



SERVICE BULLETIN No.1101

Circulate to listed addressees

COACH MODEL	: C2045
BULLETIN TYPE	: Service Information
MANUAL & SECTION	: Maintenance Manual: Chapter 3 – Drive train Spare Parts Manual: Section 621409 – Exhaust piping
PARTS BOOK REVISION	: Yes
DATE	: March 7th, 2002
SUBJECT	: Exhaust downpipe with compensator for coaches with Detroit Diesel engine
TERMS & CONDITIONS	: No claims will be accepted with reference to this Bulletin.

APPLICATION:

C2045 exhaust downpipe VH 10748897 has been cut into production as from unit 45806.

DESCRIPTION:

The service procedure subject of this Bulletin explains how to replace exhaust downpipe with compensator VH 10701364 by VH 10748897 and fit additional support bracket VH 10748694 and clamp VH 10749062, if not yet installed.

Service personnel: please read, initial and circulate.

Service Manager	Parts Manager	Warranty Administrator	Workshop Foreman	Service Technician

PARTS:

Old part:

Part No.	Description	Qty.
VH 10701364	Exhaust downpipe with compensator for DD engines	1

New parts:

- Order one kit VH 10769066 for one coach to repair. The kit is suited for C2045 units and contains the following parts:

Part No.	Description	Qty.
VH 10748897	Exhaust downpipe with compensator for DD engines	1
VH 10657119	Sealclamp, complete	1
VH 10749062	Clamp assembly, complete	1
VH 10748887	Spacer, 30x11x10 mm, to suit VH 10749062	2
VH 660628008	Plain washer, 10.5x30x2.5 mm, stainless, to suit VH 10749062	2
VH 10748694	Bracket, mtg.	1
VH 660229914	Bolt, bracket to muffler support, M10x1.5x35 mm	1
VH 660628014	Plain washer M10	2
VH 660209916	Lock nut M10	1
VH 10572737	Gasket, muffler elbow to muffler	1

- Parts may be purchased from your nearest ABC Companies, Parts Source dealer.
- Parts VH 10701364 and VH 10748897 are directly interchangeable, but only VH 10748897 will be offered for service replacement.
- New mufflers VH 10654954 will be supplied with modified support bracket (slot cut-out).
- Always use genuine maintenance products and parts. Do not accept imitations.
- Parts disposition: discard according to applicable environmental regulations.

PROCEDURE:

1. General:

- The time required to replace the exhaust downpipe and install the additional support bracket and clamp is approximately 1 to 1.5 hours.
- For disassembly, reassembly and parts reference purposes, refer also to the Spare Parts Manual pages 12 of 14 through 14 of 14 attached.

2. Special tools, equipment or services:

- A hydraulic service or transmission jack is required.

3. Preparations:

- Park the coach on a level surfaced service pit, apply the parking brake and shut down the engine. Switch off all systems and turn off the battery master switch.
- Allow the engine and the exhaust system to cool down to 86°F (30°C) before beginning to work.

- Put a “DO NOT OPERATE” tag on the instrument panel.
- Read the entire procedure before beginning to work.

CAUTION: Observe safe shop practices at all times.

4. To remove the exhaust downpipe with compensator:

- 1) Open the hatch giving access to the charge air cooler, air cleaner and batteries.
- 2) At the back of the compartment, loosen and remove the bolts securing the left-hand panel, which gives access to the turbo. Push the panel to the right and lift it out.
- 3) Loosen and remove the clamp securing the exhaust downpipe to the turbo (see Figure 1). Recover the clamp.

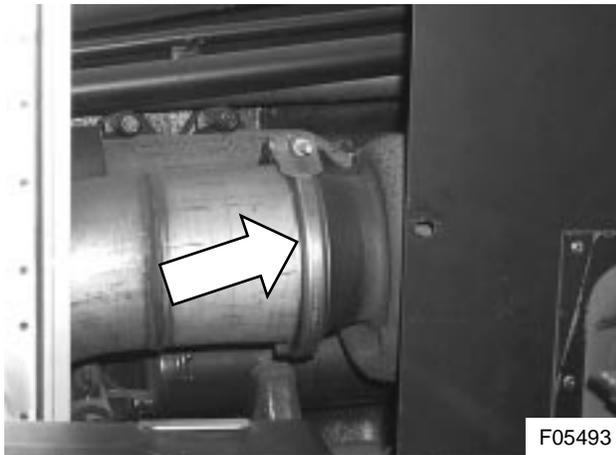


Figure 1: Downpipe to turbo exhaust clamp

- 4) Working underneath the coach, loosen and remove the two bolts securing the downpipe to muffler elbow sealclamp (see Figure 2). Discard the sealclamp.

