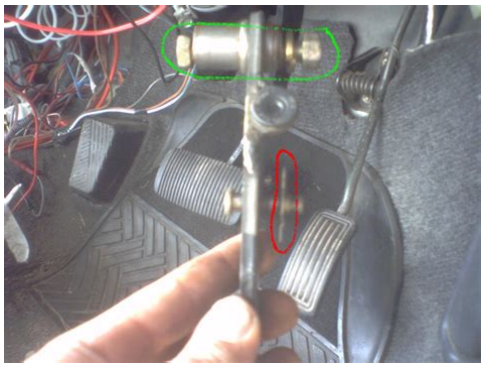
Converting Auto To Manual



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Book Descriptions:

Converting Auto To Manual

You can find links to relevant notices and more information about ExxonMobil’s privacy program here. Help on switching browsers can be found online. Click here to update settings. The big pieces are often the pedals, linkage and transmission mounts. UsingSticks weren’t nearly as common asHowever, the aftermarket has kept pace, andThe additional width of theThe geometryWorse yet, shortening it and repositioning theTo make matters worse, the genuine part numberMost parts dealers have aFor the most part, the remainingHeavyduty accessory hardware such asJust like theTo install them, the stockIt’s a simple process where a clip isThe automatic bits are replaced byYou’ll note that in thisThat’s how the factory did it.Some cars cameThese pieces are readily available inWhen installing new pedal pads, it’s aBecause of this, physically swapping gearboxesExamples include PowerglidesIt was almost like Chevrolet engineers envisioned theTurbohydramatic 400 examples, nonTH400 examples and big block versions. The most difficult cross members to locate are the big block Turbo 400The good news is these pieces are readilyAnd so are all of the other transmissionAftermarket solid versions are available, but it has been our experienceCoupled withThe result is often broken mount ears onStick with the OEstyle rubber hardware. Your transmission will be muchYou just have to know what fits what. For aOnce removed, you can reinstall the stick shift pedals reverse order. In the case of a big block, the engine and transmission are actually offset slightly to gain clearance. As a result, transmission cross members differ between big and small block cars. Stock type reinforced rubber mounts, such as this pair, are highly recommended. Please upgrade for a much nicer experience. This scenario tends to happen a lot Someone sees a car for sale at a great price and they decide to buy it. Then they either realise its an automatic, or they knew it was auto and planned to convert it.http://pic-invest.com/userfiles/how-to-roll-start-manual-car.xml

- **converting auto to manual, converting auto to manual transmission, converting auto to manual licence, converting auto to manual civic, converting auto to manual license, converting 350z auto to manual, converting auto hubs to manual, converting e36 auto to manual, converting is300 auto to manual, converting auto supra to manual, converting auto to manual, converting auto to manual, convert auto to manual, convert auto to manual transmission, converting from auto to manual, converting miata auto to manual, converting auto transmission to manual.**

Now it’s time to stop saying and start doing. At the rear there are two more bolts one in the floor, the other in the tunnel for the drivetrain. The front are different length from the rear, so don’t get them mixed up. Fold the seat all the way forwards, then tilt it back there should be a wire running out from the floor and into the seat. This is the seatbelt sensor and can be unclipped at the middle where it is ziptied to the seat. Lift the seat up and pull it out through the driver’s door be careful that the rails don’t touch anything since they are metal and scratch the plastic trim very easily. Therefore it should be replaced by a manual brake pedal as it may get in the way of the clutch pedal. Marked in red are the bolts to hold in the brake pedal there may be another bolt at the very top. Marked in orange is the pin that connects the pedal to the master cylinder and the hidden bolt at the very top. Marked in yellow are the bolts that hold the accelerator pedal. There are two sensors on the automatic’s brake pedal one that tells when the brake is pressed, and one tells the auto transmission that you can put the car into gear. These can both be unplugged, but the brake light sensor must be plugged back into the new brake pedal, and not the clutch pedal. The image above shows the locations of the screws holding the dashboard in. Pull on the throttle and slide the stud

out through the side. Unbolt the accelerator pedal and pull the throttle cable through the firewall. To install the new accelerator, run the throttle cable through the firewall then bolt in the pedal. Connect the throttle cable to the throttle body after. In the photo above, there are two studs marked in red, and the master cylinder marked in orange. In a Nissan Skyline, there is a blank cut out of the insulation shaped perfectly, and the perfect place, for the clutch master cylinder refer to picture below.http://hermagroup.com/attachment/how-to-roll-start-manual.xml

