

ZF Trouble Shooting Guide

JLR 13 38 10_2E

General Information

The ZF Trouble Shooting Guide (TSG) is a knowledge-based system. It is designed to aid diagnosis of transmission-related faults which have previously been encountered with ZF products in Land Rover applications.

The guide is intended to cover 6 speed transmission vehicles, which include the following;

L319	Discovery
L320	Range Rover Sport
L322	Range Rover

This file is intended as a supplement to the workshop manuals; specifically to accompany the Description & Operation, and Diagnosis and Testing sections.

It covers problems with both the transmissions themselves, and vehicle-related problems.

It has been compiled using information learned from investigations during assembly, field cases and at dealerships. The guide is a supplement based on 'real time' field issues and as such it will be updated on a regular basis.

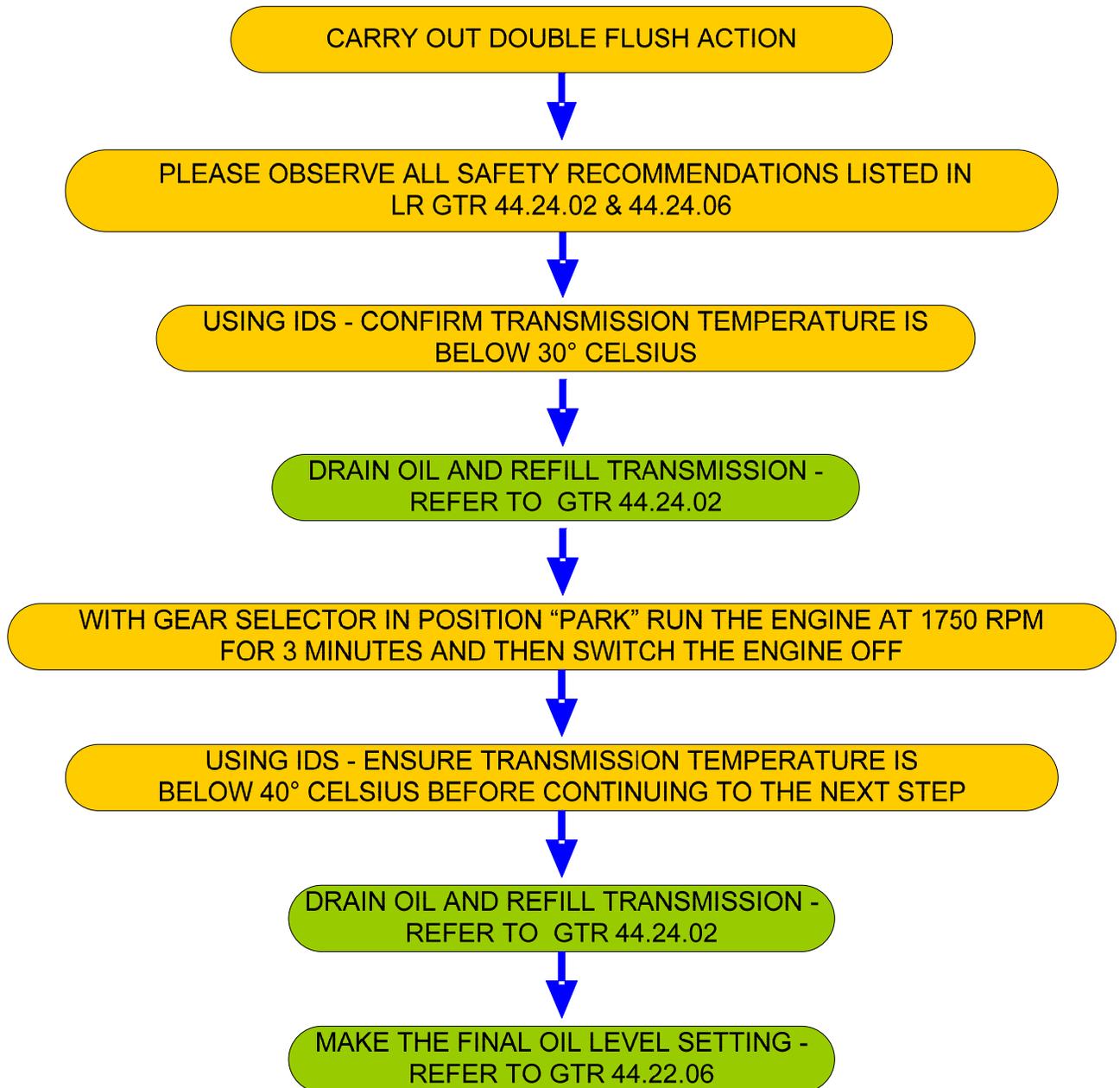
If you have comments or questions relating to this publication please use the 'contact us' button on GTR.

November

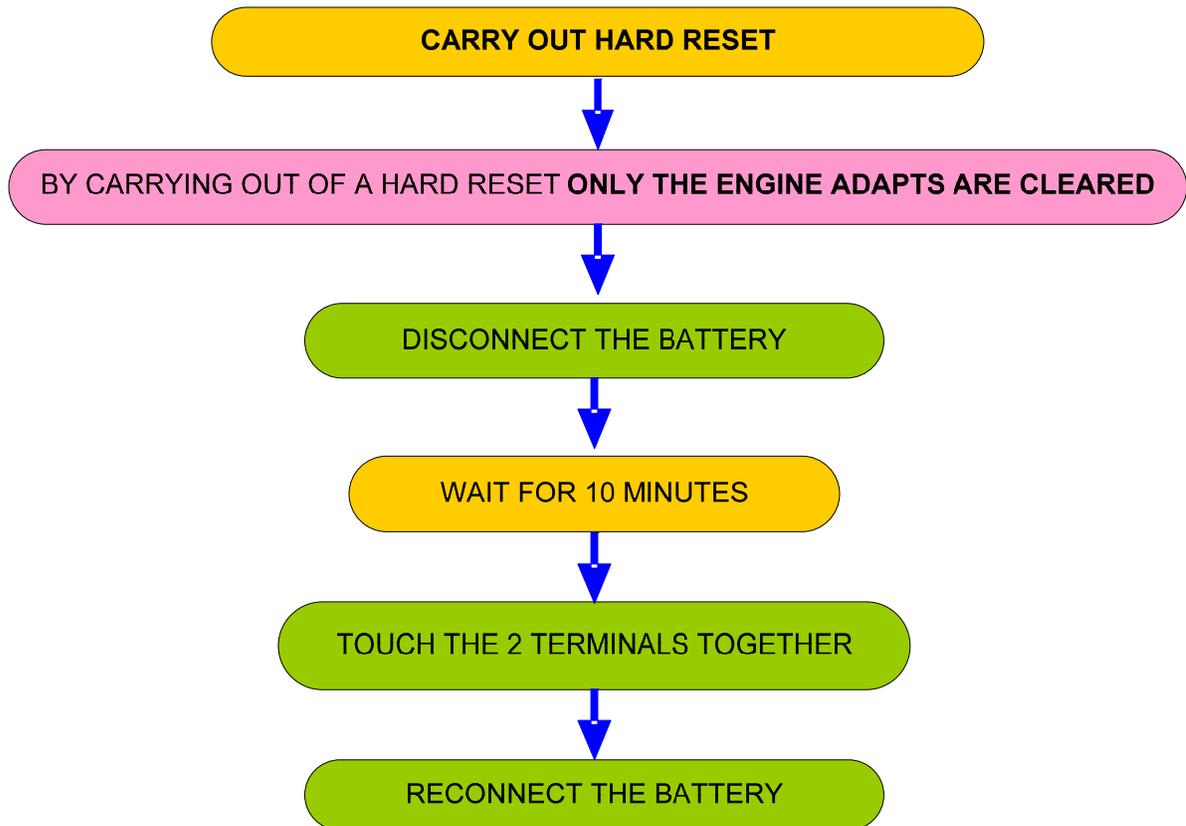
2007

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Carry Out Double Flush Action



