Exhaust System–Emission Controls

Quick Data

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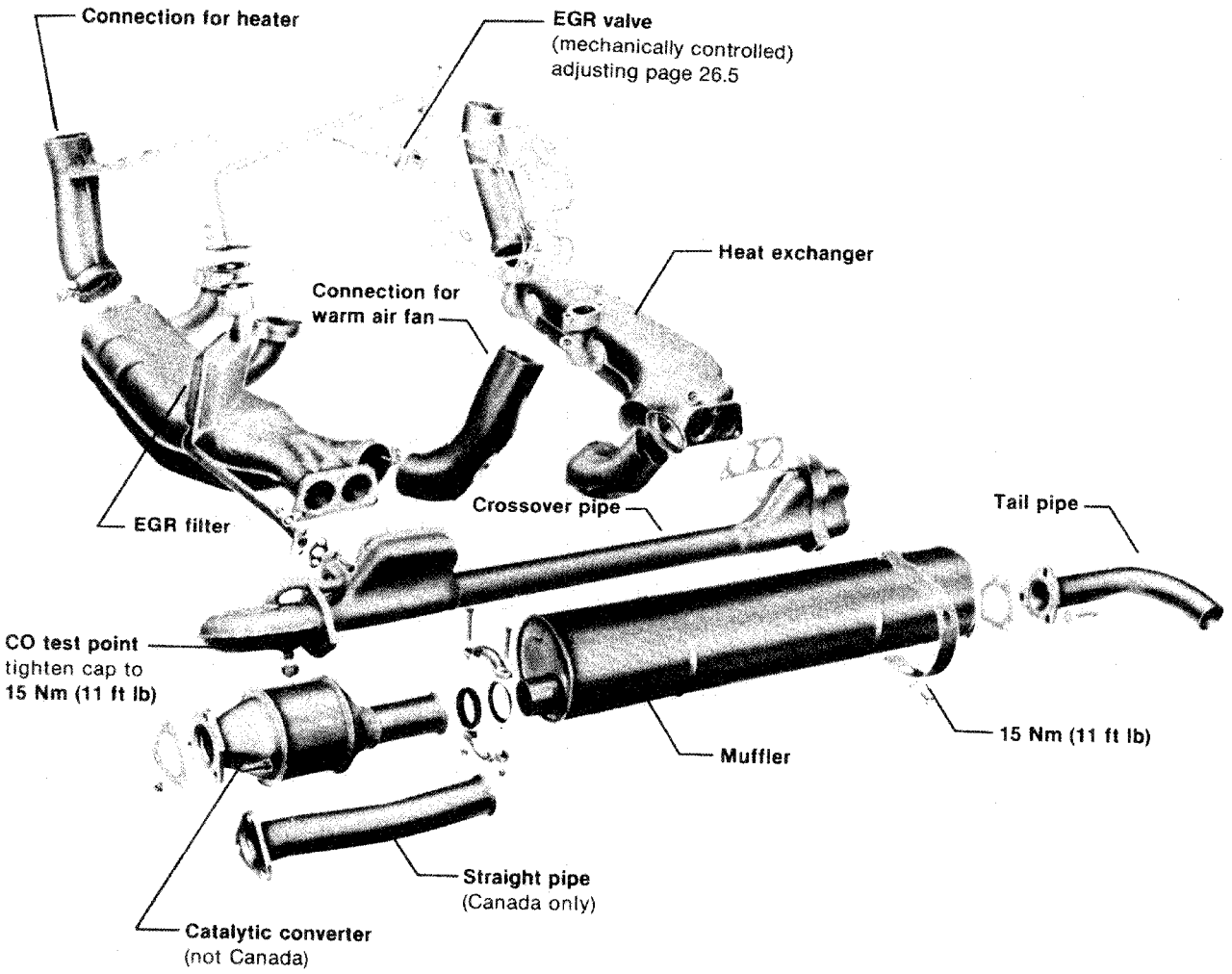
Note

Always replace gaskets, seals and self-locking nuts. Tighten all M8 bolts and nuts to **20 Nm (14 ft lb)**

