



1980-2001
FLT & 1982-
2000 FXR

Frankenstein Trikes Old School Kit FLT and FXR Installation Manual



INCLUDED IN FRANKENSTEIN TRIKES OLD SCHOOL KIT:

- 1) Rear axle assembly
- 1) Swing arm assembly
- 2) Fender Brackets
- 2) ½" – 20 x 1 ¾"-20 grade 8 bolts
- 2) ½" – 20 x 2"-20 grade 8 bolts
- 2) ½" -13 x 4 ½" grade 8 bolts (lower shock)
- 2) ½" -13 x 4" grade 8 bolts ('98-'01 upper shock)
- 2) 1 ½" -13 x 6" grade 8 bolts ('80-'97 upper shock)
- 4) 2" long shock spacers
- 4) ½"-20 grade 8 lock nuts
- 2) ½" -13 grade 8 lock nuts
- 14) ½" grade 8 flat washers
- 10) M10x1.5x30mm lug bolts
- 10) ¼" - 20 x 1 ½"-20 allen bolts
- 2) Delrin Bushings for swingarm
- 1) Tube blue Loctite
- 1) Tube of grease



Always refer to
your Harley
Davidson owner's
manual before
performing any
work on your bike.

Fenders,
tires/wheels not
included in DNA by
Frankenstein Trikes
Kit.

Your current
exhaust system
may not work with
the new trike kit.

1. Secure front wheel so motorcycle won't tip, set jack under the motorcycle and raise the jack to take the weight off the rear wheel.



2. Remove the exhaust, or muffler if needed.



3. Remove upper and lower belt guards.

4. Remove the banjo bolt that holds the rear brake line to the caliper, hang brake line out of the way. **Position brake line with banjo fitting up to keep fluid in the line and to minimize air in the brake system.**

5. Loosen axle adjusters on both sides.

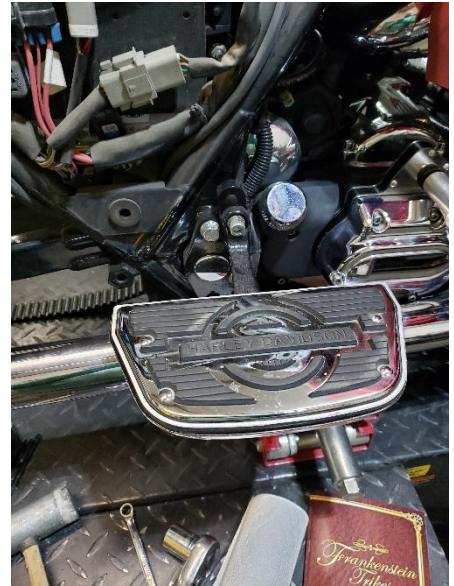
6. Remove axle nut.

7. Remove axle from wheel and swing arm.

8. Slide the belt off of the pulley and remove the rear wheel.



9. Remove passenger pegs or floor boards. Remove rear shock bolts and shocks. Keep rear shocks upright so fluid doesn't leak out of air-line fitting.



The swing arm pivot shaft also mounts the transmission to the frame. Support the transmission with wood blocks before swing arm removal. Place the blocks under transmission and lower bike until transmission is supported.

10. Remove swing arm pivot nut and pivot shaft, remove swing arm from motorcycle.



11. Remove the washers and inner black plastic rings from your original swing arm, they need to be installed into the new swing arm.





Out of the old 'arm and into the new!

12. Before installing the new swing arm insert the provided delrin bushings into the rubber isolators.

Make sure the hole in the Delrin bushing is in line with the hole in the rubber isolator.



13. Install the rubber isolators with Delrin bushings on both sides of trike frame.

14. Install trike swing arm assembly using your pivot shaft and pivot shaft mounting brackets. The roll pin on each mounting bracket must register in the rubber mount locating hole.

Torque specs:

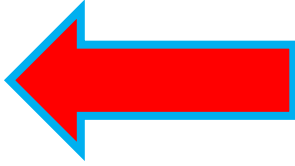
Pivot shaft mounting brackets= 34 – 42 ft. lbs.

Pivot shaft nut= 45 ft. lbs.



15. Stand axle halves on end with brake rotor up. Place wheel and tire and hand tighten the lug bolts.





Easy method to roll axle halves into place!



This is the most convenient time to grease the axle bearings!!

16. Remove the differential from the shipping bag, remove the tape and cardboard.

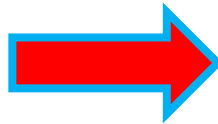




Be sure to
remove
the foam
plugs from the axle
drive splines!!!



17. Position the axle halves
like the picture and set the
differential into either one
first.



The long axle half has a smaller axle
bearing than the short half, make sure the
proper bearing is down.



In short half



In long half



18. Have a friend hold the differential in place while steadying the axle.

19. Use a grease gun and the provided grease tube to pack (fill) the axle bearings through the grease fitting on the axle tube.

Repeat the process for the second bearing.



