1021F
1121F
Tier 4
Wheel Loader

SERVICE MANUAL

Part number 84555573

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CASE CONSTRUCTION

MidWestTech | Case 1021F, 1121F Tier 4 Wheel Loader Service Manual | Publication 84555573

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19607-CAN Receive Frame ET1 (Water Temperature Not In Range)

Possible failure modes:

1. Controller communication error

Solution:

1. Check for other error codes being displayed. Are there other engine temperature related error codes displayed . Are there other can bus communication error issues.

   A. If any other error code is being displayed, continue to these tests.

   B. If no other error code is displayed, continue to step **2**.

2. Ensure all connectors are secured properly on the denox module/supply module connector , the denox terminator connector (located top of right front fender) and engine control module connector . Check for damage, loose connections or broken can bus wires.

   A. A connector/wiring issue was located and corrected. Erase fault code and return unit to field operation.

   B. No connector/wiring issues were located. Continue with step**3**.

3. Check the can bus terminators. Disconnect denox terminator connector . Check the terminators resistance from pin 1 to pin 2. The expected reading is **120 Ω**.

   A. Expected reading is not found. Replace denox terminator. Erase fault code and return unit to field operation.

   B. Reading is as expected. Continue with step**4**.

4. Next, check the harness end resistance on the denox terminator from pin 1 to pin 2. This will be checking the engine control modules internal terminator. The expected reading is **120 Ω**.

   A. Expected reading not found. There may be a short to ground, or open wire between denox terminator and engine control module connector , or the engine control module terminator is faulty. Troubleshoot the wiring harness make repairs, or replace engine control module.

   B. Reading is as expected. Erase fault code. If the fault code reoccurs contact ASIST.

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4. Replace the transmission control module.

   (1) Remove and replace control module.

   A. Return to Step **1** to confirm elimination of fault.

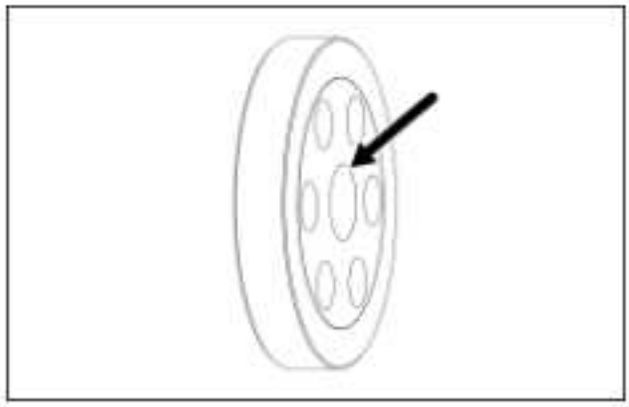
Wiring harness - Electrical schematic frame 08 (A.30.A.88-C.20.E.08)

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16. Select the cover (optional) based on the following table.

NOTE: *Cover has an offset of* ***0.07 mm (0.003 in)*** *on one side and an offset of* ***0.13 mm (0.005 in)*** *on the other side.*

NOTE: *Offset of* ***0.13 mm (0.005 in)*** *is visually marked with an annular grove (arrow)!*



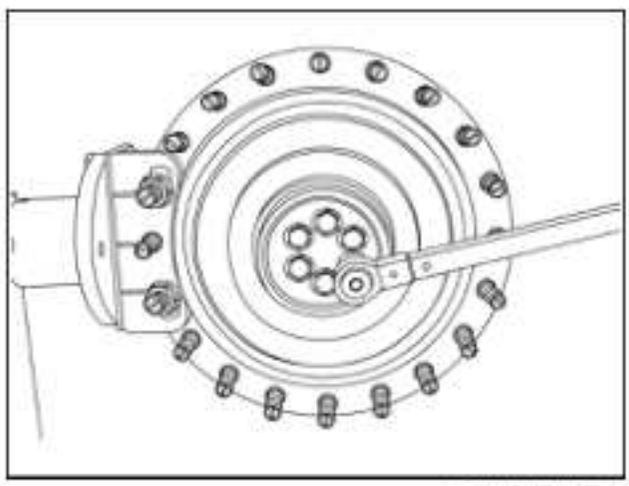
RDLL11WHL169BAF 16

Determined gap Width (Delta)	Offset to be used on the cover
0.30 - 0.24 mm (0.012 - 0.009 in)	**0.13 mm (0.005 in)**
0.239 - 0.18 mm (0.009 - 0.007 in)	**0.07 mm (0.003 in)**
0.179 - 0.10 mm (0.007 - 0.004 in)	**0.0 mm (0.000 in)**

17. Pivot output **90 °**. Insert the cover with the offset e.g. **0.07 mm (0.003 in)** showing towards the planetary carrier and tighten with new locking bolts.

