

Performance Tips

TG and TJ Series Tractors



NEW HOLLAND



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TOTAL CONFIDENCE – THE NEW HOLLAND SERVICE SOLUTION

New Holland delivers quality parts and service every time.

At New Holland, we have what it takes to maximize your equipment's power and productivity all season long. Our extensive dealer network means we're always close by. Our resourceful aftersales support team understands your unique needs to help you operate more efficiently. And our wide range of precision-engineered New Holland parts matches your operation's systems for greater productivity and uptime.

It's all the genuine parts and expert support you expect—under one sign. Visit us today.



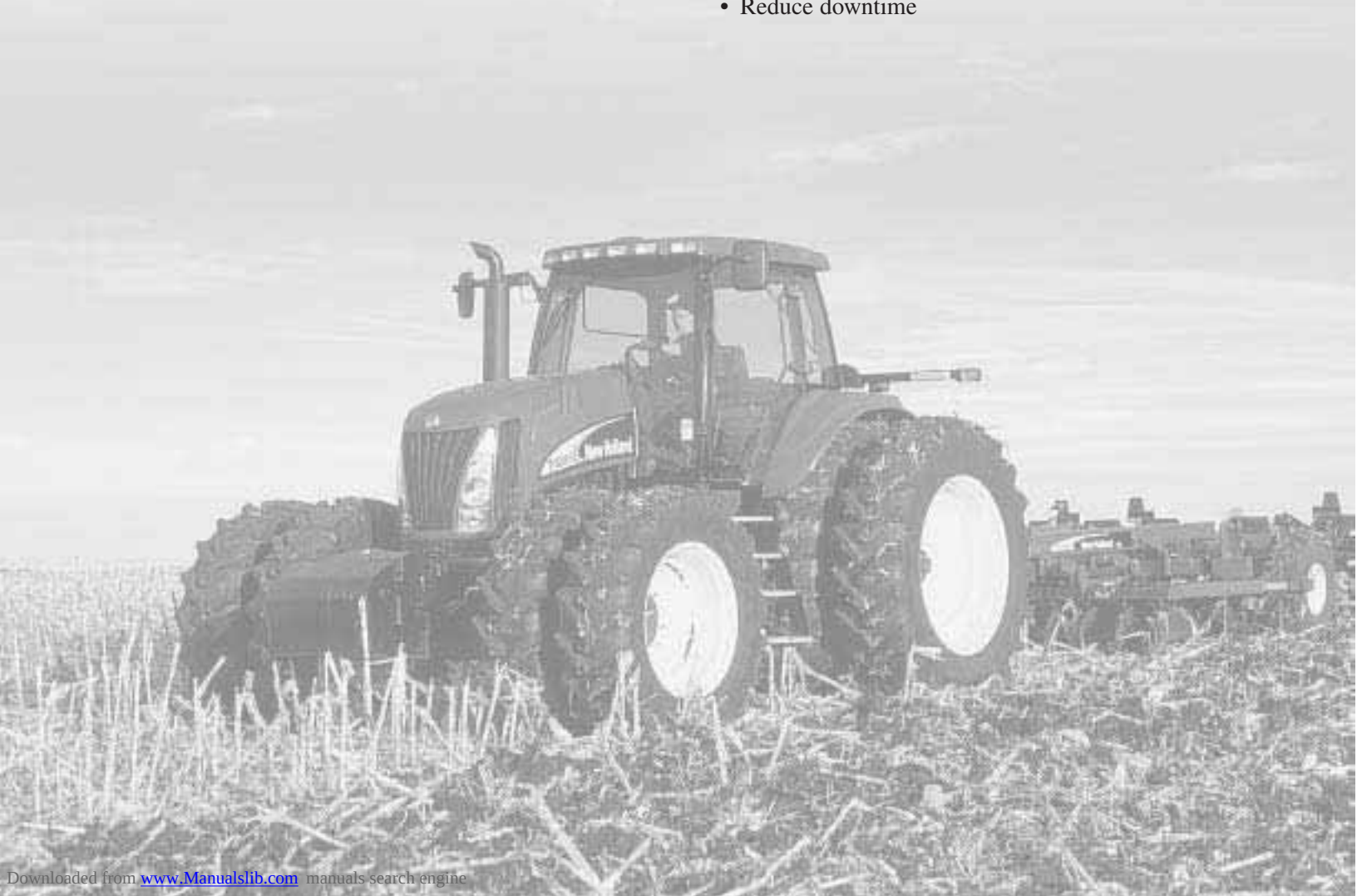
Flexible revolving account financing with the New Holland Plan is designed to match your unique cash flow requirements and payment schedules.

NEW HOLLAND ORIGINAL PARTS

- Designed to meet stringent New Holland quality, reliability and performance
- Guaranteed by New Holland
- Designed specifically for New Holland equipment
- Made by manufacturers with worldwide reputations

QUALITY SERVICE

- Factory trained technicians
- Genuine New Holland parts
- Documented maintenance
- Increase productivity
- Reduce downtime



Make Farm Safety a Priority

The second most important part of your farming operation is getting the job done right. Farm safety is the most important aspect in all farming operations. None of the things you accomplish on your farm are worth much, if you don't end each day safe and sound.

The National Safety Council or the American Farm Bureau confirms that farming is the most hazardous occupation in the nation today. They will also tell you that most farm accidents are caused when people fail to follow well publicized safety precautions.

New Holland engineers incorporate safety into every machine they design. After your tractor is delivered, read the Operator's Manual and carefully note all of the safety instructions contained in it. Be alert to all safety suggestions. Farm safety is ultimately your own responsibility and you owe it to your family to work safely. The most important safety device on a tractor is the roll over protective structure (ROPS) with an effective seat belt. More farmers are killed or seriously injured from tractor roll overs than from any other type of farm accident. Read all of the safety instructions in your Operator's Manual and be sure you can give a positive response to all of the following:

- ▶ **Shields** - Is the PTO master shield in place? Are all other shields in place?
- ▶ **Warning Decals** - Are all warning decals in place and readable? Is the slow moving vehicle (SMV) emblem in place and in good condition?
- ▶ **Fuel System** - Is the fuel cap in good condition without fuel leaks?
- ▶ **Lights** - Are the emergency flashing lights (for road travel), turn signals, head lights, and tail lights in working order?
- ▶ **Brakes** - Do the brakes apply evenly when applied together?
- ▶ **Starting** - Start the engine only when properly seated in the operator's seat. When starting in cold weather, the tractor could move as the transmission is engaged, even with the clutch pedal depressed. Use the brakes to prevent tractor movement.
- ▶ **Other People** - Be sure all others are clear of the tractor and equipment. No riders.
- ▶ **Road Travel** - For safe operation on the road, always lock the brake pedals together with the pedal interlock. Do not exceed 20 mph (32 kph) while transporting implements.
- ▶ **Tractor Stability** - Always reduce travel speed on turns, rough ground, and avoid steep slopes. Pull only from the drawbar...never higher.
- ▶ **Fumes** - Be careful about carbon monoxide fumes. Remember that agricultural herbicides and other pesticides can be hazardous. Your tractor cab air filter cannot remove fumes; exhaust or chemical. Follow instructions and precautions from the manufacturers of the equipment and the chemicals regarding inhalation of dust, fumes or spray.
- ▶ **Implement Operation** - Be sure implement reflectors are undamaged and unfaded. Make sure all guards are in place over auger intake areas. Test remote shutoff devices to assure they are working properly.

Let the Specialist Help

Your local New Holland dealer uses the latest technology and training to keep your investment operating profitably, efficiently, and safely.

Do you need service work on a tractor, emergency field service, or parts in a hurry? Your dealer is ready and able to help.

New Holland factory-trained service professionals are experts on the inner workings of your New Holland tractors. The parts department is well stocked with all the parts, belts, filters, lubricants, and engine parts you'll need. You wouldn't expect anything less from a specialist who understands the way you work.



Take Full Advantage of its Capabilities

- Getting the most from your New Holland tractor is the purpose of this booklet.
- New Holland wants to help owners achieve peak efficiency from all of their equipment.

Have you, or someone you know, purchased a new tractor in the last few years and continued to use it in much the same way as the tractor it replaced? Many times we fail to take advantage of the advanced features available on today's modern equipment, such as Custom Headland Management. As a result the owner may not be getting all the value from the money spent.

Many of the items suggested in this booklet can be completed by the owner when preparing for the season or by the operator when starting a new field. Other adjustments, service procedures, or repairs might be more effectively completed by your dealer's trained service technicians.

New Holland Maintenance Inspections — prepare your tractor for peak performance

Ask your New Holland dealer about New Holland Maintenance Inspections. It is a proactive way to be sure your tractor will operate at its best possible performance in demanding conditions.

New Holland Maintenance Inspections include a visual and functional inspection of your tractor. They can be used as a pre-season or as a post-season tune-up. Benefits include:

- ▶ Increased productivity
- ▶ Less downtime during the season
- ▶ Lower operating costs
- ▶ Improved fuel economy
- ▶ Documented maintenance
- ▶ Serviced by New Holland-trained service professionals
- ▶ Serviced with Genuine New Holland lubricants, filters, and parts



The combined advantages of New Holland Maintenance Inspections should result in a lower cost of ownership and higher resale values.

Documented Service Promotes High Resale Value

When you schedule your equipment for annual maintenance inspection services, your New Holland dealership places annual Service Plus Maintenance decals on your equipment after each inspection, distinguishing your commitment to keep your machines running in top condition. Not only does annual maintenance support your productivity in the field, each decal symbolizes completed service—which may increase the resale value of your equipment.

Because New Holland technicians use New Holland Maintenance Inspection Checklists for each inspection, you can rest assured that the service is thorough and nothing is overlooked.



TJ Series Tractors

Ask your dealer about performing a New Holland Maintenance Inspection service to keep you up and running!

