

Discount Forklift

FORKLIFT TROUBLESHOOTING



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Introduction

Forklifts are super important in many kinds of jobs, especially when it comes to handling materials and products around quickly and easily. These machines are built to be strong and durable, but because they have a lot of parts that move and are used often, they're likely to need some repairs at some point.

In this guide, we're going to explore the most common forklift issues and how to fix them. We'll discuss simple problems that you can often fix by yourself. These are usually smaller issues that don't need a lot of technical skills or special tools to solve. To make things even easier, we'll include QR codes with links to videos. These videos will show you exactly how to do certain repairs, making it simpler to follow along and fix your forklift.

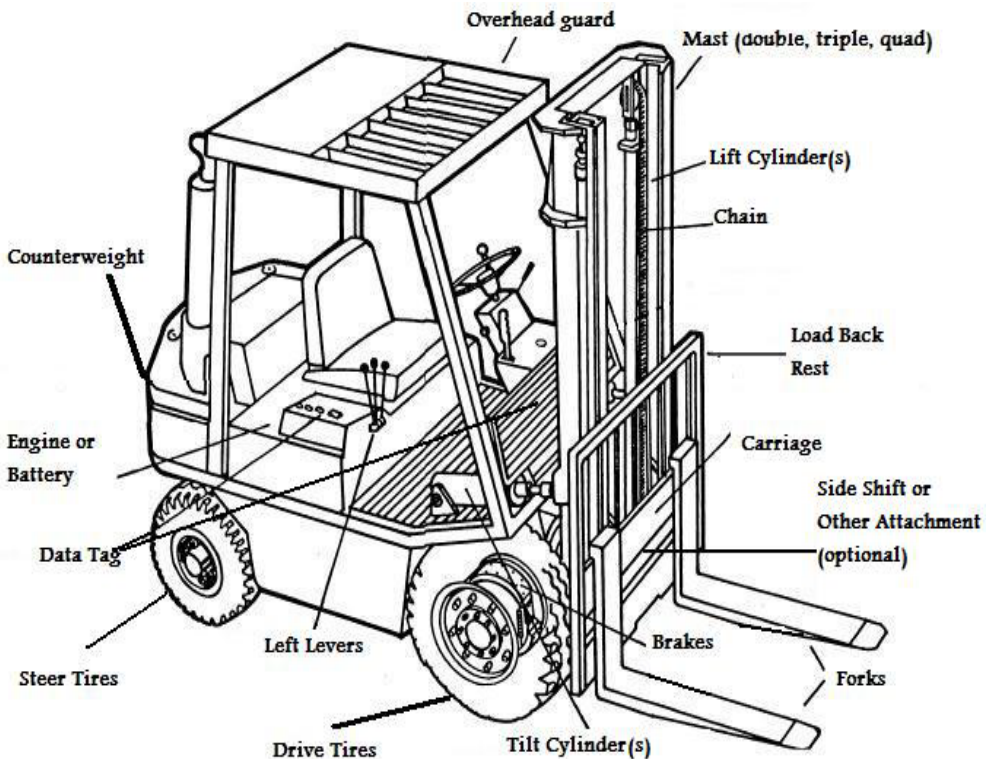
We'll also talk about more complex problems that should be handled by professionals. These issues might be more complicated or require special tools and expertise to fix. We'll help you understand these problems better, so you know when it's time to call in an expert. And don't forget, regular maintenance is key to keeping your forklift in top shape and preventing future issues. We'll provide some great maintenance tips as well.

So, whether you're doing a quick fix yourself or figuring out if you need professional help, this guide, with its handy QR code-linked videos, is your go-to resource for all things forklift repair!



What is the Anatomy Of a Forklift?

Before we can talk about trouble shooting an issue with your forklift it is important you understand the terms used to describe parts of your forklift.



What Are the Most Common Forklift Failures?