NOTE: *When using the cover with offset of* ***0.07 mm (0.003 in)****, the groove (arrow step* ***16****) must be visible when the cover is installed.*

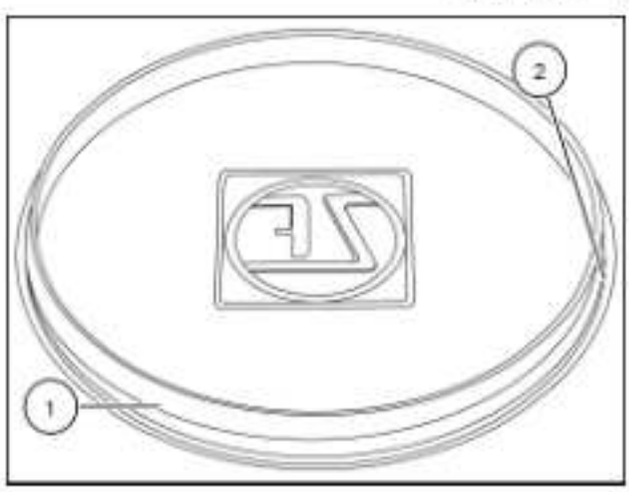
NOTE: *Tighten locking bolts successively to a torque of* ***200 N·m (148 lb ft)****. Then, retighten successively to a torque of* ***500 N·m (369 lb ft)****.*



RDLL11WHL139BAF 17

18. Install new O-ring (1) and cover. Wet contact face (2) with **TEROSTAT® MS-9360**.

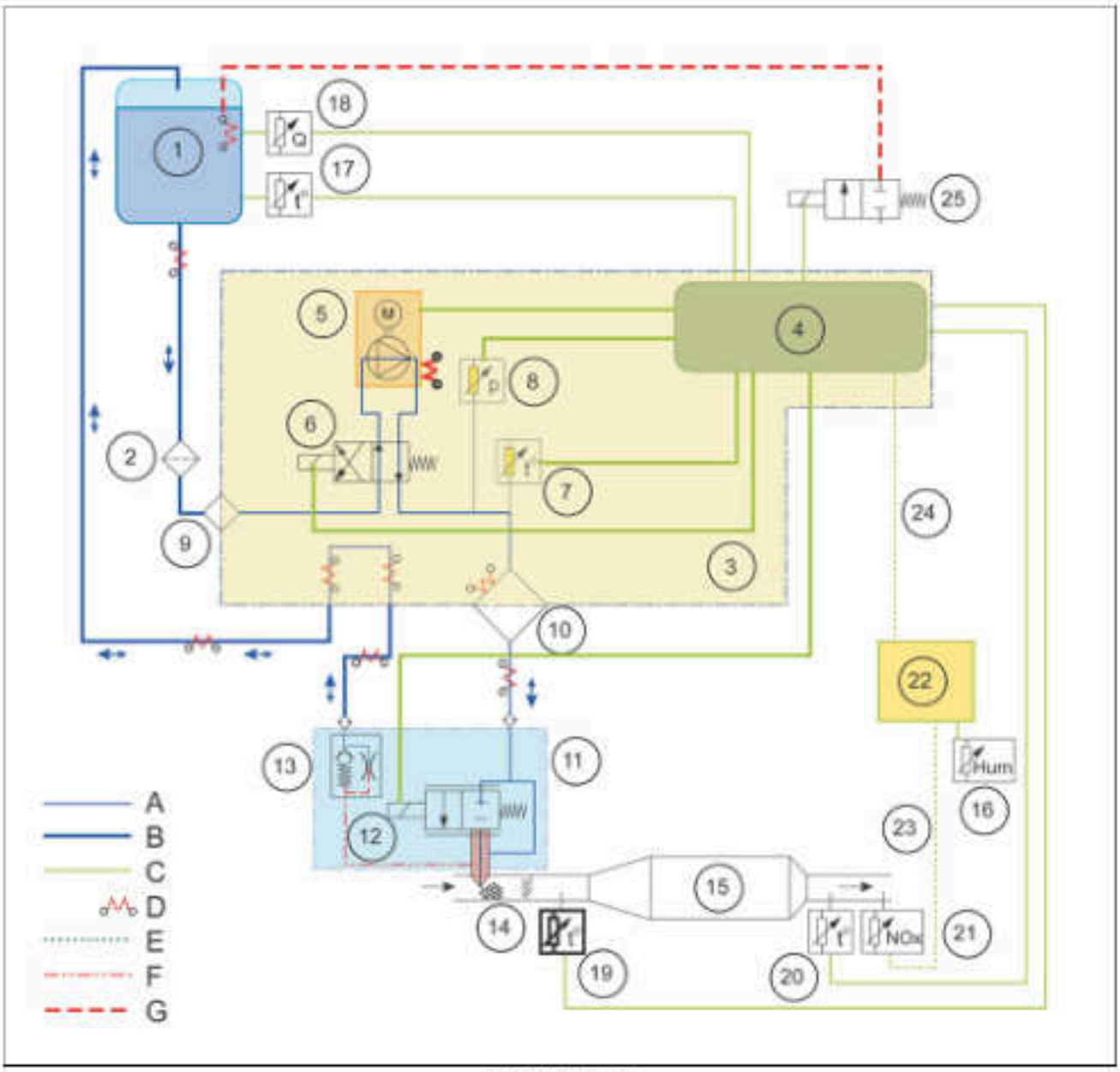
NOTE: *Curing period for* ***TEROSTAT® MS-9360*** *is greater than 24-hours.*



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shutdown. This after run draws the DEF fluid from the system and sends it back to tank. Do not turn the master disconnect off until the pump has stopped this after run cycle.



