1981 Corvette: Service Bulletin: Poor Engine Performance, Catalytic Converter Repair

Subject: POOR ENGINE PERFORMANCE CATALYTIC CONVERTER REPAIR
Model and Year: 1981 Corvette
Source: Chevrolet Dealer Service Bulletin
Bulletin Number: 82-T-144

This bulletin supersedes bulletin 81-T-76, 81-T-76 Supplement and 82-T-58.

A new repair procedure has been developed for servicing dual bed bead catalytic converters. The procedure consist of transferring the catalyst beads from plugged or externally damaged (not internally damaged or expanded) dual bed converters to an empty new design dual bed bead converter. Also, some new upper bed catalyst beads must be added to the upper bed of the new converter.

Used beads from expanded or internally damaged converters cannot be used in the new empty converter. Either "stored" upper and lower bed beads or upper and lower bed bead its must be used in conjunction with the rebuild kit.

Subject vehicles that had the original dual bed converter replace with a single bed converter or 1982 vehicles produced with the single bed converter (built after April 17, 1982) must be service with another single bed converter of the same part number.

Vehicles involved in this program are listed below:

Carline Engines

1981 Model Year

Chevrolet ("B"), Camaro, Malibu, Monte Carlo, and El Camino 3.8L (229), 4.4L, 5.0L Chevrolet ("B"), Camaro, Corvette and Malibu 5.7L

1982 Model Year Chevrolet ("B"), Malibu, Monte Carlo and El Camino 3.8L (229), 4.4L, 5.0L

Chevrolet ("B") 5.7L Camaro 5.0L (LG4)

Inspection Procedure

1. Raise vehicle on hoist.

2. Refer to Figure 1 for location of catalytic converter part number.

3. If converter part number is in Column 1 of table below, replace converter with the appropriate converter part number identified in Column 2.

Column 1 Column 2 Original Dual New Dual Bed Model Year Vehicle Bed Bead Conv. Bead Conv.

1981 "A", "Aspl", and "B" (including Police) 1982 "B", "G" and 8999586 "Gspl" (including Police) 25056366 (1982 Police) 25056673

1981 "F" (non-Z28) 8999588 25056674

1981 "F" (Z28) 8999589 25056675

1982 "F" 5.0L (LG4) 8999830 25056676

1981 "Y" 8999338 25056672

4. Vehicles with converter part numbers not identified in Column 1 of the table sill require the same converter part number as removed from the vehicle. Use normal operation number and labor time for the replacement of these converters.

CAUTION:
The catalytic converter beads contain platinum, palladium and/or rhodium. Additionally, the beads may be finely coated with lead compounds, therefore, precautions should be taken to minimize dust generation during the replacement procedure. These precautions include.

A. Pour water into catalytic converter prior to bead removal as described in Step 5.

B. The use of a suitable dust mask, rubber gloves and safety glasses is recommended

when handling catalyst beads.

C. Applicable OSHA standards should be reviewed.

D. Allow catalytic converter to cool before handling.

Listed below are tools required to perform repair procedure:

Description Tool No. Required

Converter Plug Installer J-34118 1

Catalytic Converter Bead Replacement Kit J-34155 1

Replacement Kit includes: Sifting Pan J-34155-1 1 Storage Pan J-34155-2 2 Funnel J-34155-3 1

Service Procedure

1. Disconnect air supply pipe from catalytic converter.

2. Disconnect intermediate pipe from rear of converter.

3. Disconnect hanger bracket from converter, except Corvette.

4. On Corvettes, remove nuts and bolts and remove converter. All other models, remove front exhaust clamp then remove converter.

5. Stand old converter upright on inlet end and pour two (2) 8 ounce cups of water into outlet end to control catalyst dust.

6. Using hammer and chisel, remove upper bed fill hole plug (see Figure 1 for description of upper and lower beds) from old converter by driving chisel between the converter shell and rim of fill plug. Deform fill plug until it can be removed with pliers.

