



The guys at Muscle Car make fitting a 427 engine to an early Mustang look easy. Muscle Car builds a lot of Mustangs, but you'll also find Camaros, Pontiacs and other classic cars there.

# IN AND OUT

Removing or re-fitting a donk is pretty simple when you know how...

**S**trictly speaking, getting the engine out of and back into your car is not a modification in itself. However, it's the basis of almost all substantial mods you can make. The engine certainly has to come out to be rebuilt and a proper paint job calls for a fully stripped body. So, this relatively simple task is going to be part of any rebuild or restoration. But what if you've never done it before?

Like everything, it's not so difficult once you know how. The first step of any work whatsoever is to get a workshop manual for the car. You should never attempt any modifications before you have one and you've read it. Many of the factory manuals from the muscle car era are brilliant but condensed aftermarket versions are also very good. It's best to have both. Mind you, a few tips from the specialists at Muscle Car, Grand Tourer and The 308 Shop (0402 846 418) won't go astray either...

## Breaking the rules

while we can give you a general guide to removing and fitting your engine, we can't know everything about all of the cars that appear in this magazine, there are just too many.

Looking at the engine removal/refit instruction list in the manual for your car will alert you to any special steps needed to do the job. Yet despite what we've just said about manuals, sometimes such methods can be modified. Over the years, inventive mechanics have actually found better ways of doing things than the manuals suggest. The boys at Melbourne's Grand Tourer ([grandtourer.com.au](http://grandtourer.com.au), 03 9357 7757) were refitting a Windsor to an XR and showed us that the bonnet doesn't have to be removed, despite the manual saying so.

Neil, owner of Grand Tourer, explained that they simply undo (on each side) the front bolt on the hinge assembly. Doing so allows the bonnet

to be opened much further than normal and creates as much unencumbered working space as removing the bonnet altogether. Be aware, though, that when the hinge mechanism is undone in this way the bonnet must be fully supported at all times by a helper.

When removing and fitting engines it's best to have an assistant and preferably two. This is particularly so for refits because these are more difficult than removals. That way you can have one person on the crane and one on each side of the engine. Having three people involved creates greater control and minimizes the likelihood of scratched paint and general damage.

## People power

apart from getting good help, using the right tools is essential. You can certainly use a block and tackle to remove an engine but it's more difficult than using a proper engine crane. For one thing, not many garage rafters are



1

Aftermarket extractors almost always need to be detached before removing the engine.



5

Remove all coolant hoses, fan shrouds, fans and the radiator.



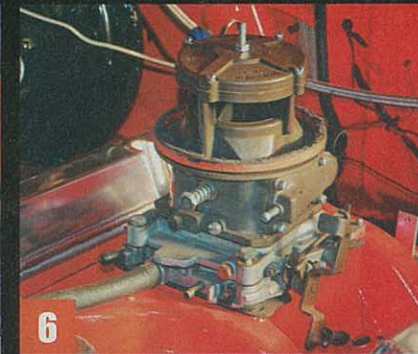
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Use a jack to support the transmission during engine removal and installation...



2

Sometimes factory headers can remain on the engine before it's removed.



6

Whether a carburettor or a gas mixer the principles are the same. Remove the cables, linkages, vacuum lines etc.



10

...however, a jack is not a good long-term support for a transmission.



3

The torque converter must be separated from the flexplate. We'll cover manual transmissions in a couple of issues when we show you how to replace a clutch.



7

Rags or other padding between chains and other components are essential to protect them.



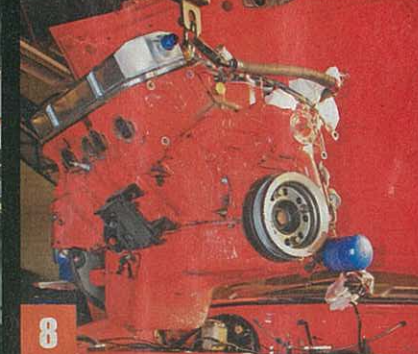
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Always use new hoses, clamps and the like when re-fitting an engine and peripherals. Your project deserves it.



4

It's safest to disconnect the battery first.



8

Note how the engine has twisted on the way out because of the chain.



12

There are a number of tools available for clamping off hoses.