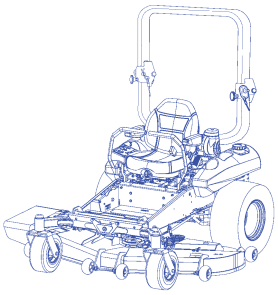


NEW HOLLAND G5030 G5035

SERVICE MANUAL

NEW HOLLAND AGRICULTURE

SERVICE

84218042 6/09
1st Printing

G5030, G5035
SERVICE MANUAL
CONTENTS

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 G5030, G5035.

COMPLETE CONTENTS

SECTION 00 – GENERAL INFORMATION

Chapter 1 – General Information

CONTENTS

SECTION 10 - ENGINE

Chapter 1 - Engine

CONTENTS

SECTION 29 - HYDROSTATIC TRANSMISSION

Chapter 1 - Hydrostatic Transmission

CONTENTS

SECTION 29 – HYDROSTATIC TRANSMISSION

Chapter 1 – Hydrostatic Transmission (Continued)

CONTENTS

SECTION 29 - HYDROSTATIC TRANSMISSION

Chapter 1 - Hydrostatic Transmission (Continued)

CONTENTS

SECTION 29 - HYDROSTATIC TRANSMISSION

Chapter 1 - Hydrostatic Transmission (Continued)

CONTENTS

SECTION 29 - HYDROSTATIC TRANSMISSION

Chapter 1 - Hydrostatic Transmission (Continued)

CONTENTS

SECTION 29 - HYDROSTATIC TRANSMISSION

Chapter 1 - Hydrostatic Transmission (Continued)

CONTENTS

SECTION 31 – POWER TAKE-OFF (PTO)

Chapter 1 – Power Take-Off (PTO)

CONTENTS

SECTION 33 – BRAKES

Chapter 1 – Brakes

CONTENTS

SECTION 55 - ELECTRICAL SYSTEM

Chapter 1 - Electrical Components

CONTENTS

SECTION 55 – ELECTRICAL SYSTEM

Chapter 2 – Electrical Circuits

CONTENTS

SECTION 58 - MOWER DECK

Chapter 1 - Mower Deck

CONTENTS

SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

CONTENTS

SAFETY PRECAUTIONS

GENERAL INFORMATION

This manual has been written for the mechanic that will have to service and repair the New Holland Zero-Turn mower. Do not attempt to service or repair the zero turn mower until familiar with the contents of this manual.

- The New Holland Zero-Turn Mower meets or exceeds all current safety specifications in effect at the time of production.

Use genuine New Holland service parts when servicing or repairing the zero-turn mower. Off the shelf (after market) repair parts may compromise the integrity of the unit. Parts that do not meet New Holland specifications may fail, causing injury, equipment or property damage.

GASOLINE PRECAUTIONS

Gasoline used in the zero-turn mower can be very dangerous if handled improperly. Pay very close attention to the following.

- Gasoline fumes are toxic.
- Eye and skin injuries can be experienced if gasoline is handled improperly.
- Breathing difficulty can result if exposed to gasoline fumes in a confined area.
- Gasoline fumes are highly explosive.
- Gasoline is highly flammable.

Always store gasoline in a cool well ventilated area. Always store gasoline in an approved container designed specifically for gasoline. Never store gasoline for more than two months.

SPECIAL INFORMATION

Never run the engine in an enclosed area. Carbon monoxide fumes from a running engine are very dangerous and can cause permanent injury or death. If the unit must be run indoors, make sure a hose or similar device is used to vent engine exhaust fumes to outside atmosphere.

When the engine has been running, the engine, the exhaust system, and the hydraulic system, can become very hot. If components must be handled, wear heavy gloves. Better yet, wait for the unit to cool completely before performing maintenance.

Hot engine oil and hydraulic oil can cause serious burns. Wear heavy gloves and safety glasses to protect yourself from oil that may get splashed.

Always direct compressed air away from you or others around you. Air driven particles may penetrate the skin or eyes causing serious injury or blindness.

Wear safety glasses and hearing protection when repairing, operating, or testing the zero-turn mower. Wear safety glasses when handling springs. Detached springs can bounce with enough force to damage property or cause personal injury.

Always wear gloves when handling or sharpening cutting blades. Do not use blades that are damaged enough where sharpening will not correct the damage.

Always keep the work area and repair bench clean. Dirt ingested into close fitting parts, especially hydraulic components, can cause a repeat failure.

