

# SERVICE MANUAL

**Boomer™ 3040**

**Boomer™ 3045**

**Boomer™ 3050**

**With Hydrostatic or 12x12 Gear Transmission**

**Compact Tractor**

**Part number 84242309**

1st edition English  
August 2012



# Contents

---

## INTRODUCTION

<b>Engine</b> .....	<b>10</b>
Engine and crankcase.....	10.001
Cylinder heads .....	10.101
Pan and covers.....	10.102
Crankshaft and flywheel .....	10.103
Connecting rods and pistons .....	10.105
Valve drive and gears .....	10.106
Balancer and damper.....	10.110
Pump drives .....	10.114
Lift pump and lines .....	10.210
Fuel tanks .....	10.216
Fuel injection system .....	10.218
Intake and exhaust manifolds and muffler.....	10.254
Engine lubrication system .....	10.304
Engine cooling system .....	10.400
Fan and drive.....	10.414
<b>Clutch</b> .....	<b>18</b>
Clutch hydraulic release control .....	18.104
Clutch and components .....	18.110
<b>Transmission</b> .....	<b>21</b>
Mechanical transmission .....	21.114
Mechanical transmission external controls .....	21.130
Mechanical transmission internal components .....	21.140
<b>Front axle system</b> .....	<b>25</b>
Powered front axle .....	25.100
Front bevel gear set and differential .....	25.102

Final drive hub, steering knuckles, and shafts .....	25.108
Final drives .....	25.310
<b>Rear axle system .....</b>	<b>27</b>
Powered rear axle .....	27.100
Rear bevel gear set and differential .....	27.106
Planetary and final drives .....	27.120
<b>Hydrostatic drive .....</b>	<b>29</b>
Transmission and steering hydrostatic control .....	29.100
Hydrostatic transmission .....	29.202
Reservoir, cooler, and lines .....	29.204
Pump and motor components .....	29.218
<b>Power Take-Off (PTO) .....</b>	<b>31</b>
Rear electrohydraulic control .....	31.104
Two-speed rear Power Take-Off (PTO) .....	31.114
Central Power Take-Off (PTO) .....	31.120
<b>Brakes and controls .....</b>	<b>33</b>
Parking brake / Parking lock .....	33.110
Mechanical service brakes .....	33.120
<b>Hydraulic systems .....</b>	<b>35</b>
Hydraulic systems .....	35.000
Pump control valves .....	35.102
Fixed displacement pump .....	35.104
Three-point hitch control valve .....	35.114
Remote control valves .....	35.204
Reservoir, cooler, and filters .....	35.300
Regulated/Low pressure system .....	35.322
Safety and main relief valves .....	35.350
<b>Hitches, drawbars, and implement couplings .....</b>	<b>37</b>
Rear three-point hitch .....	37.110

<b>Steering</b> .....	<b>41</b>
Hydraulic control components .....	41.200
Pump .....	41.206
Cylinders .....	41.216
<b>Cab climate control</b> .....	<b>50</b>
Heating .....	50.100
Ventilation .....	50.104
Air conditioning .....	50.200
<b>Electrical systems</b> .....	<b>55</b>
Electrical system .....	55.000
Heating, Ventilation, and Air-Conditioning (HVAC) control system .....	55.050
Cab Heating, Ventilation, and Air-Conditioning (HVAC) controls .....	55.051
Harnesses and connectors .....	55.100
Engine starting system .....	55.201
Cold start aid .....	55.202
Alternator .....	55.301
Battery .....	55.302
Warning indicators, alarms, and instruments .....	55.408
Wiper/Washer system .....	55.518
Cab engine controls .....	55.525
<b>Platform, cab, bodywork, and decals</b> .....	<b>90</b>
Engine hood and panels .....	90.100
Engine shields, hood latches, and trims .....	90.102
Protections - ROPS and FOPS .....	90.114
Pneumatically-adjusted operator seat .....	90.124
Cab .....	90.150
Cab interior .....	90.151
Cab doors and hatches .....	90.154



# INTRODUCTION

# Contents

---

## INTRODUCTION

Foreword .....	3
Safety rules .....	4
Basic instructions Hardware .....	9
Special tools .....	10
General specification with 12x12 Gear Transmission .....	11
Dimension 12x12 Gear Transmission .....	17
International symbols .....	24
General specification Hydrostatic Transmission .....	25
Dimension Hydrostatic Transmission .....	30
Torque Specification Tables .....	37
General specification Tire Pressures .....	42
Product identification .....	43

## **Foreword**

This service manual provides the technical information needed to properly service the NEW HOLLAND AGRICULTURE Boomer 3040, 3045, and 3050 model tractors. Use this manual in conjunction with the operator's manual for complete operation, adjustment, and maintenance information

On NEW HOLLAND AGRICULTURE equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

---

## Safety rules

### PRECAUTIONARY STATEMENTS

#### Personal Safety

Throughout this manual and on machine signs, you will find precautionary statements ("DANGER", "WARNING", and "CAUTION") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



This word "DANGER" indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

M1169



This word "WARNING" indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.

