

## Technical product information

<b>Topic</b>	Mulsanne Steering Gear - Hydraulic Oil leak
<b>Market area</b>	Bentley: worldwide (2WBE),Hongkong-Macau (5HK)
<b>Brand</b>	Bentley
<b>Transaction No.</b>	2043019/1
<b>Level</b>	EH
<b>Status</b>	Approval
<b>Release date</b>	

### New customer code

Object of complaint	Complaint type	Position
Running gear -> Steering system	leaks	
Running gear -> Steering system	soiling	

### New workshop code

Object of complaint	Complaint type	Position
Running gear -> Steering system -> Steering hydraulic fluid	soiling -> soiled	

## Vehicle data

### Mulsanne

#### Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
3Y2*	2011	E		*	*	*
3Y2*	2012	E		*	*	*
3Y2*	2013	E		*	*	*
3Y2*	2014	E		*	*	*
3Y2*	2015	E		*	*	*
3Y2*	2016	E		*	*	*

#### Chassis numbers

Manufacturer	Filler	Type	Filler	MY	Factory	From	To	Prod from	Prod to
SCB	*	*	*	*	C	001000	002541		
SCB	*	*	*	*	C	015209	018999		
SCB	*	*	*	*	C	019680	019941		

## Documents

Document name
<a href="#">master.xml</a>
<a href="#">master.doc</a>

## Customer statement / workshop findings

Increased steering effort, power steering pump noise or a hydraulic fluid leak from the underside of the vehicle.

Hydraulic fluid leak from the Steering Rack Pinion Bearing.

## Technical background

The Steering Rack may leak low pressure hydraulic fluid from the Pinion Bearing due to degradation of the Pinion Bearing oil seal.

An improved material specification for the Pinion Bearing oil seal has been introduced.

## Production change

The improved Pinion Bearing oil seal has been introduced from VIN SCBBE6ZH9GC002542.

## Measure

**Vehicles with less than 10.000 miles / 16.000 kilometres or under one year old** – Replace the Steering Rack Assembly –

**Refer to Rep. Gr. 48.** Steering Rack – To Remove and Fit.

**Vehicles with a repeat failure** - Replace the Steering Rack Assembly –

**Refer to Rep. Gr. 48.** Steering Rack – To Remove and Fit.

**Vehicles with a first time failure, over 10.000 miles or 16.000 kilometres** - replace the Pinion Bearing oil seal.

**Refer to** – Pinion Bearing Oil Seal Replacement – Below.

**NOTE** – This Technical Product Information document is only relevant to leaks from the Pinion Bearing seal – *figure 1*. If the leak is from the Torsion bar - *figure 2* - the Steering Rack Assembly must be replaced. If it is not possible to positively identify the source of the hydraulic fluid leak, the Steering Rack Assembly should be replaced.