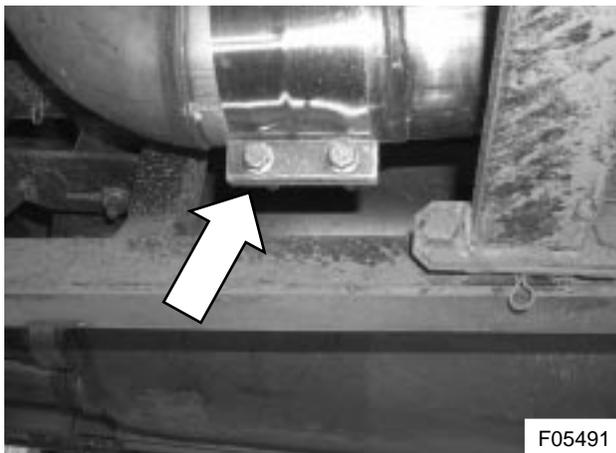


Figure 2: Downpipe to muffler elbow seal clamp

- 5) Remove the old downpipe from the muffler elbow by tapping it with a soft face dead blow hammer. If the downpipe refuses to come out, use heat on the section where the outer and inner tubes meet. Discard the old downpipe.

- 6) Inspect the muffler elbow for rust, dents and distortions. Clean and rectify as necessary. Tube opening should be round and smooth to ensure perfect sealing.

5. To remove the muffler:

- 1) Loosen and remove the bolt and nut securing the muffler elbow to the chassis (see Figure 3).

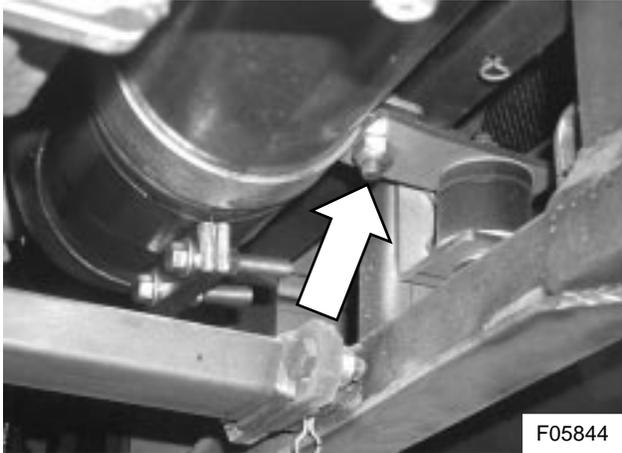


Figure 3: Muffler elbow mounting bracket

- 2) Loosen and remove the four bolts and nuts securing the muffler elbow to the muffler (see Figure 4).
Remove elbow and gasket. Discard the gasket.

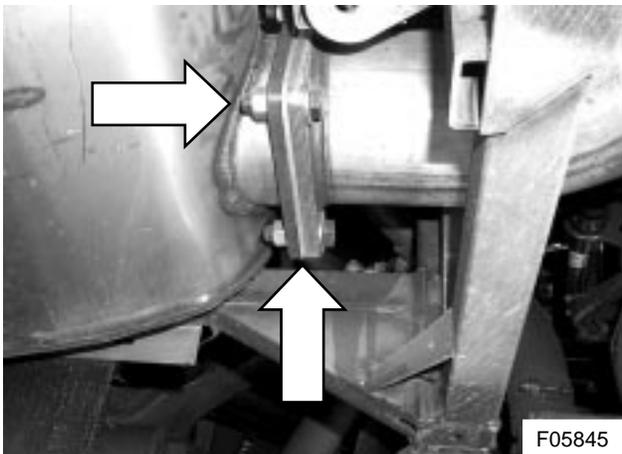


Figure 4: Muffler elbow mounting bolts (2 shown)

- 3) Using a hydraulic service or transmission jack, take the muffler weight off the rubber isolator mounts.
- 4) Loosen and remove the two U-beam bolts and nuts securing the left-hand muffler mounting brackets to the chassis (see Figures 5 and 6).

