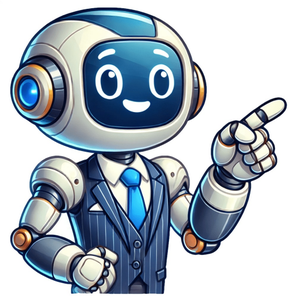
Continue



The time has come to do some preventative maintenance and i'm planning on changing out the Exhaust Manifold and Riser on my 3.0L Mercruiser. The engine is a 2005 3.0L and an outer visual inspection the components look great, but I already know they rot from the inside out. How difficult of a job is this on the 3.0L for a DIY type person? Anyone do it themselves recently? How long did it take from start to finish? The shop manual procedure seems straight forward. Anything to watch out for, or require anything more than what the manual states? I read a good tip that said to find some extra long headless bolts that you can put in place of the end bolts so the manifold is supported and doesn't go dropping off. Anything else to watch out for with the carburetor or anything? I will be using OEM parts. Here is the parts diagram: -860235A03 Exhaust Manifold Assembly (Which supposedly comes with a lot of bolts and such) -12076A2 Riser Elbow Assembly Think buying these 2 part numbers will be all I need? I think so but i'm not fully sure. Should I be changing the exhaust shutter at this time or is it ok to reuse if it looks like its visually still functional? All tips appreciated. Here are the instructions from the shop manual: Removal 1. Disconnect battery cables from battery. 2. Drain water from cylinder block, exhaust manifold and exhaust elbow. 3. Disconnect throttle cable at carburetor. 4. Disconnect exhaust hose and cooling hoses. 5. Disconnect fuel line at carburetor. 6. Disconnect crankcase ventilation hose at rocker arm cover. 7. Disconnect wires connected to electric choke. 8. Remove exhaust manifold fasteners; remove manifold assembly and discard gaskets. 9. Remove exhaust elbow. Replacing Exhaust Manifold and Risers on 3.0L - Tips Needed Installation If exhaust manifold body requires replacement, transfer all parts (from old manifold) to new manifold body. 1. Position new gasket on head and install manifold in position, making sure gasket is in place. 2. Tighten fasteners evenly and torque to 23 lb-ft (33 Nm), starting in center and working out toward ends. IMPORTANT: After engine has been brought up to operating temperature, allow engine to cool. Retorque manifold fasteners. 3. Install carburetor (if removed) and connect crankcase ventilation hose at rocker arm cover. 4. Install exhaust elbow using new gasket. Torque to 25 lb-ft (34 Nm). 5. Install gasket as shown 6. Connect throttle cable to carburetor. Adjust as outlined in ?Removal, Installation and Alignment.? 7. Connect fuel line and electric choke wires. 8. Reinstall exhaust and cooling hoses. 9. Reconnect battery cables to battery. Tighten securely. 10. Start engine, check for exhaust, water and fuel leaks and adjust carburetor idle speed and mixture. Last edited: Aug 19, 2016 I did this on a Volvo 4.3 V-6 a couple years ago, it was a pretty easy job. A 3.0 liter should be a breeze. The engine and original manifolds and risers were 1995, the reason I changed manifolds and risers was that I got water intrusion into the engine. I'm 97% sure the water intrusion came from a failed gasket between the manifold and riser, I just chose to replace manifolds and risers for good insurance. I did not buy OEM Volvo stuff just because of the cost. I went with an aftermarket with 2 year warranty I found on line. Here are a few thing that come to mind. My manifolds came unpainted, , or had some kind of anti rust clear coat on. And they came with extra ports and such that needed to be plugged. I plugged all extra ports I didn't need with pipe plugs, then painted everything except the mating surfaces with Rustoleum Engine Enamel. Man did that look nice!!! had the same texture and everything as OEM. Scraping the old gasket off the block was a PIA!! To make it easier I removed the studs, , a lot of razor blades seemed to work better than a gasket scraper. Oh, I also replaced the rubber tubes from the riser to the down tube. I did not have exhaust shutters but if I did I certainly would replace them at this time. Assembly tip - be it good or bad, and especially if you replace any rubber tubes, put a little smear of silicone/dielectric grease in the rubber tube, makes the riser (or whatever) slip right into it with very little effort. NOTE!!! After you have everything all assembled and your ready to put the garden hose on it and start it up, , , do a double check and make sure the joint between your manifold and riser is in fact tight. I assumed everything was tight because when I torqued all the bolts everything torqued up just fine. I put the hose on it hit the key and I just happened to be watching the engine when it started and I saw a puff of exhaust gas come out between the manifold and riser. I quickly shut down the engine and turned the water off. Luckily the whole coolant system was drained so the manifolds never started to fill with water yet. Whew!! The problem was that a couple of bolt holes in one manifold did not get tapped deep enough. I added a couple washers, retorqued and all was well. That's probably what I got for buying aftermarket stuff, but if that's the only problem I'll take that. Good luck!! Sounds like you have your plan and know what your doing. I just did this on my 5.0, it was as straight forward as the instructions. I second the making sure all bolts are seated and tight. I had to run out to the hardware store as the existing bolts for my end caps were too long for the manifold. Keep in mind that a new manifold does not come with end caps so if those need to be replaced, order those as well. Other than that, the first time you run it, inspect thoroughly for leaks. Make sure to tighten every single hose clamp. Check hose clamps you don't touch as well. Just the moving and removal of my risers broke the seal of the rubber boot that the riser slid into where it met the y-pipe. Take pictures as you disassemble so you can reference them during re-assembly. and don't miss anything. The engine is a 2005 3.0L and an outer visual inspection the components look great, but I already know they rot from the inside out. Ayuh,.... Are ya a saltwater boater,..?? Pull the riser off, clean the gasket surfaces, 'n inspect how much cast iron is left,.... If it's still 'bout 1/4" wide, yer still good,... I would only remove the exhaust elbow and do an assessment at that point before buying any parts. Once the elbow is off you can see how the inside of the manifold is looking and what condition the shutter is in. Also the elbow itself. Anything that looks good can stay. Chris..... Thanks for