

SERVICE MANUAL

Boomer™ 3040

Boomer™ 3045

Boomer™ 3050

With Hydrostatic or 12x12 Gear Transmission

Compact Tractor

Part number 84242309

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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.

**DANGER**

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.

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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.

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- 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	0 - 25 mm (0 - 1 in)
Micrometer	25 - 51 mm (1 - 2 in)
Micrometer	76 - 102 mm (3 - 4 in)
Small Hole Gauge	19 - 25 mm (0.75 - 1 in)
Cylinder Bore Gauge	76 - 102 mm (3 - 4 in)
Cylinder Bore Gauge	25 - 51 mm (1 - 2 in)
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
ENGINE			
Type/Model	Diesel/N844	Diesel/N844L	Diesel/N844L
Engine Gross Horsepower	29.8 kW (40.0 Hp)	33.6 kW (45.0 Hp)	37.3 kW (50.0 Hp)
Cylinders	4	4	4
Bore	84 mm (3.31 in)	84 mm (3.31 in)	84 mm (3.31 in)
Stroke	90 mm (3.54 in)	100 mm (3.94 in)	100 mm (3.94 in)
Displacement	2.0 l (121.7 in³)	2.2 l (135.2 in³)	2.2 l (135.2 in³)
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	1050 RPM ± 50	1050 RPM ± 50	1050 RPM ± 50
Maximum Speed:			
High Idle	2840 RPM ± 25	2840 RPM ± 25	3025 RPM ± 25
Rated	2600 RPM	2600 RPM	2800 RPM
CAPACITIES			
Fuel Tank	49.2 l (13 US gal)	49.2 l (13 US gal)	49.2 l (13 US gal)
Cooling System	7.9 l (8.3 US qt)	8.0 l (8.4 US qt)	8.0 l (8.4 US qt)
Engine Crankcase/With Filter	6.0 l (6.3 US qt)	6.0 l (6.3 US qt)	6.0 l (6.3 US qt)
Rear Axle & Transmission (Includes Hydraulics)	36 l (9.2 US gal)	36 l (9.2 US gal)	36 l (9.2 US gal)
Front Axle Final Reduction/Differential Gear Case	5.3 l (5.6 US qt)	5.3 l (5.6 US qt)	5.3 l (5.6 US qt)
COOLING SYSTEM			
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump:			
Type	Centrifugal	Centrifugal	Centrifugal
Drive	V-Belt	V-Belt	V-Belt
Belt Deflection	10 - 15 mm (0.4375 - 0.5625 in) when 9 - 11 kg (20 - 25 lb) thumb pressure is applied midway between belt pulleys	10 - 15 mm (0.4375 - 0.5625 in) when 9 - 11 kg (20 - 25 lb) thumb pressure is applied midway between belt pulleys	10 - 15 mm (0.4375 - 0.5625 in) when 9 - 11 kg (20 - 25 lb) thumb pressure is applied midway between belt pulleys
Fan Diameter	410 mm (16.1 in)	410 mm (16.1 in)	410 mm (16.1 in)

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	Boomer 3040	Boomer 3045	Boomer 3050
COOLING SYSTEM			
Number of Fan Blades	6	6	6
Thermostat:			
Start to Open	71 °C (160 °F)	71 °C (160 °F)	71 °C (160 °F)
Fully Open	85 °C (185 °F)	85 °C (185 °F)	85 °C (185 °F)
Radiator Cap	0.9 bar (13 psi)	0.9 bar (13 psi)	0.9 bar (13 psi)
Antifreeze	Ethylene Glycol	Ethylene Glycol	Ethylene Glycol
ELECTRICAL SYSTEM			
Main System Protection	40 A Maxifuse	40 A Maxifuse	40 A Maxifuse
Number Fuses for Circuit Protection	7	7	7
Alternator	12 V , Heavy Duty, 40 A	12 V , Heavy Duty, 40 A	12 V , Heavy Duty, 40 A
Battery Type	12 V , w/ negative ground, 600 cca	12 V , w/ negative ground, 600 cca	12 V , w/ negative ground, 600 cca
Starter KW(HP) Rating	2.0 kW (2.7 Hp)	2.0 kW (2.7 Hp)	2.0 kW (2.7 Hp)
Battery Rating Amp Hrs	64 - 69	64 - 69	64 - 69
Starting Motor	Solenoid, Pre-Engaged Reduction	Solenoid, Pre-Engaged Reduction	Solenoid, Pre-Engaged Reduction
FUEL SYSTEM			
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
CLUTCH			
Type	240 mm (9.45 in) , Dry Disc, Organic Face	260 mm (10.24 in) , Dry Disc, Organic Face	260 mm (10.24 in) , Dry Disc, Organic Face
Pedal Free-Travel	19 - 30 mm (0.75 - 1.1875 in)	19 - 30 mm (0.75 - 1.1875 in)	19 - 30 mm (0.75 - 1.1875 in)
BRAKES			
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)

