

Reference	SSM72659
Models	Discovery Sport / L550 Range Rover Evoque / L538
Title	Range Rover Evoque and Land Rover Discovery Suspension noise diagnosis
Category	Chassis
Last modified	06-Mar-2017 00:00:00
Symptom	304000 Suspension System
Attachments	1L550 & L538 Front and Rear Corner Module Noise Diagnosis.pdf (1L550 & L538 Front and Rear Corner Module Noise Diagnosis.pdf)

Content**Issue:**

Some RR Evoque and LR Discovery Sport customers have reported audible noise from the front or rear corners of their vehicles during a variety of driving speeds and road conditions.

Technicians have been able to resolve the complaint by replacing front and rear suspension components, particularly strut/damper assemblies, top mount bearings and associated parts.

Investigations into returned components by both JLR and component suppliers have mostly failed to identify causal factors for the original complaint.

Cause:

The noise may in some cases originate from the interaction of components within the front and rear suspension corner assemblies rather than individual components themselves.

Dis-assembly of components or re-alignment of features within an assembly may in some cases resolve reported noise complaints

Action:

Should a technician receive a customer complaint of front or rear corner suspension noise , please ensure the complaint can be replicated.

Please review the attached diagnosis sheet to assist in root cause investigations into the source of the reported noise.

Please advise findings via EPQR including any associated noise files or photographic evidence if available.

Should any of the actions taken potentially alter front or rear suspension configuration, retailers are advised to ensure vehicle geometry settings remain within the required specifications.

Technicians - Please rate this SSM and provide comments so that future communications can be improved.

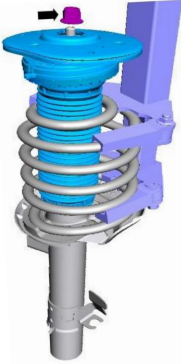
1 = Poor – Basic information provided – The SSM does not help me resolve the customer concern.

3 = Average – Adequate information provided – The SSM partially helps me resolve the customer concern.

5 = Excellent – All required information provided to resolve the customer concern.

L538 EVOQUE & L550 DISCOVERY SPORT FRONT and L538 REAR CORNER MODULE NOISE CHECK LIST

1- DAMPER CENTRE NUT TORQUE (FOR REPORTED KNOCK or RATTLE NOISE)

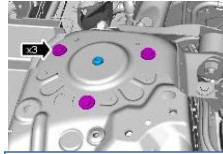


CHECK
USING PRE-SET TORQUE TOOL of 51 Nm, VERIFY THE RESIDUAL TORQUE ON THE CENTRE NUT IS WITHIN DESIGN

CAUTION
NOMINAL JOINT TORQUE IS 67 Nm. THE LOWER RESIDUAL TORQUE IS 51 Nm.

ACTION
IF TORQUE IS BELOW 51 Nm, SECURE THE JOINT TO 67 Nm. ROAD TEST TO VERIFY THE NOISE HAS BEEN ELIMINATED .

2- TOP MOUNT TO BODY FIXING TORQUE (FOR REPORTED KNOCK or RATTLE NOISE)

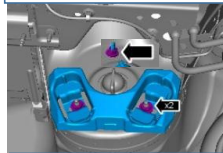


L538/L550 Front Top Mount Fixing

CHECK
USING PRE-SET TORQUE WRENCH of 25 Nm, VERIFY THAT THE RESIDUAL TORQUE ON THE TOP MOUNT TO BODY NUTS ARE WITHIN THE DESIGN SPECIFICATION.

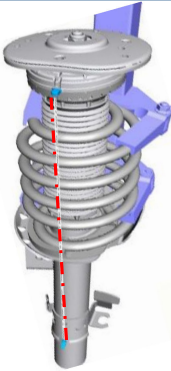
CAUTION
NOMINAL JOINT TORQUE IS 32 Nm. THE LOWER RESIDUAL TORQUE IS 25 Nm.

ACTION
IF TORQUE IS BELOW 25 Nm, SECURE THE JOINT TO 32 Nm. ROAD TEST TO VERIFY THE NOISE HAS BEEN ELIMINATED .



