

# VOLVO

Reference Bulletins:	Subject:	Product
Parts Bulletin Grp 2C-No. 27 December 1986	<b>WATER-COOLED TURBOCHARGER B21FT (w/o intercooler) B21FTL (w/ intercooler) UP TO 1985</b>	<b>CARS</b>
		Group <b>25</b>
	Date: <b>FEBRUARY 1987</b>	No. <b>47</b>

Page 1 of 6

THIS BULLETIN APPLIES TO THE U.S. AND CANADA, AND SUPERSEDES 25-47  
DATED DECEMBER 1986.

REFERENCE: SERVICE MANUAL TP 30163/2 (English), ENGINES B17,B19,B21,B23

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### Installation of a water-cooled turbocharger

NOTE: The designation B21FTL is used to denote a B21FT engine equipped with either a factory-installed intercooler or a dealer-installed intercooler kit.

If it is necessary to replace a turbocharger, a new water-cooled unit should be installed. It may also be necessary to replace the exhaust manifold, expansion tank and support bracket.

- The early type of exhaust manifold (up to 81-1/2) has a flat flange which will not fit to the new water-cooled turbocharger. It is, therefore, necessary to use a new exhaust manifold.
- The flat type of expansion tank should be replaced by the new cylindrical type.
- 1983 and earlier vehicles with the early-type turbocharger ring support bracket do not require the new lower support bracket but, if desired, it may be installed according to the Repairs and Maintenance Service Manual TP 30163/2 Section 2 (25-29) page 41, operation P1-P11.

1984 and 1985 vehicles have the lower support bracket which should be reinstalled upon assembly.

- Two installation kits are available as follows:  
Early type (up to 81-1/2) ..... P/N 270602-6  
Late type (from 81-1/2 on) ..... P/N 270198-5

#### Turbocharger

Engine	P/N
B21FTL (= intercooler)	5003632-6 (exch)
B21FT	5003631-8 (exch)



Important that all Service Personnel Read – Circulate and initial

Printed in the U.S.A.

SERVICE MANAGER		SHOP FOREMAN		SERVICE WRITER		SERVICE TECHNICIANS							

SPECIAL TOOLS:

Pressure Gauge ..... P/N 999 5230-1  
Sealing Tool ..... P/N 998 6408-4

Early type (up to 81-1/2)

**Installation kit P/N 270602-6**

Part	P/N	Part	P/N
4 Washers	11996-6	2 Lock plates	1326222-5
1 Washer	419401-5	2 Lock plates	1326586-3
1 Gasket	420423-6	1 Exhaust manifold	1336237-1
1 Gasket	420475-6	1 Pin Stud	1336261-1
4 Gaskets	463846-6	1 Bracket	1336265-2
2 Bolts	940132-4	1 Leaf spring	1336266-0
2 Bolts	941686-8	1 Bracket	1336683-6
4 Hose clamps	943471-3	1 Expansion Tank	1336684-4
1 Hose clamp	943472-1	1 Water hose	1336973-1
1 Hose clamp	943476-2	1 T-connector	1378420-2
8 Lock nuts	946036-1	1 Water hose	1378421-0
1 Bolt	946440-5	1 T-connector	1378548-0
2 Lock nuts	948645-7	1 Water pipe	1378551-4
2 Spacers	1257499-2	1 Water pipe	1378621-5
1 Sealing ring	1306264-1	1 Water hose	1378624-9

Additional parts: 3 Studs ..... P/N 1357769-7

Late type (from 81-1/2)

**Installation kit P/N 270198-5**

Part	P/N	Part	P/N
4 Washers	11996-6	2 Lock plates	1326222-5
1 Gasket	420423-6	2 Lock plates	1326586-3
1 Gasket	420475-6	1 T-connector	1378420-2
4 Gaskets	463846-6	1 Water hose	1378421-0
2 Bolts	941686-8	1 T-connector	1378548-0
4 Hose clamps	943471-3	1 Water pipe	1378551-4
2 Hose clamps	943476-2	1 Water pipe	1378621-5
1 Sealing ring	1306264-1	1 Water hose	1378624-9

Additional Parts: 3 Studs ..... P/N 1357769-7  
8 Lock nuts ..... P/N 946036-1  
3 Hose clamps ..... P/N 943472-1  
1 Hose clamp ..... P/N 943473-9

If the car has a flat type of expansion tank, the following parts are also needed

- 1 Bracket ..... P/N 1336683-6
- 1 Expansion tank ..... P/N 1336684-4
- 1 Water hose ..... P/N 1336973-1



