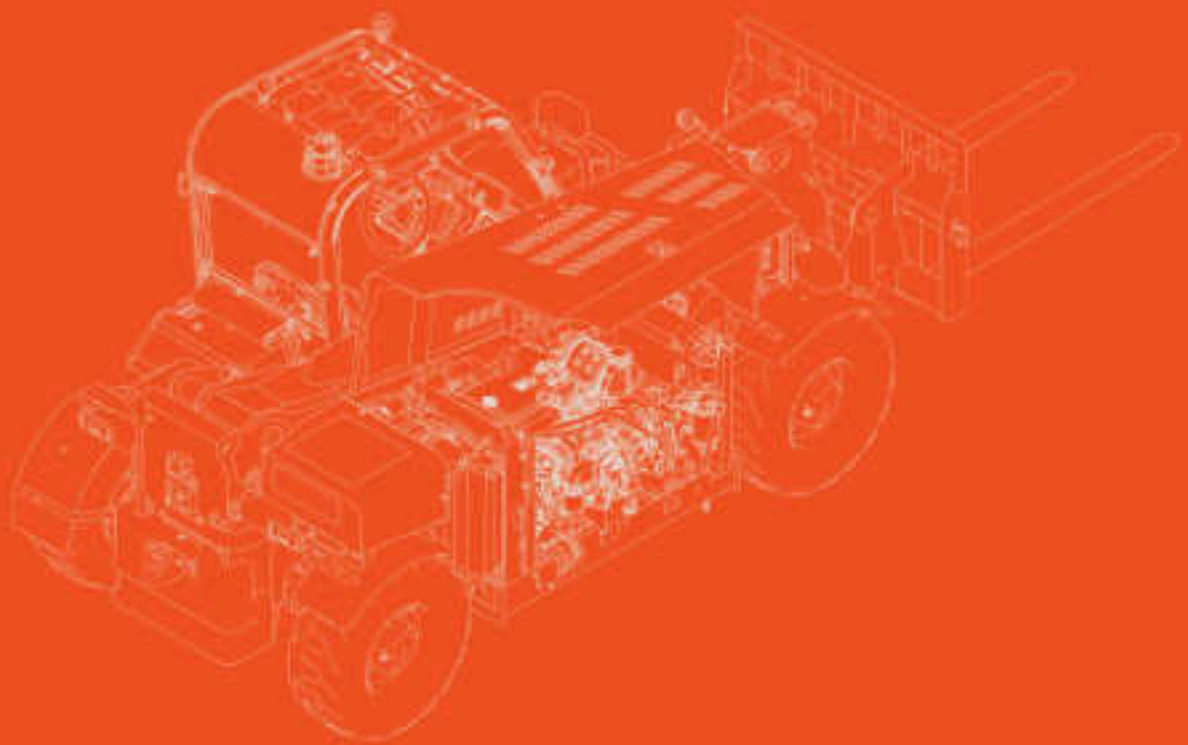
SKYJACK

SERVICE MANUAL

SJ519 TH

TELEHANDLERS



216942AE
August 18 2026
ANSI

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Table 2.7 Specifications and Features

MODEL		SJ519 TH
Standard Engine		
Type		Deutz TCD 2.2 L T4
Cylinders		3
Horsepower @ 2600 RPM		74 HP
Capacity		2.2 L
Torque @ 1600 RPM		280 N•m (206.5 lbf•ft)
Idle Speed*		1200 rpm
Fuel type		Diesel
Transmission		
Hydrostatic	Speed forward / Reverse	Hydrostatic (Variable)
Travel Speed		
Hydrostatic		23 km/h (14.5 mph)
Electrical		
Negative ground		12 Volts
Alternator		120 Amps
Battery		925 CCA
Backup Alarm		107 DBA
Hydraulic System		
Auxiliary Hydraulic Flow		68 L/min (18 GPM)
Dimensions		
Wheelbase		245.11 cm (8 ft 0.5 in)
Overall width		182.88 cm (6 ft)
Overall height (stowed)		193.04 cm (6 ft 4 in)
Overall length (stowed, less forks)		408.94 cm (13 ft 5 in)
Ground clearance		24.13 cm (9.5 in)
Maximum weight without attachment		10,255 lb
Turn radius (inside) (4WS)		134.62 cm (53 in)
Turn radius (outside) (4WS)		317.50 cm (125 in)
Boom		
Number of sections		2
Maximum lift height		5.82 m (19 ft 1 in)
Maximum forward reach		3.38 m (11 ft 1 in)
Standard Forks (Standard Tapered Forks)		4 cm x 10 cm x 122 cm (1.57 in x 3.94 in x 48 in)
Carriage rollback @ Maximum Boom Angle (Top)		88°
Carriage forward tilt @ Maximum Boom Angle (Bottom)		40°
Towing Capacity		
Towing Weight (MAX)		2,268 kg (5,000 lb)
Towing Tongue Weight (MAX)		340 kg (750 lb)