all the knowledge everyone, you all shared some great tips. So the manifold/riser are original to the boat and I boat in salt water and it's been docked in the water for 4 months per year for the last 6+ years so I'm guessing I am on borrowed time from what I hear in the forums (Saying (5-7 years max). It is also raw water cooled so I'm thinking I'll pull off and inspect but also just change the parts while I'm already turning wrenches. OEM vs. Aftermarket parts? Any reason to consider Sierra/Barr aftermarket parts or are the OEM's the best of the bunch? I know OEM costs a lot more but I don't mind spending it as long as they aren't proven inferior. I'm mostly an OEM type of guy when it comes to parts. Change before spring?or end of season? Another question for you all is, would it be wise to change at the end of the season before winterizing the motor? Or is it best to do at the start of the season so I can run it and re-torque after a few hot cycles? I have more time end of season but I'll wait till the spring if you all think it's wiser. Is sealant needed on the gaskets either on the manifold to the block, or the manifold to the riser? I'll be planning to use some type of anti-seize on the bolts for sure. My biggest wonder at this point is will it be an easy straightforward job, or will rusted and stuck bolts make it a nightmare. Knowing salt water I predict lots of swearing and bloody knuckles in my future. Last edited: Aug 20, 2016 I would recommend OEM parts, the others can work but there can also be issues. achris brought up a good document in one thread about a study in exhaust elbows. This just dealt with the elbows and reversion. The issue was that other manufactures didn't have the same internal casting lips which can keep down on reversions. Not saying this will happen to you, just was a very good read. Changing before or after is just some time. I would do it when you have time, but doing it at the beginning will allow a fresh start, but if there are issues, also creates their own issues. Don't use any sealant, the gaskets will be what is needed. Check flatness of matting surfaces prior to installing, make sure their flat, even more so with non-OEM parts. I would recommend OEM parts, the others can work but there can also be issues. achris brought up a good document in one thread about a study in exhaust elbows. This just dealt with the elbows and reversion. The issue was that other manufactures didn't have the same internal casting lips which can keep down on reversions. Not saying this will happen to you, just was a very good read. Changing before or after is just some time. I would do it when you have time, but doing it at the beginning will allow a fresh start, but if there are issues, also creates their own issues. Don't use any sealant, the gaskets will be what is needed. Check flatness of matting surfaces prior to installing, make sure their flat, even more so with non-OEM parts. Thanks for the tips AllDodge. Enough good reasons not to stray from OEM, i'll stick to the original plan then with Mercruiser replacements. Thanks for the tips on the gaskets/sealant as well. I also want to change out my bellows/gimbal/etc so i'll either be tackling one of the projects this fall and the other in the spring, or i'll save them both and do in the spring. I'll be sure to post if I need some help, this community is the very best! Be sure to get the grey / graphite type of gasket between the manifold and elbow. I have sometimes seen the green paper ones included with the manifold - even with Mercruiser stuff. That's one place where a good quality gasket is essential. Check flatness of matting surfaces prior to installing, make sure their flat, even more so with non-OEM parts. Be sure to get the grey / graphite type of gasket between the manifold and elbow. I have sometimes seen the green paper ones Ayuh,.... Great points,.... Clean the paint off the new ones with a flat file,... You'll see any highs or lows quickly,.... 'n ditto the graphite Merc gaskets,... the green paper ones suck,.... Ayuh,.... Great points,.... Clean the paint off the new ones with a flat file,... You'll see any highs or lows quickly,.... 'n ditto the graphite Merc gaskets,... the green paper ones suck,.... Thanks for the great tips guys! So doing the Exhaust Manifold/Riser in the fall right before I winterize the boat is fine? I always think of doing the work then a winterization gone wrong and potentially needing to do it again in the spring. Maybe i'll do this job in the fall, and then bellows in the spring. Lots to do either way in my future. If you do it early enough in the fall you will know if you have a problem. If you do it and do not run it, then same thing as doing in spring. So if your going to do it and winterize at the same time, just do it in the spring So many great details shared in this original thread, I'm bringing it back to life since I ended up not completing this project in the fall and am planning to start soon. QUESTIONS: I saw someone suggested buying long headless bolts to help guide the manifold on and off since its so heavy. Anyone know what thread the exhaust manifold bolts are, and does Home Depot sell a machine screw of some sort with the same thread? Or can I just use the headless bolts that are used to hold the Exhaust manifold on that get the nut screwed on later? Couldn't tell if people suggest buying longer bolts, or if they are using the ones that you use for the actual install. Another question, should I be scraping the paint off the flat mating surface where the Riser meets the Exhaust manifold where the gasket sits, or just leave as is? I've seen people mention filing it to get any high spots off, and some say to scrap to metal. Seems like in salt water conditions that may just leave a spot for rust to start from the outside in. All tips appreciated. Last edited: Apr 28, 2017 Anyone know what thread the exhaust manifold bolts are, Ayuh,.... 3/8" - 16,.... A length of all-thread/ redi-rod will work,... Ya need 'bout an inch or more, longer than the bolts, so's ya can get 'em out after ya start a couple of the real bolts,... I just use some old bolts I salvaged, 'n cut the heads off,... I think they were originally long riser bolts,.... I've seen people mention filing it to get any high spots off, Yep,... Clean 'em off,.... If yer worried 'bout 'em rustin',... Paint the bare metal with Quick-sliver Perfect Seal, which is exactly the same as Form-a-Gasket, #3,.... An issue that comes up in some boats.... Access to the bolts and to be able to remove/replace the parts. The engine (as an assembly) is often installed before the upper deck is joined to the hull. That can create severe issues in getting at the engine to work on it. Ayuh,.... 