If you own a forklift, it's a good idea to familiarize most likely to encounter. The most common yourself with the issues you're problems are the following:

- **Mast issues:** The mast, which controls the forklift's lifting, lowering and tilting, is a common source of problems. Attached to the mast is the carriage, which allows for your forks or other attachments to be installed onto the forklift in order to carry a load. The mast lifts loads using hydraulic power and lowers loads using a combination of gravity and hydraulic check valves. A forklift's mast lifts in several stages, which can cause various wear points. In this guide we will cover troubleshooting, lifting and lowering issues, jittering while lifting, and indications of mast component wear.
- **Starting issues:** When your forklift won't start, it can be irritating. It can also be costly, as it may delay jobs and force drivers to spend time trying to solve the problem instead of working. In this guide we will cover crank no start and no crank conditions on internal combustion engines, as well as troubleshooting electric forklift starting issues.

- **Fluid leaks:** Internal combustion engine forklifts, similar to cars, need several different fluids to work properly. These include fuel, coolant, oil, transmission fluid, and hydraulic fluid. If you want to reduce the chance of your forklift leaking any of these fluids, you might consider switching to an electric forklift. Electric forklifts need only one fluid, which is hydraulic fluid, to operate. This means they have fewer parts that could fail and cause leaks. In this guide, we'll show you how to tell when a leak is something to worry about and when it's just a minor drip that isn't a big deal. This way, you can keep your forklift running smoothly without unnecessary stress over every little leak.
- **Rough Running Conditions:** When your forklift starts running poorly, there are usually a couple of common problems we see. The first one is Frozen LP (Liquid Propane) Regulators. This happens when moisture inside the regulator freezes because of cold weather, which can mess up how the propane flows and make the engine run badly. This is more likely to happen in the winter or in really cold places. The second big issue is when forklifts have trouble running smoothly because of big changes in elevation. If you're using a forklift in areas that are very high up or where the altitude changes a lot, the thinner air can affect the mix of air and fuel in the engine, making it run rough. It's important to adjust the forklift's settings to deal with these changes so it can work properly and keep running smoothly, avoiding extra wear and tear or downtime.



How to Diagnose a Forklift

When experiencing any technical problem, you may need to complete a bit of troubleshooting to pinpoint the source. For each problem, we'll share some tips on how to figure out what the issue is and how it can be fixed.

1. Mast Issues

Lifting and Lowering issues: Lifting and lowering Issues can be caused by several issues. So, let's start with the basics. The forklift is using hydraulic power to raise the lift cylinders, and gravity and check valves to lower those cylinders, in doing so your mast and carriage should raise and lower smoothly.

Hydraulic Fluid levels: If you are experiencing issues lifting a load, it may very well be your hydraulic fluid levels. To check these, lower your mast all the way to the ground and tilt the mast all the way back towards the operator. Each lift is different, however there should be some sort of indicator, a dip stick, sight glass, or in some cases, a large opening with a level line inside of the tank. **DO NOT CHECK FLUID LEVELS UNLESS YOUR MAST IS COMPLETELY LOWERED AND TILTED ALL THE WAY BACK.** You run the risk of overflowing your tank.



Hydraulic Fluid Condition: You were just checking the levels, right? How did the fluid look? Was it a mostly clear amber color, or was it milky and look dirty? Lift cylinders and check valves don't like working properly with dirty fluid. It may be time for a hydraulic service. If this is the case, remember to change out all filters, including the air breather, and any filters in the tank.

My Full Free Lift Cylinder Isn't Working Right!!! You got a lift with a full free lift cylinder (that big cylinder in the center of your mast) because you needed it and the main lift cylinders (the ones on the outside of the mast)

are lifting and now you can't unstack pallets inside a truck. Even though this isn't something that looks super complicated and might be an expensive repair, it's usually a pretty simple fix. This is usually caused by a valve in the full free lift cylinder being stuck from lack of use. Take the machine outside or where you won't come near a ceiling with the lift raised completely and let the mast all the up and down a few times. 95% of the time this will fix the problem.

Jittering During Lifting: Jittering during lifting is almost always caused by low hydraulic fluid. Refer to the previous **Hydraulic Fluid Levels** section.

Mast Wear Points: Your forklifts mast has several wear points that can cause safety concerns that you should be aware of:

Mast Rails: These are the guides that keep the carriage stable as it moves up and down. They can wear due to constant friction from the carriage rollers.

