

These instructions are a supplement to the DS137F/DS147F Installation and Operator Manuals. These instructions pertain to the DS137F-M model only.

Secondary Volumes

1. Locate the (2) Volume Mount Weldments.
2. Place the mounts against the passenger side frame, forward of the front hanger. Figure A shows the suggested locations. The mounts can be relocated based on frame mounts, etc.

Important: Located the mounts such that the distance between the two mounts are as wide as possible.

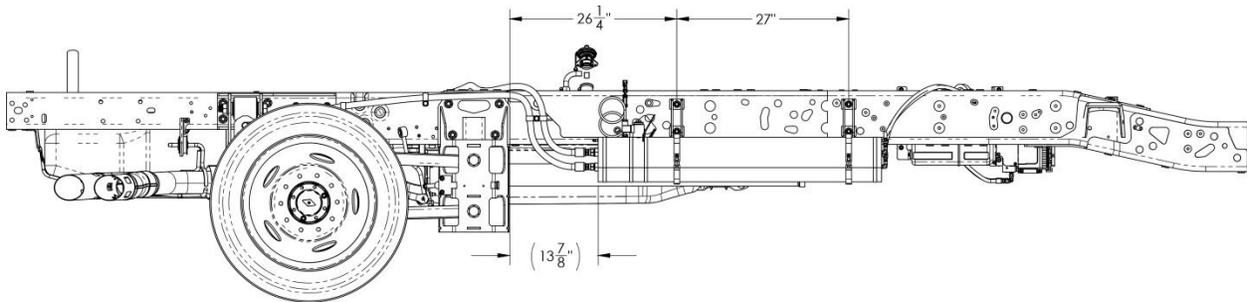


Figure A. Suggested Location of Secondary Volume Mounts

3. Verifying the mounts are held flush to the bottom of the frame and utilizing the mount hole pattern, mark the locations of the holes and drill (2) $\varnothing 9/16$ " holes per mount.
4. Locate (4) 1/2"-13 x 1-3/4" Hex Cap Screws, (8) 1/2" Hardened Flat Washers, and (4) 1/2"-13 Locking Hex Nuts and attached the mounts. Torque to **86-105 ft-lbs**. Note: Orientate nuts outboard.
5. Locate the Left Hand Secondary Volume Assembly. Note: The Left Hand Volume Assembly contains the 105" long -10 (5/8") hose.
6. Raise the volume assembly until the volume contacts both mounts in the upper most position. Rotate the volume assembly until the rate valve is located to the top and as vertical as possible.
7. Locate (2) T-Bolt Clamps, open the clamps, and place them in the mounts on top of the two pegs.
8. Secure both clamps around the volume and torque the T-Bolt nut to **240 in-lbs**.
9. Repeat with the other volume assembly, securing it to the lower mount locations.

Power Module Installation:

1. Locate the Power Module Assembly and Power Module Mounting Kit.
2. Inside the kit, locate the Mounting Brackets.
3. Install the Manifold Mounting Bracket using the 3/8"-16 Serrated Flange Hex Screws. Torque to **39 ft-lbs**. See Figure B.

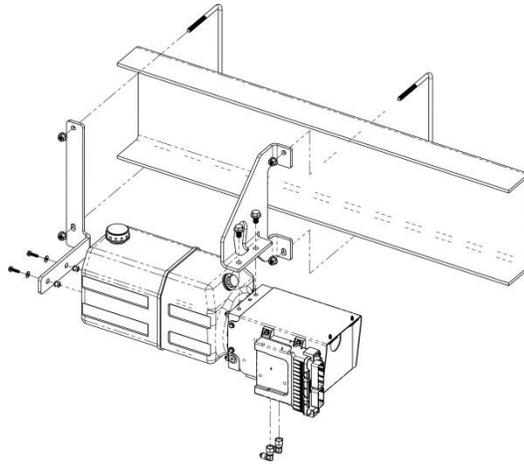


Figure B. Installation of Power Module

4. Attach the Reservoir Support Bracket to the end of the reservoir using the (2) Bushings, (2) #10 Flat Washers, and (2) #10 Self Tapping Screws. Do not over tighten the screws to where the bushing deforms.
5. Attach the power module assembly to the frame using the 5/16"-18 U-bolts, straddling the cross member shown in Figure C. Torque U-Bolt nuts to **14-17 ft-lbs**. Do not over tighten.