3/8" - 16,.... A length of all-thread/ redi-rod will work,... Ya need 'bout an inch or more, longer than the bolts, so's ya can get 'em out after ya start a couple of the real bolts,... I just use some old bolts I salvaged, 'n cut the heads off,... I think they were originally long riser bolts,.... Yep,... Clean 'em off,.... If yer worried 'bout 'em rustin',... Paint the bare metal with Quick-sliver Perfect Seal, which is exactly the same as Form-a-Gasket, #3,.... Thanks for the specifics Bondo, I'm off to Home Depot to find some of that thread rod! Have another question, the engine is winterized right now with some anti-freeze poured into the block and everywhere else. Should I just drain the block from the port at the back of the riser, or should I be draining even more? Will there be any gas coming out of the fuel line and should I expect that to be full or does it fill when cranked? My kit came with a new fuel line so I'll be installing that too. Any tips on the liquids I should expect will be helpful since it's an in-boat install. I may video tape the install so I can share it on YouTube with others, I'll probably need to do some editing of my language though An issue that comes up in some boats.... Access to the bolts and to be able to remove/replace the parts. The engine (as an assembly) is often installed before the upper deck is joined to the hull. That can create severe issues in getting at the engine to work on it. Sure hope mine isn't one of those, I'm definitely working in very cramped space but I'm guessing I can pull it off if I remove some sectional pieces back there. I saw someone suggested buying long headless bolts to help guide the manifold on and off since its so heavy. Don't need em', you all ready got em'. They are the stock OEM studs #14 in the pic you posted. The studs should stay in the head when you remove all the manifold fasteners. If the studs come out with the nuts still attached (shouldn't) just put them back in the head with some lock-tite or Permatex Avation sealant before installing the manifold. I am going over (again) two different torque values listed in two service manual downloads. On my Bravo 1s, there are (8) 7/16" studs going through my transom connecting my Mecruiser gimbal housing to its corresponding inner transom plate. I have torqued all (8) corresponding 7/16" fine thread nuts to 23 ft/lbs. But, now I read a second document listing 25 ft/lbs of torque. The initial torquing was performed over two months ago. I am getting ready to install both engines. But, before I do, should I retorque to 25 ft/lbs? Also, the manual(s) is not real clear if I should wait a few days (been over two months) after initial torqueing and retorque? It probably doesn't matter, but I do not want to screw this up. Thx! Hey guys just bought a new to me 2006 Stingray 230 LX with the Mercruiser 350 Mag MPI and Bravo III outdrive.....106 hours on it when I got it. Never had this big of boat, motor or drive for that matter so just looking for some general advice on them. Dos and Donts basically. I know I really like the combo so far and want it to last. The previous owner had documentation of throrough winterization and summerization too....although I had to go out of town and didnt get to look through all of it. I did read through the pinned stuff at the top but most was about Alpha drives and was just "general info".....tried the search but the 3 letter stuff doesnt search. Thanks Re: Do's and Dont's with 350 Mag MPI and Bravo III drive? I dont' know if you have owned a boat before. I had an Alpha drive on my stingray and my new boat has a Bravo. Two things to keep in mind. Props for the Bravo cost about $900+ for the set vs the $100 I paid for the Alpha and the bravo does not have a prop hub. Watch your depth. If you run aground or hit something with an Alpha you are looking at a new prop and prop/hub if you do it with the bravo you may be looking at much more in repair. Now with that said the Bravo is a much more stout drive. The SS props on it take so much more abuse than the aluminuim props that most people run on the Alpha drives. Re: Do's and Dont's with 350 Mag MPI and Bravo III drive? The biggest don't with a B3 is DON'T let it start to corrode. If you plan to keep it in the water, make sure you have the proper anodes for the type of water you're in, make sure the Mercathode is working properly, keep the paint in good shape, and inspect the rear bearing carrier (have to remove both props) every year for corrosion. Sorry if this has been already covered in the past but I have not been able to find solid confirmation to find out what generation my Drive is. My serial number is OC312462 and it's a 1988 5.7 Mercruiser it's attached to. That's An Alpha One. Not Gen II.... Okay, so I am clear, this Stern drive is an Alpha, not an Alpha 1? From what I have been reading it seems there is an Alpha first generation and a second generation. When I order parts for this I want to get the correct ones and from what I have been reading the first generation parts are not compatible with the second generation and vice versa. I want to order a impeller rebuild kit, new gaskets and change the bellows and shift cable and install them over the winter while I have the drive off the boat for the winter and all the parts I have looked at are specifying Generation 1 or 2 I want to get the right stuff the first time I order...no where I look does anyone ask for a serial number,the question always seems to be what generation is the drive. also my motor s/n is B908486 No... It's an 'Alpha One'... but not an 'Alpha One Gen II' History of 'Alpha' style drive from Mercruiser (brief) 1967-1982 - Mercruiser 'One' Drive (MC-1 for short) 1983-1984 - Mercruiser 'R' drive (for 'Revised') 1985 Mercruiser 'MR' drive (for 'Major revision') 1986-1991 - Mercruiser 'Alpha One' 1991-current Mercruiser 'Alpha One Generation II' drive Also, there is no 'Gen I', just 'Alpha One' and 'Alpha One Gen II'.... I guess by definition if the later is called 'Gen II' that would make the one before it a 'Gen I', but it was never called 'Gen I'... I guess at the time they didn't know they there would be a 'Gen II'... Hope that makes sense... There is also a wealth of information (including all this) in the stickies section, including pictures of the various different drives and how to tell them apart. Check it out. Chris... Just re-read your post. Yes, some