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Book Descriptions:

Corvette manual transmission oil

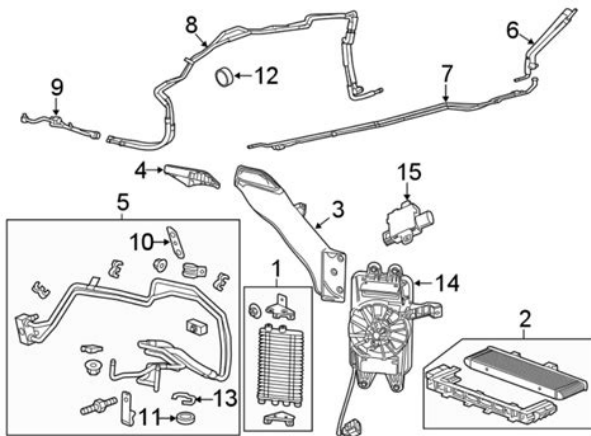


When was the last time you did that. We jump in our cars and expect maximum performance and minimal maintenance, with no concern for the extremes the lubricants face. For this very reason, GM decided that making a low oil level warning system standard in 1991 was worth the cost. Fuel prices keep rising while federal regulations restrict the oil company's formulas for a greener environment. The long standing federal concern is exhaust emissions and fuel economy. Engine oils now range in the 0W30 viscosity range, in stark contrast to 20W50 oils used in earlier generations. There is a very important reason to use lower viscosity oil in the 1997 and up Corvette engine. Keeping the oil away from the reciprocating components and out of the cylinder walls lessened friction, thus saving fuel. Before 1997, engine bearing clearances were in the .0015 to .0030 range. The LS engine bearing clearances are below .001; typically in the .0006 to .0008 range. As unbelievable as it may seem, the bearings should never touch the crankshaft surfaces. A hydrodynamic wedge of oil is formed between the surfaces, keeping the bearing surfaces off the crankshaft. An example of how destructive the lack of oil between the bearings can be engine compression is around 160 PSI when an explosion occurs, forcing the piston downward. These exploding forces push the crankshaft down, creating motion. 160 pounds of pressure per square inch is hard to handle, never mind the combustion charge. Something else to consider is the extra effort required to turn the oil pump. Not only are you possibly hurting your engine internally, but fuel is

wasted turning the extra load on the oil pump. Race engines are setup with additional bearing clearances requiring high viscosity oils. Many race engines have preoilers forcing lubricants through the system before the engine is started. Serious race teams also heat the oil to make sure it is flowing properly before the race

begins. <http://grandp.ru/userfiles/first-alert-ready-guard-installation-manual.xml>

- **corvette c5 automatic transmission oil change, corvette c4 automatic transmission oil, c5 corvette manual transmission fluid, corvette manual transmission fluid, c6 corvette manual transmission oil change, corvette c3 manual transmission oil, corvette c6 manual transmission oil, c5 corvette manual transmission oil change, corvette c7 manual transmission oil, corvette c6 automatic transmission oil change, corvette manual transmission oil, corvette manual transmission oil, corvette manual transmission oil, corvette c7 manual transmission oil, 1994 corvette manual transmission oil.**