M1170



This word "CAUTION" indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

M1171

---

**FAILURE TO FOLLOW THE "DANGER", "WARNING", AND "CAUTION" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.**

#### Machine Safety

The precautionary statement ("IMPORTANT") is followed by specific instructions. This statement is intended for machine safety.

**NOTICE:** The word "IMPORTANT" is used to inform the reader of something they need to know to prevent minor machine damage if a certain procedure is not followed.

#### Information

**NOTE:** Instructions used to identify and present supplementary information.

### LEGAL OBLIGATIONS

This machine may be equipped with special guarding or other devices in compliance with local legislation. Some of these require active use by the operator. Therefore, check local legislation on the usage of this machine.

### ACCIDENT PREVENTION

Most accidents or injuries that occur in workshops are the result of a non compliance to simple and fundamental safety regulations. For this reason, IN MOST CASES THESE ACCIDENTS CAN BE AVOIDED by foreseeing possible causes and consequently acting with the necessary caution and care.

Accidents may occur with all types of machines, regardless of how well the machine in question was designed and built.

A careful and informed service technician is the best guarantee against accidents.

Decisive awareness of the most basic safety rule is normally sufficient to avoid many serious accident.





**Shut down the machine, remove key, be sure all moving parts have stopped and all pressure in the systems is relieved before cleaning, adjusting or lubricating the equipment. Failure to comply will result in death or serious injury.**

---

M871

## **SAFETY REQUIREMENTS FOR FLUID POWER SYSTEMS AND COMPONENTS - HYDRAULICS (EUROPEAN STANDARD PR EM 982)**

Flexible hose assemblies must not be constructed from hoses which have been previously used as part of a hose assembly.

Do not weld hydraulic piping.

When flexible hoses or piping are damaged, replace them immediately.

It is forbidden to modify a hydraulic accumulator by machining, welding or any other means.

Before removing hydraulic accumulators for servicing, the liquid pressure in the accumulators must be reduced to zero.

Pressure check on hydraulic accumulators shall be carried out by method recommended by the accumulator manufacturer.

Care must be taken not to exceed the maximum allowable pressure of the accumulator. After any check or adjustment there must be no leakage of gas.

### **SAFETY RULES**

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before operating this tractor. Equipment should be operated only by those who are responsible and instructed to do so.

#### **THE TRACTOR**

1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Use an approved roll bar and seat belt for safe operation. Overturning a tractor without a roll bar can result in death or injury. If your tractor is not equipped with a roll bar and seat belt, see your NEW HOLLAND AGRICULTURE Dealer.
3. Always use the seat belt. The only instance when the seat belt should not be used is if the roll bar has been removed from the tractor or folding ROPS is in down position.
4. If a front end loader is to be installed, always use a FOPS (Falling Object Protective Structure) canopy to avoid injury from falling objects.
5. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
6. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
7. Keep all safety decals clean of dirt and grime, and replace all missing, illegible, or damaged safety decals. See the list of decals in the Decal section of this manual.

#### **SERVICING THE TRACTOR**

1. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always turn the cap slowly to the first stop and allow pressure to escape before removing the cap entirely.
2. Keep any type of open flame away from the tractor and do not smoke while refueling. Wait for the engine to cool before refueling.
3. Keep the tractor and equipment, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and comply with legal requirements.
4. Keep open flame or cold weather starting aids away from the battery to prevent fires or explosions. Use jumper cables according to instructions to prevent sparks which could cause explosion.

## INTRODUCTION

---

5. Stop the engine before performing any service on the tractor.
6. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. If fluid is injected into the skin, obtain medical attention immediately or gangrene may result.
  - DO NOT use your hand to check for leaks.
  - Use a piece of cardboard or paper to search for leaks.
  - Stop the engine and relieve pressure before connecting or disconnecting lines.
  - Tighten all connections before starting the engine or pressurizing lines.
7. Do not modify or permit anyone else to modify or alter this tractor or any of its components or functions without first consulting a NEW HOLLAND AGRICULTURE Dealer.
8. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump, injector, nozzle, or any other part of the fuel injection system. Failure to follow these instructions can result in serious injury.
9. Continuous long-term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.
10. Some components of your tractor, such as gaskets and friction surfaces (brake linings, clutch linings, etc.) may contain asbestos. Breathing asbestos dust is dangerous to your health. You are advised to have any maintenance or repair on such components carried out by an authorized NEW HOLLAND AGRICULTURE Dealer. However, if service operations are to be undertaken on parts that contain asbestos, the essential precautions listed below must be observed:
  - Work out of doors or in a well ventilated area.
  - Dust found on the tractor or produced during work on the tractor should be removed by extraction, not by blowing.
  - Dust waste should be dampened, placed in a sealed container, and marked to ensure safe disposal.
  - If any cutting, drilling, etc. is attempted on materials containing asbestos, the item should be dampened and only hand tools or low speed power tools used.