shops :facepalm: do call anything that is not Gen II, Gen I... It's wrong, but hey, they call anything prior to 1983 'Pre-Alpha'... That REALLY gets my goat!!! . (Read from HERE down) Last edited: Dec 1, 2014 Thanks. I figured it would be a Alpha one "first generation" specifically based on the vintage (1988) Thanks for the help..I am new to Boats but not new to Mechanics and Electronics repair. Great forum...I have browsed for other answers and got what I needed. Thanks again guys. Thanks. I figured it would be a Alpha one "first generation" specifically based on the vintage (1988) Thanks for the help..I am new to Boats but not new to Mechanics and Electronics repair. Great forum...I have browsed for other answers and got what I needed. Thanks again guys. Ayuh,..... Welcome Aboard,.... Have ya been into Don'S Adults Only section yet,..... There's a wealth of Info in there, includin' a description of the Alpha series of drives, with pictures,... Last edited: Dec 1, 2014 Ayuh,..... Welcome Aboard,.... Have ya been into Don'S Adults Only section yet,..... There's a wealth of Info in there, includin' a description of the Alpha series of drives, with pictures,... Has there been an update to this in a while? My serial number is not covered in his posts. Has there been an update to this in a while? My serial number is not covered in his posts. Please start a thread of your own. Forum rules are no posting to threads older than 90 days, unless you are the OP posting an update.. Chris. iboats mod team I am tentatively looking at a 1977 boat with a mercruiser 188. Is this a 302 ford engine? I assume outdrive is a pre alpha geared for the 188 hp engine. this is in a 25' starcraft, so boat is about 3,000 lbs loaded. Hp should be ok. I have a 21' starcraft with a 140hp right now and I am ok with the top end speed. Re: what is a mercruiser 188 Yes, it's a Ford 302 v8. Re: what is a mercruiser 188 I am tentatively looking at a 1977 boat with a mercruiser 188. Is this a 302 ford engine? I assume outdrive is a pre alpha geared for the 188 hp engine. this is in a 25' starcraft, so boat is about 3,000 lbs loaded. Hp should be ok. I have a 21' starcraft with a 140hp right now and I am ok with the top end speed. With a 2 bbl carb. The drive is not a 'pre-alpha' (Merc never made a 'pre-alpha'), it's a Mercruiser-1 drive, or MC-1 for short.... The correct ratio for the 888 was 1.50:1... Chris...... Re: what is a mercruiser 188 This is not a trouble free motor.Plenty of issues including a troublesome charging system,disimilar metals,hard to get parts.Will have a catastrophic failure faster than just about any other motor. This is how it was explained to me when looking at a boat with twins of this type that were practically new.I ultimately opted for the same boat with twin v8 mercruisers.Charlie Re: what is a mercruiser 188 ^^^ Sir, you are confused. You're thinking of the mercruiser 470, 170, 180 series engines, the big 3.7 liter 4-cylinder. It does have all the problems you list. HOWEVER, the original question was about a Mercruiser 188, which is a V8 Ford sterndrive and is not plagued with the problems you have listed. No need to give inaccurate information, no offense to you intended, just trying to clear it up for the original poster. Re: what is a mercruiser 188 This is not a trouble free motor.Plenty of issues including a troublesome charging system,disimilar metals,hard to get parts.Will have a catastrophic failure faster than just about any other motor... I think you are talking about a 470 - aluminum 4cyl with an iron ford 460 head. This is a 302 ford, and while some parts can be harder to get and cost more, it is no more prone to "catastrophic failure" than any other engine.... Re: what is a mercruiser 188 looks like 500 types faster.... Re: what is a mercruiser 188 Yes 180 you are correct.thanks for the correction. 500 take a chill pill and show some respect in the future! Charlie Re: what is a mercruiser 188 That 888 is a good setup. If it has been well maintained you can expect a long happy relationship! I have one and really like the old girl. i have a 1980 wellcraft sunhatch with a Mercruiser ford 302 188hp some wire off the motor and not sure where they go can someone help me with the wiring harness diagram i have a 1980 wellcraft sunhatch with a Mercruiser ford 302 188hp some wire off the motor and not sure where they go can someone help me with the wiring harness diagram Start a topic about your Mercruiser and ask again there. Hi, Could someone please tell me how I can replace the tilt trim switch in a Mercuiser throttle handle? Even dis-assebly steps would be appreciated. Thanks First off you need to Make sure the problem is the switch. The vast majority of time when the trim does not work it is the trim limit on the outdrive that is the problem. Does the "trailer" switch work? If it does you will want to bypass the trim limit to check the trim switch. Go to the stern and look for two black wires coming through the transom, one going into a connector with a purple/white wire, the other into a terminal with 2 blue/white wires. Unplug and jumper between the two connectors with a short piece of wire. Try the trim switch, if it works your trim switch is OK, and you have a bad trim limit switch or wiring. If it is the switch, posting a picture of the throttle control would be good as there are a few different models. For the Quicksilver Commander 3000, push the throttle only button in and push the throttle handle forward. You can then pull the throttle only button out. You may need a small screwdriver to pop it out. Remove the nut inside and pull the handle off. You can then unplug the handle from the panel. Remove the lower Philips head screw near the bottom of the handle to remove the release handle and spring. Under the release handle is another Philips head screw to remove. This will allow you to separate the two halves of the handle. You can then remove the trim switch. I had an issue with the trim switch on my Quicksilver control, in that it was a bit "hit and miss", due I suppose to wear/age and it's rather lightweight construction. So, as part of a refurb, I replaced it with a heavier duty, two position momentary rocker switch, mounted on the dash. It's easily accessible and just meant drawing the switch wires down through the throttle handle and re-routing them. The new switch works fine and any future replacement would be less fiddly and more straightforward. Just a thought........... as others have said, your assuming the switch on the throttle is bad when in fact the solenoid switch or