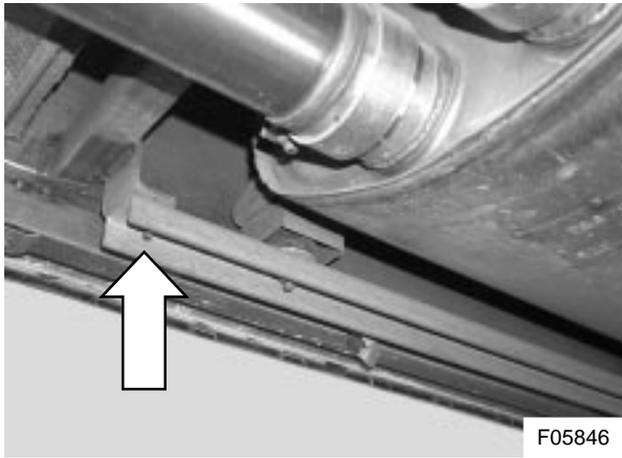


Figure 5: Muffler U-beam rear most mounting bolt

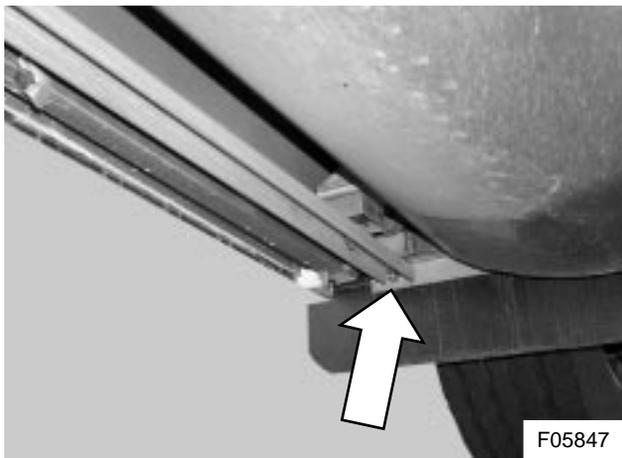


Figure 6: Muffler U-beam front most mounting bolt

- 5) Loosen and remove the two nuts securing the right-hand muffler mounting bracket rubber isolator mounts to the chassis (see Figures 7 and 8).

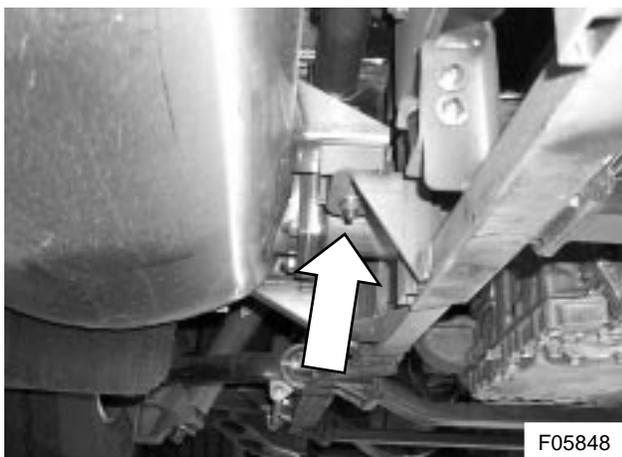


Figure 7: Right-hand front most muffler rubber isolator mount nut



Figure 8: Right-hand rear most muffler rubber isolator mount nut

- 6) Loosen and remove the two rear most tailpipe clamp nuts and bolts (see Figure 9).

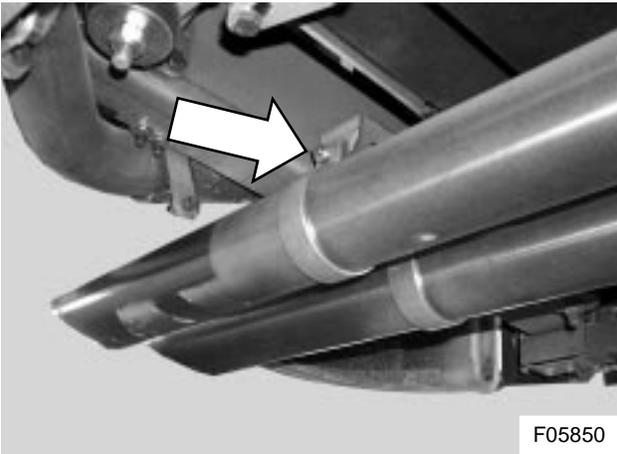


Figure 9: Rear most tailpipe clamp bolts and nuts

NOTE:

*The muffler has a considerable weight.
To avoid personal injury and/or damage to the component, make sure the part is well supported.
Get help from an assistant to handle it.*

- 7) Lower the muffler assembly.

6. To modify the right hand rear most muffler mounting bracket:

In the new installation, downpipe support bracket VH 10748694 bolts to the right hand rear most muffler mounting bracket through the rubber bobbin stud and bolt VH 660229914. It serves to secure the lower section of the downpipe through clamp assembly VH 10749062 (see Figures 10 and 11).

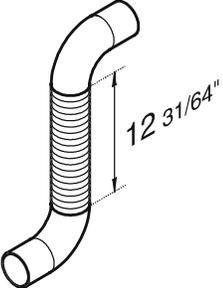
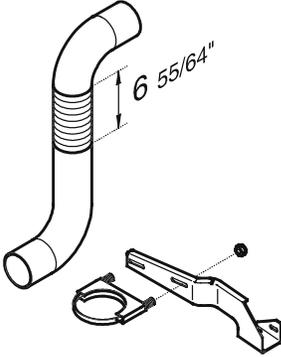
OLD	NEW
	
