



ATV/UTV AXLE INSTALLATION GUIDE

HOW TO REPLACE AND INSTALL AN ATV AXLE

Most ATV riders will at some point need to replace their machine's axles. This how-to guide is intended to show you that this repair can be done as a DIY project, saving you professional labor costs and even enhancing your overall ATV experience.

The steps we provide below are general in nature and are not meant to replace the instructions found in your OEM owner's manual. Different brands may have different torque specifications and axle mounting configurations. When in doubt, follow the OEM instructions.

Please read these instructions thoroughly prior to working on your vehicle to prevent damage and/or injury from occurring. These axles come with a sure-lock mechanism designed into the inner joint which requires special handling in order to be properly removed and installed into the casing.

If all goes well, this procedure should take an hour start to finish, even if it's your first experience.

CAUTION

Do not use any form of mechanical force when removing the inner joint from the gearbox or damage may occur. We recommend that sure-grip work gloves be worn while working on your vehicle.

THINGS YOU'LL NEED

- A reliable jack and safety blocks
- Torque wrench
- Needle nose pliers
- Socket wrench set
- Rubber mallet
- A cotter pin (if not provided)
- Contact cleaner, rags
- Safety glasses and sure-grip gloves
- Copy of your OEM Service Manual
- Penetrating oil (if old axle is stuck)

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FRONT AXLE REMOVAL

1. Place your ATV into park. Raise your machine so that the wheels are off the ground with a jack. Make sure you have a reliable jack that can take the sideways pull required to remove the axle. Use wheel blocks to secure the ATV.
2. Remove the lug nuts and pull the wheel off.
3. Place the lug nuts back on the hub and lightly tighten.
4. Some hubs have a plastic cap covering the axle nut, also called a castle nut or castellated nut. Remove the cap. Then use needle nose pliers to remove the cotter pin on the axle nut securing the hub. To remove the axle nut, you may need to have someone press and hold the brake to provide the resistance you need. Use a socket wrench (typically 27 mm) to loosen the nut. Remove any washers as well.
5. Remove the brake caliper by removing the fasteners. It is not necessary to disconnect the brake hose from the caliper. Take note of the way the brake line is routed so you can put it back together in the same way. If you'd like, secure it with a zip tie out of the way.
6. Remove the hub.
7. This step is to free up the axle from its attachments. To do this, remove the steering's tie rod end (if applicable) from the spindle. Remove the upper steering knuckle joint from the bearing carrier to free the lower carrier assembly. Swing the carrier assembly down and back, carefully working the axle from the spindle. Since models vary, consult your service manual for their recommendations.

Note: Depending on the make and model of your ATV (and the extreme angle of the axle), you may prefer instead to remove the upper sway link connection and lower shock mounting bolt to move the shock up out of the way and swing the carrier assembly up rather than down to gain enough clearance to free the axle. Or you may choose to remove both the upper and lower ball joints, along with the tie rod end to remove the knuckle completely.

8. Once the axle is free, it's time to pull out the axle from the housing. First, make sure you're pulling at a straight angle. Also, ensure your ATV is secure and will not fall off the jack. Holding onto the axle shaft, give it a few swift tugs, and it should come free. You may need to push in first. There's a snap ring holding the axle into place, so it could take a little force to remove the axle.

9. If the axle is stuck, try spraying the area at the casing with penetrating lubricant and wait a few minutes before trying again. Be careful not to damage the casing.
10. Once the axle is removed, clean up the seal face on the casing. Spray contact cleaner around the outside. Be sure not to get any contact cleaner inside. Wipe clean with a rag.
11. Carefully compare the axle you have removed with the new axle to make sure they are the same.

FRONT AXLE INSTALLATION

1. Reverse the directions above for installing the new axle. Put some grease or anti-seize on the inner splines. Then, insert the axle into the casing, lining up the splines.
2. It might take a couple hits of a rubber mallet on the end to drive the axle into place. You'll know it's in position when you hear and feel it click. Give the axle a slight tug to make sure the clip is locked into place.
3. Now that the inner joint is in place, thread the outer joint through the hub the same way you took it apart.

