

**TC**

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Symptoms	Check	Action
Electric shift problems	<ul style="list-style-type: none"> <li>Faulty or damaged TCCU, speed sensor, motor, clutch or internal wirings</li> <li>Damaged or worn shift cam, hub, fork and rail shift</li> </ul>	<ul style="list-style-type: none"> <li>Overhaul and check, replace if necessary</li> <li>Overhaul and check for wear and damage.</li> </ul>
	<ul style="list-style-type: none"> <li>Binding shift fork, hub collar or gear</li> </ul>	<ul style="list-style-type: none"> <li>Check sliding parts, replace if necessary.</li> </ul>
	Cannot drive front wheel when shifting to 4H, 4L	<ul style="list-style-type: none"> <li>Broken drive chain</li> </ul>
Noise in 4WD operation	<ul style="list-style-type: none"> <li>Improper or low oil</li> <li>Loosened bolts or mounted parts</li> <li>Noisy T/C bearing</li> </ul>	<ul style="list-style-type: none"> <li>Drain and replace with specified oil.</li> <li>Retighten as specified.</li> <li>Disassemble bearings and parts and check for wear or damage. Replace if necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>Gear abnormal noise</li> </ul>	<ul style="list-style-type: none"> <li>Check for wear and damage including speedometer gear. Replace if necessary.</li> </ul>
Noise in 4H or 4L	<ul style="list-style-type: none"> <li>Worn or damaged sprockets or drive chain</li> <li>Incorrect tire pressure</li> </ul>	<ul style="list-style-type: none"> <li>Disassemble and check for wear and damage. Replace if necessary.</li> <li>Adjust tire pressure.</li> </ul>
Transfer case oil leakage	<ul style="list-style-type: none"> <li>Cracked transfer case</li> </ul>	<ul style="list-style-type: none"> <li>Replace the case.</li> </ul>
	<ul style="list-style-type: none"> <li>Leakage from other parts</li> </ul>	<ul style="list-style-type: none"> <li>Clean case and parts and check for leakage.</li> </ul>
	<ul style="list-style-type: none"> <li>Breather clogging</li> </ul>	<ul style="list-style-type: none"> <li>Remove breather hose and clean. Replace if necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>Improper or too much oil</li> </ul>	<ul style="list-style-type: none"> <li>Use specified oil and adjust oil level.</li> </ul>
	<ul style="list-style-type: none"> <li>Loosened sealing bolts</li> </ul>	<ul style="list-style-type: none"> <li>Retighten.</li> </ul>
	<ul style="list-style-type: none"> <li>Improperly applied sealant</li> <li>Worn or damaged oil seal</li> </ul>	<ul style="list-style-type: none"> <li>Use specified sealant and retighten.</li> <li>Replace oil seal.</li> </ul>

Modification basis	
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Code	Description	Action
P1806	Detective CAN communication	<ul style="list-style-type: none"> <li>• Check communication line.</li> <li>• Replace TCCU if necessary.</li> </ul>
P1805	Defective mode switch	<ul style="list-style-type: none"> <li>• When the mode switch is defective</li> <li>• Check TCCU pin No.4 and 16.</li> <li>• Mode change <ul style="list-style-type: none"> <li>- 2H (Pin No. 4: Ground)</li> <li>- 4H (No contact: Open)</li> <li>- 4L (Pin No.16: Ground)</li> </ul> </li> </ul>
P1821	Open or short to ground in magnetic clutch coil circuit	<ul style="list-style-type: none"> <li>• Voltage at TCCU pin No.11: 11 ~ 15 V</li> <li>• EMC resistance: 2.5 <math>\Omega</math></li> <li>• Check the relevant connectors for contact.</li> <li>• Replace TCCU if necessary.</li> </ul>
P1822	Open or short to ground in hub control circuit	<ul style="list-style-type: none"> <li>• When the hub control circuit is open or short to ground over 0.2 second</li> <li>• Replace TCCU if necessary.</li> </ul>
P1841	Open to ground in shift motor circuit	<ul style="list-style-type: none"> <li>• When TCCU detects the motor failure for 1 second</li> <li>• Check the relevant harnesses for contact.</li> <li>• Replace TCCU if necessary.</li> </ul>
P1842	Short to ground in shift motor output circuit	<ul style="list-style-type: none"> <li>• When TCCU detects the motor failure for 1 second</li> <li>• Check the relevant harnesses for contact.</li> <li>• Replace TCCU if necessary.</li> </ul>
P1843	Defective position sensor in motor	<ul style="list-style-type: none"> <li>• 2H-4H: after 1.5 seconds</li> <li>• 4H-4L: after 3 seconds</li> <li>• Check the relevant harnesses for contact.</li> <li>• Replace TCCU if necessary.</li> </ul>
P1844	Stuck in 4L mode	<ul style="list-style-type: none"> <li>• When no shifting operation from 4L to 4H, even though the shift conditions are satisfied and no error.</li> <li>• Replace TCCU if necessary.</li> </ul>