Carry Out Hard Reset (Battery) – Clear Engine Adaptions



THE TRANSMISSION ADAPPTIONS
ARE NOT CLEARED BY
CARRYING OUT A HARD RESET

THE TRANSMISSION ADAPPTIONS
MUST BE CLEARED BY USING
THE DEALER SPECIAL TOOL
(SPECIAL APPLICATION OPTION)

Clear Transmission Adaption Values (with Dealer Special Tool)

**„THE GOLDEN 6HP26 RULE“:
BEFORE FLASHING A TRANSMISSION
THE TRANSMISSION ADAPTIONS MUST BE RESET WITHOUT EXCEPTION**

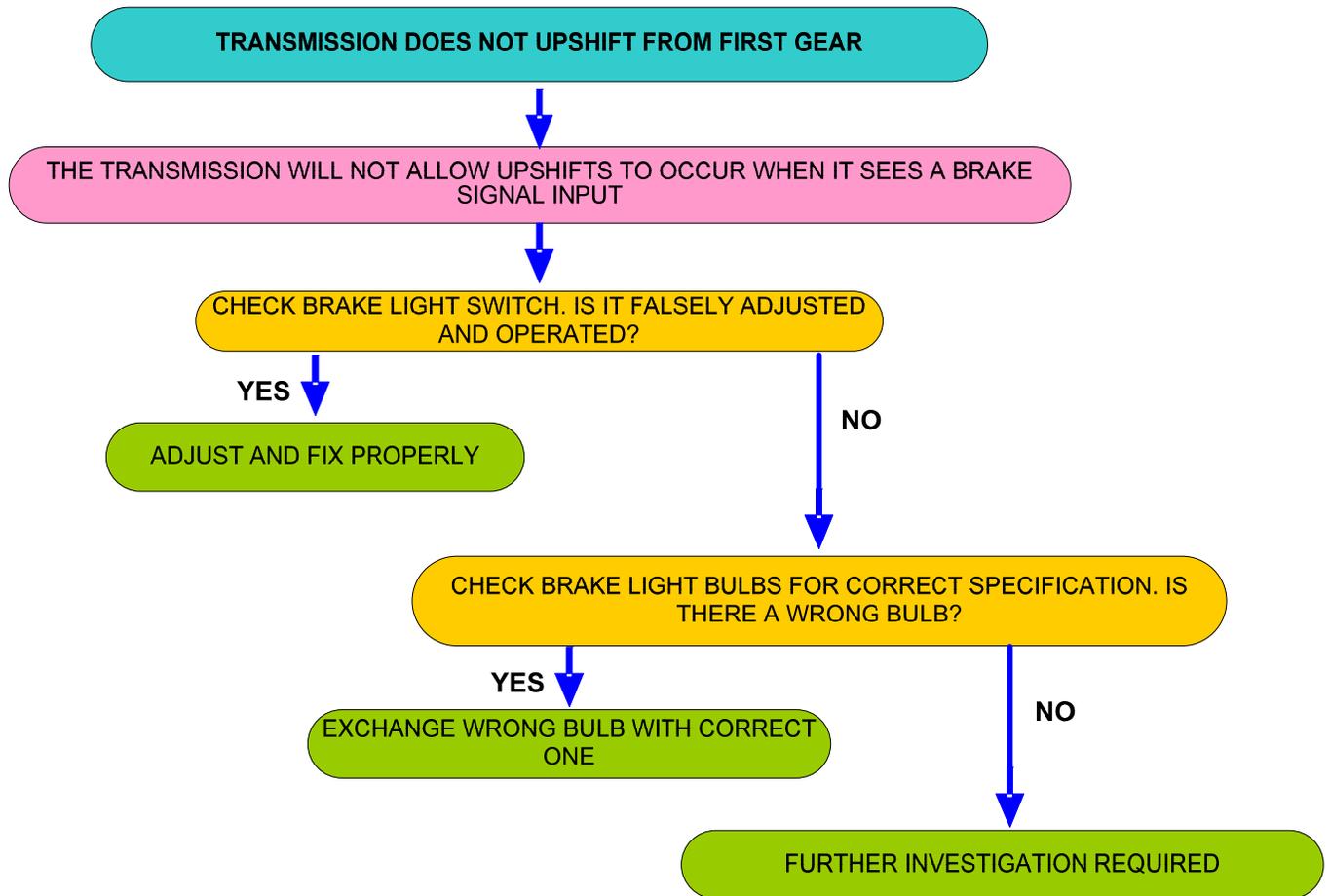
CLEAR THE TRANSMISSION ADAPTIONS

THE TRANSMISSION ADAPTIONS ARE NOT CLEARED BY CARRYING OUT A HARD RESET

THE TRANSMISSION ADAPTIONS MUST BE CLEARED MANUALLY

USE THE DEALER SPECIAL TOOL
(SPECIAL APPLICATION OPTION)

Does Not Upshift From First Gear



Grinding Noise At Constant Speed

CYCLICAL GRINDING NOISE WHEN PULL UP A GRADIENT AT ABOUT 40 MPH OR/AND POSSIBLE THUMP FROM TRANSMISSION AFTER COMING TO A COMPLETE STOP

THESE COMPLAINTS CAN BE CAUSED BY OIL COOLER FLUID / GLYCOL / WATER IN THE TRANSMISSION OIL

CHECK CONDITION OF OIL BY DRAINING OIL INTO A CLEAN CONTAINER. DOES THE ATF LOOK LIKE COFFEE OR HONEY?

YES

CONTACT DTS HOTLINE

NO

CHECK THE ATF SAMPLE WITH AN OIL TEST (SUCH AS HANA TEST). CAN YOU CONFIRM OIL COOLER FLUID / GLYCOL?

YES

CONTACT DTS HOTLINE

NO

CARRY OUT OIL COOLER/RADIATOR PRESSURE TEST. ANY LEAKAGE?

YES

CONTACT DTS HOTLINE

NO

FURTHER INVESTIGATION REQUIRED



Harsh Roll Out Shifts 2-1 (MY05 and MY06)