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	Boomer 3040	Boomer 3045	Boomer 3050
STEERING			
Type	Power	Power	Power
Pump Flow @ Rated rpm	19.4 l/min (5.13 US gpm)	19.4 l/min (5.13 US gpm)	19.4 l/min (5.13 US gpm)
Pump Pressure Bar (psi)	97.9 bar (1419 psi)	97.9 bar (1419 psi)	97.9 bar (1419 psi)
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	0 - 5 mm (0 - 0.203 in)	0 - 5 mm (0 - 0.203 in)	0 - 5 mm (0 - 0.203 in)
Turning Radius w/o Brakes:			
2WD	2819 mm (111 in)	-	-
FWD	3099 mm (122 in))	3099 mm (122 in))	3099 mm (122 in))
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
POWER TAKE-OFF			
Type	Independent	Independent	Independent
Type Actuation	Manual lever to hydraulic valve	Manual lever to hydraulic valve	Manual lever to hydraulic valve
Shaft:			
Rear PTO	35 mm (1.375 in)	35 mm (1.375 in)	35 mm (1.375 in)
Engine Speed for 540 rpm rear PTO Operation	2400 RPM	2400 RPM	2400 RPM
Horsepower PTO Observed	26.1 kW (35.0 Hp)	29.5 kW (39.6 Hp)	32.1 kW (43.0 Hp)
Direction of Rotation (as viewed from rear of tractor)	Clockwise	Clockwise	Clockwise
HYDRAULIC LIFT SYSTEM			
Type	Open Center	Open Center	Open Center
Pump Type	Gear	Gear	Gear
Pump Capacity	37.1 l/min (9.8 US gpm)	37.1 l/min (9.8 US gpm)	37.1 l/min (9.8 US gpm)
System Relief Valve Setting	172 bar (2500 psi)	172 bar (2500 psi)	172 bar (2500 psi)
Number of Rear Remotes	2 (optional)	2 (optional)	2 (optional)
Number of Front Remotes	2 (optional)	2 (optional)	2 (optional)
TRANSMISSION			
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	240 mm (9.45 in)	260 mm (10.24 in)	260 mm (10.24 in)

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

INTRODUCTION

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

INTRODUCTION

	Boomer 3040	Boomer 3045	Boomer 3050
CAST IRON WEIGHTS			
Front End:			
Ag, R-4 & Turf Tires with FWD	(2) weights @ 29.7 kg (66 lb) each Optional (2) weights @ 45 kg (100 lb) each	(2) weights @ 29.7 kg (66 lb) each Optional (2) weights @ 45 kg (100 lb) each	(2) weights @ 29.7 kg (66 lb) each Optional (2) weights @ 45 kg (100 lb) each
Rear Wheel:			
R-4 Tires	(4) weights (2) per wheel @ 48 kg (105 lb) each	(4) weights (2) per wheel @ 48 kg (105 lb) each	(4) weights (2) per wheel @ 48 kg (105 lb) each
Turf Tires	-	-	-
Ag. Tires	(4) weights (2) per wheel @ 48 kg (105 lb) each	(4) weights (2) per wheel @ 48 kg (105 lb) each	(4) weights (2) per wheel @ 48 kg (105 lb) each
DRAWBARS			
Swinging/Extendible	Standard	Standard	Standard
3 POINT HITCH			
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)	1059 kg (2330 lb)	1059 kg (2330 lb)	1059 kg (2330 lb)
TIRES			
FRONT:			
Agricultural:			
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
Turf:			
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
Industrial:			
FWD	10 x 16.50, 6PR, R4	10 x 16.50, 6PR, R4	10 x 16.50, 6PR, R4
REAR:			
Agricultural			
	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
WHEEL BOLT TORQUES			
Front Wheel - Disc-to-Hub:			
2WD	129 N·m (95 lb ft)	-	-
FWD	129 N·m (95 lb ft)	129 N·m (95 lb ft)	129 N·m (95 lb ft)
Rear Wheel & Disc-to Axle	129 N·m (95 lb ft)	129 N·m (95 lb ft)	129 N·m (95 lb ft)
Disc-to Rim	244 N·m (180 lb ft)	244 N·m (180 lb ft)	244 N·m (180 lb ft)
ROPS ATTACHING BOLT TORQUES			
ROPS to Rear Axle	74 N·m (55 lb ft)	74 N·m (55 lb ft)	74 N·m (55 lb ft)
Seat Belt	47.4 N·m (35 lb ft)	47.4 N·m (35 lb ft)	47.4 N·m (35 lb ft)