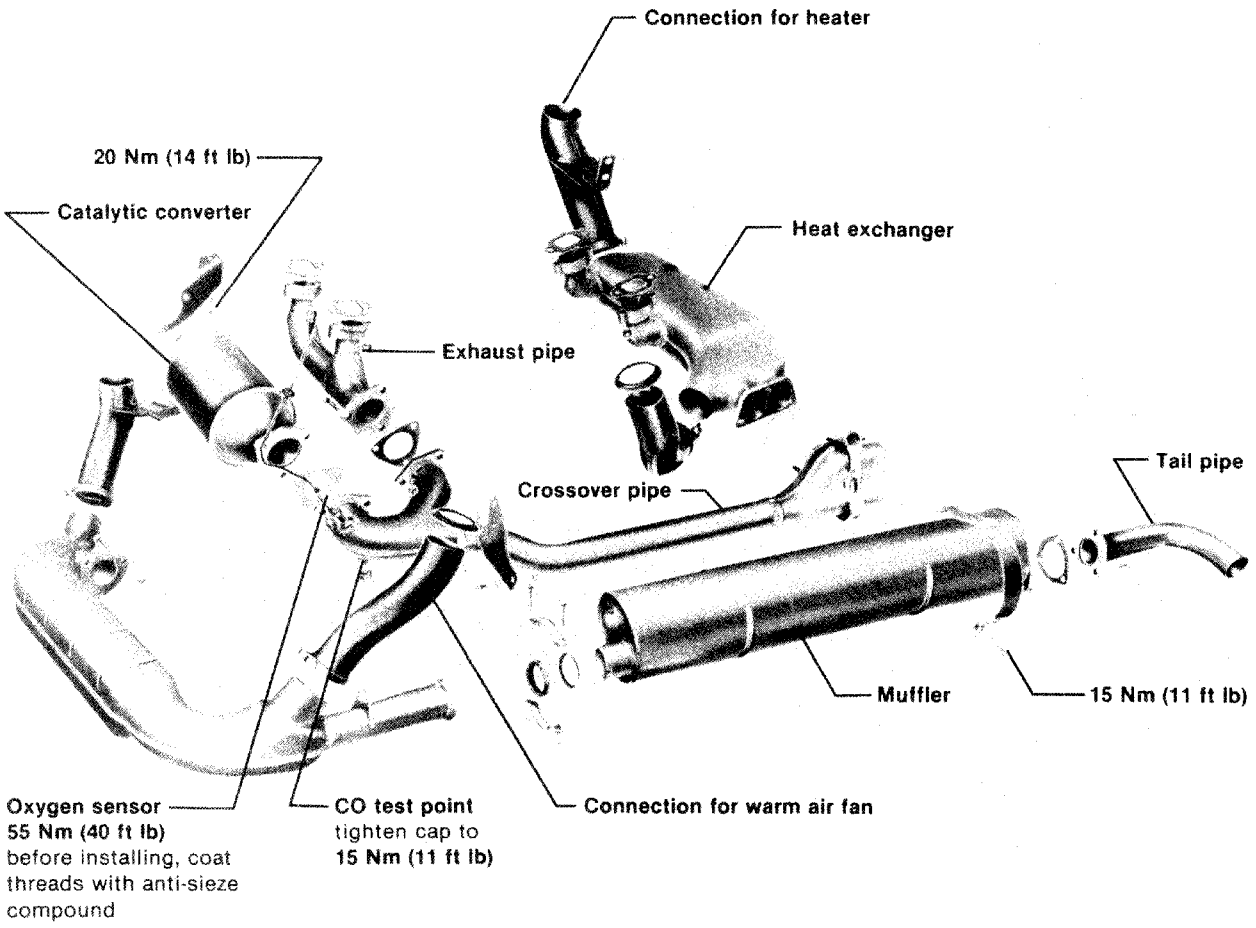


26.2 Exhaust system

Air-cooled AFC | **CAN/USA, not Calif**

Note

Always replace gaskets, seals and self-locking nuts. Tighten all M8 bolts to **20 Nm (14 ft lb)**