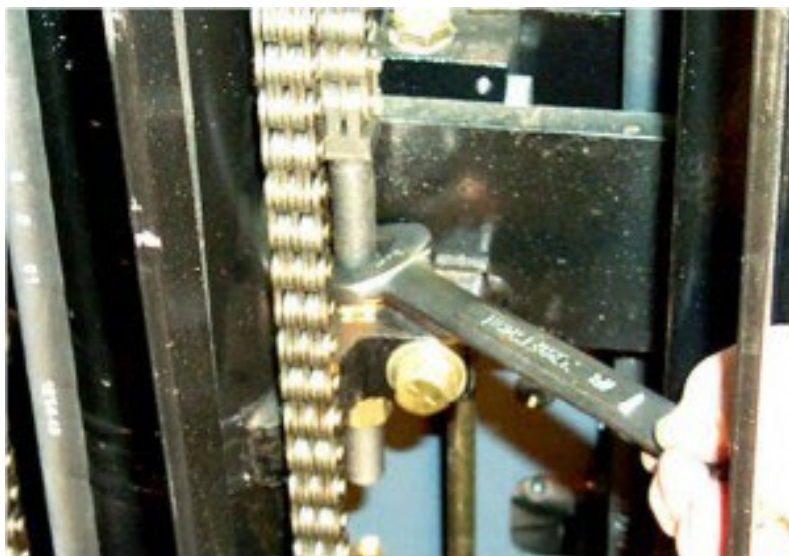
Carriage Rollers: These rollers help the carriage move smoothly along the mast rails. They can wear down from continuous movement and heavy loads, leading to lowered performance in the lifting mechanism.

Chains: The lift chains bear a lot of the weight and tension as loads are lifted. Over time, the links can wear, which might affect the forklift's ability to lift loads to its full height safely.

Bushings and Bearings: Located in the mast and carriage, these components help reduce friction between the moving parts. Wear on these parts can lead to increased friction and instability in the mast operation.

Forklift Tilt Cylinders: These are responsible for tilting the forks and the carriage to adjust the angle of the load. The cylinders can wear at the connections and seals, potentially leading to hydraulic fluid leaks and reduced effectiveness in tilting operations.

Side to Side Mast Sway: Inside each set of rails in your mast is a set of roller bearings to allow the mast rails to travel smoothly. Over time these bearings will wear. If you notice side to side mast sway, during your next service, have those bearings checked. They can often be adjusted to eliminate the mast sway, but it may also be time to have them replaced. Trunnion bushings may also cause side to side mast sway. If the trunnion bushing is loose, it may also have other affects on your machine, such as stressing the cylinder. This repair should always be done by a professional.

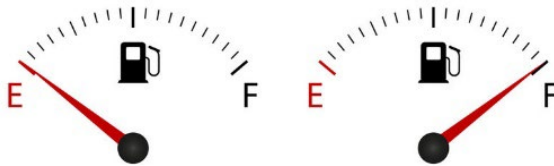


Chain Slack: You may notice over time that the chains that attach your carriage to the mast start to slack or sag. if left unaddressed, over time this can cause damage to your carriage and make loads unstable to carry due to uneven lifting. if you notice excessive chain slack when your mast is lowered completely, have it checked during your next service. **We don't recommend doing this on your own.**

2. Starting Issues

Internal Combustion Forklifts

When I turn the key the starter cranks, but it won't start!!! Alright time to roll up our sleeves and figure it out.



First things First, Let's check our Fuel Levels: I know, silly question, but did you make sure your forklift has fuel? For diesel and gasoline forklifts, i will tell you now, never trust the gauge. Always start the day knowing you topped off the fuel. For LP, again, never trust the gauge on the tank, make sure you have fuel in the tank. You'd be surprised how much propane a machine can go through, especially during heavy use. Alright. so we know we have fuel. It still won't start? Ok, on to the next step.

We're going to talk about just LP units for a minute: alright, we have a full LP tank on the back of the lift, let's make sure that tank is connected to the forklift properly now. It is common to cross tread and improperly attach the LP tank. This can cause a fuel leak and not allow it to run properly.

