

2 Selecting a donor vehicle and selling the engine

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2.1 Selecting a Donor Vehicle

If you already own your Miata donor vehicle, then you can skip this step.

Prerequisite: None

Tools needed: The Internet and your check book

Parts needed: None



Before you can do anything you need a car. Not just any car will do, you will need to find a 1990 – 1997 model year Mazda Miata MX-5. This shouldn't be too hard as these were very popular

years of this popular car. They are also easy to distinguish from other generations of the Miata, since these are the ones with the pop-up headlights.

The requirements for a donor vehicle are listed below. The idea is to find a car with the parts you'll be keeping in good shape for as little money as possible. Options and after market add ons such as air conditioning, turbo chargers, exhaust modifications aren't needed, but you may be able to sell these items to offset the cost of the car.

Requirements are subjective, for instance, if you find a car in need of some minor body work, but the top is new, you might still want to consider it. In general, you'll want to find a donor car that you can live with that meets these criteria in priority order:

1. **A straight frame and body** - body work is expensive, unless you are able to handle the work yourself, I would think long and hard before taking a car that needed more than a little body work.
2. **Little to no rust** – if you can see rust on the car, then it's likely there is rust you can't see, which may weaken the frame. Surface rust on a primered fender or trunk lid, is fine, but I would recommend steering clear of a car that shows any significant signs of rust.
3. **A good manual transmission** - automatics are difficult to impossible to get to work with an electric motor, so if the car has an auto I would pass. I would also pass if the transmission is leaking, whines, or doesn't shift smoothly.
4. **Good interior** – interior parts are pretty easy to find, but a good interior will save you time and money. I would recommend having an idea of costs of replacement seats, dash cover and console before you go shopping for a donor,
5. **Good top and rear window** - these can be replaced, but aren't cheap. It's a good idea to check your local prices for replacement tops before looking at cars so you'll know what you are getting yourself into.
6. **A worn out engine** - this reduces upfront cost but will reduce the engine's resale value. A high mileage engine is a good choice too.
7. **Manual steering and no air conditioning** - you can put in an electric power steering pump, but it will pull a lot of amps, reducing your range. Air conditioning falls into the same category, but hey, it's a convertible, put the top down if it's hot outside. If your donor has either of these options, that's okay – you can easily convert the steering to manual and sell the air conditioning system.

Since these cars were so popular you can find dash components, seats, tops, body parts and anything else you may need to bring your donor up to snuff, but the more complete your car is to start with, the easier all this will be. You also have the option to sell the components you

remove from the car to cover any repair costs – but don't count on getting a lot out of money for your parts.

A couple points about model years:

- The first generation (NA or M1) Miata MX-5 was introduced in 1989 as a 1990 model with a 1.6L engine
- In 1994 the motor was upped to 1.8L (which is a little easier to resell than the older 1.6L engines), passenger side airbag and optional Limited Slip Differential (LSD). This model is unofficially called the M1.5
- The second generation (NB or M2) Miata MX-5 was introduced in 1998 as a 1999 model year. This kit is not designed to work with this year or later.
- Each year from 1991 there was a Limited Edition or M version offered in the US that had leather interior, special wheels and special paint.

Below is a table listing the new features, colors and production numbers of each North American model year of the Miata.



Miata Model Year Data for North America

Model Year	Production number (US)	Features Introduced	Standard Colors	Special Editions
1990	51,636	NA Body Style 2200 Lb 1.6L OBD-1 B6-ZE 116 HP 5 Speed Transmission or automatic AM/FM radio A package: power steering, alloy wheels, leather wrapped steering wheel, AM/FM cassette B package (added to A package): Power windows, power antenna and cruise control. Air Conditioning (optional) Removable Hardtop (optional) Viscous LSD (optional for manual transmission cars only)	Mariner Blue Crystal White Classic Red Silver Stone Metallic	none
1991	38,287	ABS introduced (optional) CD Player introduced (optional)	Mariner Blue Crystal White Classic Red Silver Stone Metallic	Special Edition: British Racing Green, tan leather interior, tan vinyl top, wood shift knob
1992	26,636	Remote Trunk Release Rear Subframe Brace Rear Defroster and Headliner added to optional hardtop	Mariner Blue Crystal White Classic Red Silver Stone Metallic	Limited Edition: Sunburst Yellow
1993	21,482	Mazda Logo added Power Mirrors C package: Brilliant Black, Tan leather interior and tan vinyl top	Mariner Blue Crystal White Classic Red Brilliant Black	Limited Edition: Black with red interior, red tonneau, 14" BBS wheels, Bilstein shocks, ABS, wood shift knob, front and rear spoiler, LE key fob