The smaller axle bearing (long half) usually needs 25 to 30 firm pumps.

The larger axle bearing (short half) usually needs 45 to 50 firm pumps.



Inspect the bearings, making sure they are thoroughly greased!!

Set the differential aside for now.



20. Roll the short half from the rear of the bike until the mounting bracket holes line up with the swing arm holes. Wood blocks help to support dif. Housing.



The bracket on the axle housing belongs on the outside of the swing arm.

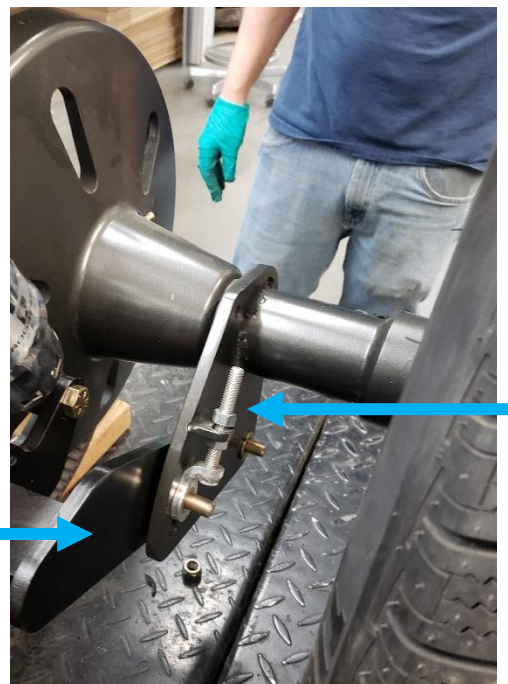
The mounting bolts insert from the swing arm side (INSIDE) and the lock nuts are on the axle bracket (OUTSIDE).

Axle Bracket (outside)

Swing Arm (inside)



Do not tighten hardware at this point.



Loosen the axle adjusters and rotate the axle forward in the belt adjustment slots. Differential is easier to install.

21. Loop the belt around the differential pulley and slide on to the short half axle like picture.



22. Line up the axle of the long half with the differential and push the two halves together.

Loosely install the ½" swing arm bolts, washers and nuts.

The tire / axle may have to be turned so the drive splines align between the two parts.

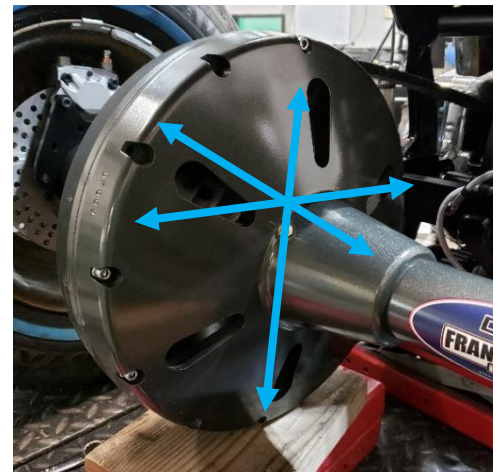


23. Apply the provided **blue Loctite** to the ten differential bolts ($\frac{1}{4}$ " – 20 x $1\frac{1}{2}$ " allen bolts) and thread the bolts into the ten holes on differential in a criss cross pattern (front to back, top to bottom, etc.).

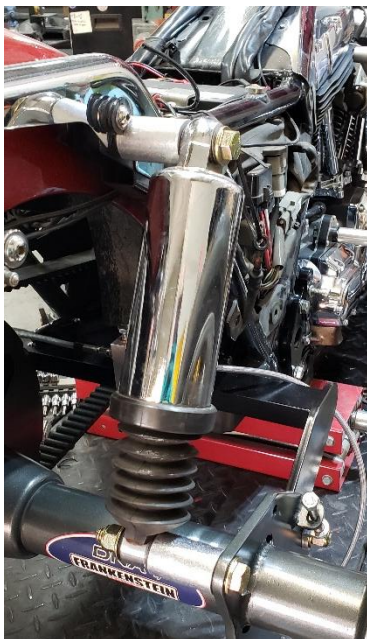


Have ALL 10 bolts threaded in their holes before tightening!!

Tighten the bolts to **180 inch pounds (15 foot pounds)** in the criss cross pattern using a torque wrench with $\frac{3}{16}$ " allen socket.