PART# 10701364	PART# 10748897

Figure 10: Old and new part installation comparison

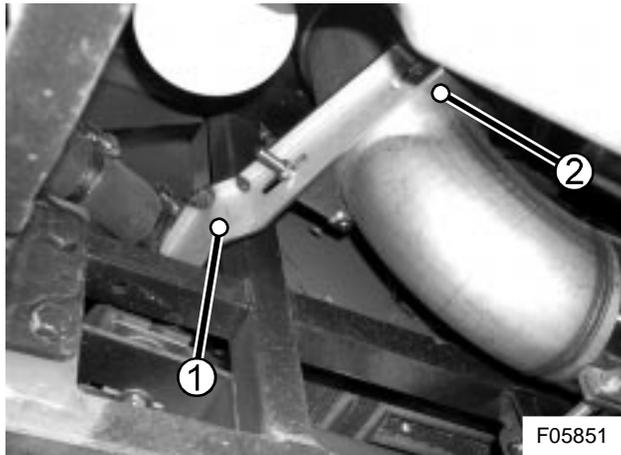


Figure 11: (1) Support bracket VH 10748694 and (2) clamp assembly VH 10749062

If not yet provided, a 7/16 by 1 inch (11x25 mm) slot must be cut in the muffler support to attach the downpipe support bracket. Proceed as follows:

- 1) Loosen and remove the nut from the top stud of the right rear most rubber isolator mount (see Figure 12). Remove the spring washer and plain washer as well.
- 2) Install the support bracket as shown in Figure 13. Mark the slot indicated by the arrow on the muffler mounting bracket with a scribe. Remove the support.

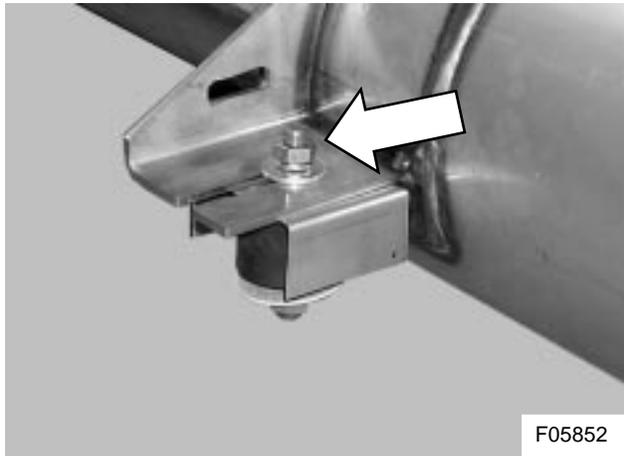


Figure 12: Top stud and bolt of right-hand rear most muffler support

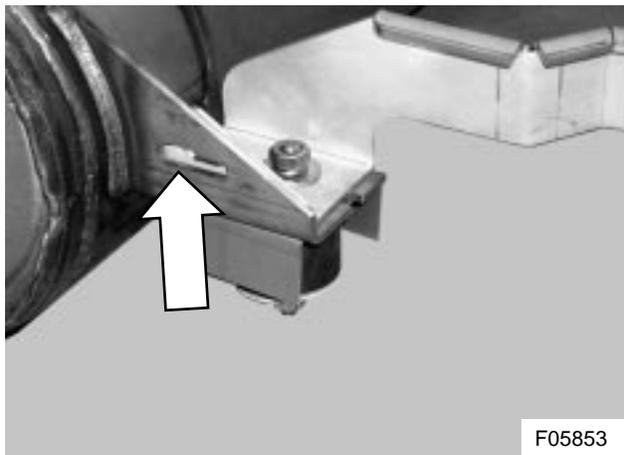


Figure 13: Mark slot here, using the bracket as a template

- 3) Center punch and drill a 7/16 inch (11 mm) hole on each side off the center of the scribed area on the muffler mounting bracket. Dress with a file until the proper dimensions have been achieved.
- 4) Reinstall the rubber isolator mount and hardware. Secure hand tight.
- 5) Thoroughly clean the muffler to muffler elbow mounting flange. Remove all remaining gasket with a scraper.
- 6) Reinstall the muffler. Reinstallation of the muffler is the reverse to removal. Tighten M8 nuts to a torque of 15 ft.lbf (20 Nm). Tighten M10 nuts to a torque of 30 ft.lbf (40 Nm). Tighten M12 nuts to a torque of 52 ft.lbf (70 Nm).

7. To install downpipe with compensator VH 10748897:

- 1) Thoroughly clean the muffler elbow mounting flange. Remove all remaining gasket with a scraper. Reinstall the elbow using a new gasket VH 10572737. Reinstall the muffler elbow mounting bracket. Tighten M12 bracket nut and elbow to muffler nuts to a torque of 52 ft.lbf (70 Nm).

CAUTION: Do not remove the installation sleeve around the compensator shown in Figure 14 until all parts have been installed.

