Genie®
A TEREX COMPANY

Service Manual

	Serial Number Range
S-60	from S6010-21001 to S6013-26295
S-65	from S6010-21001 to S6013-26295
S-60X	from S60X10-21001 to S60X13-26295 and S60X13-26340
S-60XC	from S60XC10-21001 to S60XC13-26295
S-60 HC	from S60HC10-21001 to S60HC13-26295
S-60 TraX	from S60TX10-21001 to S60TX13-26295
S-65 TraX	from S65TX10-21001 to S65TX13-26295

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SPECIFICATIONS

Ford MSG-425 EFI Engine

Displacement	152.5 cu in 2.5 liters
Number of cylinders	4
Bore & stroke	3.50 x 3.94 inches 89 x 100 mm
Horsepower	60 @ 2500 rpm 44.7 kW @ 2500 rpm
Firing order	1 - 3 - 4 - 2
Low function idle (computer controlled)	1600 rpm 53.3 Hz
High function idle (computer controlled)	2500 rpm 83.3 Hz
Compression ratio	9.7:1

Compression pressure (approx.)
Pressure (psi or bar) of lowest cylinder must be at least 75% of highest cylinder

Lubrication system	
Oil pressure (at operating temperature @ 2500 rpm)	29 to 39 psi 2 to 2.7 bar
Oil capacity (including filter)	6.7 quarts 6.4 liters

Oil pressure switch	
Oil pressure switch point	7 to 9 psi 0.48 to 0.62 bar

Oil viscosity requirements

Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.

Electronic fuel pump	
Fuel pressure, static	60 psi 4.1 bar
Fuel flow rate	0.43 gpm 1.6 L/min

Fuel requirement

For fuel requirements, refer to the engine Operator's Manual on your machine.

Ignition system	
Spark plug type	Motorcraft AYFS-32Y-R
Spark plug gap	0.049 to 0.053 inches 1.25 to 1.35 mm

Engine coolant	
Capacity	10 quarts 9.5 liters

Cylinder head temperature sending unit	
Fault code set temperature	280°F 138°C
Engine shut-down temperature	300°F 149°C

Starter motor	
Normal engine cranking speed	200 to 250 rpm
Current draw, normal load	140-200A
Current draw, maximum load	800A

Alternator	
Output	95A, 13.8V DC

Battery	
Type	12V DC, Group 31
Quantity	1
Cold cranking ampere @ 0°F	1000A
Reserve capacity @ 25A rate	200 minutes

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Ford DSG-423 EFI Engine Fault Codes

Code	Description
11	Intake cam / distributor position
16	Never crank synced at start
24	Exhaust cam position
91	FP low voltage
92	FP high voltage
107	MAP Low Voltage
108	MAP High Pressure
111	IAT higher than expected 1
112	IAT low voltage
113	IAT high voltage
116	ECT higher than expected 1
117	ECT/CHT Low Voltage
118	ECT/CHT High Voltage
121	TPS1 lower than TPS2
122	TPS1 low voltage
123	TPS1 high voltage
127	IAT higher than expected 2
129	BP low pressure
134	EGO open/lazy pre-cat 1
140	EGO open/lazy post-cat 1
154	EGO open/lazy pre-cat 2/post-cat 1
160	EGO open/lazy post-cat 2

Code	Description
171	AL high gasoline bank1
172	AL low gasoline bank1
174	AL high gasoline bank2
175	AL low gasoline bank2
182	FT Gasoline Low Voltage
183	FT Gasoline High Voltage
187	FT Gaseaous fuel low voltage
188	FT Gaseaous fuel high voltage
217	ECT higher than expected 2
219	Max govern speed override
221	TPS1 higher than TPS2
222	TPS2 low voltage
223	TPS2 high voltage
236	TIP Active
237	TIP Low Voltage
238	TIP High Voltage
261	Injector Loop Open or Low-side short to Ground
262	Injector Coil Shorted
264	Injector Loop Open or Low-side short to Ground
265	Injector Coil Shorted
267	Injector Loop Open or Low-side short to Ground