Dimension 12x12 Gear Transmission

Boomer 3040, 3045, 3050

	Boomer 3040	Boomer 3045	Boomer 3050
(1)-LENGTH Overall (Less 3 pt hitch)			
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
(1)-LENGTH Overall (3 pt hitch horizontal position)			
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

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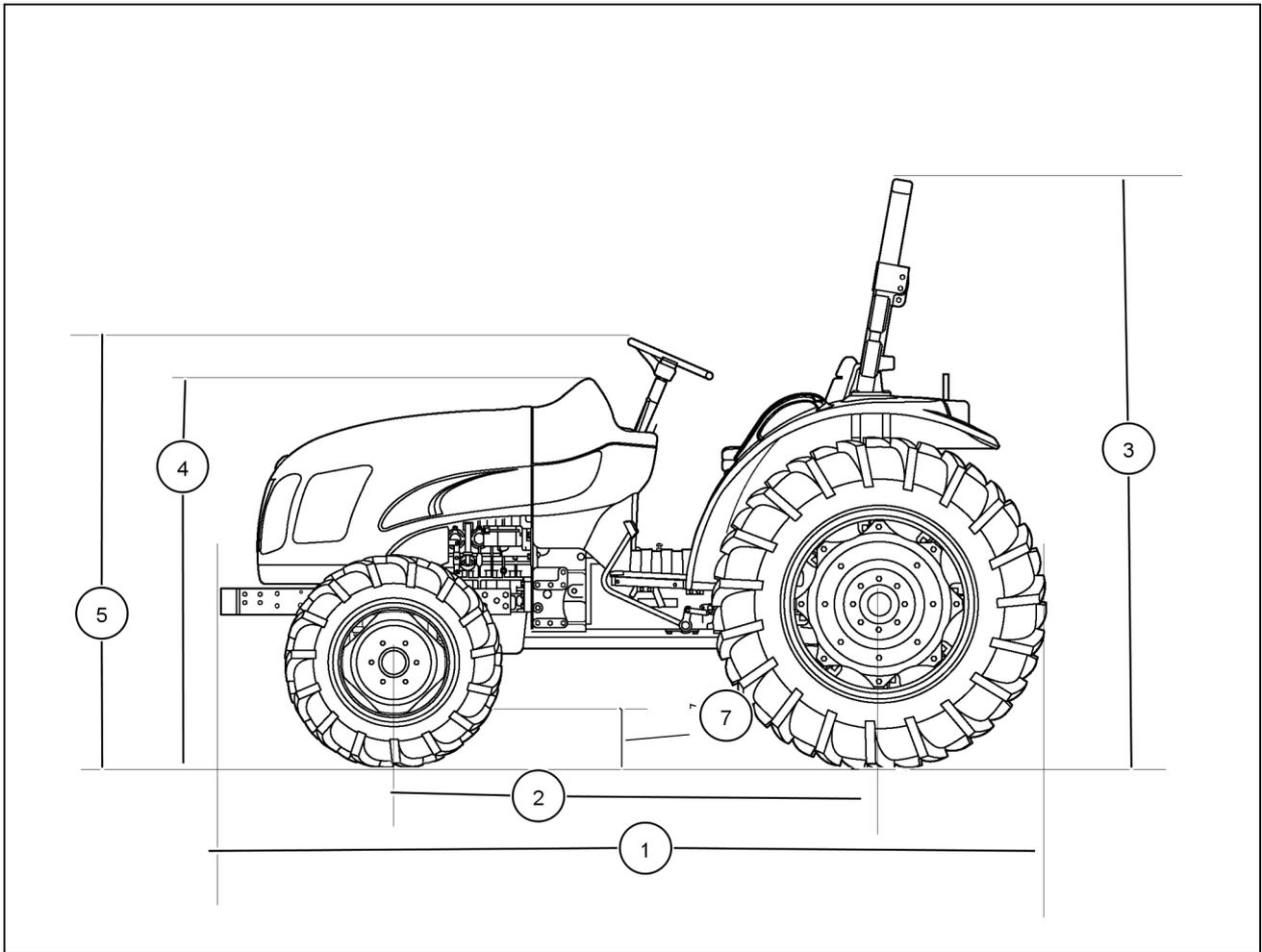
	Boomer 3040	Boomer 3045	Boomer 3050
HEIGHTS :			
(2) - Wheel Base			
FWD/2WD	1866 mm (73.5 in)	1866 mm (73.5 in)	1866 mm (73.5 in)
(3) - ROPS Height - Rigid			
sm AG Tires	2388 mm (94 in)	2388 mm (94 in)	2388 mm (94 in)
lg AG Tires	2400 mm (94.5 in)	2400 mm (94.5 in)	2400 mm (94.5 in)
R4 Tires	2400 mm (94.5 in)	2400 mm (94.5 in)	2400 mm (94.5 in)
TURF Tires	2324 mm (91.5 in)	2324 mm (91.5 in)	2324 mm (91.5 in)
(3) - ROPS Height - FOLDING			
sm AG Tires - Up	2400 mm (94.5 in)	2400 mm (94.5 in)	2400 mm (94.5 in)
sm AG Tires - Down	1956 mm (77 in)	1956 mm (77 in)	1956 mm (77 in)
lg AG Tires - Up	2413 mm (95 in)	2413 mm (95 in)	2413 mm (95 in)
lg AG Tires - Down	1969 mm (77.5 in)	1969 mm (77.5 in)	1969 mm (77.5 in)
R4 Tires - Up	2413 mm (95 in)	2413 mm (95 in)	2413 mm (95 in)
R4 Tires - Down	1969 mm (77.5 in)	1969 mm (77.5 in)	1969 mm (77.5 in)
TURF Tires - Up	2337 mm (92 in)	2337 mm (92 in)	2337 mm (92 in)
TURF Tires - Down	1892 mm (74.5 in)	1892 mm (74.5 in)	1892 mm (74.5 in)
(4) - Hood Height (top inst. cluster)			
sm AG 4WD	1594 mm (62.75 in)	1594 mm (62.75 in)	1594 mm (62.75 in)
lg AG 4WD	1606 mm (63.23 in)	1606 mm (63.23 in)	1606 mm (63.23 in)
R4 4WD	1619 mm (63.75 in)	1619 mm (63.75 in)	1619 mm (63.75 in)
TURF 4WD	1568 mm (61.73 in)	1568 mm (61.73 in)	1568 mm (61.73 in)
(5) - Steering Wheel Height			
sm AG 4WD	1600 mm (63 in)	1600 mm (63 in)	1600 mm (63 in)
lg AG 4WD	1613 mm (63.5 in)	1613 mm (63.5 in)	1613 mm (63.5 in)
R4 4WD	1626 mm (64 in)	1626 mm (64 in)	1626 mm (64 in)
TURF 4WD	1575 mm (62 in)	1575 mm (62 in)	1575 mm (62 in)

