

Service Procedure

| ACTION | | MODELS | |
|--------|---|---------------------------------------|--|
| | | All Applied Vehicles | Only '97-'98 QX4 (JR50) with Air cooled Oil Cooler |
| 1 | Determine Cooler Inlet and Outlet locations (in radiator). | Use Charts A & B . | |
| 2 | Perform Cooler Cleaning Procedure(s) (in radiator). | Cooler Cleaning (in radiator). | |
| 2a | Perform cleaning of Optional Air Cooled oil cooler . | N/A | Cleaning Optional Air Cooled Oil Cooler . |
| 3 | Perform Diagnosis Procedure (All Vehicles) . | | |
| 4 | Perform Inspection Procedures . | | |

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Workflow

Cooler Inlet And Outlet Locations:

| Model Year | Model | Cooler Inlet | Cooler Outlet * | Outlet Reference |
|----------------|-------|----------------|-----------------|------------------|
| 1990 and later | All | Passenger Side | Driver Side | see Figure 1B |

* **NOTE:** Always flush coolers from the **Cooler Outlet Side** (see Figure 1B for reference).

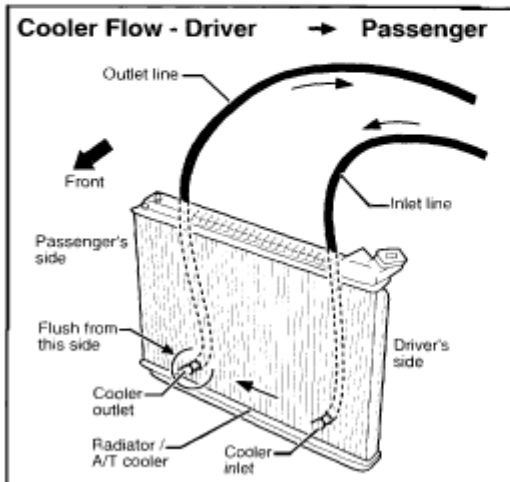


Figure 1A

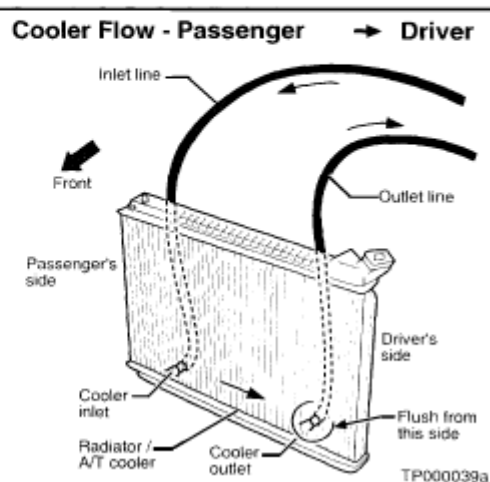


Figure 1B

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Chart A - Front Wheel Drive (FWD) Cooler Inlet/Outlet Identification

| Model Year | Model | Cooler Inlet | Cooler Outlet * | Outlet Reference |
|----------------------|--|-------------------------|----------------------|------------------|
| 1990 and later | All except those listed below | Passenger Side | Driver Side | see Figure 1B |
| 1997 and later | QX4 | Driver Side | Passenger Side | see Figure 1A |
| 2003 and later | FX35 (4WD) | Driver Side | Passenger Side | see Figure 1A |
| 2003 and later | FX35 (2WD) | Passenger Side | Driver Side | see Figure 1B |
| 2003 and later | FX45 (All) | Driver Side | Passenger Side | see Figure 1A |
| 2003 and later | M45 | Driver Side | Passenger Side | see Figure 1A |
| 2002 and later | Q45 (F50) | Driver Side | Passenger Side | see Figure 1A |
| Q45's (G50's) | | | | |
| Year | VIN | Cooler Inlet | Cooler Outlet | Outlet Reference |
| 1990 | All | Bottom | Top | 2A |
| 1991 ** | N/A | N/A | N/A | N/A |
| 1992 ** | VIN Range: JNKNG01C(*)NM200001 to 205387, up to October 1, 1991 Production Date | N/A | N/A | N/A |
| | After VIN JNKNG01C(*)NM205387 | Bottom (Twin Cooler) | Top (Twin Cooler) | 2B |
| 1993 | All | Bottom (Twin Cooler) | Top (Twin Cooler) | 2B |
| 1994-96 *** | N/A | N/A | N/A | N/A |