Checklist

Safety Equipment			Replace/		Steering System			Replace/		Leaks			Replace/										
			OK	Adjust				OK	Adjust				OK	Adjust									
1. Seat Belt(s)			☐	☐	1. Hose Condition and Routing			☐	☐	1. Oil			☐	☐									
2. ROPS and Cab Condition			☐	☐	2. Cylinder and Valve(s)			☐	☐	2. Coolant			☐	☐									
3. Warning/Flashing Lights			☐	☐	3. Steering Stops and Adjustment			☐	☐	3. Fuel			☐	☐									
4. Decals in Place (SMV, Warning, etc.)			☐	☐	4. Operational			☐	☐	Hitch and PTO Area													
5. Other Audible Sounds			☐	☐	5. Wheel Tilt and Telescope			☐	☐														
6. Horn Function			☐	☐	Power Train																		
7. Brake Pedal Interlock			☐	☐																			
8. PTO Shield in place (if applicable)			☐	☐																			
9. Reflector(s) Condition			☐	☐																			
10. Mirrors (if applicable)			☐	☐																			
Engine					1. Transmission Oil Level					☐	☐	1. Inspect Hitch Components			☐	☐							
2. Excessive Exhaust Smoke					☐	☐	2. Axle Oil Level					☐	☐	2. Upper Link Operational			☐	☐					
3. Unusual Noise					☐	☐	3. Check All Gears/Speeds					☐	☐	3. Proper Height and Travel			☐	☐					
4. Turbo Charger					☐	☐	4. Inching Pedal					☐	☐	4. Engagement & Disengagement			☐	☐					
5. Intake System					☐	☐	5. Wheel Lugs					☐	☐	5. Remote Switches (if applicable)			☐	☐					
6. Muffler/Exhaust Systems					☐	☐	6. Tires and Pressure					☐	☐	Additional Maintenance									
7. High and Low Idle Speed					☐	☐	Brake System																
8. Fuel Pump(s)					☐	☐																	
9. Fuel Lines and Clamps					☐	☐																	
10. Fuel Shut Off System					☐	☐																	
11. Fuel Throttle Linkage					☐	☐						1. Lines and Hoses					☐	☐	1. Window/Door Latch Adjustment			☐	☐
12. Fuel Tank and Cap					☐	☐	2. Foot Brake					☐	☐	2. Hood Tilt, Retention/Sealing			☐	☐					
13. Fuel Water Sediment & Drain					☐	☐	3. Parking Brake					☐	☐	3. Lube Grease Points			☐	☐					
14. Belts & Tensioning Mechanism					☐	☐	Cooling System					4. Engine Air Filters					☐	☐					
15. Cold Starting Aids					☐	☐						1. Radiator Core					☐	☐	5. Engine Fuel Filters			☐	☐
16. Block Heater (if applicable)					☐	☐						2. Hoses, Clamps, and Radiator Cap					☐	☐	6. Engine Valve Adjustment			☐	☐
17. Fuel Lines and Clamps					☐	☐						3. Water Pump					☐	☐	7. Hydraulic Filters			☐	☐
Electrical					4. Fan Assembly							☐	☐	8. Fuel Injectors			☐	☐					
					5. Coolant Protection _____ °C/F					☐	☐	9. Coolant and Filter			☐	☐							
					6. Coolant Recovery					☐	☐	10. Cab Filters			☐	☐							
					Hydraulic System					1. Oil Level			☐	☐	11. Clean A/C Condenser			☐	☐				
										2. Lines and Hoses			☐	☐	12. A/C System Check			☐	☐				
3. Control Linkage/Cables			☐	☐						Fluid Analysis													
4. Oil Cooler(s)			☐	☐																			
5. Cylinders and Control Valves			☐	☐											1. Coolant Analysis			☐	☐				
6. Reservoir			☐	☐	2. Engine Oil Sample			☐	☐														
7. Operational			☐	☐	3. Transmission Oil Sample			☐	☐														
8. Proper Detent			☐	☐	4. Hydraulic Oil Sample			☐	☐	Miscellaneous Items													
9. Quick Couplers			☐	☐	1. Inspect Welds and Frames			☐	☐														
			2. Exterior Condition			☐	☐																
			3. Seat Condition and Operation			☐	☐																
			4. Operator's Manual			☐	☐																
			5. Radio Equipment			☐	☐																
			6. Fire Extinguisher (if equipped)			☐	☐																
7. Cab Glass (cracked or broken)			☐	☐	7. Cab Controls (missing or broken)			☐	☐														
8. Cab Controls (missing or broken)			☐	☐																			

TG Series Tractors

Checklist

Safety Equipment	Replace/		Steering System	Replace/		Leaks	Replace/	
	OK	Adjust		OK	Adjust		OK	Adjust
1. Seat Belt(s)	☐	☐	1. Hose Condition and Routing	☐	☐	1. Oil	☐	☐
2. ROPS and Cab Condition	☐	☐	2. Cylinder and Valve(s)	☐	☐	2. Coolant	☐	☐
3. Warning/Flashing Lights	☐	☐	3. Steering Stops and Adjustment	☐	☐	3. Fuel	☐	☐
4. Decals in Place (SMV, Warning, etc.)	☐	☐	4. Tie Rods and Joints	☐	☐	Hitch and PTO Area		
5. Other Audible Sounds	☐	☐	5. Front Wheel Toe In	☐	☐	1. Inspect Hitch Components	☐	☐
6. Horn Function	☐	☐	6. Suspension/Accumulator (if applicable)	☐	☐	2. Upper Link Operational	☐	☐
7. Brake Pedal Interlock	☐	☐	7. Operational	☐	☐	3. Proper Height and Travel	☐	☐
8. PTO Shield in place (if applicable)	☐	☐	8. Wheel Tilt and Telescope	☐	☐	4. Engagement and Disengagement	☐	☐
9. Reflector(s) Condition	☐	☐	Power Train			5. Remote Switches (if applicable)	☐	☐
10. Mirrors (if applicable)	☐	☐	1. Transmission/Hydraulic Oil Level	☐	☐	Additional Maintenance		
Engine			2. FWD Axle Oil Level (if applicable)	☐	☐	1. Lube/Grease	☐	☐
1. Engine Oil Level/Filter	☐	☐	2. FWD Planetary Oil Level (if applicable)	☐	☐	2. Engine Air Filters	☐	☐
2. Excessive Exhaust Smoke	☐	☐	3. Check All Gears/Speeds	☐	☐	3. Engine Fuel Filters	☐	☐
3. Unusual Noise	☐	☐	4. Inching Pedal	☐	☐	4. Hydraulic Filters	☐	☐
4. Turbo Charger	☐	☐	5. Wheel Lugs	☐	☐	5. Wheel Bearings (if applicable)	☐	☐
5. Intake System	☐	☐	6. Tires and Pressure	☐	☐	6. Engine Valve Adjustment	☐	☐
6. Muffler/Exhaust Systems	☐	☐	Brake System			7. Fuel Injectors	☐	☐
7. High and Low Idle Speed	☐	☐	1. Manual and Power Braking	☐	☐	8. Coolant and Filter	☐	☐
8. Fuel Pump(s)	☐	☐	2. Linkage/Control	☐	☐	9. Cab Filters	☐	☐
9. Fuel Lines and Clamps	☐	☐	3. Lines and Hoses	☐	☐	10. Clean A/C Condenser	☐	☐
10. Fuel Shut Off System	☐	☐	4. Parking Brake or Park Lock	☐	☐	11. A/C System Check	☐	☐
11. Fuel Throttle Linkage	☐	☐	Cooling System			Miscellaneous Items		
12. Fuel Tank and Cap	☐	☐	1. Radiator Core	☐	☐	1. Inspect Welds and Frames	☐	☐
13. Fuel Water Sediment & Drain	☐	☐	2. Hoses, Clamps, and Radiator Cap	☐	☐	2. Exterior Condition	☐	☐
14. Belts & Tensioning Mechanism	☐	☐	3. Water Pump	☐	☐	3. Seat Condition and Operation	☐	☐
15. Cold Starting Aids	☐	☐	4. Fan Assembly	☐	☐	4. Operator's Manual	☐	☐
16. Block Heater (if applicable)	☐	☐	5. Coolant Protection _____ °C/F	☐	☐	5. Radio Equipment	☐	☐
17. Fuel Lines and Clamps	☐	☐	6. Coolant Recovery	☐	☐	6. Fire Extinguisher (if equipped)	☐	☐
Electrical			Hydraulic System			7. Cab Glass (cracked or broken)	☐	☐
1. Neutral Starting Switch Circuit	☐	☐	1. Oil Level	☐	☐	8. Cab Controls (missing or broken)	☐	☐
2. Connections	☐	☐	2. Lines and Hoses	☐	☐	Fluid Analysis (Validated through internet site)		
3. Battery Fluid	☐	☐	3. Control Linkage/Cables	☐	☐	1. Coolant Analysis	☐	☐
4. Battery Hold Down Assembly	☐	☐	4. Oil Cooler(s)	☐	☐	2. Engine Oil Sample	☐	☐
5. Battery Voltage	☐	☐	5. Cylinders and Control Valves	☐	☐	3. Transmission/Hydraulic Oil Sample	☐	☐
6. Battery Area is Clear & Clean	☐	☐	6. Reservoir	☐	☐	4. FWD Axle Oil Samples	☐	☐
7. Starter	☐	☐	7. Operational	☐	☐	a. FWD Differential		
8. Alternator	☐	☐	8. Proper Detent	☐	☐	b. FWD Planetary Drives		
9. Wipers	☐	☐	9. Quick Couplers	☐	☐			
10. Heat and A/C Fan	☐	☐						
11. Turn Signals	☐	☐						
12. Lights	☐	☐						
13. Differential Lock(s)	☐	☐						
14. Shutdown Override (if applicable)	☐	☐						
15. Check/Clear Fault Codes (if applicable)	☐	☐						
16. Instrumentation & Warning Lights	☐	☐						

Heating, Ventilation and Air Conditioning Inspections

How to Make Sure Your A/C Beats the Heat

Summer's hot and muggy days can become down right comfortable with a well-maintained cab air conditioning system. Here are some ways to help your A/C system keep you cool.

- Check the drive belt. Verify proper tension and check for signs of wear.
- Clean the condenser. It's often integrated with the radiator and the oil cooler. All should be free of any debris that can build up between units. Use compressed air or a power washer to remove dust between condenser fins that can reduce cooling efficiency.
- Inspect the compressor and hoses. Oil seepage from the compressor, hoses, connectors or couplings can be a potential problem. Contact your New Holland dealer for suggested repair options if you detect leakage.
- Keep cab filters clean. Frequently clean both the fresh air and recirculating air filters.
- Check the evaporator drain hose. Don't let water collect in the evaporator box. Make sure the drain hose is unobstructed.
- Keep the cab airflow high. Especially in high humidity, holding the cab's fan speed higher will reduce the likelihood of the evaporator core freezing. For non Automatic Temperature Control (ATC) systems, you should change cab temperature by adjusting the temperature setting before decreasing the fan speed.
- Don't repair air conditioning systems yourself. Clean Air Act legislation requires that air conditioning systems be serviced only by personnel certified in refrigerant recovery and recycling.