To avoid a falling injury, make sure the work area is well illuminated, the floor is clean and free of dirt, oil, water, or other debris.

Never handle a battery when smoking, or while near an open flame. Explosive gas is formed and contained in the battery.

Always wear safety glasses and heavy gloves when handling a battery. Blindness and skin burns can occur if acid is splashed or spilled. Flush the exposed area with fresh water, and call a doctor immediately when any accident involving a battery should occur.

DO NOT work under any part of the zero-turn mower unless it is supported by a hoist, floor jack and jack stands that are capable of supporting the weight of the unit.

Most service work requires the unit to be shut OFF. Remove the ignition key and put it in a safe place. Disconnect the negative (-) battery cable to insure the unit can not be started.

Do not operate the unit if shields or guards have been removed. Make sure all shields and guards are in place following all service or repair work.

Many solvents, cleaning agents and chemicals are flammable. Use a non-flammable cleaning agent to avoid the risk of fire.

Always dispose of dirty cleaning agents, old engine and hydraulic oil, in containers that can be sealed. Follow all government regulations when disposing of these materials.

All references to right or left, forward or rearward, used in this manual refers to that direction as viewed from the operator's seat facing forward.

The safety circuit on the New Holland Mower is incorporated into the design of this unit for the purpose of operator safety. It is intended to keep the unit from being operated if any part of the electrical/motion control system is not adjusted or positioned correctly. Never attempt to bypass the safety circuit. Never operate the mower with a malfunctioning safety circuit.

TOOLS

Most maintenance procedures can be performed using standard mechanics hand tools. Foot Pound (lb ft), Inch Pound (lb in) or Newton Meter (N·m) torque wrenches are also required. Always use the correct size tool for job being accomplished.

Air wrenches and air ratchets are acceptable for disassembly and reassembly. However, a torque wrench should be used to insure the fastener is correctly torqued, especially the cutting blade fastener torque.

All fasteners must be torqued according to the Torque Chart found on page 4 of this manual. This chart contains special torques that are critical to the operation of the mower.

WELDING

The following precautions apply to all forms of electrical, wire feed or MIG welding.

Electrical components (alternator, clutch, switches, etc.) used on the zero-turn mower are sensitive to voltage spikes, shorts, and external electrical input. Whenever possible, the item to be welded should be removed from the unit.

If it is not possible to remove the component, the following procedures must be observed.

Make sure all dry grass has been removed from the unit to avoid a possible fire while welding.

- Remove BOTH cables from the battery.
- Disconnect the engine pigtail wiring from the main unit harness.
- Disconnect the pigtail wiring from the clutch.
- Make sure the ground lead wire from the welder is connected to a bare (unpainted) surface. It may be necessary to remove the paint where the ground lead will fasten.
- Connect the ground lead from the welder as close as possible to the area being welded .

CLEANING

The mower unit should be kept clean. This is best accomplished with compressed air or a leaf blower. Grass build-up under the deck must be scraped out.

NOTICE: *Regular water washing of the zero-turn mower is not recommended, and never when the unit is still hot from operation. If the unit must be washed, wait till the unit is cool and blow off excess water with compressed air or a leaf blower.*

Keep the zero-turn mower and cutting deck clean. Grease, dry grass, and other debris allowed to build-up could catch fire.

In wet or lush conditions, grass clippings allowed to build-up under the deck will change discharge patterns. This will cause clumping, windrowing, and poor discharge complaints. This build-up may have to be removed regularly while operating in these conditions.

FASTENER TORQUE CHART

All fasteners locally purchased for use on the New Holland Mower must be Grade 5 or equivalent, unless otherwise specified in the New Holland parts manual. Use the torque chart for all Grade 5 fasteners. Special fastener torques are shown below the chart.

IMPORTANT: *All torque specifications apply to plated or lightly oiled fasteners, hoses or fittings. Torque specifications SHOULD NOT be followed when fastening plastic parts.*

Chart - Grade 5 Fasteners

Fastener Size	lb ft	N·m
1/4-20	7 - 9	9 - 12
5/16-18	10-15	14-20
3/8-16	20-25	27-34
7/16-14	30-40	40-54
1/2-13	50-60	68-82
9/16-12	70-90	95-122
5/8-11	100-120	136-163
3/4-10	180-210	245-286

SPECIAL TORQUES

IMPORTANT: *DO NOT use the pulley nut to hold the spindle while tightening the blade as the pulley nut could be over torqued. This could cause spindle spacer and bearing damage.*