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	Boomer 3040	Boomer 3045	Boomer 3050
(6) WIDTH:			
Rear Axle - Outside to Outside			
Turf Tires -			
Dished In.	1825 mm (71.8 in)	1825 mm (71.8 in)	1825 mm (71.8 in)
Dished Out	1846 mm (72.7 in)	1846 mm (72.7 in)	1846 mm (72.7 in)
Ag. Tires - (Large)			
Dished In	1693 mm (66.6 in)	1693 mm (66.6 in)	1693 mm (66.6 in)
Dished Out	2103 mm (82.8 in)	2103 mm (82.8 in)	2103 mm (82.8 in)
R4 Tires -			
Dished In	1736 mm (68.3 in)	1736 mm (68.3 in)	1736 mm (68.3 in)
Dished Out	2146 mm (84.5 in)	2146 mm (84.5 in)	2146 mm (84.5 in)
(7) - MINIMUM GROUND CLEARANCE:			
sm AG TIRES			
(D.) - Minimum Centerline Clearance	330 mm (13 in)	330 mm (13 in)	330 mm (13 in)
(E.) - Frt Axle Crop Clear. - 15 in from CL	394 mm (15.5 in)	394 mm (15.5 in)	394 mm (15.5 in)
(F.) - Rr Axle Crop Clear. - 15 in from CL	445 mm (17.5 in)	445 mm (17.5 in)	445 mm (17.5 in)
lg AG TIRES			
(D.) - Minimum Centerline Clearance	356 mm (14 in)	356 mm (14 in)	356 mm (14 in)
(E.) - Frt Axle Crop Clear. - 15 in from CL	394 mm (15.5 in)	394 mm (15.5 in)	394 mm (15.5 in)
(F.) - Rr Axle Crop Clear. - 15 in from CL	457 mm (18 in)	457 mm (18 in)	457 mm (18 in)
R4 TIRES			
(D.) - Minimum Centerline Clearance	356 mm (14 in)	356 mm (14 in)	356 mm (14 in)
(E.) - Frt Axle Crop Clear. - 15 in from CL	394 mm (15.5 in)	394 mm (15.5 in)	394 mm (15.5 in)
(F.) - Rr Axle Crop Clear. - 15 in from CL	445 mm (17.5 in)	445 mm (17.5 in)	445 mm (17.5 in)
TURF TIRES			
(D.) - Minimum Centerline Clearance	292 mm (11.5 in)	292 mm (11.5 in)	292 mm (11.5 in)
(E.) - Frt Axle Crop Clear. - 15 in from CL	330 mm (13 in)	330 mm (13 in)	330 mm (13 in)
(F.) - Rr Axle Crop Clear. - 15 in from CL	381 mm (15 in)	381 mm (15 in)	381 mm (15 in)