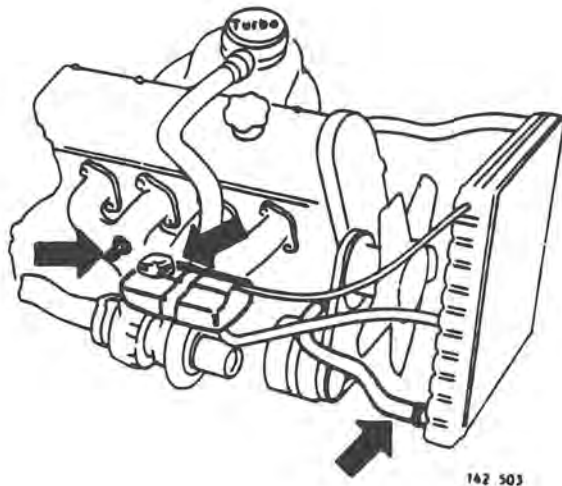
Turn to page 30 of Service Manual, Repairs and Maintenance Section 2 (25-29)

**Remove turbocharger**  
(See operations N1-N7.)

Following are additional to steps in Manual:

- N1 Disconnect -probe
- N5 Remove oil return pipe

If the exhaust manifold has P/N 1336237-1 (late type; see Service Manual pg. 29, step L5), then the turbocharger should be separated from the manifold.



**Drain Coolant**

Move dashboard heater control to max heat.  
 Unscrew expansion tank cap.  
 Unscrew drain cock on right-hand side of cylinder block.  
 Disconnect hose from bottom of radiator.

**Carry out operations N23-N27  
(Service Manual)**

There is an error in the Service Manual for operation N23: The word not should be deleted.

Connect the lower water pipe to the turbocharger.

Carry out operations N28-N31

Following are additional to steps in Manual:

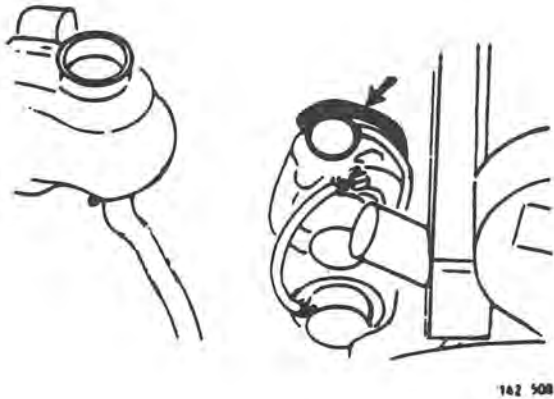
- N31 Connect
- oil return pipe
  - lower support bracket (only required for 1984/85 vehicles)
  - lower heat plate

Install 3 new studs at the exhaust side of the turbocharger.



**Connect the upper water pipe**

Make sure the water pipe is not too near the oil pressure pipe.



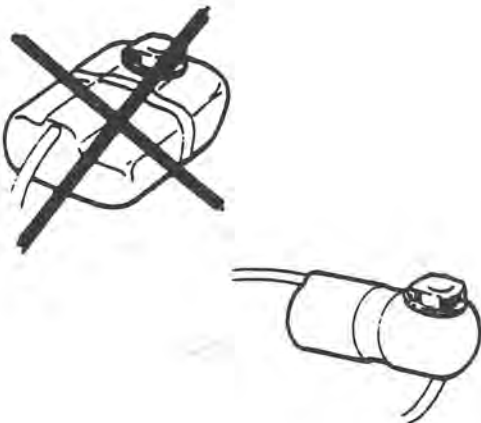
If the car has a flat type of expansion tank, it must be replaced by a new cylindrical type.