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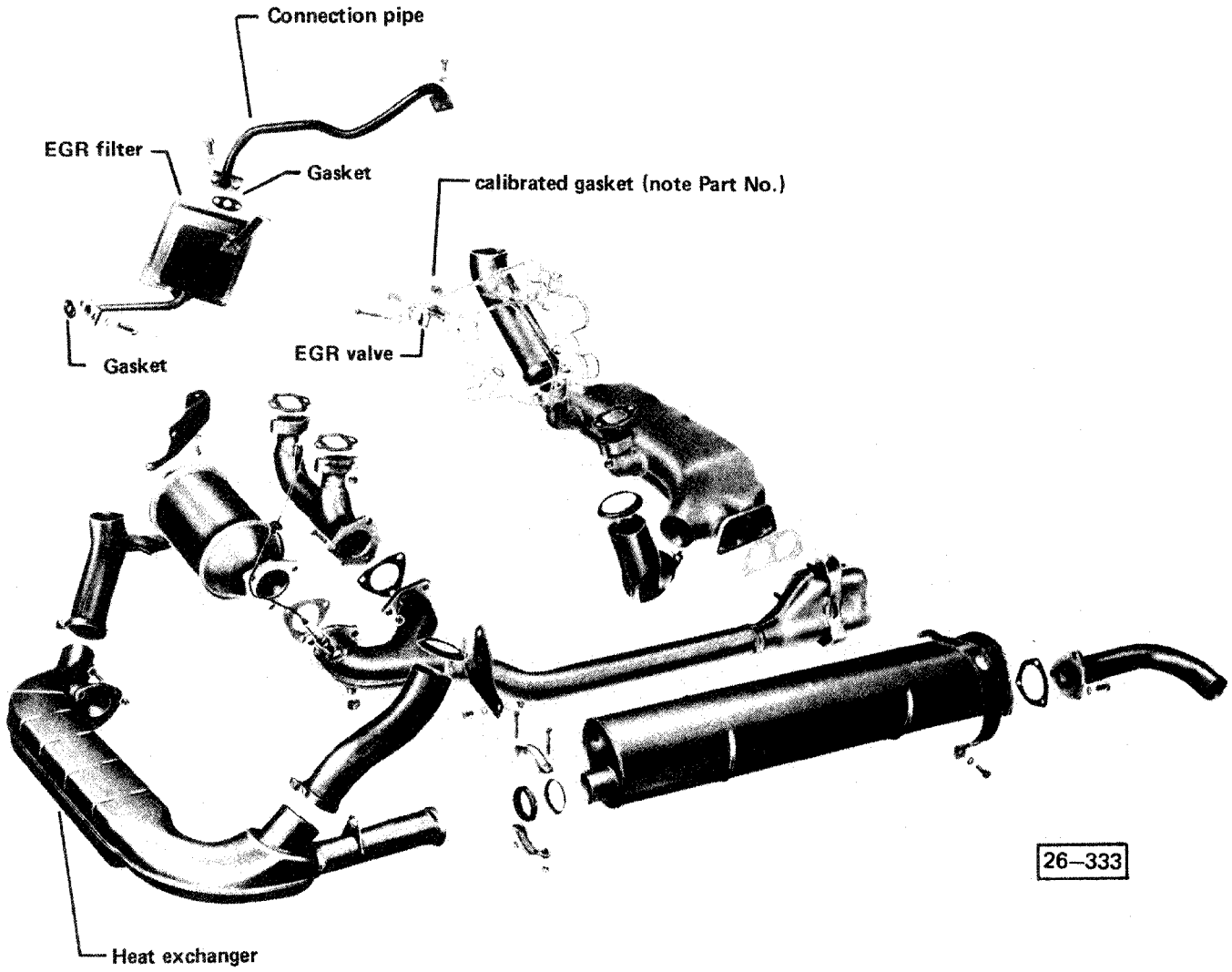
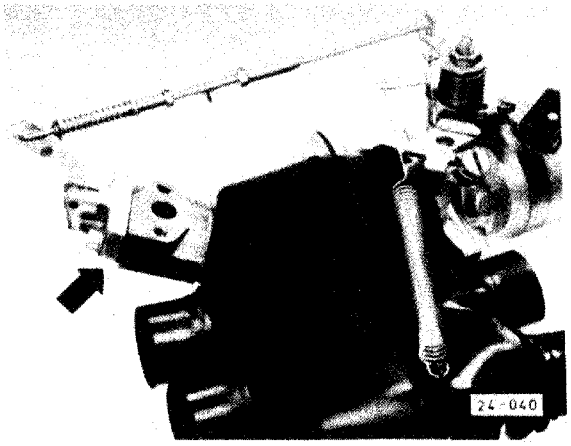
Modified and additional parts – EGR system (California 1981)



