

POWER ARM SUSPENSION™ Installation Instructions

for Harley Tri-Glide Trike™

Step 1 Remove trike body and set aside

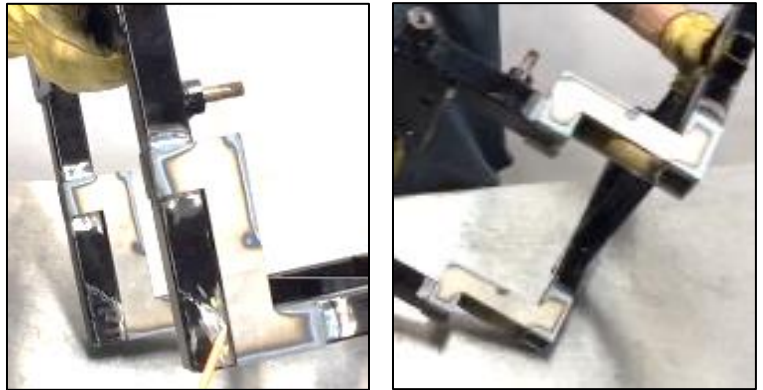
Step 2 Disassemble the rear suspension. Set aside the differential, ring gear, pulley, differential clamps, wheel hub bolts, belt adjusting screws, transmission cross shaft with hardware, swing arm spacers, swing arm bearings, rear body mount frame (sub frame)



Step 3 Grind paint and gusset from welding area on the rear body mount

Step 4 Weld two Z Brackets (part #1242) onto the rear body mount frame

Step 5 Cut out excess frame from behind Z Brackets



Step 6 Install two bearings (from original trike) into the Swing Arm (part #1244)



Step 7 Mount Swing Arm (part #1244) with spacers to the transmission using the original trike cross shaft and hardware

Step 8 Check Swing Arm vertical movement



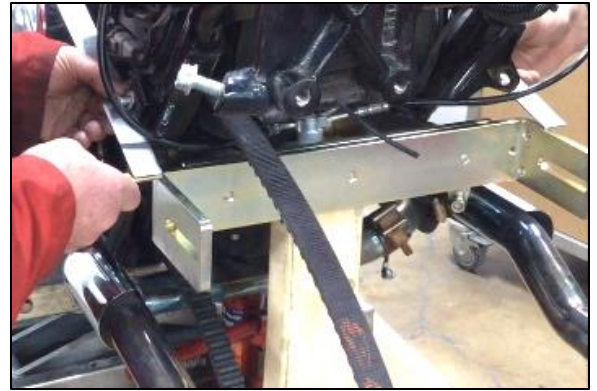
Step 9 Install 1" Spacer (part #1246) onto Swing Arm using a 1/4"-20 x 2" Bolt (part #1248) to stabilize brake lines



Step 10 Loosely install the Adjustable Swing Arm Bracket (part #1250), using three 3/8-16 x 1" Bolts (part #1252), three 3/8" Lock Washers (part #1254) and three 3/8" Flat Washers (part #1256). Be sure to install this Bracket with the two outside holes on the right side of the bike (parking brake side)



Step 11 Measure both sides of the Swing Arm Bracket by using the body mount area to center the Adjustable Bracket



Step 12 Tighten the Adjustable Swing Arm Bolts (part #1252)

Step 13 Double check measurements on both sides, adjust if needed

Step 14 Loosely install one Top Mount Hanger (part #1258) using one 1/2"-13 x 1 1/2" Bolt (part #1260) and one 1/2" Lock Washer (part #1262)



OR

For later models

Drill out hole to 27/64", then tap to 1/2"-13

Loosely install one Top Mount Hanger (part #1258) using one 1/2"-13 x 2 1/2" Bolt (part #1266) and one 1 1/16" Top Mount Spacer (part #1356)

Make sure extra hole is closest to the bottom bearing
Repeat Step 14 on opposite side of trike



Step 15 Place Main Assembly (part #1264) about 1" into the Adjustable Swing Arm Bracket (part #1250)

