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How to measure polaris hose

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A hydraulic hose is a high-pressure, synthetic rubber, thermoplastic or Teflon reinforced hose that carries fluid to transmit force within hydraulic machinery. Hydraulic machinery began to be used in the early 1940s when engineers discovered that hydraulic systems were more compact, lighter in weight and self-lubricating. World War II spurred development of hydraulic machinery for military applications. The development of flexible hydraulic hoses further opened the way for development of a wide array of new, high-powered machines based on hydraulic technology. Hydraulic hoses are made in three basic parts. An inner tube carries the fluid. It is reinforced with a sheath of braided wire, spiral wound wire or a textile based yarn. A third protective outer layer provides protection from weather, abrasion or oil or chemicals. Hydraulic hoses are designed or custom-made specifically for use in specific mechanical applications. In most cases hydraulic hoses are designed to be specific sizes, lengths and have custom connectors to work in specific machines. Hydraulic hoses are not permanent. A variety of factors can impact the lifespan of a hydraulic hose. Flexing the hose too much, twisting it, kinking, stretching, crushing or scratching the surface can reduce hose life. Too low or too high operating temperatures will break down hoses as will sudden sharp rises or drops in internal pressures. Using the wrong size, type or weight of hoses can also cause hoses to break down. Hoses should be replaced before they fail, especially with hydraulic heavy machinery, brakes or safety critical hydraulic machinery. Hoses show swelling, cracking, blistering and bubbles when worn or may show virtually no signs at all. Replace hoses as often as recommended by the manufacturer to prevent accidents. Hydraulic systems have the ability to multiply torque or apply force in a simple way. Mechanical systems would require an intricate system of gears, chains, pulleys and levers, to move machinery at a distance from the engine. Hydraulic systems, however, can transmit force from a force engine to the place where it needs to be in order to do the work simply by stringing hydraulic hoses between the two. Fluids transmit force effectively because they do not compress. The force that is applied at one end of a hydraulic hose travels to the opposite end of the hose with little loss of power. Changes in size of hoses along the way can increase or decrease the force applied at the opposite end. Hydraulic hoses can turn forces from a few ounces of pressure into hundreds of tons of output. Using hydraulic hoses, hydraulic machines can create very powerful low speed torque and manage speed and movement of machines with extreme accuracy. A single hydraulic pump or compressor can, through hydraulic hoses power many different machines and machine functions at widely varying power levels at the same time. Hydraulic powered machines can operate safely in areas where there are flammable vapors and electrical or electronic devices could set off explosions. Every hose has specific ratings for specific types of fluid they are designed to carry, working temperature ranges and pressure limits for that specific hose. Usually they are printed on the hose or fittings. In some cases they print a model number on the hose and provide a spec sheet for the various models. Hydraulic systems operate under high pressure to drive machinery. Hoses that fail at high pressures can whip about with extreme violence and injure bystanders or machine operators. Hydraulic hoses should be checked and replaced according to manufacturers recommendations. Garden hose connectors — also known as hose fittings — are a key component of any lawn or garden watering system. But which connectors do you need for your hose? What about various nozzles? Here is a brief exploration of these questions.What Diameter Should You Choose?Before purchasing or attempting to use any garden hose fittings, you need to determine what diameter the thickness of your hose is. Common garden hose diameter sizes include 1/2-inch, 5/8-inch, and 3/4-inch, so you'll want to purchase connectors that fit the type of hose you use. Hoses with larger diameters can carry a larger volume of water at one time but offer lower water pressure. Hoses with smaller diameters carry less volume of water but have more pressure. Larger diameter hoses are often more difficult to reel up. Consider these factors when choosing the hose you want for a particular purpose.What Material Are Fittings Made From?You'll find hose fittings available in both plastic and metals, such as brass. Brass is usually more expensive but can last longer and stand up to more rigorous use. Plastic is light, inexpensive and possibly easier to use, but cracks more easily — especially if it is accidentally frozen. The material you use may depend on the intended application and how often it is used.What Are Y-connectors?What do