## OPERATING THE TRACTOR

1. Before starting the tractor, apply the parking brake, place the PTO lever in the 'OFF' position, the lift control lever in the down position, the remote control valve levers in the neutral position, and the transmission in neutral.
2. Always sit in the tractor seat when starting the engine or operating controls. Do not start the engine or operate controls while standing beside the tractor.
3. Do not bypass the neutral start switches. Consult your NEW HOLLAND AGRICULTURE Dealer if your neutral start controls malfunction. Use jumper cables only in the recommended manner. Improper use can result in tractor runaway.
4. Avoid accidental contact with the gear shift lever while the engine is running, as this can cause unexpected tractor movement.
5. Before getting off the tractor, disengage the PTO, turn the engine off, and apply the parking brake. Never get off the tractor while it is in motion.
6. Do not park the tractor on a steep incline.
7. Do not operate the tractor engine in an enclosed building without adequate ventilation. Exhaust fumes can cause death or illness.
8. If the power steering or engine ceases operating, stop the tractor immediately.
9. Pull only from the drawbar or the lower link drawbar in the down position. Use only a drawbar pin that locks in place. Pulling from the tractor rear axle or any point above the axle may cause the tractor to upset.
10. If the front end of the tractor tends to rise when heavy implements are attached to the three-point hitch, install front end or front wheel weights. Do not operate the tractor with a light front end.
11. Always set the hydraulic selector lever in position control when attaching or transporting equipment. Ensure hydraulic couplers are properly mounted and will disconnect safely in case of accidental detachment of implement.
12. Do not leave equipment in the raised position.
13. Use the flasher/turn signal lights and SMV signs when traveling on public roads both day and night (unless prohibited by law).

14. When operating at night, adjust lights to prevent blinding oncoming drivers.

#### DRIVING THE TRACTOR

1. Watch where you are going, especially at row ends, on roads, around trees and low hanging obstacles.
2. To avoid upsets, drive the tractor with care and at a safe speed. Use extra caution when operating over rough ground, when crossing ditches or slopes, and when turning corners.
3. To provide two-wheel braking, lock tractor brake pedals together when transporting on roads.
4. Do not coast or free wheel down hills. Use the same gear when going downhill as is used when going uphill.
5. Any towed vehicle with a total weight exceeding that of the towing tractor should be equipped with brakes for safe operation.
6. If the tractor becomes stuck or the tires become frozen to the ground, back up the tractor to prevent upset.
7. Always check overhead clearance, especially when transporting the tractor.
8. When operating at night, adjust lights to prevent blinding oncoming drivers.

#### OPERATING THE PTO

1. When operating PTO driven equipment, shut off the engine and wait until the PTO stops before getting off the tractor and disconnecting the equipment.
2. Do not wear loose clothing when operating the power take-off or when near rotating equipment.
3. When operating stationary PTO driven equipment, always place all gear shift levers in neutral position.
4. To avoid injury, do not clean, adjust, unclog, or service PTO driven equipment when the tractor engine is running.
5. Ensure the PTO master shield is installed at all times. Always replace the PTO shield cap when the PTO is not in use.

#### DIESEL FUEL

1. UNDER NO CIRCUMSTANCES should gasoline, alcohol, or blended fuels be added to diesel fuel. These combinations can create an increased fire or explosive hazard. Such blends are more explosive than pure gasoline in a closed container such as a fuel tank. DO NOT USE THESE BLENDS.
2. Never remove the fuel cap or refuel with the engine running or hot.
3. Do not smoke while refueling or when standing near fuel.
4. Maintain control of the fuel filler pipe nozzle when filling the tank.
5. Do not fill the fuel tank to capacity. Allow room for expansion.
6. Wipe up spilled fuel immediately.
7. Always tighten the fuel tank cap securely.
8. If the original fuel tank cap is lost, replace it with a NEW HOLLAND AGRICULTURE approved cap. A non-approved, proprietary cap may not be safe.
9. Keep equipment clean and properly maintained.
10. Do not drive equipment near open fires.
11. Never use fuel for cleaning purposes.
12. Arrange fuel purchases so that winter grade fuels are not held over and used in the spring.

#### SAFETY FRAME (ROPS)

Your NEW HOLLAND AGRICULTURE tractor is equipped with a safety frame. It must be maintained in a serviceable condition. Be careful when driving through doorways or working in confined spaces with low headroom.

UNDER NO CIRCUMSTANCES should you:

- Modify, drill, or alter the safety frame in any way. Doing so may render you liable to legal prosecution.
- Attempt to straighten or weld any part of the main frame or retaining brackets which have suffered damage. Doing so may weaken the structure and endanger your safety.

## INTRODUCTION

---

- Secure any parts on the main frame or attach your safety frame with anything other than the special high tensile bolts and nuts specified.
- Attach chains or ropes to the main frame for pulling purposes.
- Take unnecessary risks even though your safety frame affords you the maximum protection possible.

