

# G6030, G6035 SERVICE MANUAL COMPLETE CONTENTS

SECTION 00 - GENERAL INFORMATION .....	2
SECTION 10 - ENGINE AND FUEL SYSTEMS .....	3
SECTION 25 - FOUR WHEEL DRIVE REAR AXLE .....	11
SECTION 27 - DIFFERENTIAL, AXLE .....	12
SECTION 29 - HYDROSTATIC DRIVE SYSTEM .....	14
SECTION 31 - POWER TAKE-OFF (PTO) .....	15
SECTION 33 - BRAKES .....	16
SECTION 35 - HYDRAULIC SYSTEM .....	17
SECTION 41 - STEERING .....	20
SECTION 44 - WHEELS AND TIRES .....	21
SECTION 55 - ELECTRICAL .....	22
SECTION 90 - PLATFORM .....	30

The following pages are the collation of the contents pages from each section and chapter of the G6030, G6035 Service manual. Complete Service part # 84203602.

The sections used through out all New Holland product Service manuals may not be used for each product. Each Service manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Service manual and which sections are in each book.

The sections listed above are the sections utilized for the G6030, G6035 Service manual.

## SECTION 00 - GENERAL INFORMATION

BOOK 1 - 84203603

### Chapter 1 - General Information

#### CONTENTS

Section	Description	Page
	Introduction .....	2
	Precautionary Statements .....	3
	Personal Safety .....	3
	Machine Safety .....	3
	Information .....	3
	Technical Information - Hardware .....	4
	General .....	4
	Plating .....	4
	Nut Tightening .....	4
	Locknuts .....	4
	Jam Nuts .....	4
	Thread Lubrication .....	4
	Safety .....	5
	Commercial Mower .....	5
	Servicing the Commercial Mower .....	5
	Driving the Commercial Mower .....	6
	Operating the Power Take Off (PTO) .....	6
	Operating the Mower Deck .....	7
	Diesel Fuel .....	8
	Avoid High-pressure Fluids .....	8
	Safety .....	9
	Safety Decals .....	12
	International Symbols .....	18
	Specifications .....	19
	Minimum Hardware Tightening Torques .....	26
	Special Tools .....	28
	Lubricants .....	29
	Touch-up Paint .....	30
	Pre-season and Predelivery Service .....	31
	Check and Adjust as Required .....	31
	Inoperative Service Checks .....	31
	Safety Items Checks .....	31
	Operative Service Checks .....	31

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 1 - Engine Systems

### CONTENTS

Section	Description	Page
	Specifications .....	6
	General Engine Specifications .....	6
	Cylinder Block Specifications .....	6
	Cylinder Head Specifications .....	7
	Piston Specifications .....	7
	Piston Wrist Pin Specifications .....	8
	Piston Ring Specifications .....	8
	Connecting Rod Specifications .....	9
	Crankshaft Specifications .....	10
	Camshaft Specifications .....	11
	Valve Specifications .....	12
	Pushrod Specifications .....	13
	Rocker Arm Specifications .....	13
	Lubrication System Specifications .....	13
	Cooling System Specifications .....	14
	Engine Bolt Torque Specifications .....	15
	Engine Fuel System Bolt Torque Specifications .....	15
	Metric Bolt Torque Specifications - All Models .....	16
	Special Tools .....	17
	Compression Test .....	18
	Description of Operation - Engine .....	20
	Cylinder Block .....	21
	Cylinder Head and Valve Train Components .....	21
	Troubleshooting .....	23
	Overhaul - Engine .....	27
	Engine .....	27
	Removal .....	27
	Fuel Injector and Glow Plug .....	32
	Removal .....	32
	Valve Cover .....	32
	Removal .....	32