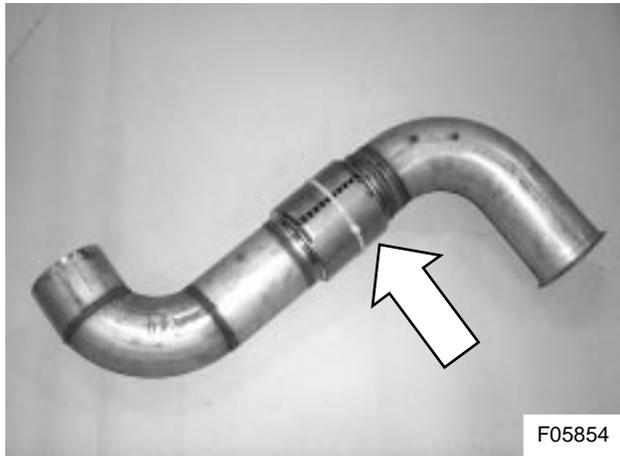


Figure 14: Downpipe compensator with installation sleeve

- 2) With the aid of an assistant, pick up the new pipe with the bellmouthed section facing the turbo exhaust. Slip the lower straight section of the downpipe into the muffler elbow. Use a soft face dead blow hammer to assist, if necessary. Adjust the bellmouthed section to fit the turbo exhaust opening snugly. The downpipe with compensator should make a tight fit while keeping its overall length. If necessary, undo the muffler rubber isolator mount nuts to adjust and ensure *stress-free installation*. The installation should be free of strain, twist or tension. Retighten the nuts loosened during adjustment.
- 3) Secure the downpipe to the turbo exhaust mouth with the recovered clamp. Tighten to a torque of 72 in.lbf (8 Nm). Install a new seal clamp (see Figure 15) at the downpipe to muffler elbow connection. Proceed as follows:

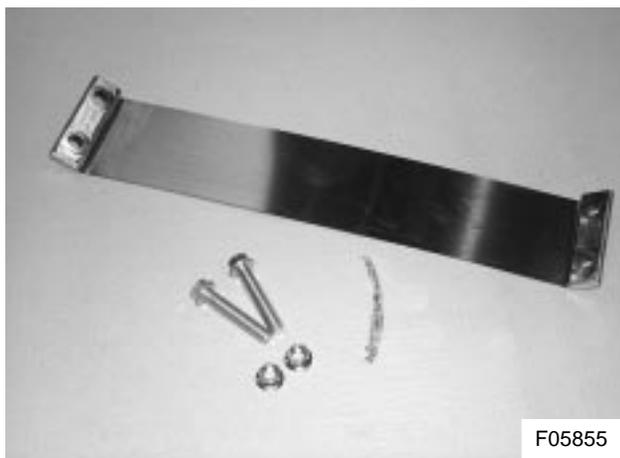


Figure 15: Downpipe to muffler elbow seal clamp VH 10657119

- Position the sealclamp so that $\frac{1}{2}$ to $\frac{2}{3}$ of it covers the small diameter side of the connection
- Assemble the bolts and position the gasket strip between the bolts and the pipe.
- Tighten by turning the nuts alternating between bolts several times, beginning with the large diameter side of the connection. Torque to 50 to 75 ft.lbf (70 to 75 Nm).

8. To install additional support bracket VH 10748694 and clamp assembly VH 10749062:

- 1) Loosen and remove the top nut of the right-hand rear most muffler rubber isolator mount. Fit additional support bracket VH 10748694 (see Figure 16) to the muffler bracket as shown in Figure 17. Make sure the bracket does not interfere with the cooling system tubing. If necessary, reposition the clamps securing the cooling system tubes.

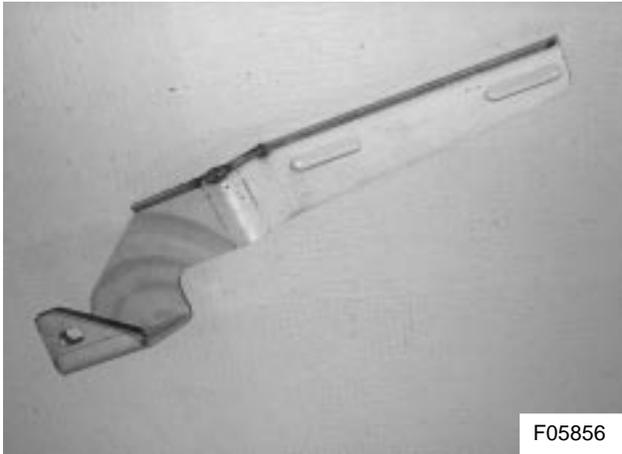


Figure 16: Additional support bracket VH 10748694.