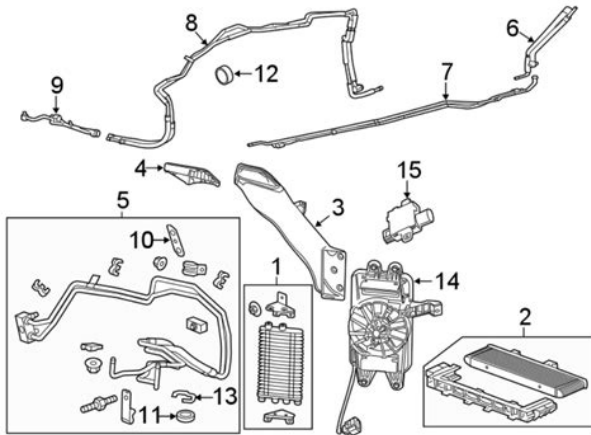
On a hot day after the engine and drivetrain has warmed up, it is possible to see 15PSI at idle without any concern. The main thing to watch for is a rise in pressure once in gear. At 2000 RPM, you should see 45PSI. As RPM increases, so should the oil pressure. Most LS engines top out at 6075PSI. When you see 05PSI at idle and 2530PSI at cruising speed, you need internal engine work, not 20W50 oil. An oil supplier recommended 15W40 to replace the 10W30 that had been used for 75,000 miles. After a few days, we noticed a slight knock at startup. After a week of hearing the knock we switched back to 10W30 and the knock was gone. C5 and C6 owners do not have to be concerned with this, as all LS engines have a roller camshaft and lifters that are much easier on the cam. The API American Petroleum Institute maintains service classifications for gas and commercial diesel engines. You will find the API in the bull's eye of most oil containers. Here is a breakdown of what the service classifications mean SH replaced SG for the 1989-1992 engines. SH dealt with oxidation, deposit control, corrosion and rust. As of late this designation has been superseded by SJ. Replaces SJ oils. SM can be used in all gas engines 1987 and newer. ILSAC testing is more rigorous and typically concerns high output, small capacity engines. While important, the SM designation would be the main concern. Depressants are added to let the engine start with adequate protection on cold mornings. All this viscosity jockeying makes for instability, lowering the oil viscosity over time. You start out with a viscosity grade of 30 and within a short while the oil viscosity drops and engine protection wanes. The lighter petroleum oil base stock allows the oil to burn easier at high temperatures, which may cause the formation of deposits and possibly increase oil consumption. This will keep oil stable considerably longer with a minimum viscosity drop off, which will protect an engine much longer. <http://www.darvidproperty.com/news/first-alert-timer-ls220-manual.xml>



First, they pump easier in cold temperatures because they do not have paraffin to slow down oil flow. Minutes can elapse before the crankshaft and bearings are protected with their lifeblood. Secondly, because of their molecular structure smaller uniform molecules there is less heat buildup. If high oil temperatures do occur, synthetics will prevent engine failure from extreme temperatures better than petroleum oils. GM fills the crankcase at the factory with the same Mobil 1 we buy off the shelf. They know it works. Why chance it Replacing your air filter and more so, making sure your engine receives clean filtered air is paramount. Fuel injected engines need careful inspection of the inlet air. Are the air duct pieces tight. In addition, are the PCV grommets in place and crankcase hoses tight on the throttle body. Unfiltered air goes directly to the piston rings and works its way into the crankcase, scoring the cylinders and crankshaft bearings. This is why we have filters, but some of the minute particles get by and attack the crankshaft bearing surfaces. Lesser quality oils allow more of the particles to slough off, exacerbating the situation. To protect your engine, the acids have to be removed or neutralized. Changing the oil and filter will take care of the acids. You can also accrue more troublefree miles with proper air inlet maintenance or better yet, upgraded air filters. It is about discretion. If you are driving around town short distances without warming the oil up enough to burn off the condensate, adding to the oils acid content, you should change it at 3,000 miles or every year. Earlier fuel injected Corvette engines before 1994 dumped more fuel into the oil, diluting it and contaminating it with acids, requiring shorter change intervals. Remember that the Corvette oil change warning system decisions are based on high quality synthetic oil. The oil change monitoring system has no clue what oil you are using.

Careful placement of the lift arms or jack pads is required to prevent panel damage. Corvette Central's part number 105380 and 115653 provide adequate protection for the lift arms or jack pads. Our lift was designed with these removal stands that also work well. Use this to lift the back of the Corvette to remove as much used oil as possible. Be careful doing this to prevent lifting so high the center jack is holding all the load, causing a pivoting action to take place. Nitril gloves are recommended to keep the dirty oil off your hands. Take a look at the rubber seal. Corvette Central has part number 305035 drain plug available if needed. Usually after about five oil changes, the seal is ready for replacement. Remember the best time to change oil is when it is hot, so BEWARE! You can usually go back a couple of times to top off the filter for maximum oil fill. Sometimes the oil filter rubber sealing ring sticks to the filter mounting pad, so make sure it is not there. The idea was to shift the weight rearward, enhancing the handling characteristics with better front to rear balance. Placing the transmission rearward did require some major changes from traditional thinking. The torque tube would be used to keep the driveline rigid from front to back. The driveshaft resides inside the torque tube. No Ujoints would be required to make the connection. The downside to the torque tube is diameter. It must be of sufficient diameter to keep the driveline rigid. Traditional driveshaft and Ujoints take up less space in the trans tunnel, allowing more interior room. Torque tube transmission tunnels require large areas to accommodate the increased diameters. Automatic transmission overheating is commonplace when running the vehicle under race conditions. We never had this issue with the C4 ZF 6speed. The C5 has the capability of running hour after hour at high