EGR valve, checking

Work sequence



Note

EGR valve (arrow) is operated mechanically by throttle valve lever

Checking in idle speed position

— run engine at idle
— check pipe to EGR valve
  • pipe should **not** warm up

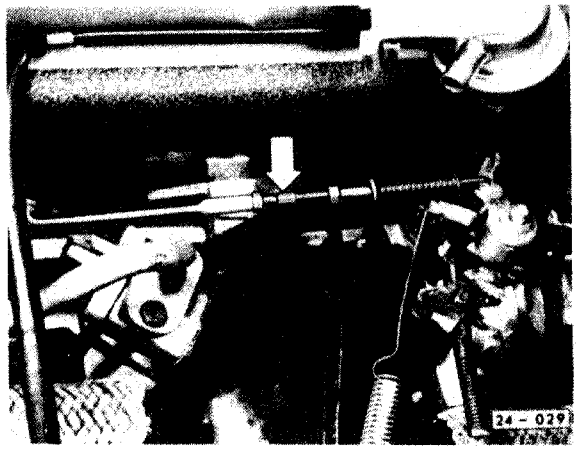
Checking in full throttle position

— disconnect rod for EGR valve
— run engine at idle
— push lever on EGR valve to full throttle position
— check pipe to EGR valve
  • pipe should **not** warm up

ERG valve, adjusting

Work sequence

— run engine at idle
  • manual transmission: 800–950 RPM
  • automatic transmission: 850–1000 RPM



— shorten rod by turning hex (arrow) until idle speed drops suddenly (valve opens)
— turn rod in opposite direction
  • manual transmission 1 1/16 turns
  • automatic transmission 5/6 turns