***Optional:** This is a good time to clean the knuckle/spindle at the wheel bearing with some contact cleaner to inspect your ATV components for wear and tear.*
4. Lift up on the axle and the lower carrier assembly to fit the knuckle back on the upper arm, refastening the steering knuckle joint in place. Use a jack underneath the carrier assembly to make refastening easier. Reconnect the tie rod end to the knuckle. If applicable, reconnect the shock to the upper A-arm, along with the sway bar link. Since models may vary, consult your service manual for their recommendations.
5. Reinstall the hub onto the knuckle. You may need to pull on the axle to line up the outer splines with the hub. Reinstall the brake caliper onto the rotor and thread in the new fasteners.
6. Install the washer onto the hub followed by the castle axle nut and tighten. Have someone hold the brakes down to tighten the nut if needed.
7. Insert a new cotter pin in the new castle nut, securing the hub. Install the plastic cover if there is one.
8. Reinstall the tire, and secure with lug nuts. Ensure everything is clear before you lower the ATV to the ground.
9. Your Sixity Axle is now installed – enjoy!

We encourage you to use caution on your first ride to ensure your axle has been properly installed. Happy riding!

REAR AXLE REMOVAL

1. Place your ATV into park. Raise your machine so that the wheels are off the ground with a jack. Make sure you have a reliable jack that can take the sideways pull required to remove the axle. Use wheel blocks to secure the ATV.
2. Remove the lug nuts and pull the wheel off.
3. Place the lug nuts back on the hub and lightly tighten.
4. Some hubs have a plastic cap covering the axle nut, also called a castle nut or castellated nut. Remove the cap. Then use needle nose pliers to remove the cotter pin on the axle nut securing the hub. To remove the axle nut, you may need to have someone press and hold the brake to provide the resistance you need. Use a socket wrench (typically 27 mm) to loosen the nut. Remove any washers as well.
5. Remove the brake caliper by removing the fasteners. It is not necessary to disconnect the brake hose from the caliper. Take note of the way the brake line is routed so you can put it back together in the same way. If you'd like, secure it with a zip tie out of the way.
6. Remove the hub.
7. Just like the front axle removal, this step is to help you free the axle from the trailing arm. Since models vary, consult your service manual for their recommendations. If applicable, remove the toe link, followed by the upper and lower radius rods at the trailing arm. Support the trailing arm on small jack stand. Let the upper and lower radius rods down. Move the trailing arm away from the vehicle, working the axle free. You may need to remove the lower shock bolt to allow the trailing arm to move out far enough.
8. Once the axle is free, it's time to pull out the axle from the housing. First, make sure you're pulling at a straight angle. Also, ensure your ATV is secure and will not fall off the jack. Holding onto the axle shaft, give it a few swift tugs, and it should come free. You may need to push in first. There's a snap ring holding the axle into place, so it could take a little force to remove the axle.
9. If the axle is stuck, try spraying the area at the casing with penetrating lubricant and wait a few minutes before trying again. Be careful not to damage the casing.

10. Once the axle is removed, clean up the seal face on the casing. Spray contact cleaner around the outside. Be sure not to get any contact cleaner inside. Wipe clean with a rag.
11. Carefully compare the axle you have removed with the new axle to make sure they are the same.

REAR AXLE INSTALLATION

1. Reverse the directions above for installing the new axle. Put some grease or anti-seize on the inner splines. Then, insert the axle into the casing, lining up the splines.
2. It might take a couple hits of a rubber mallet on the end to drive the axle into place. You'll know it's in position when you hear and feel it click. Give the axle a slight tug to make sure the clip is locked into place.
3. Now that the inner joint is in place, thread the outer joint through the hub the same way you took it apart.

Optional: *This is a good time to clean the knuckle/spindle at the wheel bearing with some contact cleaner to inspect your ATV components for wear and tear.*

4. Pull the trailing arm out and then slide the axle back into position. Slide the lower radius rod into the hub, followed by the upper radius rod. Install the radius rod bolts. Lastly, install the toe rod if applicable. Tighten all fasteners.
5. Reinstall the hub onto the knuckle. You may need to pull on the axle to line up the outer splines with the hub. Reinstall the brake caliper onto the rotor and thread in the new fasteners.
6. Install the washer onto the hub followed by the castle axle nut and tighten. Have someone hold the brakes down to tighten the nut if needed.
7. Insert a new cotter pin in the new castle nut, securing the hub. Install the plastic cover if there is one.
8. Reinstall the tire, and secure with lug nuts. Ensure everything is clear before you lower the ATV to the ground.
9. Your Sixity Axle is now installed – enjoy!

We encourage you to use caution on your first ride to ensure your axle has been properly installed. Happy riding!

Disclaimer: Our axles are designed and intended for use as OE-replacement axles only. These axles are not warranted if installed improperly, a modification has been made to include a lift kit, the installation of over-sized tires, or if racing or performance enhancements are made to the engine other than the OE design.

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