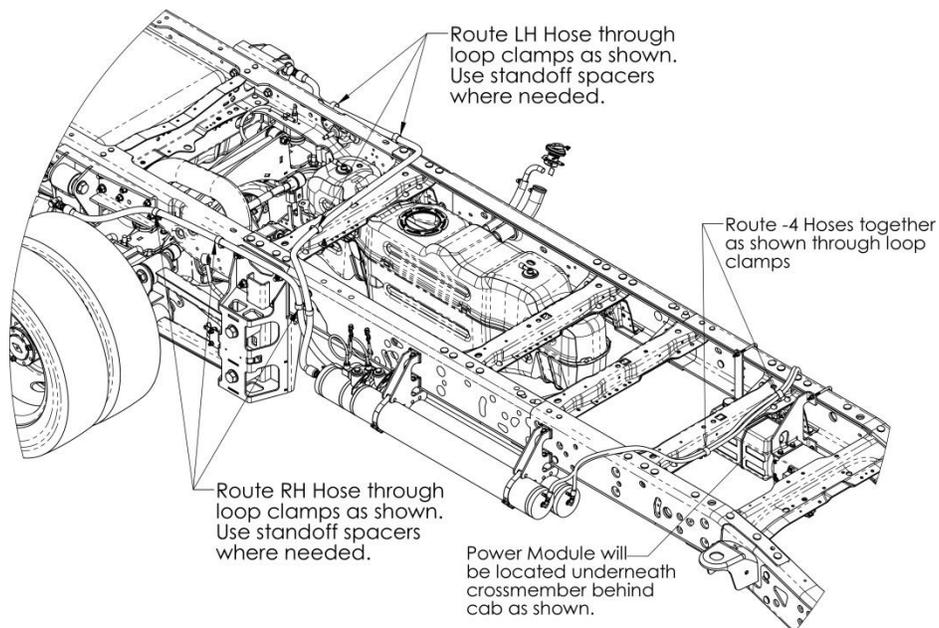


Figure C. Volume and Power Module locations with hose routing.

Hydraulic Hose Attachment

CAUTION: Attachment of the hydraulic hoses may result in some spillage of fluid. Use of oil absorbent mats is recommended.

CAUTION: During shipping, the fluid inside of the volume may have heated up and expanded, causing increased pressure. Always open the bleed screw to relieve pressure prior to removing plugs in the hoses.

CAUTION: The DS137F-M Secondary Volume Assemblies are equipped with Normally-Closed Rate Valves, which separate the two chambers when power is not applied to the valve. Each chamber side must be bled separately.

1. Route the -10 hose of the Left Hand Secondary Volume Assembly over the frame to the strut located on the driver side. Refer to Figure C.
2. Locate 3/16" ID PVC Tubing (not included with the kit). Note: Alternatively, a bleed kit similar to the Actron 7840 Bleed Kit or Lisle 19200 Brake Bleeding Kit can be used.
3. Attach the PVC tubing to the bleed screw on the on the -10 hose side of the Left Hand Secondary Volume Assembly and place the other end in a bucket.