One common issue when connecting the LP tank to the forklift is the rubber gasket that prevents it from leaking, called the **O-ring**.



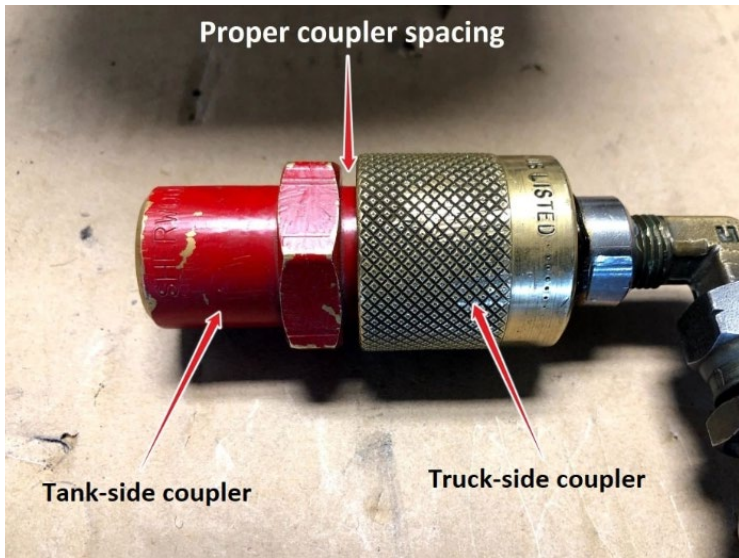
Scan this for a video on how to
replace an O-Ring.

There should be a single black O-ring inside the valve on the tank where the fuel line screws in. Make sure there is only one of those O-rings there.

Now, let's focus on connecting the tank and hose. The threads on these parts are exceptionally thick, which is helpful because they are less likely to wear from frequent use. However, this also makes them easy to cross-thread. While cross-threading these components won't damage the threads themselves, it can lead to a misleading sense that the hose is fully and securely attached when it may not be. This could cause bad sealing and potential fuel leakage.

When you screw the hose onto the tank, do it carefully to avoid cross-threading. You can check the connection as you go; the coupling should

appear even and tight when properly aligned. Here's how the spacing should look when it's correctly coupled:



Ok, so the tank is now attached to the forklift, let's open the valve on the tank. Listen close, did you hear fuel go in? If everything is installed properly there should be an audible indication that should be an audible indication that fuel is entering the system. Now we know we have fuel going to the forklift. Make sure the locator pin on your forklift is going to the locator hole on the propane tank.

Alright we have fuel, you cranked the engine and... Really, still nothing. Alright it is probably time to call our a technician. We could be dealing with spark or timing issues.

There could even still be fuel delivery issues. If you just received your forklift from us, please find our Customer Success team's contact information at the end of this guide. We'll be glad to help you continue trouble shooting your issues and help you get everything remedied.

When you turn the key and nothing happens—no crank, no start—it's good to remember that your forklift works on a 12V electrical system, similar to most cars (though some diesel forklifts might use a 24V system). Because the systems are so similar, fixing your forklift when it won't start is pretty much like figuring out why your car won't start if you were trying to go to the grocery store and all you heard was a Click. A dead battery or one that isn't charged enough won't have the power to turn the engine over. You should also look at the battery terminals—the points where the battery connects to the rest of the forklift. If these are dirty or covered in corrosion, they might not be conducting electricity as well as they should, which can keep your forklift from starting up. There are many ways to clean your battery terminal but we recommend you start by wearing safety goggles and gloves. Working with acid can be very dangerous. Then you can scrub the terminals with a wire brush using baking soda and water, making sure to dry it.

Ok, Forklifts Are a Little Different Than Your Car: Let's start with making sure your forklift is seeing all the safety stuff it needs to in order to be able to start. Different manufactures have different safety requirements but they have a few common overlaps.



Sit in the seat, put on your seat belt, make sure the transmission selector is in neutral, and set parking brake.

Now, try to start the lift. Turn the key all the way to the 'off' position, and then quickly turn it to start. Listen closely when you do this. Do you hear a loud click, or maybe there's no sound at all? If all you hear is a click or nothing, it's likely that the battery is the problem.