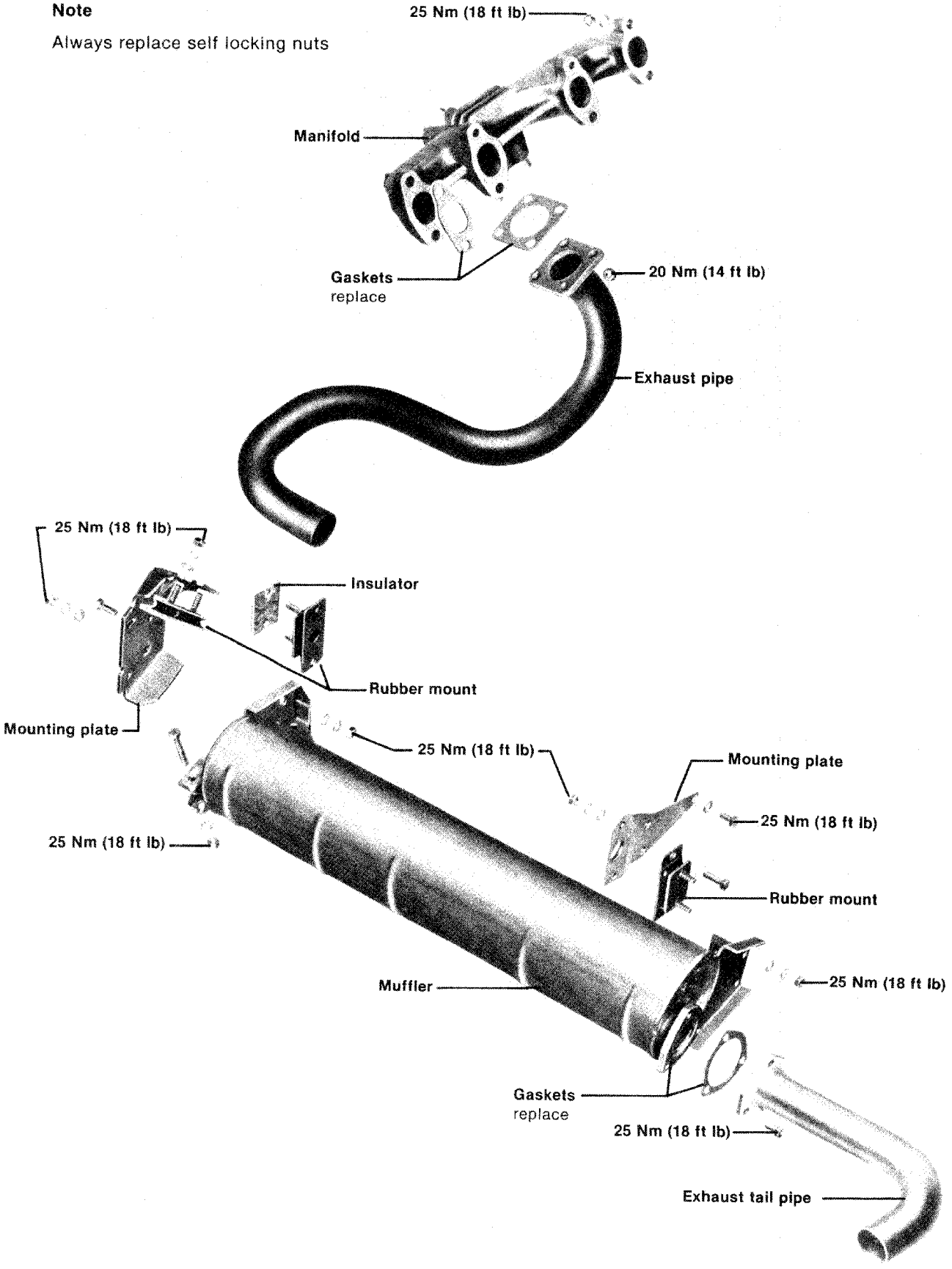
Note

Use pin in hex as reference mark when adjusting

— tighten lock nuts

Note