Checklist

System Type

- ___ 1. HFC134a
- ___ 2. R12
- ___ 3. Retrofitted

Troubleshooting System

- ___ 1. No Heat
- ___ 2. Poor Heat
- ___ 3. No Air Conditioning
- ___ 4. Poor Air Conditioning
- ___ 5. No Defrost
- ___ 6. Air From the Wrong Outlets
- ___ 7. No Temperature Control
- ___ 8. Improper Blower Control
- ___ 9. Interior Noise
- ___ 10. Exterior Noise
- ___ 11. Interior Leak
- ___ 12. Exterior Leak
- ___ 13. Odor
- ___ 14. Error Codes (if applicable)
- ___ 15. Other

When Does Symptom Occur

- ___ 1. Always
- ___ 2. Sometimes
- ___ 3. When Hot
- ___ 4. When Cold
- ___ 5. Battery Voltage
- ___ 6. When Engine Is Started
- ___ 7. When Engine Is Warming Up
- ___ 8. When Idling
- ___ 9. At High Engine RPM
- ___ 10. During Acceleration
- ___ 11. While In Motion
- ___ 12. Other

Component	Replace/	
	OK	Adjust
1. Compressor (leakage, alignment, noise)	☐	☐
2. Compressor Clutch (field, coil, bearing, air gap)	☐	☐
3. Compressor Belt (condition tension)	☐	☐
4. Condenser (clear of dust, debris, and leaks)	☐	☐
5. Receiver Dryer	☐	☐
6. A/C Hoses	☐	☐
a. Suction	☐	☐
b. Discharge	☐	☐
c. Condenser to Dryer	☐	☐
d. Chassis Liquid	☐	☐
e. Cab Suction	☐	☐
f. Cab Liquid	☐	☐
7. A/C Pressure Switches	☐	☐
a. Low Pressure Switch	☐	☐
b. High Pressure Switch	☐	☐
8. Evaporator Box	☐	☐
9. Evaporator Seals	☐	☐
10. Evaporator Capillary Tube	☐	☐
11. Evaporator Condensate Drain Tube	☐	☐
12. Odor	☐	☐
13. Thermostat Expansion Valve	☐	☐
14. Thermostat Switch	☐	☐
15. Heater Control Valve	☐	☐
16. Heater Hoses and Clamps	☐	☐
17. Air Filters	☐	☐
a. Fresh	☐	☐
b. Recirculation	☐	☐
18. Cab Blower	☐	☐
19. A/C Fluorescent Dye	☐	☐
20. Refrigerant Charge	☐	☐
21. Clean and Flush System	☐	☐

New Holland dealers offer air conditioning maintenance inspections and a full line of compressors, condensers, and other air conditioning parts to fit your exact need. Use these services and parts to help keep your air conditioning performing at its peak.

Lube Filtration Systems

To meet the performance demands of today's tough off-road environments, your equipment is generating more usable horsepower than ever before. Tighter tolerances, higher temperatures, and severe duty cycles are driving the requirement for high quality filtration and increased durability without sacrificing filter life. Today's low-emission engine designs make engine filtration extremely critical, especially particles in the 5-10 micron range, which are most damaging to modern engines.

While the costs for repairing equipment breakdowns are normally high, they are often miniscule compared to those associated with delayed harvests or missed project completion deadlines. Don't jeopardize productivity by using "will-fit" filtration. New Holland lube filters are designed specifically for your equipment. They're guaranteed to ensure peak performance while providing maximum protection for your investment.

- ▶ **Superior Media** - New Holland filters are designed to trap more of the small contaminants that are most damaging to diesel engines. The media is uniformly resin-impregnated and heat-cured to provide efficient filtration, while resisting the effects of moisture. The media used in many of our newer filters combines microglass and cellulose fibers for doubled efficiency over standard filters.
- ▶ **Plastisol Adhesive** - New Holland filters use plastisol, a high quality adhesive, to uniformly bond the filter element to the end caps. Plastisol adhesive keeps the filter media from bunching and rupturing.
- ▶ **Rubber Seals** - Many filter manufacturers use cardboard seals at the ends of the filters; cardboard seals can deteriorate or leak. New Holland filters use a thin piece of rubber which provides a tight, even seal at the base of the filter. It prevents unfiltered oil from bypassing the filter media and re-entering your system.
- ▶ **Metal End Caps** - Solid metal end caps provide additional strength to the filter element. Metal is superior to the cardboard that many manufacturers use.
- ▶ **OEM Specified** - New Holland filters meet all specifications demanded by our design engineers. When you buy a New Holland filter, you're buying the confidence that New Holland engineers have placed in the filter to protect your engine, and save you repair costs.



2-stage filtration design

■ Custom-designed filtration media

- ✓ Synthetic
- ✓ Cellulose
- ✓ Blends
- ✓ Stacked Disk

■ Optimized filtration performance in capacity (life), efficiency (cleanliness), and restriction to flow

- ✓ Minimizes progressive wear
- ✓ Reduces bearing and ring wear
- ✓ Removes sludge
- ✓ Filters oil sooner during cold starts

■ Patented combination full-flow/bypass filtration products

■ Guaranteed to meet OEM specifications



Selecting Fluids

MASTERGOLD™ ENGINE OIL

Your engine takes a tremendous pounding day in and day out. But you can protect and preserve it with the best engine oil available — MasterGold.

MasterGold is a premium, high-performance diesel engine oil designed to stand up to the toughest operating conditions. Less susceptible to thermal and chemical breakdown, MasterGold provides excellent oil-consumption control and maximum engine-wear protection.

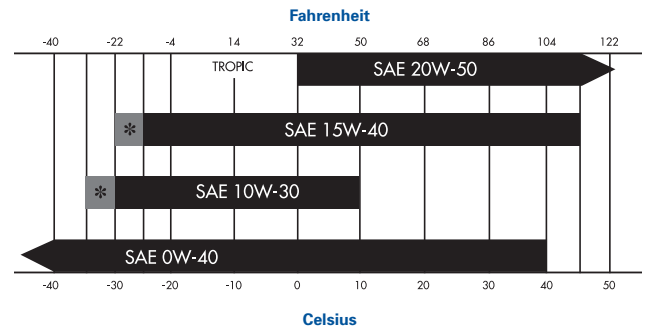
Compare before you buy. Use the engine oil specifically designed for your equipment and field conditions. Prolong your hard working engine's life with MasterGold heavy-duty engine oil.



TG and TJ Series Tractor Engine Oil Capacity

Tractor Model	Engine Oil Capacity (gallon/liter)
TG210, TG230, TG255, TG285	5.5g/20.8l
TJ275	6.3g/23.8l
TJ325	7.25g/27.5l
TJ375, TJ425, TJ440, TJ450, TJ500	13g/49.2l

Oil Viscosity/ Temperature Usage Recommendation



*Use of an engine oil heater, or an engine coolant heater, is required in gray area.

MASTERTRAN™ FLUID

Up to 70% of all transmission and hydraulic system failures are fluid related. So protect and preserve your equipment with MasterTran and prevent costly downtime.

- MasterTran is blended to provide optimum machine performance and long life in the most severe operating conditions.
- It provides superior wear protection for hydraulic components, drive train gears, and other transmission parts.
- Controlled frictional characteristics provide safe, smooth operation of wet brakes and clutches.
- Excellent filterability provides extra protection against system contamination.

DIESEL FUEL

- Use a good grade of fuel which meets SAE/ASTM EN 590 or equivalent. The use of biodiesel blends is approved for New Holland engines up to B5 (5% blend ratio).





Note: TG and TJ tractors require daily, weekly, and scheduled maintenance intervals to keep equipment in top performing condition. Although service requirements for each New Holland tractor model may be similar, please refer to the equipment's Operator's Manual for lubrication information, service intervals, and component locations.



Daily Service

Service should be performed every 10 hours or daily (whichever comes first) to keep your New Holland tractor running at its best.

TG Tractor - Daily service functions can be performed in a single location to get you to the field faster each day.

- ▶ Check engine oil level
- ▶ Check hydraulic/transmission oil level
- ▶ Check engine coolant reservoir level
- ▶ Check fuel level
- ▶ In severe dusty or wet conditions, grease rear hitch & front axle every 10 hours; otherwise every 300 hours
- ▶ 50 hours (or Weekly) -
 - Drain water from fuel filter drain plug
 - Grease SuperSteer Axle linkage pins

TJ Tractor - Daily service required:

- ▶ Check engine oil level
- ▶ Check hydraulic/axle oil level
- ▶ Check transmission oil level
- ▶ Check coolant level (reservoir & deaeration tank)
- ▶ Check fuel level
- ▶ 50 hours (or Weekly) -
 - Drain water from fuel filter drain plug and fuel tank
 - Grease articulation/oscillation hinges, articulation & three point hitch (TPH) cylinders, and center link fittings

Engine Oil and Coolant Filters

Vertically mounted engine oil filters permit easy, clean, no-spillage service.

New Holland coolant filters are specially designed to protect the cooling system from contamination and condition the coolant to prevent erosion and cavitation.

TG Tractor -

- ✓ Engine oil and filter – 300 hours
- ✓ Coolant filter – 600 hours
- ✓ Coolant and conditioner – 2100 hours

TJ Tractor -

- ✓ Engine oil and filter – 500 hours
- ✓ Coolant (check SCA level) – 500 hours
- ✓ Coolant filter – 1500 hours
- ✓ Coolant (drain & flush) – 6000 hours



Fuel Filters

Fuel filters protect the fuel system from dirt and water damage. Use clean fuel, keep the fuel tank full to prevent water condensation, and drain the water separator section at regular service intervals.

TG Tractor -

- ✓ Engine fuel filters – 600 hours

TJ Tractor -

- ✓ Engine fuel filters – 500 hours (or when service icon is displayed)



Radiator/Coolers

During regular service, clean the radiator, hydraulic oil coolers, fuel cooler and air conditioning equipment as conditions warrant.