---

## Basic instructions Hardware

### General

Your tractor has been built using metric hardware.

**NOTE:** *Be sure to use the hardware specified when using tapped holes, as trying to install a metric bolt in an inch thread, or an inch bolt in a metric thread, will damage the thread.*

Certain hardware must be tightened to specific torque specifications. If specific torque specifications are not noted, tighten the hardware to the standard torque chart specification listed in this manual.

### Plating

Hardware used on NEW HOLLAND AGRICULTURE balers is plated with zinc chromate (gold color). Gold colored hardware has different torquing requirements from unplated or zinc plated (silver color) hardware because of the difference in the coefficient of friction of the plating material. The torque charts in this manual list the correct specifications for gold, silver, and unplated bolts.

### Nut Tightening

Whenever possible, the nut should be tightened, not the head of the bolt. When tightening using the bolt head, the clamp load can be lost because some of the torque applied twists the bolt instead of tensioning (stretching) it. The tension on the bolt is what holds the joint together.

Approximately 90% of the torque applied during assembly goes to overcoming friction between the parts. The other 10% is used to tension (stretch) the bolt. After assembly, the frictional forces disappear, which is the basis for the saying 'If it does not fail during assembly, it will not fail in service.' The bolt may later fail due to other factors, but not from being over tightened.

### Locknuts

Most locknuts are coated with a special lubricant that is dry to the touch. Anytime a locknut is used, a lower than normal torque is required. Refer to the torque charts in this manual for specific values.

### Jam Nuts

When using a jam nut to lock a regular nut, the jam nut should be installed first and tightened to one half the recommended torque, then held in place while installing a regular nut to the recommended torque.

### Thread Lubrication

The addition of antiseize compound, Molykote, oil, graphite, or any other lubricant to a bolt decreases the friction between it and a nut. This makes it necessary to reduce the recommended torque to prevent over tensioning of the bolt. When using the torque charts in this manual, decrease the value by 20% whenever a lubricant is used.

---

## Special tools

Gauge (0-3000 psi)	OEM 1462
Gauge (6000 psi)	OEM 1464
Gauge (300 psi)	OEM 1457
Hose	Procure Locally
Tee Fitting	CNH299061
Adapter	FNH00227
Male Plug	Included with CNH299061
Female Cap	Included with CNH299061
Variseal Installation Tool	293955
Detent Tool	FNH00081
Seal Driver Set	FNH00293
Injector Test	FNH01721
Injector Adapter Set	FNH01728
Clutch Alignment Tool	FNH299006
Engine Compression Test Adapter	FNH00120
Engine Compression Test Gauge Assembly	OEM1074
Oil Pump Port Block Remover Tool	380002888
Oil Pump Port Block Installer Tool	380002887
Oil Pump Port Block Installer Pins	FNH11044
Micrometer	<b>0 - 25 mm (0 - 1 in)</b>
Micrometer	<b>25 - 51 mm (1 - 2 in)</b>
Micrometer	<b>76 - 102 mm (3 - 4 in)</b>
Small Hole Gauge	<b>19 - 25 mm (0.75 - 1 in)</b>
Cylinder Bore Gauge	<b>76 - 102 mm (3 - 4 in)</b>
Cylinder Bore Gauge	<b>25 - 51 mm (1 - 2 in)</b>
HST High Pressure Test Fitting	CNH299007
Engine Oil Pressure Test Fitting	FNH00011
PTO Clutch Pack Pressure Test Fitting	CNH299008
PTO Clutch Pack Press Tool	CNH299009