If you think the battery is dead, you can try to jump-start it. If you have a portable jump starter, connect the red (positive) cable to the positive terminal of the battery first, and then the black (negative) cable to the negative terminal. If you're using jumper cables, follow the same steps, starting with your forklift's battery and then connecting to a good battery in a running vehicle or another battery source.

After everything is hooked up correctly, give starting the forklift another try. Hopefully, it will start this time. If the forklift starts and runs okay, it might mean you need a new battery, or maybe someone accidentally left the lights on and drained the battery. Either way, fixing it should be pretty straightforward.



It Started but Dies As Soon As We Disconnected the Cables: Sounds like the alternator gave up the ghost. When the alternator isn't functioning, the battery exhausts its reserve power very quickly, leading to the engine dying soon after it starts. This is a clear sign that the alternator isn't contributing to charging the battery, and the forklift is relying solely on the battery's stored power. Time to call out a technician and get it replaced. Not great news not terrible news either.



Nope Still Nothing: it's quite likely that the starter motor is the issue. The starter is a critical component that uses the battery's power to spin the engine quickly enough to start. If the starter fails, the engine won't crank no matter how much power the battery has.

Electric Forklifts

My Electric Forklift Won't Turn On, Or If It Does, It Won't Do Anything: Always remember, basics first!



Did You Charge the Forklift Battery: Of course, you plug the charger in but was it to the battery? The number one issue when someone has not had an electric forklift before is they plug the charger in to the forklift instead of the battery. Honest mistake, if they didn't make all the ends identical maybe we could tell the difference. Alright so now the battery has a good charge, right?



Scan this for a video on how to properly charge a forklift.



The Battery Still Didn't Take a Charge? It might be because the water levels in the lead-acid battery are too low. Lead-acid batteries need to have the right amount of water to work properly. Depending on where you live and the climate there, you should check the water levels in your battery at least once a week, or at most, once a month. To do this, open up the battery cells and carefully add clean drinking water until you can just see the water level at the top of the cells. After you've added water, give the battery a full charge. Once it's fully charged, check the water levels again and add a little more if needed, but be careful not to overfill the cells. Keeping the water at the right level can really help your battery last longer and perform better.

The Battery Has a Good Charge, The Forklift Still Doesn't Power on or Want to Operate!!!

Unfortunately, we have reached that point where a technician is going to be needed. It's always a good idea to get these issues checked out quickly to prevent any further damage or complications.



3. Fluid Leaks

Forklift Tilted at an Angle: Anytime a forklift is tipped at an extreme angle, you run the risk of spilling some hydraulic fluid or coolant. This often happens right after a forklift has been moved or transported, especially if it was loaded or unloaded during the travel. The fluids inside the forklift can get shaken up, and when the forklift is not sitting level, those fluids might start to drip out. Typically, this kind of dripping settles down and stops after the forklift has been used for about a week and is kept on more even ground.

Post-Service Dripping: After your forklift has been serviced, you might notice some dripping of fluids like coolant and hydraulic fluid. These fluids are kept under pressure within the forklift, and the valves and plugs that help manage this pressure might need some time to adjust after service. It's normal to see a bit of leakage as the forklift settles back to normal operation, and this should stop within a week. However, if the dripping persists or seems excessive, it's wise to contact the technician to ensure everything is properly sealed and functioning correctly. Monitoring these small changes can help keep your forklift running smoothly and prevent larger issues in the future.

4. Rough Running

Sometimes it may seem that your forklift is running a bit rough. There are a few things to check if this is the case.

Frozen Propane: Just like your car, sometimes your forklift needs to run a little bit to warm up the internal components for operation. With propane forklifts, this means the anti-freeze needs a chance to melt the ice in the regulator. Try letting your lift run for a bit and listen for an improvement in run quality. Low levels of anti-freeze can also cause this issue. Another issue can be the LP regulator clogging. If you suspect this is the case, this repair can be completed by a qualified technician.

