

Installation of 1-10-050 Kit, Reinforcement Bracket, Trunion Field Fix

Date: August 14, 2009

Model: GO-4 Interceptor III

Introduction

Occasional cracking has been evidenced in the bend area of trunion plates shown in Figure 1. Kit, Reinforcement Bracket, Trunion Field Fix (P/N: 1-10-050) is designed to correct this coincident.

Preparation

1. Components

Kit, Reinforcement Bracket, Trunion Field Fix (P/N: 1-10-050) includes the following components shown in Figure 2.

ITEM	PART NO	DESCRIPTION	QTY
1	1-10-354	Assy, Reinforcement Bracket, LH, Trunion Field Fix	1
2	1-10-355	Assy, Reinforcement Bracket, RH, Trunion Field Fix	1
3	1-53-434	Reinforcement Strap, Trunion Field Fix	1
4	1-10-356	Shim Plate, Trunion retrofit	2
5	774366	1/2-13 UNC x 1.5in Gr8 ZP Hex Flange Lock Bolt	4
6	774404	1/2-13 UNC x 1.75in Gr8 ZP Hex Flange Lock Bolt	2
7	774286	3/8-NFx1-1/2 ZP Gr 8 Hex Hd Bolt	2
8	771150	3/8 Std Lock Washer	2

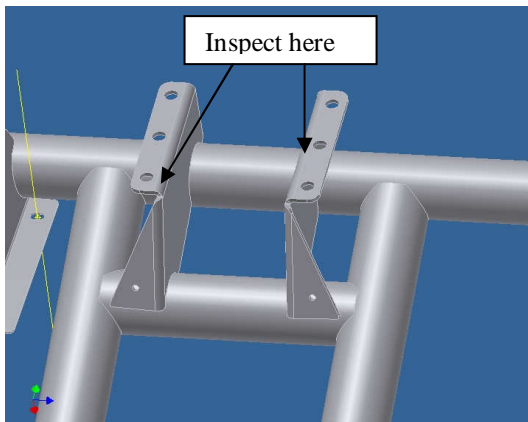


Figure 1. Old designed trunion plate.

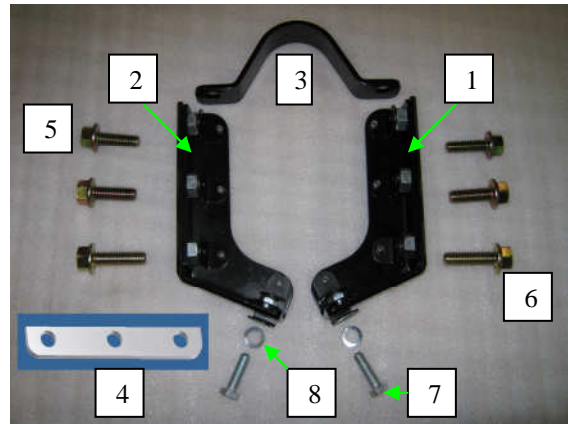


Figure 2. Component included in the Kit

2. Lift and Support

Lift and support the unit as shown in figure 3 until the front wheel is above ground.



Figure 3. Lift and support the unit

▲WARNING!

The front wheel has to be lifted off ground, otherwise damage and serious injury may occur.

3. Inspection

Inspect the flanges of both LH and RH trunion plate as shown in Figure 1. If the trunion plate is **NOT** cracked, **Instruction A** should be followed. If cracking has occurred, **Instruction B** should be followed.

NOTE: No matter how small the crack on the trunion plate, **Instruction B** should be followed.