7. Hold converter over a clean pan (J-34155-2) and empty catalyst beads by shaking and tapping converter belt flange (Figure 1) with rubber mallet.

NOTICE: If upper bed is void or near void (a cup or less) of catalyst beads, the

converter is considered damaged (internally) or expanded. Catalyst beads found in internally damaged or expanded converters are not to be used in new converters. These beads can be returned via exchange program described in WDDGM Bulletin IB No. 80-93.

8. Pour upper bed beads into sifting pan J-34155-1. Sift out broken beads (smaller than half size) into a clean box. Pour sifted beads (half size and larger) into the other pan J-34155-2. Set sifted beads aside for now.

NOTICE: Unusable beads and dust can be returned via exchange program described in WDDGM Bulletin IB No. 80-93.

9. Prop new converter up at a 45 0 angle with upper bed fill hole at top. (See Figure 1 for a description of upper and lower beds.) Tap funnel J-34155-3 into converter fill hole with hammer (Figure 2).

10. Install packet of new upper bed beads from kit, P/N 25056590, into upper bed of the new converter.

11. Pour sifted upper bed beads (ref. Step 8) or new upper bed beads if required into upper bed of new converter. Tap belt flange of converter with rubber mallet to allow beads to settle. Continue filling and tapping until converter is full. See Figure 3 for definition of full upper bed.

If upper bed is full, proceed to Step 12. If upper bed is not full, use leftover upper bed catalyst beads from involved dual bed converters to fill upper bed. If there are not enough used upper bed beads, obtain upper bed bead kit, P/N 25056680 (zone approval is required to obtain this kit), and continue to fill upper bed until full.

NOTICE: Used upper bed beads (from non-damaged or expanded converters) can be mixed with new upper bed beads. DO NOT MIX UPPER AND LOWER BEADS. Also, do not mix any other catalyst beads from converters other than converters involved in this bulletin. Store unused upper bed beads in a clean container marked "upper bed".

12. Lay converter down on a flat surface with upper bed on top.

13. Insert fill plug, P/N 8998202 (provided in kit, P/N 25056590), into upper bed fill hole. If outer rim of the fill plug doesn’t fit flat against converter shell, remove enough

beads so it does.

14. With fill plug in fill hole, insert tool J-34118 into fill plug (Figure 4). Tighten tool to 35 lbs. ft. (47 N.m) and make sure plug outer rim is flat and tight against converter shell. Set new converter aside.

15. Remove lower bed fill hole plug from old converter using procedure described in Step 6.

16. Hold converter over a clean pan (J-34155-2) and empty catalyst beads by shaking and tapping converter belt flange (Figure 1) with rubber mallet.

17. Sift lower bed beads using procedure described in Step 8.

18. Prop new converter up at a 450 angle with lower bed fill hole at top. (See Figure 1 for definition of upper and lower beds.) Tap funnel J-34155-3 into converter fill hole with hammer (Figure 2).

19. Pour sifted lower bed beads (ref. Step 17) or new lower bed beads if required, into new converter lower bed. Tap belt flange with rubber mallet to allow beads to settle. Continue filling and tapping until converter is full (ref. Figure 3).

If lower bed is not full, use leftover lower bed catalyst beads saved from involved dual bed converters to fill lower bed. If there are not enough used lower bed beads, obtain lower bed bead service kit, P N 25056682 (zone approval is required to obtain this kit), and continue filling the lower bed until full.

NOTICE: The leftover lower bed beads can be saved for future use. Store them in a clean container marked "lower bed". DO NOT MIX UPPER AND LOWER BEADS. Also, do not mix any other catalyst beads from converters other than converters involved in this bulletin.

20. Lay converter down on flat surface with lower bed on top and install fill plug using procedure described in Steps 13 and 14.

21. Reverse removal procedure for installation of new converter. Refer to appropriate service manual for installation torque.