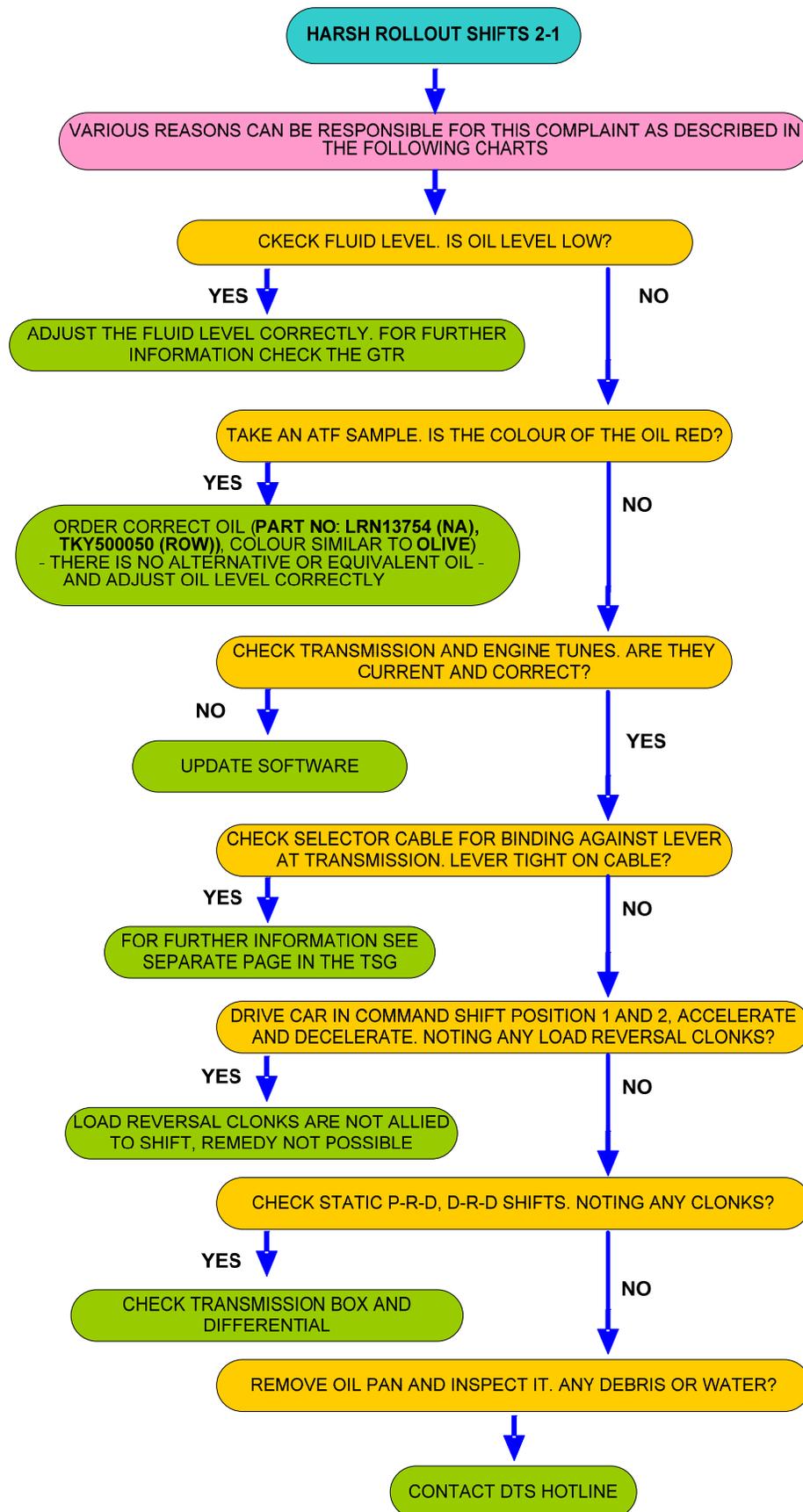
HARSH ROLL OUT SHIFTS 2-1

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graph TD; A[HARSH ROLL OUT SHIFTS 2-1] --> B[COMPLAINT MAY BE CAUSED AS A RESULT OF WATER CONTAMINATION IN THE TRANSMISSION FROM MANUFACTURING AT LAND ROVER]; B --> C[SEE LAND ROVER TECHNICAL BULLETIN NO. LM307-001NAS (NA) RESP. LM307-005 (ROW)];
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COMPLAINT MAY BE CAUSED AS A RESULT OF WATER CONTAMINATION IN THE TRANSMISSION FROM MANUFACTURING AT LAND ROVER

SEE LAND ROVER TECHNICAL BULLETIN NO. **LM307-001NAS** (NA)
RESP. **LM307-005** (ROW)

Harsh Roll Out Shifts 2-1



Holds 1st Gear After Cold Start (MY07)