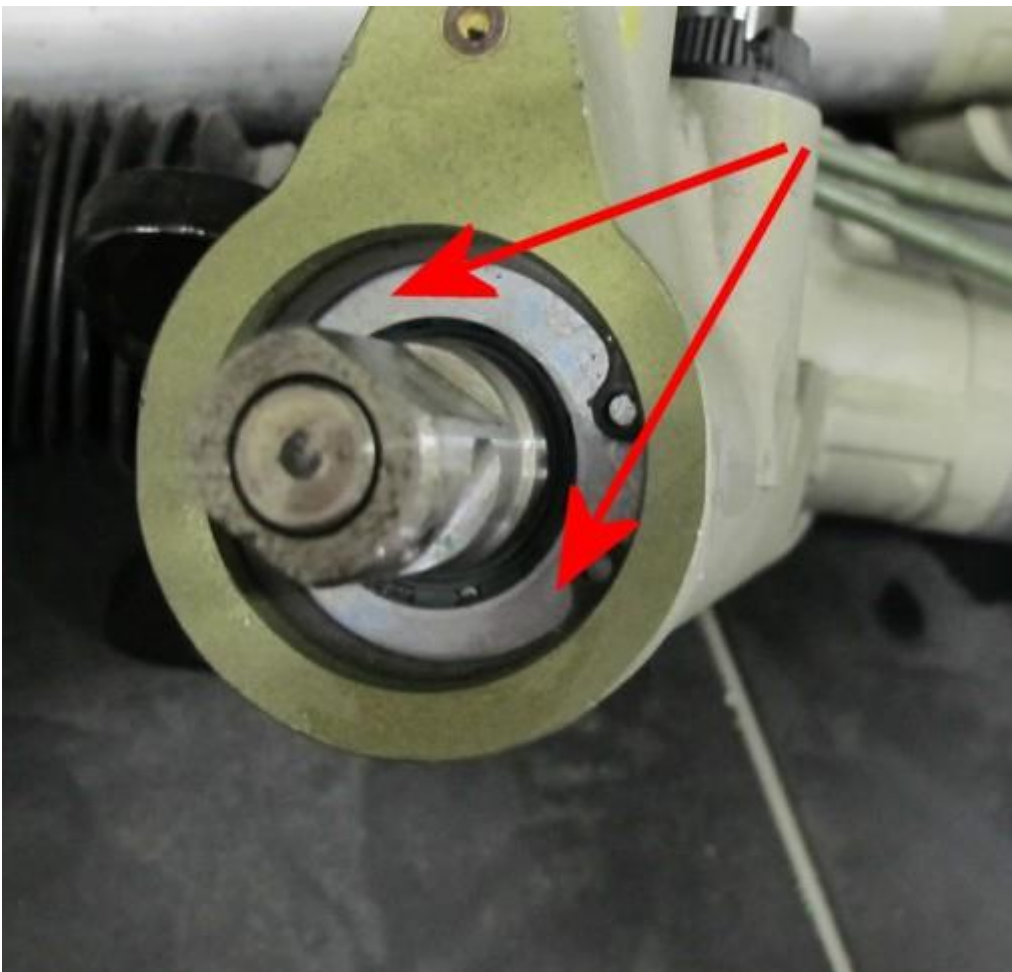


Figure 1.



Figure 2.

### **Pinion Bearing Oil Seal Replacement.**

▪

***Wear eye protection throughout the following process.***

Remove the Steering Rack from the vehicle, fit blanking plugs to the feed and return ports to minimise hydraulic fluid loss during removal – figure 3.

A = Feed port

B = Return port

***Refer to Rep. Gr.48 - Steering Rack - To Remove and Fit.***

▪

***NOTE - It is important to remove the Steering Rack from the vehicle, this will ensure that the area surrounding the Pinion seal can be thoroughly cleaned, preventing the ingress of foreign matter into the hydraulic system.***

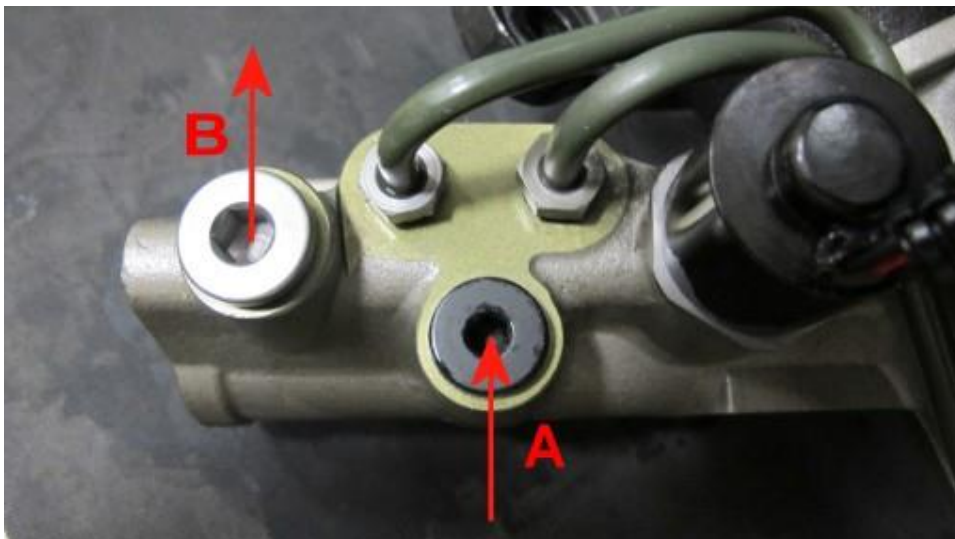


Figure 3.

Carefully clean any debris and hydraulic fluid from the Pinion Bearing Housing.  
Remove Circlip "C" and Backing Washer "D" from the Pinion Housing – figure 4.