Code	Description	Action
P1850	Defective position encoder	<ul style="list-style-type: none"> <li>• When the position encoder is defective</li> <li>• Check the relevant harnesses.</li> <li>• Check the relevant connectors for contact.</li> <li>• Check the shift motor.</li> </ul>
P1851	Short to ground for position encoder 1	<ul style="list-style-type: none"> <li>• Short to ground for position encoder 1 in shift motor</li> <li>• Check the relevant harnesses for short. <ul style="list-style-type: none"> <li>- TCCU pin No.18</li> </ul> </li> <li>• Check the relevant connectors for contact.</li> <li>• Check the shift motor.</li> </ul>
P1852	Short to ground for position encoder 2	<ul style="list-style-type: none"> <li>• Short to ground for position encoder 2 in shift motor</li> <li>• Check the relevant harnesses for short. <ul style="list-style-type: none"> <li>- TCCU pin No.5</li> </ul> </li> <li>• Check the relevant connectors for contact.</li> <li>• Check the shift motor.</li> </ul>
P1853	Short to ground for position encoder 3	<ul style="list-style-type: none"> <li>• Short to ground for position encoder 2 in shift motor</li> <li>• Check the relevant harnesses for short. <ul style="list-style-type: none"> <li>- TCCU pin No.19</li> </ul> </li> <li>• Check the relevant connectors for contact.</li> <li>• Check the shift motor.</li> </ul>
P1854	Short to ground for position encoder 4	<ul style="list-style-type: none"> <li>• Short to ground for position encoder 4 in shift motor</li> <li>• Check the relevant harnesses for short. <ul style="list-style-type: none"> <li>- TCCU pin No.17</li> </ul> </li> <li>• Check the relevant connectors for contact.</li> <li>• Check the shift motor.</li> </ul>
P1815	Abnormal CAN neutral signal	<ul style="list-style-type: none"> <li>• No neutral signal from automatic transmission over 1 second through CAN.</li> <li>• Check CAN communication line.</li> <li>• Check TCU.</li> </ul>

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Symptoms		Cause	Action
Noise	Noise in all ranges	- Low oil level	- Check major components (bearing surface) for excessive wear - Replenish oil
		- Improper oil	- Drain oil and replenish the specified oil
		- Worn or broken chain	- Replace chain or sprocket
	Growling	- Broken bearing	- Replace transfer case housing
		- Low oil level	- Check major components (bearing surface) for excessive wear - Replenish oil
	Noise when cornering	- Worn pinion gear teeth	- Replace differential carrier assembly
	Low frequency noise and vibration	- Missing shaft support snap ring	- Visually check the relevant parts for wear and replace if necessary
Howling	- Abnormal friction in drive system	- Disassemble drive system, check rotating parts for wear and replace the worn parts.	
Clunking	Clunking (when starting and stopping)	- Excessive backlash in T/C (over 3°)	- Check backlash and replace if necessary
		- Improper mounting	- Excessive backlash in drive system - Check drive system
		- Excessive backlash in other parts	- Excessive backlash in drive system - Check drive system
Undrivable	Cannot deliver forward/reverse driving force	- Worn or broken chain	- Replace chain or sprocket
		- Broken sprocket	- Replace chain or sprocket
		- Broken differential carrier	- Replace differential carrier assembly
		- Broken shaft	- Replace shaft
Binding	Dragging in front wheels or rear wheels	- Differential carrier stuck	- Replace differential carrier
Leakage	Leakage at transmission connection	- Damaged oil seal in T/C	- Replace oil seal
		- Clogged breather	- Check breather for clogging - Replace connecting hose
	Leakage at front and rear shafts	- Foreign material in oil seal	- Remove any foreign material, check oil seal for damage and replace oil seal
		- Broken oil seal	- Replace oil seal
		- Clogged breather	- Check breather for clogging - Replace connecting hose
	Leakage at case or cover body	- Cracked case or cover	- Replace transfer case
		- Air bubbles inside	
	Leakage at drain plug	- Bubbles no mounting bolt	- Replace drain plug
		- Uneven or missing plug coating	
	Leakage at filler plug	- Bubbles no mounting bolt	- Replace filler plug
- Uneven or missing plug coating			
Leakage at body connection	- Improperly applied sealant	- Disassemble T/C, apply sealant and reassemble it	
	- Loose bolt around the leaking area	- Tighten to the specified torque	

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