RCPH17WHLOMBGAN 1

SCR System Components

Graphic Legend	
A – DEF fluid passage	D – Heater
B – DEF fluid hose	E – CAN wire
C – Electrical wiring	F – Dosing module cooling
Components	
1 – Diesel Exhaust Fluid (DEF) tank	14 – Mixer
2 – Inline filter	15 – Catalyst
3 – Supply module	16 – Humidity sensor
4 – Denox Controller Unit (DCU)	17 – DEF tank temperature sensor
5 – Pump	18 – DEF tank level sensor
6 – Reversing valve	19 – Catalyst inlet temperature sensor
7 – DEF temperature sensor	20 – Catalyst outlet temperature sensor
8 – DEF pressure sensor	21 – NOx sensor
9 – Prefilter	22 – Engine Controller Unit (EDC7UC31)
10 – Filter	23 – CAN wire (from NOx sensor to ECU)
11 – Dosing module	24 – CAN wire (between DCU and ECU)
12 – Dosing valve	25 – DEF tank heater solenoid
13 – Return flow valve	

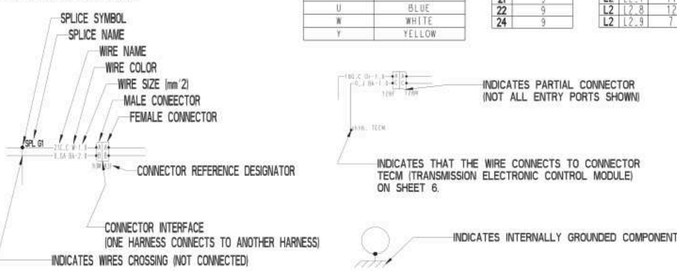
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REF DES NAMING CONVENTION
S... ROCKER SWITCHES
L... LIGHTS
P... PRESSURE SENSORS/SWITCHES
Y... SOLENOIDS
R... RESISTANCE MEASURE
ABOVE LETTER FOLLOWED BY THE FIRST LETTER OF THE FIRST TWO WORDS OF THE SYMBOL LABEL.
SPL ... SPLICE

DIAGRAM SYMBOL DESCRIPTIONS



LARGE CONNECTOR LIST

NAME	DESCRIPTION	SHEET
AIC_1	ADV INSTR CLUSTER 1	4, 7, 9, 10
AIC_2	ADV INSTR CLUSTER 2	4, 6, 7, 9, 10
CAB_E	CAB-ENGINE	4, 5, 9, 10, 11, 12
CAB_F	CAB-FRNT_CHAS	6, 10
CAN_MOD_2	JSS CAN MOD	13
ECA	ELECT CNTR A	4, 5, 6, 7, 8, 9, 10, 11
ECB	ELECT CNTR B	4, 6, 9, 10, 12
ECC	ELECT CNTR C	4, 6, 7, 8, 9, 10, 11
ECD	ELEC CNTR D	4, 5, 6, 10, 11, 12
ENG	ENGINE-CAB1	4, 5, 9, 10, 11, 12
FRONT	FRNT_CHAS-CAB	6, 10
SW_PD	SWITCH PAD	6, 9, 10, 12

COLOR ABBREVIATIONS

ABBREVIATION	COLOR
Bk	BLACK
DU	DARK BLUE
G	GREEN
K	PINK
LG	LIGHT GREEN
LU	LIGHT BLUE
N	BROWN
Or	ORANGE
P	PURPLE OR VIOLET
R	RED
S	GREY
T	TAN
U	BLUE
W	WHITE
Y	YELLOW

(62) AIC_1

PIN	SHEET
1	9
2	9
3	12
4	12
5	9
6	9
7	9
8	9
9	9
10	9
11	9
12	9
13	9
14	9
15	9
16	9
17	9
18	9
19	10
20	10
21	13
22	4
23	10
24	9
25	9
26	10

(71) AIC_2

PIN	SHEET
1	7
2	9
3	9
4	9
5	9
6	9
7	10
8	10
9	6
10	6
11	11
12	12
13	9
14	9
15	9
16	10
17	4
18	10
19	9
20	9
21	9
22	9
23	9
24	9