Transmission, Hydraulic, and Axle Filters

TG Tractor -

The combined transmission and hydraulic system are protected from contamination by two high-performance spin-on filters on the right hand side of the transmission.

- ✓ Transmission oil and filters – 1500 hours

TJ Tractor -

The transmission and hydraulic systems are independent. The hydraulic system shares its circuit with the axle lube system.

- ✓ Hydraulic oil and filter – 1500 hours
- ✓ Axle lube filter – 1500 hours

Engine Air Filters

To maintain engine power and performance, clean the primary filter when notified by tractor instrumentation. Do not clean the secondary (inner) filter element. The secondary (inner) filter element should only be replaced.

TG Tractor -

- ✓ Primary & secondary engine air filters – as required (recommend 1200 hours or annually)

TJ Tractor -

- ✓ Primary & secondary engine air filters – 1500 hours



Fuses & Relays

TG Tractor -

Engine circuit protection fuses are located inside the engine service door below the engine air filter assembly. The tractor circuit fuses and relays are located below the floor mat behind the operator's seat.

TJ Tractor -

All fuses and relays are located under the removable panel to the left of the operator's seat.



Cab Clean Air & Recirculation Filters

Proper heating and cooling performance depends on proper air flow through the cab clean air and recirculation filters. Recirculation air filters should be cleaned with mild soap and water as required by conditions during regular service. Clean cab air recirculation filters improve air conditioning system efficiency and make cab comfort easier to maintain.

Note: Be sure cab recirculation filters are not blocked. A clear flow path must be maintained for optimum cab comfort.

TG Tractor -

The clean air filter is located below the cab door. The recirculation filters are located on both sides of the operator's seat near the floor mat.

- ✓ Cab air & recirculation filters – As required (recommended 1500 hours)

TJ Tractor -

The clean air filter is located underneath the left rear corner of the cab. The recirculation filter is located directly behind the operator's seat.

- ✓ Cab air & recirculation filters – 1500 hours



Batteries

Current models of New Holland equipment use maintenance-free batteries. Terminals should be cleaned as necessary. On older models without maintenance-free batteries, clean terminals as necessary and check electrolyte levels before and after winter storage.



TerraGlide™ and SuperSteer™ FWD Axles

A **TerraGlide FWD axle** is optional on TG model tractors. The TerraGlide axle helps keep the front wheels on the ground. This keeps the tractor stable under the variety of conditions tractors encounter on a regular basis. The TerraGlide axle provides a smoother ride over rough terrain. TG models also offer an optional **SuperSteer FWD** axle which steers in conjunction with the wheels to a maximum of 20 degrees. This, added to the 45 degree maximum turn angle of the wheel ends, gives an effective steer angle of 65 degrees.



Drawbar Positioning/PTO Driveline Adjustment

When switching PTO shaft speeds on TG models, you must reposition the drawbar to meet SAE dimensions. Failure to adjust the drawbar length could result in damage to either the tractor or the implement PTO drive line. Use the implement PTO driveline height adjustment to ensure a minimum vertical angle of the implement PTO shaft. The horizontal distance from end of shaft to center of drawbar pin should be:

Shaft	Distance
540	14"
Small 1000	16"
Large 1000	20"



Dual Speed PTO

TG Tractor models offer a dual speed PTO with interchangeable 540 and 1000 (large and small) speed shafts. The dual speed PTO capability allows you to connect to a variety of implements without changing tractors. The PTO shafts interchange easily, requiring only small hand tools.

TJ models use a 1000 rpm, 1-3/4" shaft.



True Ground Speed Signal

TG and TJ models have an in-cab, true ground speed signal socket. Using the socket simplifies connection of the true ground speed signal to spraying and planting systems. Order cable part number 324847A2.



Foot Throttle

The optional foot throttle available on TG tractors frees the operator's hands for other functions. A foot throttle can be a valuable enhancement for loader, planting, and general tillage operations.

TJ models have an optional decelerator pedal available.



High-Capacity Drawbar

A high-capacity drawbar option is available for applications where heavy drawbar loads are expected. The high-capacity drawbar should be used for applications like front folding planters, liquid manure wagons, and large grain carts. Three swing positions, one on each side of center, are obtainable by moving bolts which extend up through the drawbar hanger on both sides of the drawbar. Six drawbar mounting positions are available just like on the standard drawbar. The high-capacity drawbar allows equal angle hitching when necessary. The high-capacity drawbar has a vertical tongue load rating of 4990 kg (11,000 lbs). The “auto pin” clevis is standard. Heavy Duty Drawbar kit is available for all TG tractors.

Drawbar kit part number - 435788A1 (includes the auto-pin hitch and mounting hardware).

Drawbar part number - 426511A1.



Motor Return and Power Beyond

An optional motor return kit mounts to the top of the couplers on the left side. Motor return port installation reduces back pressure in hydraulic circuit return lines. This results in more efficient hydraulic system operation. The motor return consists of one return coupler (3/4") and one case drain coupler (1/4"). The motor return housing is the same housing used for power beyond applications without the lines, connections, and couplers required for power beyond functions.

Note: The motor return kit is required for some planting and seeding implements.

Power beyond provides a hydraulic supply port, a low pressure return port, a sensing port, and a case drain coupler (ported to reservoir). Power beyond provides a versatile connection point for specialty hydraulic applications.

IMPORTANT: The case drain coupler should only be used for low flow, case drain applications. Transmission lube pressure could be adversely affected if the case drain coupling is used for other applications.

Note: For maximum performance, use only ISO Tips.



The Power of Technology

CAN Systems Put the Latest Technology to Work for You

New Holland service professionals use an Electronic Service Tool (EST) to service New Holland tractors. The latest New Holland tractors are equipped with a Controller Area Network (CAN), that allows all the tractor systems to communicate on one network. No longer is your New Holland service technician tied to the shop. The EST makes in-field diagnosis easy.

- Provide Information to the Operator
- Improve Tractor Operation
- Enhance Tractor Performance
- Prevent System Failures
- Provide Quick and Accurate Troubleshooting



Service technicians connect the Electronic Service Tool into the tractors CAN system to communicate using the CAN network. Fault based diagnostics are used to quickly identify problems. Detailed photographs, diagrams and component locators on the EST screen provide complete information about related wiring and connectors. Repairs can be made quickly, assuring maximum productivity. In addition to service diagnostics, the EST can be used to download new software to upgrade the functions performed by the controller networks. It can also be used to change the default transmission gears.

Consider several examples of how controllers and other devices within the CAN work together. As the tractor moves through the field, the controllers in the CAN system continually check a variety of inputs:

- Operator Commands
- Engine Torque
- Gear Selection
- Tractor Speed
- Wheel Slip
- Hitch Position

As conditions vary, this information is used by the system to adjust engine power to the transmission. The transmission responds to commands from the operator to complete functions that previously required individual actions by the operator. Therefore, the operator's time is available to make corrections in the field. As the operator moves the hand throttle lever or signals other operations, the tractor identifies the change and sends the new command to the required systems via the CAN system. New Holland tractors are designed as a platform for evolving technology to provide more usable information.



New Holland EZ-Guide® Plus Lightbar

The new EZ-Guide Plus is the second generation of lightbar to be offered by New Holland. It is also the first lightbar in the industry to combine easy-to-read guidance LED's with a graphical LCD screen, and a high-end GPS receiver all in one unit. The LED's display how far to the left or right of center you are, making it easy to follow your swath guidance, while the added LCD screen displays your vehicle orientation, to help you follow contours easier. By combining LED guidance with a graphical display, you get the best of both worlds to help you stay on track.

The EZ-Guide Plus is not only easy to learn but it can be installed in any vehicle in minutes. Use it in any field application that requires parallel swaths including field preparation, chemical or fertilizer applications, and air seeding applications. Tough working conditions are no problem either—the system works consistently day or night, in wind, rain, dust or fog with no deterioration in performance. Lightbar guidance technology can help you accomplish more by extending your hours of operation, making each working day more productive. You can improve your coverage, while reducing your cost of chemicals, fertilizers, fuel and other input materials, by eliminating costly skips and overlaps. The EZ-Guide Plus is not just a lightbar, it's also a fully functioning GPS receiver. The system outputs "NMEA" position data that enables it to feed position data to other GPS-enabled equipment such as yield monitors, variable rate planters and field computers. See your New Holland specialist about making this technology work in your operation.

Features

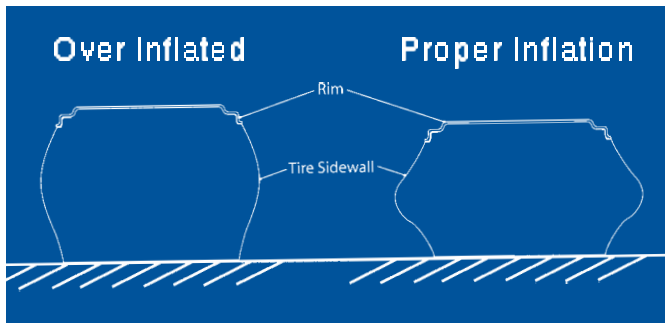
- 35 LEDs for guidance
- 160x120 pixel LCD screen
- Perspective and plan view map
- Integrated 12 channel GPS receiver
- Free WAAS differential correction
- FreeDIFF firmware technology
- High quality antenna resistant to interference
- Optional six button remote control with integrated alarm
- Multiple guidance patterns
- U.S. or Metric units
- Pause/Resume function
- User-definable swath width
- On-board GPS diagnostics
- NMEA output for other applications such as yield monitoring

See your local New Holland dealer for a demonstration.

EZ-Guide and FreeDIFF are trademarks of Trimble Navigation Limited.

Gross Vehicle Weight

Maximum gross weight - A tractor's maximum gross weight is referred to as the combined static weight of the tractor and any added ballast. This value must not exceed the rating of the ROPS structure or the maximum gross vehicle weight as specified in the Operator's Manual. When adding ballast to a tractor, the tractor should be ballasted as light as possible to minimize soil compaction and still maintain performance.



Tire Inflation

Radial tires achieve their high level of tractive performance as a result of the high contact area between the rubber and the soil.

Proper adjustment of radial tire pressure means using the correct tire inflation pressure to support the static load carried by the tire and still maintain the high contact area between the tire and soil.

A tire can be inflated to safely support a wide range of loads.