Mowing Blade Bolt - 9/16-12 x 1 3/4 Grade 8 ..... 125 lb ft (170 N·m)

Spindle Pulley Nut - 3/4-16 UNF ..... 80 lb ft (109 N·m)

Spindle Housing Nuts - 7/16-20 UNF ..... 40 lb ft (54 N·m)

Rear Wheel Nuts - 1/2-20 Lug Nut ..... 95 lb ft (129 N·m)

PTO Clutch Bolt - 7/16-20 x 2 1/4 ..... 45 lb ft (61 N·m)

Steering Dampener Nuts - M8-1.25 ..... 24 lb ft (33 N·m)

"TD" Wheel Motor Tie Bolts – 1/2-13, Grade 5 ..... 60 lb ft (82 N·m)

BDP-16A "By Pass Valve" ..... 108 lb in (12.2 N·m)

BDP-16A Hydraulic Pump End Cap Bolts ..... 215 lb in (22 N·m)

BDP-16A Charge Pump Screws ..... 120 lb in (14 N·m)

High Pressure Pump/Motor Hoses/Fittings (MUST be lightly oiled) ..... 60 lb ft (82 N·m)

SERVICE REQUIREMENTS

MAINTENANCE SCHEDULE

After 8 hour Break-In Period

- Change Engine Oil and Hydraulic Oil Filter.

Daily

- Sharpen, balance and torque cutting blades as needed for mowing conditions encountered.
- Check tire pressures.
- Check engine oil level.
- Check hydraulic oil level in reservoir.

25 Hour Service

- Perform daily service.
- Clean/change primary air cleaner cartridge, more regularly if conditions are very dusty.
- Lubricate mower deck spindles.
- Lubricate mower deck belt tension pivot and pump belt idler arm pivot.
- Check fastener torques, especially blade bolts and spindle pulley nuts.

40 Hour Service

- Perform 25 hour service.
- Lubricate caster wheel axles.
- Lubricate lift link pivots.
- Lubricate front axle pivot
- Lubricate drag link pivots.
- Check/adjust parking brake linkages.

100 Hour Service

- Perform 25 and 40 hour service.
- Change engine oil and filter.
- Change fuel filter.
- Clean cooling fans on the engine and hydraulic pumps.

250 Hour Service/Annually/Before Season Start-Up

- Perform 25, 40 and 100 hour service.
- Lubricate Caster Yoke Bearings
- Change hydraulic oil and filter.
- Replace primary and secondary air cleaner cartridges.
- Inspect entire New Holland mower and advise owner of additional concerns.

⚠ WARNING ⚠

Service requirements must be performed with the mower shut off and the ignition key removed.

Fluid Types and Capacities

Ethanol Blend Gasoline	Lead Free – Minimum 87 Octane	11.8 U.S. gallons (44.7 liters)
Engine Oil	SAE 30W Motor Oil (*1)	1.8 U.S. quart (1.7 Liter) (*2)
Hydraulic Oil	SAE 20W–50 Motor Oil (*3) (*4)	1.0 U.S. gallon (3.8 liters) (*3)
Gun Grease	SAE MP Lithium Base	As Required

(*1) = API Service Class Motor Oil: SF, SG, SH, or SJ

(*2) = Includes oil filter requirement.

(*3) = API Service Class Motor Oil: SJ/CD

(*4) = DO NOT use any type of “hydraulic” oil or system damage could result.

COMPONENT IDENTIFICATION

MOWER DESIGN AND FUNCTION

New Holland G5030/G5035

The New Holland G5030/G5035 is a zero-turn, commercial riding lawn mower, specifically designed to mow large areas of grass. The mower deck can easily be adjusted to mow from 1 to 6 inches height of cut without the use of tools. The belt system insures that drive belt angles from the PTO clutch to the deck will be maintained for optimum mowing performance at all cutting heights.

The unit is operated by an hydrostatic drive system to the rear wheels. The independent rear wheels are driven by hydraulic drive wheel motors, from individually fan cooled hydraulic pumps. The hydraulic pumps are driven by a belt from the engine crankshaft.

The steering, ground speed, and parking brake is integrated into two fully adjustable and hydraulically dampened levers designed to adjust to any size operator The front wheels are caster yoke design, free to swivel as necessary.