* **NOTE:** Always flush coolers from the Cooler Outlet Side (see Figures 1A, 1B, 2A, and 2B for reference).

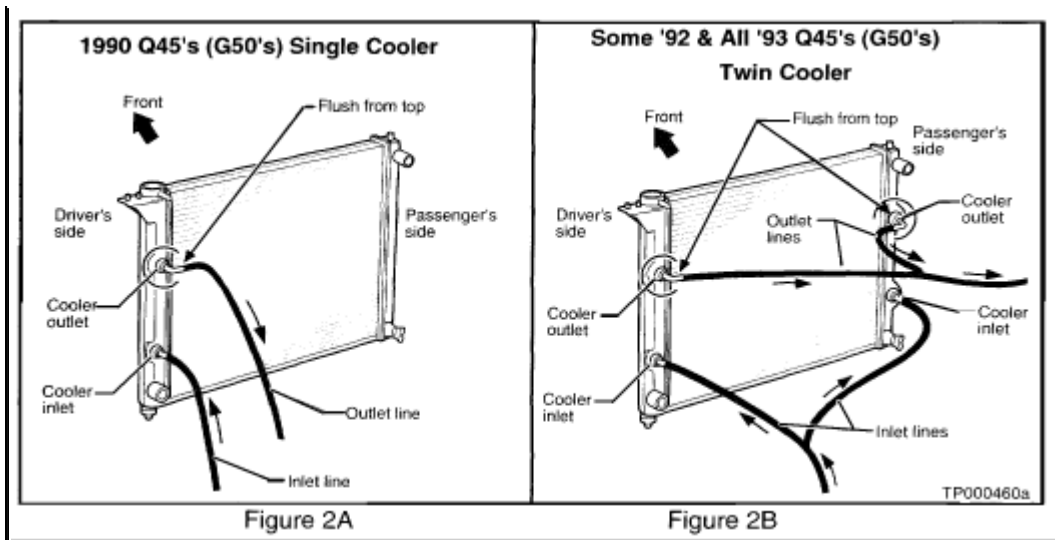
** **NOTE:** All 1991 Q45's/G50's (JNKNG01C(*)MM100051 to 116709) and some 1992 Q45's/G50's (JNKNG01C(*)NM200001 to 205387, up to October 1, 1991 Production Date) which **have been campaigned** under ITB95-025A - Voluntary Service Campaign 1991-92 Automatic Transmission Field Service Action **are equipped with an A/T cooler filter** as a result of this campaign.

- Transmissions equipped with a cooler filter **do not require radiator replacement or cooler cleaning.** See ITB95-025A for further details.
- If the above noted campaign **has not been applied and the filter has not been installed**, refer to ITB95-025A for campaign application.

*** **NOTE:** All 1994-96 Q45's (G50's) were manufactured with the A/T cooler filter installed at the factory. These vehicles **do not require radiator replacement or cooler cleaning.**

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Chart B - Rear Wheel Drive (RWD) Cooler Inlet/Outlet Identification