ECA

PIN	NAME	SHEET
A1	A1	8
A2	A2	13
A3	A3	9
A4	A4	11
A5	A5	10
A6	A6	9
A7	A7	10
A8	A8	6
A9	A9	4
A10	A10	5
C1	C1	12
C2	C2	11
C3	C3	11
C4	C4	6
C5	C5	12
C6	C6	12
C7	C7	11
C8	C8	12
C9	C9	7
L1	L1_1	8
L1_2	L1_2	13
L1_3	L1_3	9
L1_4	L1_4	11
L1_5	L1_5	10
L1_6	L1_6	9
L1_7	L1_7	11
L1_8	L1_8	9
L1_9	L1_9	12
L1_10	L1_10	8
L2_1	L2_1	12
L2_2	L2_2	11
L2_3	L2_3	11
L2_4	L2_4	6
L2_5	L2_5	12
L2_6	L2_6	12
L2_7	L2_7	11
L2_8	L2_8	12
L2_9	L2_9	7

ECB

PIN	NAME	SHEET
B1	30_K1	4
B3	30_K2	4
B7	30_K3	4
B9	30_K4	10
B9	30_K5	9
B2	85_K1	4
B4	85_K2	4
B6	85_K3	4
B8	85_K4	10
B10	85_K5	9
D1	86_K1	4
D3	86_K2	4
D5	86_K3	4
D7	86_K4	10
D9	86_K5	9
C2	87A_K1	4
C4	87A_K2	4
C6	87A_K3	10
C8	87A_K4	10
C10	87A_K5	9
D2	87_K1	4
D4	87_K2	11
D6	87_K3	4
D8	87_K4	10
D10	87_K5	9
A1	A1	12
A2	A2	12
A3	A3	6
A4	A4	6
A5	A5	4
A6	A6	6
A7	A7	6
A8	A8	6
A9	A9	12
A10	A10	12
B1	B1	12
B2	B2	12
B3	B3	6
B4	B4	6
B5	B5	6
B6	B6	6
B7	B7	6
B8	B8	6
B9	B9	12
B10	B10	12

ECC

PIN	NAME	SHEET
B1	30_K1	11
B3	30_K2	11
B5	30_K3	10
B7	30_K4	10
B9	30_K5	12
B2	85_K1	11
B4	85_K2	10
B6	85_K3	10
B8	85_K4	10
B10	85_K5	12
D1	86_K1	11
D3	86_K2	11
D5	86_K3	10
D7	86_K4	10
D9	86_K5	12
C1	87A_K1	11
C3	87A_K2	11
C5	87A_K3	11
C7	87A_K4	10
C9	87A_K5	12
D2	87_K1	11
D4	87_K2	11
D6	87_K3	10
D8	87_K4	10
D10	87_K5	12
A1	A1	6
A2	A2	6
A3	A3	6
A4	A4	4
A5	A5	4
A6	A6	10
A7	A7	11
A8	A8	9
A9	A9	4
A10	A10	6
B1	B1	4
B2	B2	4
B3	B3	4
B4	B4	4
B5	B5	4
B6	B6	4
B7	B7	4
B8	B8	4
B9	B9	4
B10	B10	4

ECD

PIN	NAME	SHEET
B1	30_K1	11
B3	30_K2	11
B5	30_K3	10
B7	30_K4	10
B9	30_K5	12
B2	85_K1	11
B4	85_K2	10
B6	85_K3	10
B8	85_K4	10
B10	85_K5	12
D1	86_K1	11
D3	86_K2	11
D5	86_K3	10
D7	86_K4	10
D9	86_K5	12
C1	87A_K1	11
C3	87A_K2	11
C5	87A_K3	10
C7	87A_K4	10
C9	87A_K5	12
D2	87_K1	11
D4	87_K2	11
D6	87_K3	10
D8	87_K4	10
D10	87_K5	12
A1	A1	6
A2	A2	6
A3	A3	6
A4	A4	4
A5	A5	4
A6	A6	10
A7	A7	11
A8	A8	9
A9	A9	4
A10	A10	6
B1	B1	4
B2	B2	4
B3	B3	4
B4	B4	4
B5	B5	4
B6	B6	4
B7	B7	4
B8	B8	4
B9	B9	4
B10	B10	4

ENG ENGINE-CAB1

PIN	SHEET
1	9
2	12
3	4
4	4
5	9
6	9
7	9
8	10
9	4
10	5
11	10
12	10
13	10
14	5
15	6
16	6
17	9
18	5
19	9
20	9
21	4
22	10
23	10
24	11
25	11
26	4
27	4
28	9
29	12
30	12
31	12

ENG2 ENG BULKHD2

PIN	SHEET
A	5
B	4
C	5
D	4
E	4
F	5
G	4
H	5
J	6
K	6
L	6
M	6
N	6
P	6
R	6
S	6
T	11
U	11
V	11
W	11
X	11

FRONT

PIN	SHEET
1	6
2	6
3	6
4	10
5	6
6	6
7	6
8	10
9	10
10	6
11	10
12	10
13	10
14	6
15	6
16	6
17	10
18	10

(70) SW_PD SWITCH_PAD

PIN	SHEET
1	6
2	10
3	9
4	9
5	9
6	12
7	12
8	12
9	9
10	9

TRANS-CAB

PIN	SHEET
1	9
2	8
3	11
4	11
5	8
6	11
7	8
8	8
9	8
10	8
11	8
12	8
13	8
14	8
15	8
16	8
17	8
18	8
19	8
20	8
21	8
22	8
23	9
24	8
25	8
26	11
27	8
28	8
29	8
30	9
31	8