Instruction A

(For non-cracked trunion plate)

1. Remove the ½” nuts and bolts (Figure 4) **one side at a time**. Discard old hardware.

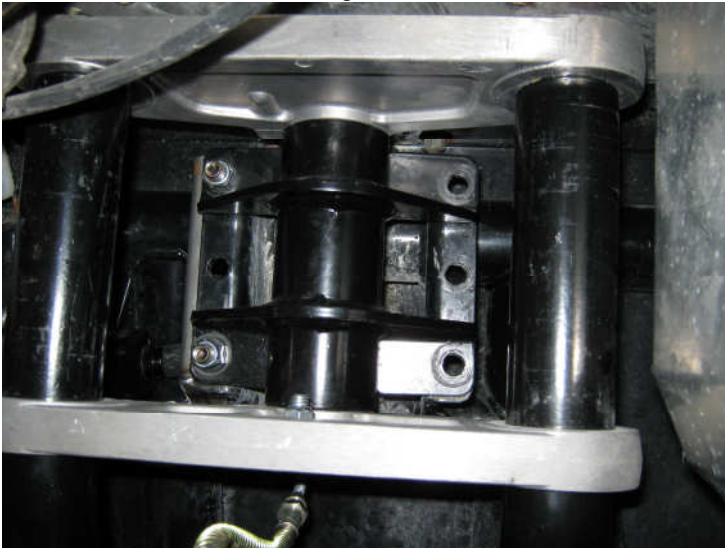


Figure 4. Nuts and bolts are removed on LH side

2. LH reinforcing bracket assembly (Figure 5).



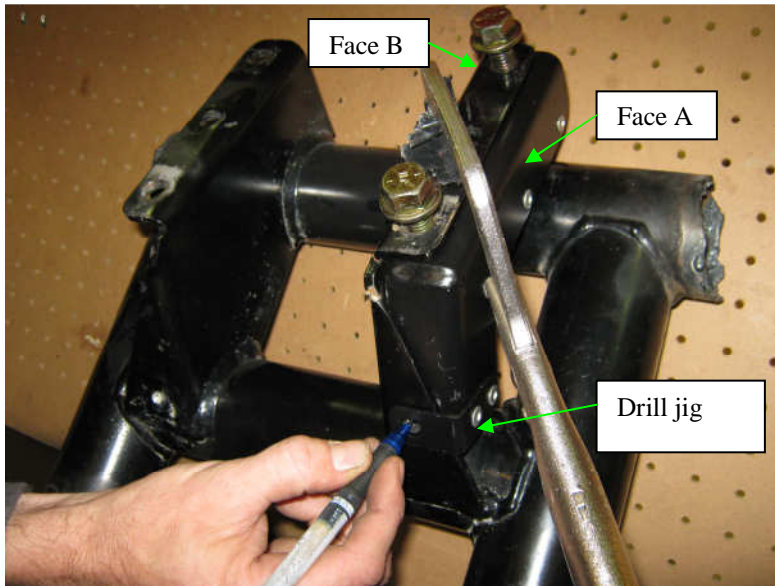
Figure 5. LH Reinforcing bracket assembly

3. Try to fit the reinforcing bracket into the trunion plate, screw both top and bottom bolts into the reinforcing bracket to make sure holes line up. Check gap between the flange of trunion plate and the top of the reinforcing bracket. If the gap size is larger than 2 mm, a shim plate should be used (Figure 6).



Figure 6. The shim plate fits between the trunion plate and the trunion mount.

4. Clamp the reinforcing bracket and the flange of trunion plate (Figure 7) to ensure face A and B are parallel. If not, apply additional clamp as necessary. Proceed to mark $\frac{3}{8}$ hole location as depicted in Figure 7.



NOTE:
Remove the two 1/2" bolts and clamp again, if the drill jig is hard to fit in.

