Repair Railgate Torsion Assist Spring Instructions 1600/2000 Models

These instructions will assist you in retro fitting or replacing a torsion assist spring on a Rail Series Tommy Gate lift.

Removing the Old Platform Hardware (Method #1)

Use Method #1 if the platform is equipped with a torsion spring as shown (Figure 1).

WARNING! The platform could weigh up to 400 lbs. Use appropriate lifting equipment or personnel in the next steps.

1. **Raise, Close** and **Latch** the platform.
2. **Apply** pressure in the clockwise direction to the 1-3/4" hex nut on the passenger side of the torsion tube. Use an adjustable wrench (Figure 1).
3. **Remove** the 3/8" countersunk cap screw attaching the inner torsion tube holder to the slider nose. Continue to hold clockwise torque on the torsion spring holder (Figure 1).
4. **Slowly Rotate** the torsion spring arm counter-clockwise until no resistance is felt.
5. **Lower** gate to horizontal position, allowing it to rest on a mechanical lifting device.
6. **Disconnect** the chains from the platform.
7. **Remove** the 3/8" pins and cotter pins from the driver side of the torsion tube.
8. **Slide** the inner torsion tube assembly out the passenger side of the platform.
9. **Raise** the passenger side slider by hand to expose the outer torsion tube holder (Figure 1).
10. **Remove** the 3/8" countersunk cap screw from the torsion tube holder and platform.
11. **Pull** the outer torsion tube assembly out of the platform (Figure 1).

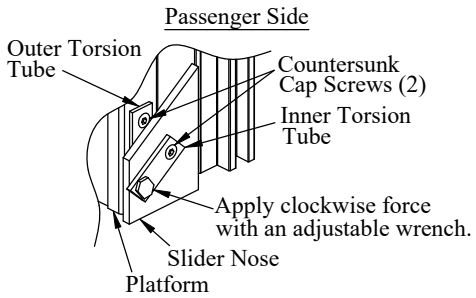


Figure 1: Torsion spring hardware.

Removing the Old Platform Hardware (Method #2)

Use Method #2 if the platform is equipped with a self-close.

WARNING! The platform could weigh up to 400 lbs. Use appropriate lifting equipment or personnel in the next step.

1. **Open** and **Lower** the platform to the ground.
2. **Remove** the 3/8" bolts on both sides of the platform that hold the self-close linkage together.
3. **Remove** the cotter pins or set screws from both sides of the square self-close linkage rod.
4. **Remove** the self-close linkage rod.
5. **Remove** the self-close arms, extension springs, pins, and lugs that attach the self-close arms to the platform.
6. **Remove** the cotter pin from the driver side of the hinge tube.
7. **Slide** the hinge tube assembly out the passenger side of the platform.

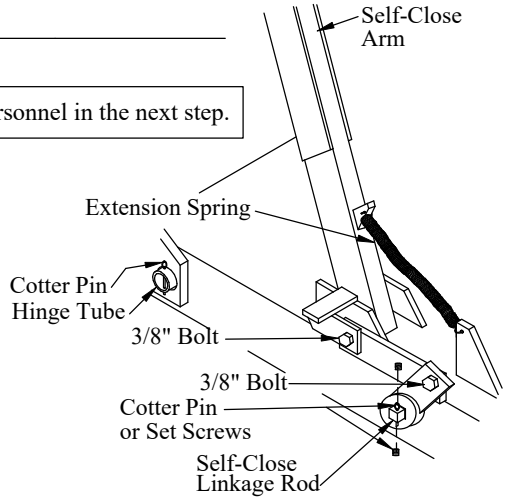


Figure 2: Self-close platform hardware.

Removing the Old Platform Hardware (Method #3)

Use Method #3 if the platform is equipped with a torsion spring holder that is the same as the replacement, excluding RF 55-12 (Figure 3).

WARNING! The platform could weigh up to 400 lbs. Use appropriate lifting equipment or personnel in the next steps.