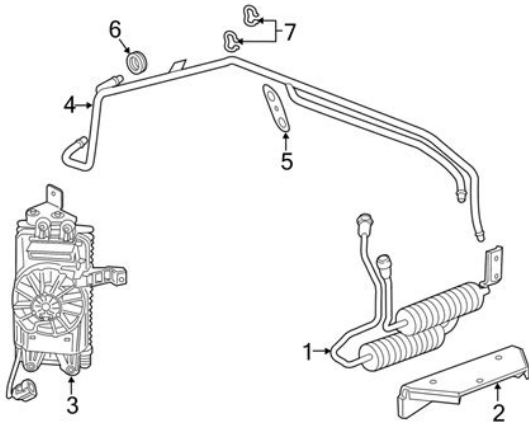
triple digit MPH. One of our customers made the annual trip to Nevada for the Silver State Classic Challenge.



<https://congviendis.vn/vi/boss-ev-5-manual>

His stock 2001 ZO6 was driven to Nevada from Florida then onto the road course. The two lane 90 mile long highway has long straightaways and twists for some added fun. The idea is to see who has the quickest time without any side by side action. There are a couple of different classes from 95 MPH to 180MPH. After a tech inspection it was time to make the blast across the twolaner. The ZO6 performed beyond expectation with the exception of the transmission overheat light illuminating. This same overheating was noted by other C5 owners at the event. GM was aware of this condition and has offered a six speed transmission cooler. We decided it would be best if the transmission cooler was installed. Subsequent trips out west proved the cooler was working with no more "overheat light" illuminating. Why is this important to the daily driver with occasional WOT Wide Open Throttle workouts. Heat is the enemy of confined driveline components. The C5C6 transmission is tucked up into the tunnel with limited air flowing across it. Another theory is that convection is taking place from all the driveline assemblies being connected to one another. The engine bolts directly to the bellhousing with the torque tube also in direct contact. At the back end, the torque tube has contact with the transmission and differential. At some point during a drive cycle, the differential has the ability to get as hot as the engine or vice versa. The use of aluminum alloys throughout the driveline has many advantages, including quicker heat dissipation. The same characteristics of the aluminum components also mean quicker heat convection from front to rear. Maintaining consistent temperatures above two hundred degrees is a good thing for condensate burnoff. We know that the C5C6 driveline temperatures will be there consistently, so that is a good thing. The consistent heat also means the fluids are running at high temperatures most of their life.

<http://ph-mb.com/images/900-cuisinart-cwc-manual.pdf>



Changing the transmission fluid with high quality synthetics is a good thing for long life. Transmission design has changed dramatically over the years from sloppy loose gear sets to close tolerance gear sets. Tightening up the clearances also meant thick viscous fluids used in the past will not work properly for lubrication or shifting. Using 7590W gear oil in a late model transmission means shifting will be very difficult if at all when the fluid is cold. Thick lubricants also take longer to reach vital areas keeping bearings correctly lubricated. That is why fluid changes are important at annual intervals, depending on how hard you are pushing your C5 or C6. In many cases, racers change fluids before every race due to the extreme loading conditions. Participating in an occasional Gymkhana event would warrant the annual fluid change. Remember the C5 would be much tougher on the fluids in race situations without an external cooler. Take transmission fluid, for example. It has to combat heat and friction surfaces. Specifically designated lubricants are required on the C5 and C6 synchronizer blocker ring linings. Synchronizer blocker rings slow down the gears during shifting to avoid gear clash. Early transmission designs used brass or bronze blocker rings to synchronize the gear changes. The latest technology uses a fibrous material on the blocker rings. The fibrous material is similar to automatic transmission clutch friction plates. This is why automatic transmission fluid is used to lubricate the manual transmission gear boxes. You do not want trouble with incorrect transmission fluid contaminating the blocker ring linings. Friction surfaces on the automatic transmission clutch packs clamp down onto gear sets to propel a Corvette. The “wet” friction clutch packs create heat as they engage. They also require specific friction modifiers in the fluid to allow smooth shifting without clutch material damage.