Note that there should be an air condition vent in the way it is screwed into the dashboard via a strip of metal that is very hard to access. I cut mine to pieces with a dremel and took it out in parts. As you can see in the photo above, I removed the whole piece and marked the area on the firewall, using the centre as a template. Place the clutch pedal in the space and mark the areas to be drilled for the studs, and the area to cut with the holesaw. The brake and accelerator pedals will fit straight into the existing holes. The clutch master has two holes where the studs from the pedal fit through the pedal and master clamp onto the firewall. Bolt the master into place, then attach the pushrod from the inside. There is another bolt to the right offscreen that bolts into the dashboard. It is basically the same as the clutch pedal. Bolt it into place and connect to the brake master. The steering rack will often get in the way, making the job difficult, however you can get through without dismantling the rack. First, you need to drain the fluid out there is a bung at the bottom which should get most of the fluid out. It is not right at the bottom, so there will be a bit of auto fluid still inside. The orange arrow points to the bung where you fill the gearbox. There are two screws near the top, while the rest is held in by plastic clips. Unplug any electrical wires in this case, the steering wheel's control switch, the cigarette lighter, and the park sensor. The autoshifter will come out through the bottom with the gearbox. The automatic driveshaft has a smaller diameter than a manual driveshaft, so will not fit into a manual gearbox. Remember to unplug the wires on top of the auto box, and remove the hydraulic lines and dipstick. Place a transmission lift or a jack with a block of wood under the transmission and undo the ten bolts around the bellhousing, and four bolts holding the crossmember in place.

Pull out the front half of the driveshaft and lower the auto gearbox might have to pull backwards while doing this. When the motor is running the crankshaft turns and, being attached to it, the flywheel turns. Remember to clean the flywheel with brake cleaner before use, then wipe off with a dry cloth. This will get rid of any microscopic dust and dirt, and remove any clearcoat. If the gearbox uses a onepiece sandwich plate like a skyline, you probably want to hold it in place between the flywheel and motor before you attach the flywheel. If the sandwich plate is in two parts, you can add it after or so I've heard. There are three studs around the outside of the flywheel these are guide pins that allow you to correctly attach the pressure plate. Line up the six boltholes in the centre with the bolt holes in the crank and tighten them in at about 128nm. The flat side presses against the flywheel. When the teeth on the pressure plate are pressed, they act like a pivot to lift the clutch away from the flywheel. Remember to grease the spigot bearing as it acts as a guide for the shaft in the gearbox. In the step about the flywheel I mentioned the guide pins in the photo above, I have pointed out the guide holes. They are a bit smaller than the bolt holes. If the clutch does not line up properly the first time, rotate it and try the next guide pin. Once you have it lined up, and it sits flat against the flywheel, bolt it in place with the nine bolts around the perimeter. Torque them down to about 40nm. The yellow arrow points to the release bearing a metal ring that presses against the teeth of the pressure plate. The red arrows point to the clutch fork inside and outside the clutch slave pushes on this which in turn pushes on the release bearing. The orange arrow shows the mounting bolts for the slave cylinder.

