

TECHNICAL TOPICS POWERTRAIN



Transmission Concerns

2016-2022 Range Rover, Range Rover Sport, Velar, Evoque, Discovery, Discovery Sport, Defender, XE, XF, XJ, F-Pace, F-Type, E-Pace fitted with ZF Transmission

Customer Voice:

- Customer states harsh shift, transmission warning lamp

Technical Description:

- Diagnosis leads to transmission replacement request, or technical assistance required

Status:

- All requests for support on ZF transmissions should include the ZF Transmission Analysis Form that can be found under GCM downloads
- Adaptation printouts should be included and is requested on the ZF analysis form.
- In addition, a photo showing the fluid condition, and statement on condition of fluid (dirty, clear, burnt, etc.) should be included in the escalation statement.

Refer to GCM downloads for the ZF Transmission Analysis Form

ZF AUTOMATIC TRANSMISSION ANALYSIS FORM	
General Information	
Date:	Dealer/Co./Company name:
Sheet completed by:	Telephone Fax email
V.I.N.	AT Serial number
Make/Model	Model year
Automatic gearbox characteristics:	Original Vehicle type
Customer Symptom/Complaint Description	<input type="checkbox"/> Replaced as recommended
Customer last actions:	Reset/Adapt: Yes/No
	Slip: Yes/No
	No. throttle afterdriving <input type="checkbox"/> 0 <input type="checkbox"/> 10 <input type="checkbox"/> 15
IMPORTANT: For ALL Shift Quality concerns - Include Adaptation Values print out from the approved diagnostic system.	
Failure Mode	
Failure occurrence condition	<input type="checkbox"/> Always <input type="checkbox"/> Frequent <input type="checkbox"/> Intermittent <input type="checkbox"/> Unable to replicate
> 2nd gear/hierarchy	<input type="checkbox"/> 1st gear road <input type="checkbox"/> 2nd gear road <input type="checkbox"/> 3rd gear road
> Engine temperature	<input type="checkbox"/> Cold <input type="checkbox"/> Normal <input type="checkbox"/> Unconcerned engine temperature
> Load frequency	<input type="checkbox"/> Up-Hill <input type="checkbox"/> Down-Hill <input type="checkbox"/> Flat road <input type="checkbox"/> Others
Critical Warning	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is the fault repeatable?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Transmission Returned to Normal Function when:	Shedding another gear <input type="checkbox"/> Ignition cycle <input type="checkbox"/>
a) Did the DTC return after clearing?	<input type="checkbox"/> No <input type="checkbox"/> Yes - Intermittent? <input type="checkbox"/> or after a road test? <input type="checkbox"/>
b) Did the MIL return after clearing the P-Code?	<input type="checkbox"/> No <input type="checkbox"/> Yes
c) Are all TCM electrical connections good?	<input type="checkbox"/> No <input type="checkbox"/> Yes (If no record sheet)
Record section for form the approved diagnostic system. Section for available? <input type="checkbox"/> Yes <input type="checkbox"/> No	
AT Oil Level	a) Oil <input type="checkbox"/> Normal <input type="checkbox"/> Discoloured (burnt) <input type="checkbox"/> Material particles <input type="checkbox"/> Oil/Water Emulsification
Water traces contamination in sampled fluid prior	b) Oil leak identified <input type="checkbox"/> No <input type="checkbox"/> Yes
Oil volume added or removed to adjust level:	c) Oil Temperature taken at oil level check: <input type="checkbox"/> Level Repaired <input type="checkbox"/> No <input type="checkbox"/> Yes
Select Failure:	d) Oil volume added or removed to adjust level: <input type="checkbox"/> ...degrees C
<input type="checkbox"/> Electrical E	Gear Change Mode <input type="checkbox"/> In drive (D) <input type="checkbox"/> Command <input type="checkbox"/> Sports (S) <input type="checkbox"/> Kickdown
<input type="checkbox"/> Electrical J1	a) P <input type="checkbox"/> R <input type="checkbox"/> N <input type="checkbox"/> D <input type="checkbox"/> P-R <input type="checkbox"/> R-P <input type="checkbox"/> R-N <input type="checkbox"/> N-R <input type="checkbox"/> N-D <input type="checkbox"/> D-N <input type="checkbox"/> D-R <input type="checkbox"/> P-D <input type="checkbox"/> D-R
<input type="checkbox"/> Slip shift	b) 1-2 <input type="checkbox"/> 2-3 <input type="checkbox"/> 3-4 <input type="checkbox"/> 4-5 <input type="checkbox"/> 5-6 <input type="checkbox"/> 6-7 <input type="checkbox"/> 7-8 <input type="checkbox"/> 8-9
<input type="checkbox"/> Vibration	c) 0-8 <input type="checkbox"/> 1-7 <input type="checkbox"/> 2-6 <input type="checkbox"/> 3-5 <input type="checkbox"/> 4-3 <input type="checkbox"/> 5-2 <input type="checkbox"/> 2-1
<input type="checkbox"/> No shift	d) N - Dsec N - Rsec
<input type="checkbox"/> No shift engagement	e) Failure occurrence: Vehicle speed mph / km/h
	Throttle position% (if known)
	Engine speedrpm
	gear position:

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