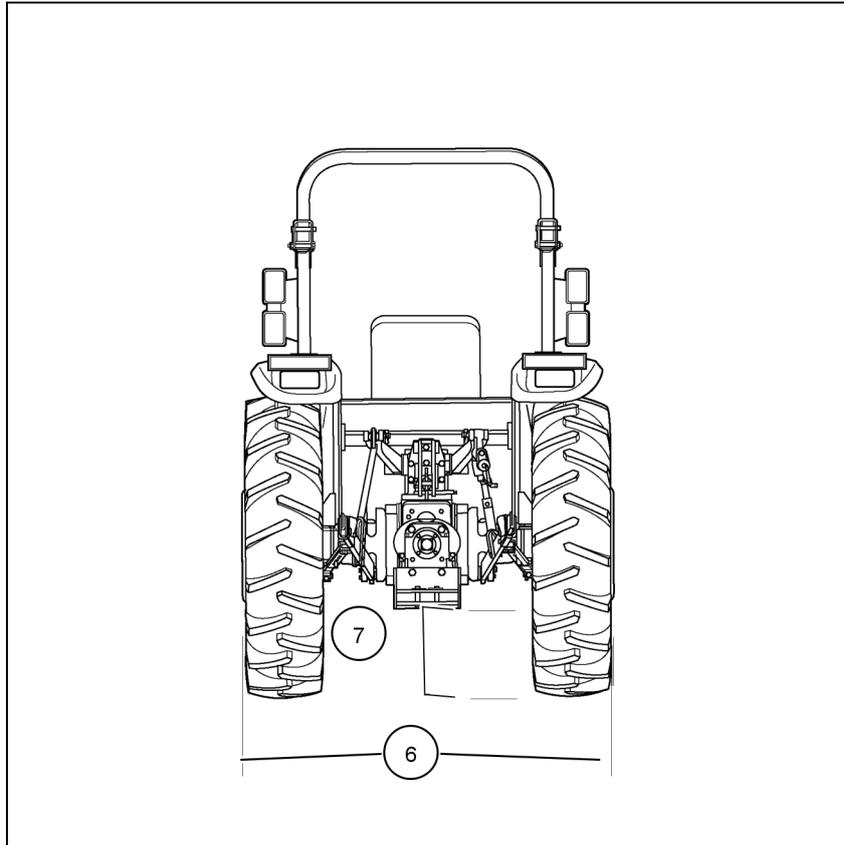
NOTE: CL = Center Line of Tractor

INTRODUCTION



86066091LN 1

INTRODUCTION



86066092LN 2

INTRODUCTION

WHEEL TREAD SETTINGS:		Boomer 3040	Boomer 3045	Boomer 3050
FRONT AXLE:				
Agricultural:				
2WD	5.5 x 16			
	Position 1	1094 - 1208 mm (43.1 - 47.5 in)		
	Position 2	1194 - 1308 mm (47.0 - 51.5 in)		
	Position 3	1294 - 1408 mm (51.0 - 55.4 in)		
	Position 4	1394 - 1508 mm (54.9 - 59.4 in)		
	Position 5	1525 - 1572 mm (60.1 - 61.9 in)		
	7.5 x 16			
	Position 1			
	Position 2			
	Position 3			
Position 4				
Position 5				
FWD	7 x 16	1183.6 mm (46.4 in)	1183.6 mm (46.4 in)	1183.6 mm (46.4 in)
	8x 16	1183.6 mm (46.4 in)	1183.6 mm (46.4 in)	1183.6 mm (46.4 in)
Turf:				
2WD	25 x 8.5-14			
	Position 1	1144 - 1164 mm (45.1 - 45.8 in)		
	Position 2	1244 - 1264 mm (49.0 - 49.7 in)		
	Position 3	1344 - 1364 mm (52.9 - 53.7 in)		
	Position 4	1444 - 1464 mm (56.9 - 57.6 in)		
	Position 5	1544 - 1564 mm (60.8 - 61.6 in)		
FWD	27 x 8.5-15	1264.9 mm (49.8 in)	1264.9 mm (49.8 in)	1264.9 mm (49.8 in)
Industrial:				
FWD	10 x 16.5	1252.2 mm (49.3 in)	1252.2 mm (49.3 in)	1252.2 mm (49.3 in)

INTRODUCTION

WHEEL TREAD SETTINGS:		Boomer 3040	Boomer 3045	Boomer 3050
REAR AXLE:				
Agricultural:				
2WD & FWD	13.6 x 24	1196.3 - 1712.0 mm (47.1 - 67.4 in)	1196.3 - 1712.0 mm (47.1 - 67.4 in)	1196.3 - 1712.0 mm (47.1 - 67.4 in)
	14.9 x 24	1206.5 - 1712.0 mm (47.5 - 67.4 in)	1206.5 - 1712.0 mm (47.5 - 67.4 in)	1206.5 - 1712.0 mm (47.5 - 67.4 in)
Turf:				
2WD & FWD	44 x 18-20	1346.2 - 1369.1 mm (53 - 53.9 in)	1346.2 - 1369.1 mm (53 - 53.9 in)	1346.2 - 1369.1 mm (53 - 53.9 in)
Industrial:				
