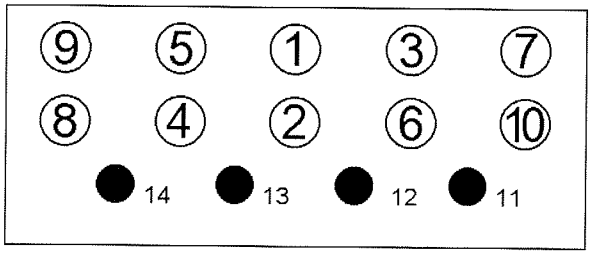
Anziehvorschrift für Zylinderkopf Tightening Instructions for Cylinder Head Instructions de serrage pour culasse Prescripciones de apriete para culatas	916.059 passend für / suitable for adaptable à / adaptable a Land Rover	elring Das Original

Schraubenkopf / Head shape
Tête de vis / Cabeza de tornillo

Anziehreihenfolge/Tightening sequence/Ordre de serrage/Orden de apriete



Anziehen/ Tightening/ Serrage/ Apriete	1989-1993	1994-
	✹ 40-50 Nm	✹ 20 Nm
	60-70 Nm	➢ 90°
	88-95 Nm	➢ 90°
	POS. 11-14	
	20-30 Nm	
	30-40 Nm	
	54-60 Nm	

Zeichenerklärung / Explanations / Explication / Explicacion

✹	neue Zylinderkopf-schrauben verwenden	use new cylinder head bolts	utiliser des vis neuves	emplar tornillos nuevos
*	Warmlauf (80°C)	warm up time (80°C)	chauffage (80°C)	calentamiento (80°C)
❑	Schrauben einzeln lösen und wieder anziehen	loosen and tighten each bolt	deserrer et serrer vis par vis	aflojar y apretar tornillo a tornillo
●	Setzzeit	relaxation time	durée de tassement	tiempo de espera
➢	Drehwinkel	torque angle	angle de serrage	ángulo de giro

Motortyp / Engine type / Type de moteur / Tipo de motor

Mot. EFI, 3,9 l, 4,6 l V8,

ElringKlinger AG, Max-Eyth-Str.2
72581 Dettingen / Erms. Tel. 07123/724 601 2/8/12

17.08.06

CIRCULATE TO:-	
SERVICE MGR.	X
RECEPTION	X
WORKSHOP	X
PARTS	X

TECHNICAL INFORMATION

SUBJECT

Inlet Manifold Valley Gasket- Leak

03/14/97

12/01/97/NAS

MODEL

Range Rover 4.0/4.6
Classic
Discovery
Defender

AFFECTED VEHICLES

LP up to 350645
LH up to 664120
LJ up to 709316 and 540078
LD up to 999463

DETAIL

There has been a number of cases of inlet manifold valley gasket leaks. It has been found that the assembly line torque-down procedure does not fully compress the Wolverine gasket material. A two-stage torque-down procedure has been introduced to ensure that full compression is achieved. The new torque-down procedure should be used in addition to installing flat washers beneath the head of each inlet manifold bolt when replacing the inlet manifold gasket. Using the flat washers and the correct torque down procedure will ensure proper compression of the gasket material. Vehicles after the above VIN range have the washer fitted with the correct torque procedure.

ACTION REQUIRED

If a coolant or air leak is detected from the valley gasket region follow the procedure detailed below.

PARTS INFORMATION

Flat washer - WA110061L (12)

PROCEDURE

Refer to the Workshop Manual section 12.

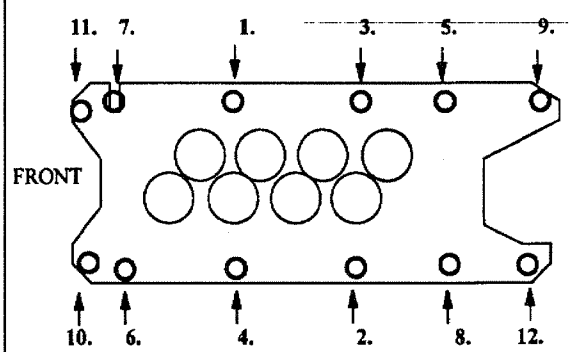
When installing a new inlet manifold gasket, torque the manifold using the following procedures:

1. Tighten clamp bolts at front and rear of gasket to **5 Nm-10 Nm (4-7 lb.ft)**.

CAUTION: A flat washer must be used beneath each bolt head to ensure correct pressure is being applied.

2. Tighten the 12 inlet manifold/cylinder head bolts to **30 Nm (21 lbf. ft.)**
3. Allow gasket to bed in for at least 5 minutes.
4. Refer to the illustration for correct bolt tightening sequence and tighten all inlet manifold/cylinder head bolts to **47-54 Nm (35-40 lbf.ft.)** using a standard torque wrench.
5. Tighten clamp bolts at front and rear of gasket to **14-20 Nm (10-15 lbf.ft.).**
6. Remove any excess water from valley area.

ILLUSTRATION



WARRANTY

Normal warranty policy and procedures apply

COMP. CODE

2U1N

SRO

30.15.08 - Time 2.55 hr (Range Rover 4.0/4.6)
Replace inlet manifold gasket
- Time 2.05 hour (Discovery)
Replace inlet manifold gasket
- Time 2.05 hr (Classic)
Replace inlet manifold gasket
- Time 2.15 hour (Defender)
Replace inlet manifold gasket

Revised Intake Manifold Gasket For
1989-97 Rover 4.0L Engines

The AERA Technical Committee offers the following information regarding a revised intake manifold gasket for 1989-97 Rover 4.0L engines. This information applies to engines built within the VIN codes listed below.