CONNECTOR LIST

NAME	DESCRIPTION	SHT
115	GRID_HTR_PWR	4
193	STARTER_RELAY	4
194	STARTER_SIGNAL	4
195	STR_REL_PWR	4
108F	DIAGNOSTIC_CONNECTOR	8
140M	DIODE_MODULE	11
193F	MAIN_CAB_FWR	8
193M	FNR-MAIN_CAB	8
202M	ROLLBACK_JUMPER	10
209F	BACK-UP_ALRM_DISA_JMP	6
209M	BACK-UP_ALRM_DISA_JMP	6
20M	TRANS_KICK-DOWN	8
215F	ALTERNATOR_RESISTOR	4
216F	ALTERNATOR_RESISTOR	4
21M	TRANS_KICK-DOWN	13
242F	CHAS_GRD-SEC_STRG_MTR	11
244F	STARTER-SEC_STRG_MTR	11
245F	SEC_STR_FLYBACK	11
64F	FLASHER_CONNECTOR	6
64M	FLASHER_CONNECTOR	6
AB+	ALTERNATOR B+	4
AB_S	ALTERNATOR B+	4
ACT	AC_COMP_CLUTCH	12
AD	ALTERNATOR D+	4
ALT_S	ALTERNATOR D+	4
ARM_TNR	FNR-MAIN_CAB	13
ARM_POS	ARM POSITION	13
B1	STARTER PWR STUD	4
B2	STARTER_POWER	4
B3	STARTER-BATTERY	4
B4	STARTER_POWER	4
B5	STARTER PWR STUD	4
B6	STARTER POWER	4
B7	STARTER-BATTERY	4
B8	STARTER_POWER	4
BPP	PEDAL POSITION	8
BT1	BATTERY_STARTER	4
BT2	DISCONNECT-BATTERY	4
BT3	STARTER-BATTERY	4
BT4	DISCON-BLCK_GRND	4
BTM_C	CAB BOTTOM BULKHD	6, 8, 9
BTM_E	CAB BTTOM	5, 9, 12
BU1	BACKUP_ALARM_GRND	6
BU2	BACKUP_ALARM	6
BUZ	AIC_BUZZER	9
CABE2	CAB TO ENG2 BULKHD	4, 5, 6, 11
CAB_ARM	CAB TO ARMREST	13
CAB_ARM_FRM	CAB TO ARM TO FRM	13
CAB_B	CAB BTM BULKHEAD	6, 8, 9
CAB_FNR	MAIN_CAB_FNR	13
CAB_FRM	CAB TO JSS FRAME	13
CAB_PM	CAB POWER	4
CAB_RF	CAB TO ROOF CONNECTION	7, 11, 12
CAB_T	CAB-TRANSMISSION	8, 9, 11
CBPW	CAB POWER	4
CL	CIGAR_LIGHTER	12
CNV	24V TO 12V PWR CONVERTER	12
DC1	DISCONECT-BATTERY	4
DC2	DISCON-BLCK_GRND	4
DC3	FUEL_SOL_DISCONNECT	4
DC4	FUEL_SOL_DISCONNECT	4
DEFDM	DOSER METERING VLV	5
DIA	DIAGNOSTIC	12
DIA_2	DIAGNOSTIC	5
DISC	DISCONNECT-ENGINE	4

CONNECTOR LIST

NAME	DESCRIPTION	SHT
DM	DIODE DR	11
DNOR2	NOR CONTROLLER	5
DS	DOOR SWITCH	7
DTLTS	DEF_TANK_LEVEL_TEMP_SENSOR	5
DTS	DOWNSTREAM TEMP SENS	5
D_DR	DIODE DR	7
ECA_L1	B+ POWER	4
EDC7	ENGINE CONTROLLER	4, 5
EM	RTD_HEIGHT_CONT_RTT	10
ENG2	ENG BULKHD 2	4, 5, 6, 11
ENG_B	CAB BTTOM	5, 9, 12
ENG_D	DISC_HARNESS	4
ENG_H	ENGINE TO HOOD	6
ESS	ENG_SPEED_SENS	8
EVGT_3	EVGT_FUSE	5
EVGT_4	EVGT	5
E_HD	TRANS-HOOD	6
FTH	FUEL_FLTR_HTR	4
FLSHR	FLASHER_MODULE	6
FM	FILT_MAINT_SW	8
FNR_RLY	RELAY K2	13
FSS	FAN_SPEED_SENS	9
FWD_DIODE	DIODE ASSY	13
FWM	FRONT-WIPER_MOTOR	11
FWMG	WIPER GROUND	11
FWW	FRONT_WASHER	11
GH	GRID_HEATER	4
GHC	GRID_HEATER_REL	4
GHF1	GRID_HTR_FUSE	4
GHF3	GRID_HTR_FUSE	4
GHF4	GRID_HTR	4
GH_1	GRID_HTR	4
GND_CAB1	GROUND_A	7
GND_CAB2	GROUND_A	11
GND_CAB3	GROUND_C	12
GND_CAB4	GROUND_C	12
GND_CAB5	GROUND_C	12
GND_CAB6	STRT, FFH, MAT_SEP_HTR	4
GND_CAB30	GROUND_A	8
GND_CAB_SPL	CAB GRND SPLICE	12
GND_CAB_SPL2	SPL_BACK LGHT GD	4, 6
GND_CB	GROUND_ON COOLING BOX	6
GND_ENG1	STRT, FFH, MAT_SEP_HTR	4
GND_ENG2	DEDICATED MTF_IDC	5
GND_ENG3	SPLC_PK, MSHR_HTR	11
GND_ENG4	REAR LIGHTING	6
GND_ENG5	DEDICATED	9
GND_ENG7	GRND TRANS_CLNT	9
GND_FC	GROUND_A	10
GND_GH1	STRT, FFH, MAT_SEP_HTR	4
GND_GL	GROUND_ REAR GRILL	6
GND_JSS	GROUND_A	13
GND_PDST	GROUND_A	9
GND_PDST1	GROUND_A	9
GND_PDST2	GROUND_A	9