Criss cross pattern

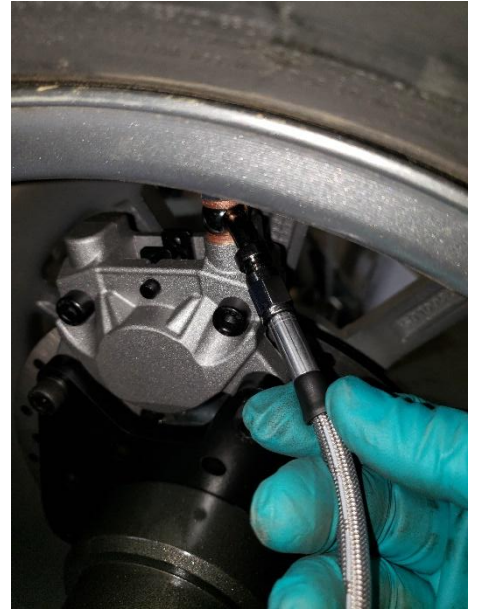


24. Install both rear shocks using a 2" long spacer top and bottom. $\frac{1}{2}$ " long $\frac{1}{2}$ " bolt, 2 flat washers, and lock nut on lower shock mount. $4\frac{1}{2}$ " or 6" long $\frac{1}{2}$ " bolt (model year specific), 2 flat washers, and lock nut on upper shock mount. Use **blue Loctite**, **Torque to 60-70 ft. lbs.**



25. Attach your bikes rear brake hose to the aluminum brake “T” block using the supplied banjo bolt.

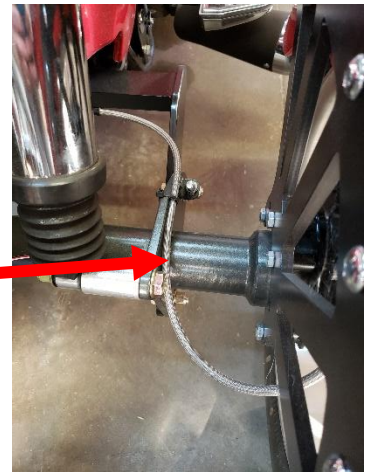
26. Route the new brake hoses from the brake “T” block to the calipers and tighten the hoses to the caliper fittings using a 7/16” wrench.



Left side

Right side

Zip ties



27. Using the appropriate brake fluid for your bike, bleed the rear brake system.

Bleeding the brakes is easiest with the wheels and tires removed.
Protect painted surfaces from brake fluid.

28. Reinstall wheels and tires if they were removed for brake bleeding, lower the rear tires to the ground, remove jack from under bike. Adjust the drive belt tension properly. After adjusted tighten both adjuster nuts against the adjuster tab.



29. Use blue Loctite and tighten the rear axle mounting brackets to the swing arm.

Torque the four ½" mounting bolts to 80 ft. lbs.



Double check the belt tension after tightening the axle to the swing arm!! Re-adjust if needed.



30. After belt is properly adjusted torque the wheel lug bolts to **80-foot pounds**.



SKIP STEP 31 IF YOU GREASED THE AXLE BEARINGS BEFORE FINAL ASSEMBLY!!

31. If you didn't grease the axle bearings before final assembly, use a grease gun and the provided tube of wheel bearing grease to grease the axle bearings before riding. The left-side axle bearing is larger diameter than the right-side axle bearing.

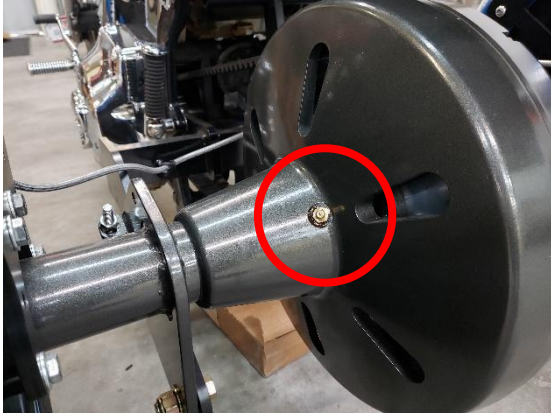
Right side axle bearing grease fitting.

Approx. 25 to 30 firm pumps



Left side axle bearing grease fitting.

Approx. 45 to 50 firm pumps



After initial test ride (5 miles or less; trip around the block, etc.) Top off the differential with grease. Refer to step #32 for differential greasing procedure.

For future maintenance periodically top off the grease in the differential and both axle bearings.

32. The picture on the right is a close up of the right-side axle bearing grease fitting and the differential grease fitting. Slowly roll the trike, with engine turned off, until the grease fitting becomes visible through the tear drop shaped opening. This will allow you to access the fitting with the grease gun.



33. Reinstall your exhaust if needed. Test ride your Trike!



Be sure to break in the brake pads and rotor. Break in is needed before maximum braking can be achieved.

Please use caution. Many good resources online if tutorial is needed.

Call or email if you have any questions or concerns.

913-352-6788

info@frankensteinrikes.com

Quick Reference

40 $\frac{3}{4}$ " wheel mounting surface to wheel mounting surface

Lug bolt = M12 x 1.5 pitch; torque = 80 ft lbs.

Lug bolt patterns

5x4 $\frac{1}{2}$ ", 5x114.3mm, 5x4 $\frac{3}{4}$ ", 5x5"

Rear axle to swing arm $\frac{1}{2}$ "-20 bolts torque spec = 80 ft lbs.

Differential $\frac{1}{4}$ "-20 x 1 $\frac{1}{2}$ " bolt torque spec = 180 inch lbs. (15 ft lbs.)