## General specification with 12x12 Gear Transmission

### Boomer 3040, 3045, 3050

	Boomer 3040	Boomer 3045	Boomer 3050
<b>ENGINE</b>			
Type/Model	Diesel/N844	Diesel/N844L	Diesel/N844L
Engine Gross Horsepower	<b>29.8 kW (40.0 Hp)</b>	<b>33.6 kW (45.0 Hp)</b>	<b>37.3 kW (50.0 Hp)</b>
Cylinders	4	4	4
Bore	<b>84 mm (3.31 in)</b>	<b>84 mm (3.31 in)</b>	<b>84 mm (3.31 in)</b>
Stroke	<b>90 mm (3.54 in)</b>	<b>100 mm (3.94 in)</b>	<b>100 mm (3.94 in)</b>
Displacement	<b>2.0 l (121.7 in<sup>3</sup>)</b>	<b>2.2 l (135.2 in<sup>3</sup>)</b>	<b>2.2 l (135.2 in<sup>3</sup>)</b>
Compression Ratio	22.5:1	22.5:1	22.5:1
Firing Order	1-3-4-2	1-3-4-2	1-3-4-2
Low Idle Speed	<b>1050 RPM ± 50</b>	<b>1050 RPM ± 50</b>	<b>1050 RPM ± 50</b>
Maximum Speed: High Idle Rated	<b>2840 RPM ± 25</b> <b>2600 RPM</b>	<b>2840 RPM ± 25</b> <b>2600 RPM</b>	<b>3025 RPM ± 25</b> <b>2800 RPM</b>
<b>CAPACITIES</b>			
Fuel Tank	<b>49.2 l (13 US gal)</b>	<b>49.2 l (13 US gal)</b>	<b>49.2 l (13 US gal)</b>
Cooling System	<b>7.9 l (8.3 US qt)</b>	<b>8.0 l (8.4 US qt)</b>	<b>8.0 l (8.4 US qt)</b>
Engine Crankcase/With Filter	<b>6.0 l (6.3 US qt)</b>	<b>6.0 l (6.3 US qt)</b>	<b>6.0 l (6.3 US qt)</b>
Rear Axle & Transmission (Includes Hydraulics)	<b>36 l (9.2 US gal)</b>	<b>36 l (9.2 US gal)</b>	<b>36 l (9.2 US gal)</b>
Front Axle Final Reduction/Differential Gear Case	<b>5.3 l (5.6 US qt)</b>	<b>5.3 l (5.6 US qt)</b>	<b>5.3 l (5.6 US qt)</b>
<b>COOLING SYSTEM</b>			
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump: Type Drive Belt Deflection	Centrifugal V-Belt <b>10 - 15 mm (0.4375 - 0.5625 in)</b> when <b>9 - 11 kg (20 - 25 lb)</b> thumb pressure is applied midway between belt pulleys	Centrifugal V-Belt <b>10 - 15 mm (0.4375 - 0.5625 in)</b> when <b>9 - 11 kg (20 - 25 lb)</b> thumb pressure is applied midway between belt pulleys	Centrifugal V-Belt <b>10 - 15 mm (0.4375 - 0.5625 in)</b> when <b>9 - 11 kg (20 - 25 lb)</b> thumb pressure is applied midway between belt pulleys
Fan Diameter	<b>410 mm (16.1 in)</b>	<b>410 mm (16.1 in)</b>	<b>410 mm (16.1 in)</b>

INTRODUCTION

	<b>Boomer 3040</b>	<b>Boomer 3045</b>	<b>Boomer 3050</b>
<b>COOLING SYSTEM</b>			
Number of Fan Blades	6	6	6
Thermostat:			
Start to Open	<b>71 °C (160 °F)</b>	<b>71 °C (160 °F)</b>	<b>71 °C (160 °F)</b>
Fully Open	<b>85 °C (185 °F)</b>	<b>85 °C (185 °F)</b>	<b>85 °C (185 °F)</b>
Radiator Cap	<b>0.9 bar (13 psi)</b>	<b>0.9 bar (13 psi)</b>	<b>0.9 bar (13 psi)</b>
Antifreeze	Ethylene Glycol	Ethylene Glycol	Ethylene Glycol
<b>ELECTRICAL SYSTEM</b>			
Main System Protection	<b>40 A</b> Maxifuse	<b>40 A</b> Maxifuse	<b>40 A</b> Maxifuse
Number Fuses for Circuit Protection	7	7	7
Alternator	<b>12 V</b> , Heavy Duty, <b>40 A</b>	<b>12 V</b> , Heavy Duty, <b>40 A</b>	<b>12 V</b> , Heavy Duty, <b>40 A</b>
Battery Type	<b>12 V</b> , w/ negative ground, 600 cca	<b>12 V</b> , w/ negative ground, 600 cca	<b>12 V</b> , w/ negative ground, 600 cca
Starter KW(HP) Rating	<b>2.0 kW (2.7 Hp)</b>	<b>2.0 kW (2.7 Hp)</b>	<b>2.0 kW (2.7 Hp)</b>
Battery Rating Amp Hrs	64 - 69	64 - 69	64 - 69
Starting Motor	Solenoid, Pre-Engaged Reduction	Solenoid, Pre-Engaged Reduction	Solenoid, Pre-Engaged Reduction
<b>FUEL SYSTEM</b>			
Fuel Type	Diesel	Diesel	Diesel
Type of Fuel to Use if above 40°F	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40
Type of Fuel to Use if below 40°F	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump:			
Type	In-Line	In-Line	In-Line
Timing	21° BTDC	21° BTDC	21° BTDC
<b>CLUTCH</b>			
Type	<b>240 mm (9.45 in)</b> , Dry Disc, Organic Face	<b>260 mm (10.24 in)</b> , Dry Disc, Organic Face	<b>260 mm (10.24 in)</b> , Dry Disc, Organic Face
Pedal Free-Travel	<b>19 - 30 mm (0.75 - 1.1875 in)</b>	<b>19 - 30 mm (0.75 - 1.1875 in)</b>	<b>19 - 30 mm (0.75 - 1.1875 in)</b>
<b>BRAKES</b>			
Type	Wet Disc	Wet Disc	Wet Disc
Disc (3 per side)	Out x In 175 x 143 mm Dia. (6.9 in x 5.6 in)	Out x In 175 x 143 mm Dia. (6.9 in x 5.6 in)	Out x In 175 x 143 mm Dia. (6.9 in x 5.6 in)