Figure 7. Clamping and marking

5. Remove the bracket and drill a 3/8" hole using an angle drill (Figure 8).

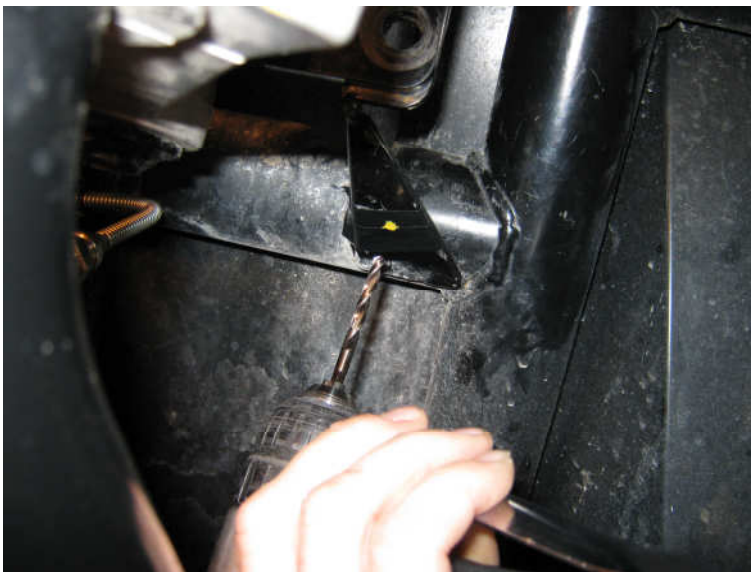


Figure 8. Drill a 3/8" hole

6. Remove RH lower trunion bolt (Figure 9). Put the reinforcing bracket back into the trunion plate and install the reinforcement strap with 1/2" 1-3/4" length bolt as shown in figure 10.



Remove RH lower nut and bolt

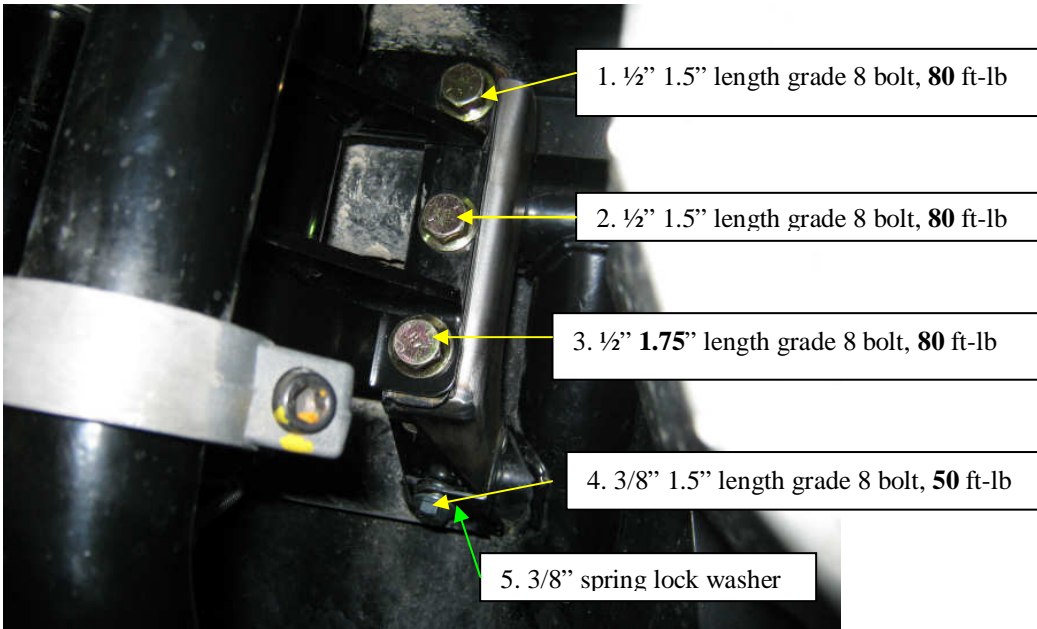
Figure 9. RH lower nut and bolt.