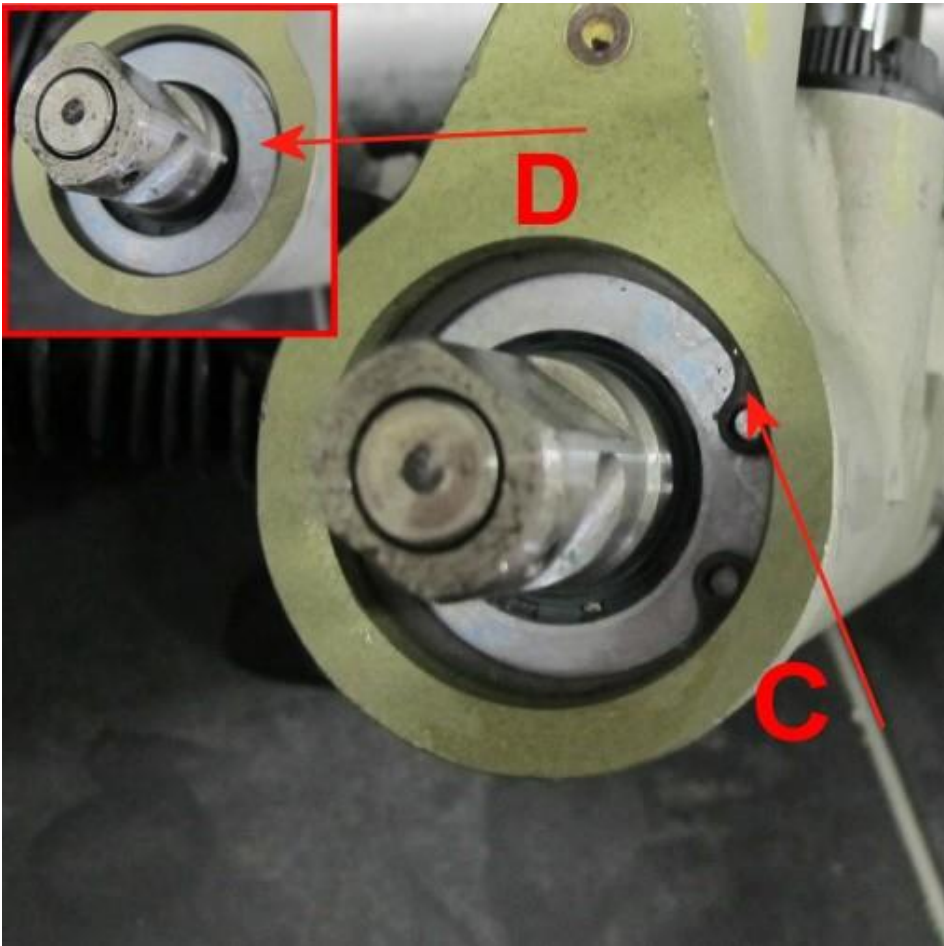


Figure 4.

If fitted, remove the Centralising Pin – PH58172PA – from the Steering Rack - figure 5.