---

## SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

### Chapter 1 - Engine Systems (Continued)

#### CONTENTS

Section	Description	Page
	Oil Transfer Tube .....	33
	Removal .....	33
	Water Pump Removal .....	33
	Rocker Arm, Support Bracket, and Pushrod .....	33
	Removal .....	33
	Exhaust Manifold .....	34
	Removal .....	34
	Engine Cylinder Head .....	34
	Removal .....	34
	Lifter (Valve Tappet) .....	35
	Removal .....	35
	Fuel Shutoff Solenoid .....	35
	Removal .....	35
	Timing Gear Cover .....	36
	Removal .....	36
	Timing Gears and Camshaft .....	37
	Removal .....	37
	Oil Pan and Pick-up .....	38
	Removal .....	38
	Connecting Rods, Bearings, and Piston .....	39
	Removal .....	39
	Backing Plate and Oil Seal .....	39
	Removal .....	39
	Front Crankshaft Gear .....	40
	Removal .....	40
	Crankshaft and Main Bearings .....	40
	Removal .....	40
	Cylinder Head .....	41
	Disassembly .....	41
	Inspection and Repair .....	41
	Valve Seats .....	42
	Inspection and Repair .....	42

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 1 - Engine Systems (Continued)

### CONTENTS

Section	Description	Page
	Valves . . . . .	43
	Inspection and Repair . . . . .	43
	Valve Guides . . . . .	44
	Inspection and Replacement . . . . .	44
	Valve Springs . . . . .	45
	Inspection and Replacement . . . . .	45
	Rocker Arms . . . . .	45
	Inspection and Replacement . . . . .	45
	Pushrods . . . . .	46
	Inspection and Replacement . . . . .	46
	Cylinder Head . . . . .	46
	Assembly . . . . .	46
	Cylinder Block . . . . .	47
	Inspection . . . . .	47
	Pistons . . . . .	48
	Disassembly and Inspection . . . . .	48
	Piston Rings . . . . .	51
	Inspection . . . . .	51
	Connecting Rods . . . . .	52
	Inspection . . . . .	52
	Connecting Rod Bearing Oil Clearance Check . . . . .	54
	Pistons, Rings, and Connecting Rod . . . . .	55
	Assembly . . . . .	55
	Main Bearing and Thrust Washer . . . . .	56
	Removal And Inspection . . . . .	56
	Crankshaft - All Models . . . . .	58
	Inspection . . . . .	58
	Main Journal Number One Bearing (Bushing) . . . . .	60
	Inspection . . . . .	60
	Replacement . . . . .	61
	Crankshaft Front Gear, Main Bearings and Thrust Washers . . . . .	61
	Assembly . . . . .	61

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 1 - Engine Systems (Continued)

### CONTENTS

Section	Description	Page
	Oil Pump Port Block .....	62
	Removal .....	62
	Installation .....	63
	Timing Gear .....	63
	Inspection .....	63
	Camshaft .....	64
	Disassembly .....	64
	Inspection .....	64
	Assembly .....	65
	Flywheel .....	66
	Inspection and Repair .....	66
	Timing Gear Housing .....	66
	Front Oil Seal and Steering Pump Seal .....	66
	Replacement .....	66
	Crankshaft and Bearing Holder .....	67
	Installation .....	67
	Rear Oil Seal and Backing Plate .....	68
	Installation .....	68
	Piston and Connecting Rod .....	68
	Installation .....	68
	Oil Pick-up and Pan .....	69
	Installation .....	69
	Camshaft and Timing Gear .....	69
	Installation .....	69
	Oil Pump, Idler Gear, and Injection Timing .....	70
	Installation .....	70
	Timing Gear Cover .....	70
	Installation .....	70
	Crankshaft Pulley .....	70
	Installation .....	70
	Fuel Injection Pump .....	71
	Installation .....	71

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 1 - Engine Systems (Continued)

### CONTENTS

Section	Description	Page
	Head Gasket Selection .....	71
	Cylinder Head .....	72
	Assembly .....	72
	Valve Clearance Adjustment .....	73
	Exhaust Manifold .....	73
	Installation .....	73
	Oil Transfer Tube .....	74
	Installation .....	74
	Water Pump .....	74
	Installation .....	74
	Valve Cover/Air Intake .....	74
	Installation .....	74
	Fuel Injector and Glow Plug .....	75
	Installation .....	75
	Engine .....	75
	Installation .....	75
	Lubrication System Specifications .....	81
	Description of Operation - Engine Lubrication System .....	82
	Oil Filter .....	85
	Construction and Function .....	85
	Maintenance .....	85
	Oil Pump .....	85
	Removal .....	85
	Inspection .....	85
	Installation and Adjustment .....	86
	Engine Oil Pressure Check .....	87
	Oil Pressure Relief Valve .....	88
	Removal .....	88
	Installation .....	88
	Oil Consumption .....	88