both (up/down) located on the trim pump housing at the stern might be bad... or the trim pump itself might be toast.. test the pump by manually jumping wires from your battery directly to the trim pump switches, there's two of them,, after you have grounded, touch pos wire to blue- "sky" usually operates trim up, then same for green, "grass" ie- down, usually will lower the unit.... if both work, then u know the pump is good... if you have gotten that far, then thouroughly clean your exsisting connections, it might work just fine... gunk and corrosion wont allow electrical charges to pass very well, after clean up if no go, then someplace between the pump and the throttle might have a bad wire.. or connection at throttle might be bad.. good luck. Stony gave u the best advise thus far,, IMHO, start there.... id bet in most cases something is loose... Last edited: Dec 16, 2016 The switch in the handle would be for trim only and not tilt and since you didn't say tilt is not working I would not thing the switch is the first thing to look at. You can bypass the trim limit switch on the drive and try then. If it works you know that is the problem. I would not be moving any switches around either. It is nice to have the trim on the handle so I can throttle up while trimming at the same time and keep the other hand on the wheel. If you have a Quicksilver Commander let me know by PM. I can email you the manual. As others have said first make sure it is the handle that is the problem. Does it look like this: Last edited: Dec 17, 2016 as others have said, your assuming the switch on the throttle is bad when in fact the solenoid switch or both (up/down) located on the trim pump housing at the stern might be bad... or the trim pump itself might be toast.. test the pump by manually jumping wires from your battery directly to the trim pump switches, there's two of them,, after you have grounded, touch pos wire to blue- "sky" usually operates trim up, then same for green, "grass" ie- down, usually will lower the unit.... if both work, then u know the pump is good... if you have gotten that far, then thouroughly clean your exsisting connections, it might work just fine... gunk and corrosion wont allow electrical charges to pass very well, after clean up if no go, then someplace between the pump and the throttle might have a bad wire.. or connection at throttle might be bad.. good luck. Stony gave u the best advise thus far,, IMHO, start there.... id bet in most cases something is loose... I take on board what you're saying. In my case, the throttle control is the chrome type quicksilver model, with the switch mounted in a recess on top of the handle. I had already replaced the original solenoids which were sticking and checked all connections and associated components. The little rocker switch was very obviously worn with no clearly defined contact being made. I shorted out the switch and everything worked perfectly, so a new switch was called for. I felt the initial design, with the switch sitting down in it's little well, was leaving it open to water ingress, so for that reason, a heavier duty switch, relocated seemed to be the obvious answer. The new switch is easily accessible for operation and maintenance. It works fine for me, but each to their own. just my experience. Thanks for the input. If you have a Quicksilver Commander let me know by PM. I can email you the manual. As others have said first make sure it is the handle that is the problem. Does it look like this: Dave, I know this is an old thread but I have the exact same remote and the trim rocker switch is loose. Even a small wave bounce can trigger it to start to trim down. I'm trying to find a direct replacement or just a new switch but I'm not sure what model this is. Any chance you know? Thanks, Robert Where can I find engine spec, especially bore and stroke for Mercreuiser 470. Any hot rod information? Engine is 1/2 Ford 460, head, rods, pistons. Building up race engine. Any help, thank you. Re: Mercruiser 470 Engine Spec and Mods Most 470 owners are just happy if it keeps running It is a real bad pick for a HP motor Tommays Re: Mercruiser 470 Engine Spec and Mods First step would be to hang a FOR SALE sign on the boat..... 470 Race Engine, that's hillarious !!!!! Re: Mercruiser 470 Engine Spec and Mods Most 470 owners are just happy if it keeps running......... 470 Race Engine, that's hillarious !!!!! Ayuh,............... I'd say you're Doomed to Failure before you even Start.................... Re: Mercruiser 470 Engine Spec and Mods Best laugh I had all day!! Thanks Re: Mercruiser 470 Engine Spec and Mods I'd save your money & buy into another motor/boat combo, on paper the motor looks like a real go getter, but in reality, it idled rough, it more than likely will have a head sealing issue, and the seal in the cam area will leak, altho there is a kit to fix it, also the charging system was ... well a joke, and some parts from Mercusier are no longer being produced .... I'm assuming a hot-rod engine in a boat, or are you planing to drop the motor in a car? Re: Mercruiser 470 Engine Spec and Mods I have that engine in my boat and I guess I am one of the lucky ones. Re: Mercruiser 470 Engine Spec and Mods OK, let me back up just a little. The engine will not be in a boat but in a street roadster to drag race in a 4 cylinder class. So it will not be a total race set up. At present collecting pieces. Eldebrock Alum head, 460 Header (one side), Keith Black pistons 10.0: 1 cr. Homebrew EFI system. Crank gridle. Electric water pump. By replacing the 460 rods(2.6" big end) with BBC tall block Rods (2.20" big end) can offset grind crank to increase stroke. Kaas developer of the ProStock Ford heads used this engine as a test mule for head developement.There is a rumor of a dyno run just short of 600hp. I looking for 360 to 400 hp. in a 1600 lbs car. Re: Mercruiser 470 Engine Spec and Mods I've got the manual here and will scan the specs and post the link to them in a little while. Re: Mercruiser 470 Engine Spec and Mods Ok, here are the links to them. Save them and let me know when you have them. They take up a lot of space I don't really have to spare. EDIT: You never came back for the info, they are gone now. Re: Mercruiser 470 Engine Spec and Mods So after reading this little thread, I am thinkg I dont really want to ask the following questions for my buddy, and tell him to sell the boat he just got, but I need to know a few things to make sure he doesnt blow the thing up faster then it is going to. So he had to pull the water pump and replace