RANGE ROVER (LP) Up to VA367572
RANGE ROVER CLASSIC (LH) All
DISCOVERY (LJ) Up to VA725069 and VA558883
DEFENDER (LD) Up to VA115672

In a continuing effort to improve sealing around the inlet manifold, a new inlet manifold gasket and flat washers have been introduced into production. Vehicles built before the change, as indicated by the VIN codes above, can use the new style parts to repair inlet gasket leaks.

The new design gasket (Figure 1) and flat washers are designed to provide improved distribution of clamp load on the inlet manifold to cylinder head joints. As a result of the revised design, the sealing integrity of the joint is greatly improved.

The gasket design change can be easily identified as a change in the shape of the gasket around each inlet and coolant port opening. The installation of the new parts requires the correct torque procedure and must be followed with the new style gasket and flat washers. Refer to the numbered sequence in Figure 2 below to torque the mounting bolts.

1. Tighten clamp bolts at front and rear of gasket to 4-7 ft/lbs (5 -10 Nm).
CAUTION: A flat washer must be used beneath all 12-bolt heads to ensure correct pressure is being applied.
2. Tighten the twelve intake manifold to cylinder head bolts in sequence (Figure 2) to 21 ft/lbs (30 Nm).
3. Wait! Allow gasket to bed in (set up) for at least 5 minutes.4. Tighten the twelve intake manifold to cylinder head bolts in sequence (Figure 2) to 35-40 ft/lbs (47-54 Nm) using a standard torque wrench.
5. Tighten clamp bolts at front and rear of gasket to 14-20 Nm (10-15 lb. ft.).

The AERA Technical Committee

DRIVE BELT

A single 'serpentine drive belt' is introduced for 1995 model year. This belt drives the water pump and all the ancilliaries. It is essential that the belt is fitted exactly as shown in illustrations RR3956 and RR3957. It should also be noted that the water pump/viscous fan is driven in a counter clockwise direction.

A drive belt tensioner automatically tensions the drive belt, eliminating the need for tensioning individual drive belts. Turning the tensioner pulley in a clockwise direction will release drive belt tension.

Under normal highway use the belt must be changed at 120,000 kilometres, 75,000 miles or five years whichever occurs first.

The drive belt must be examined at every service and replaced if necessary.

Off road driving

Regular examination of the drive belt is essential if the vehicle is used off road. The vehicle driver should be requested to identify the type of mileage the vehicle has covered.

After every off road session the owner should inspect the belt for cuts and possible damage caused by stones. If belt has jumped, reposition belt correctly. A new belt must be fitted at the next service or before, dependant on the type of damage sustained.

Fan cowl

To ensure easy access to the drive belt the top portion of the fan cowl is detachable.

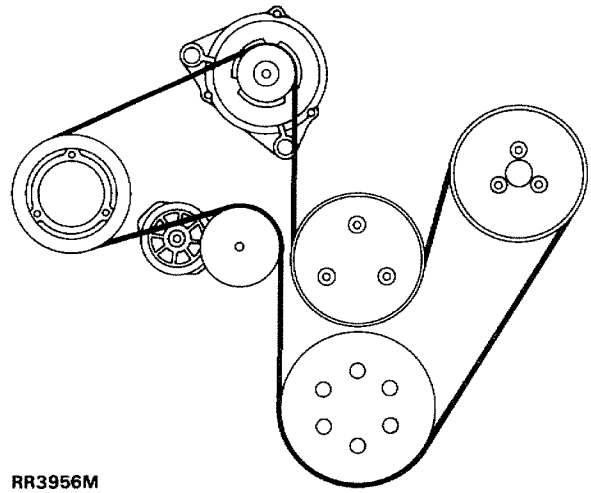
Check condition

Check condition of drive belt. Renew a belt that shows signs of wear, splitting or oil contamination.

DRIVE BELT RENEW

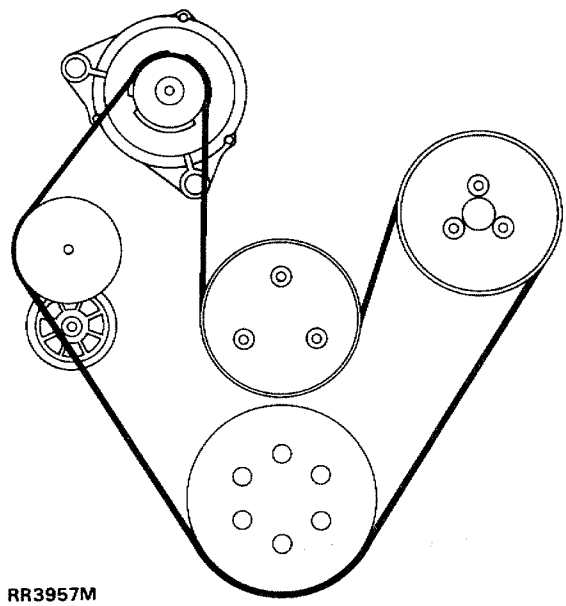
Service repair no - 86.10.03

Air conditioning



RR3956M

Non air conditioning



RR3957M