FWD	17.5 x 24	1300.5 - 1712 mm (51.2 - 67.4 in)	1300.5 - 1712 mm (51.2 - 67.4 in)	1300.5 - 1712 mm (51.2 - 67.4 in)
WEIGHT (Bare Tractor):				
With ROPS:				
2WD		1165 kg (2568 lb)		
FWD		1218 kg (2685 lb)	1309 kg (2886 lb)	1309 kg (2886 lb)

International symbols

As a guide to the operation of the machine, various universal symbols have been utilized on the instruments, controls, switches, and fuse box. The symbols are shown below with an indication of their meaning.

 Thermostat starting aid	 Radio	 PTO	 Position Control
 Alternator charge	 KAM Keep alive memory	 N Transmission in neutral	 Draft Control
 Fuel level	 Turn signals	 Creeper gears	 Accessory socket
 Automatic Fuel shut-off	 Turn signals -one trailer	 Slow or low setting	 Implement socket
 Engine speed (rev/min x 100)	 Turn signals -two trailers	 Fast or high setting	 Hitch raise (rear)
 Hours recorded	 Front wind-screen wash/wipe	 Ground speed	 Hitch lower (rear)
 Engine oil pressure	 Rear wind-screen wash/wipe	 Differential lock	 Hitch height limit (rear)
 Engine coolant temperature	 Heater temperature control	 Rear axle oil temperature	 Hitch height limit (front)
 Coolant level	 Heater fan	 Transmission oil pressure	 Hitch disabled
 Tractor lights	 Air conditioner	 FWD engaged	 Hydraulic and transmission filters
 Headlamp main beam	 Air filter blocked	 FWD dis-engaged	 Remote valve extend
 Headlamp dipped beam	 Parking brake	 Warning!	 Remote valve retract
 Work lamps	 Brake fluid level	 Hazard warning lights	 Remote valve float
 Stop lamps	 Trailer brake	 Variable control	 Malfunction! See Operator's Manual
 Horn	 Roof beacon	 Pressurised! Open carefully	 Malfunction! (alternative symbol)
	 Warning! Corrosive substance		