- An 18.4R42 tire used as a dual, supports approximately 3200 lbs. of static load when inflated to 8 PSI
- An 18.4R42 tire will support 6950 lbs. when inflated to 24 PSI

In both instances, the tire deflects approximately the same amount. This is known as "Rated Deflection" of the tire. When the Rated Deflection is correct, the tire achieves its best performance.

The correct tire pressure for a given tractor is found by weighing the unit and then dividing the weight per axle by the number of tires. This weight is then compared to the values on the Tire Inflation vs. Weight Table to find the correct tire pressure. Tire Inflation vs. Weight Tables should be used for proper inflation pressures.

Many tire manufacturers recommend using cast iron weights. If liquid ballast must be used, New Holland requires it be placed in the inside duals only if the wheels are spacer band type. Flange style duals or hub style duals may be lightly filled. Spacer band duals should never have liquid ballast installed in the outside dual wheel.

Matching the tractor to the load

Your tractor has been designed for continuous field operation at the rated horsepower while traveling at a speed of 5 mph or faster. If the engine lugs continuously at slow speeds you can be sure that the load is not correctly matched to the tractor. This could result in damage to the tractor drive train as well as wasted fuel, increased tire wear, and soil compaction.

Top 10 Ways to Reduce Soil Compaction With Tires

1. Use radial tires. They can operate at lower psi than bias ply tires, have a larger footprint and reduce soil disturbance.
2. Use the widest and largest diameter tires possible for the application that allows the minimum air pressure (example 6 PSI).
3. Use the proper tire pressure for the load, speed, and application.
4. Check tire pressures regularly.
5. Add duals or triples to help distribute the load and optimize the air pressure.
6. Add large tires to the implement being used. (Many times the implement actually causes more compaction than the tractor!)
7. Run the tractor at the lightest ballasted weight possible.
8. Always ballast with iron, not fluid in the tires.
9. Utilize precision traffic. (For example, drive in the same tire tracks and keep major traffic on the headlands.)
10. Use the correct tires to improve fuel efficiency. Less slip over lots of acres can add up to big savings in fuel usage.

TG Tractors

Refer to Load/Inflation Chart for inflation and tire size information (starting on page 26 or in the tire manufacturers' guide).



Tall, wide, soft radial tires provide:

- The best traction.
- The best ride.
- The least amount of maintenance required to control a powerhop condition.

Definitions

Rolling Circumference - Rolling circumference is the distance a tire travels in one revolution

Interaxle Ratio - A FWD tractor uses both the front and rear tires to do the work. Since the front tires are smaller than the rear tires, the front tires must rotate faster to travel the same distance as the rear. The mechanical gear combination used to allow the front axle to move the tires at a faster speed is referred to as the interaxle ratio. The tractor manufacturer establishes the interaxle ratio.

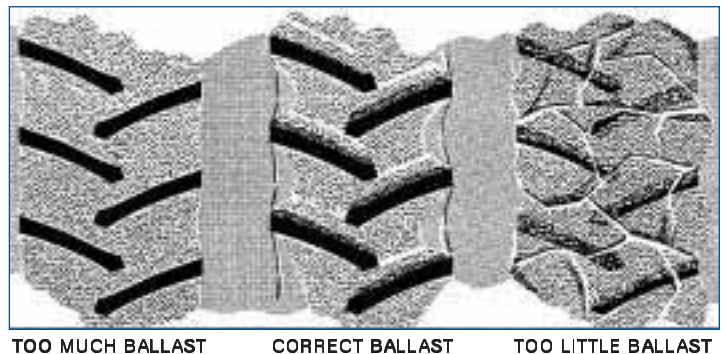
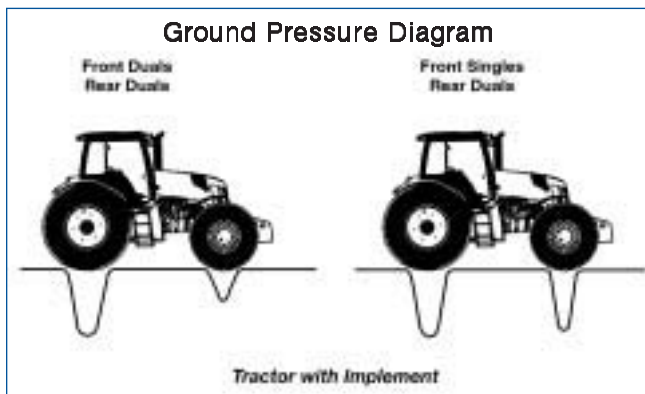
FWD Dual Wheel Field Test Results

The University of Nebraska conducted field tests in the summer of 1999 to compare the effect of traction on tractors equipped with and without front dual wheels. The results showed, when pulling drawbar implements, generally a 65/35 rear/front weight split performed the best for tractive efficiency with single or front dual wheels. Hitch mounted implements generally performed best with a 60/40 rear/front weight split. The test emphasizes the importance of proper ballasting.

During tractor ballasting, pay attention to:

- The front to rear weight split on the tractor
- Pounds of weight per PTO hp and drawbar hp
- Tire load/inflation values

Proper ballasting minimizes compaction and enhances tractor performance. Front duals increase the tire-to-ground contact area and reduce the ground contact pressure under the front axle. The tractor used for the field test was equipped with 520/85R46 rear and 480/70R34 front tires. With these tires, the use of front duals increases the tire-to-ground contact area by 25%. Lower air pressure (see Load/Inflation Charts) improves the tire footprint, while reducing the tire to ground contact pressure and compaction in the field.



Easy Ballasting Options

Two different front weight frames are available depending on FWD on SuperSteer options. The weight frames increase front end vehicle weight and the weights wrap under the chassis providing greater ground clearance. The front wheels turn behind the weights and frame for increased visibility and tighter turning radius.

Two suitcase weight options are available, weighing 40 kg (88 lb) and 100 kg (220 lb).

- When using the large suitcase weights, a maximum of 16 weights can be installed
- When using the small suitcase weights, a maximum of 22 weights can be installed



Interaxle Ratio - Front/Rear

*Front Axle Reduction Ratio

TG210 & TG230 (Standard).....	1.3228.....	*21.525
TG210 & TG230 (TerraGlide).....	1.3228.....	*21.525
TG210 & TG230 (SuperSteer)	1.3228.....	*21.525
TG255 (Standard)	1.3222.....	*21.535
TG255 (TerraGlide)	1.3222.....	*21.535
TG255 (SuperSteer).....	1.3222.....	*21.535
TG285 (Standard)	1.3250.....	*21.535
TG285 (TerraGlide)	1.3250.....	*21.535
TG285 (SuperSteer).....	1.3250.....	*21.535

Note: *This ratio number (1) can be found on the axle serial number plate.

Lead/Lag

The relationship between the front and rear tires is referred to as Lead/Lag and is stated as a percentage. New Holland has established a Lead/Lag range that provides the operator with acceptable tire wear, front tire steering, and front tire pulling power. Any tire combination that falls within this range is acceptable. Lead/Lag percentages can be calculated using the formula:

$$\frac{(\text{Rolling Circum. of Front Tire} \times \text{Interaxle Ratio}) - \text{Rolling Circum. of Rear Tire}}{\text{Rolling Circum. of Rear Tire}} \times 100 = \text{Lead/Lag \%}$$

Rear Tire Selection

Choose rear tires that are large enough to carry the total ballasted weight of the tractor with an inflation pressure in the 6 - 14 psi range. Larger tires require less inflation pressure to support a given axle load than narrow tires do. Use only approved tire combinations. The Lead/Lag should be between 0 - 5%, with a value of 1 - 3% being best. Negative Lead/Lag is not recommended.

Tires and Tractor Performance

To optimize tractor performance, tires should be selected to suit the intended application. Key options like tire size and cast weight packages, combined with proper tire pressure, determine actual tractor performance.

Front Tire Selection

Choose the largest front tire or front dual option with the highest weight-carrying capacity that matches the row spacing. Selection of a larger tire results in reduced compaction and permits heavier loads on the front axle without exceeding the tire load-carrying capacity.

TJ Tractors

Tire manufacturers have found practices and procedures developed for bias ply tires may actually reduce the performance of radial ply tires. Minor adjustments in the tractor weight split (front/rear), ballast, and tire inflation pressure can dramatically improve performance of the tractor.



Proper weight split, ballast, and tire inflation can:

- Improve Traction
- Reduce Compaction
- Reduce Occurrence of Powerhop
- Increase Powertrain Life
- Reduce Tire Wear
- Improve Ride



TOO MUCH BALLAST

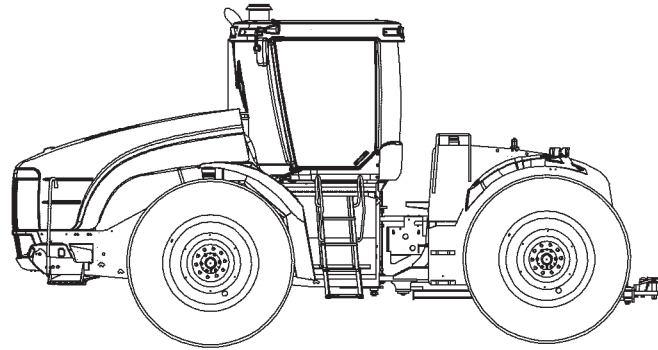
CORRECT BALLAST

TOO LITTLE BALLAST

Ballasting 4WD Tractors - Drawbar Applications

Tractors used in drawbar work only.

Generally these tractors are not equipped with a 3-point hitch or PTO and are used to pull standard pull type implements such as disks, chisel plows, field cultivators, rippers, etc. Tractors in this type of application should be ballasted with no more than 55% of the weight on the front axle.



Front 55%

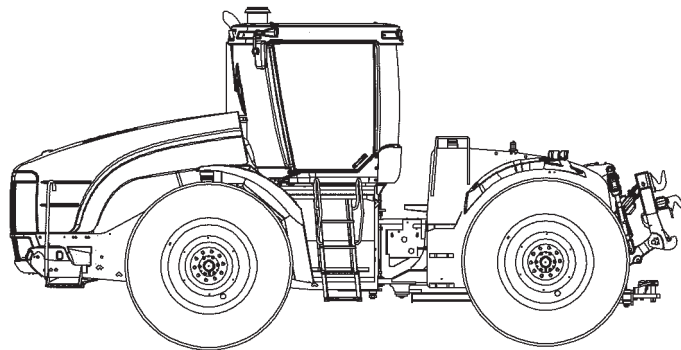
Rear 45%

Drawbar Towed High Draft Implements

Ballasting 4WD Tractors - 3-Point Hitch Applications

Tractors used for 3-point hitch work only.