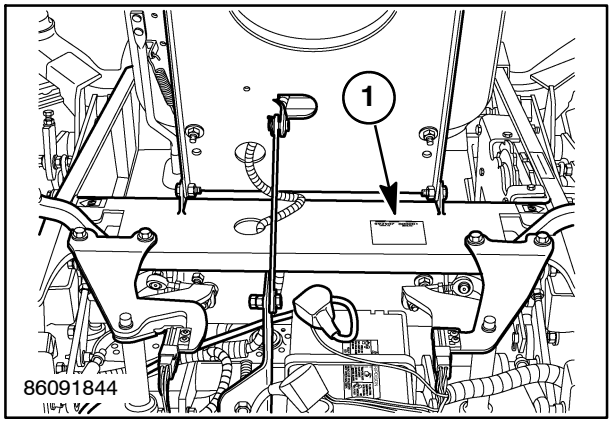
The high volume right discharge tunnel deck is mounted forward of the operator's position for unlimited visibility. All operating controls and switches are conveniently located at the operator's finger tips. There is also a large drink holder molded into the left fuel tank.

Product Identification

Each New Holland G5030 and G5035 Mower can be identified by a model and serial number found on a product identification decal, 1, located directly under the operators seat on the mainframe of the unit.

Always use the model number and complete serial number when ordering parts, requesting warranty, etc.

IMPORTANT: *Make sure model and serial number information on all major components is recorded in the Owner's Manual, as these decals can be lost if the unit is steam cleaned or pressure washed.*



1

GENERAL INFORMATION

DESCRIPTION

Hydrostatic Drive

The engine is connected to two axial piston hydraulic pumps by means of a pulley and belt system. Each pump delivers oil to a fixed wheel motor connected to each rear wheel. The rate and direction of oil flow to the motors is controlled by the operator by means of two fully adjustable control arms located in the operator's area.

Brakes

There is no mechanical stopping brake on the New Holland Mower. Hydrostatic braking occurs as oil flow to the wheel motors is reduced by moving the control arms toward the park position. If an oil loss failure should occur while in motion, the parking brake can be used to slow and stop the unit.

Parking Brake

The parking brake on the G5000 Series Mower is integrated into the motion control arms. A brake drum and shoe system is mechanically activated when the control arms are fully engaged in their park position slots, applying the parking brakes.

The parking brake is intended to hold the unit in place when it's parked. It must not be used as a sole means to hold the unit while transporting on a truck bed or trailer.

IMPORTANT: *To avoid unit shifting while transporting between mowing jobs, always use load tie downs to hold the mower in place.*

Steering

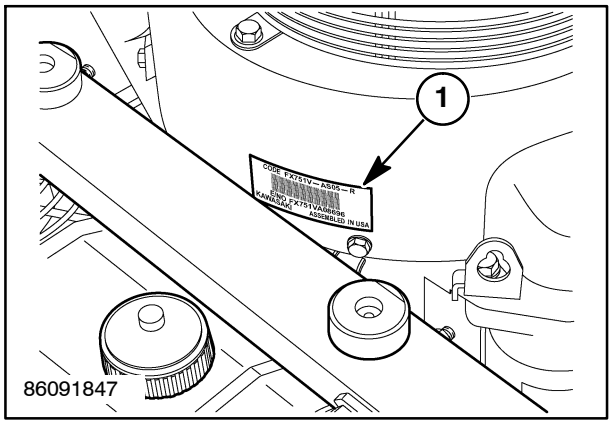
Moving one control arm at a time regulates the rate of turn by changing the flow of oil to the side being activated. By carefully moving one control arm fully forward, and one arm fully rearward, the unit will make a "zero-turn."

ENGINE IDENTIFICATION

The New Holland G5030 or G5035 mower is equipped with a Kawasaki 27 or 31 HP V-Twin engine.

There is a decal data plate located on the engine cover. The data plate contains the engine model, the type or code and the engine serial number. Always refer to this information when ordering parts or requesting warranty for the engine.

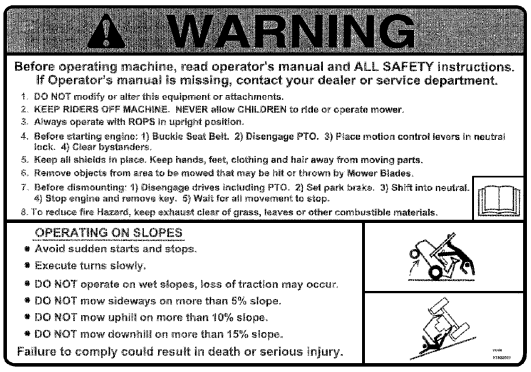
Engine troubleshooting, repair or adjustments are not covered in this manual. An engine service manual for can be ordered from New Holland publications. New Holland publication # 84219687.