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 1 - Engine Systems (Continued)

### CONTENTS

Section	Description	Page
	Description of Operation - Cooling System .....	89
	Specifications .....	91
	Maintenance .....	92
	Coolant .....	92
	Radiator Cap .....	92
	Thermostat .....	93
	Water Pump .....	93
	Cooling Fan .....	93
	Overhaul - Cooling System .....	94
	Radiator .....	94
	Removal .....	94
	Inspection .....	96
	Installation .....	97
	Water Pump .....	99
	Removal .....	99
	Inspection .....	100
	Installation .....	101
	Thermostat .....	102
	Removal .....	102
	Inspection .....	103
	Installation .....	104

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 2 - Fuel Systems

### CONTENTS

Section	Description	Page
	Specifications .....	3
	Engine Fuel System Bolt Torque Specifications .....	3
	Special Tools .....	3
	Injection Pump - Description and Operation .....	4
	Fuel Variation Mechanism .....	5
	Delivery Valve Assembly .....	6
	CTD (Compact Timing Device) Mechanism .....	6
	Pumping Elements .....	9
	Delivery Valves .....	11
	Troubleshooting - General .....	13
	Overhaul .....	14
	Injection Pump .....	14
	Removal .....	14
	Repair .....	15
	Installation .....	16
	Spill-Timing and Governor Adjustments .....	17
	New Injection Pump or Drive Component .....	17
	Installation .....	17
	Spill-Timing Procedure .....	18
	Fuel System Bleeding .....	23
	Automatic Bleeding .....	23
	Fuel Flow Chart .....	23
	Manual Bleeding .....	24
	Smoke Screw and High Idle Adjustment .....	24
	Description and Operation - Governor .....	25
	Troubleshooting - Governor System .....	27
	Governor .....	30
	Disassembly .....	30
	Assembly .....	31
	Governor Adjustments .....	33

---

# SECTION 10 - ENGINE AND FUEL SYSTEMS

BOOK 1 - 84203603

## Chapter 2 - Fuel Systems (Continued)

### CONTENTS

Section	Description	Page
	Description and Operation - Fuel Injectors .....	34
	Fuel Filter and Shutoff Valve .....	35
	Troubleshooting - Fuel Injectors .....	36
	Injectors .....	37
	Removal .....	37
	Disassembly .....	38
	Assembly and Adjustment .....	38
	Description of Operation - Engine Breather Valve .....	39
	Engine Breather Valve .....	40
	Removal .....	40
	Installation .....	40
	Troubleshooting - Engine Breather Valve .....	41

---

# SECTION 25 - FOUR WHEEL DRIVE REAR AXLE

BOOK 1 - 84203603

## Chapter 1 - Four Wheel Drive Rear Axle

### CONTENTS

Section	Description	Page
	Specifications .....	2
	Rear to Front Axle Ratio .....	3
	Metric Bolt Torque Specifications .....	5
	Description of Operation .....	6
	Two-way (Sensitrack™) Clutch .....	9
	Automatic Position – Clutch Engaged .....	10
	Automatic Position – Clutch Disengaged .....	10
	Fulltime FWD Position – Clutch Locked .....	10
	Power Flow .....	11
	Troubleshooting .....	12
	Adjustment .....	13
	Rear Wheel Toe-In .....	13
	Overhaul .....	14
	Rear Axle .....	14
	Removal .....	14
	Drop Box .....	15
	Disassembly .....	15
	Inspection .....	21
	Assembly .....	21
	Rear Axle and Differential .....	29
	Disassembly .....	29
	Inspection .....	34
	Assembly .....	35
	Installation .....	40
	4WD Shift Shaft and Two-way (Sensitrack™) Clutch .....	42
	Removal .....	42
	Disassembly .....	44
	Inspection .....	44
	Assembly .....	45
	Installation .....	46

