

Genie®

Service Manual

Third Edition
First Printing
Part No. 65196

S™-60
S™-65

Order the manual at mid-west-tech.com >

Table of Contents

Introduction

Important Information ii

Section One **Safety Rules**

General Safety Rules iii

Section Two **Specifications**

Machine Specifications ..... 2 - 1
Performance Specifications ..... 2 - 2
Hydraulic Specifications ..... 2 - 3
Ford Engine LRG 425 EFI Specifications ..... 2 - 4
Deutz Engine F4L 1011F Specifications ..... 2 - 5
Perkins Engine 704-30 Specifications ..... 2 - 6
Hydraulic Hose and Fitting Torque Specifications ..... 2 - 7

Section Three **Theory of Operation**

Power Source ..... 3 - 1
Hydraulic System ..... 3 - 1
Electrical System ..... 3 - 1
Limit Switches ..... 3 - 2
Machine Controls ..... 3 - 2

MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section Four **Scheduled Maintenance Procedures**

Introduction ..... 4 - 1
Maintenance Inspection Report ..... 4 - 3
A-1 Inspect the Operator's and Safety Manuals ..... 4 - 5
A-2 Inspect the Decals and Placards ..... 4 - 5
A-3 Inspect for Damage and Loose or Missing Parts ..... 4 - 6
A-4 Check the Engine Oil Level ..... 4 - 7
A-5 Check the Engine Coolant Level - Liquid Cooled Models ..... 4 - 8
A-6 Check for Fuel Leaks ..... 4 - 8
A-7 Check the Hydraulic Oil Level ..... 4 - 9
A-8 Check for Hydraulic Leaks ..... 4 - 10
A-9 Check the Tire Pressure ..... 4 - 10
A-10 Test the Oscillate Axle (if equipped) ..... 4 - 11
A-11 Test the Platform and Ground Controls ..... 4 - 12
A-12 Test the Auxiliary Power Operation ..... 4 - 13
A-13 Test the Tilt Sensor ..... 4 - 14
A-14 Test the Limit Switches ..... 4 - 14
A-15 Drain the Fuel Filter/Water Separator - Diesel Models ..... 4 - 17
A-16 Inspect the Engine Air Filter ..... 4 - 19
A-17 Perform 30 Day Service ..... 4 - 20
A-18 Inspect the Radiator - Liquid Cooled Models ..... 4 - 20
A-19 Check the Battery ..... 4 - 21
A-20 Replace the Engine Oil and Filter - Gasoline/LPG Models ..... 4 - 22
A-21 Inspect the Electrical Wiring ..... 4 - 24
A-22 Check the Oil Cooler and Cooling Fins - Deutz Diesel Models ..... 4 - 25
A-23 Check the Engine Belt - Gasoline/LPG and Perkins Diesel Models ..... 4 - 26
A-24 Replace the Fuel Filters - Gasoline/LPG Models ..... 4 - 28

MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section Four **Scheduled Maintenance Procedures,** continued

B-1 Check the Exhaust System ..... 4 - 30
B-2 Check the Hydraulic Tank Return Filter Condition Indicator ..... 4 - 31
B-3 Inspect the Tires and Wheels (including lug nut torque) ..... 4 - 32
B-4 Confirm the Proper Brake Configuration ..... 4 - 33
B-5 Check the Oil Level in the Drive Hubs ..... 4 - 34
B-6 Check and Adjust the Engine RPM ..... 4 - 36
B-7 Test the Key Switch ..... 4 - 37
B-8 Test the Emergency Stop Buttons ..... 4 - 38
B-9 Test the Ground Control Override ..... 4 - 38
B-10 Check the Directional Valve Linkage ..... 4 - 39
B-11 Test the Platform Self-leveling ..... 4 - 39
B-12 Test the Horn ..... 4 - 40
B-13 Test the Foot Switch ..... 4 - 40
B-14 Test the Engine Idle Select Operation ..... 4 - 41
B-15 Test the Fuel Select Operation - Gasoline/LPG Models ..... 4 - 42
B-16 Test the Drive Enable System ..... 4 - 43
B-17 Test the Drive Brakes ..... 4 - 44
B-18 Test the Drive Speed - Stowed Position ..... 4 - 45
B-19 Test the Drive Speed - Raised or Extended Position ..... 4 - 46
B-20 Test the Alarm Package (if equipped) ..... 4 - 47
B-21 Perform Hydraulic Oil Analysis ..... 4 - 48
B-22 Replace the Hydraulic Tank Return Filter ..... 4 - 48
B-23 Inspect the Fuel Tank Cap Venting System ..... 4 - 49
B-24 Replace the Engine Air Filter Element ..... 4 - 50
B-25 Replace the Spark Plugs - Gasoline/LPG Models ..... 4 - 51

MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

SPECIFICATIONS

Perkins Engine 704-30

Displacement	183 cu in 2.9 liters
Number of cylinders	4
Bore and stroke	3.82 x 3.94 inches 97 x 100 mm
Horsepower	63 @ 2600 rpm
Firing order	1 - 3 - 4 - 2
Compression ratio	17.5:1
Compression pressure	300 to 500 psi 20.7 to 34.5 bar
Pressure (psi) of lowest cylinder must be within 50 psi (3.45 bar) of highest cylinder	
Low idle	1600 rpm
High idle	2200 rpm
Governor	centrifugal mechanical
Valve clearance, cold	
Intake	0.014 in 0.35 mm
Exhaust	0.014 in 0.35 mm
Lubrication system	
Oil pressure (at 2600 rpm)	41 psi 2.8 bar
Oil capacity (including filter)	7.3 quarts 8.3 liters
Oil viscosity requirements	
below 68°F / 20°C (synthetic)	5W-20
5°F to 104°F / -15°C to 40°C	10W-30
above 14°F / -10°C	15W-40
Engine oil should have properties of API classification CC/SE. API classification CD/SE or CCMC D4 can be used, but is not recommended during the first 50 hours or for light load applications.	

Injection system		
Injection pump make		Zexel PFR-KX
Injection pump pressure	2755 psi	190 bar
Injector opening pressure	3626 psi	250 bar
Fuel requirement		diesel number 2-D
Engine coolant		
Capacity		11 1/2 quarts 10.9 liters
Alternator output		65A, 12VDC
Battery		
Type		12VDC, Group 31
Quantity		1
Cold cranking ampere		1000A
Reserve capacity @ 25A rate		200 minutes
Fan belt deflection		3/8 in 10 mm

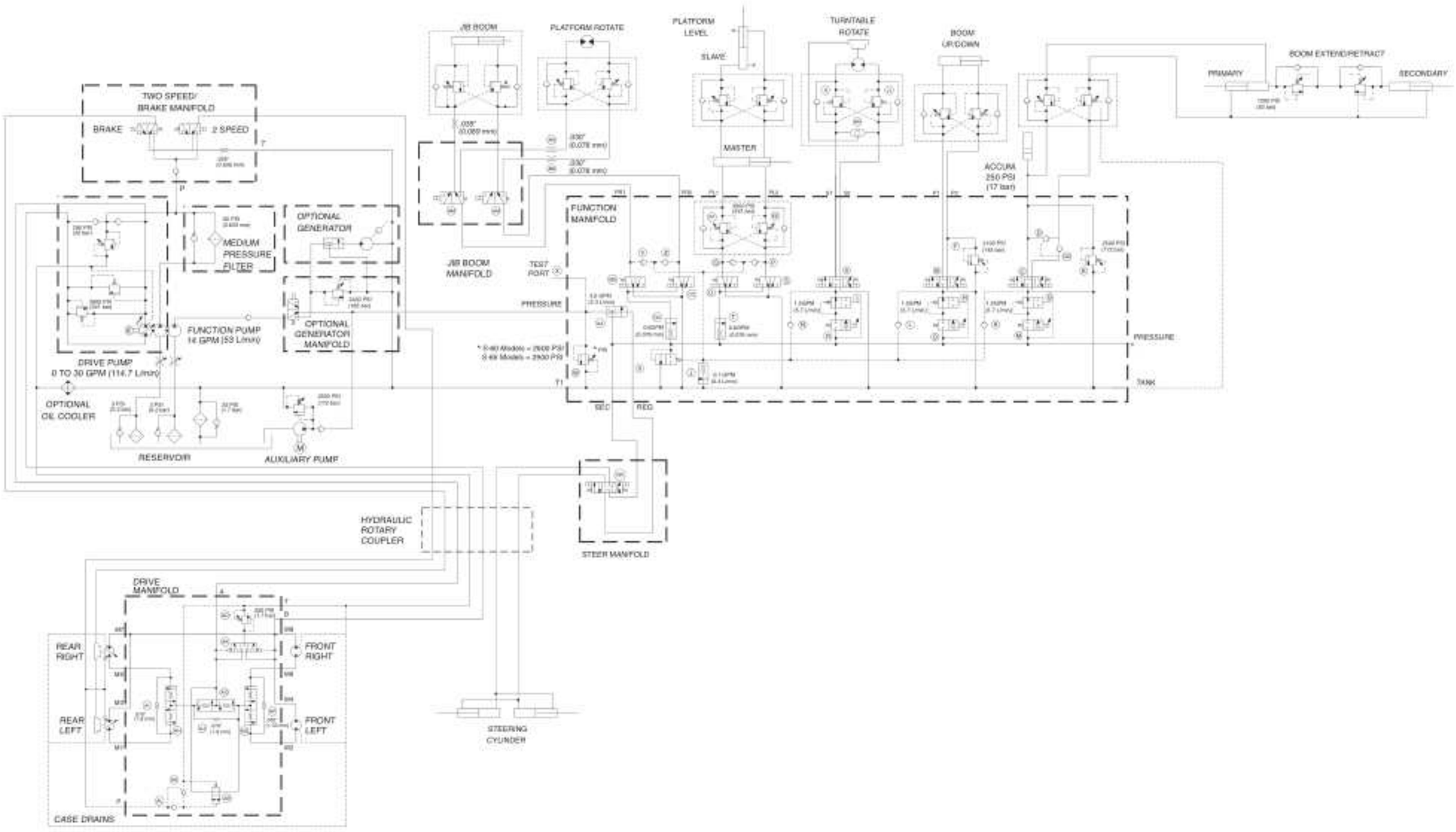
MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