L538 Rear Top Mount

3- FRONT BEARING ALIGNMENT TO DAMPER CENTRE LINE (FOR REPORTED KNOCK or RATTLE NOISE)

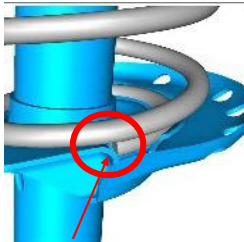


CHECK
CONFIRM THE TOP MOUNT BEARING TIMING MARK AND FRONT DAMPER LOWER LOCATOR PIN ARE ALIGNED ALONG THE

CAUTION
ENSURE FRONT WHEELS ARE SET TO THE STRAIGHT AHEAD POSITION.

ACTION
IF BEARING AND THE DAMPER LOCATOR ARE NOT ALIGNED, RE-SET TOP MOUNT BEARING TO ENSURE ALIGNMENT IS WITHIN 15 mm COUNTER CLOCKWISE. ROAD TEST TO VERIFY NOISE HAS BEEN FULLY ELIMINATED.

4- FRONT and REAR SPRING LOWER ISOLATOR ALIGNMENT (FOR REPORTED CREAK or SQUEAK NOISE)



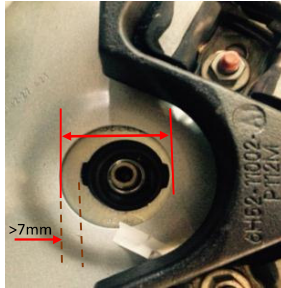
Min 3 mm gap

CHECK
CHECK THE GAP BETWEEN THE LOWER SPRING AND INSULATOR END STOP. THE GAP SHOULD BE MINIMUM 3 mm.

CAUTION
ENSURE SPRING IS CORRECTLY SEATED WITHIN THE RUBBER GROOVE.

ACTION
RE-ADJUST SPRING LOCATION TO ENSURE SPRING IS SEATED CORRECTLY AND GAP TO END STOP EXCEEDS 3mm. ROAD TEST TO VERIFY NOISE HAS BEEN FULLY ELIMINATED.

5- L538 ONLY - REAR CORNER MODULE ALIGNMENT (FOR REPORTED CREAK or SQUEAK NOISE)



DISTANCE FROM STUD COVER EDGE FEATURE TO HOLE CIRCUMFERENCE NOT TO EXCEED 7mm EITHER SIDE

CHECK
CHECK THE DAMPER STUD POSITION, IDEALLY, IT SHOULD BE CENTRALISED WITHIN THE BODY HOLE.

CAUTION
CONFIRM CENTRE NUT TORQUE AS PER ITEM #1

ACTION
IF STUD DOES NOT APPEAR TO BE CORRECTLY CENTRALISED AS SHOWN, SLACKEN OFF THE 3 BODY FIXING NUTS THEN CENTRALISE STUD AND RE-TIGHTEN TO SPECIFIED TORQUE. ROAD TEST TO VERIFY NOISE HAS BEEN FULLY ELIMINATED.

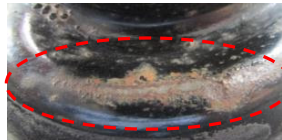
6- L538 ONLY - REAR DAMPER GAITER (FOR REPORTED KNOCK NOISE ON ROUGH ROADS or SPEED BUMPS)



CHECK
CLEAN THE SPRING SEATING PLATE AND CHECK FOR A MARK ON PAINTED SURFACE. THIS MAY OCCUR DUE TO CONTACT FROM THE DAMPER GAITER DURING SUSPENSION MOVEMENT OVER



CAUTION
CONFIRM EVIDENCE OF IMPACT VIA PAINT MARK ON THE PLATE SURFACE



ACTION
CUT AWAY GAITER FROM DAMPER, ENSURING NO DAMAGE TO DAMPER PISTON ROD. ROAD TEST TO IDENTIFY IF NOISE HAS BEEN ELIMINATED. IF NOISE IS NO LONGER APPARENT, FIT REPLACEMENT GAITER. ROAD TEST TO VERIFY NOISE HAS BEEN

SHOULD ANY OF ABOVE ACTIONS / CORRECTIONS RESOLVE THE REPORTED NOISE ISSUE, ENSURE DETAILS AND EVIDENCE ARE WRITTEN ON TECHNICAL VERBATIM AREA CLEARLY.