---

# SECTION 27 - DIFFERENTIAL, AXLES

BOOK 1 - 84203603

## Chapter 1 - Differential, Axles

### CONTENTS

Section	Description	Page
	Specifications .....	3
	Metric Bolt Torque Specifications .....	4
	Special Tools .....	5
	Description of Operation .....	6
	Power Flow - Range Gear .....	9
	Overhaul .....	11
	Transaxle .....	11
	Removal .....	11
	Installation .....	17
	Rear Transmission .....	21
	Disassembly .....	21
	Range Gear and Countershaft .....	23
	Removal .....	23
	Main PTO Gear .....	25
	Removal .....	25
	Side PTO Gear and Shaft .....	25
	Removal .....	25
	Main Shaft and Fixed Main Gears .....	26
	Removal .....	26
	Inspection .....	27
	Assembly .....	27
	Main PTO Gear .....	28
	Installation .....	28
	Side PTO Gear .....	29
	Installation .....	29
	Range Gear and Countershaft .....	30
	Installation .....	30
	Front Transmission .....	34
	Disassembly .....	34
	Inspection .....	36
	Assembly .....	37

---

# SECTION 27 - DIFFERENTIAL, AXLES

BOOK 1 - 84203603

## Chapter 1 - Differential, Axles (Continued)

### CONTENTS

Section	Description	Page
	Axle .....	40
	Removal .....	40
	Disassembly .....	41
	Inspection .....	44
	Assembly .....	44
	Installation .....	49
	Differential .....	50
	Removal .....	50
	Disassembly .....	53
	Inspection .....	54
	Assembly .....	55
	Installation .....	57
	Differential Lock .....	61
	Removal/Disassembly .....	61
	Inspection .....	61
	Assembly/Installation .....	61
	Calibration .....	62
	Backlash .....	62
	Ring and Pinion Gear Tooth Contact Pattern .....	63

---

# SECTION 29 - HYDROSTATIC DRIVE SYSTEM

BOOK 1 - 84203603

## Chapter 1 - Hydrostatic Drive System

### CONTENTS

Section	Description	Page
	Specifications .....	2
	Metric Bolt Torque Specifications .....	3
	Special Tools .....	4
	Description of Operation - Hydrostatic Transmission .....	5
	Variable Displacement Pump Operation .....	6
	Fixed Displacement Motor Operation .....	7
	Hydraulic Fluid Flow .....	8
	Neutral Position .....	8
	Forward Position .....	9
	Reverse Position .....	10
	Hydrostatic Transmission Filter .....	11
	Troubleshooting .....	12
	Pressure Testing .....	14
	High Pressure Relief .....	14
	Charge Pressure Relief .....	17
	Overhaul .....	18
	Hydrostatic Transmission .....	19
	Removal .....	19
	Disassembly .....	26
	Inspection .....	37
	Assembly .....	42
	Installation .....	54
	Hydrostatic Transmission Adjustment .....	60
	Neutral Position .....	60
	Directional Control Pedal Linkage .....	63
	HST Neutral Safety Switch .....	65

---

# SECTION 31- POWER TAKE-OFF (PTO)

BOOK 1 - 84203603

## Chapter 1 - Power Take-Off (PTO)

### CONTENTS

Section	Description	Page
	Specifications .....	3
	Metric Bolt Torque Specifications .....	4
	Special Tools .....	4
	Description of Operation .....	5
	Troubleshooting .....	8
	Overhaul .....	9
	PTO Removal .....	9
	Rear Transmission Disassembly .....	9
	Main PTO Gear Removal .....	10
	Side PTO Gear and Shaft Removal .....	10
	Front Transmission .....	11
	Disassembly .....	11
	Inspection .....	13
	Assembly .....	13
	Rear Transmission Assembly .....	16
	Main PTO Gear Installation .....	16
	Side PTO Gear Installation .....	17
	PTO Clutch .....	18
	Disassembly .....	18
	Inspection .....	21
	Assembly .....	21
	Installation .....	26
	Automatic PTO Disengagement System .....	28
	Removal .....	29
	Disassembly .....	30
	Assembly .....	31
	Installation .....	32
	Adjustment .....	33
	PTO Control Lever Linkage .....	33
	PTO Disengagement Cable Adjustment .....	34