Always replace self locking nuts



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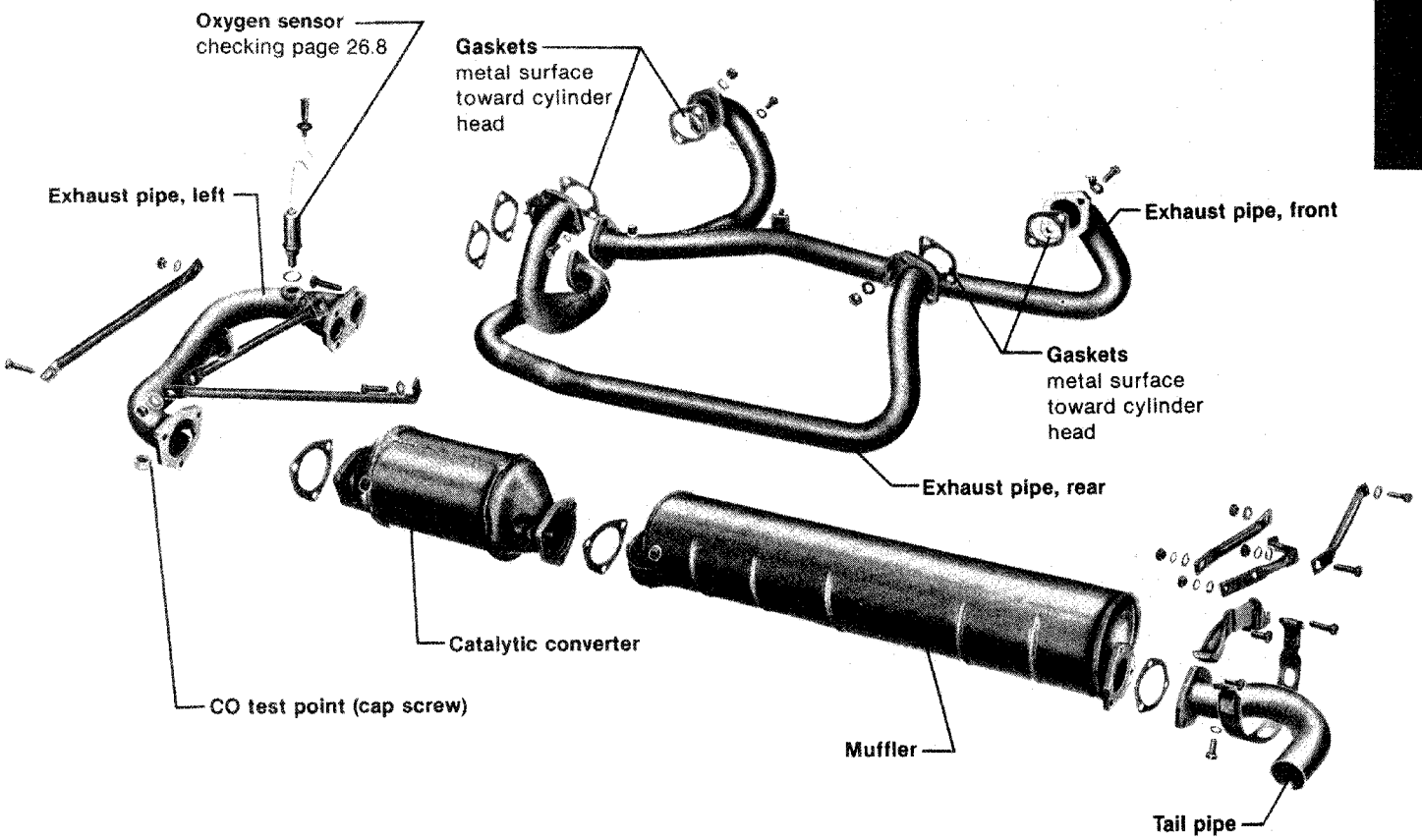
Note