CONNECTOR LIST

NAME	DESCRIPTION	SHT
GND_S1	GROUND_A	10
GND_S2	GROUND_A	10
GND_SSCHAS	SSM_GROUND_CABLE	11
GND_SSMOD	SEC STR CHASIS GND	11
GND_TRANS	GROUND_TRANS	9
GND_WTF	GRND WTF RING TERM	9
HD	HOOD_SWITCH	11
HDM	HOOD_LIFT_MOTOR	11
HD_9	HOOD TO ENG	6
HD_E	HOOD TRANS	6
HD_N	HOOD TO ENG	6
HN1	HORN_PWR	10
HN2	HORN_GRND	10
HOT	HYD_OIL_TEMP_SEND	9
HTS	HMDTF AND AMB TEMP	5
HVAC1	HVAC1	12
HVAC2	HVAC2	12
I_SS	INT_SPEED_SENS	8
JMP1	JSS LOAD SENSE	13
JMP2	JSS LOAD SENSE	13
JSS_197F	MAIN_CAB_FNR	13
JSS_197M	FNR-MAIN_CAB	13
JSS_ARM	JSS ARMREST TO CAB	13
JSS_CAB	JSS CAB	12, 13
JSS_CNT	JSS CONTROLLER	13
JSS_FRM	JSS FRAME TO CAB	13
JSS_LS	JSS LOAD SENSE	13
JSS_LS2	JSS LOAD SENSE	13
JSS_PIL_DUMP	JSS PILOT DUMP	13
JSS_PIL_PR	JSS PILOT PRESSURE	13
JSS_RLY	RELAY K2	13
JSS_VALVE	JSS HYD VALVE	13
K5		5
KO_DIODE	DIODE ASSY	13
KWCO	WIPER CUTOUT	11
L1_ECC	ECC BATT PWR	7
LBEGRD	LIGHT BEACON GRND	7
LBEPWR	LIGHT BEACON PWR	7
LDW1	DOME_LIGHT_B+	7
LDW2	DOME_LIGHT_AUTO	7
LDW3	DOME_LIGHT_GND	7
LLF	LIGHTS_LH	6
LLFW	LH_FRONT_WK_LT	7
LLR	LH_REAR_COMB_LT	6
LLRW	LH_REAR_WK_LT	7
LLR_9	LH_REAR_COMB_LT	6
LLR_E	LH_REAR_COMB_LT	6
LPL	LTC_PLATE_LIGHT	6
LRF	LIGHTS_RH	6
LRFO	FRONT_WK_LT_OPT	7
LRFR	FRONT_WK_LT_OPT	7
LRFS	FRONT_WK_LT_OPT	7
LRFW	RH_FRONT_WK_LT	7
LRR	RH_REAR_COMB_LT	6
LRRW	RH_REAR_WK_LT	7
LRR_9	RH_REAR_COMB_LT	6
LRR_E	RH_REAR_COMB_LT	6
LSPH	LEFT SPEAKER	12
MH	HEATED MIRROR	12
MHS	TRANS_ENABLE_SW	12
MH_C	HEATED MIRROR	12
MH_L	MIRROR_HTR	12
MH_R	MIRROR_HTR	12
MON	CAMERA/MONITOR	7
NOXS	NOX SENSOR	5
NTRL_DIODE	DIODE ASSY	13
OSS	OUT_SPEED_SENS	8
PAF	AIR_FILT_RES_SW	8
PBD	DEC_PRESS_SW	8
PBL	BRAKE_LT_PRES_SW	6
PBW	BRK_WARN_PR_SW	9

