

# Tutorial

## Drain BVA Aisin Warner TF-80SC (AM6) Citroen C6 3.0 V6 petrol (ES9A) & 2.7 V6 diesel (DT17).

Here is a tutorial on emptying the Aisin Warner automatic transmission TF-80SC (Named AM6 PSA). The operation is carried out here on a 3.0i V6 C6 and C6 2.7 V6 HDi. The emptying procedure is similar to other cars equipped with this box.

Note: The Citroën C6 gasoline on which it is drained is equipped with an LPG installation. This does not affect the discharge procedure, but some cables, pipes, and other elements on the pictures are due to this equipment.

### Recommended Oil Type and Amount

Recommended oil is the JWS 3309 sold under the Esso brand at PSA at a price of € 60 per liter. We find this oil out of the network under the Mobil brand at € 10 a liter. (Alternative is Toyota Type IV ATF used by Toyota in the AM6 \$60 per 4 litres through Toyota dealers in Australia)

-Capacity Oil dry gearbox: 7 liters. -Volume From drain remaining oil: 4 liters (approximately).

-Quantity Oil Due: 3 liters (approximately).

### Materials Needed

- 4 Liters of oil.
- 1 O-ring for the filling plug (in A):  
Dimensions: 15.41 x 2.21 (Ref PSA 2209 46).
- 1 O-ring for the upgrade cap (B):  
Dimensions: 6.07 x 1.78 (Ref PSA 2209 45).
- 1 Gasket to the drain plug (C):  
Dimensions: 20 x 27-2 (PSA Ref: 2219 23).

### Tools Needed:

- Sockets 7mm and 10mm extension.
- Bits Torx T40 and T55.
- Hex Key 6 point 17mm.
- A Diagnostic tools to check the box oil temperature (Lexia Diagnostic Station for example). -A Drain pan to catch the oil.
- A Funnel with a long neck or a large syringe.

Attention: TORX T55 caps and key-framed 17mm 6 tools are very large, which is not found in all toolboxes!



## Step 1: Control: oil level.

It is important to correctly set the level of the box before emptying. In principle, the level should be correct ... so once the box is emptied will theoretically any amount of oil put in the box. If the level is too low or too high you can also adjust the quantity to be added during re-filling.

This does not exempt us from correcting the level by overflow once the box re-filled, but controls whether the amount of the final volume of oil is correct (the overflow method alone is not a model of accuracy).

-Position the vehicle perfectly horizontally and so as to reach underneath it.

-Remove the soundproofing cover located under the engine.



3.0i V6 essence (ES9A)  
Boîte de vitesses entourée en rouge.



2.7 V6 HDi diesel (DT17)  
Boîte de vitesses entourée en rouge.

-Plug in the diagnostic tool to monitor the gearbox oil temperature.

-The plug in the gearbox box consists of 2 parts: A drain plug (1) and a level plug (2).

-Start The car and let it heat up the box up to 60 ° C. Engine running (imperative), open the level plug: If the level of the box is correct, a fine drizzle of oil must escape the upgrade hole, almost "drip". If a large dash of oil escaping from the leveling hole, the box is too full. And conversely, if not a drop of oil appears is that the level is too low.

-Install level plug.



Le bouchon de vidange / mise à niveau  
se trouve à l'arrière de la boîte



1: Bouchon de vidange.  
2: Bouchon de mise à niveau.

## Step 2: Drain.

Now that we know whether the level of box was correct or not, it can be emptied.

-Let Heat the box up to 65 ° C (at least) then stop the engine. -Remove The upgrade

stoppers (Torx T40) and drain (6 17mm socket).

Warning: The oil is very hot!

-A After draining oil, install the drain plug (with a new seal), tighten to 5 ± 1 m.daN. -

Reposer The upgrade plug (with its former joint), without overtightening.

-Relever As precisely as possible the total amount of oil extracted from the box (In my case, 2,7L).