** Engine Idle Speed is measured with 5% droop when in gear.*

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3.4 Hydraulic Schematic Parts List

Index No.	Skyjack Part No.	Qty.	Description
-	-	-	Note: For a complete new cylinder, order cylinder A. For service parts, order the parts that match the existing cylinder (A or B). Look for the cylinder part number stamped near the base of the barrel.
C1	255610	1	LIFT CYLINDER, A
-	9-206943	1	LIFT CYLINDER, B
C2	255611	1	FORK TILT CYLINDER, A
-	9-206945	1	FORK TILT CYLINDER, B
C3	255608	1	TILT COMPENSATION CYLINDER, A
-	9-205961	1	TILT COMPENSATION CYLINDER, B
C4	255612	1	EXTENSION CYLINDER, A
-	9-206944	1	EXTENSION CYLINDER, B
C5	224390	1	FRONT STEER CYLINDER
C6	224390	1	REAR STEER CYLINDER
C9	255609	1	QUICK COUPLER CYLINDER
-	9-205964	1	QUICK COUPLER CYLINDER
CB1	256727	1	COUNTERBALANCE VALVE 5000 PSI, C1-A
-	9-224026	1	COUNTERBALANCE VALVE 5000 PSI, C1-B
CB2	9-224027	1	COUNTERBALANCE VALVE 3000 PSI, C1
CB3	9-224014	1	COUNTERBALANCE VALVE 5000 PSI, C2
CB4	256727	1	COUNTERBALANCE VALVE 5000 PSI, C4-A
-	9-224026	1	COUNTERBALANCE VALVE 5000 PSI, C4-B
CB5	224271	1	COUNTERBALANCE VALVE 3000 PSI, C4
EC1	9-224042	1	PRESSURE COMPENSATOR
F1	9-206998	1	RETURN FILTER
F2	9-191484	1	TANK FILLER FILTER
F3	9-206887	1	CHARGE FILTER
JS1	9-190356	1	JOYSTICK
M1	9-206918	1	DRIVE MOTOR
MB1	9-206311	1	MAIN MANIFOLD
MB2	9-206310	1	PILOT MANIFOLD
ORB1	9-205277	1	ORBITAL STEERING MOTOR
P1	9-205852	1	DRIVE PUMP
P1A	9-205852	1	CHARGE PUMP
P2	9-206718	1	SYSTEM PUMP
PS1	9-205893	1	BRAKE SWITCH AND ROAD LIGHT OPTION
PT1	206931	1	PRESSURE TRANSDUCER
PT2	206931	1	PRESSURE TRANSDUCER
RV1	9-224050	1	RELIEF VALVE 3900 PSI
RV2	9-224048	1	RELIEF VALVE 3000 PSI
RV3	9-224048	1	RELIEF VALVE 3000 PSI
RV4	9-224049	1	RELIEF VALVE 3500 PSI
RV5	9-224049	1	RELIEF VALVE 3500 PSI
RV6	9-223682	1	RELIEF VALVE 348 PSI

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Section 4 – Troubleshooting Information

4.1 Introduction

The following pages contain a table of Troubleshooting for locating and correcting most service trouble which can develop. Careful and accurate analysis of the systems listed in the table of Troubleshooting will localize the trouble more quickly than any other method. This manual cannot cover all possible troubles and deficiencies that may occur. If a specific trouble is not listed, isolate the major component in which the trouble occurs, isolate whether the problem is electrical or hydraulic, and then isolate and correct the specific problem.

The content of this section is separated into "probable cause" and "remedy." The information in the left-hand column, preceded by a number, represents the "probable cause." The information in the right-hand column, in bold text, represents the "remedy" to the "probable cause" directly beside it. See the example below for clarification.