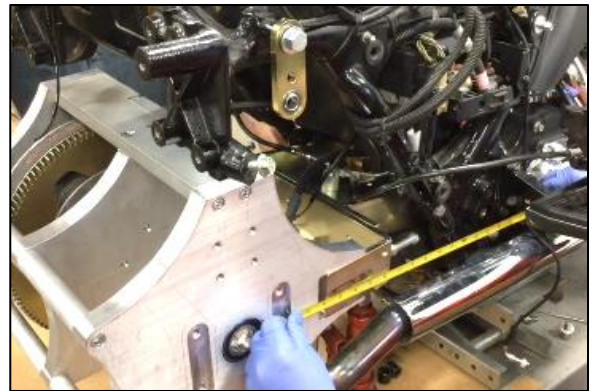
Step 16 Install both left and right stock differential clamps while holding the differential and pulley in place



Step 17 Install two stock belt adjusting screws into the front side of the Adjustable Swing Arm Bracket (part #1250)



Step 18 Take measurements on both sides of the assembly from the machined edge on the Main Assembly (part #1264) to the center of the transmission cross shaft. Adjust the belt adjusting screws to make the Main Assembly (part #1264) square to the chassis of trike **There should be about 1/2" of play on the Pulley**



Step 19 Raise the Main Assembly (part #1264) to approximately 1/4" away from the chassis

Step 20 Double check the pulley belt location to make sure it is not touching anywhere



Step 21 Install the Top Mount Assembly, using two 3/8"-16 x 1" Bolts (part #1252), two 3/8" Flat Washers (part #1256), two 1/2"-13 x 2 1/2" Bolts (part #1266), two 1/2" Lock Washers (part #1262), two Top Mount Plates (part #1268), two 7/8" Top Mount Spacers (part #1270) and one Top Mount Cross Shaft (part #1272)



Step 22 Install two 7/16"-14 x 1 1/4" Swing Arm/Main Bolts (part #1274), two 7/16" Lock Washers (part #1276) and two 7/16" Flat Washers (part #1278) to lock Swing Arm and Main Assembly in place

Repeat Step 22 on opposite side of the trike



Step 23 Install one Top Suspension Pivot Point Bracket (part #1280), using four 5/16"-18 x 1 1/2" Allen Bolts (part #1282) going through the Top Mount Plates (part #1268)

Repeat Step 23 on opposite side of the trike



Step 24 Tighten all top mount Bolts



Step 25 Install stock reverse bracket using stock hardware



Step 26 Install reverse motor to reverse bracket, tightening bottom bolt first



Step 27 Install one Support Bar (part #1284), using one stock 3/8"-16 x 1 1/4" bolt and one stock 3/8" flat washer for the top hole and one 3/8"-16 x 1 1/4" Bolt (part #1286), one 3/8" Flat Washer (part #1256) and one 3/8" Nylock Nut (part #1288) for the bottom mounting hole. Make sure the brake line is **below** the Support Bar



Repeat Step 27 on opposite side of the trike

Step 28 Turn motorcycle on and engage reverse to verify the reverse is working properly



Step 29 Install Long Drive Shaft Assembly (part #1290) into the right side of the Main Assembly (part #1264)

Step 30 Install Short Drive Shaft Assembly (part #1292) into the left side of the Main Assembly (part #1264)



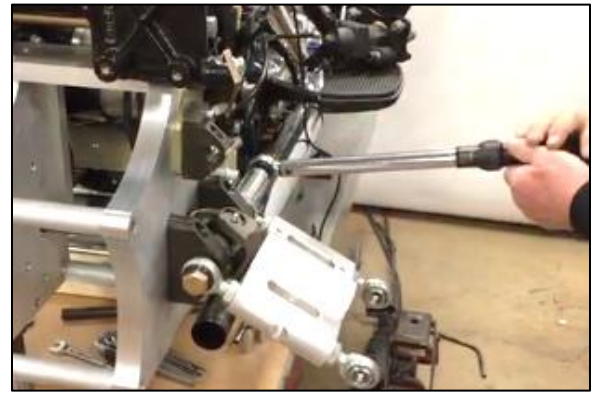
Step 31 Loosely mount two Pivot Point Blocks (part #1294) onto the Control Arm (part #1296) using two 5/8"-18 x 1 1/2" Bolts (part #1300), four Spherical Bearing Seals (part #1298) placing one on either side of each bearing