CONNECTOR LIST

NAME	DESCRIPTION	SHT
PHF	HYD_OIL_FILT_RES_SW	9
PHF9	HYD_FLTR_RES_SW	9
PO1	POWER_OUTLET	12
PO2	POWER_OUTLET	12
PRB1	RED_BRAKE_SW	9
PRB2	RED_BRAKE_SW	9
PRBF	ROLLBACK_PRES_SW	10
PRH	AC HIGH PRESS SW	12
PRL	AC LOW PRESS SW	12
PRMB_L1	B+ POWER	4
PRMB_L2	B+ POWER	4
PRM_A	PWR RLY MOD A	
PRM_A1	PRM OUTPUT	4
PRM_A2	PRM SIGNAL	4
PRM_B1	PRM SIGNAL	4
PRM_C1	PRM SIGNAL	4
PRM_D	PWR RLY MOD D	
PRM_D1	PRM OUTPUT	4
PRM_D2	PRM SIGNAL	4
PSS	SEC STR PRES SWITCH	11
PVRES	JSS JOYSTICK	13
PW_B	CAB POWER	4
PW_E	CAB POWER	4
PXT	RTD	10
PXH	HGT_CNTRL-RTT	10
PXM	RTD	10
PXT	RTD	10
P_A1	B+ POWER	4
P_A2	B+ POWER	4
P_A3	B+ POWER	4
P_C1	B+ PWR FRM PRMD	4
P_C2	B+ PWR FRM PRMD	4
P_C3	B+ PWR FRM PRMD	4
P_C4	B+ PWR FRM PRMD	4
P_C6	B+ PWR FRM PRMD	4
R1	RESISTOR	13
RAD	RADIO_POWER	12
RAD_J1	RADIO_POWER	12
RAD_J2	SPEAKER	12
RAD_J3	RADIO_JUMPER	12
RECT	DOME_LIGHT_TEMP	9
RFL	FUEL_LSENDER	9
RFLG	FUEL_SEND_GRND	9
RFLS	FUEL_LEVEL_SEND	9
ROOF	ROOF TO CAB CONNECTION	7, 11, 12
RSPH	RIGHT_SPEAKER	12
RTHP	THROTTLE PEDAL	5
RVS_DIODE	DIODE ASSY	13
RWM	REAR_WIPER_MTR	11
RWMG	REAR_WIPER_MTR_GD	11
RWW	REAR_WASHER	11
SAJ	FNR_SWITCH	13
SBC	BEACON_SW	7
SBU	BACK-UP_ALRM_DIS_SW	6
SC	SEAT_COMP_MOTOR	12
SDA	DIFF_LOCK_SWITCH	8
SDC	DECLUTCH_SWITCH	8
SDM	DIFF_LOCK_SWITCH	8
SDR	DRIVING LIGHTS SW	6
SFC	FAN_CONTROL_SW	10
SFL	HEATED MIRROR	12
SFMR	FNR_SWITCH	8
SFWW	FRONT WIPER/WASHER	11
SHC	HEIGHT_CONTROL_SW	10
SHZ	HAZARD_SWITCH	6
SJS	JOYSTICK_CONTROL_SW	13
SPB	PARKING_BRAKE_SWITCH	9
SPC	AIR_FILT_PRES_SW	10
SPE	PIN_ENGAGE_SW	10
SPK	SPEAKER	12
SPL2	ULTRASONIC	12

