2016-2017 Yamaha YXZ1000R
+4.5” Front Upper and Lower Control Arm Kit w/ Shock Tower
PART# 365-90077 and 365-90078

Introduction
- Installation requires a qualified mechanic.
- Read instructions carefully and study the pictures (if included) before attempting installation.
- Check the parts and hardware packages against the parts list to assure that your kit is complete.
- Always wear safety glasses when using power tools.

Requirements
- The shock tower requires modification of the front hood panel.
- Ensure the brake lines are routed so it does not rub on the wheel during suspension cycle.
- Requires longer axles (+4.5”) see Cognito Part #465-90033.
- It is required to bleed the air out of the brake lines after installation.

The OEM Yamaha control arms are lightweight and will suffice for light to moderate operating use. Under aggressive use and racing, there are a few areas that become problematic such as bushings getting loose, upper arms bending, broken shock tower, and broken ball joints or ball joints pulling thru the arm. The Cognito control arm kit uses larger bushings, spherical bearings (uni-balls), and a hardened stainless steel spindle pin rather than the stock ball joint in the upper control arm. The construction is of stronger material, slightly thicker, and a stronger design to handle abuse. Cognito’s kit widens the front end by 4.5” per side and includes a shock tower assembly for optimum shock travel, strength, and ground clearance. This instruction set is for the Yamaha YXZ1000R front control arm and shock tower with a stock front sway bar installation.
Parts List – 365-90078 Front Control Arms
- 8446 Driver Upper Arm
- 8447 Passenger Upper Arm
- 8448 Driver Lower Arm
- 8449 Passenger Lower Arm
- HP9173 Pivot Bushing Kit
- HP9174 Uni-ball Hardware
- HP9170 Cushion Clamp Kit
- Uni-ball bearing pressed into each upper arm w/ retaining clip

Parts List – 365-90077 Front Shock Tower
- 5973 Front Saddle
- 5974 Back Saddle
- 5975 Bottom Saddle
- 8464 Shock Tower
- HP9172 Shock Tower Hardware

Installation Instructions
1. Raise the front of the YXZ up by the frame so that the suspension droops out and tires are off the ground. Remove front wheels. Remove the front hood covering the OEM shock tower.
2. Unbolt the sway bar end links from the lower arms.
3. Unbolt the brake caliper from the spindle, the axle nut from the spindle, and the control arms from the spindle. Then remove the spindle and let the lower arm, caliper, and axle hang.
4. Unbolt the lower arm from the car and remove. Unbolt the shock from the upper arm, and the upper arm from the car and remove. Remove the two front skid plate bolts.
5. The OEM shocks will be reused but will be relocated with the Cognito shock tower. Remove the front shocks from the YXZ.
6. Locate the Cognito lower control arms. Do not use any grease in this step as the Delrin bushing is supposed to stay fixed with the arm. Press a Delrin bushing into each end, of each frame pivot tube. Each lower arm gets 4 Delrin bushings.
7. Now lubricate the inside of the bushings with grease, and then use the supplied Cognito steel crush sleeves and push them into the greased holes of the bushings in the Cognito lower control arms.
8. Mount the lower control arms in place with the factory pivot bolts. The sway bar bracket should be on the back top side of the arm. See the parts list above and the part # stamped on each arm to determine proper placement. Torque the pivot bolts to 40 ft.lbs.
9. Using stock hardware, remove the axle boot guards from the OEM arms and fasten to the Cognito lower control arms.
10. Locate the Cognito upper control arms. They may already have the spherical bearing and retaining clip installed, please verify at this time. Do not use any grease in this step as the Delrin bushings is supposed to stay fixed with the arm. Press a Delrin bushing into each end of the pivot tubes. Each upper arm gets 4 Delrin bushings.

11. Now lubricate the inside of the Delrin bushings with grease, and then use the supplied Cognito steel crush sleeves and push them into the greased holes of the bushings in the Cognito upper control arms.

12. Mount the upper control arms in place with the factory pivot bolts. See the parts list above and the part # stamped on each arm to determine proper placement. Torque the pivot bolts to 40 ft.lbs.

13. Locate the included spindle studs, spherical washers, lock washers, and 12 point bolts. They may be pre-installed from the factory, if so then torque the 12 point bolt to 30 ft.lbs at this time. Otherwise install the studs in the spherical bearings of the arms now, the upper arms have the stud pointing down. Fasten the stud to the spherical bearings with a stainless spherical washer, then a lock washer, then the 12 point bolt and torque to 30 ft.lbs. Do this on both upper arms.