22. Lower vehicle.

Labor Operation Number: T0117

Labor Time : .9 hours

PARTS LIST

Number Required Per Description P/N Carline Vehicle

Upper bed rebuilt kit 25056590 All 1 (contains 300 grams of upper bed catalyst, 2 fill hole plugs and instruction sheet)

*Upper bed bead kit 25056680 All As required (contains 700 grams of catalyst beads, no fill plugs or instruction sheet)

*Lower bed bead kit 25056682 All As required (contains 1,000 grams of catalyst beads, no fill hole plugs or instruction sheet)

Clamp, catalytic converter air injection pipe 22505116 "A","B" 1 "G"

Bolt (pipe to rear converter) 11502877 "A","B" "F","G" 2

Bolt (hanger to converter) 11504596 1981 "A", "B",1982 "B","F", "G" 2

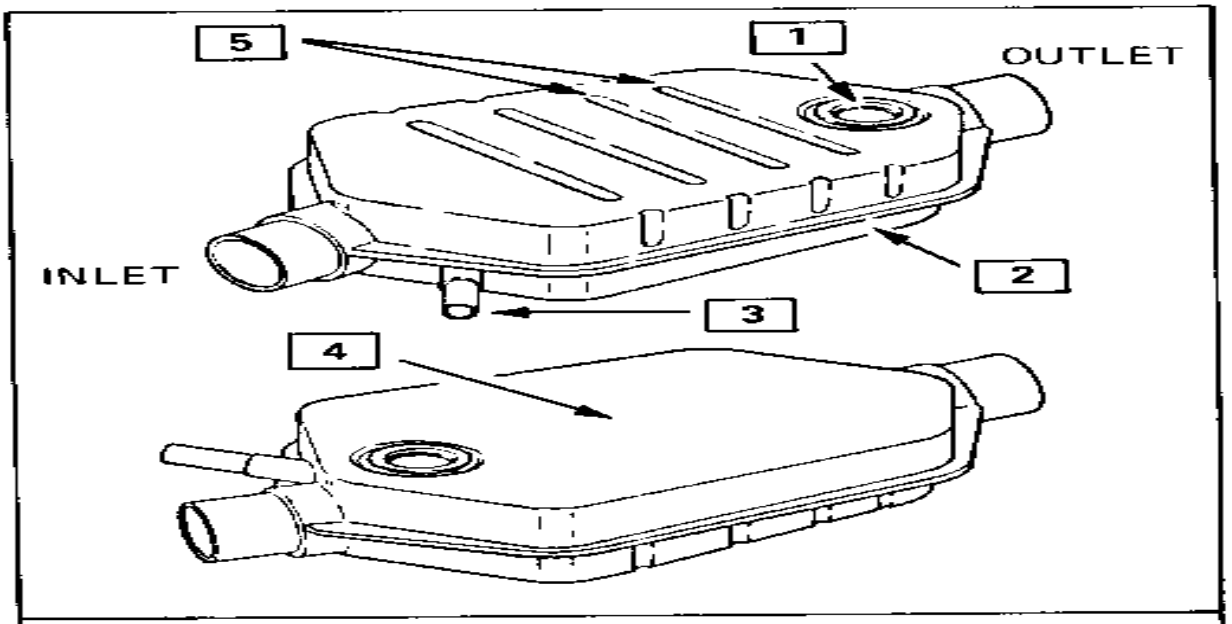
Bolt (hanger to converter) 9424320 1981 "F" 2

Nut (pipe to converter - "Y") 9414034 1981 "F", (hanger to converter - "F") "Y" 2 "F", 8 "Y"

Washer (hanger to converter - "F") 9439512 1981 "F" (pipe to converter - "Y" 2 "F" 8 "Y" Bolt (pipe to converter) 9439636 1981 "Y" 8

Clamp, exhaust (2 1/4") 1259609 "A", "B" "F", "G" 1 Fill hole plug 8998202 As Required