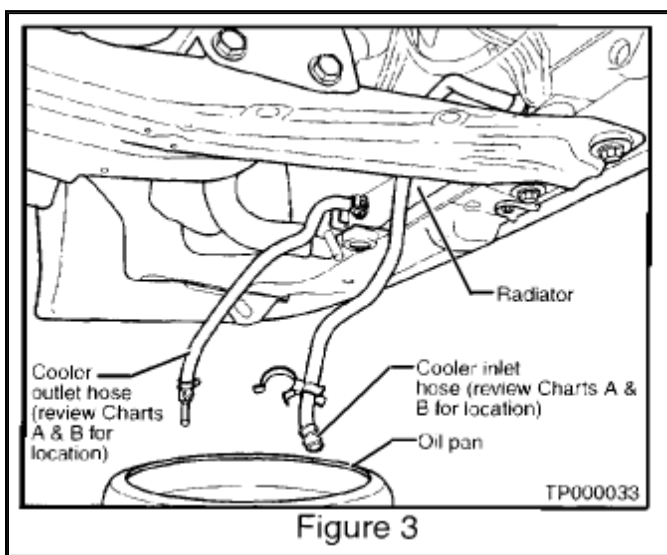
Cooler Cleaning (in radiator) Procedure

CAUTION: You must refer to Charts A and B to determine the location of the Cooler Inlet and Outlet hoses for the vehicle you're working on.

If these hoses are not identified correctly, debris may be left in the cooler and transmission damage may occur.

NOTE: 1992 Q45's/G50's after VIN JNKNG01C(*)NM205387 and ALL 1993 Q45's/G50's are equipped with a twin oil cooler system. You must perform the following Cooler Cleaning (in radiator) Procedure on both coolers.

1. Place an oil drain pan under the automatic transmission's Inlet and Outlet cooler hoses.
2. Identify the Inlet and Outlet oil cooler hoses (refer to Charts A and B).

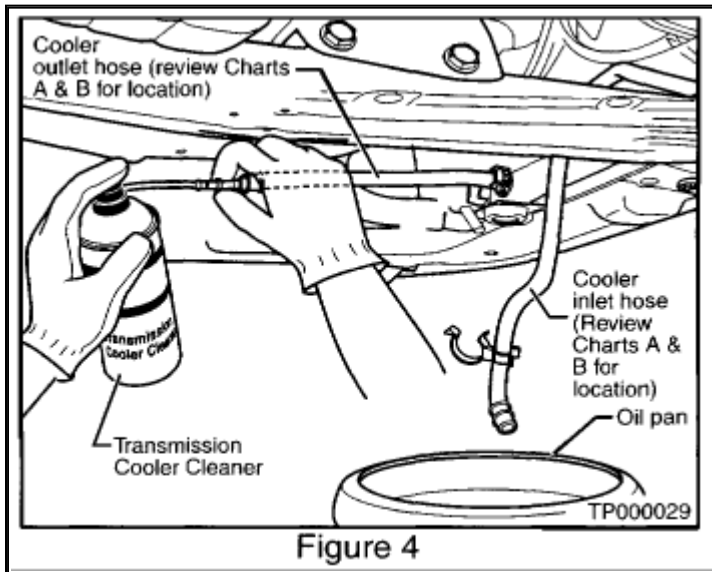


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3. Disconnect the Oil Cooler Inlet and Outlet rubber hoses from the steel cooler tubes (see Figure 3).

NOTE: If rubber material from a cooler hose remains on the tube fitting, replace the hose.

4. Allow any transmission fluid that remains in the Cooler hoses to drain into the oil pan.



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5. Insert the "extension adapter hose" from a can of Transmission Cooler Cleaner (Nissan P/N 999MP-AM006) into the Cooler Outlet hose (see Figure 4).

CAUTION:

- ^ Wear safety glasses and rubber gloves when spraying the Transmission Cooler Cleaner.
- ^ Spray Cooler Cleaner only with adequate ventilation.
- ^ Avoid contact with eyes and skin.
- ^ Do not breath the vapors or mist from spray.

6. Hold the hose and can as high as possible. Spray Transmission Cooler Cleaner in a continuous stream into the Cooler Outlet hose until fluid flows out of the Cooler Inlet hose for 5 seconds.