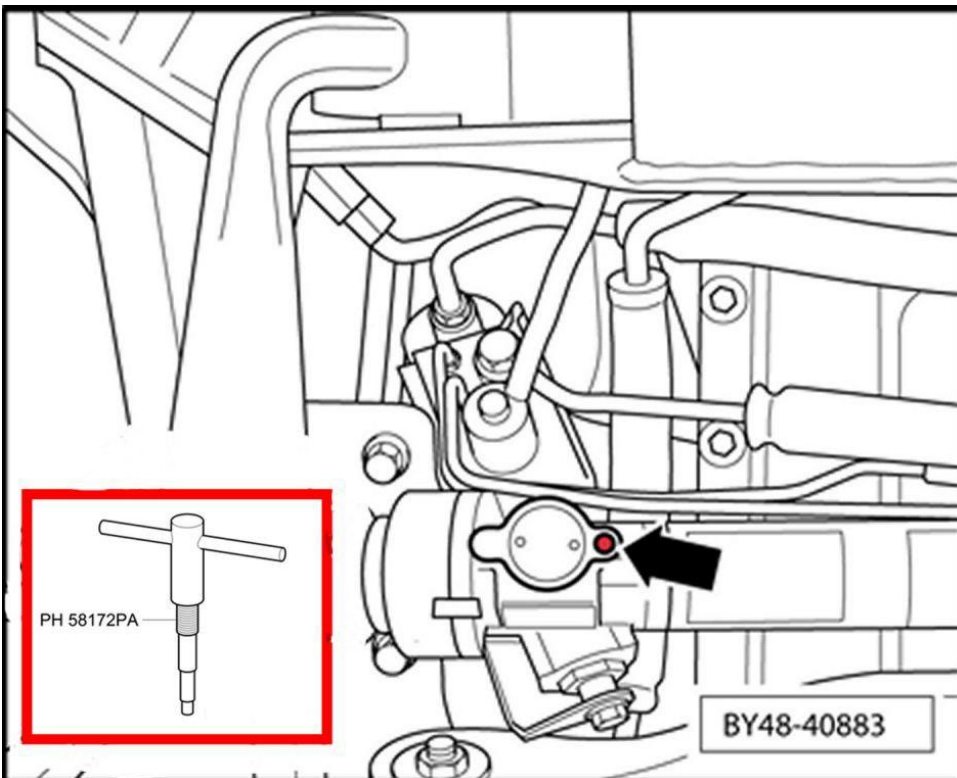


Figure 5.

Using a 15mm open end wrench, slowly rotate the Pinion shaft through one hundred and eighty degrees, alternating in a clockwise and anti-clockwise direction, this action will create a positive hydraulic fluid pressure within the Pinion Housing, forcing the Bearing out of position – figure 6.

**NOTE: Ensure the feed and return port blanks are fitted.**

***It may be necessary to "prime" the Steering Rack with the approved hydraulic fluid via the feed and return ports.***

***If the Pinion Bearing Housing cannot be removed, the Steering Rack Assembly should be replaced.***



*Figure 6.*

When accessible, remove the Pinion Bearing Housing and discard.

Remove the blanking plugs from the feed and return ports and drain any residual hydraulic fluid.

Carefully inspect the Pinion Shaft and Housing for damage or corrosion, remove any residual debris. If either the pinion shaft or housing has damage or corrosion in the area where the hydraulic oil seals locate, the Steering Rack assembly should be replaced – *figure 7.*

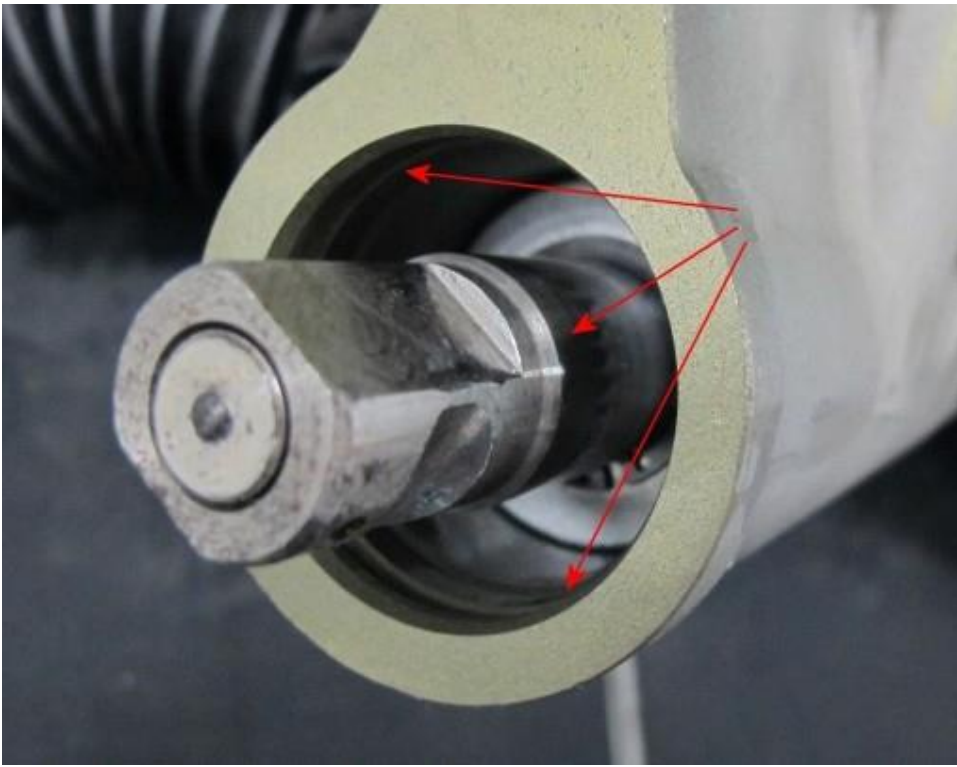


Figure 7.