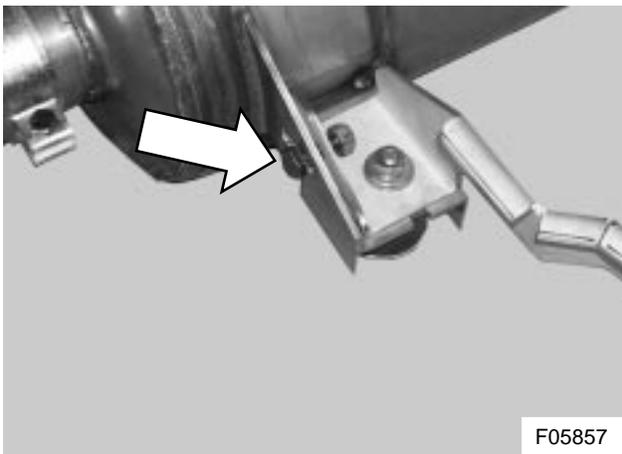


Figure 17: Additional support bracket installation



Figure 18: Clamp assembly VH 10749062

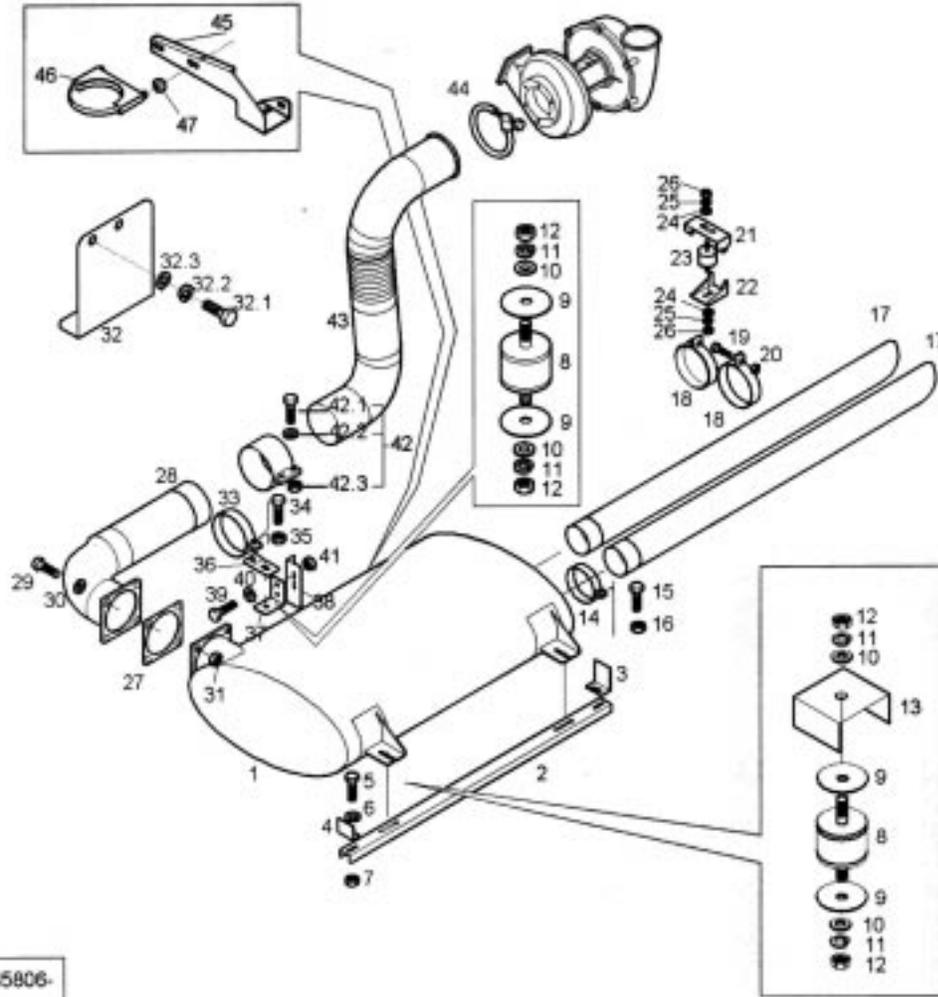
- 2) Install bolt VH 660229914 and matching plain washers and nut (see arrow, Figure 17). Reinstall the top nut. Secure both nuts for a loose fit.
- 3) Install clamp assembly VH 10749062 (see Figures 10, 11 and 18). Install spacers VH 10748887 between clamp assembly and bracket. Install plain washers VH 660628008 between bracket and clamp nuts. Run up the clamp nuts. Tighten to a torque of 185 in.lbf (20 Nm).
- 4) Tighten the additional mounting bracket nuts, previously secured for a loose fit, to a torque of 30 ft.lbf (40 Nm).
- 5) Cut the tie wrap securing the installation sleeve. Remove the sleeve. Recheck for stress-free installation. To do so, undo the V-clamp at the turbo. The downpipe bellmouth should remain in place and snugly fit the turbo exhaust. If necessary, adjust downpipe position. Retighten the V-clamp.
- 6) Reinstall the turbo access panel in the air clear/battery compartment. Tighten the panel mounting bolts to a torque of 8 ft.lbf (10 Nm).

Procedure complete.

SERVICE INFORMATION:

Service Bulletins are issued to supplement or supersede information in the Van Hool manuals. Note Service Bulletin number, date and subject on the register at the end of the relevant chapter(s). File Service Bulletin separately for future reference.