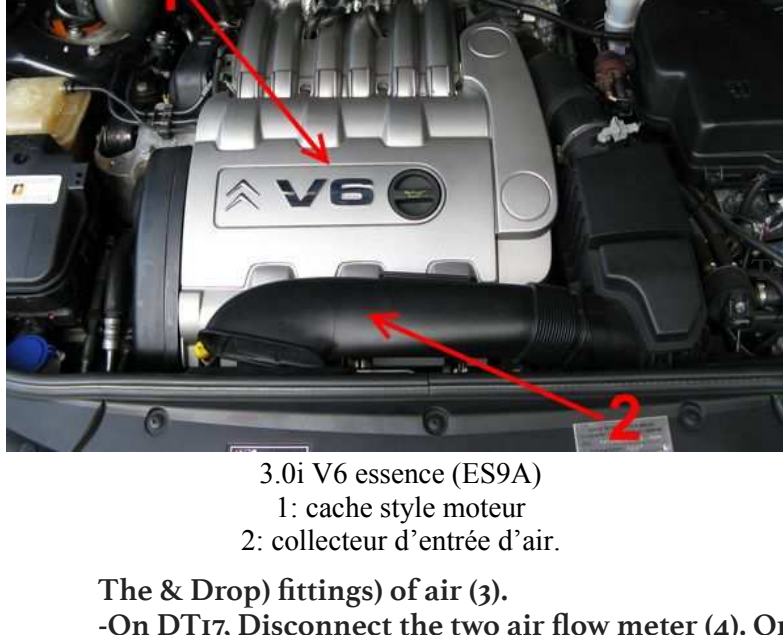
## Step 3: Fill in excess.

The task now is to fill the gearbox. The filler cap is on the top of the box. It is therefore necessary to remove the air filter housing.

1: Replace Drain plug.

2: Replace Level Plug.

Remove the engine style cover (at 1). -Remove the air intake manifold (2).



3.0i V6 essence (ES9A)  
1: cache style moteur  
2: collecteur d'entrée d'air.



2.7 V6 HDi diesel (DT17)  
1: cache style moteur  
2: collecteur d'entrée d'air.

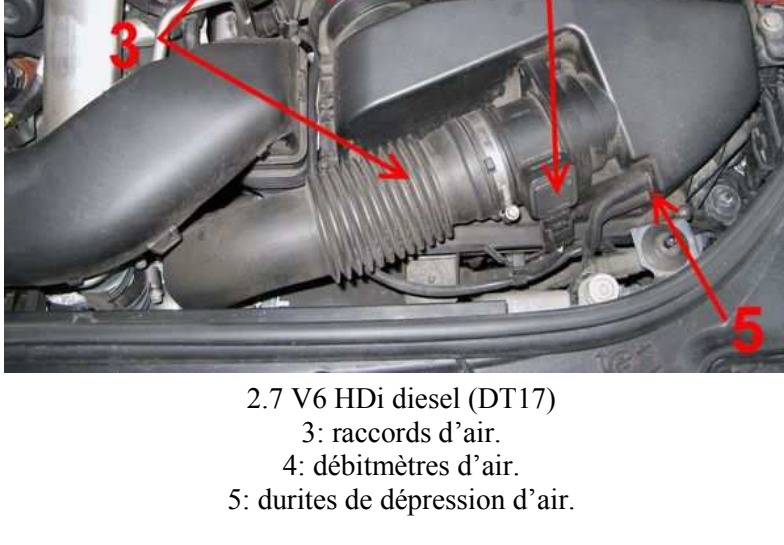
The & Drop) disconnects of air (3).

-On DT17, fitting the two air flow meter (4). On ES9A, Disconnect the air temperature

sensor (4) -On DT17, disconnect the 2 air hoses depression (5).



3.0i V6 essence (ES9A)  
3: raccord d'air.  
4: sonde de température d'air.