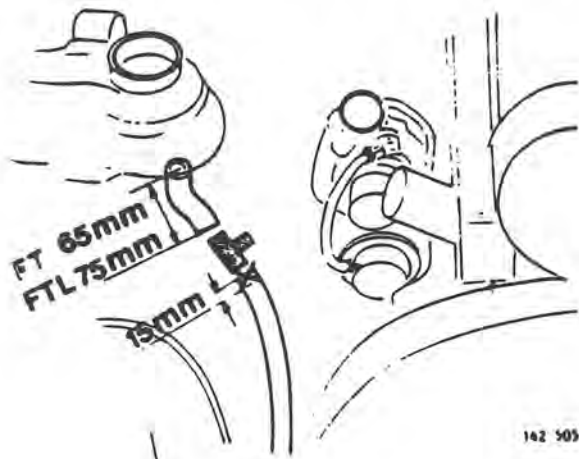
**Remove:**

- flat expansion tank, bracket and water hose

**Fit:**

- new expansion tank (cylindrical)
- new bracket
- new water hose





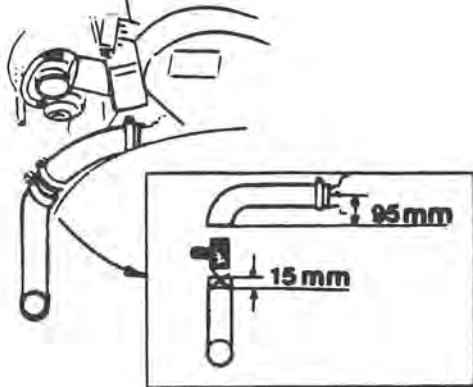
142 505

**Fit upper T-connector**

Cut expansion tank hose as follows:  
 B21 FT .. 65mm from expansion tank  
 B21 FTL .. 75mm from expansion tank

Remove 15mm from lower hose.

Loosely secure T-connector using two hose clamps.



142 506

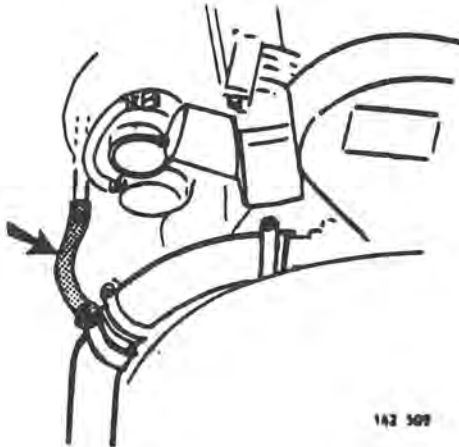
**Fit lower T-connector**

Cut lower radiator hose 95mm from center of hose (see left).  
 Remove 15mm from lower hose.

Loosely secure T-connector using two hose clamps.

**Connect short hose**

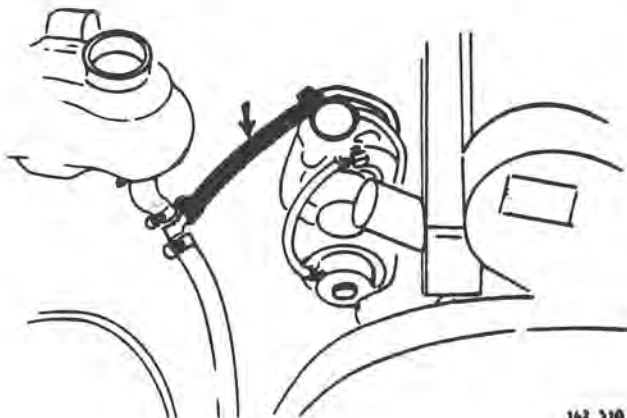
Connect the short hose to the turbo-charger lower water pipe and the T-connector (in lower radiator hose). Tighten hose clamps.



142 507

**Connect long hose**

Connect the long hose to the turbo-charger upper water pipe and the T-connector (in expansion tank hose). Tighten hose clamps.



142 510

**Carry out operations N32-N36 (Service Manual)**

Connect the -probe.

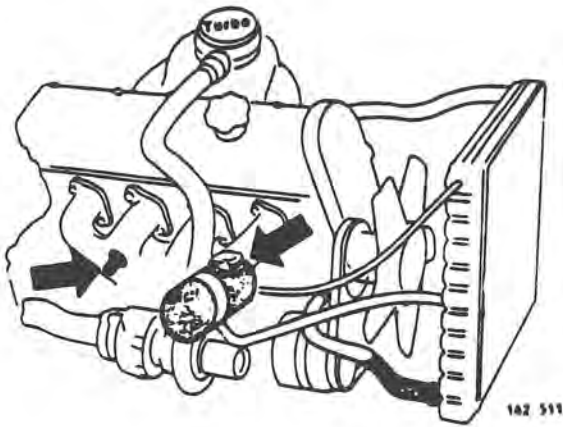
**Fill with coolant**

Tighten drain cock.  
Fill expansion tank to max.

Warm up engine, making sure that dashboard heater control is set to max heat. Check for leakage and top-up if required.

Check charge pressure; see checking/adjusting on page 16.

Carry out operations F1-F9.



Labor op.

Description

Time allowance

255122

Water-cooled turbocharger, install

4.1 hrs.