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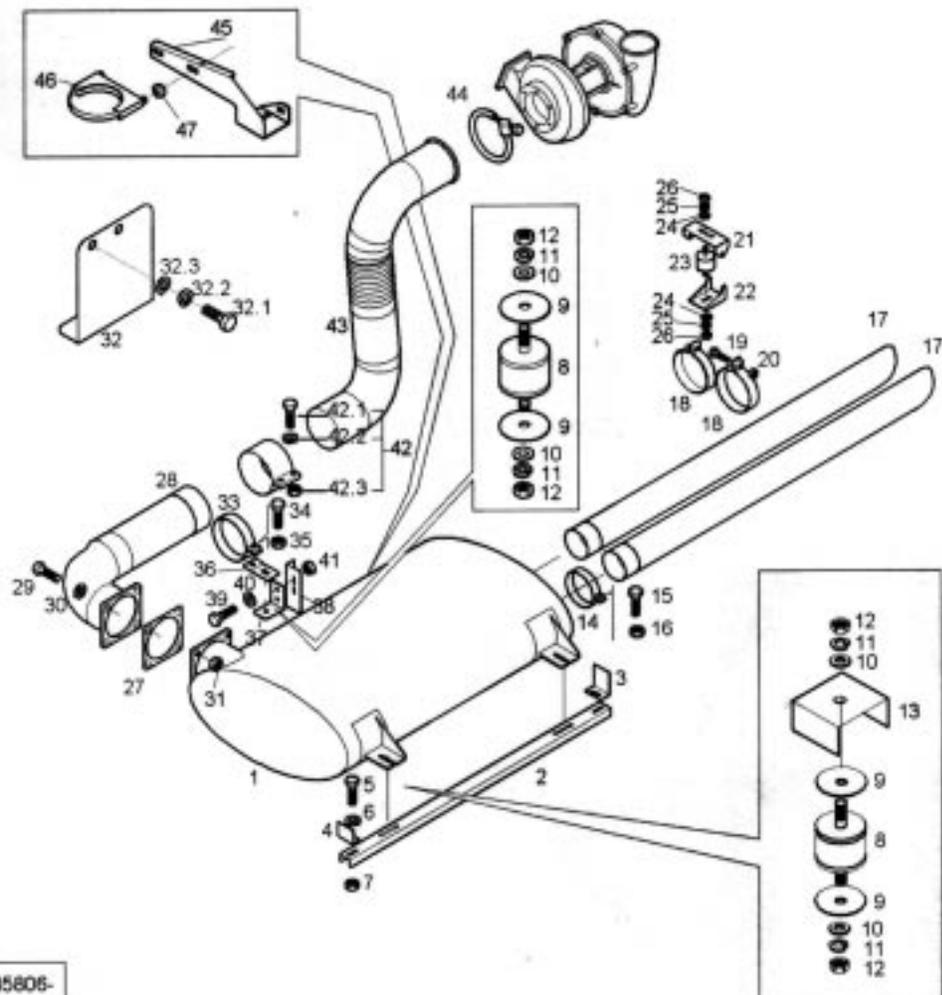
Pos.	Q.	Ref.N°	Description	Denominación	Spec.
1	1	10654954	Silencer	Silenciador	
2	1	10654940	Bracket	Soporte	
3	1	10654951	Bracket	Soporte	
4	1	10654949	Bracket	Soporte	
5	4	660222503	Screw	Tomillo	DIN 933 M8x30
6	4	660625812	Plain washer	Arandela plana	DIN 7349 A8,4x21x4
7	4	660207107	Lock nut	Tuerca de frenado	DIN 980 M8x1,25 K=8
8	6	10569442	Silentbloc	Silentbloc	
9	12	621202030	Ring	Anillo	50x10x2 MAT:P
10	12	660627920	Plain washer	Arandela plana	DIN 125 A10,5x21x2
11	12	660636500	Lock washer	Arandela elástica	DIN 127 A10
12	12	660203301	Nut	Tuerca	DIN 934 M10x1,50
13	5	10572675	Protection shield	Pantalla protectora	MAT:IN
14	2	621202730	Clamp	Abrazadera	
15	2	660224503	Screw	Tomillo	DIN 933 M10x30
16	2	660207106	Lock nut	Tuerca de frenado	DIN 980 M10x1,50 K=8
17	2	10654947	Exhaust pipe	Tubo de escape	
18	2	637101720	Clamp	Abrazadera	DIN 71555 Ø89,5
19	2	660224503	Screw	Tomillo	DIN 933 M10x30