Tractors in this type of application should be ballasted with 60% of the weight on the front axle.



Front 60%

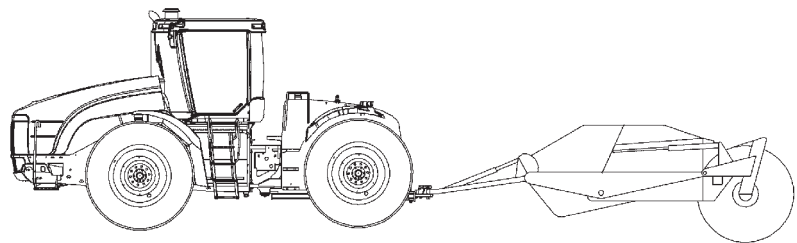
Rear 40%

Hitch Mounted Implements

Ballasting 4WD Tractors - High Vertical Load Applications

Tractors used for scrapers or other implements with high vertical loads.

Tractors in this type of application should be ballasted with 65% of the weight on the front axle. This should allow the tractor to achieve a 50/50 weight split while operating under load. If the tractor is equipped with a 3-point hitch or PTO it may not be possible to achieve this level of balance and still stay within the maximum operating weight limitations. If this is the case, adjust as close as possible to the 65%-35% specification, and stay within the maximum operating weight limitation.



Front 65%

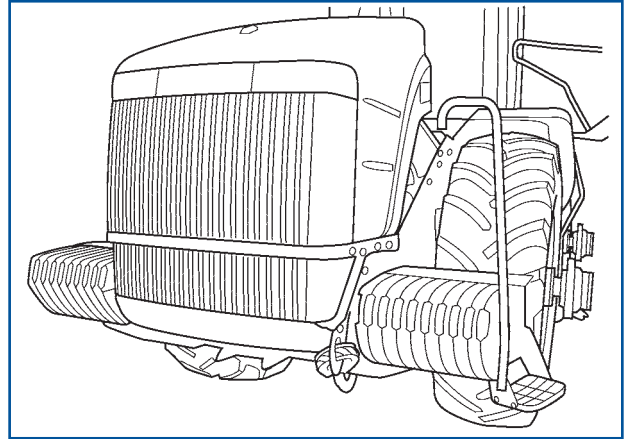
Rear 35%

Implements With Heavy Vertical Drawbar Loads

Front and Rear Suitcase Weights

Front Frame Weights

Front suitcase weights can be mounted on the front of the tractor with a weight hanger. A maximum of 18 suitcase weights at 45 kg (100 lb) each can be installed, depending on the application, tractor static weight ratio and soil conditions.



Rear Frame Weights

Suitcase weights can also be mounted on the rear of the tractor with a weight frame. However, rear suitcase weights cannot be used if the tractor is equipped with a three point hitch.

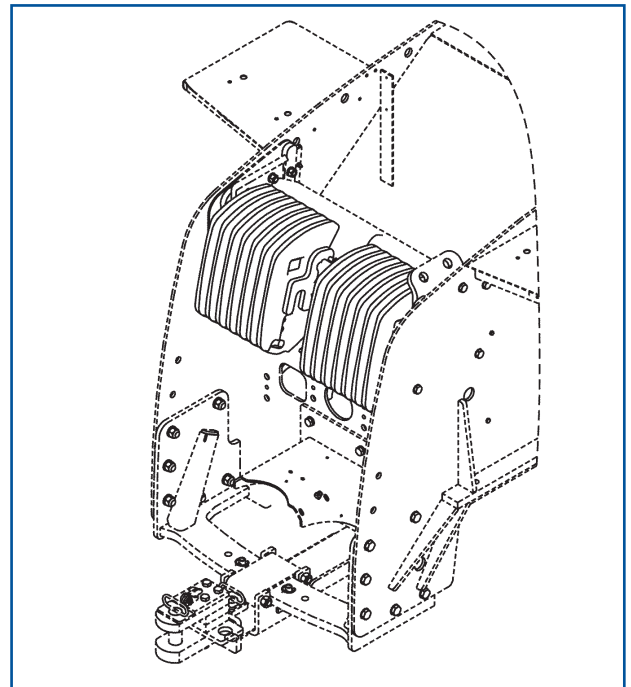
A maximum of 10 suitcase weights (TJ 275-325) or 14 suitcase weights (TJ375-500) at 45 kg (100 lb) each can be installed depending on implement application, front mounted equipment, tractor static weight split and soil conditions.

Assembly weight:

Weight frame = 468 kg (1032 lb)

Frame + 14 suitcase weights = 1166 kg (2571 lb)

The entire weight assembly can be removed from the tractor by removing 2 bolts and attaching an overhead hoist to the rear holes on each side of the lifting bracket. See your dealer for more information.



IMPORTANT: Total static weight of the tractor with all equipment and ballast must never be more than the recommended operating weight. See Maximum Recommended Operating Weight in Operator's Manual.

TG Tractor—Tire Load and Inflation

The inflation pressures are based on cold inflation pressure recommended by the Tire and Rim Association Inc.

How to Use the Load and Inflation Charts:

1. Determine the ballasted tractor front axle weight and tractor rear axle weight.

Note: If using fully mounted or high vertical drawbar implements, add the weight of the implement to the rear weight (refer to implement manual for weight).

2. Find the appropriate chart (Front Singles or Duals, Rear Singles, Duals or Triples).
3. Find tire size and correct rating.
4. Follow the row across to the first weight that is above your tractor (front or rear) axle weight.
5. Follow the column up to find the minimum recommended tire inflation pressure.

Note: Never exceed the load capacity for a particular tire. To obtain more load capacity, use duals or change to a different tire.

Note: Never exceed the inflation pressure for a particular tire. The last number in the chart is the maximum inflation pressure for that particular tire.

Note: Increase tire pressures 2 to 4 PSI over those stated in the chart for any of the following conditions:

- If tire pressures are not checked daily
- Sharp turning and or braking will be encountered
- In-Furrow operation (Furrow tire only)
- Side hill operation

TJ Tractor

Tire Pressure for Maximum Tire Load at Rated Inflation

To achieve the best tire pressure and load capacity, scale weigh the front and rear axle of the tractor.

- 1) Determine proper ballast weight split.

60% Front/40% Rear - Tractor used with hitch mounted implements.

55% Front/45% Rear - Tractor used with drawbar towed high draft implement.

65% Front/35% Rear - Tractor used with high vertical drawbar loads.

See Tractor Ballast information for additional information.

- 2) Determine correct static load distribution and tire pressure from chart.

Example: Tractor used with standard drawbar implements, 18.4R-42 dual tires and a full tank of fuel. Desired weight split = 55% Front/45% Rear.

Front Weight of Tractor = 14,000 lb (6350 kg)

Rear Weight of Tractor = 9392 lb (4260 kg)

Total Weight of Tractor = 23,392 lb (10610 kg)

- 3) Determine weight distribution by dividing front and rear weight by total weight.

Tractor Weight Distribution = 59.8% Front Axle

40.2% Rear Axle

- 4) Adjust the weight distribution by adding 2000 lb (907 kg) weight to the rear wheels.

Adjusted Weight:

Front weight = 14,000 lb (6350 kg)

Rear weight = 11,392 lb (5167 kg)

Total weight = 25,392 lb (11 517 kg)

Total weight distribution = 55.1% Front Axle

44.9% Rear Axle

- 5) Front Static Load - weight divided by number of tires.

14,000 lb/4 = 3500 lb

(6350 kg/4 = 1588 kg)

Front Chart: 18.4R-42 Dual Tires - 3500 lb = 9 PSI

(1588 kg = 62 kPa)

Rear Static Load - weight divided by number of tires.

11,392 lb/4 = 2848 lb

(5167 kg/4 = 1292 kg)

From Chart = 18.4R-42 Dual Tires - 2848 lb = 7 PSI

(1292 kg = 48 kPa)

Load/Inflation Chart - Conventional Size Radial Tires

Tire Size	Inflation Pressure	6 PSI	7 PSI	8 PSI	9 PSI	10 PSI	12 PSI	14 PSI	16 PSI	18 PSI	20 PSI	22 PSI	24 PSI
14.9R46	Single lbs.	NR	NR	2680	2830	3080	3420	3740	3960	4300	4540	4800	5080
	Dual lbs.	2000	2170	2360	2490	2710	3010	3290	3480	3780	4000	4220	4470
	Triple lbs.	1860	2030	2200	2320	2530	2800	3070	3250	3530	3720	3940	4170
18.4R38	Single lbs.	NR	NR	3520	3740	3960	4400	4800	5200	5680	6000	6400	6600
	Dual lbs.	2640	2820	3100	3290	3480	3870	4220	4580	5000	5280	5630	5810
	Triple lbs.	2460	2620	2890	3070	3250	3610	3940	4260	4660	4920	5250	5410
18.4R42	Single lbs.	NR	NR	3740	3960	4180	4680	5080	5520	6000	6400	6600	6950
	Dual lbs.	2710	3010	3290	3480	3680	4120	4470	4860	5280	5630	5810	6120
	Triple lbs.	2530	2800	3070	3250	3430	3840	4170	4530	4920	5250	5410	5700
18.4R46	Single lbs.	NR	NR	3860	4180	4400	4940	5360	5840	6150	6600	6950	7400
	Dual lbs.	2900	3200	3400	3680	3870	4350	4720	5140	5410	5810	6120	6510
	Triple lbs.	2710	2980	3170	3430	3610	4050	4400	4790	5040	5410	5700	6070
20.8R38	Single lbs.	NR	NR	4300	4540	4800	5360	5840	6400	6800	7150	7600	8050
	Dual lbs.	3200	3480	3780	4000	4220	4720	5140	5630	5980	6290	6690	7080
	Triple lbs.	2980	3250	3530	3720	3940	4400	4790	5250	5580	5860	6230	6600
20.8R42	Single lbs.	NR	NR	4540	4800	5080	5680	6150	6800	7150	7600	8050	8550
	Dual lbs.	3290	3680	4000	4220	4470	5000	5410	5980	6290	6690	7080	7520
	Triple lbs.	3070	3430	3720	3940	4170	4660	5040	5580	5860	6230	6600	7010
24.5R32	Single lbs.	NR	NR	5080	5520	5840	6400	7150	7600	8250	8800	9100	9650
	Dual lbs.	3780	4120	4470	4860	5140	5630	6290	6690	7260	7740	8110	8490
	Triple lbs.	3530	3840	4170	4350	4790	5250	5860	6230	6770	7220	7460	7910
30.5LR32	Single lbs.	NR	NR	6150	6600	6950	7600	8550	9100	9650			
	Dual lbs.	4470	5000	5410	5810	6120	6690	7520	8010	8490			
	Triple lbs.	4170	4660	5040	5410	5700	6230	7010	7460	7910			

Goodyear Tire and Rubber Co.