Code	Description

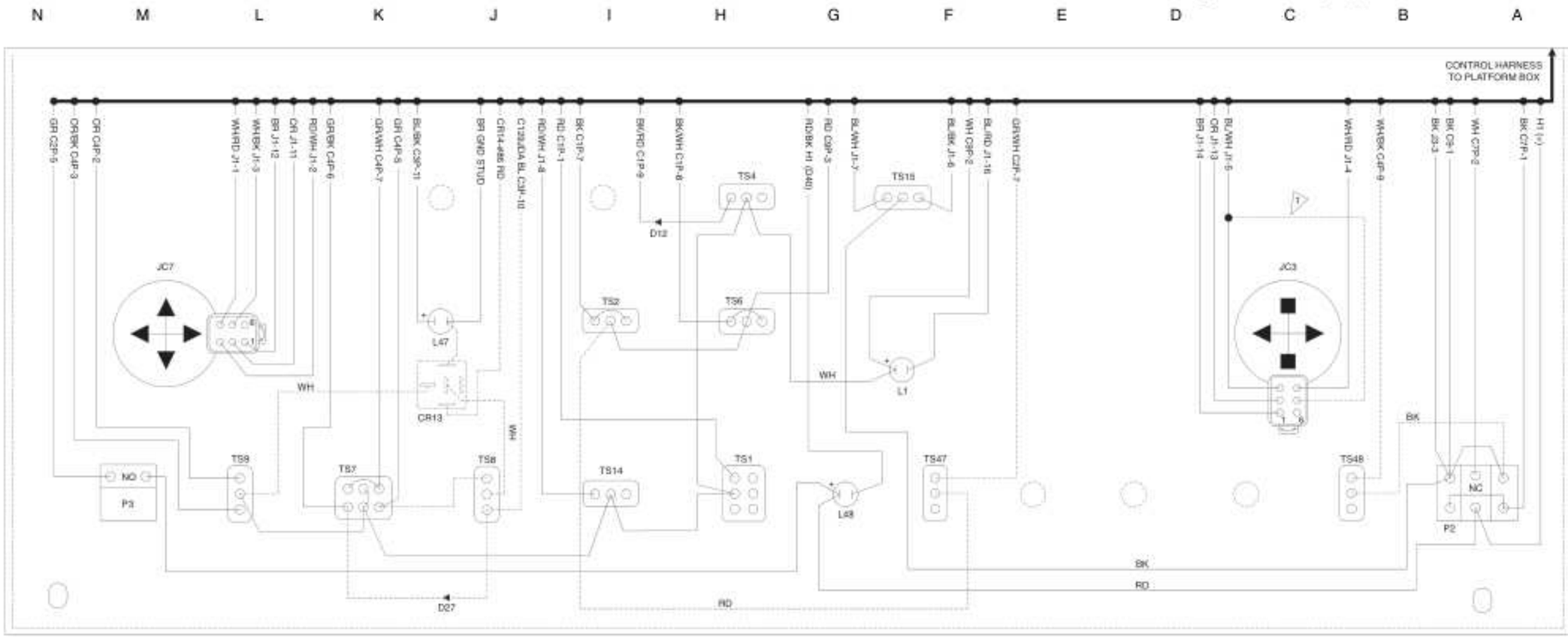
For further engine fault code troubleshooting and diagnostic information, refer to the *Ford MSG-425/ Ford DSG-423 EFI Diagnostic Manual* (EDI part number 1080030).

Ford MSG-425/DSG-423 EFI Diagnostic Manual
Genie part number 162067

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Platform Control Box Switch Panel Wiring Diagram S-60/S-65

S60 TRAX/S65 TRAX Perkins Engine Models (AS) (from SN 21001 to 21629)



COMPONENT INDEX

C1	CAPACITOR, JIB CIRCUIT (S-65 OPTION)
CR13	JIB SELECT RELAY (S-65 OPTION)
CR14	JIB VALVE RELAY (S-65 OPTION)
CR27	RELAY - BRAKE CIRCUIT (LIFT / DRIVE OPTION)
CR30	RELAY - LIMIT SWITCH CIRCUIT (LIFT / DRIVE OPTION)
H1	TILT ALARM
JC3	JOYSTICK - DRIVE / STEER
JC7	JOYSTICK - PRIMARY BOOM UP / DOWN, EXTEND / RETRACT, TURNTABLE ROTATE
L1	LED - DRIVE ENABLE
L47	LED - CABLE TENSION
L48	LED - TILT ALARM
P2	EMERGENCY STOP BUTTON
P3	HORN BUTTON
TS1	AUXILIARY PUMP TOGGLE SWITCH
TS2	ENGINE START TOGGLE SWITCH
TS4	RPM SELECT TOGGLE SWITCH
TS6	GLOW PLUG TOGGLE SWITCH
TS7	PLATFORM ROTATE TOGGLE SWITCH
TS8	JIB BOOM UP / DOWN TOGGLE SWITCH (S-65 OPTION)
TS9	PLATFORM LEVEL UP / DOWN TOGGLE SWITCH
TS14	DRIVE SPEED TOGGLE SWITCH
TS15	DRIVE ENABLE TOGGLE SWITCH
TS47	GENERATOR (OPTION)
TS48	DRIVE LIGHTS (OPTION)
U13	ALC500 JOYSTICK CONTROLLER CARD

NOTE: DASHED LINES INDICATE OPTIONS.

