NEW FLYER

INSTRUCTION TO SERVICE

ITS: 6236	
SECTION:	246 Air, Brake & Levelling System.
WRITTEN BY:	Michael Rooney
SUBJECT:	Add PPV valve at the emergency tank.

ITS6236

PROCEDURE:

1. Turn the main battery disconnect switch to the “OFF” position.
2. Chock the wheels to prevent vehicle movement.
3. Drain the air from the air system following the procedure in the New Flyer Service Manual.
4. Remove the ad panels on the curb side forward of the rear door to gain access to the Emergency Air Tank.
5. Disconnect the 3/8” air-line labelled ERT- DCV 140665. Figure 1.
6. Remove and discard the check valve. Figure 1.

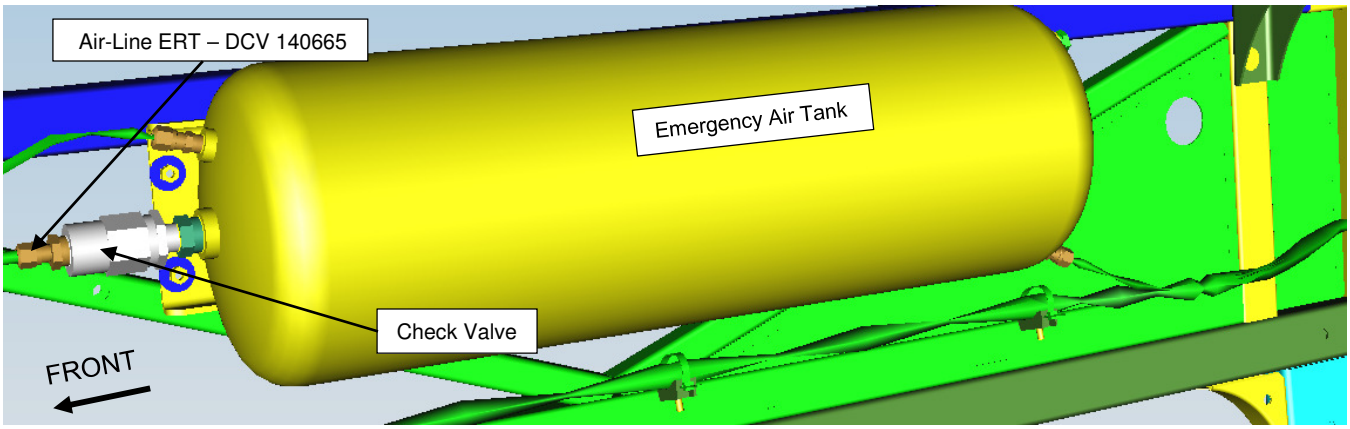

Figure 1: Emergency Air Tank

7. Install a reducer NF P/N 544613 in the bushing already in the port on the Emergency tank where the air-line and check valve were previously attached. Use Loctite 567 NF P/N 8110442 on the threads, install the reducer finger tight then apply two full turns past finger tight.
8. Install a valve NF P/N 622788 on the reducer using Loctite 567 thread sealant NF P/N 8110442. The port marked “DEL” (Delivery) should be installed on the nipple. Orient the valve as seen in Figure 2.
9. Remove the existing connector on the air-line labelled ERT – DCV 140665 and install a new connector NF P/N 5952460.
10. Install the 3/8” air-line labelled ERT – DCV 140665 in the other port marked “SUP” (Supply) on the new valve using Loctite 567 thread sealant NF P/N 8110442. Install the connector finger tight in the valve then apply two full turns past finger tight.