INTRODUCTION

	<b>Boomer 3040</b>	<b>Boomer 3045</b>	<b>Boomer 3050</b>
<b>STEERING</b>			
Type	Power	Power	Power
Pump Flow @ Rated rpm	<b>19.4 l/min (5.13 US gpm)</b>	<b>19.4 l/min (5.13 US gpm)</b>	<b>19.4 l/min (5.13 US gpm)</b>
Pump Pressure Bar (psi)	<b>97.9 bar (1419 psi)</b>	<b>97.9 bar (1419 psi)</b>	<b>97.9 bar (1419 psi)</b>
Turns Lock-to-Lock:			
2WD	3.1/3.8	-	-
FWD	3.1/3.8	3.1/3.8	3.1/3.8
Front Wheel Toe-In	<b>0 - 5 mm (0 - 0.203 in)</b>	<b>0 - 5 mm (0 - 0.203 in)</b>	<b>0 - 5 mm (0 - 0.203 in)</b>
Turning Radius w/o Brakes:			
2WD	<b>2819 mm (111 in)</b>	-	-
FWD	<b>3099 mm (122 in))</b>	<b>3099 mm (122 in))</b>	<b>3099 mm (122 in))</b>
Max. Turn Angle:			
2WD	59°	-	-
FWD	54°	54°	54°
Front to rear axle ratio	1.660 to 1	1.660 to 1	1.660 to 1
<b>POWER TAKE-OFF</b>			
Type	Independent	Independent	Independent
Type Actuation	Manual lever to hydraulic valve	Manual lever to hydraulic valve	Manual lever to hydraulic valve
Shaft:			
Rear PTO	<b>35 mm (1.375 in)</b>	<b>35 mm (1.375 in)</b>	<b>35 mm (1.375 in)</b>
Engine Speed for 540 rpm rear PTO Operation	<b>2400 RPM</b>	<b>2400 RPM</b>	<b>2400 RPM</b>
Horsepower PTO Observed	<b>26.1 kW (35.0 Hp)</b>	<b>29.5 kW (39.6 Hp)</b>	<b>32.1 kW (43.0 Hp)</b>
Direction of Rotation (as viewed from rear of tractor)	Clockwise	Clockwise	Clockwise
<b>HYDRAULIC LIFT SYSTEM</b>			
Type	Open Center	Open Center	Open Center
Pump Type	Gear	Gear	Gear
Pump Capacity	<b>37.1 l/min (9.8 US gpm)</b>	<b>37.1 l/min (9.8 US gpm)</b>	<b>37.1 l/min (9.8 US gpm)</b>
System Relief Valve Setting	<b>172 bar (2500 psi)</b>	<b>172 bar (2500 psi)</b>	<b>172 bar (2500 psi)</b>
Number of Rear Remotes	2 (optional)	2 (optional)	2 (optional)
Number of Front Remotes	2 (optional)	2 (optional)	2 (optional)
<b>TRANSMISSION</b>			
Transmission Type	12 x 12 gear	12 x 12 gear	12 x 12 gear
Shuttle Shift Type	Synchronized	Synchronized	Synchronized
Traction Clutch Type			
	Dry disc	Dry disc	Dry disc
Number of Plates & Lining Type	1 (organic)	1 (organic)	1 (organic)
Clutch Diameter	<b>240 mm (9.45 in)</b>	<b>260 mm (10.24 in)</b>	<b>260 mm (10.24 in)</b>

INTRODUCTION

<b>Transmission Speeds - Forward</b>		<b>Boomer 3040</b>	<b>Boomer 3045</b>	<b>Boomer 3050</b>
Main Gear	Range Gear	( <b>2600 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)	( <b>2600 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)	( <b>2800 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)
1st	Low	<b>1.53 km/h (0.95 mph)</b>	<b>1.53 km/h (0.95 mph)</b>	<b>1.65 km/h (1.02 mph)</b>
2nd		<b>1.94 km/h (1.21 mph)</b>	<b>1.94 km/h (1.21 mph)</b>	<b>2.09 km/h (1.30 mph)</b>
3rd		<b>2.43 km/h (1.51 mph)</b>	<b>2.43 km/h (1.51 mph)</b>	<b>2.62 km/h (1.63 mph)</b>
4th		<b>3.21 km/h (1.99 mph)</b>	<b>3.21 km/h (1.99 mph)</b>	<b>3.46 km/h (2.14 mph)</b>
1st	Medium	<b>4.14 km/h (2.57 mph)</b>	<b>4.14 km/h (2.57 mph)</b>	<b>4.46 km/h (2.77 mph)</b>
2nd		<b>5.28 km/h (3.28 mph)</b>	<b>5.28 km/h (3.28 mph)</b>	<b>5.69 km/h (3.53 mph)</b>
3rd		<b>6.59 km/h (4.10 mph)</b>	<b>6.59 km/h (4.10 mph)</b>	<b>7.10 km/h (4.42 mph)</b>
4th		<b>8.71 km/h (5.41 mph)</b>	<b>8.71 km/h (5.41 mph)</b>	<b>9.38 km/h (5.83 mpg)</b>
1st	High	<b>10.80 km/h (6.69 mph)</b>	<b>10.80 km/h (6.69 mph)</b>	<b>11.63 km/h (7.20 mph)</b>
2nd		<b>13.72 km/h (8.52 mph)</b>	<b>13.72 km/h (8.52 mph)</b>	<b>14.78 km/h (9.18 mph)</b>
3rd		<b>17.14 km/h (10.65 mph)</b>	<b>17.14 km/h (10.65 mph)</b>	<b>18.46 km/h (11.47 mph)</b>
4th		<b>22.64 km/h (14.07 mph)</b>	<b>22.64 km/h (14.07 mph)</b>	<b>24.38 km/h (15.15 mph)</b>