1 ROCKER / STEER OPTION.

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SPECIFICATIONS

SAE FASTENER TORQUE CHART

• This chart is to be used as a guide only unless noted elsewhere in this manual •

SIZE	THREAD	Grade 5				Grade 8				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	80	9	100	11.3	110	12.4	140	15.8	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1 1/8	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1 1/4	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1 1/2	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART

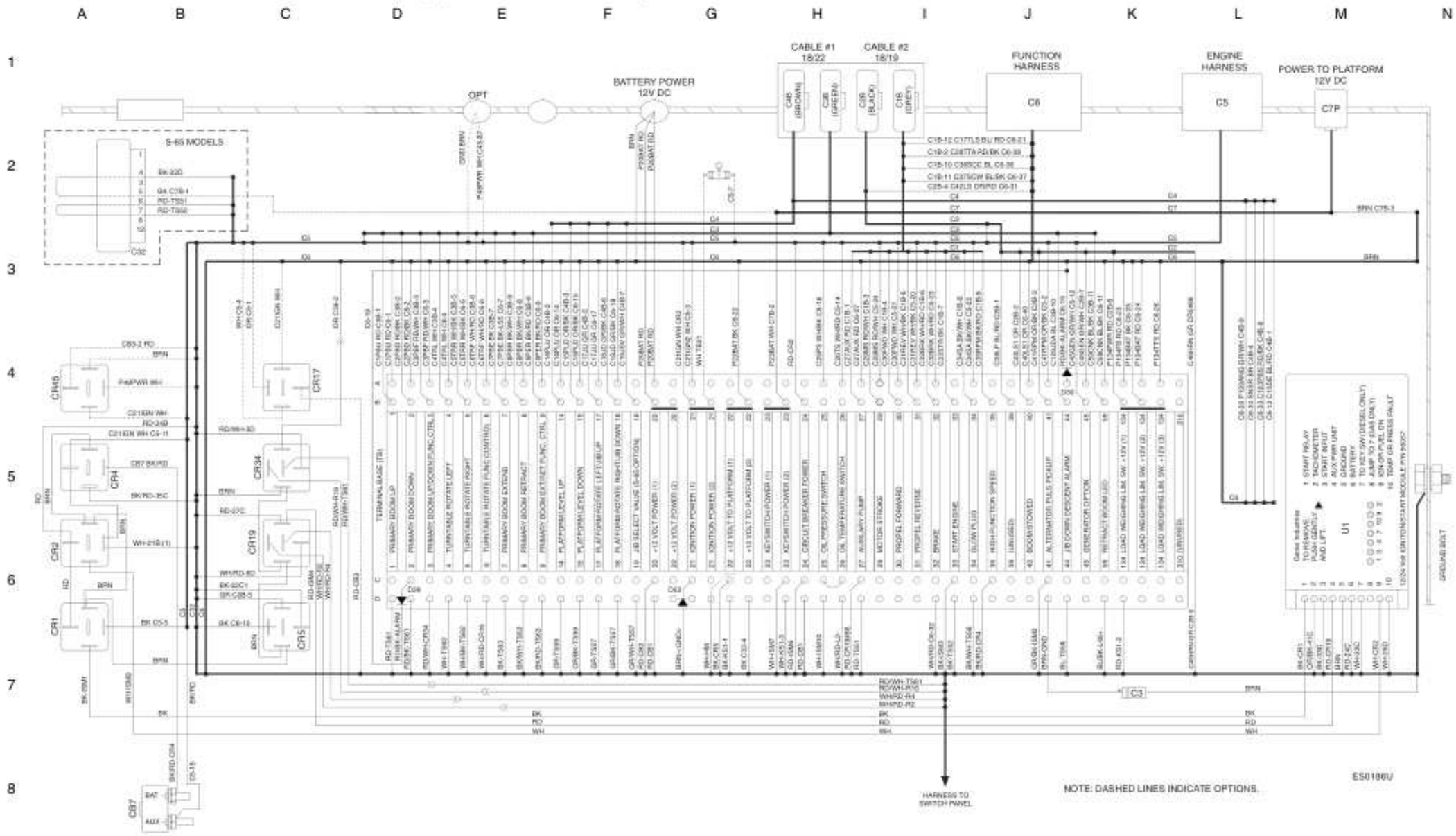
• This chart is to be used as a guide only unless noted elsewhere in this manual •

Size	Class 4.6				Class 8.8				Class 10.9				Class 12.9			
(mm)	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	1.95	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233

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Ground Control Box Terminal Strip Wiring Diagram S-60/S-65

S60 TRAX/S65 TRAX Deutz Engine Models (AS) (from SN 21001 to 21629)



Deutz D2011L03i Engine
Deutz TD2011L04i Engine

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