Model Year	Production number (US)	Features Introduced	Standard Colors	Special Editions
1994	20,110	Minor restyling 2300 Lb (100 lbs heavier) 1.8L (1840 cc's) engine 128 HP Torsen LSD (optional) Passenger Side Airbag Standard Minor Mechanical Changes Enlarged Brake Discs Front Subframe Brace Added Rear Subframe Brace Changed Cockpit Brace between seatbelt towers "Flash-to-pass" added to headlights Gas Tank Enlarged	Laguna Blue White Classic Red Brilliant Black British Racing Green	M Edition: Montego Blue Mica, B package plus special polished M edition wheels (lightest factory wheels) R Package: Stiffer springs, larger sway bars, Bilstein shocks, front and rear spoiler, Torsen LSD.
1995	19,590	Oil Gauge changed to Lo-Hi A, B and C package were replaced with preferred equipment packages	Montego Blue Laguna Blue White Classic Red Brilliant Black British Racing Green	M Edition: (5 th anniversary) Merlot Mica, 15" BBS wheel (9.6 Lb.), tan vinyl top, tan leather seats, wood trim
1996	18,971	1.8L upped to 133 HP	Montego Blue White Classic Red Brilliant Black	M Edition: Starlight Blue Mica, 15" five spoke Enkei wheels, tan vinyl top, tan leather seats, wood trim, remote keyless entry and alarm.
1997	18,652		Montego Blue White Classic Red Brilliant Black British Racing Green	M Edition: Marina Green Mica, 15" polished six spoke wheels Special Touring Edition (STO): Twilight Blue Mica (similar to the 1996 M edition)
1998	0	The 1998 was not produced. The 1997 extended late, and the 1999 was introduced early to fill the 1998 production year.		

I personally think the 1994 and later cars are the best years for donors due to their larger brakes, passenger side airbag and larger 1.8 Liter engine, which is easier to resell (owners of 1.6 Liter engines are always looking to upgrade...). The Special Editions (and the R package) are appealing, but they are harder to find and the owners realize they are special and want more for these cars.

Craig's list, www.craigslist.org, is a great resource for finding donors and buying and selling parts. It's a good idea to start monitoring the local Miata listings in both the Cars and Trucks and Auto Parts sections so you'll have a good idea of the value of the cars and how much the parts may be worth. It's also handy to track the price of various optional or aftermarket equipment that you may be able to sell. Make a detailed list and keep it handy – in your wallet or in your cell phone – so that you can negotiate with the seller knowledgeably.

For instance let's say you find a car you like with a worn out 1.6L engine in need of a new top. It has a cold air kit, a hard top and a strut brace, but the owner wants \$2,000 for it. You check your list it see that the hardtop could get you \$900, the cold air kit \$100 and the strut brace \$50. Since it's a 1.6 that's worn out, you probably won't be able to sell the motor, but the engine accessories - starter, alternator and so forth - could still bring in \$75 or so.

You do some quick math...

	\$ 900	Hard top resale value
+	\$ 100	Cold air kit resale value
+	\$ 50	Strut brace resale value
+	\$ 75	Engine accessories resale value
	<u> </u>	
	\$1,125	total

Now we may not be able to sell everything or we may have to do some discounting, so let's take 30% off that total, which leave us with \$750

Now let's take what we originally budgeted for the donor, the price for a new top and add them up:

	\$1,200	budget for donor
-	\$ 200	for a new top
+	\$ 750	resale value of unneeded parts
=	\$1,750	total

Now you know to offer \$1750 to the seller, and you have the facts to back up your offer.

2.2 Selling the Engine (ICE)

Prerequisite: Selecting a donor

Tools needed: The Internet

Parts needed: None



Photo credit: Hakuna Miata

First step after getting your donor is to sell the engine or ICE (Internal Combustion Engine) in electric vehicle terms. The idea is to sell the ICE while it is still in the car so that the buyer can see it running. If you do not plan to sell the ICE (some argue that selling the engine keeps another gas burner on the road which is of course a bad thing), then you can skip this part and won't need to delay removing the ICE and components.

Again, I recommend using www.craigslist.org for selling the ICE since it is free and local (you do not want to ship an engine, trust me). It is a good idea to use pictures in the ads as most buyers like to see what it is you are selling. Of course, you can use whatever you think will get you the best results.

I have heard of some people arranging to have the "buyer" remove the engine as part of the purchase. I say "buyer" since the way this works is to give the engine to the person as long as they pull it and haul it away. Two comments on this: 1) not everyone is interested in this kind of arrangement, so don't expect to find someone right away and 2) be sure you're okay having strangers making a mess in your garage for a day (of maybe 2) and using your restroom, etc.

Selling the engine will often take a couple of weeks in which there isn't much else you can do. If you are like me, you will be anxious to get started and waiting a couple of weeks will be really, really annoying...

Make sure the buyer knows you will need to keep the clutch and flywheel and they'll need to pick it up on the day you pull it (if possible) so you won't be charged for an extra day on the hoist.