2

SAFETY AND INSTRUCTION DECALS

1

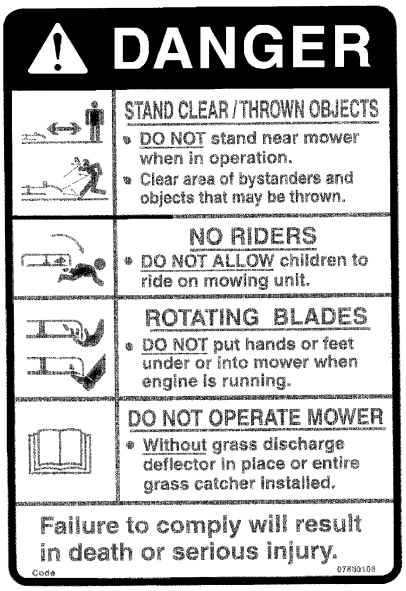


Warning: Before Operating Machine

Part #AUB0780041

Location: Below operators seat

2



Danger: Thrown Objects

Part #AUB07800108

Location: LH and RH mower deck

3

Warning: Shield Missing

Part #AUB07800107

Location: LH and RH mower deck under belt and pulley guard

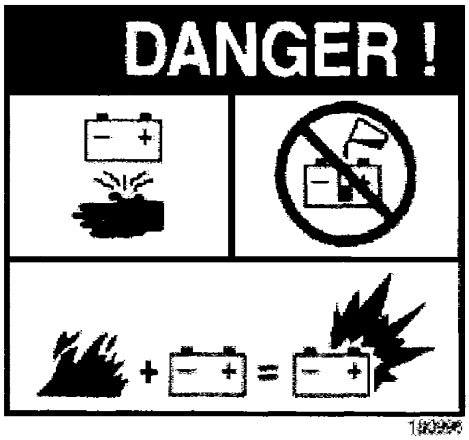
4

Warning: Moving Parts

Part #AUB07800110

Location: LH and RH mower deck on belt and pulley guard

5

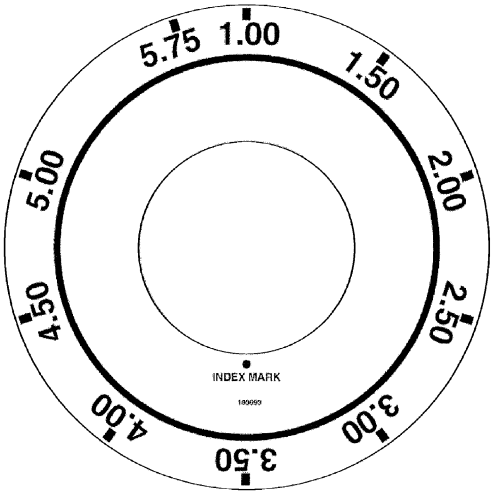


Danger: Battery Explosion
Part #AUB180996
Location: Battery

6

Warning: Machine Rollover
Part #FEM286304500
Location: ROPS

7



Deck Height Adjust Dial
Part #AUB180693
Location: Deck Height Dial

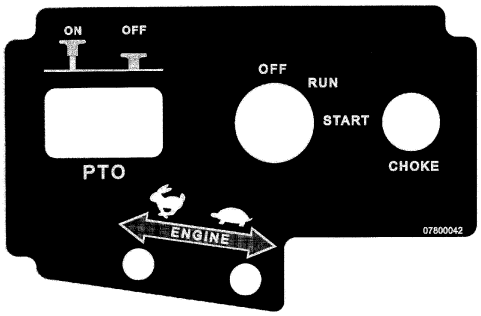
8

Deck Release
Part #AUB180846
Location: Deck Height Dial

9

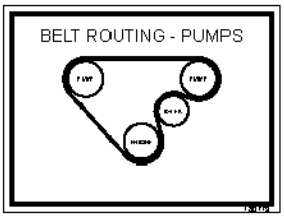
Park Brake
Part #AUB181003
Location: Motion Control Arms

10



Console Controls
Part #AUB07800042
Location: RH Console

(11)

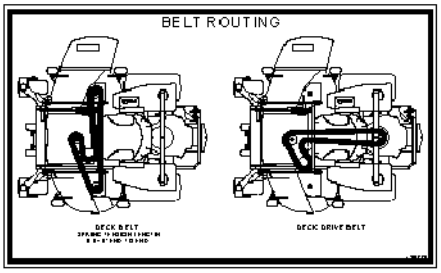


Belt Routing Pump
Part #AUB180779
Location: Underside of Engine Mount

(12)