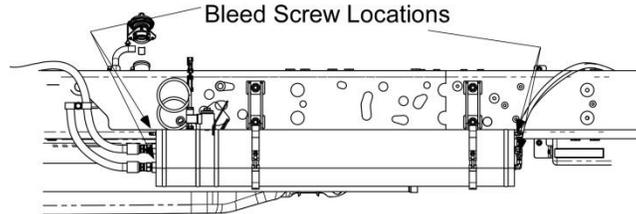


Figure D. Bleed Screw Locations

4. Open the bleed screw slightly to relieve any residual pressure.
5. After pressure is relieved, close the bleed screw and torque to **13-18 ft-lbs.**
6. Remove the cap from the strut port.
7. Remove the plug from the end of the -10 hose.
8. Attach the hose end (-10 JIC Fitting) to the strut port.
9. Torque to **36-63 ft-lbs.**
10. Secure the hose using the included hose clamps and fasteners. Refer to Figure A3.
11. Repeat with the -10 hose from the Right Hand Secondary Volume to the Passenger Side Strut.
12. Attach the PVC tubing to the bleed screw on the -4 hose side of the Left Hand Secondary Volume Assembly and place the other end in a bucket.
13. Open the bleed screw slightly to relieve any residual pressure.
14. After pressure is relieved, close the bleed screw and torque to **13-18 ft-lbs.**
15. Route the Left Hand -4 (1/4") hydraulic hose over the frame and to the Power Module. Refer to Figure C and Figure E.

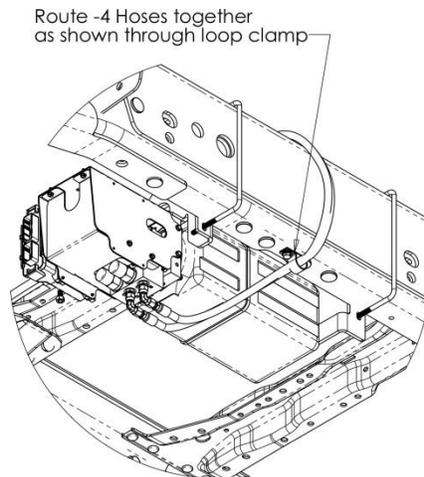


Figure E. Power Module hose connections.

16. Remove the cap from the -4 JIC fitting mounted on the bottom of the power module marked "L".
17. Remove the plug from the -4 hose and attach to the fitting on the power module. Torque to **12 ft-lbs**. Do not over tighten.
18. Repeat the bleeding procedure for the -4 fitting port side of the Right Hand Secondary Volume Assembly.
19. Route the Right Hand -4 hose over the frame and to the Power Module.
20. Remove the cap from the -4 JIC fitting mounted on the bottom of the power module marked "R".
21. Remove the plug from the -4 hose and attach to the fitting on the power module. Torque to **12 ft-lbs**. Do not over tighten.
22. Use the included hose clamps and fasteners to secure the two -4 hoses. Refer to Figure C and Figure E.
23. Clean up any fluid spillage.
24. Continue with instructions as found in the DS137F/DS147F Installation Manual.

System Operation

To minimize ride height changes due to temperature change while the system is OFF, the DS137F-M is equipped with Normally Closed Rate Valves. When the system is powered down, such as when the vehicle is shut off, the rate valve, located in the Secondary Volume Assemblies, will close.

Upon system start up, the Rate Valve will be pulsed, for approximately 15 seconds, to equalize any pressure difference between the volume and the strut that may have occurred while the system was shut down. Some noise and ride height change during this period may be experienced.

While the vehicle can be operated immediately after the pulsing has completed, it is recommended to allow the suspension system to complete adjustment of the ride height, usually less than 30 seconds, before operating. Some ride harshness may be experienced until NORMAL ride height is achieved.

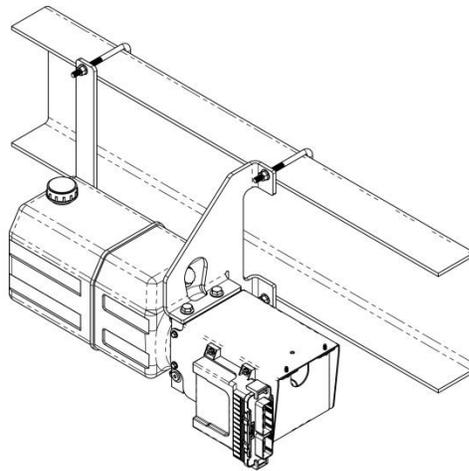
CAUTION: Before performing any maintenance on the strut assemblies or -10 hose assemblies, verify pressure has been relieved by opening the bleed screw on the secondary volume assemble end connected to the -10 hose.