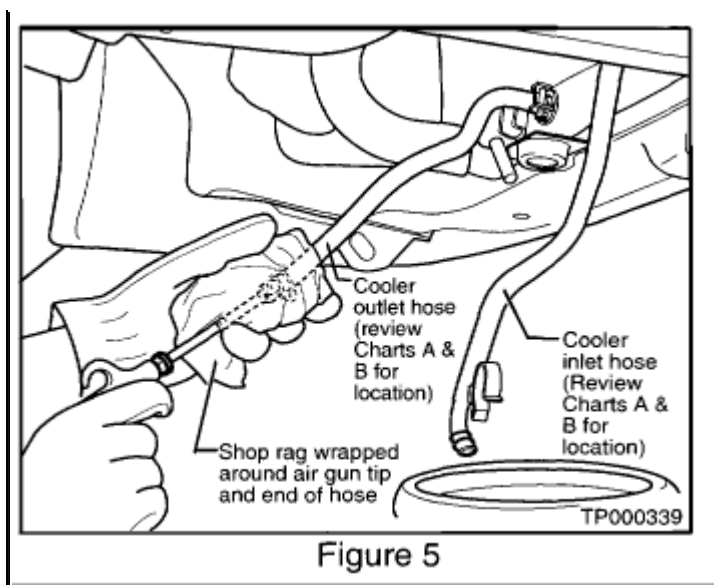


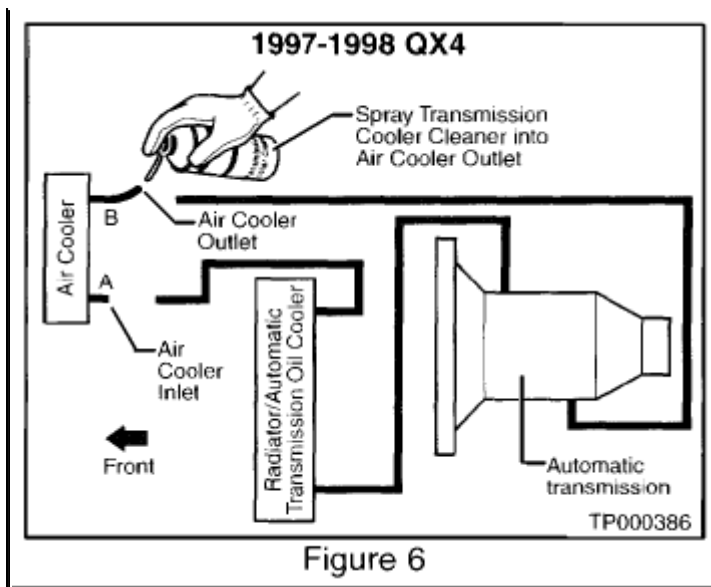
Figure 5

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7. Insert the tip of an air gun into the end of the Cooler Outlet hose (see Figure 5).
8. Wrap a shop rag around the air gun tip and end of the Cooler Outlet hose (see Figure 5).
9. Blow compressed air regulated to 5-9 kg/cm² (70 - 130 PSI) through the Cooler Outlet hose for 10 seconds to force out any remaining fluid.
10. Repeat steps 5 through 9 three additional times.
11. Place an oil drain pan under the banjo bolts that connect the oil cooler steel lines to the transmission.
12. Remove the "banjo" bolts at the transmission, and pull the line fittings away from the transmission.
13. Flush each steel line from the cooler side back toward the transmission by spraying Transmission Cooler Cleaner in a continuous stream for 5 seconds.
14. Blow compressed air regulated to 5-9 kg/cm² (70 - 130 PSI) through each steel line from the cooler side back toward the transmission for 10 seconds to force out any remaining fluid.
15. Ensure all debris is removed from the steel cooler lines.
16. Ensure all debris is removed from the banjo bolts and fittings.
17. Go to the Workflow chart for the next step.