* Requires zone approval



1—PART NUMBER STAMPED ON UNDERSIDE OF FLANGE NEAR OUTLET
2—BELT FLANGE
3—CONVERTER A.I.R. PIPE INLET
4—LOWER BED IS SMOOTH
5—UPPER BED HAS GROOVES

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Figure 1

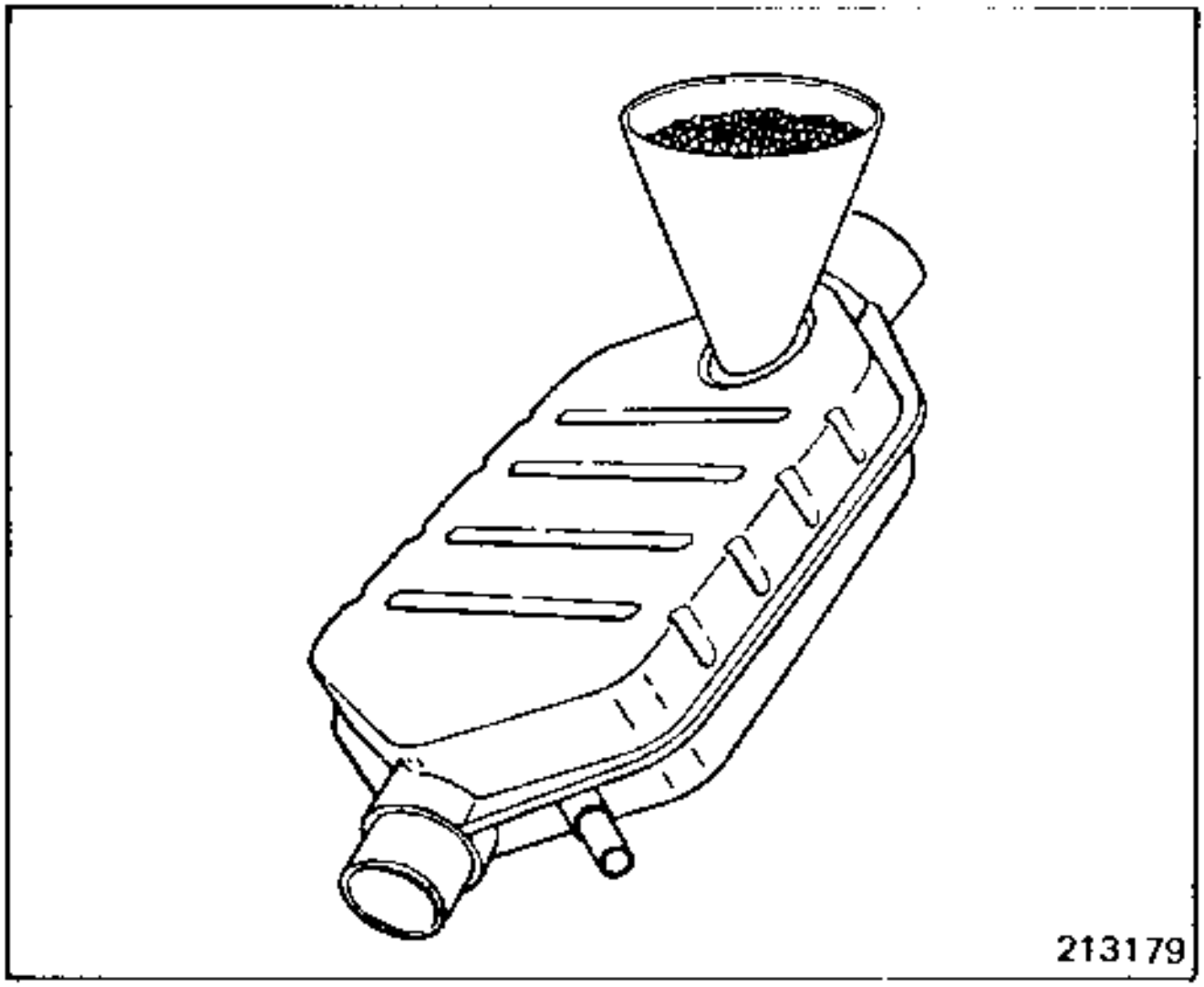