CONNECTOR LIST

NAME	DESCRIPTION	SHT
SPL3	ULTRASONIC	12
SPL_1	ULTRASONIC	12
SPL_2	ULTRASONIC	11
SPL_3	ULTRASONIC	11
SPL_12V	ULTRASONIC	12
SPL_13M	ULTRASONIC	4
SPL_19S	ULTRASONIC	11
SPL_1N	ULTRASONIC	4
SPL_35A	ULTRASONIC	6
SPL_42C	ULTRASONIC	7
SPL_A1	ULTRASONIC	10
SPL_A2	ULTRASONIC	10
SPL_A3	ULTRASONIC	10
SPL_A4	ULTRASONIC	9
SPL_A1A	ULTRASONIC	6
SPL_AC	ULTRASONIC	12
SPL_ACC	ULTRASONIC	4
SPL_ACP	ULTRASONIC	12
SPL_ACS	ULTRASONIC	12
SPL_AJ	ULTRASONIC	13
SPL_ALT	ULTRASONIC	4
SPL_AP	ULTRASONIC	9
SPL_B1		6
SPL_B8	ULTRASONIC	6
SPL_BCK_LGT	SPLICE BACK LGHT PWR	7
SPL_BCK_LGT2	SPL_BACK LGT PWR	10
SPL_BCK_LT_GD	SPL BACK LGHT GD	7
SPL_BCK_LT_GD2	SPL_BACK LGT GRND	10
SPL_BLWR	ULTRASONIC	12
SPL_BU7	ULTRASONIC	9
SPL_C3	ULTRASONIC	11
SPL_CAN	ULTRASONIC	12
SPL_CAN_DH	ULTRASONIC	5
SPL_CAN_DIAG	ULTRASONIC	12
SPL_CAN_DIAG_L	ULTRASONIC	12
SPL_CAN_DL	ULTRASONIC	5
SPL_CAN_GH	ULTRASONIC	5
SPL_CAN_GL	ULTRASONIC	5
SPL_CAN_HT	ULTRASONIC	5
SPL_CAN_HV	ULTRASONIC	5
SPL_CAN_JS_H1	ULTRASONIC	12
SPL_CAN_JS_H2	ULTRASONIC	12
SPL_CAN_JS_L1	ULTRASONIC	12
SPL_CAN_JS_L2	ULTRASONIC	12
SPL_CAN_L	ULTRASONIC	12
SPL_CAN_LT	ULTRASONIC	5
SPL_CAN_LV	ULTRASONIC	5
SPL_CAN_TEL	ULTRASONIC	12
SPL_CAN_TEL2	ULTRASONIC	12
SPL_CAN_TRANS	ULTRASONIC	12
SPL_CAN_TRANS_L	ULTRASONIC	12
SPL_CNV	ULTRASONIC	12
SPL_CR	ULTRASONIC	4
SPL_CRK	ULTRASONIC	4
SPL_D1	ULTRASONIC	10
SPL_D11	ULTRASONIC	8
SPL_D12	ULTRASONIC	8
SPL_D15	ULTRASONIC	8
SPL_D16	ULTRASONIC	8
SPL_D17	ULTRASONIC	8
SPL_D19	ULTRASONIC	8
SPL_D24	ULTRASONIC	10
SPL_D25	ULTRASONIC	10
SPL_D26	ULTRASONIC	10
SPL_D8_C1	ULTRASONIC	6
SPL_DC	ULTRASONIC	8
SPL_DCUG	ULTRASONIC	5
SPL_DLT3	ULTRASONIC	9
SPL_DR	ULTRASOIC	6
SPL_EDC1	ULTRASONIC	5
SPL_EDC2	ULTRASONIC	5
SPL_EDC3	ULTRASONIC	5

CONNECTOR LIST

NAME	DESCRIPTION	SHT
SPL_EDC4	ULTRASONIC	5
SPL_ENG	ULTRASONIC	11
SPL_FAN	ULTRASONIC	10
SPL_FLSHR_PWR	ULTRASONIC	6
SPL_FNR	ULTRASONIC	8
SPL_FW	ULTRASONIC	11
SPL_H1	ULTRASONIC	8
SPL_H2	ULTRASONIC	8
SPL_H8	ULTRASONIC	6
SPL_HC	ULTRASONIC	11
SPL_HOOD	ULTRASONIC	11
SPL_HOOD_GRND	HOOD GRND 6PCK	11
SPL_HRN	ULTRASONIC	10
SPL_HTR	ULTRASONIC	4
SPL_J1	ULTRASONIC	6
SPL_J2_N	ULTRASONIC	6
SPL_JSS_1	ULTRASONIC	13
SPL_JSS_2	ULTRASONIC	13
SPL_JSS_3	ULTRASONIC	13
SPL_JSS_4	ULTRASONIC	13
SPL_JSS_5	ULTRASONIC	13
SPL_JSS_6	ULTRASONIC	13
SPL_JSS_7	ULTRASONIC	13
SPL_JSS_9	ULTRASONIC	13
SPL_JSS_10	ULTRASONIC	13
SPL_JSS_11	ULTRASONIC	13
SPL_JSS_13	ULTRASONIC	13
SPL_JSS_14	ULTRASONIC	13
SPL_JSS_15	ULTRASONIC	13
SPL_JSS_16	ULTRASONIC	13
SPL_JSS_17	ULTRASONIC	13
SPL_JSS_18	ULTRASONIC	13
SPL_JSS_20	ULTRASONIC	13
SPL_JSS_21	ULTRASONIC	13
SPL_L1		6
SPL_LB	ULTRASONIC	6
SPL_LT	ULTRASONIC	7
SPL_NEU	ULTRASONIC	4
SPL_P9		6
SPL_PB5	ULTRASONIC	9
SPL_PED_BL	SPL BACK LGT PWR 6 PCK	10
SPL_PED_BL_GD	SPL BACK LGT GD 6PCK	10
SPL_PIN	SPL_BACK LGT PWR	10
SPL_PINE	ULTRASONIC	10
SPL_PK1	SPLICE 3-4WAY	7, 12
SPL_PK3	SPLICE 3-4WAY	6, 11
SPL_POS	ULTRASONIC	6
SPL_POS_L	ULTRASONIC	6
SPL_POS_NA	ULTRASONIC	6
SPL_POS_R	ULTRASONIC	6
SPL_PR	ULTRASONIC	6
SPL_PTM	ULTRASONIC	9
SPL_RAD	ULTRASONIC	12
SPL_RD	ULTRASONIC	9
SPL_REV		6
SPL_ROOF	SPLICE ROOF GROUND	7
SPL_RTT	ULTRASONIC	10
SPL_RWW	ULTRASONIC	11
SPL_SD1	ULTRASONIC	4
SPL_SD2	ULTRASON