you do when two people need to use the hose at the same time for two different jobs, but there's only one water spigot. In these situations, you can employ a Y-connector, also known as a splitter. This is a hose connector that diverts one source of water into two separate hoses, each with its own shutoff. One downside is that there will be less water pressure and volume available if both ends of the Y are used simultaneously.Sprayer OptionsFor gardens, potted flowers and washing the car, a sprayer nozzle on the end of your garden hose can be a real help. Some nozzles are adjustable and can spray water in different patterns and at different speeds and volumes — from a light mist to a soaker setting to a strong jet suitable for cleaning debris off of your porch.Shutoff Valve ProtectionIf you don't need the versatility of a sprayer but still need a way to stop the water at one end of your hose, consider a simple shutoff valve that allows the flow to either be on or off. Finally, make sure you use a rubber washer of the correct diameter with each new fitting. Otherwise, the new hose connector will leak for sure. It's easy to lose these rubber washers, so keep a box on hand during yard and garden season. MORE FROM QUESTIONSANSWERED.NET D. Cutting the Head Hose1. Straighten the feed hose by soaking it in hot water or laying it in the sun.2. Measure and mark the deepest part of thepool (usually the main drain) with a telepole.If the pool depth is 10 feet or more, do notcut the hose and skip to step 5.TelepoleMark Water LevelGreatest Depth of Pool3. Lay the telepole next to the clear hose. If theclear hose is longer than the mark on thetelepole, cut the excess from the end attachedto the white hose. Do not cut off the float.TelepoleWater Level MarkWhite HosesSwivelRemove ExcessCut Clear HoseHose From ThisEqual to GreatestEndDepth of Pool4. Reattach the clear hose to the white hoses—It is easier to reinstall the swivels when thehose and swivels are wet.Proper Nut PlacementFeedNutHoseSwivelWater FlowTo Polaris 5. Attach the quick disconnect at the end of the white hose to the universal wall fitting.6. Stretch the hose to the farthest point of thepool. (The Polaris will not usually climb ontothe top step, so do not count it in your measurement.) If the hose is within 6" of thefarthest point of the pool, go to Section E.FarthestPoint fromUniversalWall FittingUniversalOverageWallMeasurementFittingIf the hose is more than 6" short, add a10-foot section of white hose with floats(part #9-100-3104), two nuts (part #D-15),and one swivel (part #D-20). Do not addmore than one 10-foot hose section.7. Measure the amount of hose that extendspast the farthest point of the pool. This is the overage measurement. Do not cutthe hose yet.8. Lay the hose on the deck. Go to the swivelbetween the 10-foot white hoses. Slide thefloats from the swivel and removethe swivel.9. Cut an equal amount of the overage mea-surement from each 10-foot white hose.10. Reinstall the swivel with the flow arrows on theswivel pointing toward the Polaris. (Refer to the"Proper Nut Placement" diagram.)Overage MeasurementRemoveHereHereFloatsFlatsSwivelWhite Hoses areCut to Equal LengthsPage 5 A pool cleaner is one of the best investments you can make. It can save you a ton of time that you'd otherwise spend vacuuming and skimming your pool yourself. If you've ever let a robotic vacuum loose in your house, you know how awesome it can be to have a little device doing the hard work for you while you do, well, anything else. One of the best-known brands in pool cleaners is Polaris, and for good reason. They're reliable, they work well, and let's face it, they're cute little underwater robots. But like any mechanical device, they sometimes malfunction. Before you just toss it and go back to manual cleaning, try your hand at Polaris pool cleaner troubleshooting. Identifying the problem is half the battle. Polaris Pool Cleaner Troubleshooting Tips Lots of things can go wrong with a pool cleaner, including damage from things like falling tree limbs, animals, and even the sun. Of course, these are much more likely if you leave your Polaris pool cleaner out in the open instead of storing it in a shed or garage. We'll assume you're putting your pool cleaner away when you're not using it and focus on problems that can crop up while it's in use. Your Polaris Pool Cleaner Stops Moving A common problem with automatic pool cleaners is they simply stop moving. There it is, happily vacuuming the bottom of your pool, when it suddenly just stops. You wait a few minutes to see if it'll restart on its own, but no, it continues to sit there, waiting to be rescued. A handful of problems may cause this stalling out. Broken Booster Pump If you're not getting strong pressure from the return line you connect to the pool cleaner, it could be that the pump, filter, or the cleaner's booster pump is malfunctioning. Check your pump and filter first. If they're working fine, you've narrowed it down to the booster pump. While it could be repaired, the time and expense in fixing it will probably