Apply blue loctite

Figure 10. Install reinforcement strap

7. Apply **blue loctite** to all 4 bolts. Fasten using applicable torque specs as shown in figure 11.



1. 1/2" 1.5" length grade 8 bolt, 80 ft-lb

2. 1/2" 1.5" length grade 8 bolt, 80 ft-lb

3. 1/2" 1.75" length grade 8 bolt, 80 ft-lb

4. 3/8" 1.5" length grade 8 bolt, 50 ft-lb

5. 3/8" spring lock washer

Figure 11. Final fastened bolts

8. Repeat the above procedures to complete the RH reinforcing bracket installation. The brake line clamp can be fastened by the 3/8" bolt (Figure 12).



Figure 12 Brake line installations

Instruction B

(For cracked trunion plate)

1. Remove the front suspension assembly by following the procedure for replacing front suspension trunion mount in APPENDIX.
2. Grind a U-groove along the crack as shown in Figure 13 for both LH and RH trunion plate.

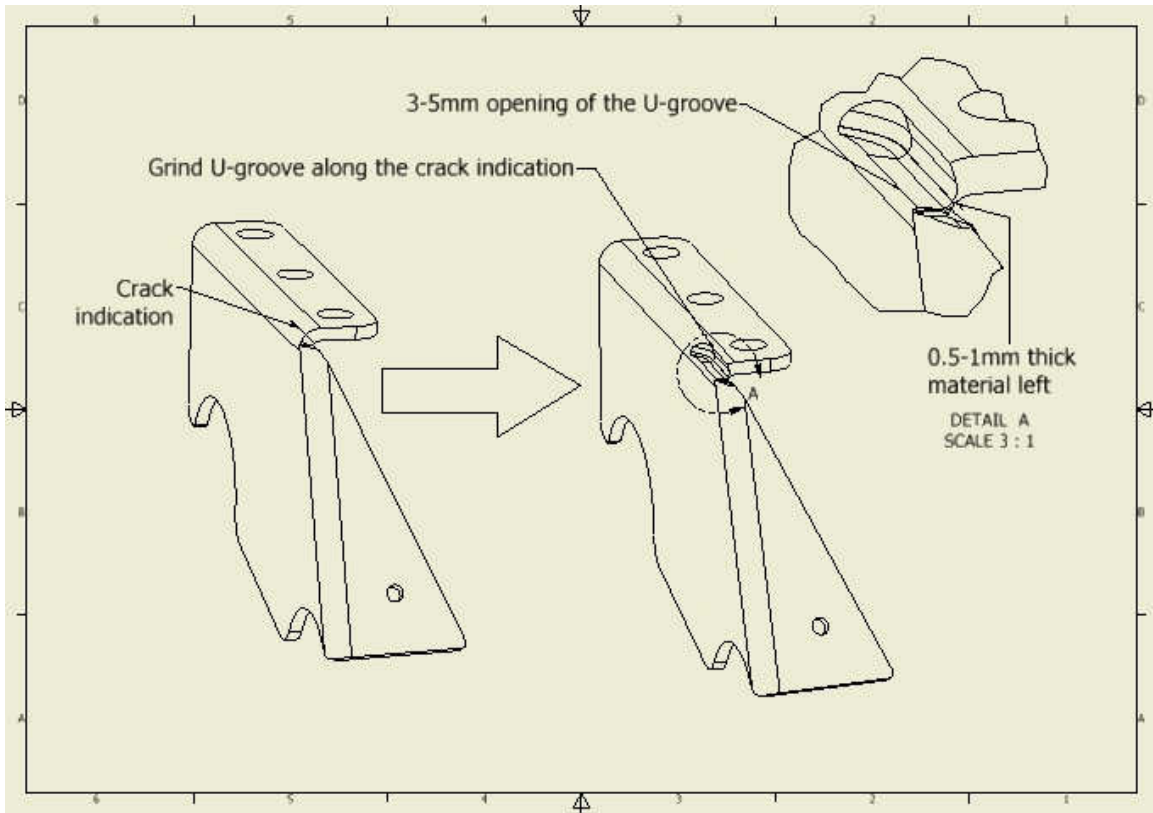


Figure 13. U-groove preparation for welding

3. LH and RH reinforcing bracket assembly (Figure 14).

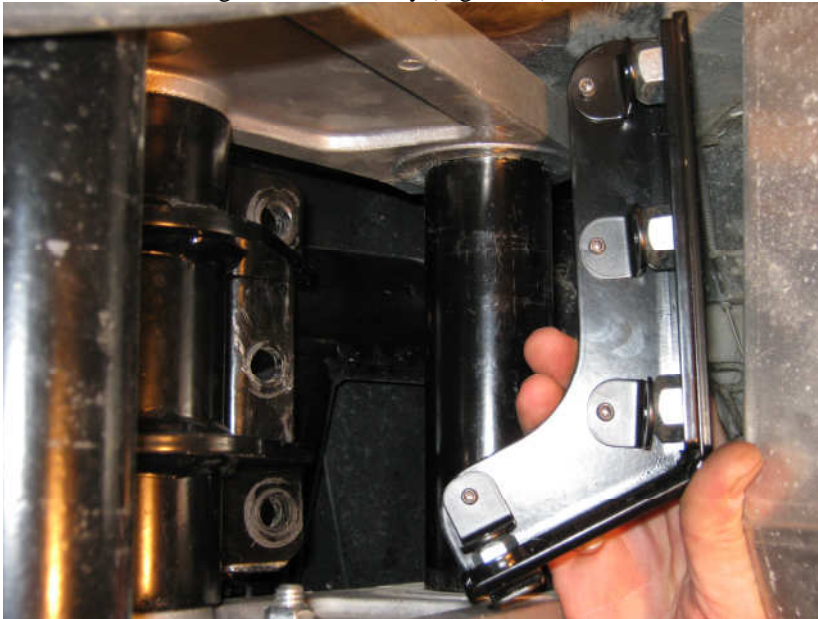


Figure 14. LH Reinforcing bracket assembly

4. 3. Try to fit the reinforcing bracket into the trunion plate, screw both top and bottom bolts into the reinforcing bracket to make sure holes line up. Check gap between the flange of trunion plate and the top of the reinforcing bracket. If the gap size is larger than 2 mm, a shim plate should be used (Figure 15).



Figure 15. The shim plate fits between the trunion plate and the trunion mount.

5. Clamp the reinforcing bracket and the flange of trunion plate (Figure 16) to ensure face A and B are parallel. If not, apply additional clamp as necessary.