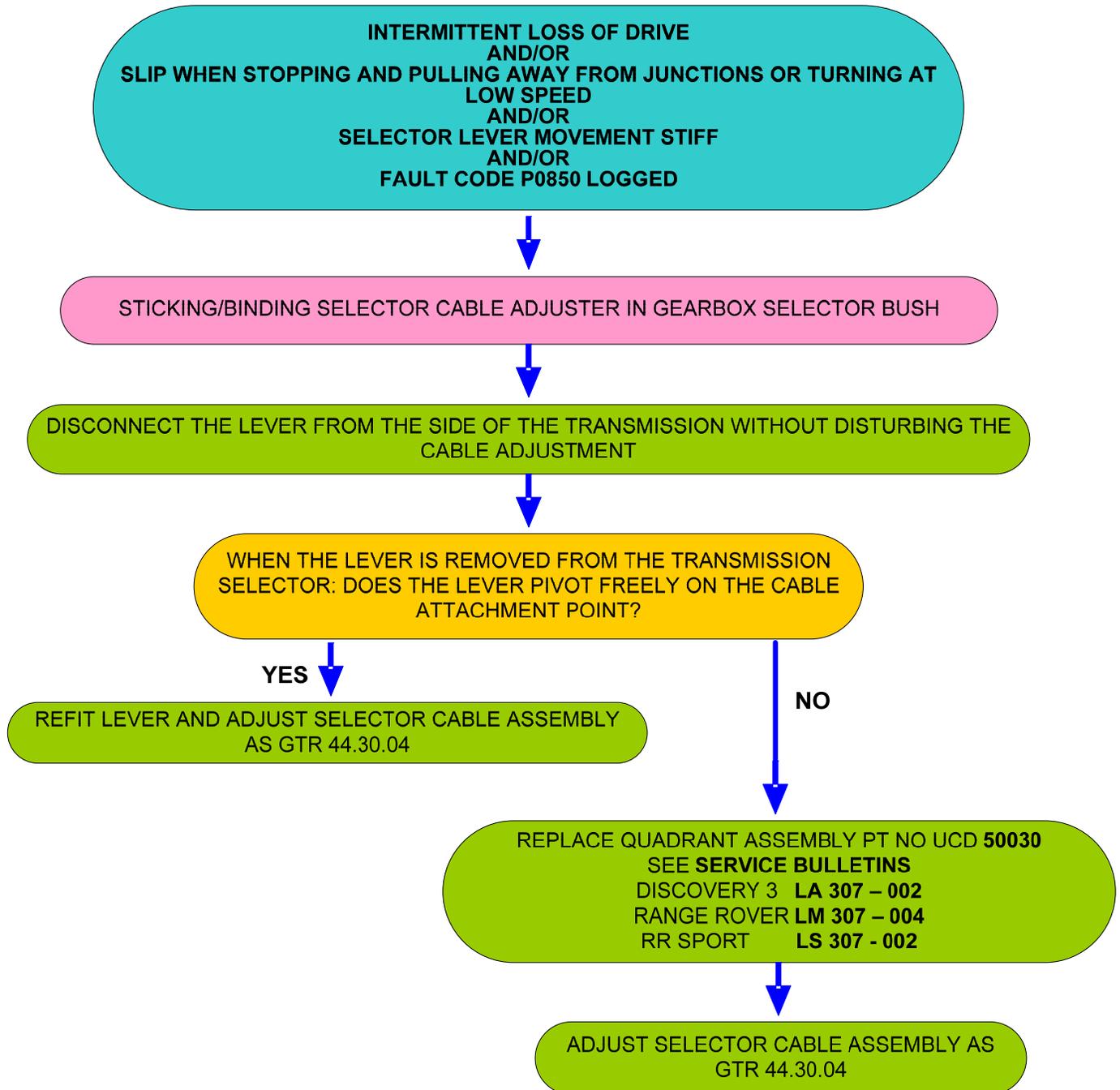
TRANSMISSION HOLDS FIRST GEAR AFTER COLD START

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graph TD; A[TRANSMISSION HOLDS FIRST GEAR AFTER COLD START] --> B[IF THE VEHICLE IS DRIVEN UPHILL WITH COLD ENGINE, THE TRANSMISSION WILL NOT UPSHIFT UNTIL HIGH ENGINE REVS DUE TO THE TRANSMISSION GRADIENT MODE STRATEGY IN MY 2007]; B --> C[NO CHANGE POSSIBLE. IN MY 2008 THIS STRATEGY HAS CHANGED IN ORDER TO ADDRESS THIS COMPLAINT];
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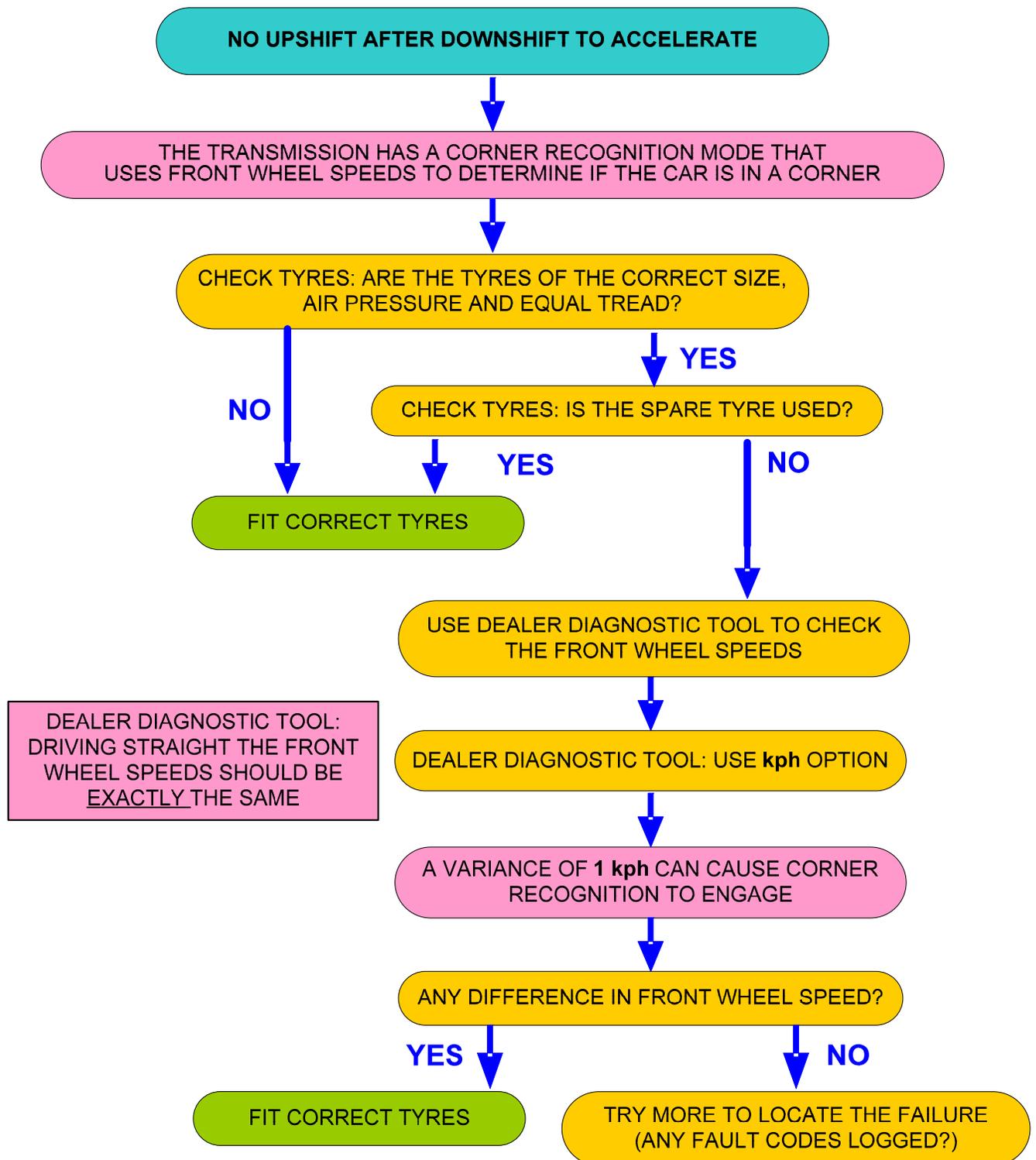
IF THE VEHICLE IS DRIVEN UPHILL WITH COLD ENGINE, THE TRANSMISSION WILL NOT UPSHIFT UNTIL HIGH ENGINE REVS DUE TO THE TRANSMISSION GRADIENT MODE STRATEGY IN MY 2007

NO CHANGE POSSIBLE. IN MY 2008 THIS STRATEGY HAS CHANGED IN ORDER TO ADDRESS THIS COMPLAINT

Intermittent Slip – Transmission Switches To N - Bump - Jerky - Selector Lever



No Upshift After Acceleration



P0500 Vehicle Speed Sensor – Intermittant Loss Of Drive

INTERMITTENT LOSS OF DRIVE, FAULT CODE P0500 VEHICLE SPEED SENSOR LOGGED

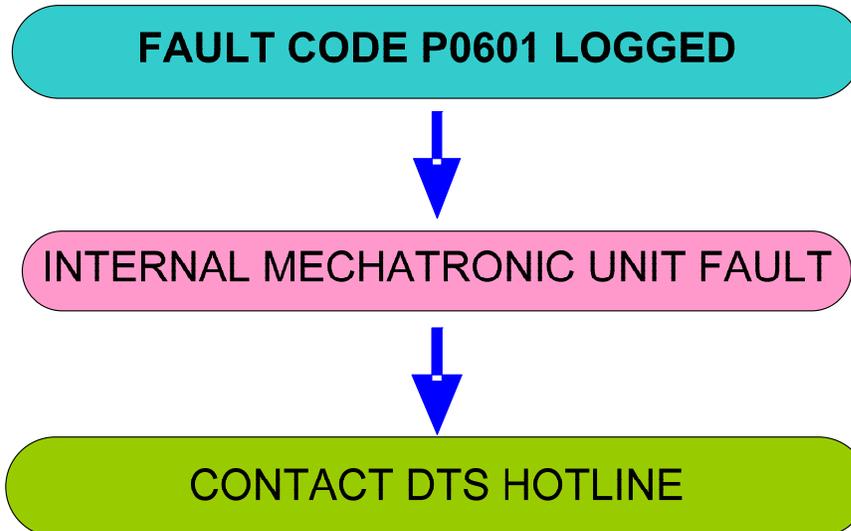


WHEN ONE OF THE FOUR DRIVESHAFTS BECOME DISENGAGED THE VEHICLE WILL LOOSE DRIVE INTERMITTENTLY WHEN THE SPLINES BECOME DISENGAGED FROM THE DIFFERENTIAL. CAUSE IS THE SECURING CLIP ON THE END OF THE DRIVESHAFT NOT ENGAGED CORRECTLY