INTRODUCTION

<b>Transmission Speeds - Reverse</b>		<b>Boomer 3040</b>	<b>Boomer 3045</b>	<b>Boomer 3050</b>
Main Gear	Range Gear	( <b>2600 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)	( <b>2600 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)	( <b>2800 RPM</b> Engine Speed with 13.6 x 24 Rear Tires)
1st	Low	<b>1.71 km/h (1.06 mph)</b>	<b>1.71 km/h (1.06 mph)</b>	<b>1.84 km/h (1.14 mph)</b>
2nd		<b>2.18 km/h (1.35 mph)</b>	<b>2.18 km/h (1.35 mph)</b>	<b>2.35 km/h (1.45 mph)</b>
3rd		<b>2.72 km/h (1.69 mph)</b>	<b>2.72 km/h (1.69 mph)</b>	<b>2.93 km/h (1.82 mph)</b>
4th		<b>3.60 km/h (2.23 mph)</b>	<b>3.60 km/h (2.23 mph)</b>	<b>3.88 km/h (2.40 mph)</b>
1st	Medium	<b>4.64 km/h (2.88 mph)</b>	<b>4.64 km/h (2.88 mph)</b>	<b>5.00 km/h (3.10 mph)</b>
2nd		<b>5.91 km/h (3.68 mph)</b>	<b>5.91 km/h (3.68 mph)</b>	<b>6.36 km/h (3.96 mph)</b>
3rd		<b>7.39 km/h (4.59 mph)</b>	<b>7.39 km/h (4.59 mph)</b>	<b>7.96 km/h (4.94 mph)</b>
4th		<b>9.76 km/h (6.06 mph)</b>	<b>9.76 km/h (6.06 mph)</b>	<b>10.51 km/h (6.53 mph)</b>
1st	High	<b>12.10 km/h (7.50 mph)</b>	<b>12.10 km/h (7.50 mph)</b>	<b>13.03 km/h (8.08 mph)</b>
2nd		<b>15.40 km/h (9.56 mph)</b>	<b>15.40 km/h (9.56 mph)</b>	<b>16.58 km/h (10.30 mph)</b>
3rd		<b>19.21 km/h (11.94 mph)</b>	<b>19.21 km/h (11.94 mph)</b>	<b>20.69 km/h (12.86 mph)</b>
4th		<b>25.38 km/h (15.77 mph)</b>	<b>25.38 km/h (15.77 mph)</b>	<b>27.33 km/h (16.98 mph)</b>