Step 32 Slide Control Arm Assembly over the Drive Shaft Assembly and install the Pivot Point Blocks/Control Arm Assembly onto the Main Assembly (part #1264), using four 3/8"-16 x 1 1/2" Allen Bolts (part #1302) **Make sure that the Shock Mount Holes on the Control Arm is facing up and towards the front of the bike (see picture)**



Step 33 Torque all 5/8" Bolts (part #1300) to 80 pounds



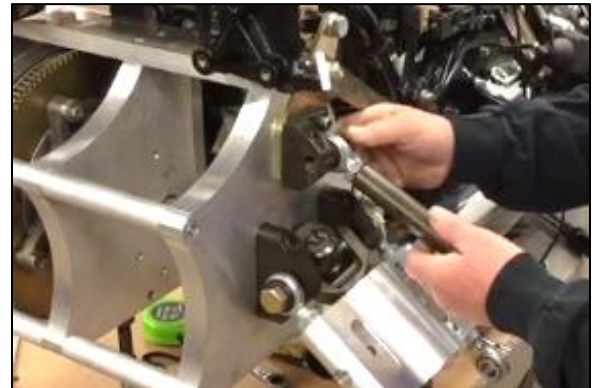
Step 34 Press eight stock lug nut bolts into the two Wheel Flange/Hubs (part #1304)



Step 35 Assemble the two Top Support/Adjusting Tubes (part #1306), using two Left Hand Spherical Bearings (part #1308) and two Right Hand Spherical Bearings (part #1310)



Step 36 Install the Top Support/Adjusting Tube Assembly onto the Top Suspension Pivot Point Brackets (part #1280), using one 5/8"-18 x 1 1/2" Bolt (part #1300) and two Spherical Bearing Seals (part #1298)



Step 37 Torque the 5/8"-18 x 1 1/2" Bolt to 80 pounds

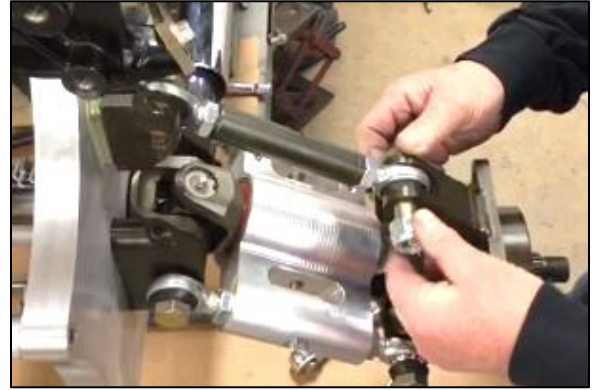
Step 38 Insert one Outer Drive Shaft Assembly (part #1312) onto the bottom on the Control Arm (part #1296)



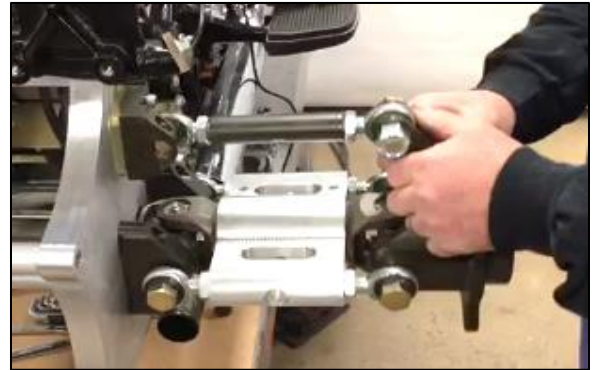
Step 39 Install the Outside Carrier (part #1314) to the bottom Spherical Bearings of the Control Arm Assembly, using two 5/8"-18 x 1 1/2" Bolts (part #1300) and four Spherical Bearing Seals (part #1298) one on either side of the Spherical Bearings