2.7 V6 HDi diesel (DT17)  
3: raccords d'air.  
4: débitmètres d'air.  
5: durites de dépression d'air.

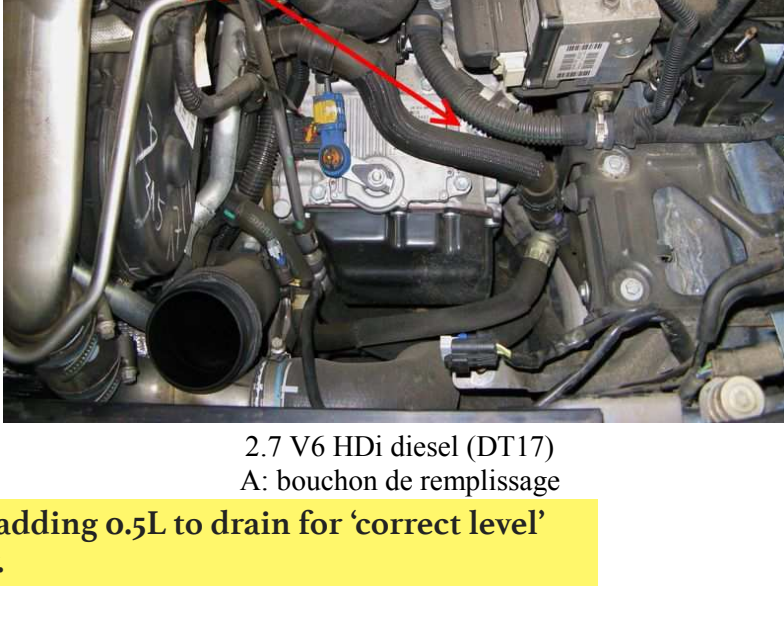
Remove the air filter housing. On DT 17 is held by three bolts (10mm). On ES9A it is clipped. and

are accessed in the filling stopper (A).

-Remove The filler cap (Torx T55).



3.0i V6 essence (ES9A)  
A: bouchon de remplissage



2.7 V6 HDi diesel (DT17)  
A: bouchon de remplissage

- Pour in the same volume of oil drained out, adding 0.5L to drain for 'correct level' overflow.

## STEP 4 - REFILLING

-Without replacing filler cap, install the air filter housing. -Reconnect Probe temperature / air

flow meters.

-Replace, without screwing them, air intake connector (s).

-On DT17, Refit the air vacuum hoses.

Notes: It is important to observe strict cleanliness guidelines, so as not to penetrate any impurities in the box.

Do not start the engine without first reconnected the temperature sensor / flow meters to avoid

storing error codes in the injection computer (If not, move to compulsory Lexia).

-Motor Idling, foot on the brake, change through the first three gears. -Lever P position, engine

idling (imperative), open the levelling plug.

In principle, if the level was correct before emptying and that the amount of oil out of the box in

Step 2 was specifically measured, only 0.5L added in excess in step 3 must escape during this

upgrade by overflowing with the 'level' plug removed.

-Replace the level plug (with a new seal), tighten to 0.8 ± 0.1 m.daN. (8Nm) -Cut The contact.

-Remove the air filter housing.

-Replace the filler cap (with a new seal), tighten to 4 ± 1 m.daN. -Replace correctly the air filter

housing.

-Reconnect the temperature sensor/air flow meters. - replace air ducts & associated clamps.

-On DT17, refit the air vacuum hoses. - replace the air inlet manifold.

-Replace the engine style cover.

-Replace the soundproofing cover located under the engine.

Notes: Too high oil level causes overheating of the oil.

An oil level too low will destroy the box.

On this C6 gasoline draining was done 30 000km. Oil still has a correct aspect, and we do not notice any

particular deposit into the drain pan. On this diesel C6, draining was carried out at 100 000km (first drain that

took place at 30 000km). The oil is visibly degraded, blackened, and one notices a light deposit (iron filings and

other impurities) into the drain pan.