Figure 2

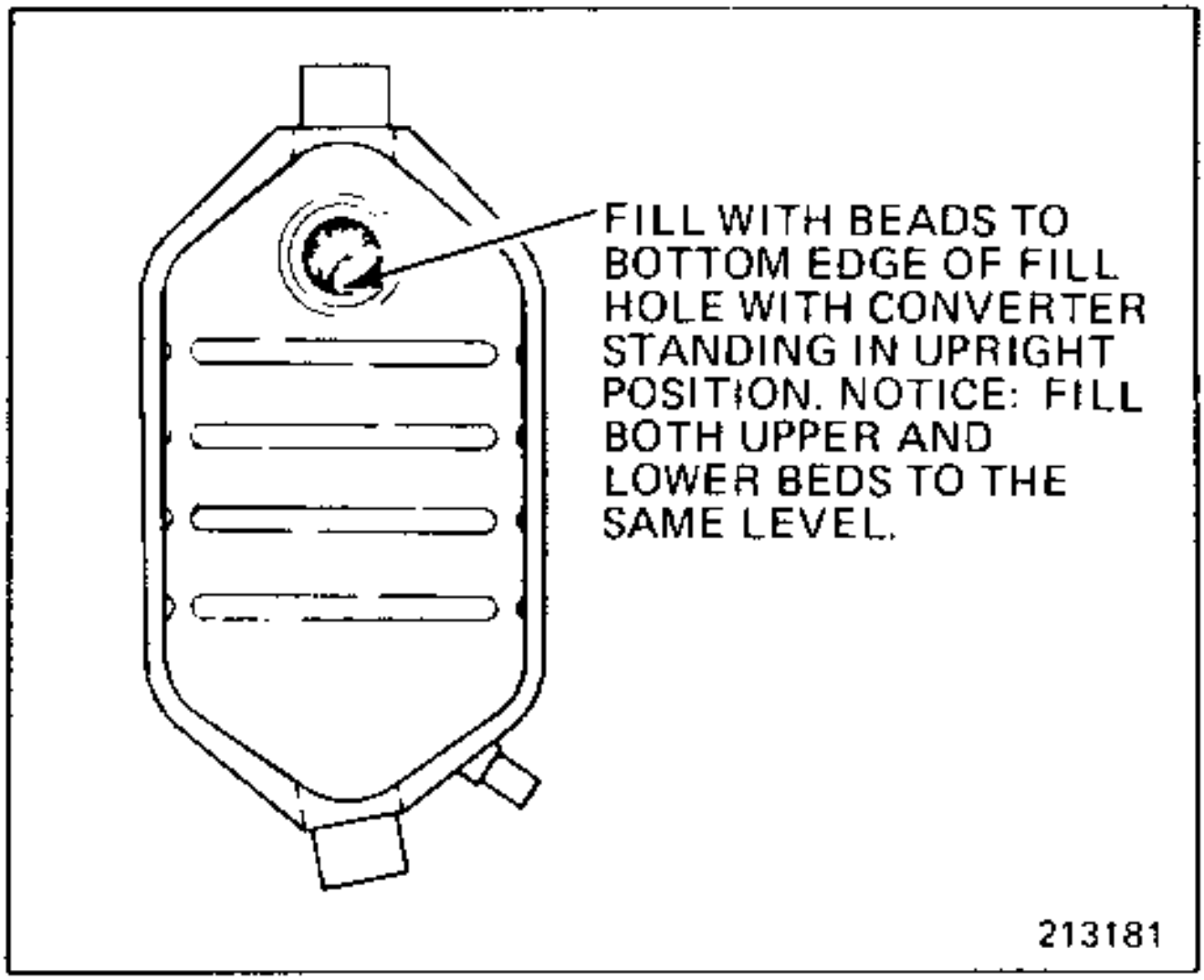
FILL WITH BEADS TO BOTTOM EDGE OF FILL HOLE WITH CONVERTER STANDING IN UPRIGHT POSITION. NOTICE: FILL BOTH UPPER AND LOWER BEDS TO THE SAME LEVEL.
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Figure 3