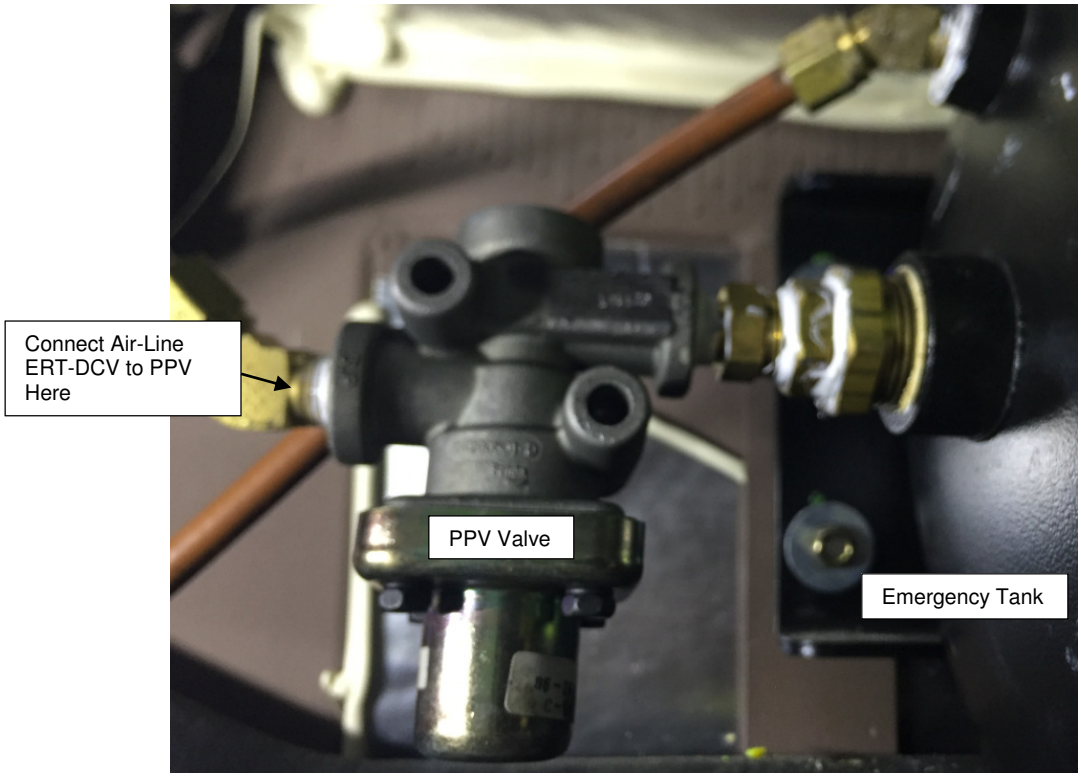

Figure 2: Valve Installed on Emergency Air Tank.

11. Turn the main battery disconnect switch to the “ON” position.
12. Start the bus and allow the air system to pressurize.
13. Check for air leaks at the emergency tank and repair as necessary.
14. Perform the Emergency/Parking Brake Test outlined in section 3.10.5 of the New Flyer Service Manual for XD60 models and section 3.9.6 for XD40 models or refer to attached Appendix A for XD60s or Appendix B for XD40s.
15. Replace the ad panels.
16. Remove all tools and debris to return the bus to service condition.

APPENDIX A

Emergency/Parking Brake Test Procedure For XD60 model.

1. Park the vehicle on level ground and chock the wheels.
2. Start the engine and charge the air system to cut-out pressure. You will hear the emergency tank start to fill once the service tanks reach 92 – 98 Psi.
3. Stop the engine.
4. Ensure the wheels of the bus are chocked and release the parking brake.
5. Drain the wet tank. The front, center and rear brake tanks should retain full pressure.
6. Drain the front axle brake tank. The low air warning lamp on the front brake tank gauge should illuminate and the low air buzzer should sound. The center and rear brake tanks should retain full pressure.
7. With no air pressure in the front brake tank, make a service brake application. The center and rear axle brakes should apply and release at least once and the rear brake lamps should illuminate.
8. Drain the rear axle brake tank. The center brake tank should retain full pressure.
9. Slowly drain the center axle brake tank. The parking brake control valve should pop to the applied position when the center reservoir reaches approximately 45 psi.

   NOTE:

   DO NOT use the brake treadle to bleed down the center axle brake tank. Rapid pumping of the brake treadle will cause pressure pulsations that can result in premature application of the spring brakes, resulting in a false pressure reading.
10. Actuate the Emergency Brake Release control by pressing and holding the knob in the down position. The park brakes at both center and rear axles should release and remain released as long as the control is held in the down position. Release the control. The park brakes at both center and rear axles should reapply. Repeat this cycle until the park brakes fail to release. Drain the emergency brake release tank. The park brakes should remain in the applied position.
11. Close all tank drain valves, start the engine and recharge the air system to cutout pressure.
12. Stop the engine.
13. Drain the center axle brake tank. The low air warning lamp on the center brake tank gauge should illuminate and the low air buzzer should sound. The front and rear brake tanks should retain full pressure.
14. With no air pressure in the center brake tank, make a service brake application. The front, center and rear axle brakes should apply and release at least once and the rear brake lamps should illuminate.
15. If the parking brakes applied in the previous step, verify that the emergency brake release is capable of releasing the park brakes and that the park brakes reapply when the control is released.
16. Verify that the park brakes at both center and rear axles release when the park brake control valve is in the released position.