Always replace gaskets, seals and self-locking nuts. Tighten all M8 bolts to **20 Nm (14 ft lb)**



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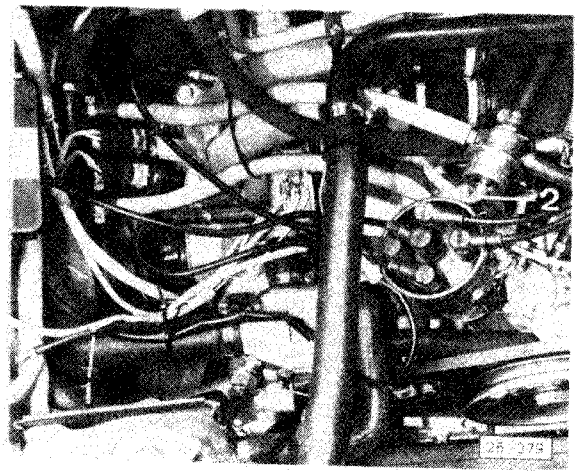
Oxygen sensor, checking

Preliminary condition:

- engine oil temperature at least 60 °C (140 °F)

Work sequence

— connect CO meter to test receptacle on exhaust pipe (left side)

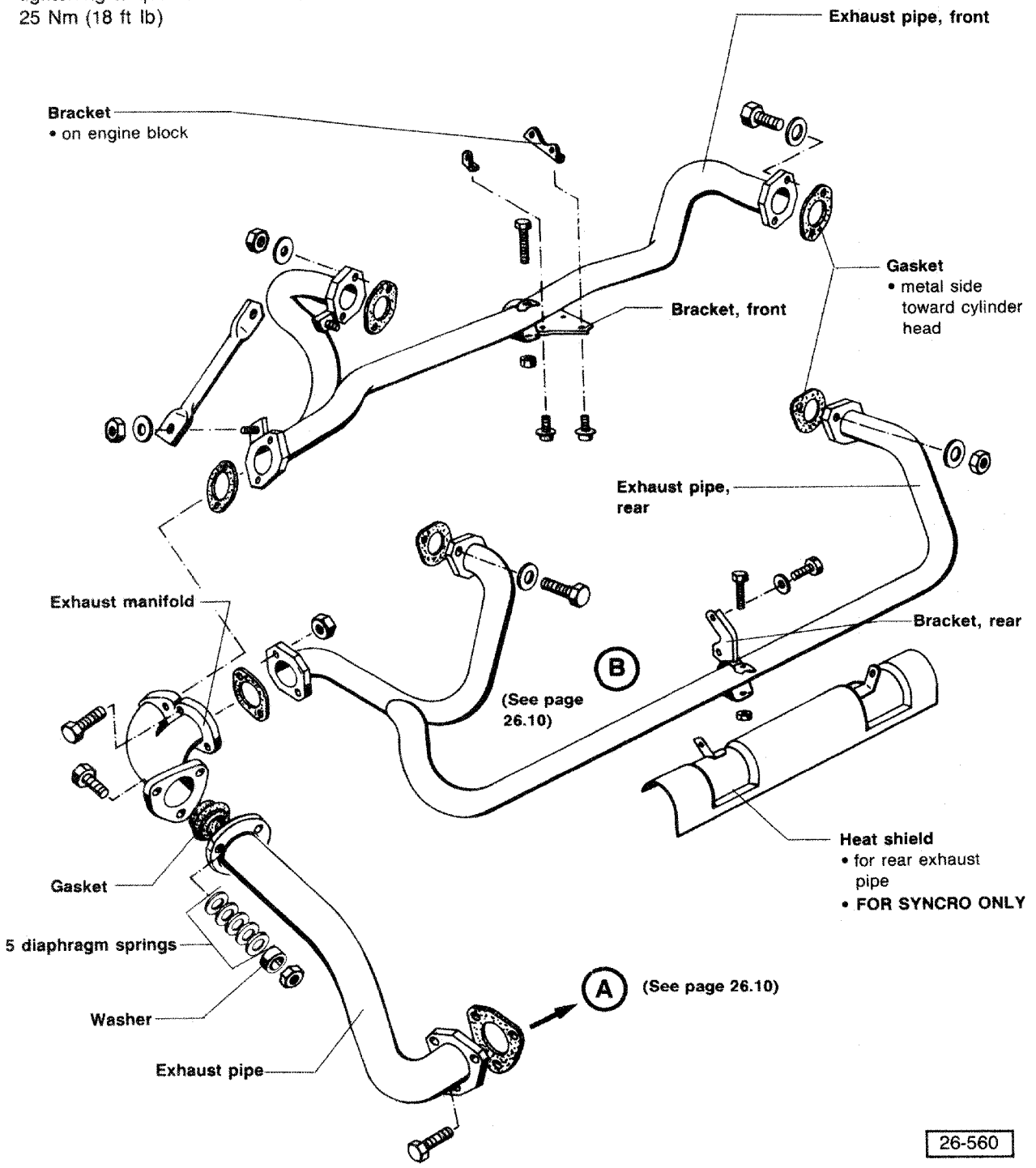


— with ignition turned **OFF**, disconnect connection **1** between oxygen sensor and control unit
— pull off vacuum hose **2** from pressure regulator and block hose
— start engine
  • CO must increase to above 1.5%