Cleaning Optional Air Cooled Oil-Cooler (1997-98 QX4 (JR50) only)



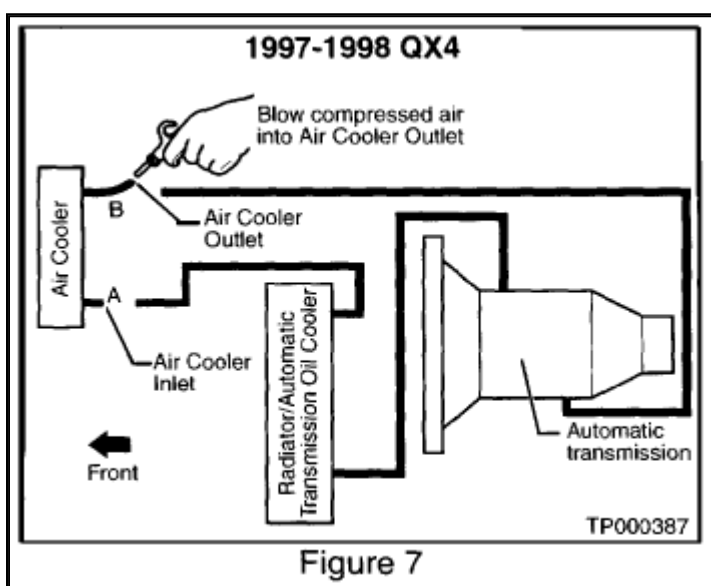
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1. Place an oil drain pan under the A/T Air Cooler Inlet and Outlet hoses (see Points A and B, Figure 6).
2. Disconnect the Air Cooler Inlet and Outlet hoses from the Air Cooler (see Points A and B, Figure 6).
3. Insert the "extension adapter hose" from a can of Transmission Cooler Cleaner (Nissan P/N 999MP-AM006) into the Air Cooler Outlet hose (see Point B, Figure 6).

CAUTION:

- ^ Wear safety glasses and rubber gloves when spraying the Transmission Cooler Cleaner.
- ^ Spray Cooler Cleaner only with adequate ventilation.
- ^ Avoid contact with eyes and skin.
- ^ Do not breathe the vapors or mist from spray.

4. Hold the hose and can as high as possible. Spray Transmission Cooler Cleaner in a continuous stream into the Air Cooler Outlet hose until fluid flows out of the Air Cooler Inlet hose (Point A, Figure 6) for 5 seconds.



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5. Insert the tip of an air gun into the end of the Air Cooler Outlet hose (see Point B, Figure 7).
6. Wrap a shop rag around the air gun tip and end of the Air Cooler Outlet hose.
7. Blow compressed air regulated to 5-9 kg/cm² (70 - 130 PSI) through the Air Cooler Outlet hose to force any remaining ATF and cleaner through the Air/Oil Cooler and out of the Air Cooler Inlet hose (see Point A, Figure 7).
8. Proceed with Diagnosis Procedure (All Vehicles), below.

Diagnosis Procedure (All Vehicles)

You will be taking a sample of the debris to determine if the radiator/oil cooler must be replaced.

CAUTION: You must refer to Charts A and B to determine the location of the Outlet and Inlet hoses for the oil cooler in the radiator of the vehicle you are working on.

If not identified correctly, debris may be left in the in radiator cooler and transmission damage may occur.