Step 40 Install the bottom Spherical Bearing of the Top Support/Adjusting Tube into the slot on the top of the Outside Carrier (part #1314), using a 5/8"-18 x 2 1/4" Bolt (part #1316), two Spherical Bearing Seals (part #1298) one on either side of the Spherical Bearing and one 5/8" Nylock Nut (part #1318)



Step 41 Torque all three of the 5/8"-18 x 1 1/2" Bolts you've just installed to 80 pounds each



Step 42 Double check the vertical movement of the entire outer assembly

Step 43 Install one Brake Caliper Mount (part #1320) using four 3/8"-16 x 3/4" Bolts (part #1322) and four 3/8" Lock Washers (part #1254)



Step 44 Install the Wheel Flange/Hub (part #1304) with lug nut bolts into the Outside Carrier (part #1314), using one 7/8" Flat Washer (part #1324) and one 7/8" Locking Nut (part #1326)



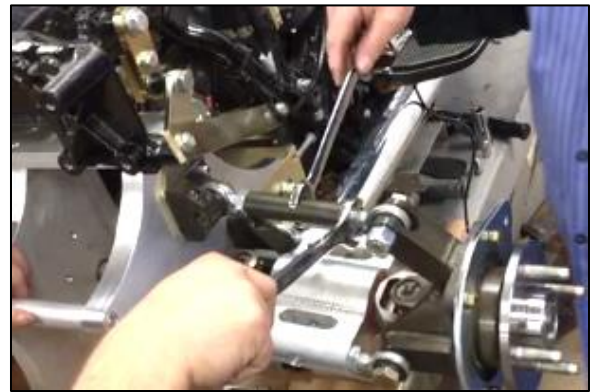
Step 45 Wedge a piece of 1/4" steel (or similar) between the Drive Shaft Assembly and the Pivot Point Blocks (part #1294) in order to stop the shaft from spinning. Tighten the 7/8" Locking Nut (part #1326) and remove the wedge



Step 46 Take measurements in four different places around the Brake Caliper Mount (part #1320) from the outside of the Main Assembly (part #1264) to the outside of the Brake Caliper Mount (part #1320). Adjust the Top Support/Adjusting Tubes (part #1306) in order to get equal measurements and square



Step 47 Tighten Spherical Bearing Nuts and double check measurements

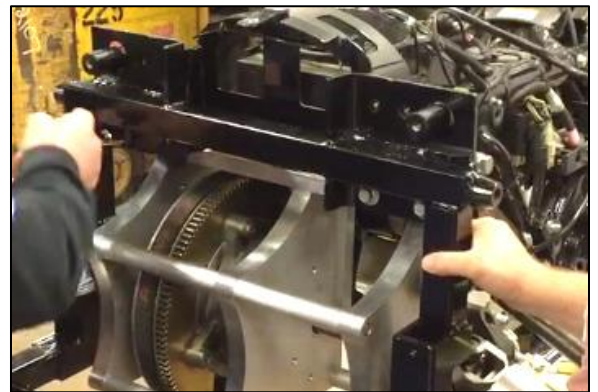


Step 48 Install one Bottom Shock Mount (part #1328), using two 3/8"-16 x 1" Bolts (part #1252) and two 3/8" Lock Washers (part #1254)