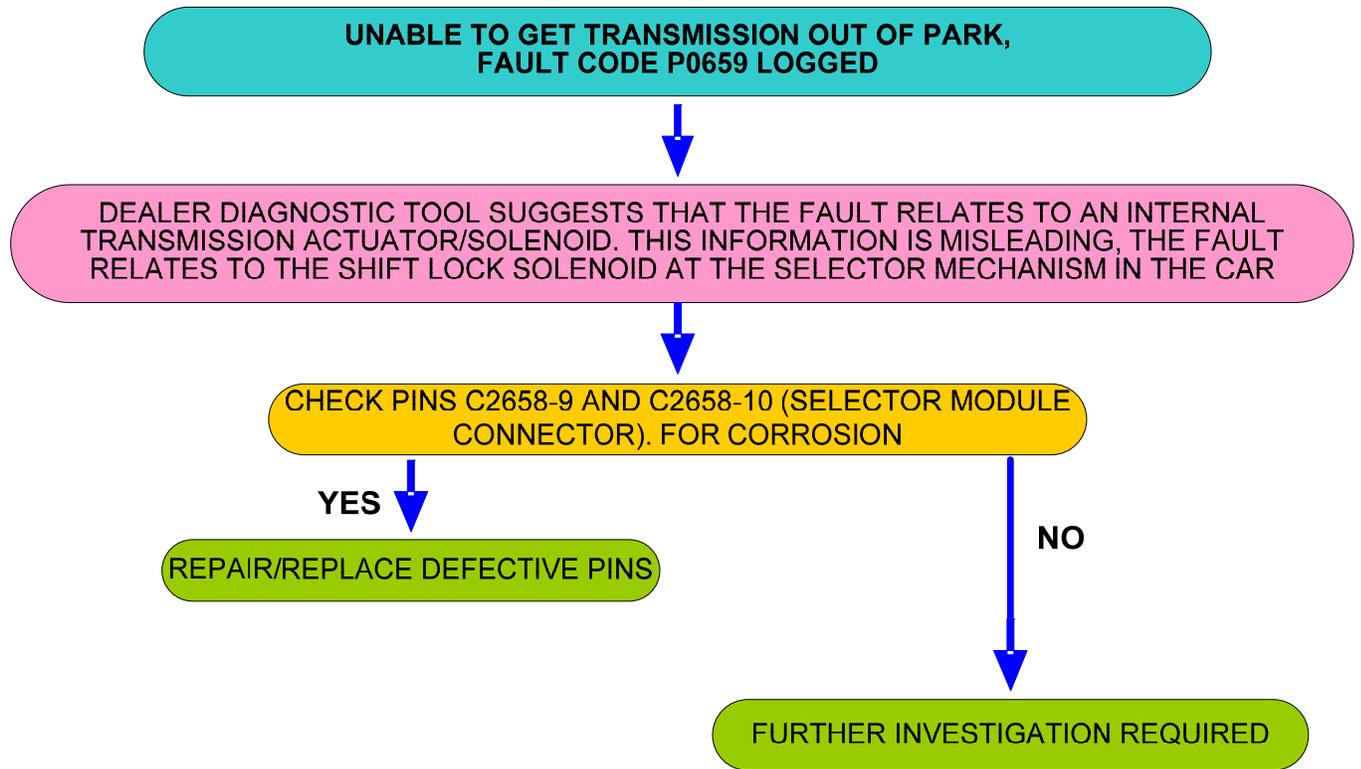


CAREFULLY EXAMINE ALL DRIVESHAFTS FOR SECURE FITMENT INTO THE DIFFERENTIAL

P0601 Internal Mechatronic Unit Fault (07MY)