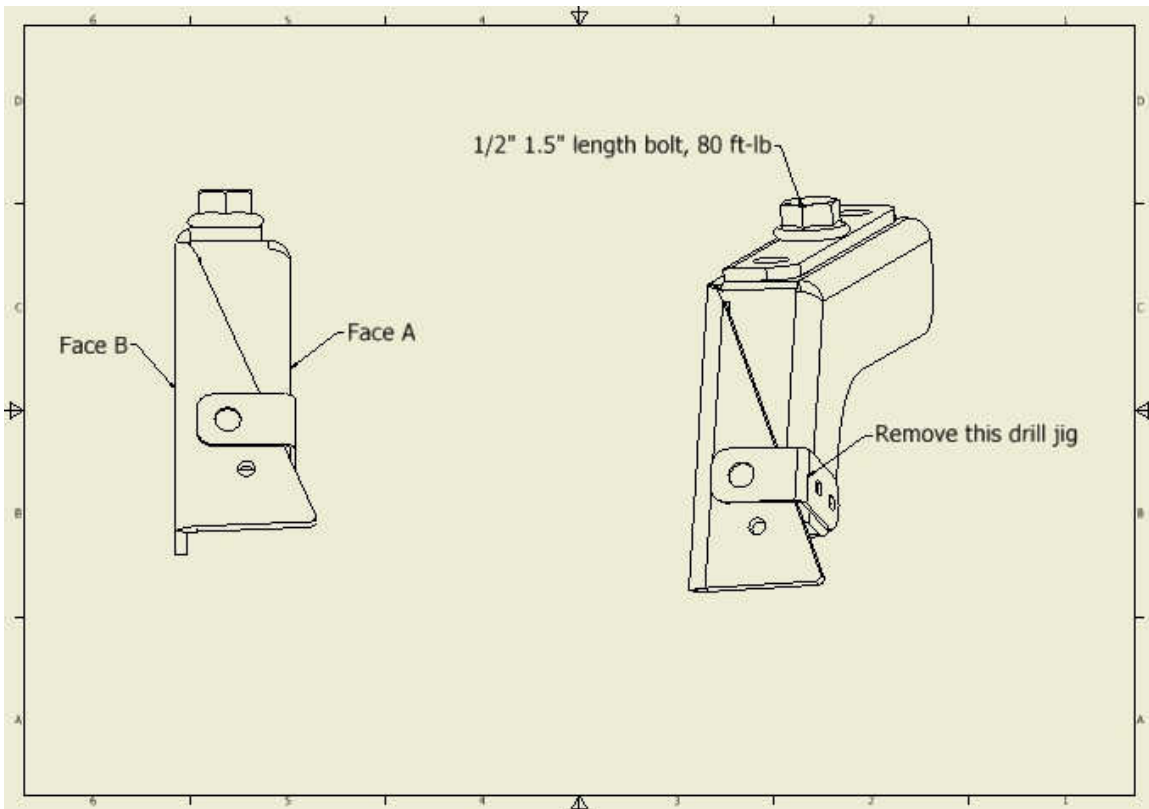


Figure 16 Clamping to make two planes parallel

6. Tighten the 1/2" 1.5" length bolt to 80 ft-lb (Figure 16). Remove the drill jig.
7. Remove paint on weld 2, 3, 4 and 5. Finish weld as per Figure 17.