14. With the axle in place (longer ones needed.) Install the control arms to the spindles just like stock, torque spindle studs with supplied locknuts to 40 ft.lbs. The ball joint for the lower arm reuses the OEM ball joint and is pressed into the spindle already. Reuse OEM castle nut for the lower ball joint and torque to 22 ft.lbs. Insert a cotter pin into stock lower ball joint stud to lock castle nut. Mount the caliper to the spindle and torque to 40 ft.lbs. Tighten axle nut to 268 ft.lbs.

15. Remove the factory brake lines at the T-block on the frame and install new brake lines, mount the new T-block. Route the brake lines and use the cushion clamp kit provided to fasten the brake lines to the upper arms as shown in Figure 2.

Figure 2: Route brake lines in front of the shock.
16. To help with the brake lines clearing the wheel, fasten the fitting to the caliper and rotate it close to the bleeder valve but giving enough room around the bleeder valve to get a box end wrench around it for the bleeding process. See Figure 3.

17. Bolt the two front skid plate bolts back on.

Figure 3: Align the brake line close to the bleeder valve.

18. Remove the two front covers. One covers the ECM and the other has fins.

19. Place the shock tower over the stock shock tower. See Figure 4.

Figure 4: Cognito shock tower over OEM Tower.
20. Put the M10 socket head cap screws into the front saddle and through the OEM shock mounting holes placing the spacer between the OEM mount. See Figure 5.

![Figure 5: M10 bolts through front saddle, spacers, and through the other side.](image)

21. Place the back saddle on the back so the screws go through. Put on a washer and the OEM M10 nut. DO NOT TIGHTEN YET. See Figure 6.

![Figure 6: Back saddle in place.](image)
22. Grab the bottom saddle block and place between the two frame tubes with the “F” facing forward. See Figure 7.

![Figure 7: Bottom saddle.](image)

23. Using Loc-Tite, thread by hand the 3/8” socket head cap screws up into the front, through the supplied spacers, and rear shock tower bridges. The two longer bolts and spacers go into the front bridge and two shorter bolts and spacers into the rear bridge. Snug these bolts down but do not tighten at this point. See Figure 8.

![Figure 8: 4 bolts into saddles.](image)
24. Bolt the shocks in place to the outer holes on the shock tower with remaining supplied M10 hardware, tighten to 40 ft.lbs.
25. Tighten the M10 bolts from Step 20 to 40 ft.lbs.
26. Tighten the 4 bolts from Step 22 through the saddle evenly and torque to 18 ft.lbs. See Figure 9 for completed assembly.

![Figure 9: Cognito front shock tower.](image)

27. Install the hood that covers the ECM.
28. Trim the top half of the front cover that has fins as shown in Figure 10. This needs to be trimmed to clear the shock tower. After trimming, install the finned portion on the vehicle with OEM hardware.

![Figure 10: Finned hood before and after trimming.](image)

29. Using the stock hardware, bolt the sway bar end link to the Cognito lower control arms, tighten to 40 ft.lbs.
30. Install wheels, make sure everything is tightened appropriately, cycle the steering and suspension to be sure there are no clearance issues with the brake lines rubbing on the tire or wheel. Adjusted shock preload to desired ride height. At proper ride height, check front wheel toe measurement. Jounce on the suspension and then make sure the steering wheel is straight. Adjust the tie rods to obtain a proper toe of 0-1/8” toe in.

31. Bleed the brake system and adjust the ride height before driving.

Cognito Motorsports

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Product Consumer Safety and Warning
The installation of this kit will modify the suspension of your vehicle and may cause it to handle significantly different than a factory equipped vehicle. Installing larger tires with modified suspension and increased ground clearance will significantly alter the handling characteristics of the vehicle, and may result in increased braking distances as well as changes in vehicle maneuverability and handling compared to the factory equipped vehicle. As with any vehicle, extreme caution and care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts and drive safely, recognizing the reduced speeds and specialized driving techniques is required.

This suspension system will not strengthen nor reinforce the stock frame of the vehicle, nor will it increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for tightness of fit or any damage. Installation of these parts will modify the height of the vehicle and will raise the center of gravity. Altered height modifications
and off-road operation may increase your vehicle’s susceptibility to roll over conditions and may cause serious injury or death. Many states regulate the height modification to each vehicle. Check the laws in your state for exact specifications. Height modifications may affect the reaction, ride, handling, and wear factor of your vehicle’s components.

**Failure to drive this vehicle safely may result in injury or death!** Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications and combinations of modifications are not recommended, unsafe, and may not be permitted in your state. Consult your vehicle owner’s manual, the instructions accompanying this product, and your state laws before undertaking these modifications. The owner of the modified vehicle and the qualified mechanic required to install this product are responsible for the legality and safety of the vehicle being modified.