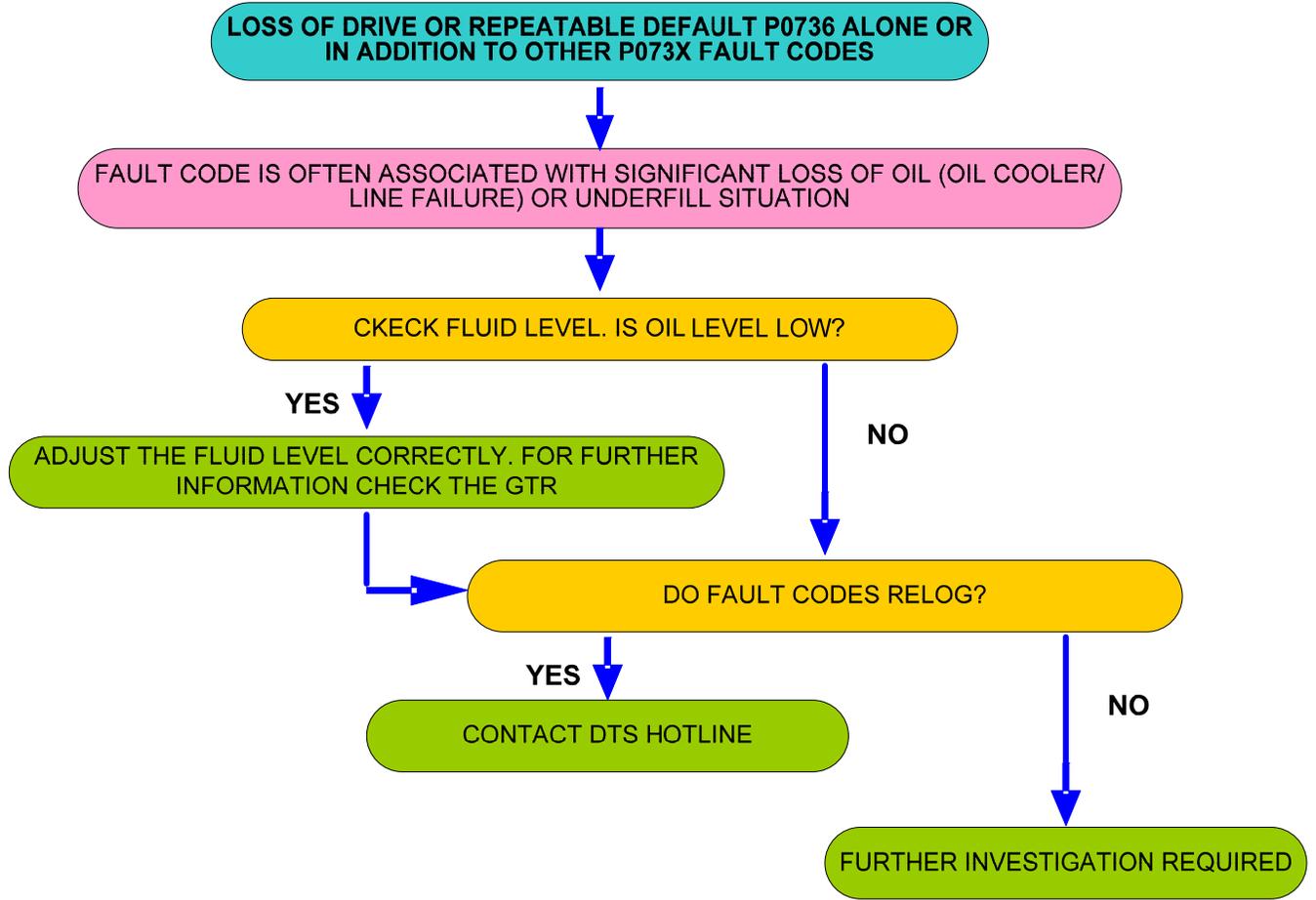


P0659 Unable To Get Transmission Out Of Park

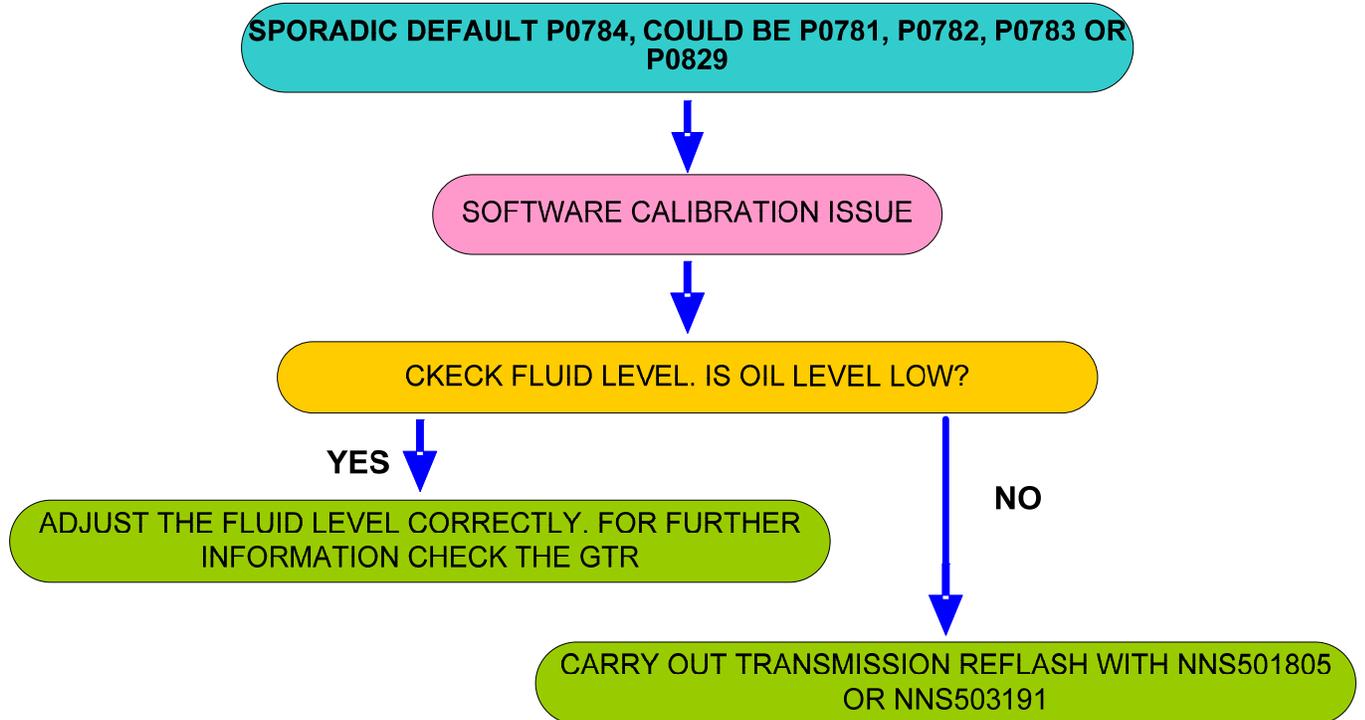


P0736, P073X

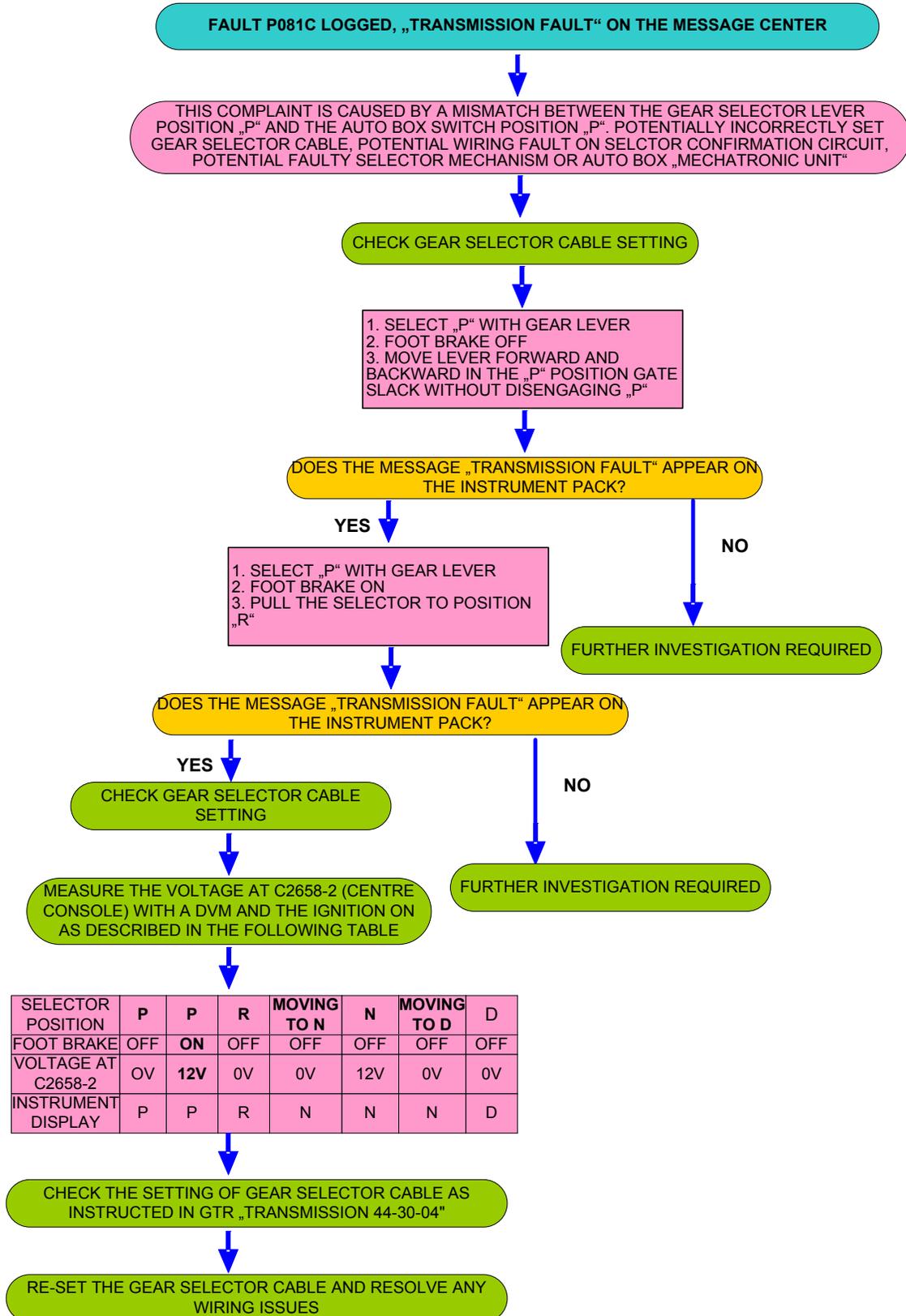
Intermittent Loss Of Drive



P0784, P078X, P0829 Sporadic Fault (MY05 and MY06)