<https://www.mckenziefrienduk.com/images/90-98-arctic-cat-snowmobile-shop-repair-maintenance-u0026-service-manual.pdf>



The torque converter is a viscous coupling that forces fluid from the impeller. The pressurized fluid is forced into the turbine, which is coupled to the input shaft. A stator is used between the impeller

and turbine to increase efficiency. Without going any further into the innermost workings of the torque converter, suffice to say tremendous heat is generated as the impeller and turbine come up to speed. The byproduct of increased stall speed is even more heat. The advent of the torque converter clutch was for fuel mileage gains but it also helped eliminate inherent heat in the torque converter. Like the "wet" friction plates in the transmission clutch packs, the TCC Torque Converter Clutch locks up the torque converter and eliminates slippage. When the TCC is engaged, the transmission temperature drops significantly. On top of the heat the fluid has to deal with, it is forced through small orifices regulating fluid flow. If that was not enough, the clutch application systems use the low viscosity clean fluid for proper shifting. When you add or change transmission fluid, be especially careful to use the correct designation fluid. Check the manufacturer's label for proper usage in your Corvette before pouring it in the fill tube. Improper fluid can cause chattering shifts and internal damage. One interesting point to add is that for many years there was no change interval in the owner's manual. It stated to change the transmission fluid at 100,000 miles or overhaul, which usually meant at overhaul before 100,000 miles. Changing transmission fluid every two years is a good rule of thumb regardless of mileage. This will minimize condensate buildup, keeping you on the road past the 100,000 mile plus mark. Here is where things get fuzzy. GM says that GM part number 88861800 should be used in C6 2005-2011 Corvette manual transmissions. The bulletin also states that Dexron IV should not be used in place of 88861800 fluid.

Dexron VI is backwards compatible meaning it can be used in all previous GM built transmissions. The problem is Dexron VI is the latest greatest Dexron available presently only from GM dealers. As convoluted as this seems once all the issues are considered, Dexron VI is to be used in all C5-C6 Corvette transmissions manual or automatic. Please do not use this as a rule of thumb for all vehicles, whether they are GM or not. We recommend using good quality fluids and synthetics are the best policy. Corvette Central also has a really nice deep cast aluminum pan to enhance your transmission's performance. The pan comes in aluminum finish or black finish. Both pans will add extra fluid capacity which equates to lower temperatures and better performance. While changing the pan, do not forget about the filter that replaces the original filter assembly. Note the "use Dexron III label" on the transmission case. The fluid should also run out when the unit is filled. Wait until the fluid stops flowing before installing the fill plug. The pressure out cooler tube forces the new fluid into the pressure in cooler tube. Place 12 quarts of fluid into the machine for the exchange. The transmission exchange machine has a clean fluid reservoir that we use to evacuate the pan before pan removal. This prevents losing approximately 45 quarts of fluid when the pan is removed. By the way, that is how many quarts will be removed if the old-fashioned way of just removing the pan for draining method is used. That means not even 50% of the fluid is drained using the traditional methods. Be ready for a torrent of fluid as the filter pulls out of the trans case. We recommend replacing the filter every other time the fluid exchange process is performed. This is if you are using the two year interval maintenance schedule. Leaving the surfaces oily promotes leaks. The gasket has a tendency to compress, so one pass with the torque sometimes is not enough.