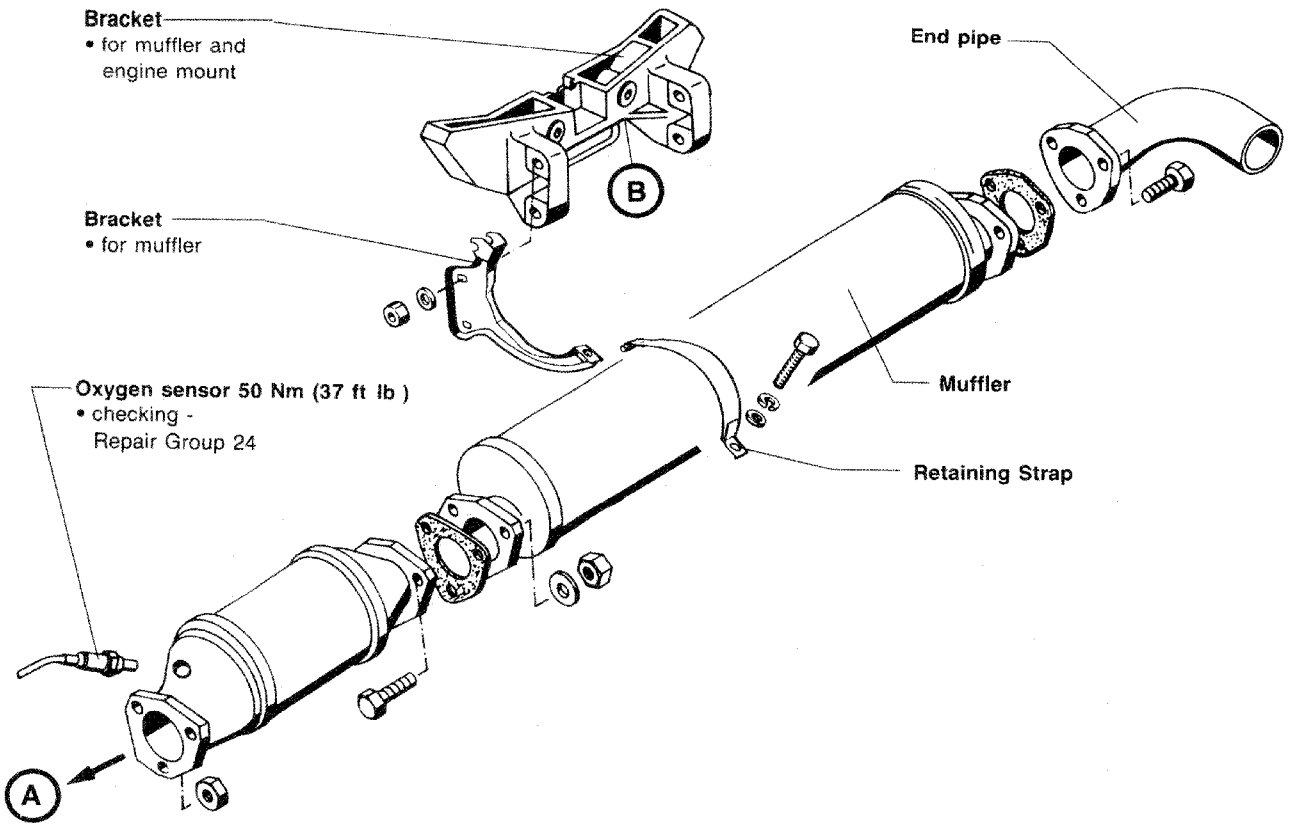
— after about 2 minutes reconnect connection **1**
  • CO must drop to 0.7 ± 0.4%
  if NO, following components may be defective:
  • wire between oxygen sensor and control unit or control unit
— check wiring by disconnecting connection **1** again and ground wire end coming from control unit
  • CO must increase
  if OK, oxygen sensor must be defective or leak in exhaust system between catalytic converter and cylinder head

Exhaust system components, removing and installing

- replace gaskets
- replace self-locking nuts
- tightening torque for screws and nuts: 25 Nm (18 ft lb)



Exhaust system components, removing and installing Continued



Catalytic converter

- replace gaskets
- replace self-locking nuts
- tightening torque for screws and nuts: 25 Nm (18 ft lb)

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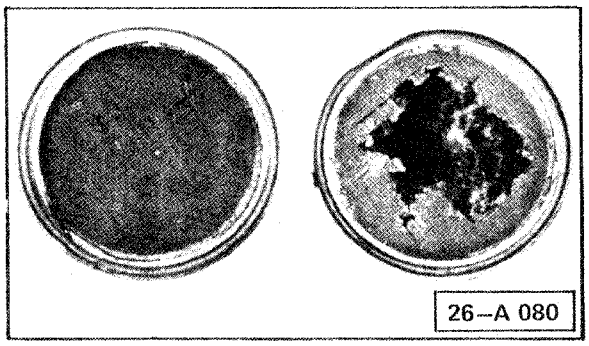
Catalytic converter, checking

Converter replacement can become necessary if the ceramic insert loosens

If exhaust "rattles"
— check that exhaust flanges are tight

If "rattle" was not due to loose exhaust flanges, converter may have failed

If exhaust system is tight
— remove catalytic converter
— look through both flange openings against light



If ceramic insert appears broken or melted as shown, converter has failed

If ceramic insert appears **OK**, check if ceramic insert is firmly seated in converter housing

Check as follows:

— while holding converter vertically, firmly tap flange onto solid wood from a distance of 20 cm (8 in.)

— turn converter over and firmly tap other flange as before

If no knocking sound converter is **OK**

If no movement of the ceramic insert, converter is **OK**

If light knocking sound is heard inside converter, ceramic insert is loose and converter has failed

CAUTION

Avoid the following conditions on vechicles equipped with catalytic converters

- usage of leaded gasoline
- turning off the engine with the vehicle in motion
- excessive prolonged cranking with an intermittent firing of a flooded engine
- prolonged operation under load with a misfiring engine