17. With the park brakes released, make another service brake application and verify that the front, center and rear brakes apply at least one more time.
18. Close all tank drain valves, start the engine and recharge the air system to cut-out pressure.
19. Stop the engine.
20. Drain the rear axle brake tank. The low air warning lamp on the rear brake tank gauge should illuminate and the low air buzzer should sound. The front and center brake tanks should retain full pressure.
21. With no air pressure in the rear brake tank, make a service brake application. The front, center and rear axle brakes should apply and release once and the rear brake lamps should illuminate.
22. Close all tank drain valves, start the engine and recharge the air system to cut-out pressure.
23. Stop the engine.
24. Open the emergency tank drain. Watch the gauges for the front and center service tanks, service tanks should drain down to approximately 80 psi at which point the Pressure Protection Valve on the emergency tank will close and pressure in the front and center service tanks will stabilize. Watch the gauge for the rear service tank as well, the pressure in the rear tank should not drop as the emergency tank is drained. The emergency tank will continue to drain until empty.
25. Test is complete. Close all reservoir drain valves, start the engine and recharge the air system to cut-out pressure.

APPENDIX B

Emergency/Parking Brake Test Procedure For XD40 model.

1. Park the vehicle on level ground and chock the wheels.
2. Start the engine and charge the air system to cut-out pressure. You will hear the emergency tank start to fill once the service tanks reach 92 - 98 Psi.
3. Stop the engine.
4. Ensure the wheels of the bus are chocked and release the parking brake.
5. Drain the wet tank. The front and rear brake tanks should retain full pressure.
6. Drain the front axle brake tank. The low air warning lamp on the front brake tank gauge should illuminate and the low air buzzer should sound. The rear brake tanks should retain full pressure.
7. With no air pressure in the front brake tank, make a service brake application. The rear axle brakes should apply and release at least once and the rear brake lamps should illuminate.
8. Slowly drain the rear axle brake tank. The parking brake control valve should pop to the applied position when the center reservoir reaches approximately 45 psi.

   NOTE:

   DO NOT use the brake treadle to bleed down the rear axle brake tank. Rapid pumping of the brake treadle will cause pressure pulsations that can result in premature application of the spring brakes, resulting in a false pressure reading.
9. Actuate the Emergency Brake Release control by pressing and holding the knob in the down position. The park brakes at the rear axle should release and remain released as long as the control is held in the down position. Release the control. The park brakes at the rear axle should reapply. Repeat this cycle until the park brakes fail to release. Drain the emergency brake release tank. The park brakes should remain in the applied position.
10. Close all tank drain valves, start the engine and recharge the air system to cutout pressure.
11. Stop the engine.
12. Drain the rear axle brake tank. The low air warning lamp on the rear brake tank gauge should illuminate and the low air buzzer should sound. The front brake tank should retain full pressure.
13. With no air pressure in the rear brake tank, make a service brake application. The front and rear axle brakes should apply and release at least once and the rear brake lamps should illuminate.
14. If the parking brakes applied in the previous step, verify that the emergency brake release is capable of releasing the park brakes and that they reapply when the control is released.

15. Verify that the park brakes at the rear axle release when the park brake control valve is in the released position.
16. With the park brakes released, make another service brake application and verify that the front and rear brakes apply at least one more time.
17. Close all tank drain valves, start the engine and recharge the air system to cut-out pressure.
18. Stop the engine.
19. Open the emergency tank drain. Watch the gauges for the front and rear service tanks, service tanks should drain down to approximately 80 psi at which point the Pressure Protection Valve on the emergency tank will close and pressure in the front and rear service tanks will stabilize. The emergency tank will continue to drain until empty.
20. Test is complete. Close all reservoir drain valves, start the engine and recharge the air system to cut-out pressure.

NEW FLYER

LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Add PPV at the emergency tank.	1	0.75	0.75

PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	8110442	LOCTITE 567 – THREAD SEALANT	0.01	EA	
2	5952460	CONNECTOR-1/4MPT X 3/8SYN	1	EA	
3	544613	ADAPTER-1/4 X 1/2 NPT EXT BRASS	1	EA	
4	622788	VALVE – RSVR CTRL (PR-3)	1	EA	

SPECIAL TOOLS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1		No Special Tools Required.			