add up to more than the cost of replacing it. Note: Zodiac is the parent company of Polaris, so if you need to buy any new parts for your Polaris cleaner, they may be sold under the Zodiac name. Double check their parameters before buying to be sure they'll fit your model. Clogged or Broken Quick Disconnect Your Polaris pool cleaner's hose is attached to the return jet with a small piece called a quick disconnect. Inside this piece, there's a screen to catch debris coming from your filter so that it doesn't enter the pool cleaner. If that screen becomes clogged, your pool cleaner will protest by freezing in place. Check the screen to make sure it's clean and free of any sand or debris. If it's clogged, detach it from the hose and return jet, and rinse it to dislodge and dispose of the debris. While you have it detached, also check to see whether the quick disconnect is broken. If it is, it'll leak water and prevent the pool cleaner from getting the right amount of pressure, which will stall it. If it is broken, you'll need to replace it. Leaky Float Hose A pool cleaner works by sucking up water and debris from the pool, capturing the debris in a filter bag, and then returning the clean water to the pool. The water is returned via the float hose, which runs from the pool cleaner to the return jet. A leak in that hose will reduce pressure in the cleaner, stopping it in its tracks. If you find any leaks in the hose, you could try to seal them with waterproof tape. That may work for a while, but will eventually fail, and you'll be right back where you started. You're better off simply replacing the hose. Leaky Back-Up Valve A large, white device located on the Polaris hose, the back-up valve fires high-pressure bursts of water through its nozzle, which moves the cleaner, enabling it to clean the pool. If it's leaky, or you notice it constantly spraying water, it needs to be replaced. Broken Belts Just like an indoor vacuum cleaner, a Polaris pool cleaner relies on drive belts that allow the wheels to turn. If a belt breaks, guess what? Yup. The cleaner comes to a screeching halt. Well, maybe not screeching. It is underwater, after all. Anyway, if the back-up valve is working, and the tail is waving back and forth, but the wheels aren't turning, sounds like a broken belt. Luckily, this is one of the easier Polaris pool cleaner troubleshooting methods. Simply lift the cleaner from the bottom of the pool, and check to see whether all the wheels turn. If they don't, open up the cleaner, and locate the belts to see whether they're damaged. You may have a little trouble finding them if they have indeed snapped. There's no repair to be made here. You'll just need to pick up a new set of belts. Disconnected Internal Tubing A Polaris cleaner has water tubes inside that direct pressure throughout the cleaning unit. They can sometimes become disconnected, which reduces the internal pressure, which makes the cleaner stop moving. Open up the cleaner and make sure all the internal tubing is connected the way it's supposed to be. You'll be able to tell if it's not. The fix should be as easy as simply reattaching them, but if they won't stay on their own, you may need to use hose clamps to keep them in place. We cut out all the confusion of pool maintenance in this easy-to-read illustrated ebook and video course. It'll help you save \$100 right away on pool care! Click Here to Learn More Your Polaris Pool Cleaner Gets All Tangled Up So it's not that your cleaner has stopped moving. In fact, it's moving around the pool so well, it's gotten itself all wrapped up in its own hose or power cable, so it's basically holding itself hostage until you pay a ransom. Or, well, until you untangle it. How can you avoid tangles and keep your pool cleaner running smoothly? Shorten the Hose Length One of the first steps in Polaris pool cleaner troubleshooting for tangles is to check the hose length. You do need a little play in the hose so the cleaner can move freely, but a too-long hose will have a hard time swiveling along with the cleaner. It's easy to figure out how long the hose needs to be. Connect the hose to the quick disconnect in the pool wall. Hold the other end of the hose, and walk to the point of the pool farthest from the wall connection. There should be enough hose to reach that point, plus or minus about six inches. If it's too long, you'll need to cut it. Measure the depth at the deepest part of your pool. Cut the lead hose section (the first part of the hose that is connected directly to the cleaner) to match the pool's depth. Run the hose from the wall port to the farthest point again. If it's still too long, cut equal portions from the remaining hose segments. Reassemble the pool cleaner and let it loose! Stretch Out the Hoses and Cables Sometimes, the reason hoses and cables become tangled is because they're stiff and not pliable enough to move freely as the cleaner works. You can use the power of the sun to help alleviate this. On a warm, sunny day, completely disconnect the float hose and power cable. Then stretch them