P081C Transmission Fault On Message Centre – Selector Cable



P2743 Rear Differential – Not Transmission Temperature Sensor

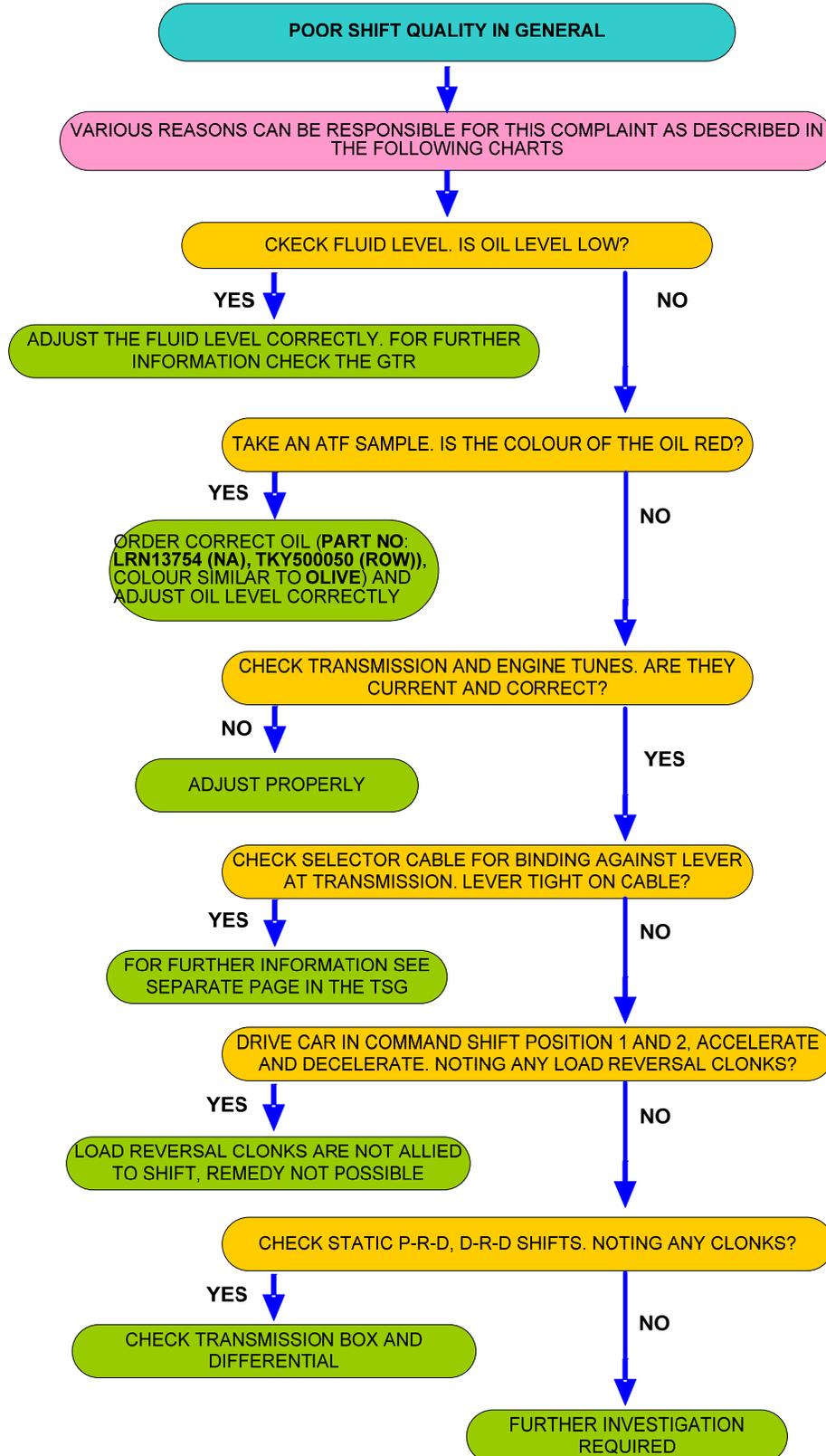
FAULT CODE P2743 LOGGED

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graph TD; A[FAULT CODE P2743 LOGGED] --> B[DEALER DIAGNOSTIC TOOL SUGGESTS THAT THE FAULT RELATES TO AN INTERNAL TRANSMISSION TEMPERATURE SENSOR. THIS INFORMATION IS MISLEADING, THE FAULT RELATES TO THE REAR DIFFERENTIAL AND IS NOT RELATED TO THE AUTO TRANSMISSION FUNCTION]; B --> C[SEE LAND ROVER DIAGNOSTICS FOR REAR DIFFERENTIAL];
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SEE LAND ROVER DIAGNOSTICS FOR REAR DIFFERENTIAL

Poor Shift Quality (General)