1. **Raise, Close** and **Latch** the platform.
2. **Apply** pressure in the clockwise direction to the 1-3/4" hex nut on the passenger side of the torsion tube. Use an adjustable wrench (Figure 3).
3. **Remove** the bolt and nut attaching the torsion spring holder to the slider nose. Continue to hold clockwise torque on the torsion spring holder (Figure 3).
4. **Slowly Rotate** the torsion spring arm counter-clockwise until no resistance is felt.
5. **Lower** platform to horizontal position, allowing it to rest on a mechanical lifting device.
6. **Disconnect** the chains from the platform.
7. **Pull** the passenger side torsion spring holder out of the platform and slider nose (Figure 3).
8. **Remove** the cotter pin from the driver side torsion spring holder (Figure 4B only).
9. **Remove** the platform from the slider noses (skip if Figure 4A).
10. **Remove** the bolt from the driver side torsion spring holder and platform.
11. **Remove** the driver side torsion spring holder and spring.

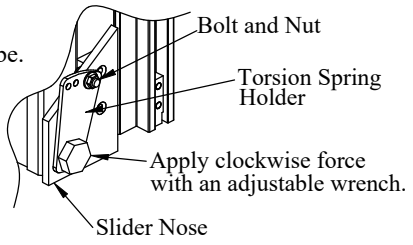


Figure 3: Passenger side torsion spring hardware.

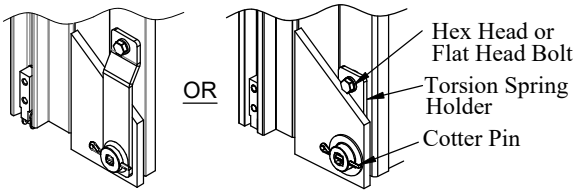


Figure 4A: Figure 4B:
Driver side torsion spring hardware.

Removing the Old Platform Hardware (Method #4)

Use Method #4 only if the platform is an RF 55-12 (35+20+12).

WARNING! The platform could weigh up to 400 lbs. Use appropriate lifting equipment or personnel in the next steps.

1. Remove the platform stops (Figure 5).
2. Place a protective barrier between frame and platform to avoid damage to either in next steps.
3. Place a wood block between base platform and flipper to keep the flipper from folding completely.
4. Fold the platform flipper onto the base platform. The wood block should still be in place.
5. Close and Support the platform in the nearly vertical position.
6. Confirm that there is access to the flat head bolt on the passenger side slider nose (Figure 5).
7. Apply pressure in the clockwise direction to the 1-3/4" hex nut on the passenger side torsion spring holder.
8. Remove the bolt and nut attaching the torsion spring holder to the slider nose. Continue to hold clockwise torque on the torsion spring holder (Figure 3).
9. Slowly Rotate the torsion spring arm counter-clockwise until no resistance is felt.
10. Lower platform to horizontal position, allowing it to rest on a mechanical lifting device.
11. Disconnect the chains from the platform.
12. Pull the passenger side torsion spring holder out of the platform and slider nose (Figure 3).
13. Remove the bolt from the driver side torsion spring holder and platform.
14. Remove the driver side torsion spring holder and spring.

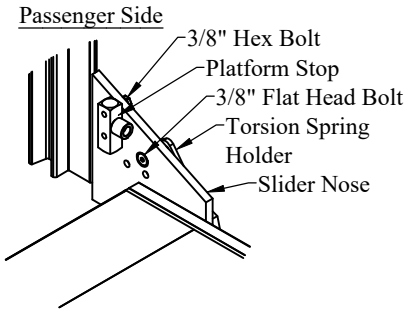


Figure 5: RF 55-12 platform stop.