---

# SECTION 33 - BRAKES

BOOK 2 - 84203604

## Chapter 1 - Brakes

### CONTENTS

Section	Description	Page
	Specifications .....	2
	Brake Discs .....	2
	Stators .....	2
	Metric Bolt Torque Specifications .....	3
	Description of Operation - Brakes .....	4
	Parking Brake .....	6
	Troubleshooting .....	7
	Overhaul .....	8
	Brakes .....	8
	Removal .....	8
	Disassembly .....	8
	Inspection .....	11
	Assembly .....	11
	Installation .....	14
	Brake Adjustment .....	15
	Free Travel .....	15
	Parking Brake .....	16

---

# SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 84203604

## Chapter 1 - Hydraulic System

### CONTENTS

Section	Description	Page
	Specifications .....	4
	Bolt Torque Specifications .....	5
	Special Tools .....	5
	Description of Operation - Hydraulic System .....	6
	Hydraulic System Priority/Flow Chart .....	7
	Hydraulic Fluid Filter .....	8
	Weight Transfer Valve .....	8
	Lift Control Valve .....	9
	Oil Flow .....	10
	Neutral Position .....	10
	Raise Position .....	11
	Lower and Float Position .....	12
	System Pressure Relief Valve .....	13
	Flow Restrictor .....	13
	Hydraulic Lift Cylinders and Lift Arms .....	14
	Hydraulic Fluid Cooler .....	14
	Troubleshooting .....	15
	Overhaul .....	16
	Hydraulic Lift Cylinders .....	16
	Removal .....	16
	Disassembly .....	18
	Inspection .....	19
	Assembly .....	22
	Installation .....	24
	Hydraulic Lift Control Valve .....	26
	Removal .....	26
	Disassembly .....	27
	Inspection .....	29
	Installation .....	32

---

# SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 84203604

## Chapter 1 - Hydraulic System (Continued)

### CONTENTS

Section	Description	Page
	Weight Transfer Valve .....	33
	Removal .....	33
	Disassembly .....	33
	Inspection .....	33
	Assembly .....	34
	Installation .....	35
	Hydraulic System Relief Valve .....	35
	Removal .....	35
	Disassembly .....	36
	Inspection .....	37
	Assembly .....	37
	Installation .....	38
	Hydraulic System Restrictor Valve .....	39
	Removal .....	39
	Inspection .....	40
	Installation .....	40
	Lift Arms .....	41
	Removal .....	41
	Disassembly .....	42
	Inspection .....	42
	Assembly .....	43
	Installation .....	43
	Hydraulic Fluid Cooler .....	44
	Removal .....	44
	Inspection .....	45
	Installation .....	45
	Description of Operation - Hydraulic Pump .....	46
	Overhaul .....	47
	Hydraulic Pump .....	47
	Removal .....	47
	Disassembly .....	48

---

# SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 84203604

## Chapter 1 - Hydraulic System (Continued)

### CONTENTS

Section	Description	Page
	Inspection .....	49
	Assembly .....	50
	Installation .....	51
	Description of Operation - Remote Valves .....	53
	Single Acting - Neutral .....	54
	Single Acting - Spool Moved In .....	55
	Single Acting - Spool Moved Out .....	56
	Double Acting - Neutral .....	57
	Double Acting - Spool Moved In .....	58
	Double Acting - Spool Moved Out .....	59
	Removal .....	60
	Disassembly .....	61
	Inspection .....	63
	Assembly .....	64
	Installation .....	65
	Pressure Testing .....	66
	Hydraulic System Relief Valve Pressure Test .....	66
	Hydraulic System Relief Valve Pressure Adjustment .....	68

---

# SECTION 41 - STEERING

BOOK 2 - 84203604

## Chapter 1 - Steering

### CONTENTS

<b>Section</b>	<b>Description</b>	<b>Page</b>
	Specifications .....	3
	Metric Bolt Torque Specifications .....	4
	Special Tools .....	5
	Description of Operation - Power Steering System .....	6
	Power Steering Control Motor .....	7
	Check Valves .....	8
	Relief Valve .....	8
	Hydrostatic Transmission Charge Pump .....	9
	Hydraulic Fluid Filters .....	9
	Steering Cylinder .....	9
	Steering Column and Wheel .....	10
	Description of Operation - Oil Flow .....	11
	Oil Flow - Neutral Operation .....	11
	Oil Flow - Left Turn .....	12
	Oil Flow - Right Turn .....	13
	Oil Flow - Manual Operation .....	14
	Troubleshooting .....	15
	Pressure Testing .....	17
	Steering System Relief Pressure .....	17
	Steering Cylinder Test .....	20
	Lubrication .....	22
	Overhaul .....	23
	Power Steering Motor .....	23
	Removal .....	23
	Disassembly .....	25
	Inspection .....	29
	Assembly .....	30
	Installation .....	36
	Steering Cylinder .....	38
	Removal .....	38
	Disassembly .....	39
	Inspection .....	40
	Assembly .....	41