Exhaust piping
Tubería de escape

Detroit Diesel
2001-10-23

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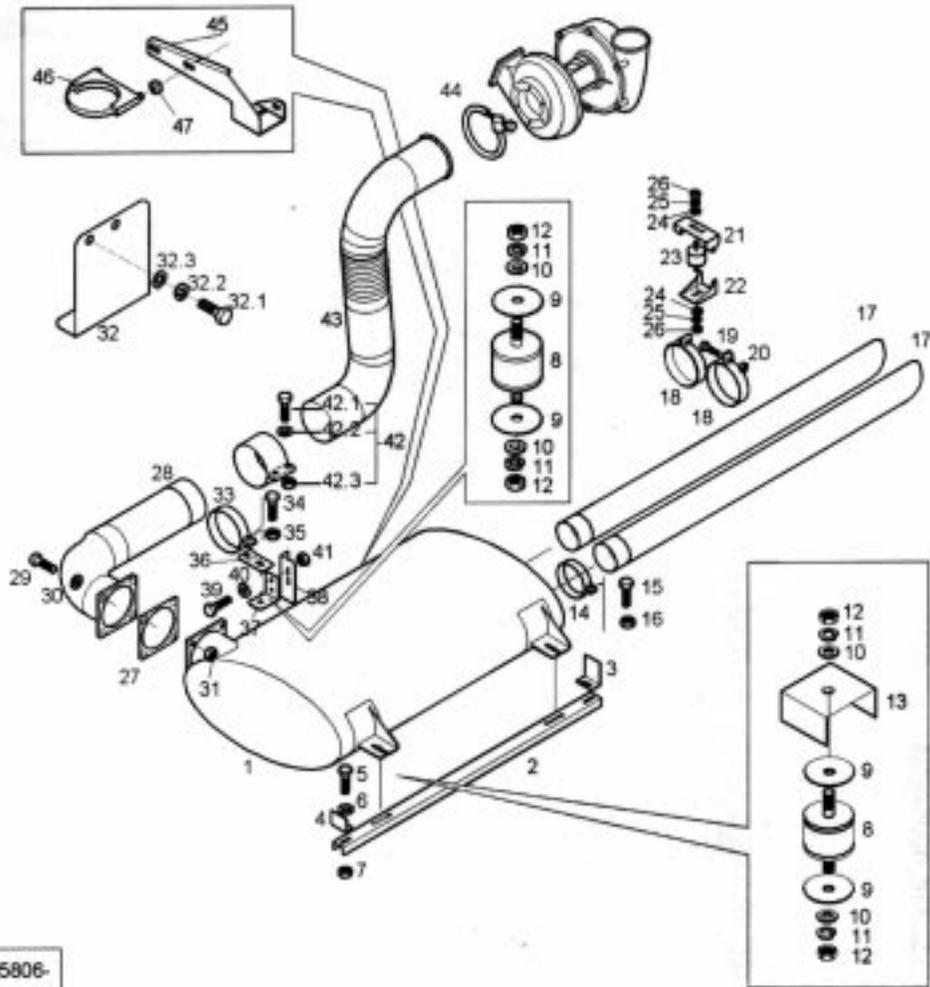
VIN: 45806-

Pos.	Q.	Ref.N°	Description	Denominación	Spec.
20	2	660203301	Nut	Tuerca	DIN 934 M10x1,50
21	1	10704965	Bracket	Soporte	
22	1	10704966	Bracket	Soporte	
23	1	631200990	Silentbloc	Silentbloc	
24	2	660636500	Lock washer	Arandela elástica	DIN 127 A10
25	2	660627920	Plain washer	Arandela plana	DIN 125 A10,5x21x2
26	2	660203301	Nut	Tuerca	DIN 934 M10x1,50
27	1	10572737	Packing	Empaquetadura	
28	1	10703543	Exhaust pipe	Tubo de escape	
29	4	660226901	Screw	Tomillo	DIN 933 M12x50
30	4	660629100	Plain washer	Arandela plana	DIN 125 A13
31	4	660207406	Lock nut	Tuerca de frenado	DIN 980 M12x1,75
32	1	10726006	Protection shield	Pantalla protectora	
32.1	2	660228401	Screw	Tomillo	DIN 933 M16x30
32.2	2	660636800	Lock washer	Arandela elástica	DIN 127 A16
32.3	2	660630992	Plain washer	Arandela plana	DIN 125 A17
33	1	10611499	Clamp	Abrazadera	Ø128
34	1	660226706	Screw	Tomillo	DIN 933 M12x40
35	1	660207406	Lock nut	Tuerca de frenado	DIN 980 M12x1,75

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VIN: 45806-

Pos.	Q.	Ref.N°	Description	Denominación	Spec.
36	1	10705104	Bracket	Soporte	
37	1	10705105	Bracket	Soporte	
38	1	10704968	Bracket	Soporte	
39	2	660224401	Screw	Tornillo	DIN 933 M10x25
40	2	660627920	Plain washer	Arandela plana	DIN 125 A10,5x21x2
41	2	660207106	Lock nut	Tuerca de frenado	DIN 980 M10x1,50 K=8
42	1	10657119	Clamp	Abrazadera	
42.1	*2	660226706	Screw	Tornillo	DIN 933 M12x40
42.2	*2	660629100	Plain washer	Arandela plana	DIN 125 A13
42.3	*2	660207406	Lock nut	Tuerca de frenado	DIN 980 M12x1,75
43	1	10748897	Exhaust pipe	Tubo de escape	
44	1	10577112	Clamping ring	Anillo de apriete	
45	1	10748694	Bracket	Soporte	
46	1	10749062	Clamp	Abrazadera	
47	2	10748887	Spacer ring	Anillo separador	



Exhaust piping
Tubería de escape

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