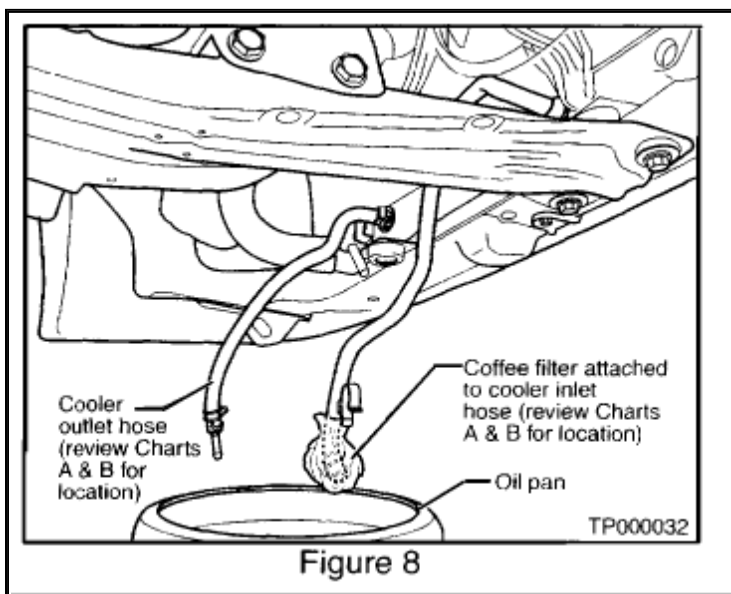
NOTE: Failure to clean the cooler Inlet hose exterior properly may lead to inaccurate debris identification.

NOTE: 1992 Q45's/G50's after VIN JNKNG01C(*)NM205387 and all 1993 Q45's/G50's are equipped with a twin oil cooler system in the radiator. You must perform the "All Vehicles" Diagnosis Procedure on both coolers.

1. Place an oil drain pan under the Inlet and Outlet hoses of the A/T oil cooler in the radiator.
2. Clean the exterior and tip of the Cooler Inlet hose.
3. Insert the extension adapter hose of a can of Transmission Cooler Cleaner (Nissan P/N 999MP-AM006) into the Cooler Outlet hose (see Figure 4).

CAUTION:

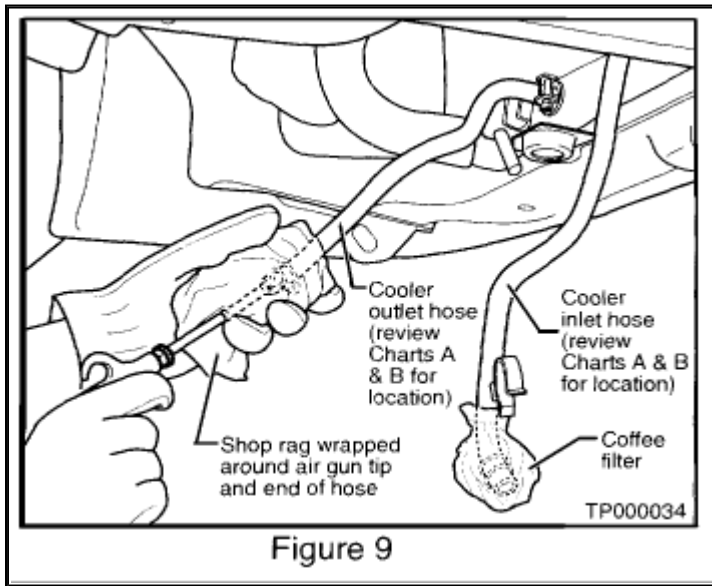
- ^ Wear safety glasses and rubber gloves when spraying the Transmission Cooler Cleaner.
 - ^ Spray Cooler Cleaner only with adequate ventilation.
 - ^ Avoid contact with eyes and skin.
 - ^ Do not breath the vapors or mist from spray.
4. Hold the hose and can as high as possible. Spray Transmission Cooler Cleaner in a continuous stream into the Cooler Outlet hose until fluid flows out of the Cooler Inlet hose for 5 seconds.



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5. Tie a common white, basket-type coffee filter to the end of the Cooler Inlet hose (see Figure 8).