---

## SECTION 41 - STEERING

BOOK 2 - 84203604

### Chapter 1 - Steering (Continued)

#### CONTENTS

Section	Description	Page
	Installation .....	43
	Steering Column .....	44
	Removal and Disassembly .....	44
	Disassembly .....	47
	Inspection .....	47
	Installation .....	48

## SECTION 44 - WHEELS AND TIRES

BOOK 2 - 84203604

### Chapter 1 - Wheels and Tires

#### CONTENTS

Section	Description	Page
	Wheels and Tires .....	2
	Wheel Tread Settings .....	2
	Front Tires - Std. Size (23 x 10.50 - 12) .....	3
	Front Tires - Optional Large Size (24 x 13.00 - 12) .....	3
	Rear Tires - Std. (20 x 8.00 - 10) .....	3
	Mower Weighting .....	4
	Liquid Ballast .....	4
	Front Wheel Weights .....	4
	Rear Weights .....	5
	Rear Weight Bracket (#716795006) .....	5
	Rear Weight (#710215013) .....	5
	Tire Inflation vs. Permissible Load .....	6
	Wheel Bolt Torque .....	6
	Torque .....	6
	Front Wheel Torque .....	6
	Rear Wheel Torque .....	6

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 1 - Electrical Components

### CONTENTS

Section	Description	Page
	Introduction .....	5
	Description .....	5
	Component Location and Function .....	5
	Main Ground Locations .....	8
	Electrical System Components - Description and Testing .....	9
	Battery .....	9
	Description .....	9
	Checking the Battery Electrolyte Level .....	9
	Battery Removal .....	10
	Battery Installation .....	10
	Fusible Link .....	11
	Description .....	11
	Replacement .....	11
	Fuse Block .....	12
	Description .....	12
	Replacement .....	12
	Key Switch .....	13
	Description and Location .....	13
	Removal .....	14
	Key Switch Troubleshooting - Continuity Test .....	15
	Accessory/Run Position .....	15
	Heat Position .....	16
	Start Position .....	16
	Key Switch Troubleshooting - Connector Wiring .....	17
	Installation .....	17
	Light Switch .....	18
	Description .....	18
	Removal .....	19
	Light Switch Troubleshooting - Continuity Test .....	19
	Installation .....	20

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 1 - Electrical Components (Continued)

### CONTENTS

Section	Description	Page
	Headlight .....	20
	Description .....	20
	Removal .....	20
	Inspection .....	21
	Installation .....	21
	Seat Safety Start Switch .....	22
	Description .....	22
	Removal .....	22
	Seat Safety Start Switch Troubleshooting - Continuity Test .....	24
	Installation .....	24
	PTO Safety Start Switch .....	25
	Description .....	25
	Removal .....	26
	PTO Safety Start Switch Troubleshooting - Continuity Test .....	27
	Installation .....	28
	Hydrostatic Transmission Safety Start Switch .....	28
	Description .....	28
	Adjustment .....	29
	Removal .....	30
	HST Safety Start Switch Troubleshooting - Continuity Test .....	31
	Installation .....	32
	Park Brake Safety Start Switch .....	32
	Description .....	32
	Removal .....	32
	Park Brake Safety Start Switch Troubleshooting - Continuity Test .....	34
	Installation .....	34
	Master Brake Safety Start Switch .....	35
	Description and Location .....	35
	Adjustment .....	35
	Master Brake Safety Start Switch Troubleshooting - Continuity Test .....	36
	Removal .....	37
	Installation .....	38

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 1 - Electrical Components (Continued)