1. Probable cause	**Remedy**

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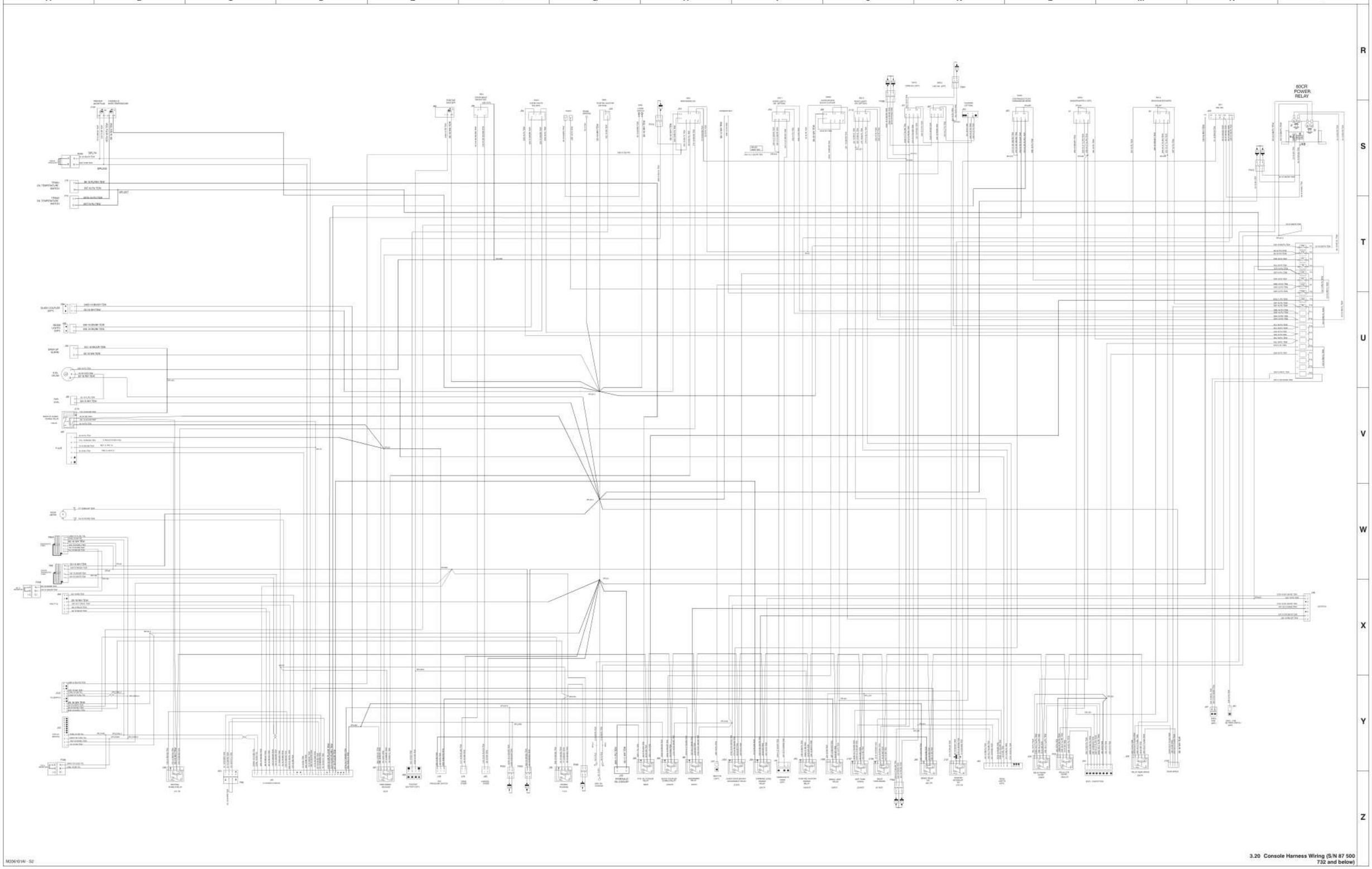
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5.6-3 Engine Error Codes, S/N 85 501 112 and below