http://schlammatlas.de/en/node/23079

Before you connect the clutch slave to the bellhousing, screw in the clutch line, connect the other end to the bottom of the clutch master cylinder, fill with brake fluid and bleed the system. Also,

before placing the release bearing, give it a good coating of grease so it does not stick. While you can use an R32 gearbox in an R34, vice versa, the wiring loom is different even for an R33 and R34. If possible, try to get the loom from the exact same car as yours. The same applies to the driveshaft. Each generation of Skyline uses a different length, but they can still be cut, welded and balanced. I have labelled the plugs on the gearbox to the best of my knowledge. If you don't have the correct wiring loom, you can still use the automatic loom, and bridge the inhibitor sensor to tell when the auto is in park. If this is the case, the best option is to go to an auto electrician I searched for months and tried tracing back the loom and in the end an electrician got it working in a couple hours, including the reverse lights and reverse beeps. On a Skyline, the gearbox loom ends on the side of the fusebox and most engine components plug straight in. This can be difficult as the shaft in the gearbox must line up exactly with the clutch, and the bellhousing must line up with the sandwich plate and engine block. I found that on my gearbox, the sandwich plate could sit almost perfectly along the groove of the bellhousing. As far as I can remember, the longest bolts were at the top and the shortest bolts at the bottom. Do not lower the transmission lift until you have bolted in the crossmember. As previously stated, you can get the driveshaft cut and welded if it is not the correct length. Once the driveshaft is in place, you can fill the gearbox with gearbox oil. The bung is near the top of the gearbox, so you will need a pump. However I was able to add the docking ring and rubber insulation.

https://espbc.com/images/bosch-millenium-series-dishwasher-manual.pdf

If you haven't replaced the driver's seat or the bottom of the dashboard, now is a good time to and don't forget the seatbelt sensor. You can use the automatic ECU and dash cluster as long and everything is wired properly. Congratulations! You now drive a proper car. Start here. Please upgrade your browser to improve your experience and security. Please read here about the additional precautions we're taking.So here is a piece of good news for you—it is possible to convert an automatic transmission into a manual transmission. However, it is a complex task that should always be left to a trained technician at an established auto and transmission service shop. The rebuilt option is rather pricey, but may be necessary depending on the make and model of vehicle you are converting. However, you can convert a transmission without replacing it too; but there are a few factors to consider One of the biggest replacements will be the brake pedal. This will be replaced with a complete manual brake and clutch installation. A separate bell housing, clutch mechanism, hydraulic or manual clutch system will need to be created and the drive shaft may also need to be replaced. It requires experience with mechanics and you will need to have the right tools on hand that goes beyond the average tool box. Due to the complex nature of the conversion it is best to leave the job to a reputable transmission shop in Calgary, Lethbridge or Medicine Hat. Instead, you should take your vehicle to a company that specializes in manual transmission services in Calgary. The team at National Transmission can help you convert an automatic transmission into a manual one. We have six convenient locations spanning from Calgary to Medicine Hat. Instead of risking the integrity of your vehicle, let our team help you with the conversion process. You can also ask a question online by emailing one of our locations. Preferred Date of Service.

http://essentialchef.com/images/bosch-microwave-ovens-manuals.pdf

This is a project that requires many parts and a strong mechanical aptitude. The brake pedal for the automatic will need to be replaced with a complete manual brake and clutch installation. On a reardrive vehicle, the drive shaft may also need to be replaced. A separate bell housing, clutch mechanism and hydraulic or manual clutch mechanism will be needed and, finally, a shifter and linkage. Step 1 Remove the existing gear shift linkage, if it is a column shift, or the shifter, if it is floormounted. If it is a column mount, use a small hammer and tap out the roll pin holding the gear shift lever. Remove the shift cable from the lever at the base of the column and pull it through the firewall. If it is a floor shift, it will be necessary to remove the center console and take the shifter

loose from the floor. Simply unscrew the bolts holding the console and the floor shifter to the floor. Step 2 Unbolt the brake pedal linkage from under the dash. Disconnect the electrical connector to the brake light switch. Bolt in the new clutch and brake pedal assembly under the dash. Bolt on the new brake light switch and connect the electrical connector. Step 3 Raise and support the vehicle on four jack stands. Remove the gear shift cable or linkage from the transmission by removing the nut on the linkage and pulling the gear shift lever off. Save the gear shift lever for later installation. Remove all electrical connectors from the transmission. Remove the bolts in the drive shaft yoke using a wrench. Remove the drive shaft. Step 5 Place the floor jack under the transmission pan and remove the bolts in the cross member and transmission mount using the ratchet and socket. Lift the transmission and remove the crossmember. Lower the transmission and remove the transmission cooler lines with a wrench. Step 6 Remove the bolts in the bellhousing with a ratchet and socket and remove the transmission. Remove the flexplate using the ratchet and a socket.

