

Reference	SSM71278
Models	Discovery Sport / L550 Range Rover / L405 Range Rover Evoque / L538 Range Rover Sport / L494
Title	Vehicle Steering Feels Heavier than expected
Category	Chassis
Last modified	13-Jul-2016 00:00:00
Symptom	303000 Steering/Handling
Attachments	11111Ground Points.pdf (11111Ground Points.pdf)
Content	<p>Issue:</p> <p>A customer may report the vehicle steering feels heavy following an ECO stop start event, potentially accompanied by visual or audible warnings through the instrument pack. The following DTCs may also be logged:</p> <p>Range Rover/ Range Rover Sport 16MY only</p> <p>EPAS module -</p> <p>B1304-16: Electronic Power Assisted Steering (EPAS) system circuit voltage below threshold.</p> <p>Range Rover/ Range Rover Sport/ Range Rover Evoque/ Discovery Sport</p> <p>EPAS module -</p> <p>B1304-16: Electronic Power Assisted Steering (EPAS) system circuit voltage below threshold.</p> <p>U3001-00: Power Steering Control Module (PSCM) system improper shutdown.</p> <p>These may be accompanied by:</p> <p>U0001-87 / 88 High speed CAN bus invalid serial data received / missing message.</p> <p>Chassis Control Module -</p> <p>U0131-00 Chassis Control Module (CHCM) lost comms with PSCM.</p> <p>U3003-62 Battery voltage signal compare failure.</p> <p>U0420-68 CHCM invalid data received from PSCM.</p> <p>B1304-04 Electronic Power Assisted Steering System - System Internal Failures</p> <p>Cause:</p> <p>This may be caused by:</p> <p>Low battery voltage at PSCM particularly during engine crank.</p> <p>Wiring harness issue (short / open circuit, high resistance).</p> <p>High resistance at EPAS earth terminal (for L405/L494) G1D132 and or G4D178, (see attached diagram) or (for L550/L538) high resistance at G1D122A, G1D122B, G1D122AZ and G1D108.</p> <p>Poor connection or pin set condition at connector number C11-G1.</p>

Action:

1. Connect an approved EXP-1080 with software version D directly to the battery negative and positive terminal posts. Note: When requested to select In/ Out of vehicle always select 'In vehicle'
2. Conduct the battery test ensuring the correct details are entered into the battery tester (always use the information provided on the battery label).
3. If the test result equals 'Good battery' go to action 7. If the battery test result equals 'Re-charge Re-test', note the recommended re-charge time and go to action.
4. Connect JLR approved charger to the vehicle, GRX & GR8 needs to be connected to the BMS stud only, all other approved chargers must be connected to the negative lead from charger onto chassis earth, place the positive lead from the charger directly onto the battery positive post.
5. Switch the charger on and allow the battery to charge (always adhere to the charge time as recommended by the EXP-1080). When the recommended time has elapsed, switch the charger off and remove leads.
6. Re-test the battery with the EXP-1080 and follow the on-screen instructions, if re-charge re-test is displayed for the second time, disconnect the battery from the vehicle and test again, re-test the battery with the EXP-1080 and follow the on-screen instructions, if re-charge re-test is displayed for the third time replace the battery stating all battery test codes on the claim
7. Using SDD please check the PSCM, CHCM and EPAS for any DTCs.
8. Confirm PSCM ignition and main power fuses and associated eyelet bolt downs are secure.
9. Check and clean the following earth terminals **L405/L494**:G1D132 & G4D178 **L550/L538**: G1D122A, G1D122B, G1D122AZ and G1D108. Replace the washer if found to be corroded and re-tighten retaining fixings to the specified torque 9Nm (do not overtighten).
10. Refer to the electrical circuit diagrams (211.02 in TOPIx) and check the power steering control module power feed circuit for short circuit to ground, open circuit, high resistance.
11. Disconnect C11-G1 and confirm pin condition with a pin drag test. Ensure when re-connecting that it has securely latched.

Note: There is no requirement to replace the steering rack for this issue.

