. Trans fluid can be sucked out later if needed.

23) Remove the cotter bolt securing the steering shaft TO the rack pinion, slide the splines apart and tie that shaft well clear of the area.

24) Remove the 3 bolts securing the steering rack to the cradle, and let the rack “hang” on the tie rod ends. This is important, because if the engine hangs up, and/or the “angle of the dangle” is out a tad, the first thing to get BELTED is that rack, and they BEND so easily. Remove the rack completely is my way, as new bushes will be needed.

Look around underneath, look again, make sure all is free from any connection with the body of the car.

25) Lower the front of car back to the ground, unwind the support beam threaded rods, allowing that transmission mount pin to sit on the skateboard. Remove that support beam.

Look around up top, look some more, ensure nothing is attached between the engine assembly and the body.

26) Attach the chains to the 4 supplied lifting eyes. The front chain will be shorter than the rear, so the front rises enough to clear the cradle etc. Take the weight, CAREFULLY. Look around some more, give the chains a “wiggle”, just in case one link wants to settle, better now than 3 feet in the air.

I use a “one arm bandit” lifting crane, and that makes life simple, it has the height to get the tail up and out of the car as you go.

I suggest 2 helpers here, one on each side, SOBER, and watching for any foul ups as you lift and remove. This assembly is HUGE and HEAVY.

As they say refitting is the reverse of the above, and it is ALMOST.

I always have helpers, and work it in, it is tight, and fiddly. Get the front mounts located, release the chains, and use one to attach to the rear lifting eyes, and raise the transmission into the tunnel, slide under as best you can, and insert a wood block under the transmission pan, to keep it up into the tunnel. Remove the crane and chains.

NOW, use that steel bar again across the fender lips to support the rear of the engine. This will keep the trans in situ as you raise the car to work under it.

Once the trans mount is reassembled, remove that steel bar, and continue the reassembly.

Now its out, those scary A/C hoses can be addressed.

Also, the front sway bar “D” rubbers are SO easy now, as are the large round front cradle nose mounts, think about it.