Step 7 Install the new flywheel and tighten the bolts. Install the new clutch kit using the alignment tool that comes with the kit. Tighten the bolts securely. Install a new throwout bearing in the new bell housing and bolt up the new bell housing. Step 8 Bolt the new manual transmission to the bellhousing by inserting the bolts and tightening them with a ratchet and socket. Plug in all electrical connectors. Step 9 Install the transmission mount and tighten the bolts with the ratchet and socket. Place the floor jack under the transmission and raise it to install the crossmember. Lower the transmission onto the crossmember and insert the bolts and tighten. Install the driveshaft and bolts and tighten with a wrench. Step 10 Pass the linkage or cable through the firewall and attach it to the clutch pedal. If it is a hydraulic clutch, attach the master cylinder to the clutch pedal and the firewall. Bolt the transmissionend of the linkage or cable to the clutch release rod on the transmission. If it is a hydraulic system, attach the slave cylinder to the transmission. Step 11 Install the shift lever on the transmission by putting the nut on the shaft end and tightening it with a wrench. With your hand, put the shift lever on the transmission in the neutral position. When it is in neutral the drive shaft can be turned by hand. Remove the top cover plate on the transmission if it is a top loader. Bolt up the shift lever and cover. Cut a hole in the floor for the shifter, if it is a side mount shifter. Bring the shifter and stick the handle up through the floor and insert the bolts through the side of the shifter holding it to the transmission. Tighten the bolts with a ratchet and a socket. Bolt the linkage from the shifter to the shift levers on the transmission. Make sure the shift and the transmission shift levers are both in neutral. To submit your questions or ideas, or to simply learn more about It Still Works, contact us.

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car, I would actually be able to do the project. I should have got it rebuilt first.At market value it would have cost negative money.Manual gboxalso driveshafts etc because we could Clutch Pedal assm Dash cluster Flywheel Shifter,knob and bits and pieces. Manual ECU Prep1. Clean your engine bay as much as possible BEFORE you start work Prep2.

Drop all the fluids!! Prep3. Axle stands and other safety related fixtures Step 1. Unbolt everything from the existing box, take a shitton of pictures and label everything. Pays to clean as much as possible Step2. Have heaps of fun with driveshafts and CVs. Extra points for staying clean, more points for keeping the garage clean. Step3. Place some kind of jack depending on what you have lying around under the box. Unbolt the engine from the box Step4. Cuss as much as physically possible while attempting to free said engine from aforementioned box. Step5. Notice various defects hidden within your cars engine bay. cuss more. Step6. Lower the box from the engine bay, clean it, take pictures, sell it etc. Step7. Get all up inside your car, rip out the pedal assembly and dash cluster youll need to take of various shrouds and panels usually Step8. Forget entirely that the pedal assembly is attached to various cables.Probably forgot to include heaps of little things, but theres a general idea.With this and some price breakdowns in this post, Im definitely going to take a look around for parts it looks doable and within my price range.It really does make a huge difference when it comes to putting things back.All rights reserved. This page was generated at 1115 PM. But, heck maybe you just found a showroom perfect car, which just happens to be an automatic. Note that the automatic car has a different factory wire harness than the manual car does. This is not just at the transmission but also throughout the car. I have read it also has a different ECU, less horsepower detuned 10, and it does have a different radiator as well. You will see a few other posts about this type of conversion, which, in my opinion, makes it sound much easier than it actually is. I was actually looking for a project like this. I had surgery that sidelined me for close to a year and I desperately needed a project like this to keep me busy.