FAULT CODE CHART

Fault Code	Problem	Cause	Solution
31	Fuel pump low voltage.	Voltage to fuel pump is greater than or equal to 2V DC below ignition voltage.	Test the fuel pump relay, see the Repair Section OR check for poor terminal connection from the fuel pump relay to fuel pump OR replace the fuel pump.
32	Heated Oxygen (HO2) sensor low voltage.	Water in the fuel, misfiring cylinder, plugged fuel filter OR the HO2 sensor wiring is shorted to ground OR there is a poor terminal connection OR the HO2 sensor is faulty.	Check for water in the fuel, misfiring cylinder or plugged fuel filter OR check for poor terminal connections or shorted wires from the HO2 sensor to the ECM to ground OR replace HO2 sensor.
33	Engine Coolant Temperature (ECT) sensor high voltage.	Engine is overheating OR sensor wires shorted to ground or poor terminal connections OR ECT sensor is faulty.	Check engine coolant level OR check for shorted wires or poor terminal connections from the ECT sensor to the ECM OR replace the ECT sensor.
35	Intake Air Temerature (IAT) sensor high voltage.	Engine is overheating OR sensor wires shorted to ground or poor terminal connections OR ECT sensor is faulty.	Check for poor terminal connections or shorted wires from the IAT sensor to the ECM to ground OR replace IAT sensor.
41	Fuel pump high voltage.	Fuel pump is receiving voltage when the ECM is not sending the signal to the fuel pump to turn ON.	Test the fuel pump relay, see the Repair Section OR check for poor terminal connection from the fuel pump relay to fuel pump OR replace the ECM.