the seals in it yesterday. When we got what I said was the magneto and they were calling the harmonic ballancer out, we figured out it was a magneto. The bat was converted from the magneto to a altinator and the magnets were left on the pully thing. When we got it off, all the magnets were busted up and just stuck where ever they lay. He was told by the guy that had the boat before that they did not matter any more becouse the boat was internally ballanced. So my question are- Is the magneto part of the harmonic ballancer? If not, can the magnets be removed and cause no change to the function of the motor? If I can get a quick responce on this that would be awsome. He is wanting to take the thing out today, but I dont want the motor to go to @#%$ if it is not right, and have him fix it the correct way. Thanks much - Happy boating - Re: Mercruiser 470 Engine Spec and Mods Howdy, I strongly suggest that you start another thread instead of tagging on to a 3 year old one. This one is pretty much DEAD! (I know you probably didn't notice it. I've been caught on old threads before too.) Start a new thread on your question and put on your armor. The 470/3.7L Mercruiser usually brings out the big guns on both "sides"! Cheers, Rick Re: Mercruiser 470 Engine Spec and Mods Thanks, I didnt notice. I am a little distracted today. Thanks again. get the manual it has all the specs for the motor it is printed by Seloc Publications number ISBN 0-89330-005-5 Mercruiser stern drive 1964 - 1982. It is a good motor and strong like anything else if you take care it will take care of you. Mine runs like a champ. I am getting closer to completing my 1993 chaparral 18' 6" Sport Limited project I have never had a Mercruiser 3.0 in a boat before, always ran outboards. I feel like it is a small engine for the size of boat. I would like to know what i can expect, performance wise, when i finally get her on the lake, or open water Thanks for your opinions Good or bad Re: mercruiser 3.0 performance, pros and cons, what can I expect? the 3.0 is a small motor. it is great for a light cruise, however if your looking for performance, I suspect you may hit 35mph in your hull. In my 17' (actually 16.5') I hit 42 on a good day with the right prop. if you plan on water sports as well as cruising, you will need to carry two props Re: mercruiser 3.0 performance, pros and cons, what can I expect? Performance is largely a matter of expectations.. if you want to go 50mph, that's not going to happen.. if your satisfied with 35-40 then you will be pleased.. for water sports you might consider a 4 blade, you will get increased hole shot, on plane easier at mid range speeds, will handle better at slow speed (steering wise).. I've got a 20ft cuddy with a 140hp 3.0.... pushes me up on top of the water quick.. 32mph for me,, I'm very happy with it... I personally think a 4 blade out performs (overall) 3 blade props.. MHO.. have fun with it! Re: mercruiser 3.0 performance, pros and cons, what can I expect? They can run all day on a tank of fuel. That's the major selling point. You don't buy a boat with a 3.0 if you want performance. If you're just looking for a baseline so you know if it's running right well there you go. Loaded with 450 lbs of family or one 450 lb girlfriend it's not gonna do well. Add coolers and gear, well you can see where this is going. Re: mercruiser 3.0 performance, pros and cons, what can I expect? They can run all day on a tank of fuel. That's the major selling point. You don't buy a boat with a 3.0 if you want performance. If you're just looking for a baseline so you know if it's running right well there you go. Loaded with 450 lbs of family or one 450 lb girlfriend it's not gonna do well. Add coolers and gear, well you can see where this is going. cost of fuel today......3.0 is nice :joyous: that is a major selling pt for sure Re: mercruiser 3.0 performance, pros and cons, what can I expect? They can run all day on a tank of fuel. That's the major selling point. You don't buy a boat with a 3.0 if you want performance. If you're just looking for a baseline so you know if it's running right well there you go. Loaded with 450 lbs of family or one 450 lb girlfriend it's not gonna do well. Add coolers and gear, well you can see where this is going. With a 450 Lb girlfriend, you may have "bigger" issues. -E Re: mercruiser 3.0 performance, pros and cons, what can I expect? Thanks for the comments I will check into an additional prop, my wife weighs a whole lot less than 450lbs, so thats a plus Speed, i was not sure about that, in this size and length boat. The speedoo shows 80mph lol Cruising, my wife will love that, snd the fuel economy, I will like that Thanks for the input... Re: mercruiser 3.0 performance, pros and cons, what can I expect? You don't buy a boat with a 3.0 if you want performance. . 19' boat, 45 mph with 2 adults, 6 mpg, outstanding hole shot with a double cupped prop pitched right, ALL day on a tank of gas, etc, etc. To me my 3.0 gives me outstanding performance. The term is being used incorrectly. Many people today want speed, not performance. Re: mercruiser 3.0 performance, pros and cons, what can I expect? 19' boat, 45 mph with 2 adults, 6 mpg, outstanding hole shot with a double cupped prop pitched right, ALL day on a tank of gas, etc, etc. To me my 3.0 gives me outstanding performance. The term is being used incorrectly. Many people today want speed, not performance. well said! Re: mercruiser 3.0 performance, pros and cons, what can I expect? Speed is relative. 45 mph on a skateboard is freakin scary. 45 downhill on skis makes me curl up in a fetal position and ride down the rest of the hill like that. 45 on a slalom then swinging way outside on a turn is pretty fun. 45 in the fast lane of the freeway will get you lots of fingers, honks, and yelling. Just wave and yell back "I'm rejoicing in the lawd glad to see ya'll rejoicing wit' me!" Re: mercruiser 3.0 performance, pros and cons, what can I expect? 19' boat, 45 mph with 2 adults, 6 mpg, outstanding hole shot with a double cupped prop pitched right, ALL day on a tank of gas, etc, etc. To me my 3.0 gives me outstanding performance. The term is being used incorrectly. Many people today want speed, not performance. that is more like what I want to hear I hope the Mercruiser will surprise me.... Re: mercruiser 3.0 performance, pros and cons, what can I expect? Speed is relative. 45 mph on a skateboard is freakin scary. 