I “bit off more than I could chew” because I wanted to challenge myself as a mechanic. This is NOT a project for someone with limited mechanical experience. If you think you can do this with a “dailydriver” you are sadly mistaken. I have a VERY flexible schedule and I often have uninterrupted periods of eight hours or more to dedicate to working on the car. I have some money to spend on tools and parts, a good garage, plenty of space, good lighting, a great tool selection, an understanding wife and two spare daily driver cars. Timewise think of it as a Clutch replacement. Plus an extra few hours. It all depends on your wrenching ability. The thing that is was time consuming was doing it with NO advice or prior experience. Now that a guide, and much information is around as to what works and what doesnt, its MUCH easier and quicker. Tool List These are a few items in addition to the obvious or what I would consider the norm for a job of this size. Jack stands Possibly two sizes, you will want to gradually get the car as high as you can to do the work underneath. From under the car you will work on the exhaust, driveshaft, power plant frame or PPF and all the auto transmission pipes and wires. I was able to get the car up to about 2.5’ before I felt I was pushing my luck. Creeper You will need to move about freely under the car. Buy one with the adjustable headrest. Torque wrenches In pounds from the teens to 120. You will need one that can measure in inchpounds as well if you plan to do the engine work. LocTite Color blue and quite a bit of it in fact. I use it on everything. Quality low lift floor jack Must be able to swivel and release very slowly with control. Buy one with a large lift pad preferably rubber coated. You cannot have a jack that drops when you twist the handle. Note The jack handle will also work as a cheater pipe for the crank bolt if you do the front end.

Impact gun cordless OK Could be done without it but you will regret it and will actually increase your chances of stripping a bolt. Impact 6 points In 17mm and 14mm in deep and shallow. These will be used over and over. No substitutes since 12 point are guaranteed to strip some of the bell housing bolts. Engine hoist Cheap, Northern Tool sort of thing. I used a Torin Big Red set at ton.

Parts not including engine work, mistakes, lost parts, etc. PPF This is the rail that runs from the differential to the transmission along the driveshaft to keep things in line. It is different for the manual transmission. Clutch pedal assembly This goes inside the car under the dash at the firewall to the left of the brake pedal assembly. I cleaned mine up with a wire brush, hit it with some black spray paint and gave it a new pedal pad. JUST the pedal will work just fine. Clutch pressure plate bolts 6 of them. Pricey but required Source Rosenthal Flywheel bolts Just reuse the Flexplate bolts. Slave cylinder bolts 2 of them I used “hardware store” bolts that I had around. NB2 cars present some additional challenges due to the fact that if you replace the ECU you must also replace the immobilizer and resynch the keys. Gear lever Used or new. Be sure to read and follow the instructions on how to rebuild a gear selection lever. It has eight parts that must go in very specific order for everything to work smoothly. SEE OTHER WIKI ARTICLE ON REBUILD Gear lever boots top and bottom Pricey but required. These are the rubber boots not the leather trim boot. Clutch line pipe Runs from the clutch master cylinder to the hose at the slave cylinder Clutch hose Runs from the end of the clutch line pipe to the slave cylinder Clutch master cylinder Mates at clutch pedal at the firewall in engine bay. Clutch slave cylinder Mounts on transmission at clutch fork Clutch assembly Cover, friction plate, pilot bearing, throwoutbearing and pilot tool I chose an ACT kit or package. Misc.