Load/Inflation Chart - Metric Size Radial Tires

Tire Size	Inflation Pressure	6 PSI	7 PSI	9 PSI	10 PSI	12 PSI	13 PSI	15 PSI	17 PSI	20 PSI	23 PSI	26 PSI	29 PSI
380/90R46	Single lbs.	NR	NR	3300	3640	3860	4180	4400	5080	5520	6150	6400	6800
	Dual lbs.	2490	2710	2900	3200	3400	3680	3870	4470	4860	5410	5630	5980
	Triple lbs.	2320	2530	2710	2980	3170	3430	3610	4170	4530	5040	5250	5580
480/80R38	Single lbs.	NR	NR	3960	4300	4540	4940	5200	5840	6600	7150		
	Dual lbs.	2900	3200	3480	3780	4000	4350	4580	5140	5810	6290		
	Triple lbs.	2710	2980	3250	3530	3720	4050	4260	4790	5410	5860		
480/80R42	Single lbs.	NR	NR	4080	4400	4800	5200	5520	6150	6950	7600		
	Dual lbs.	3010	3290	3590	3870	4220	4580	4860	5410	6120	6690		
	Triple lbs.	2800	3070	3350	3610	3940	4260	4530	5040	5700	6230		
480/80R46	Single lbs.	NR	NR	4300	4680	5080	5360	5680	6400	7150	7850	8250	8550
	Dual lbs.	3200	3480	3780	4120	4470	4720	5000	5630	6290	6910	7260	7520
	Triple lbs.	2980	3250	3530	3840	4170	4400	4660	5250	5860	6440	6770	7010
520/85R38	Single lbs.	NR	NR	4680	5080	5520	5840	6150	6950	7850	8550		
	Dual lbs.	3400	3780	4120	4470	4860	5140	5410	6120	6910	7520		
	Triple lbs.	3170	3530	3840	4170	4530	4790	5040	5700	6440	7010		
520/85R42	Single lbs.	NR	NR	4940	5360	5680	6150	6600	7400	8250	9100		
	Dual lbs.	3590	4000	4350	4720	5000	5410	5810	6510	7260	8010		
	Triple lbs.	3350	3720	4050	4400	4660	5040	5410	6070	6770	7460		
520/85R46	Single lbs.	NR	NR	5080	5520	6000	6400	6800	7600	8550	9350		
	Dual lbs.	3780	4120	4470	4860	5280	5630	5980	6690	7520	8230		
	Triple lbs.	3530	3840	4170	4530	4920	5250	5580	6230	7010	7670		
710/70R42	Single lbs.	NR	NR	6600	7150	7850	8250	8800	9900	11000	12300		
	Dual lbs.	4860	5410	5810	6290	6910	7260	7740	8710	9680	10820		
	Triple lbs.	4530	5040	5410	5860	6440	6770	7220	8120	9020	10090		

Goodyear Tire and Rubber Co.

Load/Inflation Chart - FWD Tires													
Standard Size Tire Size	Inflation Pressure	6 PSI	7 PSI	8 PSI	9 PSI	10 PSI	12 PSI	14 PSI	16 PSI	18 PSI	20 PSI	22 PSI	24 PSI
14.9R30	Single lbs.	NR	NR	2150	2270	2470	2680	3000	3200	3420	3640	3860	4080
	Dual lbs.	1600	1740	1890	2000	2170	2360	2640	2820	3010	3200	3400	3590
	Triple lbs.	1490	1620	1760	1860	2030	2200	2460	2620	2800	2980	3170	3350
Metric Size Tire Size	Inflation Pressure	6 PSI	7 PSI	9 PSI	10 PSI	12 PSI	13 PSI	15 PSI	17 PSI	20 PSI	23 PSI	26 PSI	29 PSI
380/65R30	Single lbs.	NR	NR	2600	2830	3000	3200	3420	3860	4300	4800		
	Dual lbs.	1890	2110	2290	2490	2640	2820	3010	3400	3780	4220		
	Triple lbs.	1760	1970	2130	2320	2460	2620	2800	3170	3530	3940		
380/65R34	Single lbs.	NR	NR	2760	3000	3200	3420	3640	4080	4540	5080	5360	5520
	Dual lbs.	2000	2240	2430	2640	2820	3010	3200	3590	4000	4470	4720	4860
	Triple lbs.	1860	2080	2260	2460	2620	2800	2980	3350	3720	4170	4400	4530
480/70R34	Single lbs.	NR	NR	3300	3640	3860	4180	4400	4940	5520	6000	6400	6600
	Dual lbs.	2430	2710	2900	3200	3400	3680	38970	4350	4860	5280	5630	5810
	Triple lbs.	2260	2530	2710	2980	3170	3430	3610	4050	4530	4920	5250	5410
380/80R38	Single lbs.	NR	NR	2760	3000	3200	3420	3640	4180	4540	5080	5360	5520
	Dual lbs.	2000	2240	2430	2640	2820	3010	3200	3680	4000	4470	4720	4860
	Triple lbs.	1860	2080	2260	2460	2620	2800	2980	3430	3720	4170	4400	4530

Ballasting CD

New Holland offers a variety of CD based tools to assist in preparing your tractor for the field. Contact your dealer for more information.



CD Rom Order # NH202013

Preventing Powerhop

On MFD tractors, powerhop occurs when the front axle attempts to out-pull the rear axle. On 4WD tractors, powerhop occurs when the rear axle attempts to out-pull the front axle.

Regardless of model or manufacturer, under certain conditions tractors may hop fore and aft or the tires may bounce up and down. You may experience this type of out-of-phase movement that results in a twisting motion of the tractor. Engineers call this type of movement “powerhopping” but some customers have termed it “grasshoppering.”

This results most commonly in heavy tillage operations with pull-type equipment.

What Causes Powerhopping?

- The tractor is not properly matched to the implement.
- Tire pressures are not properly balanced from front to rear.
- Improper tire size combinations are installed on the tractor (creating improper lead/lag ratio on the FWD equipped tractor).
- The operator is attempting to go too fast for the implement, the operation, or the operating conditions.
- Improper front to rear weight ratio on tractor.

Possible Solutions for Powerhopping Problems.

If powerhop occurs after following all of the guidelines on leveling implement tire size, weight split, ballast type, and inflation pressures, make the following adjustments to inflation pressures:

FWD

Raise front inflation pressure by 2 PSI. If powerhop is not eliminated, further front tire inflation pressure increases in 2 PSI increments is advised until hop is eliminated. Rear tire inflation pressures should remain at the correct pressures for the load. The maximum front pressure should not exceed 6 PSI above the maximum rated pressure for the tire (radial or bias.) If the tractor continues to powerhop, take weight off of the front axle.

4WD

Raise the rear inflation pressure from the correct inflation by 2 PSI. If powerhop is not eliminated, increasing rear tire inflation pressure in 2 PSI increments is advised until hop is eliminated. The maximum pressure should not exceed 6 PSI above the maximum rated pressure for the tire (radial or bias.) If raising the rear pressure fails to control hop, take weight off of the rear of the tractor. On extremely steep hillside operations, keep the fronts at the correct pressure for the load and raise the rear pressures.

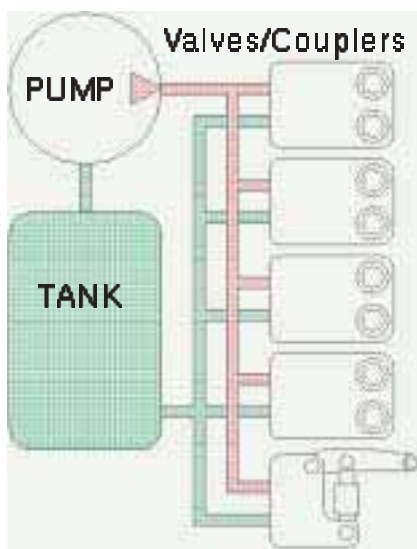
Hydraulic Productivity

The more demanding your application, the greater the need to properly manage the tractor hydraulic system. Proper circuit connection, use of the flow control, and removal of unintended circuit restrictions can improve hydraulic system performance.

A basic hydraulic circuit consists of:

- A pump
- Control valve(s)
- Hydraulic function
(steering, implement, 3-point hitch, or other).

Larger implements equipped with several lift cylinders will require more flow to properly lift and lower the implement. If the flow control is set to deliver the necessary flow requirement the operator can activate the circuit and tend to other necessary activities while the hydraulic circuit completes its cycle.



After connection, operate the circuit and adjust the flow control dial until the desired raise/lift time is obtained.

Megaflow Option

The optional megaflow pump adds an additional hydraulic pump to the system, an additional 29.4 gpm for a total hydraulic system output of 68 gpm overall. This is very beneficial when low flow high pressure is needed at the same time as high flow low pressure.

With the Megaflow option:

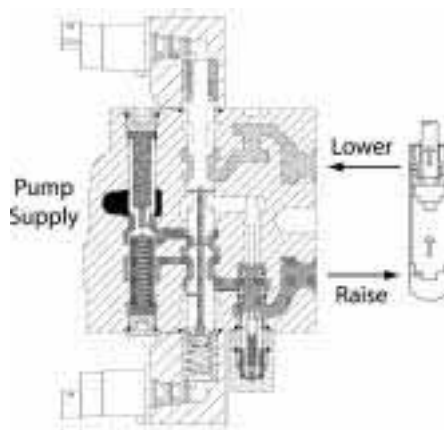
- The Megaflow pump supplies oil to remotes 3, 4, and 5.
- The standard pump supplies oil to steering, remotes 1 & 2, three-point hitch, and power beyond.