45 downhill on skis makes me curl up in a fetal position and ride down the rest of the hill like that. 45 on a slalom then swinging way outside on a turn is pretty fun. 45 in the fast lane of the freeway will get you lots of fingers, honks, and yelling. Just wave and yell back "I'm rejoicing in the lawd glad to see ya'll rejoicing wit' me!" lol....but your right.... Re: mercruiser 3.0 performance, pros and cons, what can I expect? if I have my wife, myself, and 2 other adults within weight limit, full 18gal fuel tank, all the safety gear required, 2 sandwiches, chips, drinks, all in the boat, and one adult wants to ski....can the Mercruiser 3.0, in top running condition, take on the task of pulling up that adult skier? or will I be embarrassed, and just drag that person through the water, to the bottom of the lake, only to pop back up, and give me more than the finger lol... Re: mercruiser 3.0 performance, pros and cons, what can I expect? if I have my wife, myself, and 2 other adults within weight limit, full 18gal fuel tank, all the safety gear required, 2 sandwiches, chips, drinks, all in the boat, and one adult wants to ski....can the Mercruiser 3.0, in top running condition, take on the task of pulling up that adult skier? or will I be embarrassed, and just drag that person through the water, to the bottom of the lake, only to pop back up, and give me more than the finger lol... You'll be overloaded by 2 sandwiches, chips and drinks..... :lol: Prop it right and you'll be just fine. I agree with the 4-blade, I have one on my 3.0L (140HP) and it performs very well. You'll need to run the boat to see how it performs (MPH-RPM) with the current prop, if it performs well, run it... It it's doggy or not enough grunt for watersports, use your performance numbers to select a better prop. Re: mercruiser 3.0 performance, pros and cons, what can I expect? You'll be overloaded by 2 sandwiches, chips and drinks..... :lol: Prop it right and you'll be just fine. I agree with the 4-blade, I have one on my 3.0L (140HP) and it performs very well. You'll need to run the boat to see how it performs (MPH-RPM) with the current prop, if it performs well, run it... It it's doggy or not enough grunt for watersports, use your performance numbers to select a better prop. Darn those 2 sandwiches!!! oh well....it will be a while before I get her into the water. I think I have the original 3 blade prop, not sure what pitch ect, but I did see it has the markings on the side. I will check that out. The 4 blade prop? I have read some threads about them, never used one, but maybe I can buy a used one? performance numbers? not sure about that one, please explain Re: mercruiser 3.0 performance, pros and cons, what can I expect? Darn those 2 sandwiches!!! oh well....it will be a while before I get her into the water. I think I have the original 3 blade prop, not sure what pitch ect, but I did see it has the markings on the side. I will check that out. The 4 blade prop? I have read some threads about them, never used one, but maybe I can buy a used one? performance numbers? not sure about that one, please explain Ayuh,... The most important is speed/ Rpms/ at Wot, normal load,.... Re: mercruiser 3.0 performance, pros and cons, what can I expect? I just went out and got the prop numbers.... FCD M 14x1/2x19 Re: mercruiser 3.0 performance, pros and cons, what can I expect? I just went out and got the prop numbers.... FCD M 14x1/2x19 Sounds OK. Though, the proof is in the pudding, drop the boat in the water and run it, see what kind of numbers the boat gives up, (look at the sticky at the top of the prop forum for what you need, "numbers"). That 19P prop could be too big, too small or just right, kind of like Goldilocks and the three bears... Re: mercruiser 3.0 performance, pros and cons, what can I expect? The prop size seems about right. Being a motorhead, I would run synthetic oil with less friction to get the most out of my engine. I've always wondered if they make aftermarket rocker arms with a different ratio to provide extra lift for this motor? I thought I read this somewhere? This might be a way to get a bit more HP out of it. I wonder if they are made just like the std. small block chevy rocker arms? Page 2 Re: mercruiser 3.0 performance, pros and cons, what can I expect? I've always wondered if they make aftermarket rocker arms with a different ratio to provide extra lift for this motor? 3.0's use 1.75:1 rockers (if memory serves right) so I don't think you could get a higher ratio, or find a cheap roller rocker in that ratio. Re: mercruiser 3.0 performance, pros and cons, what can I expect? I am thinking about adding a NOS bottle, lol jk...I will see what I got once she is water ready looking forward to that day Re: mercruiser 3.0 performance, pros and cons, what can I expect? Small add ons like rockers, cam, intake, exhaust are pointless. Money for nuthin. I have had small boats with 140 Mercs, they pulled skiers [not iboats friendly]. All day on a tank of gas. Last edited by a moderator: Mar 12, 2014 Re: mercruiser 3.0 performance, pros and cons, what can I expect? Walt, were these your 450# girls you mentioned prior? Re: mercruiser 3.0 performance, pros and cons, what can I expect? 3.0's use 1.75:1 rockers (if memory serves right) so I don't think you could get a higher ratio, ... Swapping in a higher ratio rocker ON ANY ENGINE, without checking piston to valve clearance is asking for a problem ! IMHO, look for another boat with a 4.3L and rotten floor and stringers. Last edited: Mar 13, 2014 Re: mercruiser 3.0 performance, pros and cons, what can I expect? Thanks for the comments I have been doing a lot of searching, and most folks that run the Mercruiser 3.0 are happy with it, some not. That is to be expected, for me i love the big block v8s with through hull exhaust. I would have one, one day, but only when i can afford the fuelfor it. So for now i will continue with this project, get the bugs worked out, and enjoy... Re: mercruiser 3.0 performance, pros and cons, what can I expect? Take this for what you will. I have a '94 3.0LX that does 50 mph(on GPS) with a 21.25 X 23 stainless prop. But keep in mind the vast amount of variables. Re: mercruiser 3.0 performance, pros and cons, what can I expect? Take this for what you will. I have a '94 3.0LX that does 50 mph(on GPS) with a 21.25 X 23 stainless prop. But keep in mind the vast amount of variables. Thanks! Yes no 450lb single drunk girlfriends, don't carry the 2 sandwiches, use a paper cooler for cold foods and drinks, only 1/2 tank of fuel, calm water, properly tuned engine ect, ect....... Lol But seriously, i hope it works out well, if not, then i will decide on what to do from that