Elevation Change: Sometimes changes in elevation or climate can affect how a forklift runs. This is due to differences in air density, humidity, and the way electricity and heat are transferred in various environmental conditions. If you're moving your forklift to a different location with a significant change in elevation or climate, you might notice that it doesn't run as efficiently. In such cases, it might be necessary to re-tune your forklift to adapt to the new conditions, ensuring optimal performance. This adjustment helps the forklift cope with the new air pressure and temperature, which can significantly impact its efficiency and overall function.



When to Call an Expert

When you know about the most common problems that can happen with forklifts and understand how to solve them, you're in a much better position to handle issues when they pop up. However, it's really important to remember that most repairs, especially the ones that involve technical skills or replacing parts, should be done by professional technicians.

You might think about trying to fix the forklift yourself to save some money, but this can be risky. Even though it seems like a good idea at first, if you're not a trained mechanic, you could end up making mistakes. These mistakes can actually harm your forklift more than helping it. In fact, some of the most costly repairs on forklifts happen because someone who wasn't a professional tried to fix a problem but only made things worse.

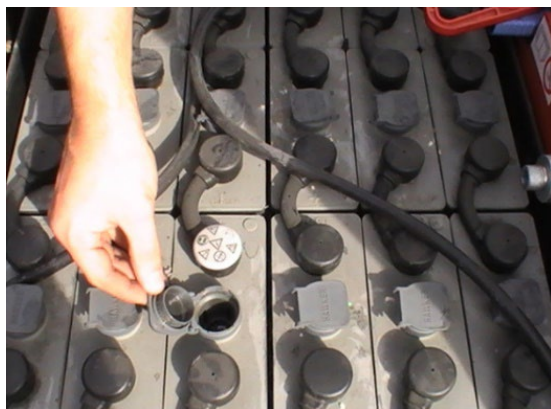
Keep in mind the common forklift repairs and maintenance tasks you can easily and safely perform. These include:



- **Filter replacements:** Replacing filters is a maintenance task that can often be preformed in house without the need for professional help, making it both practical and accessible option for keeping your forklift in good condition. Changing out old filters—such as air, fuel, and oil filters— is crucial for the efficient operation of the forklift.



- **Fluid top-offs:** If you notice one of your fluids is low, you can top it off yourself. Make sure you're using the correct fluids.
- **Quick inspections:** If you want to know how to prevent forklift repairs, the answer is simple — every week, take a quick look around your forklift and make sure all the components are in working order. This way, you may be able to catch an issue before it becomes a more serious, costly problem.



- **Battery checks:** Another task you can comfortably complete in-house is checking your battery to ensure it's fully charged, refilling the battery water, cleaning any corrosion from the terminals, and making sure the connections are secure. Performing these simple yet crucial tasks can significantly extend your battery's lifespan and enhance the overall performance and reliability of your equipment.

Disclaimer: **Please Read!**

Discount Forklift assumes no responsibility for any injury, death, or damage that may occur as a result of work performed on a forklift. All individuals involved in forklift maintenance, repair, or any related activities are required to adhere to industry safety standards, guidelines, and regulations. It is the responsibility of the person or entity performing the work to ensure that all necessary precautions are taken to protect against potential hazards.

By engaging in any work on a forklift, the individual or entity acknowledges and accepts the inherent risks associated with such activities. This disclaimer extends to all personnel, contractors, and third parties involved in the forklift-related work, and Discount Forklift shall not be held liable for any injuries, fatalities, or damages that may occur.

It is imperative that all individuals involved in forklift maintenance or repair possess the necessary skills, training, and qualifications to perform the tasks safely. Failure to comply with safety guidelines and regulations may result in serious consequences, and Discount Forklift disclaims any responsibility for such occurrences.

This disclaimer is intended to make all parties aware of the risks associated with forklift-related work, and it is the responsibility of those involved to prioritize safety and adhere to best practices to prevent accidents or injuries.

If you feel uncomfortable with or are unable to perform any of the above tasks, you'll want to seek the help of a professional technician.

For Additional Trouble Shooting Contact:

Post Sales Customer Success Team

Customersuccess@Discountforklift.us



SCAN TO EMAIL

Call us at: 303-285-0015



SCAN TO CALL