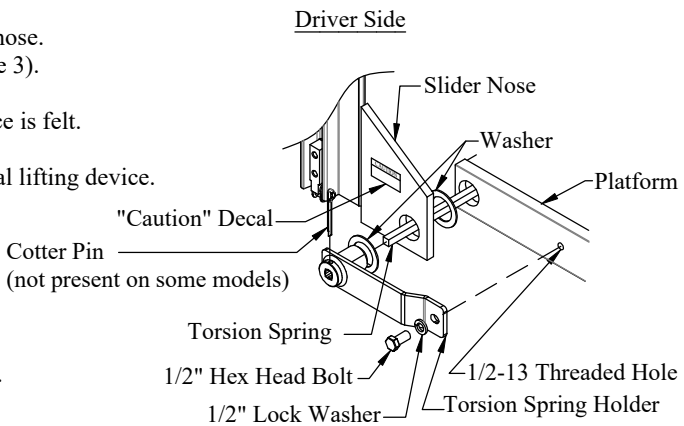


Figure 6: Torsion spring hardware.

Installing the New Torsion Spring Hardware on the Platform

1. Mark and Drill a 25/64" hole in the passenger side slider nose at the location shown, if needed (Figure 7).

2. Install the cotter pin in the driver side torsion spring holder, if needed (Figure 8). Some models of torsion spring holders have a weld in place of the cotter pin.

3. Install the torsion spring through the driver side slider nose, washers, and into the platform (Figure 8).

4. Install the torsion spring holder onto the torsion spring, and through the slider nose, washers, and into the platform (Figure 8).

5. Rotate the driver side torsion spring holder so it is centered on the platform end cap.

6. Skip Steps 7 and 8 if there is already a 1/2-13 threaded hole in the platform. (Figure 8)

7. Mark and Drill a 27/64" hole in the aluminum platform end cap using the spring holder as a guide (Figure 8). For steel platforms, Drill a 7/8" hole and Weld in the supplied threaded lug, see welding note.

8. Tap the hole, drilled in the previous step, with a 1/2-13 tap, aluminum platform only (Figure 8).

9. Secure the driver side torsion spring holder to the platform with a 1/2-13 hex head bolt and lock washer (Figure 8).

10. Guide the torsion spring through the washer and slider nose, on the passenger side (Figure 9).

11. Install the passenger side torsion spring holder over the spring and through the slider nose, washer, and platform (Figure 9).

12. Reattach the chains to the platform.

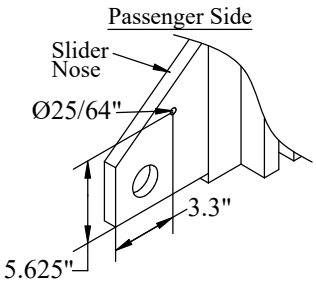
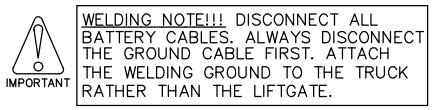


Figure 7: Torsion spring holder hole location.



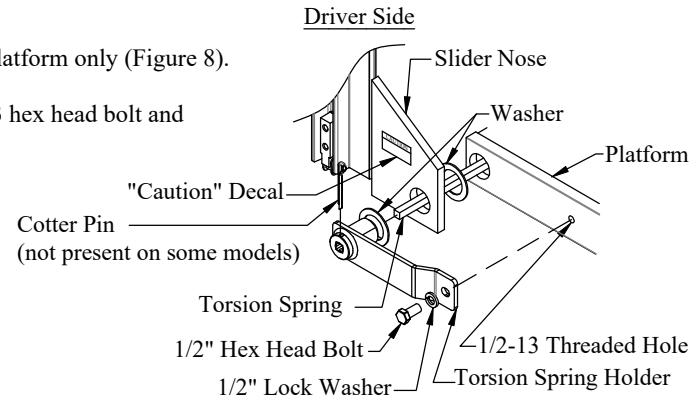


Figure 8: Torsion spring hardware.

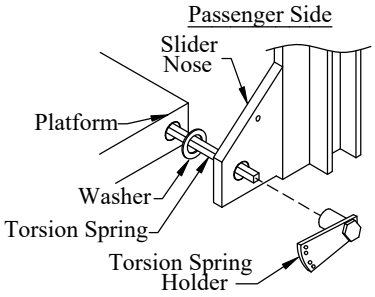


Figure 9: Torsion spring hardware.