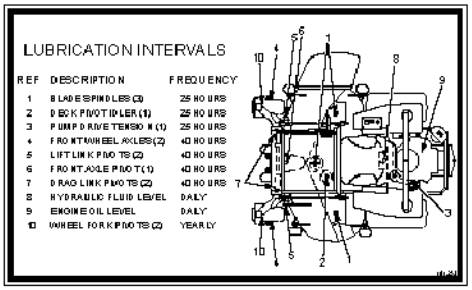
Attention: Hydraulic Oil
Part #AUB181254
Location: Under Seat on Hydraulic Reservoir

(13)

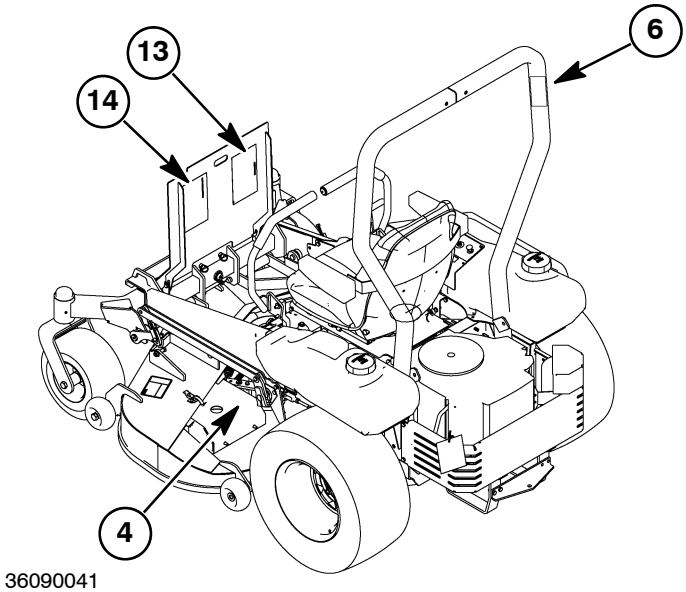


Belt Routing
Part #AUB180776
Location: Underside of Foot Rest

(14)



Lubrication Intervals
Part #AUB181253
Location: Underside of Foot Rest



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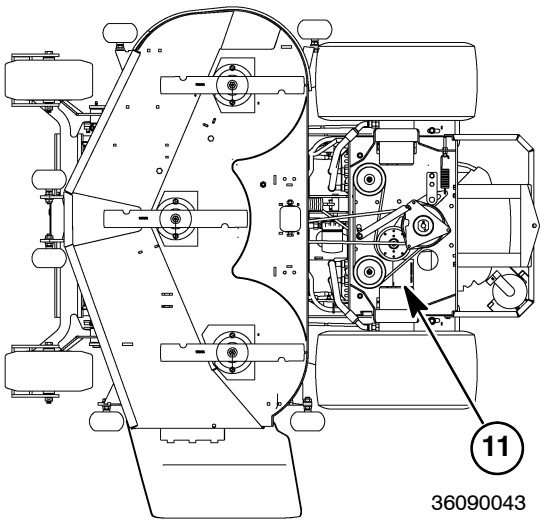

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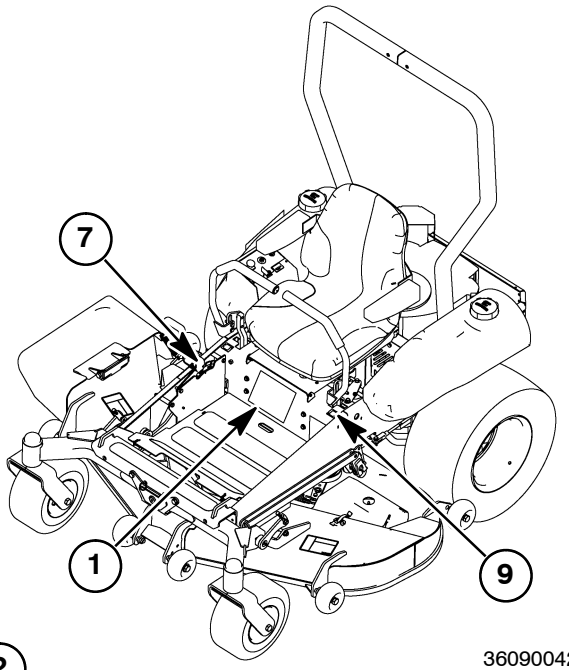