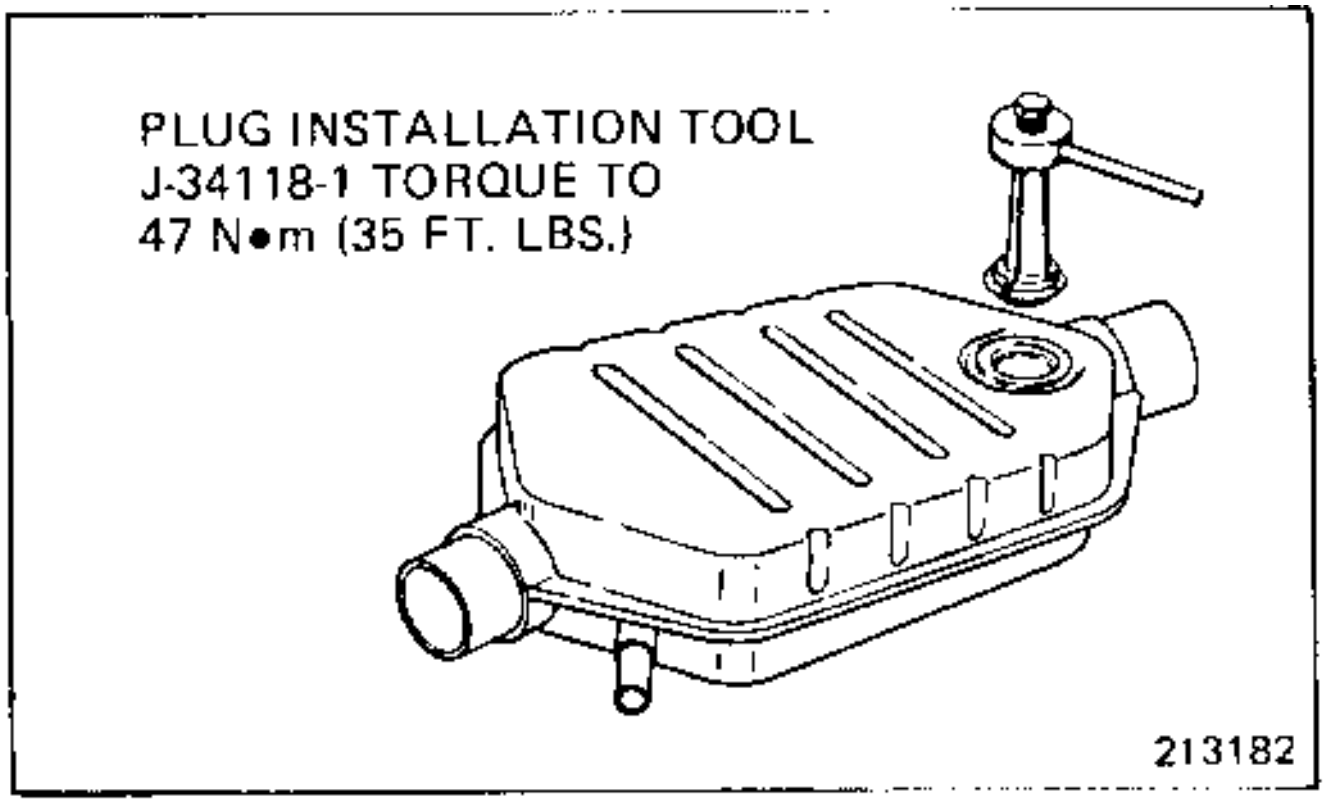

Figure 4