out across your lawn or driveway, anywhere you have room for them to be fully laid out. Work out any tangles or kinks so they're straight. Leave them in the sun for two or three hours. The warmth will soften the plastic a little, making them more pliable so when they go back into the water, they'll be able to move around better with the cleaner as it works. Check the Connectors In order to avoid tangling, the hose needs to move freely, and the swivel connectors that join the hose segments are what allow this movement. Actually, it's small ball bearings inside the connectors that create the swivel action. If those ball bearings can't roll, the connectors can't swivel, the hose can't move properly, and you have a tangle on your hands. Check the connectors to ensure they move freely. If they don't, apply a little waterproof lubricant to ball bearings. If this doesn't help, you may need to replace the connectors. Measure the Cleaner's RPMs The wheels on your pool cleaner are designed to work at a specific revolutions per minute (RPM) setting. If the wheels lack resistance, and the RPMs are too high, the wheels will turn faster than they should, and the hose may become tangled. Not only that, but if the cleaner's wheels rotate too slowly, it won't be able to get around the pool well. If they rotate too quickly, the cleaner will lift off the floor, and won't be able to vacuum properly. Adjusting the wheel's RPMs will fix both problems, as well as helping to prevent tangles. Check the owner's manual to find the recommended RPMs for your pool cleaner model. Using a marker, put a small line on one tire. Note the starting point (where the mark is). Turn the cleaner on, and submerge it just below the pool surface. Set a timer for one minute. Count one tire rotation each time your mark passes the starting point. When the minute is up, compare the RPMs you counted to the manual's recommendation to ensure the total falls somewhere within that range. If it doesn't, adjust as necessary, and repeat the test until you achieve the appropriate RPMs. While you're at it, check the wheels for wear and tear. If they appear damaged or worn down, replace them before putting your cleaner back in the pool. Check the Weather If you run your pool cleaner when the weather is cooler, you'll lose that benefit of having softened up the hose and cable by laying them out in the sun. They'll harden up again, which will increase the probability of tangling. The first solution is to avoid running your cleaner when the temperature dips below 70°F (21°C). If you absolutely have to run it in cool weather, try laying the hose and cable out in the sun for a little while before putting the cleaner in the pool. Then keep an eye on the cleaner as it works so you can untangle any knots as soon as they occur. Add More Hose Floats In order to work properly, move around, and keep from getting tangled, your pool cleaner's hose needs to float. Otherwise, it'll just get dragged around the bottom of the pool, and end up in knots. The solution is easy. Add more hose floats! Just take care not to add so many that the cleaner can't even sink to the bottom anymore. When All Else Fails ... Sometimes, no matter what you do, the hose will continue to get tangled. This is especially true if it's ever become so badly tangled that it's kinked. If this happens, order a replacement hose. Just be sure to check that it will fit your Polaris pool cleaner model. When you get your new hose, stretch it out in the sun for a few hours before using it. This will give it a bit of a head start in avoiding tangles. You're a Troubleshooting Pro! There's no stopping you now! You'll be able to tackle all kinds of Polaris pool cleaner troubleshooting, quickly fix some common problems, and save yourself some money. Plus, you'll help your device do its job, keeping your pool cleaner so you can enjoy it more. Remember, if all else fails, you can always take it to your local Polaris dealer and have them take a look at it for you. Happy Swimming! Matt Giovanisci is the founder of Swim University® and has been in the pool and spa industry since 1995. Since then, his mission is to make pool and hot tub care easy for everyone. And each year, he continues to help more people with water chemistry, cleaning, and troubleshooting. Download Our FREE Pool Care Cheat Sheet This free printable cheat sheet helps keep your inground, above ground, or Intex pool clean and clear without messing with confusing water chemistry. Get The FREE Cheat Sheet How To Change a Pool Light Bulb Changing a pool light bulb isn't like changing a bulb in a lamp, but it's not difficult, either. You can do it with the right tools, and a careful process. Pool Leak Detection: How To Quickly Find The Leak Yourself Pool leak detection is the first step to fixing what can be a very damaging and expensive problem. Here's how to quickly find and fix a leak. How to Remove Pool Liner Wrinkles Do you have pool liner wrinkles? Try these tips to remove them so walking in your pool is a smooth experience, and you can avoid snags and tears.