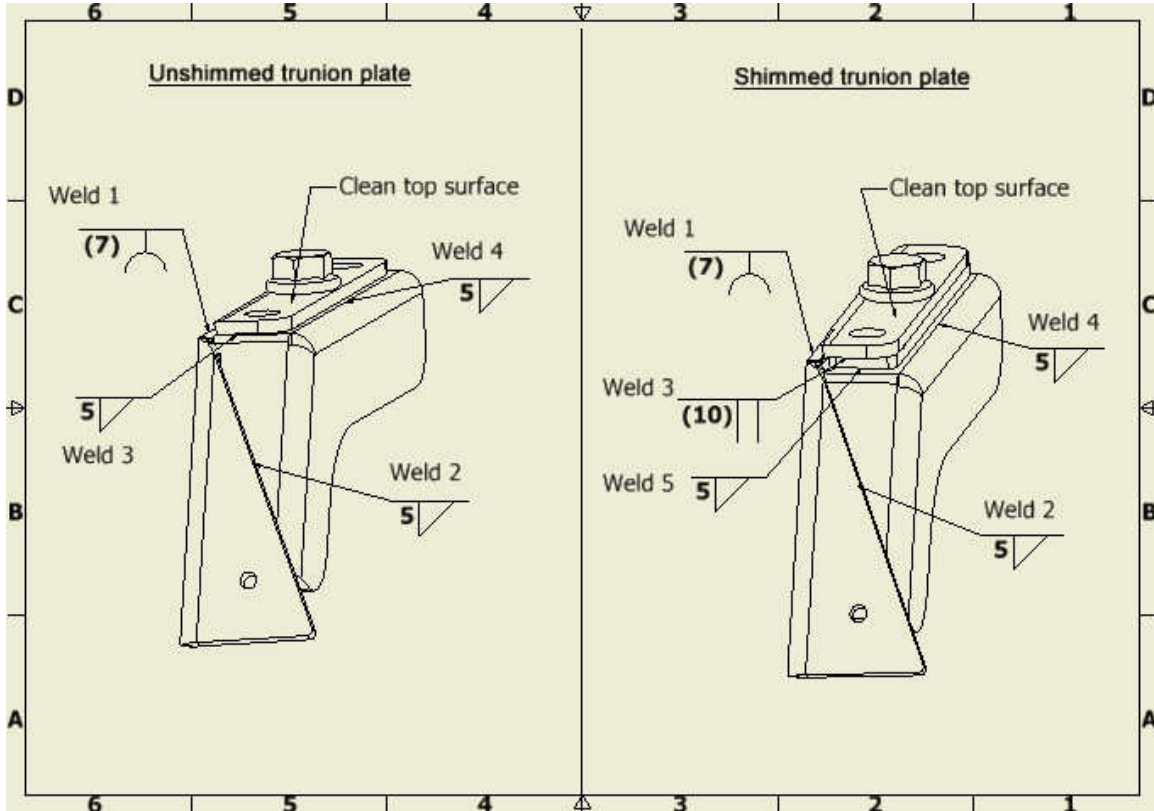


Figure 17. Welding instruction for both shimmed and unshimmed trunion plate.

8. Remove weld spatter from top surface.
- NOTE:** If the surfaces are not cleaned, the weld will interfere in the trunion saddle assembly.
9. Spray paint welded area.
10. Reinstall the front suspension assembly by following the procedure for replacing front suspension trunion mount in APPENDIX.
11. Install the reinforcement strap with 1/2" 1-3/4" length bolt as shown in figure 18.