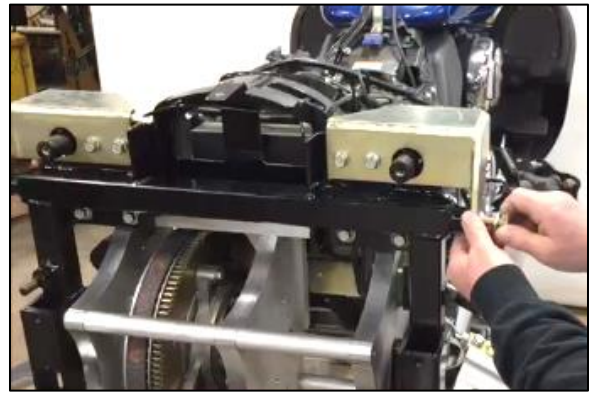


Repeat Steps 31 to 48 on opposite side of the trike

Step 49 Loosely mount the rear body mount frame, using the stock 9/16" hardware



Step 50 Install one Shock Tower (part #1330) to the top of the rear body mount, using the stock 9/16" hardware and one 1/2"-13 x 1 1/2" Bolt (part #1260) and one 1/2" Lock Washer (part #1262) for the outside bolt position



Repeat Step 50 on opposite side of the trike

Step 51 Tighten all eight stock 9/16" bolts

Step 52 Install one Coil Shock (part #1332), using one 1/2"-13 x 1 1/2" Bolt (part #1260) and one 1/2" Lock Washer (part #1262) for installing the top of the shock and one 1/2"-13 x 2 1/4" Bolt (part #1334), two 1/2" x .240 Spacers (part #1336) and one 1/2" Nylock Nut (part #1338) for installing the bottom of the shock into the Bottom Shock Mount (part #1328)



Step 53 Install one Sway Bar Link (part #1340), using one 1/2"-13 x 1 1/2" Allen Head Bolt (part #1342) and one 1/2" Flat Washer (part #1344). **Make sure to place the washer closest to the middle of the Control Arm (part #1296)**



Repeat Steps 52 and 53 on opposite side of the trike

Step 54 Install Sway Bar (part #1346) to the rear body mount, using two Sway Bar Mounts (part #1348), four stock 3/8"-16 x 1" bolts, four stock 3/8" lock washers and four stock 3/8" flat washers



Step 55 Connect the Sway Bar (part #1346) to the Sway Bar Link (part #1340) using one 1/2"-13 x 1 1/2" Allen Head Bolt (part #1342) and one 1/2" Nylock Nut (part #1338)



Step 56 Tighten the Sway Bar Link nut

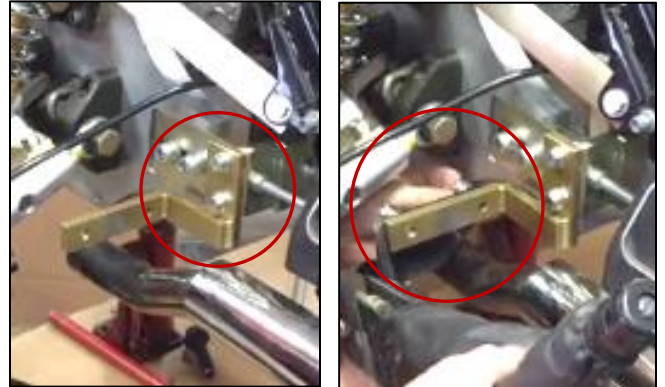
Repeat Steps 54 to 56 on opposite side of the trike

Step 57 Mount the 10 7/8" Brake Rotor (part #1350) onto the lug nut bolts



Step 58 Mount stock brake caliper to the Brake Caliper Mount (part #1320)

Step 59 Install the Parking Brake Bracket (part #1352) using four 3/8"-16 x 1" Bolts (part #1252) and four 3/8" Lock Washers (part #1254)



Step 60 Mount stock wheels using stock hardware



Step 61 Mark underside of body with template provided (part #1354) and cut out necessary fiberglass



Step 62 Mount body onto trike using stock hardware



Watch the Installation Instructional DVD for more explanation and detailed instructions

If you would like more information or have any questions, please call us at
630-543-5533 or email us at info@lat-enterprisesinc.com

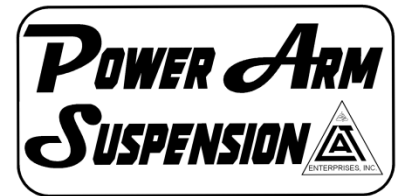
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Enjoy the ride!