Software Calibration Identification

**„THE GOLDEN 6HP26 RULE“:
BEFORE FLASHING A TRANSMISSION
THE TRANSMISSION ADAPPTIONS MUST BE RESET WITHOUT EXCEPTION**

**IDENTIFY SOFTWARE LEVEL WITH DEALER DIAGNOSTIC TOOL
(IDS/WDS) BY USING THE S93 REPORT FUNCTION**

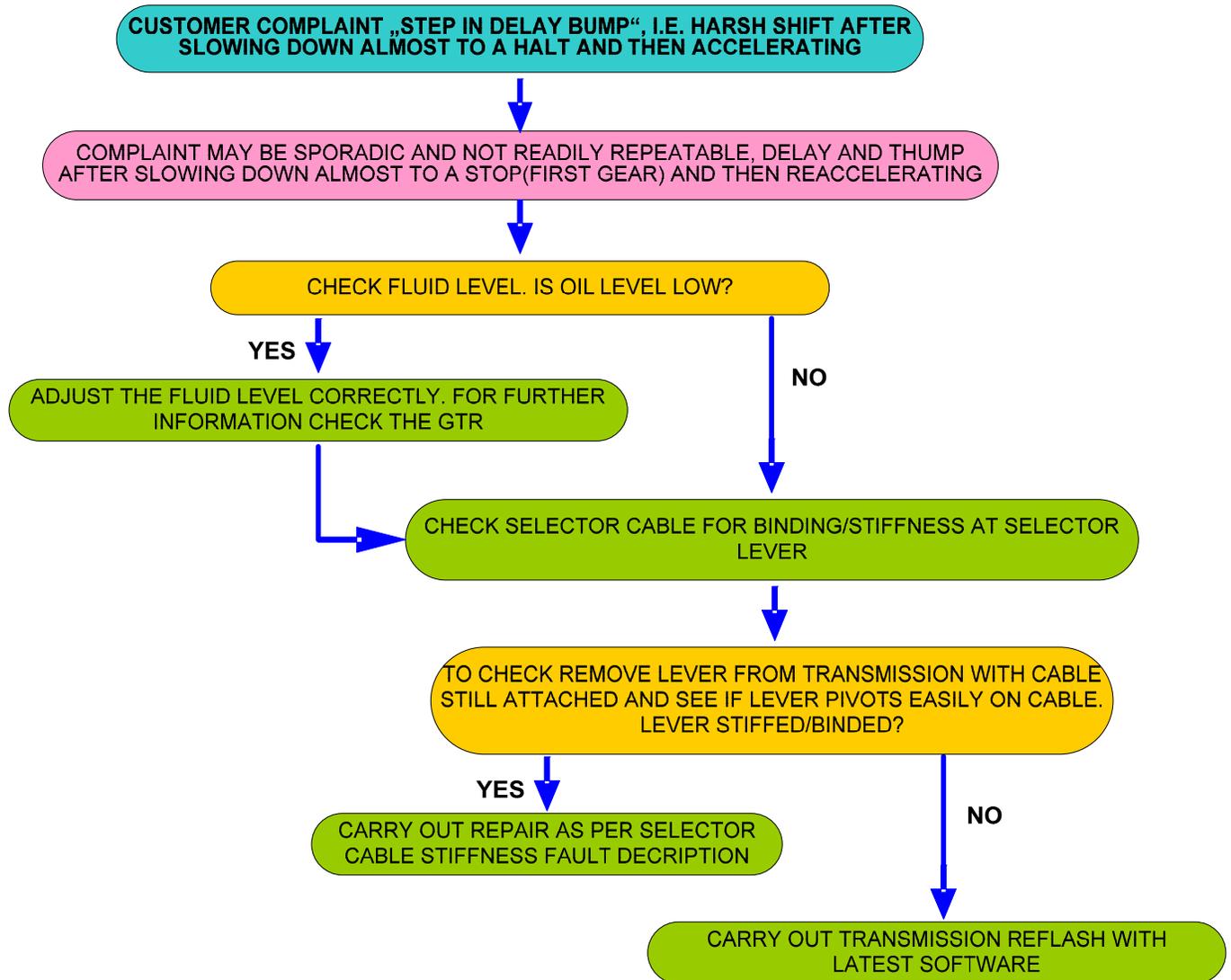


**SOFTWARE CALIBRATION IDENTIFIER WILL NOT BE SHOWN IF MODULE INTEGRITY
TEST IS PERFORMED**

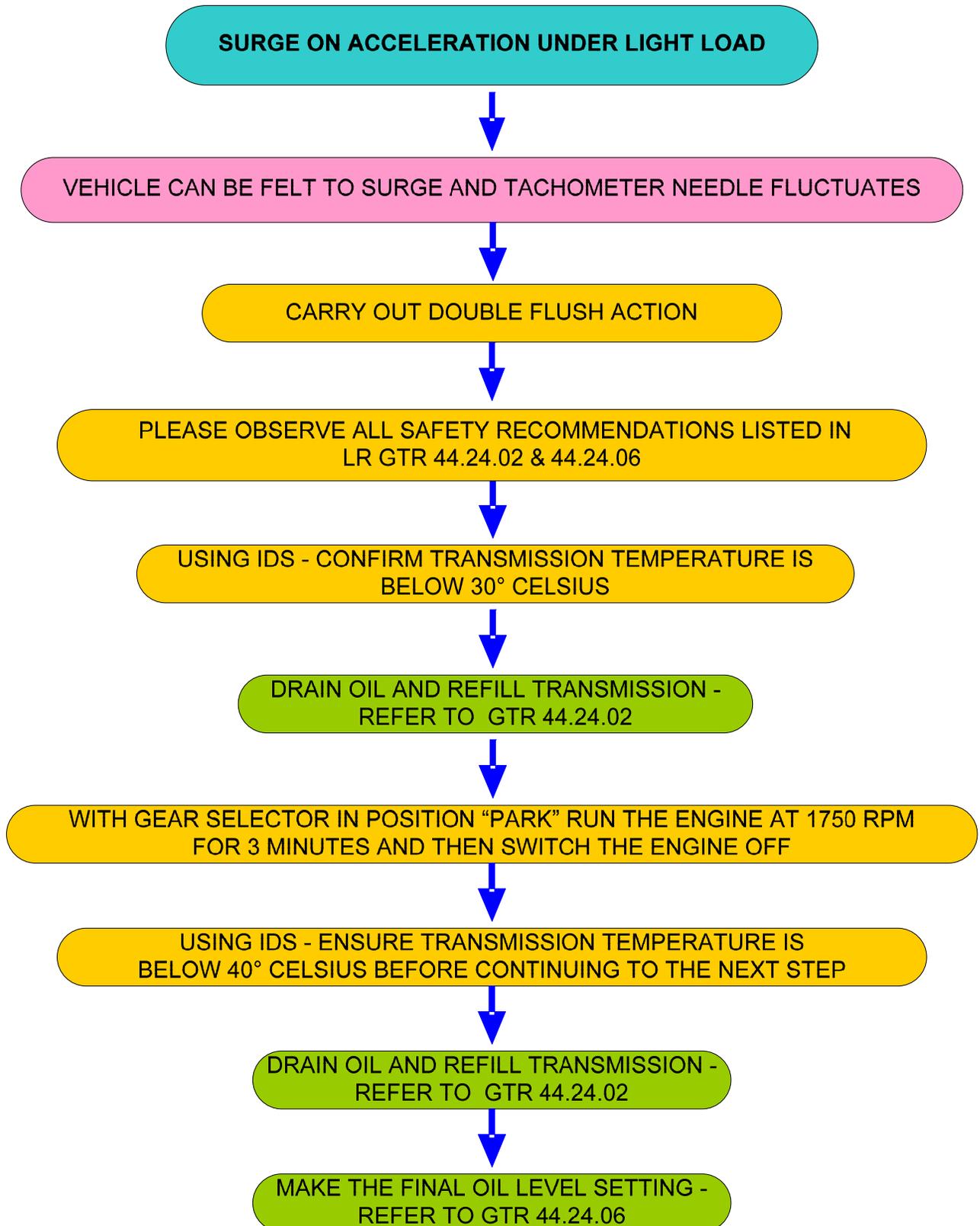


TYPICALLY CALIBRATION IDENTIFIER IS AN **NNSXXXXX
NUMBER AND **NOT** AN **NNV**XXXXX**

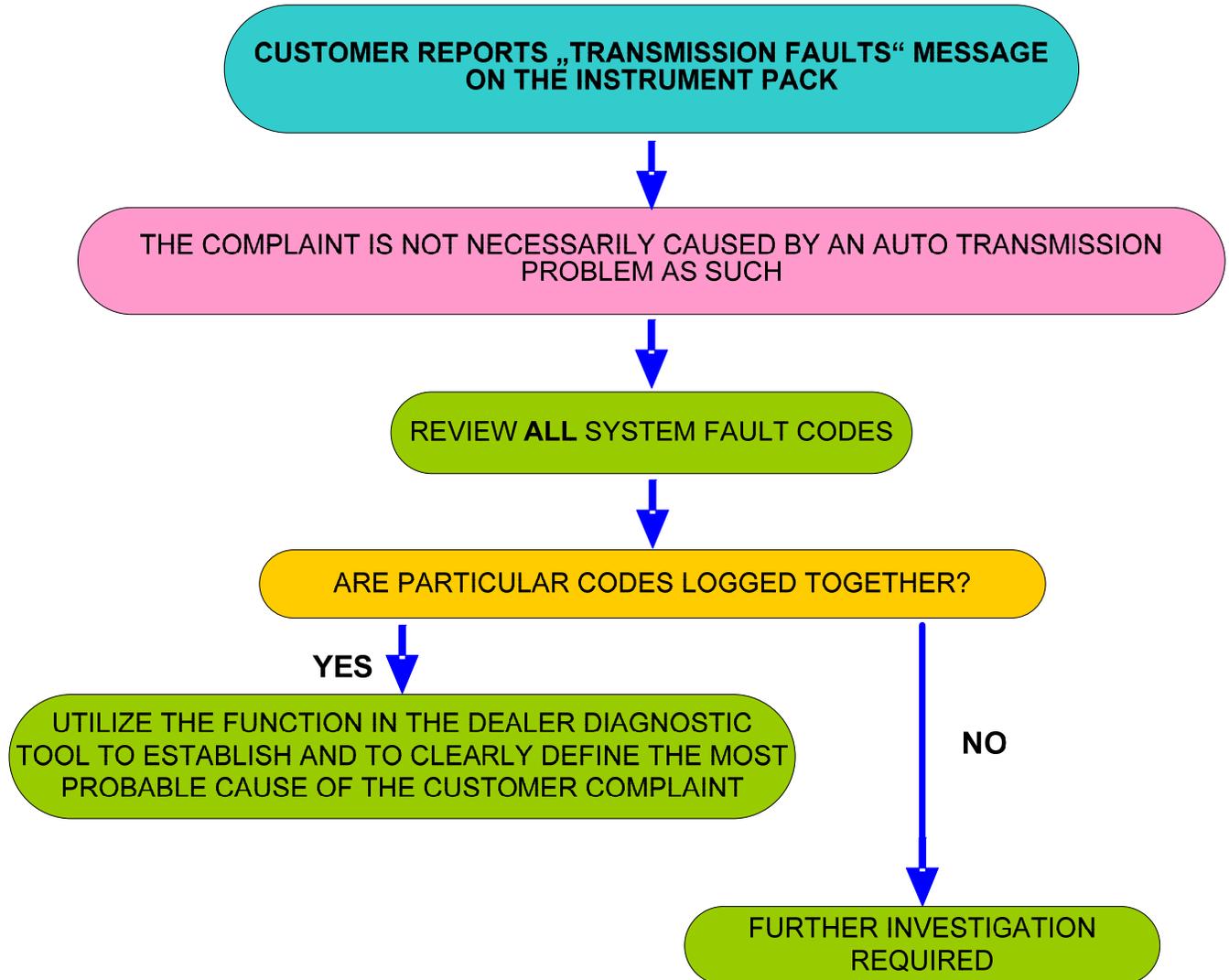
Step In Delay - Bump (MY05 and MY06)



Surge – On Acceleration Under Light Load



Transmission Fault Message On Instrument Pack



Transmission Overheat - Message

„TRANSMISSION OVERHEAT“ MESSAGE ON INSTRUMENT PACK

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graph TD; A[„TRANSMISSION OVERHEAT“ MESSAGE ON INSTRUMENT PACK] --> B[DEALERS ARE NOT ABLE TO CLEAR OVERHEAT MESSAGE FROM INSTRUMENT PACK, NO FAULT CODES FOR OVERHEATING]; B --> C[CARRY OUT HARD RESET ON VEHICLE TO RESOLVE COMPLAINT];
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DEALERS ARE NOT ABLE TO CLEAR OVERHEAT MESSAGE FROM INSTRUMENT PACK, NO FAULT CODES FOR OVERHEATING

CARRY OUT HARD RESET ON VEHICLE TO RESOLVE COMPLAINT

Vibration At 70mph – 95kph

CYCLICAL VIBRATION FELT WHEN THROTTLE DEPRESSED AT 70 MPH (115 KPH) 2000 RPM (ENGINE SPEED) IN 6TH GEAR, FEELS LIKE A TORQUE CONVERTER VIBRATION, CAN ALSO BE REPRODUCED IN 5TH GEAR AND 4TH GEAR AT 2000 RPM (ENGINE SPEED)



PROBLEM IS CAUSED BY ENGINE TUNE RELATED PROBLEM (MISSFIRE)



COMPLAINT CAN BE SOLVED BY FLASHING THE LATEST ENGINE TUNE

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General Information
(All Applications)

ZF Trouble Shooting Guide
General Information
(This Application Only)