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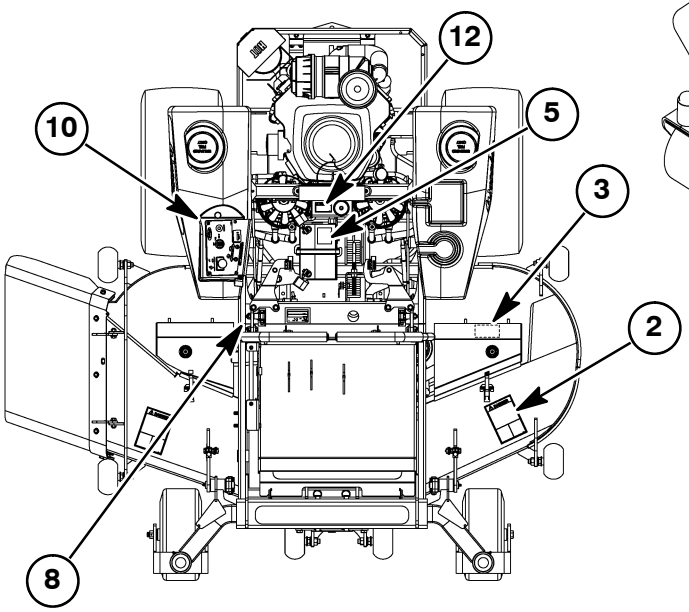

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SPECIFICATIONS

	G5030	G5035
ENGINE		
Type	Kawasaki FX751V (Gasoline)	Kawasaki FX850V (Gasoline)
Engine Gross Horsepower	27 Hp	31Hp
Cylinders	2	2
Bore x Stroke	84.5 x 76 mm (3.33 x 2.99 in)	84.5 x 76 mm (3.33 x 2.99 in)
Displacement	850 cc (52.0 cu. In.)	850 cc (52.0 cu. In.)
Low Idle Speed	1550 RPM ±150	1550 RPM ±150
High Idle Speed	3600 RPM ±100	3600 RPM ±100
Cooling System	Air Cooled	Air Cooled
Spark Plug (NGK Brand)	BPR4ES	BPR4ES
Spark Plug Gap	0.75 mm (0.030 in)	0.75 mm (0.030 in)
CAPACITIES		
Fuel Tank(s)	Each 22.4 L (6 gal) Total = 44.8 L (12 gal)	Each 22.4 L (6 gal) Total = 44.8 L (12 gal)
Hydraulic System	3.8 L (1 gal)	3.8 L (1 gal)
Engine Crankcase		
Without filter change	2.1 L (2.2 US qt)	2.1 L (2.2 US qt)
With filter change	2.3 L (2.4 US qt)	2.3 L (2.4 US qt)
ELECTRICAL SYSTEM		
Battery	12 volt, 400 CCA	12 volt, 400 CCA
Charging System	15 amp @ 3600 rpm	15 amp @ 3600 rpm
Fuse Protection	(Two) 20 amp fuses	(Two) 20 amp fuses
TIRES/WHEELS		
Rear	24 x 12-2 4ply Turf Tread	24 x 12-2 4ply Turf Tread
Front	13 x 6.5-6 4 ply Smooth Tread	13 x 6.5-6 4 ply Smooth Tread
Rear Wheel Bolt Torque	101 N·m (75 lb-ft)	101 N·m (75 lb-ft)

	G5030	G5035
WEIGHTS		
Base Mower – w/o deck	435 kg (974 lb)	435 kg (974 lb)
54 inch deck	123 kg (272 lb)	NA
60 inch deck	125 kg (297 lb)	NA
66 inch deck	NA	142 kg (313 lb)
GENERAL DIMENSIONS		
Overall Width w/o deck	1372 mm (54 in)	1372 mm (54 in)
Overall Length w/o deck	2045 mm (80.5 in)	2045 mm (80.5 in)
Overall Height w/ROPS	1867 mm (73.5 in)	1867 mm (73.5 in)
Overall Height w/ROPS folded	1500 mm (59 in)	1500 mm (59 in)
Wheelbase	1321 mm (51 in)	1321 mm (51 in)
Ground Clearance	140 mm (5.5. in)	140 mm (5.5. in)
TRAVEL SPEEDS		
Forward	19.3 kph (12 mph)	19.3 kph (12 mph)
Reverse	6.44 kph (4 mph)	6.44 kph (4 mph)
HITCH		
Maximum Tongue Weight	13.6 kg (30 lb)	13.6 kg (30 lb)
Maximum Towing Weight	136 kg (300 lb)	136 kg (300 lb)