Fill the new Pinion Seal groove with PTFE grease (source locally) the Bearing Housing Seal should also have a light coating of PTFE grease applied – figure 8.

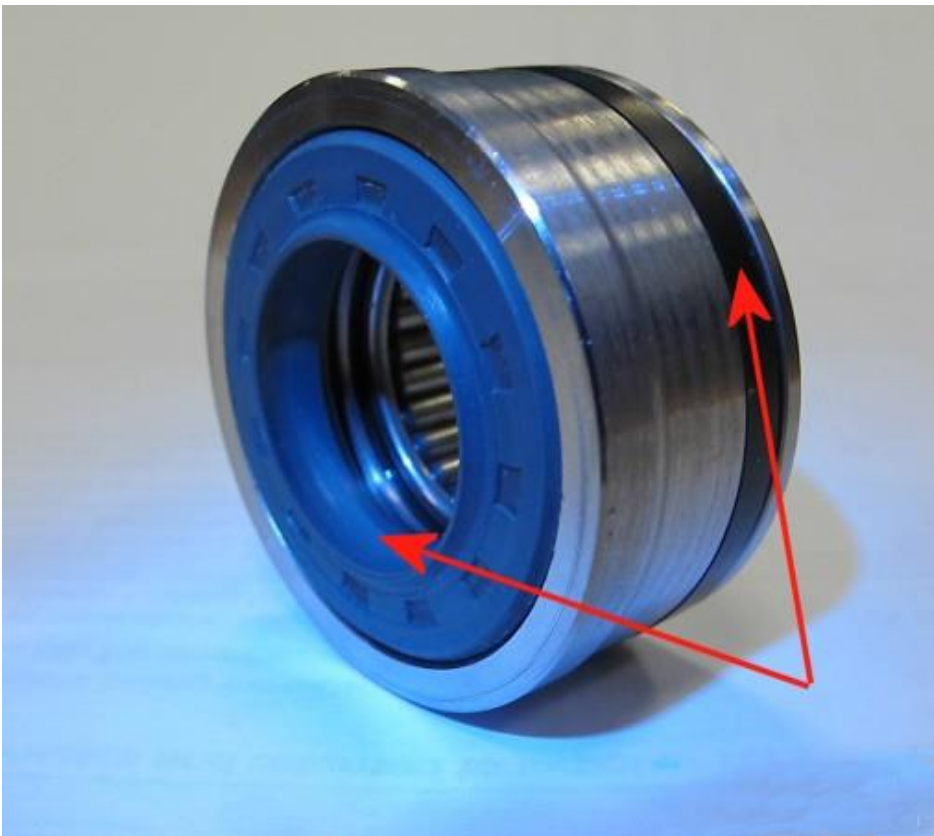


Figure 8.

Locate the Bearing Housing Assembly onto the Pinion Shaft and carefully press by hand into the Pinion Housing. Using tool T10256 and a soft faced mallet, gently tap the Bearing Housing until it seats fully into the Pinion Housing – figure 9.



Figure 9.

Refit the Backing Washer and Circlip, ensure the Circlip is correctly located and secure – figure 10.



Figure 10.

Re-fit the Steering Rack Centralising Pin – PH58172PA – figure 5.

Refit the Steering Rack –

**Refer to Rep. Gr.48.** Steering Rack - To Remove And Fit.

Check and if required re-set the Vehicle Wheel Alignment –

**Refer to Rep. Gr.44.** Vehicle Geometry – Wheel Alignment and Ride Heights.

## Warranty accounting instructions

Normal warranty policies apply

Warranty Type 110 or 910

Labour Operation Code 48 40 19 99 (for RO open date on or before 9 June 2016)

48 40 41 01 (for RO open date after 9 June 2016)

Damage Service Number 48 40

Damage Code 00 50

Time 230 TU

## Parts information

Description	Part Number	Quantity
Sealing Bearing	3Y0422761	1
Seal Insert Tool ( Existing Service Tool)	T10256	1
Sealing Plug (including seal) – 16mm	0AA409057	1
Sealing Plug – 14mm	N0160276	1
O Ring – 14mm	N0138157	1