electrical connectors To make popoff connectors for reverse and neutral switching at transmission Transmission oil Redline MT90 Turret oil GL4 The Job In No Particular Order Just more trouble than it could ever be worth. On top of that these parts are heavy and shipping them would cost a fortune.Trust me there is a lot of it.So the carpet popper tool works well for prying most of it off.After cutting them back at the radiator you can just unscrew them at the radiator fittings.You cannot just pull the bolts and expect the frame to come free. You will get the idea once you have done one.Which includes a braided stainless hose from the pipe to the cylinder. The hose is also supposed to make the bleeding process easier.Do not leave it woven through the back of the engine.You will just override it at the transmission anyway.You can use the freezeheat method or just go for it.I ended up running it with the wire loose installing it through the wheel well area and then running it up above along the speedometer cable.I chose to clean and paint my PPF and used wire ties in tandem with the rather worn plastic clips.Snip it and plug it. If you yank it and forget about it your idle will be all over the place. Here is an image of the vacuum port without the hose on it. You can carefully cut the covering back, isolate the four you need, trim the excess wiring back in stages and rewrap in electrical tape. The four wires you will be looking for will be Once found, isolate them, clean them and add the female ends of your butt connectors. These will plug in to the male ends that you run from the reverse switch. Polarity does not matter. These will plug in to the male ends from the neutral switch. Polarity does not matter. Note If you plan to keep speakers, console lights etc.The automatic transmission has an entire wire harness inside the car at the firewall near the pedal assemblies that requires attention. I have some pictures but little else to go on here.

The entire assembly will drop off when you pull the clutch master cylinder hole cover plate at the firewall. I chose to trim as much of the bracket away as I could, stuff them up out of the way and silicone the crap out of them so they did not drop or rattle. We could really use some help here on figuring out what all these parts and pieces do. Just connect them together.Thats it ! your speedo should now work.Then remove the 11 bolts that hold the engine and transmission together. Free the transmission from the engine and toss it away. You will be left with the torque converter, which is held in place with nuts. You can access them through the starter hole and with the impact gun get them all free. Next with the impact gun break the six bolts at the crank which pass through the starter gear ring. This can all be tossed since none of it is reused. The metal gasket or spacer that sits between the engine and transmission will be reused. Mounting the manual transmission and clutch assembly is pretty straightforward. If you have done a clutch before you can figure it all out.

Extra Images It is not quite as bad as it looks. The harness will want to fall towards its place and from what I could tell there are no connectors that are exactly alike. So far So good. It’s a matter of preference, but some automatics have been known to cause problems. Moreover, owning an MX5 is mostly about sheer driving joy. It is a lightweight RWD car with just enough power to provide fun, but not enough to have you praying to god every time you press the pedal. It is about a mixture of relaxed topless cruising and precise steering enhanced by lightweight body and RWD packed with just enough power to put a smile on anyone’s face with the pedal down all the way. It is about driving joy and it is best with a conventional manual. How do I get a manual MX5 The people at Mazda know how to make a good car and if you have an option to buy an MX5 with manual, this is the best way.

You will need various different parts in good condition, a different or modified wiring harness, etc.These things are a must, but there are others that are different as well. For example, the automatic uses a different radiator that is heavier than the one on the manual. You don’t have to change it, but it will reduce weight further if you do. Removal of the Automatic Gearbox Not due to the technical stuff, that one is pretty straightforward and all you need to do is follow the manual, but some parts are pretty heavy. The manual transmission alone is not all that bulky, but the automatic one is impossible for an average person to handle alone, we recommend hiring professionals for a job of this capacity such as the team at MX5 City. Also, supports for the car should be very robust, for the same reason. Wiring There are many things to take into consideration and many of them will completely depend on a particular case. For example, not all cars have the same accessories, so there might need to be a significant amount of work for simple things like the problem of a source car having electric windows and the other one not. Even if we neglect these accompanying issues, there are still significant differences between wiring systems of a manual and an automatic. The automatic has dedicated harnesses for the control unit, kickdown, cruise control off switch, gear selector, throttle position sensor and six more harnesses for the transmission. So, yeah, there’s a lot to think about. Additional tips When removing the dash to access internal wiring, make sure you disconnect the three cables that control heating and ventilation before you try to remove the dash to avoid damage. It is not a huge issue to fix even if you forget this, but this is most definitely not something you will welcome during such a major task that swapping the transmission on an MX5 is. Make sure you DO NOT simply swap the entire instrument cluster.