<http://becro-plast.hr/wp-content/plugins/formcraft/file-upload/server/content/files/16285eac00f008---C182-training-manual.pdf>

We have owner Al Sowash up in the car ready to start it. We have to fill the pan until the fluid runs out. The engine is started and then we fill the pan again until fluid runs out. After the fluid is filled, we install the plug and have Al put the trans in drive and reverse a few times. The fluid is filled until it runs out. When the fluid stops running out, we install the plug. Metallic clutch plates are used for positraction axle control while allowing slippage around corners. Without the slipping clutch plates during cornering, the tires would chirp the tires while rounding every corner. All of the cornering wears the metallic positraction plates, which becomes full of metallic particles floating through all the bearings. There is no filter to keep the particles to a minimum in the differential gear oil. This

can lead to early bearing failure. They require quality gear oils that keep constant film strength to prevent gear overheating and wear. Differential gear sets produce plenty of heat on long extended runs. Short trips on the other hand exacerbate the production of condensate that causes corrosion over time, making fluid changes every two years an excellent idea. The 9986115 fluid is tough to find. What we were told is the C5C6 factory fill requirements are for higher heat demands during breakin. After that, the GL5 designation is more than adequate. We have found that C5C6's that are road raced have issues with overheated transmission fluid, so the differential can too since they are basically one unit. It makes a case for high quality differential and transmission fluids to be used in the C5 and C6. Many C5C6 owners are using GL5 spec 75W90 fluids in their cars. Using the GL5 spec fluid in synthetic form should be plenty adequate for the most demanding conditions. Synthetics handle heat much better than conventional oils. Corvette Central has GM synthetic fluid 89021677 available, which is the correct 9986115 spec.

denchumgiare.com/upload/files/colt-diamondback-owners-manual.pdf

GM has a special fluid called Dexron LS fluid to combat this problem. This fluid is equipped with additional positraction clutch plate additives to smooth out those cornering chatters. This same LS fluid works on the C5 if chattering is experienced during cornering. C6 Corvettes have a cooler fitting here that must be removed for the drain procedure. If you find the differential fluid is draining slowly, try removing the fill plug. If it drains quicker, the vent is stopped up. Fill the suction gun and then force the fluid into the differential. Once the fluid is coming out, you know you are filled to the top. Do not install the fill plug until the excess fluid stops flowing out. This prevents overfilling and foaming of the fresh fluid. If you have a buildup of debris around the fill plug, you may want to wash off the area before removing the fill plug. Sludge buildup was common throughout an early engine using the best petroleum oils, keeping in mind engine temperatures were lower. Today's hotter running engines using synthetic oils come apart easier and the components wear less. It makes you wonder if those early low temperature engines were better off. The same holds true for any driveline component sludge and metallic particles end up coursing through the bearings as mentioned earlier. Some of us are staunch supporters of them while others feel they have no value. Our recommendation is to check with the oil manufacturer. If they feel comfortable using them with their formula, go for it. GM has opinions about their usage. If your Corvette is under warranty, discuss with your Chevrolet service department before adding. These are facts gleaned from several insightful publications. After quite a bit of research, the facts are still the same. Changing the oil is paramount and synthetics are beneficial for engines, transmissions, and differentials. As far as additives are concerned, they would be up to your discretion.

We have not tried to sway you towards any particular brand of lubricant. The best policy is to get all the data possible and make sure it meets or exceeds the vehicle manufacturer's recommendations. Looked and found signs of contact of tire to body or frame. Took the car and had the dif. Was told to find an empty parking lot and do figure eights to make sure the fluid got up into the limited slip clutches. Now this only happened after the car sat for long periods of time. Have found that when the noise comes back a few figure eights cures the problem. How to do this, what products to use, where to bleed the system, the master cylinder fluid changing and all the changes it raids to use and do to correct the heating problem when run above 5,000 rpm some times. Help! As the article shows, the drain plug is normally On the front side of the crossmember. They article also shows the fill plug and the fill procedure, using a pump. Dexron VI equivalent should be used. In the 1998 service guide I have on hand, the clutch bleeding procedure is also covered in section 7, sheet 351. The system can be bled at the clutch master cylinder. It is imperative that new fluid is used and the Shop Manual procedures are followed to properly bleed the system. If you do not have a shop guide, you can sometimes find them on Ebay for the 1997. Unfortunately, they have been discontinued to us and we no longer have them to sell. If you do not have the shop guide, it would be best to have a