The DS137F-M will operate as described in the DS137F/DS147F Installation and Operator Manuals.

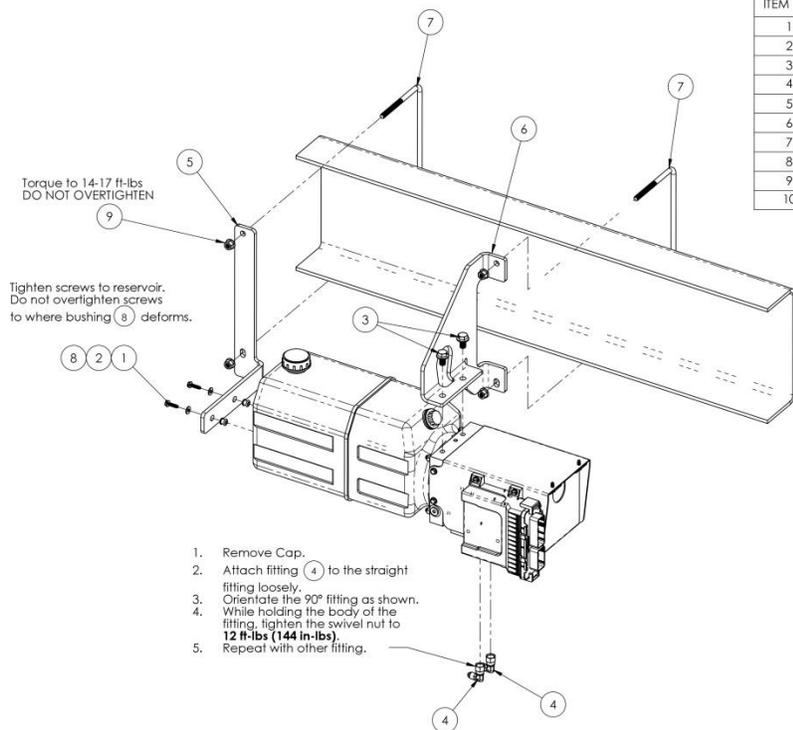
Parts List

Use the following part lists when referring to DS137F-M specific components.

Power Module Components			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	10942-003	Asy, Power Module, DS135F-M
2	1	11024	Kif, Power Module Mnt



ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	2	10510-002	STS #10-16 x .750, Z, Hex Head
2	2	10088-001	FW #10, Zinc
3	2	10252-003	SFHS 3/8-16 x .625, Gr 8.2, Z
4	2	10322-021	Hyd Fil 90, -4.37 x -4.37 F
5	1	10798-008	Power Module Reservoir Mount
6	1	10799-007	Power Mod Manifold Bracket
7	2	10669-007	U-Bolt 5/16-18 x 9-1/16 x 4-1/2 Gr 5 SQ
8	2	10805-007	Grommet, .19 ID x .44 OD x .375 T
9	4	10012-010	LFN 5/16-18, Gr. G, Black Phos
10	1	D11024	Drawing, Kif Installation



- Step 1: Attach bracket (6) to power module assembly.
- Torque 3/8-16 bolts to **39 ft-lbs**.
- Step 2: Attach bracket (5) to reservoir.
- When tightening screws to reservoir, **do not overtighten** to where bushing (8) deforms.
- Step 3: Attach power module to frame.
- Torque u-bolt nuts to **14-17 ft-lbs**.
Do not overtighten.

Secondary Volume Components			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	4	10843-001	T-Bolt Clamp, Range 4.60-5.22
2	2	10830-011	Wldmnt, Volume Mount
3	8	10006-007	HFW 1/2 Z
4	4	10011-010	HCS 1/2-13 x 1.750, Gr. 8, Z
5	4	10004-019	LHN 1/2-13, Gr. C, Z
6	1	10597-035	Asy, 2nd Vol 50 x 450, LH
7	1	10597-036	Asy, 2nd Vol 50 x 450, RH