Installing the New Torsion Spring Hardware on the Platform (continued)

WARNING! The platform could weigh up to 400 lbs. Use appropriate lifting equipment or personnel in the next steps.

13. **Skip** Steps 14-19 for all platforms except RF 55-12 (35+20+12).
14. **Remove** the platform stops, RF 55-12 platform only.
15. **Place** a protective barrier between frame and platform to avoid damage to either in next steps.
16. **Place** a wood block between base platform and flipper to keep the flipper from folding completely.
17. **Fold** the platform flipper onto the base platform. The wood block should still be in place.
18. **Close** and **Support** the platform in the nearly vertical position, RF 55-12 platform only.
19. **Confirm** that there is access to the flat head bolt on the passenger side slider nose (Figure 5).
20. **Skip** Step 21 for RF 55-12 platform.
21. **Raise**, **Close**, and **Latch** the platform.
22. **Locate** the correct torsion spring setting for your railgate model and platform depth (Table 1).
23. **Rotate** the passenger side torsion spring holder clockwise to the proper hole setting listed in (Table 1).
24. **Attach** the torsion spring holder to the slider nose using the supplied bolt and lock nut (Figure 6). The nut goes on the outboard side of the slider nose. Use 3/8 flat head bolt for RF 55-12 and 3/8 socket head cap screw for everything else.
25. **Reinstall** the platform stops, if previously removed.
26. **Adhere** the two supplied "Caution" decals as shown in (Figure 10) and (Figure 11).

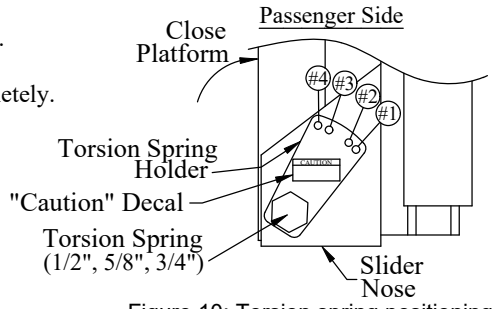


Figure 10: Torsion spring positioning.

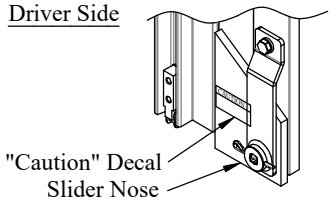


Figure 11: Caution decal location.

Table 1: Torsion spring settings.

Railgate Model 73			
Steel Platform			
Platform Depth (in)	Platform Taper (in)	Torsion Spring (req.)	Torsion Spring Setting
37	6	5/8"	1
37	11	5/8"	2
42	6	5/8"	2
Aluminum Platform			
35	0	1/2"	1
35	6	1/2"	2
35	12	1/2"	4
40	0	1/2"	2
40	6	1/2"	3
40	12	1/2"	4
45	0	1/2"	4
45	6	1/2"	4
45	12	1/2"	4
50	0	1/2"	4
50	6	1/2"	4
50	12	1/2"	4
55	0	1/2"	4
55	6	1/2"	4
55	12	5/8"	2
60	0	5/8"	2
60	6	5/8"	2
60	12	5/8"	2
65	0	5/8"	2
65	6	5/8"	2
65	12	5/8"	2
70	0	5/8"	2
70	6	5/8"	3
70	12	5/8"	3
RF Aluminum Platform			
30+15	6	1/2"	1
35+10	12	1/2"	2
35+15	6	1/2"	2
35+20	12	1/2"	2