point Re: mercruiser 3.0 performance, pros and cons, what can I expect? The bottom line is that they are great motors. Get some time with it on the water, and you will figure out what you have and if you can make it work for YOUR situation. Re: mercruiser 3.0 performance, pros and cons, what can I expect? The bottom line is that they are great motors. Get some time with it on the water, and you will figure out what you have and if you can make it work for YOUR situation. yes, I understand, and are looking forward to the first maiden voyage with me in it Re: mercruiser 3.0 performance, pros and cons, what can I expect? Swapping in a higher ratio rocker ON ANY ENGINE, without checking piston to valve clearance is asking for a problem ! I didn't suggest swapping rocker ratio's......:facepalm: Re: mercruiser 3.0 performance, pros and cons, what can I expect? I didn't suggest swapping rocker ratio's......:facepalm: I did! Checking for clearance at the valves, & covers, goes without saying! Now, on another subject, maybe you can find, & use 4" exhaust elbows on this to pick up some extra power, if they're not 4" already, or if they even make them? Every little bit helps Re: mercruiser 3.0 performance, pros and cons, what can I expect? Hi Buck. I have a 17 footer with the 3.0 and I must say, I'm very impressed. I'm running a 19 pitch stainless three blade, a Mercruiser prop, and mine jumps out of the hole, has a top speed of 40, 41 with four adults on board, and is really inexpensive of fuel. I'm a V-8 guy myself, but for the money, I'm very pleased with the 3.0, hopefully you will be as well. Another note....this 3.0 is still in the line up for new boats...tried and true. Rick Last edited: Mar 17, 2014 Re: mercruiser 3.0 performance, pros and cons, what can I expect? Hi, I haven't read the whole thread, we have an 18ft Bowrider with the 3.0 mercruiser and it provides plenty enough power for everything we do including pulling wakeboarders from a tower, kneeboarders, tubing, just cruising. I'm not convinced of the benefits of getting anything bigger. Re: mercruiser 3.0 performance, pros and cons, what can I expect? thanks for all the comments. I appreciate it. It doesn't look like I am going to get this boat in the water anytime soon, engine gremlins still eating away at my time keep the comments coming Re: mercruiser 3.0 performance, pros and cons, what can I expect? Mercruiser makes a short rubber cone/tube type exhaust to mount on the transom plate, instead of the full exhaust bellow that goes from the plate to the drive. You can hear the engine a bit better then, and it's mellow, not loud at all. I mention this because I've used it on a boat I had, and you might get a bit more performance out of the 3.0? Last edited: Apr 1, 2014 Re: mercruiser 3.0 performance, pros and cons, what can I expect? Mercruiser makes a short rubber cone/tube type exhaust to mount on the transom plate, instead of the full exhaust bellow that goes from the plate to the drive. You can hear the engine a bit better then, and it's mellow, not loud at all. I mention this because I've used it on a boat I had, and you might get a bit more performance out of the 3.0? thanks! I did not know that...The Mercruiser sounds really good, running out of the water, and on the ground, which I am doing until I find my Gremlin..lol Re: mercruiser 3.0 performance, pros and cons, what can I expect? For what it's worth, I have a 17' bowrider with a 3.0 and it goes 35-40 with 4 adults and some kids no problem. I run a 14 1/2x19 prop on it and it pulls a two-person tube up and down the lake with no problems as well. I find it a good balance between performance and economy. Re: mercruiser 3.0 performance, pros and cons, what can I expect? Have you thought about getting another air filter and putting double the elements in? More air in.... I have a 88 Sea Ray Seville. It has a 4.3 Mercruiser. I'm trying to identify the outdrive because I need to buy parts for it but I dont know where to look. The outdrive serial number is 0B974373. Also the outdrive is white in color, I dont know if thats makes a difference or not. But any help would be greatly appreciated. Re: how-to identify a outdrive with serial number? MERCRUISER R.H. ROTATION ALPHA 1.84:1 Sea Ray painted them white. Re: how-to identify a outdrive with serial number? I have a 88 Sea Ray Seville. It has a 4.3 Mercruiser. I'm trying to identify the outdrive because I need to buy parts for it but I dont know where to look. The outdrive serial number is 0B974373. Also the outdrive is white in color, I dont know if thats makes a difference or not. But any help would be greatly appreciated. That's all you need to know. Everything on anything Merc is done by serial number. Parts, service manuals, tech bulletins... You have the serial number, you can get anything you need for your 1988 Mercruiser Alpha One drive with a 1.84:1 ratio..... What parts are you looking for? Chris........ Re: how-to identify a outdrive with serial number? That's all you need to know. Everything on anything Merc is done by serial number. Parts, service manuals, tech bulletins... You have the serial number, you can get anything you need for your 1988 Mercruiser Alpha One drive with a 1.84:1 ratio..... What parts are you looking for? Chris........ Impeller kit. the outdrive is not sending water to the engine. So, is the outdrive a Alpha or Alpha1 and is there a difference between the two. This is my first boat and im trying to learn as much as I can. Plus I dont wanna buy the wrong part. Re: how-to identify a outdrive with serial number? This is my first boat and im trying to learn as much as I can. Plus I dont wanna buy the wrong part. Good attitude. Read, read some more, read only the Merc. official service manuals as the others are not clear, watch videos-especially the ones here on IBOATS, try and put the pieces together and if still unclear, ask questions. If you haven't already done so, at the top of this forum you'll see a couple 'sticky' items; spend time in there. Lots of great information Don has assembled over the years that really helps. Regarding parts: as a general rule, either buy OEM Merc/Quicksilver parts or if going aftermarket, Sierra seems to have the better reputation than the others. IBOATS does not sell OEM parts but does Sierra and has great pricing. Finding the OEM part number of an item then using that to cross reference to Sierra or to comparison shop seems to help. If you are buying an OEM part and have a local Merc. dealer, check their pricing also especially if you visit a dealer for advice. Mark