J1939 SPN	J1939 FMI	Description	Recommended Action
898	9	Timeout Error of CAN-Receive	Check CAN Bus wiring (Bus scheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range, check actuator.
520	9	Timeout Error of CAN-Receive	Check CAN Bus wiring (Bus scheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range, check actuator.
105	11	Charge air temperature sensor: the voltage of sensor measured by ECU is out of the target range	Check wiring, CAC-sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it.
523613	0, 1, or 2	Rail pressure: the fuel pressure in rail calculated by ECU is either below or above the target range which is dependant on the engine speed	Check for leakage. Check fuel level in tank and low pressure system. Check fuel-primary pressure. Check backflow pressure check sensor. Check pressure relief valve. Check metering unit.Check Injector function (metering unit, injector). If necessary replace components as required.
523168	3, 4, 5, or 12	Fuel metering unit: the ECU detects no load, or the current drain measured by ECU is above the target range. (Open, Short to B+, Short to B-)	Check wiring , if necessary check FCU, check fuel metering unit and if necessary replace it, check connection cable and if necessary repair or replace it.
107	0, 3	Air filter differential pressure: the pressure difference of the intake air between the filter inlet and outlet calculated by ECU is above the target range	Check airfilter and if necessary clean or renew it, check wiring, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it.
1237	2	Override switch: the ECU receives a permanent signal	Check wiring, if sensor is not working, check switch and if necessary replace it, check connection cable and if necessary repair or replace it.
523470	2, 7, 11, 12, or 14	Rail pressure: Pressure Relief Valve (PRV) error.	Check error memory for other additional errors and eleminate them first. Check working voltage and if necessary correct it, check PRV opening counter and if necessary replace it, check rail-pressure sensor and if necessary replace it, check FCU and if necessary replace it, check rail pressure relief valve and if
157	3, or 4	Rail pressure sensor: the voltage of sensor measured by ECU is out of the target range or shorted to B+ or B-	Check wiring, check rail pressure sensor and if necessary replace it, check connection cable and if necessary repair or replace it.
523350	4	Injector cylinder bank 1: the current drop measured by ECU is above the target range	Check wiring, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it.
523352	4	Injector cylinder bank 2: the current drop measured by ECU is above the target range	Check wiring, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it.
523354	12	Internal hardware monitoring: the ECU detects an error of its injector high current output	If error is not removable, change ECU
651	3, or 5	Injector cyl. 1: interruption of electrical connection or the current drop measured by ECU is above the target range	Check wiring and counter plugs, check injector and if necessary replace them, check connection cable and if necessary repair or replace it.
652	3, or 5	Injector cyl 3. : interruption of electrical connection or the current drop measured by ECU is above the target range	Check wiring, check injector and if necessary replace them, check connection cable and if necessary repair or replace it.
653	3, or 5	Injector cyl. 4: interruption of electrical connection or the current drop measured by ECU is above the target range	Check wiring, check injector and if necessary replace them, check connection cable and if necessary repair or replace it.
654	3, or 5	Injector cyl. 2: interruption of electrical connection or the current drop measured by ECU is above the target range	Check wiring, check injector and if necessary replace them, check connection cable and if necessary repair or replace it.
190	8, 12, or 14	Camshaft or Crankshaft speed sensor: out of range, signal disrupted, missing signal, or erratic signal	Check wiring of camshaft/crankshaft sensor, check camshaft/crankshaft sensor and if necessary replace it, check connection cable and if necessary repair or replace it.
186	2	ECU measures a deviation between camshaft and crankshaft angle	Check increment wheel position, clean and adjust if necessary, check sensor position, reflash dataset
190	0, 11, or 14	Engine speed: the engine speed calculated by ECU is above the target range	check powertrain settings regarding overspeed
94	1, 3, or 4	Low fuel pressure sensor: the voltage of sensor measured by ECU is out of the target range	Check wiring, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it. Check low fuel pressure system (fuel feed pump, relay , fuse, wiring, sensor) and if necessary repair or replace it
102	1, 2, 3, or 4	Charge air pressure sensor: the measured voltage of sensor by ECU is out of the target range, either too high or too low.	Check wiring, if charge air pressure/temperature sensor is not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it. Check waste gate system if necessary replace TC, check CAC if all channels are clean, check charge air piping if necessary clean or
100	3, 4	Oil pressure sensor: the voltage of sensor measured by ECU is out of the target range, either too high or too low.	Check sensor and if necessary replace it, check connection cable and if necessary repair or replace it.
110	0, 1, 3, or 4	Coolant temperature sensor: the voltage of the sensor measured by ECU is out of the target range, either high or low.	Check wiring, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it.

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3.20 Console Harness Wiring (S/N 87 500 732 and below)



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