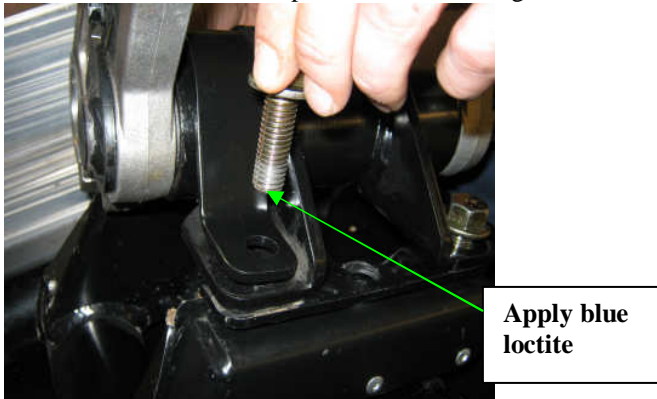


Figure 18. Install reinforcement strap

12. Apply **blue loctite** to all bolts. Tighten to the torque shown in figure 19.

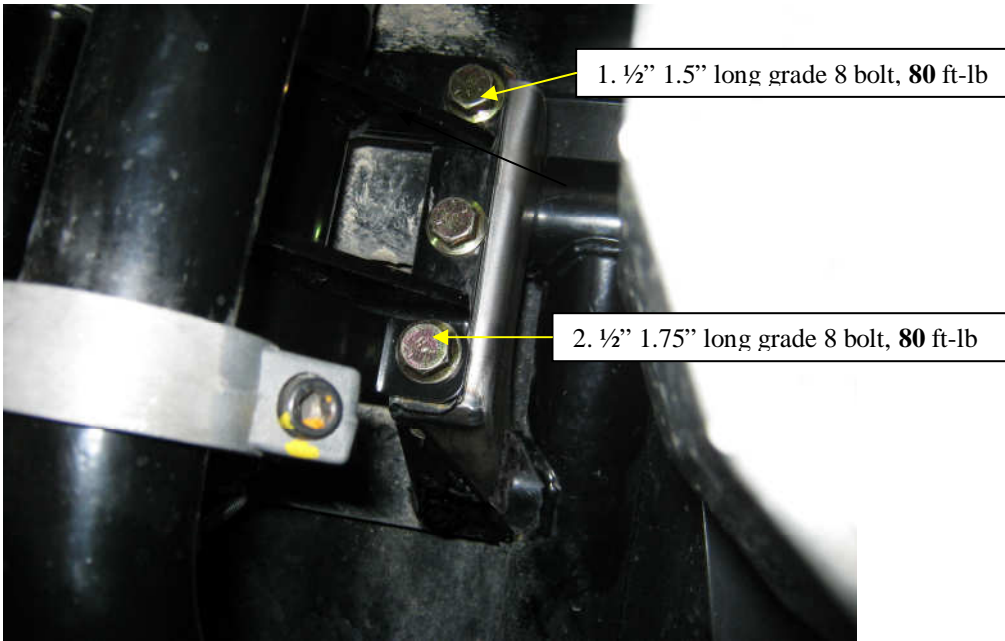


Figure 19. Final fastened bolts

APPENDIX

Installation Instructions



Date: March 14, 2008
Model: GO-4 Interceptor III
Topic: Trunion mount replacement

These instructions cover the replacement of the front suspension trunion mount replacement. Whenever the front suspension is removed from the vehicle, new hardware should be used and torqued according to the steps that follow. When the vehicle is to be raised off the floor using a floor jack, be sure to use jack stands to support the weight of the vehicle. Always use wheel chocks to prevent the vehicle from moving. If more assistance is required or there are any questions or concerns, please contact Westward Industries.

- 1- Remove the dash top inside the vehicle to access the steering gear box castle nut.
- 2- Remove the cotter pin, castle nut and flat washer from the top of the steering gear box. (upper steering shaft)
- 3- Raise the front wheel of the vehicle just enough to take the weight off of the front end.
- 4- Loosen the 4 front wheel studs. Remove the 2 front caliper mount bolts and remove the front caliper from the front rotor. Hang the caliper up out of the way (do not hang it from the brake hose)
- 5- Remove the 4 nuts and bolts from the trunion mount to the frame. Have someone assist you to steady the front suspension while removing these bolts.
- 6- While holding the front suspension steady on the ground, raise the front of the vehicle. The front suspension will be free from the vehicle as soon as the upper steering shaft comes out of the steering gear box.
- 7- To remove the front trunion mount from the front suspension, loosen the 3 allen head bolts on the top triple clamp supporting the shocks and lower steering shaft. Using small flat chisels or screwdrivers, gently pry the triple clamp open at the 3 points where the allen head bolts were loosened. Tap the triple clamp off of the front shocks and steering shaft.
- 8- The trunion mount can now be removed from the lower steering shaft by pulling it straight off.
- 9- The bearings should be cleaned and repacked with new grease.
- 10- Reinstall the front trunion mount onto the lower steering shaft with the bearings installed. Be sure the spacers are reinstalled on either side of the bearings. (The longer side of the trunion goes down towards the tire)
- 11- Reinstall the top triple clamp onto the front suspension. Tighten the allen head bolts.
- 12- With an assistant, move the front suspension under the front of the vehicle and very slowly lower the vehicle down. Be sure the steering wheel is straight. The splines of the upper steering shaft have to fit into the splines of the steering gear box. Do not allow the full weight of the vehicle down on the front wheel, only enough to reinstall the 4 bolts and nuts into the trunion mount to frame. (only use new hardware) Tighten and torque the front suspension mount bolts to 80 ft/lbs.
- 13- Reinstall the flat washer and castle nut onto top of steering gear box and tighten until snug. Loosen the top center allen head bolt on the top triple clamp, and the 2 outer lower allen head bolts on the lower triple clamp. Torque the castle nut on the top of the steering gear box to 80 ft/lbs. Back off to the closest hole to insert the cotter pin.
- 14- Tighten and torque the allen head bolts to 240 in/lbs.
- 15- Reinstall the front caliper onto the front rotor. Install and tighten the caliper bolts to 240 in/lbs.
- 16- Tighten and torque the front wheel bolts to 70 ft/lbs.
- 17- Reinstall the upper dash top.
- 18- Lower the vehicle to the ground. Road test and check operation of steering and brakes for proper operation.