professional transmission shop undertake this job. A look at the internal baffling of the batwing C5 pan shows that the baffling will trap oil if the pan is not level when draining oil. You drain and fill from the same plug. Engines that explode the fuel are diesel by design. The old info was You shouldn't use synthetic oil with those years. Mobile 1 is an approved fluid for your application. It has 118k miles on it. Noticed the transmission slipping. Looked almost everywhere and after days found your post.

Very informative. Very tight quarters underneath. Doesn't allow enough room to see fill plug. Haven't located it yet. In the process I noticed small inlint type filter or breather hanging on top center passenger side of transmission. It appears to be disconnected from somewhere. Oil and grime is on top and all over the front of transaxel. Thought I would change trans oil and filter adding some Lucas trans treatment to see if that would cure the slip. If not, next step would be to remove and rebuild. Any suggestions Thanks. Changing the fluids wouldn't be a bad test before jumping into a rebuild. In order to post comments, please make sure JavaScript and Cookies are enabled, and reload the page. [Click here for instructions on how to enable JavaScript in your browser.](#) We offer the most comprehensive and detailed parts catalogs on the market today and produce a different catalog for each Corvette generation. All catalogs are also online with full search and order features. From Blue Flame 6 to Z06, only Corvette Central has it all. Here are the instructions how to enable JavaScript in your web browser. DO NOT use Dexron VI in place of manual transmission fluid in any manual transmissions or DO NOT use Dexron VI in place of manual transmission fluid in any manual transmissions or transfer cases that specify Dexron III, as a failure may result. NOTE This is a hazardous item and cannot be shipped by air or outside the Continental U.S. Royal Purples engineers have over 200 years of expertise in developing high performance synthetic lubricants and are members of the Independent Lubricant Manufacturers Association, The Society of Tribologists and Lubrication Engineers, Automotive Oil Change Association and the Specialty Equipment Market Association. Corvette Motor Oil from Royal Purple offers superior high temperature performance, cleaner operation, better gas mileage and fewer oil changes.

Royal Purple Corvette Synthetic Motor Oil is considered a Super Lubricant, and as such, has an increased oil film strength that is 3 to 4 times stronger than conventional Motor Oils. The increased oil film strength allows for longer intervals between oil changes without the worry that your oils performance will deteriorate. As well, RP Synthetic Fluids are much cleaner burning than petroleum based oils, reducing emissions, and most importantly, greatly reducing oil sludge build up cause by oxidation and viscosity breakdown. Advanced Synerlec additive technology is the cornerstone of Royal Purples product line. The Synerlec additive changes the product at the molecular level and creates a high strength bond with metallic surfaces and allows the oil to react to sustained heat and pressure with increase strength and lubricity. Synthetic Oils also react better to cold weather and offer more protection on cold start up due to their super low temperature fluidity. Royal Purple manufactures a wide variety of Synthetic Fluids for your C5, C6, C7 Corvette, Stingray, Grand Sport, Z06 and ZR1, including motor oil, transmission fluid and gear oil. Royal Purples API licensed Motor Oil delivers superior protection and delivers improved performance. Enhanced additive technology prevents metal to metal Contact and has one of the lowest coefficient of friction on the market today. Patented ZDDP additives optimize emissions and the life of your catalytic converters. Sold as 1 5 Quart Bottle. 51530 Royal Purples Gear Oil delivers superior protection and delivers improved performance. Royal Purples Gear Oil Maximizes Horsepower, extends Gear and bearing life, reduces operating temperatures and adds corrosion protection. 01300 Royal Purples Max Automatic Transmission Fluid ATF is a full synthetic and delivers improved performance. Royal Purples ATF Maximizes Horsepower, extends Gear and Bearing life, reduces operating temperatures and adds corrosion protection.

01320 Royal Purples Oil Filter for the C5 Corvette is second to none. The 100% synthetic micro glass

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