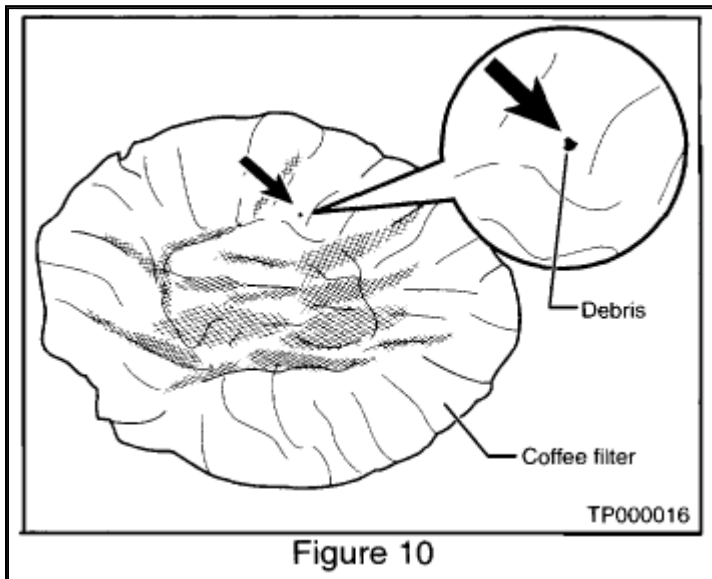
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6. Insert the tip of an air gun into the end of the Cooler Outlet hose (see Figure 9).
7. Wrap a shop rag around the air gun tip and end of the Cooler Outlet hose (see Figure 9).
8. Blow compressed air regulated to 5-9 kg/sq.cm (70 - 130 PSI) through the Cooler Outlet hose to force any remaining ATF into the coffee filter (see Figure 9).
9. Remove the coffee filter from the end of the Cooler Inlet hose.
10. Proceed with Inspection Procedure.

Inspection Procedure

NOTE: 1992 Q45's/G50's after VIN JNKN01C(*)NM205387 and all 1993 Q45's/G50's are equipped with a twin oil cooler system in the radiator. For these vehicles, you must perform the Inspection Procedure on each of the two coffee filters removed from the cooler inlet hoses in step 9 of the Diagnosis Procedure.

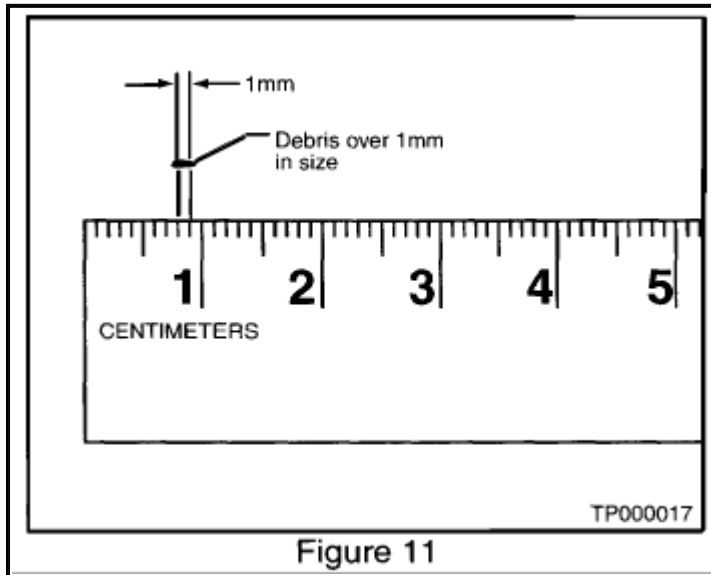


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1. Inspect the coffee filter for debris (see Figure 10).

- A. If small metal debris less than 1 mm (0.040 inch) in size or metal powder is found in the coffee filter, this is normal. If normal debris is found, the radiator/oil cooler can be re-used.



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- B. If one or more pieces of debris are found that are over 1 mm in size (see Figure 11) and/or peeled clutch facing material is found in the coffee filter, the oil-cooler is not serviceable. The radiator/oil cooler must be replaced.

Final Inspection

After performing all procedures, ensure that all remaining oil is cleaned from all components.