INTRODUCTION

	<b>Boomer 3040</b>	<b>Boomer 3045</b>	<b>Boomer 3050</b>
<b>CAST IRON WEIGHTS</b>			
Front End:			
Ag, R-4 & Turf Tires with FWD	(2) weights @ <b>29.7 kg (66 lb)</b> each Optional (2) weights @ <b>45 kg (100 lb)</b> each	(2) weights @ <b>29.7 kg (66 lb)</b> each Optional (2) weights @ <b>45 kg (100 lb)</b> each	(2) weights @ <b>29.7 kg (66 lb)</b> each Optional (2) weights @ <b>45 kg (100 lb)</b> each
Rear Wheel:			
R-4 Tires	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each
Turf Tires	-	-	-
Ag. Tires	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each	(4) weights (2) per wheel @ <b>48 kg (105 lb)</b> each
<b>DRAWBARS</b>			
Swinging/Extendible	Standard	Standard	Standard
<b>3 POINT HITCH</b>			
Category Type	I	I	I
Position Control Type	Hydraulic	Hydraulic	Hydraulic
Draft Control Type	Top Link Sensing (DIA)	Top Link Sensing (DIA)	Top Link Sensing (DIA)
Drop Rate Control	Standard	Standard	Standard
Lift Capacity @ 24 in Behind Kg (lb)	<b>1059 kg (2330 lb)</b>	<b>1059 kg (2330 lb)</b>	<b>1059 kg (2330 lb)</b>
<b>TIRES</b>			
<b>FRONT:</b>			
<b>Agricultural:</b>			
2WD	5.50 x 16, 4PR, F2 7.50 x 15, 6PR, F2	-	-
FWD	7 x 16, 6PR, R1 8 x 16, 6 PR, R1	7 x 16, 6PR, R1 8 x 16, 6 PR, R1	7 x 16, 6PR, R1 8 x 16, 6 PR, R1
<b>Turf:</b>			
2WD	25 x 8.50-14, 4PR, R3	-	-
FWD	27 x 8.50-15, 4PR, R3	27 x 8.50-15, 4PR, R3	27 x 8.50-15, 4PR, R3
<b>Industrial:</b>			
FWD	10 x 16.50, 6PR, R4	10 x 16.50, 6PR, R4	10 x 16.50, 6PR, R4
<b>REAR:</b>			
<b>Agricultural</b>			
	13.6 x 24, 4PR, R1 14.9 x 24, 4PR, R1	13.6 x 24, 4PR, R1 14.9 x 24, 4PR, R1	13.6 x 24, 4PR, R1 14.9 x 24, 4PR, R1
Turf	44 x 18-20, 4PR, R3	44 x 18-20, 4PR, R3	44 x 18-20, 4PR, R3
Industrial	17.5 x 24, 8PR, R4	17.5 x 24, 8PR, R4	17.5 x 24, 8PR, R4
<b>WHEEL BOLT TORQUES</b>			
<b>Front Wheel - Disc-to-Hub:</b>			
2WD	<b>129 N·m (95 lb ft)</b>	-	-
FWD	<b>129 N·m (95 lb ft)</b>	<b>129 N·m (95 lb ft)</b>	<b>129 N·m (95 lb ft)</b>
Rear Wheel & Disc-to Axle	<b>129 N·m (95 lb ft)</b>	<b>129 N·m (95 lb ft)</b>	<b>129 N·m (95 lb ft)</b>
Disc-to Rim	<b>244 N·m (180 lb ft)</b>	<b>244 N·m (180 lb ft)</b>	<b>244 N·m (180 lb ft)</b>
<b>ROPS ATTACHING BOLT TORQUES</b>			
ROPS to Rear Axle	<b>74 N·m (55 lb ft)</b>	<b>74 N·m (55 lb ft)</b>	<b>74 N·m (55 lb ft)</b>
Seat Belt	<b>47.4 N·m (35 lb ft)</b>	<b>47.4 N·m (35 lb ft)</b>	<b>47.4 N·m (35 lb ft)</b>

## Dimension 12x12 Gear Transmission

### Boomer 3040, 3045, 3050

	Boomer 3040	Boomer 3045	Boomer 3050
<b>(1)-LENGTH Overall (Less 3 pt hitch)</b>			
2WD			
sm AG Tires	2955 mm (116.3 in)		
lg AG Tires	2971 mm (117 in)		
R4 Tires			
	N/A		
TURF Tires			
	2892 mm (113.9 in)		
STD FWD			
sm AG Tires	2955 mm (116.3 in)	2955 mm (116.3 in)	2955 mm (116.3 in)
lg AG Tires	2971 mm (117 in)	2971 mm (117 in)	2971 mm (117 in)
R4 Tires	2960 mm (116.5 in)	2960 mm (116.5 in)	2960 mm (116.5 in)
TURF Tires	2892 mm (113.9 in)	2892 mm (113.9 in)	2892 mm (113.9 in)
SUPERSTEER			
sm AG Tires	N/A	N/A	N/A
lg AG Tires	N/A	N/A	N/A
R4 Tires	N/A	N/A	N/A
TURF Tires	N/A	N/A	N/A
<b>(1)-LENGTH Overall (3 pt hitch horizontal position)</b>			
2WD			
sm AG Tires	3180 mm (125.2 in)		
lg AG Tires	3180 mm (125.2 in)		
R4 Tires			
	N/A		
TURF Tires			
	3180 mm (125.2 in)		
STD FWD			
sm AG Tires	3180 mm (125.2 in)	3180 mm (125.2 in)	3180 mm (125.2 in)
lg AG Tires	3180 mm (125.2 in)	3180 mm (125.2 in)	3180 mm (125.2 in)
R4 Tires	3180 mm (125.2 in)	3180 mm (125.2 in)	3180 mm (125.2 in)
TURF Tires	3180 mm (125.2 in)	3180 mm (125.2 in)	3180 mm (125.2 in)
SUPERSTEER			
sm AG Tires	N/A	N/A	N/A
lg AG Tires	N/A	N/A	N/A
R4 Tires	N/A	N/A	N/A
TURF Tires	N/A	N/A	N/A

**Thanks very much for your reading,  
Want to get more information,  
Please click here, Then get the complete  
manual**

**JustClickHere** 

**NOTE:**

**If there is no response to click on the link above,  
please download the PDF document first, and then  
click on it.**

**Have any questions please write to me:  
[admin@servicemanualperfect.com](mailto:admin@servicemanualperfect.com)**