Railgate Model 79			
Steel Platform			
Platform Depth (in)	Platform Taper (in)	Torsion Spring (req.)	Torsion Spring Setting
37	6	5/8"	2
37	11	5/8"	2
42	6	5/8"	2
Aluminum Platform			
35	0	1/2"	2
35	6	1/2"	4
35	12	1/2"	4
40	0	1/2"	4
40	6	1/2"	4
40	12	1/2"	4
45	0	1/2"	4
45	6	1/2"	4
45	12	1/2"	4
50	0	1/2"	4
50	6	1/2"	4
50	12	5/8"	2
55	0	5/8"	2
55	6	5/8"	2
55	12	5/8"	2
60	0	5/8"	2
60	6	5/8"	2
60	12	5/8"	2
65	0	5/8"	2
65	6	5/8"	2
65	12	5/8"	3
70	0	5/8"	2
70	6	5/8"	3
70	12	3/4"	2
RF Aluminum Platform			
30+15	6	1/2"	1
35+10	12	1/2"	2
35+15	6	1/2"	2
35+20	12	1/2"	2

Railgate Model 85			
Steel Platform			
Platform Depth (in)	Platform Taper (in)	Torsion Spring (req.)	Torsion Spring Setting
37	6	5/8"	2
37	11	5/8"	3
42	6	5/8"	3
Aluminum Platform			
35	0	1/2"	3
35	6	1/2"	4
35	12	1/2"	4
40	0	1/2"	4
40	6	1/2"	4
40	12	1/2"	4
45	0	1/2"	4
45	6	1/2"	4
45	12	5/8"	2
50	0	1/2"	4
50	6	5/8"	2
50	12	5/8"	2
55	0	5/8"	2
55	6	5/8"	2
55	12	5/8"	2
60	0	5/8"	2
60	6	5/8"	2
60	12	5/8"	3
65	0	5/8"	2
65	6	5/8"	3
65	12	3/4"	2
70	0	5/8"	3
70	6	3/4"	2
70	12	3/4"	2
RF Aluminum Platform			
30+15	6	1/2"	1
35+10	12	1/2"	2
35+15	6	1/2"	2
35+20	12	1/2"	2

Railgate Model 89			
Steel Platform			
Platform Depth (in)	Platform Taper (in)	Torsion Spring (req.)	Torsion Spring Setting
37	6	5/8"	2
37	11	5/8"	4
42	6	5/8"	4
Aluminum Platform			
35	0	1/2"	4
35	6	1/2"	4
35	12	1/2"	4
40	0	1/2"	4
40	6	1/2"	4
40	12	1/2"	4
45	0	1/2"	4
45	6	1/2"	4
45	12	5/8"	2
50	0	5/8"	2
50	6	5/8"	2
50	12	5/8"	2
55	0	5/8"	2
55	6	5/8"	2
55	12	5/8"	2
60	0	5/8"	2
60	6	5/8"	3
60	12	5/8"	4
65	0	5/8"	4
65	6	3/4"	2
65	12	3/4"	2
70	0	3/4"	2
70	6	3/4"	2
70	12	3/4"	2
RF Aluminum Platform			
30+15	6	1/2"	1
35+10	12	1/2"	2
35+15	6	1/2"	2
35+20	12	1/2"	2

Railgate Model 95			
Steel Platform			
Platform Depth (in)	Platform Taper (in)	Torsion Spring (req.)	Torsion Spring Setting
37	6	5/8"	4
37	11	3/4"	2
42	6	3/4"	2
Aluminum Platform			
35	0	1/2"	4
35	6	1/2"	4
35	12	1/2"	4
40	0	1/2"	4
40	6	1/2"	4
40	12	5/8"	2
45	0	1/2"	4
45	6	5/8"	2
45	12	5/8"	2
50	0	5/8"	2
50	6	5/8"	2
50	12	5/8"	3
55	0	5/8"	2
55	6	5/8"	3
55	12	5/8"	4
60	0	5/8"	4
60	6	5/8"	4
60	12	3/4"	2
65	0	3/4"	2
65	6	3/4"	2
65	12	3/4"	2
70	0	3/4"	2
70	6	3/4"	2
70	12	3/4"	2
RF Aluminum Platform			
30+15	6	1/2"	1
35+10	12	1/2"	2
35+15	6	1/2"	2
35+20	12	1/2"	2