MOWER DECKS

	54 Inch	60 Inch	66 Inch
Overall Width	1410 mm (55.5 in)	1570 mm (61.8 in)	1720 mm (67.7 in)
Cutting Width	1372 mm (54 in)	1524 mm (60 in)	1676 mm (66 in)
Deck Thickness	7 gauge 4.7 mm (0.18 in)	7 gauge 4.7 mm (0.18 in)	7 gauge 4.7 mm (0.18 in)
Number of Blades	3	3	3
Blade Length	482.6 mm (19 in)	533.4 mm (19 in)	584.2 mm (23 in)
Blade Thickness	5.16 mm (0.203 in)	5.16 mm (0.203 in)	5.16 mm (0.203 in)
Blade Tip speed @ 3600 engine RPM	18,867 fpm	17,630 fpm	18,413 fpm
Cutting Height	25.4 to 152.4 mm 1.0 to 6.0 inch	25.4 to 152.4 mm 1.0 to 6.0 inch	25.4 to 152.4 mm 1.0 to 6.0 inch

TROUBLESHOOTING

The following troubleshooting guide is for the mower deck and its drive. This assumes the power unit engine is running to prescribed specifications. Consult the mower repair reference for all system checks.

Before attempting repair or test, observe the general condition of the power unit and mower. Make certain the power unit is operating properly and the mower is setup correctly. The following information may give you some hints in what to look for when attempting to solve a problem with the mower. If the problem cannot be easily solved, contact your **New Holland** dealer.

Symptom	Problem	Correction
Excessive Vibration	Loose spindle/blade fasteners.	Re-torque or replace as necessary.
	Blade interference with grass build-up in deck.	Clean the underside of the deck.
	Blades out of balance.	Balance blades according to instructions.
	Blade(s) broken or worn badly.	Replace mowing blades in sets of 3.
	Engine mounting bolts are loose.	Tighten the engine mounting bolts.
	Engine/Idler/Blade pulley loose.	Tighten the pulley.
	Engine pulley damaged.	Contact dealer.
	Failed spindle bearing.	Contact dealer.
Uneven Cutting Height	Blades dull.	Sharpen or replace blades.
	Cutting blade(s) is/are bent.	Install new cutting blades.
	Deck is not level.	Level deck.
	Anti-scalp not set correctly.	Adjust height of anti-scalp wheel.
	Grass buildup under deck.	Clean underside of deck.
	Incorrect tire pressure.	Adjust psi to 83 kPa (12 psi) rear and 138 kPa (20 psi) front.
	Blade spindle bent.	Contact dealer.
	Ground speed too fast.	Lower ground speed.
Blades Wear Too Fast	Cutting in sandy conditions.	Increase deck mowing height.
	Cutting in rocky conditions.	Increase deck mowing height.
	Heat treat has been removed by sharpening with grinder.	Replace mowing blades in sets of 3.

Symptom	Problem	Correction
Not Cutting Clean	Blades dull.	Sharpen or replace blades.
	Blades installed upside down.	Install blades correctly.
	Blade rpm too low.	Use full throttle position.
	Mower deck not level.	See cutting heights.
		Tires under inflated 83 kPa rear and 138 kPa front (12 psi rear and 20 psi front).
	Mower tires mashing grass.	Too wet or lush to mow. Reverse direction and re-mow the area.
	Ground speed too fast.	Reduce ground speed.
	Excessive grass buildup under mower deck	Clean underside of deck.
Streaking or Windrow Conditions in Swath	Blades dull.	Sharpen or replace blades.
	Blades installed upside down.	Install blades correctly.
	Conditions too wet for mowing.	Allow grass to dry before mowing.
	Excessive grass buildup under mower deck.	Clean underside of deck.
	Ground speed too fast for conditions.	Lower operating speeds.
Blades Don't Rotate	Deck belt is worn, loose or broken.	Install new deck belt.
	Deck belt off pulley.	Reinstall deck belt.
	Clutch failed.	Contact dealer.
Mower Loads Power Unit	Engine rpm too low.	Use full throttle position.
	Ground speed too fast.	Reduce ground speed.
	Excessive grass buildup under mower deck.	Clean underside of deck.
Excessive Noise	Grass and lawn debris buildup under the deck will cause excessive noise as the mower blades will contact the eventual hardened buildup. Clean the underside of the deck regularly, especially if the mowing conditions were wet or extremely lush.	