### CONTENTS

Section	Description	Page
	Relays .....	38
	Description and Location .....	38
	Brake Relay Functions .....	40
	Relay Identification .....	41
	Relay Testing .....	42
	Brake Relay Testing .....	43
	Diodes .....	45
	Description .....	45
	Diode Identification .....	45
	Diode Testing .....	45
	Glow Plug Indicator Light Timer .....	46
	Description and Location .....	46
	Glow Plug Indicator Light Timer Operation Testing .....	46
	Seat Safety Switch Timer .....	47
	Description and Location .....	47
	Seat Safety Switch Timer Operation Testing .....	48
	Engine Oil Pressure and Overheat Warning Alarm .....	49
	Description and Location .....	49
	Warning Alarm Testing .....	49
	Engine Glow Plugs .....	50
	Description .....	50
	Removal .....	51
	Engine Glow Plug Testing .....	52
	Installation .....	52
	Engine Oil Pressure Switch .....	53
	Description and Location .....	53
	Removal .....	53
	Engine Oil Pressure Switch Testing .....	54
	Installation .....	54
	Engine Coolant Temperature Switch (Warning Alarm) .....	55
	Description and Location .....	55
	Removal .....	55

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 1 - Electrical Components (Continued)

### CONTENTS

Section	Description	Page
	Engine Coolant Temperature Switch Testing . . . . .	56
	Installation . . . . .	56
	Engine Coolant Temperature Sending Unit (Temperature Gauge) . . . . .	57
	Description . . . . .	57
	Engine Coolant Temperature Sending Unit Testing . . . . .	57
	Removal . . . . .	58
	Installation . . . . .	59
	Air Filter Restriction Switch . . . . .	59
	Description and Location . . . . .	59
	Air Filter Restriction Switch Testing . . . . .	60
	Fuel Shutoff Solenoid . . . . .	61
	Description and Location . . . . .	61
	Removal . . . . .	61
	Fuel Shutoff Solenoid Testing . . . . .	62
	Installation . . . . .	62
	Fuel Level Sending Unit . . . . .	63
	Description and Location . . . . .	63
	Removal . . . . .	63
	Fuel Level Sending Unit Testing . . . . .	64
	Installation . . . . .	65
	Electric Fuel Pump . . . . .	66
	Description and Location . . . . .	66
	Removal . . . . .	66
	Electric Fuel Pump Testing . . . . .	67
	Installation . . . . .	68
	Auxiliary Power Outlet . . . . .	68
	Description and Location . . . . .	68
	Auxiliary Power Outlet Testing . . . . .	69
	Electric Cruise Control Switch (Optional) . . . . .	70
	Description and Location . . . . .	70
	Removal . . . . .	70

---

## SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

### Chapter 1 - Electrical Components (Continued)

#### CONTENTS

Section	Description	Page
	Cruise Control Switch Testing .....	72
	Installation .....	73
	Cruise Control Magnet (Optional) .....	74
	Description and Location .....	74
	Removal .....	74
	Cruise Control Magnet Testing .....	75
	Installation .....	76

## SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

### Chapter 2 - Electrical Circuits

#### CONTENTS

Section	Description	Page
	Complete Electrical System Wiring Diagram .....	2
	Safety Start Circuit .....	4
	Operator Presence Circuit .....	8
	Engine Stop Circuit (Operator Removed From Seat) .....	12
	Engine Glow Plug Circuit .....	16
	Lighting Circuit .....	20
	Engine Coolant Temperature and Alarm Circuit .....	24
	Engine Oil Pressure and Alarm Circuit .....	28
	Fuel Level Circuit .....	32
	Park Brake Indicator Light Circuit .....	36
	Air Filter Restriction Warning Light Circuit .....	40
	Hour Meter Circuit .....	44
	HST Electronic Cruise Control Circuit (Optional) .....	48
	Charging Circuit .....	52

---

## SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

### Chapter 3 - Instrument Panel

#### CONTENTS

Section	Description	Page
	Instrument Panel - Component Operation and Servicing .....	2
	Description .....	2
	Instrument Panel Connector .....	4
	Instrument Panel Removal .....	4
	Instrument Panel Light Replacement .....	6
	Fuel Gauge Testing .....	7
	Temperature Gauge Testing .....	7
	Instrument Panel Installation .....	8

## SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

### Chapter 4 - Charging and Starting Systems

#### CONTENTS

Section	Description	Page
	Charging System .....	4
	Description and Operation .....	4
	Alternator .....	4
	Charging Circuit .....	5
	Principle of IC Regulator .....	5
	Alternator Specifications .....	7
	Alternator Troubleshooting .....	8
	No Charging .....	8
	Insufficient Charging .....	8
	Overcharge .....	8
	Unstable Charging Circuit .....	9
	Abnormal Noise of Alternator .....	9
	Preliminary Alternator Tests .....	10
	Alternator Drive Belt .....	10

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 4 - Charging and Starting Systems (Continued)

### CONTENTS

Section	Description	Page
	Alternator Output .....	11
	Alternator Removal .....	13
	Alternator Components .....	13
	Alternator Disassembly .....	14
	Alternator Component Testing and Inspection .....	16
	Stator .....	16
	Rotor .....	17
	Rectifier Assembly .....	18
	Alternator Brushes .....	19
	Alternator Bearings .....	20
	Drive Pulley .....	20
	Alternator Frames .....	21
	Alternator Components .....	21
	Alternator Assembly .....	22
	Alternator Bench Check .....	25
	Alternator Installation .....	26
	Starting System for G6030 Mowers .....	27
	Description of Operation .....	27
	Starter Motor Assembly .....	28
	Starter Solenoid .....	28
	Pinion Clutch .....	29
	Starter Motor Specifications - G6030 .....	30
	Starter Motor Troubleshooting - G6030 .....	31
	Pinion Shaft Fails to Advance .....	31
	Pinion Motor Rotates But No Rotation Transmitted to Engine .....	31
	Motor Rotates Before Pinion Meshes With Ring Gear .....	31
	Pinion Meshes With Ring Gear But Starting Motor Fails to Turn .....	32
	Motor Fails to Stop After Engine Starts and Key Switch Is Turned Off .....	32
	Starter Motor Removal .....	33
	Starter Motor Disassembly .....	34
	Starter Motor Inspection .....	36

---

# SECTION 55 - ELECTRICAL

BOOK 2 - 84203604

## Chapter 4 - Charging and Starting Systems (Continued)

### CONTENTS

Section	Description	Page
	Starter Motor Electrical Testing .....	40
	Armature .....	40
	Brush Holder .....	41
	Starter Solenoid .....	41
	Starter Components .....	42
	Starter Motor Assembly .....	43
	Pinion Position Adjustment .....	45
	Starter Motor No Load Test .....	46
	Starter Motor Installation .....	47
	Starting System for G6035 Mowers .....	48
	Description of Operation .....	48
	Starter Motor Assembly .....	49
	Starter Solenoid .....	49
	Pinion Clutch .....	50
	Starter Motor Specifications - G6035 .....	51
	Starter Motor Troubleshooting - G6035 .....	52
	Pinion Shaft Fails to Advance .....	52
	Pinion Motor Rotates But No Rotation Transmitted to Engine .....	52
	Motor Rotates Before Pinion Meshes With Ring Gear .....	52
	Pinion Meshes With Ring Gear But Starting Motor Fails to Turn .....	53
	Motor Fails to Stop After Engine Starts and Key Switch Is Turned Off .....	53
	Starter Motor Removal .....	54
	Starter Motor Disassembly .....	55
	Starter Motor Inspection .....	60
	Starter Motor Electrical Testing .....	63
	Armature .....	63
	Brush Holder .....	64
	Field Coil .....	64
	Starter Solenoid .....	65
	Starter Components .....	69
	Starter Motor Assembly .....	70
	Starter Motor No Load Test .....	73
	Starter Motor Installation .....	74

## SECTION 90 - PLATFORM

BOOK 2 - 84203604

### Chapter 1 - Platform

#### CONTENTS

Section	Description	Page
	Platform .....	2
	Engine Cover .....	2
	Removal .....	2
	Installation .....	2
	Fenders .....	3
	Removal .....	3
	Installation .....	4
	Seat Belt / Seat/ Seat Deck .....	7
	Removal .....	7
	Installation .....	8
	Roll Over Protective Structure (ROPS) .....	9
	Removal .....	11
	Installation .....	12
	Fuel Tank .....	13
	Fuel Usage Safety .....	13
	Removal .....	14
	Installation .....	14
	Operator Deck .....	15
	Removal .....	15
	Installation .....	16