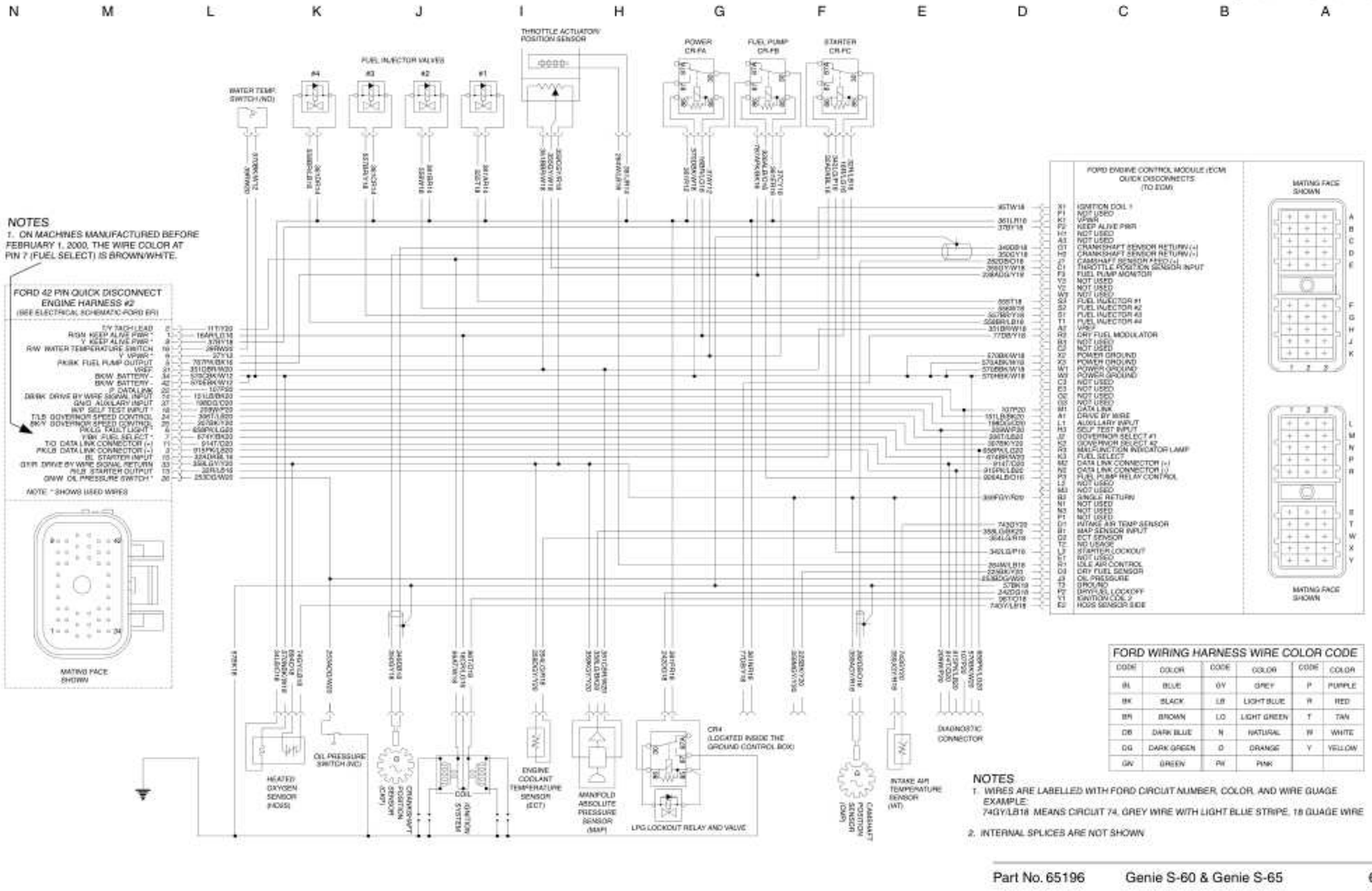
MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

4WD Hydraulic Schematic Non-Oscillating Axle



MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication 65196 Order the manual at mid-west-tech.com >

Ford LRG-425 EFI
Engine Wire Harness



FORD WIRING HARNESS WIRE COLOR CODE					
CODE	COLOR	CODE	COLOR	CODE	COLOR
BL	BLUE	GY	GREY	P	PURPLE
BK	BLACK	LB	LIGHT BLUE	R	RED
BR	BROWN	LG	LIGHT GREEN	T	TAN
DB	DARK BLUE	N	NATURAL	W	WHITE
DG	DARK GREEN	O	ORANGE	Y	YELLOW
GN	GREEN	PK	PINK		

NOTES
1. WIRES ARE LABELLED WITH FORD CIRCUIT NUMBER, COLOR, AND WIRE GUAGE
EXAMPLE:
74GY/LB18 MEANS CIRCUIT 74, GREY WIRE WITH LIGHT BLUE STRIPE, 18 GUAGE WIRE
2. INTERNAL SPLICES ARE NOT SHOWN

MidWestTech | Terex Genie S-60, S-65 Telescopic Boom Lift Service Manual | Publication 65196 Order the manual at mid-west-tech.com >