General specification Hydrostatic Transmission

Boomer 3040, 3045

	Boomer 3040	Boomer 3045
ENGINE		
Type/Model	Diesel/N844	Diesel/N844L
Engine Gross Horsepower	29.8 kW (40.0 Hp)	33.6 kW (45.0 Hp)
Cylinders	4	4
Bore	84 mm (3.31 in)	84 mm (3.31 in)
Stroke	90 mm (3.54 in)	100 mm (3.94 in)
Displacement	2.0 l (121.7 in³)	2.2 l (135.2 in³)
Compression Ratio	22.5:1	22.5:1
Firing Order	1-3-4-2	1-3-4-2
Low Idle Speed	1025 RPM	1025 RPM
Maximum Speed:		
High Idle	2855 RPM	2855 RPM
Rated	2600 RPM	2600 RPM
CAPACITIES		
Fuel Tank	49.2 l (13 US gal)	49.2 l (13 US gal)
Cooling System	7.9 liters/8.3 U.S. qts	8.0 liters/8.4 U.S. qts
Engine Crankcase:		
With Filter	6.0 liters/6.3 U.S. qts	6.0 liters/6.3 U.S. qts
Rear Axle & Transmission (Includes Hydraulics)	36 l (9.6 US gal)	36 l (9.6 US gal)
Front Axle Final Reduction/Differential Gear Case	5 liters/5.6 U.S. qts	5 liters/5.6 U.S. qts
COOLING SYSTEM		
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump:		
Type	Centrifugal	Centrifugal
Drive	V-Belt	V-Belt
Belt Deflection	10 - 15 mm (0.393 - 0.590 in) when 9 - 11 kg (20 - 25 lb) thumb pressure is applied midway between belt pulleys.	10 - 15 mm (0.393 - 0.590 in) when 9 - 11 kg (20 - 25 lb) thumb pressure is applied midway between belt pulleys.
Fan Diameter	410 mm (16.1 in)	410 mm (16.1 in)
Number of Fan Blades	6	6
Thermostat:		
Start to Open	71 °C (159.8 °F)	71 °C (159.8 °F)
Fully Open	85 °C (185 °F)	85 °C (185 °F)
Radiator Cap	0.9 bar (13 psi)	0.9 bar (13 psi)
Antifreeze	Ethylene Glycol	Ethylene Glycol

Boomer 3040**Boomer 3045****ELECTRICAL SYSTEM**

Main System Protection	40 A Maxifuse	40 A Maxifuse
Number Fuses for Circuit Protection	7	7
Alternator	12 V , Heavy Duty, 40 A	12 V , Heavy Duty, 40 A
Battery Type	12 V , w/ negative ground, 600 cca	12 V , w/ negative ground, 600 cca
Starter KW (hp) Rating	2.7 kW (2.0 Hp)	2.7 kW (2.0 Hp)
Battery Rating Amp Hrs	64 - 69	64 - 69
Starting Motor	Solenoid Pre-Engaged Reduction	Solenoid Pre-Engaged Reduction

FUEL SYSTEM

Fuel Type	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
Type of Fuel to Use if Below 40°F	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump: Type	In-Line	In-Line
Timing	21° BTDC	21° BTDC

BRAKES

Type	Wet Disc	Wet Disc
3 Disc Diameter	175 x 143 mm (6.9 in x 5.6 in)	175 x 143 mm (6.9 in x 5.6 in)

STEERING

Type	Power	Power
Pump Flow@Rated RPM	19.4 l/min (5.13 US gpm)	19.4 l/min (5.13 US gpm)
Turns Lock-to-Lock: FWD	3.1/3.8	3.1/3.8
Super Steer	NA	NA
Front Wheel Toe-In	0 - 5 mm (0 - 0.196 in)	0 - 5 mm (0 - 0.196 in)
Turning Radius w/o Brakes: FWD	3238.5 mm (.5 in)	3238.5 mm (127.5 in)
Super Steer	2870.2 mm (113 in)	2870.2 mm (113 in)
Max. Turn Angle: FWD	54°	54°
FWDSS	75°	75°
Front to rear axle ratio	1.660 to 1	1.660 to 1