Hydraulic Connection Basics

Hydraulic circuits must be properly connected to the tractor to operate correctly.

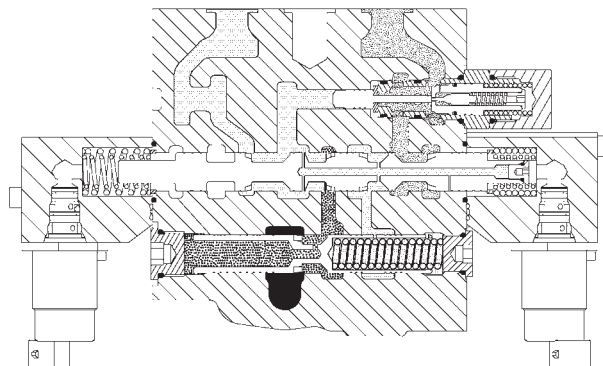
Implement Raise/Lower Cylinders

Implement raise/lower cylinders should be connected with the remote valve load check in the raise side of the circuit. If the cylinder is not connected in this way, the implement will settle while the control valve is in the neutral position.



Hydraulic Orbital Motors

- Orbital motors (sprayers, planters, etc.) should be connected with the motor supply connected to the lower side of the circuit.
- Orbital motor supply/return lines should not contain load checks or other in-line restrictions.
- The return side of the circuit should be connected to a motor return port. A motor return connection minimizes restrictions and improves operating efficiency in the hydraulic circuit.



A key to efficient tractor operation is knowing what your tractor is doing and understanding what's going on internally. The most effective tool for accomplishing this is the tractor's own instrumentation.

1. Tractor Monitor (Standard)

The Tractor Monitor displays basic tractor operations and provides an interface for configuration and calibration.

- Engine Oil Pressure
- Engine Coolant Temperature
- Fuel Level
- Operation Indicators (gear, direction, etc.)
- Warning Indicators

2. Performance Monitor (Optional)

The Performance Monitor displays performance related functions including:

- Engine Power (electronic engines only)
- Area Count
- Timer Function
- Slip Percentage
- Remote Hydraulic Flows
- Remote Hydraulic Timers
- Service Reminders
- Automatic Engine Shut-down Protection
- Custom Headland Management



With the optional performance monitor, performance items such as individual remote flow adjustments, fuel consumption, and more can be monitored on the screen.

Tractor Controls - TG and TJ Tractors

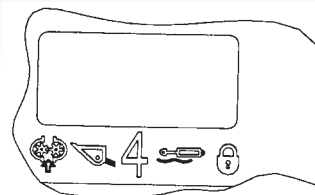
The remote control levers on TG and TJ tractors electronically activate the remote hydraulic circuits. The control levers have four positions:

- Raise
- Neutral
- Lower
- Float

Contact your New Holland dealer for a detailed demonstration on the proper use of the hydraulic controls.

Behind each control lever is a Remote Function control. The remote function control has five positions:

- Lock
- No Float
- Full Function
- Loader
- Hydraulic Motor



TG console shown.

MasterGold™ Engine Oil

Your engine takes a tremendous pounding day in and day out. But you can protect and preserve it with the best engine oil available — MasterGold.

MasterGold is a premium, high-performance diesel engine oil designed to stand up to the toughest operating conditions. Less susceptible to thermal and chemical breakdown, MasterGold provides excellent oil-consumption control and maximum engine-wear protection.

Compare before you buy. Use the engine oil specifically designed for your equipment and field conditions. Prolong your hard working engine's life with MasterGold heavy-duty engine oil.



MasterTran™ Fluid

Up to 70% of all transmission and hydraulic system failures are fluid related. So protect and preserve your equipment with MasterTran and prevent costly downtime.

MasterTran is blended to provide optimum machine performance and long life in the most severe operating conditions.

It provides superior wear protection for hydraulic components, drive train gears, and other transmission parts.

Controlled frictional characteristics provide safe, smooth operation of wet brakes and clutches.

Excellent filterability provides extra protection against system contamination.



Hypoide 140 Gear Lube

Recommended for differential and planetaries in TG tractors with FWD axles. This transmission and gear oil, with extreme pressure (E.P.) characteristics, is designed for hypoid gears and final drives of agricultural and construction equipment.



GR-9 Multipurpose Grease

GR-9 is a general purpose NLGI 2, lithium-soap, extreme-pressure grease for use in agricultural, construction and industrial equipment. GR-9 is for anti-friction and plain bearings (including non-disc brake wheel bearings), universal joints, spline shafts, water pumps and general chassis lubrication.



Systemgard® Oil Analysis

Let Systemgard oil analysis tell you what's really going on inside your engine, transmission, and hydraulic system. Detect potential problems early, spot trends, and keep small, easily fixed problems from becoming serious ones. See your New Holland dealer for more information.



New Holland Maintenance Inspections

Everyone agrees that routine inspections by trained technicians are essential to good maintenance. Inspections not only need to be routine, they need to be consistent with the needs of the equipment and its owner.

Our New Holland Maintenance Inspection programs are based upon prearranged inspections at intervals consistent with your needs. A professional and systematic approach to equipment service can:

- Reduce costly downtime.
- Extend the service life of your equipment.
- Increase machine productivity.

Ask about New Holland Maintenance Inspections today!

TG Tractors/TJ Tractors

Models TG210/TG230

Qty.	Filter Number	Description
1	86990980	Engine Oil
1	in-line 87400496 AND	Fuel
1	(primary) 86991002 &	
1	(final) 86991003	
1	87413809 AND 87413810	Hydraulic
1	451525A1	Air (outer)
1	451526A1	Air (inner)
1	86994156 AND	Cab
2	293615A1 (recirculating)	Cab
1	86990977	Coolant

Models TJ375/TJ425/TJ450

Qty.	Filter Number	Description
1	441700A1	Engine Oil
1	441701A1	Fuel
1	(near batt. compartment) 86018758 AND EITHER	Hydraulic
2	435140A1 (std hyd.) OR	
3	435140A1 (mega-flow)	
1	87408712	Air (outer)
1	87408713	Air (inner)
1	259288A1 AND 386751A1	Cab
1	441702A1	Coolant

Models TJ275/TJ325

Qty.	Filter Number	Description
1	441703A1	Engine Oil
1	448545A1 AND (in-line) 87400496	Fuel
1	(near batt. compartment) 86018758 AND EITHER	Hydraulic
2	435140A1 (std hyd.) OR	
3	435140A1 (mega-flow)	
1	87408704	Air (outer)
1	87408705	Air (inner)
1	259288A1 AND 386751A1	Cab
1	9672301	Coolant

Models TG255/TG285

Qty.	Filter Number	Description
1	86990980	Engine Oil
1	86991015 AND	Fuel
1	in-line 87400496	
1	87413809 AND 87413810	Hydraulic
1	451525A1	Air (outer)
1	451526A1	Air (inner)
1	86994156 AND	Cab
2	293615A1 (recirculating)	Cab
1	86990977	Coolant

Models TJ500

Qty.	Filter Number	Description
1	441700A1	Engine Oil
1	441701A1	Fuel
1	(near batt. compartment) 86018758 AND EITHER	Hydraulic
2	435140A1 (std hyd.) OR	
3	435140A1 (mega-flow)	
1	87417042	Air (outer)
1	87417043	Air (inner)
1	259288A1 AND 386751A1	Cab
1	441702A1	Coolant



Protect your equipment with genuine New Holland filters and lubricants.

TG Tractors/TJ Tractors

Oil/Filter Change Intervals & Capacities	Hours/Yrs.	Capacity w/ Filter
Engine Oil/Filter	300	5.5G (21L)
Fuel Filters	600	—
Engine Coolant Filter	600	—
FWD Differential Oil* - Standard/TerraGlide - 10-Bolt Axle	1200 / 1 Yr	13Qts (12.3L)
- Standard/TerraGlide - 12-Bolt Axle		12.5Qts (11.8L)
- SuperSteer		14Qts (13.2L)
FWD Planetary Oil (Each) - 10-Bolt Axle	1200 / 1 Yr	3 Pints (1.4L)
- 12-Bolt Axle		7 Pints (3.3L)
Transmission Oil, Filter(s) & Breather	1500	45.5G (172L)
Engine Coolant & Coolant Conditioner - TG210/230	2100	6G (22.7L)
- TG255/285		6.5G (24.6L)
Engine Primary & Secondary Air Filters	as required	—
Cab Air & Recirculation Filters	as required	—

* When changing FWD differential oil, also add 1 pint New Holland Limited Slip Additive (B96606).

NOTE: See your operator manual for complete information.

Oil/Filter Change Intervals & Capacities	Hours/Yrs.	Capacity w/ Filter
Engine Oil/Filter - TJ275	500 / 6 mos.	6.3G (24L)
- TJ325		7.3G (28L)
- TJ375/425/450		13G (49L)
Fuel Filter	500 / 6 mos.	—
Engine Coolant Filter	1500 / 1 Yr.	—
Engine Air Filters - Primary & Secondary	1500 / 1 Yr.	—
Axle/Hydraulic Oil - TJ275/325	1500 / 1 Yr.	63G (238L)*
- TJ375/425/450		69G (261L)*
Axle Lube Filter	1500 / 1 Yr.	—
Hydraulic Oil Filter	1500 / 1 Yr.	—
Megaflow Oil Filter (Option)	1500 / 1 Yr.	—
Transmission Oil - with PTO	1500 / 1 Yr.	13.5G (51.1L)
- without PTO		13G (49.2L)
Transmission Oil Filter	1500 / 1 Yr.	—
Cab Air Filter	1500 / 1 Yr.	—
Engine Coolant & Coolant Conditioner - TJ275	6000 / 2 Yr.	11.4G (43L)
- TJ325		12.4G (47L)
- TJ375/425/450		21.2G (80L)

* Total Axle System Capacity includes filters, front and rear axle and reservoir. If TPH equipped add 5G (19L).

NOTE: More frequent changes may be signaled by service monitor. Operator manual has complete information.

NOTES

<https://truckmanualshub.com/>

Put the specialists at New Holland to work for you

New Holland and your local New Holland dealer are specialists in helping you make the best choices for productivity and profitability. It starts with innovative New Holland equipment and continues with expert service and support programs that are built around your needs.



From tractors to haytools to combines and more, you won't find a more comprehensive range of equipment than the New Holland brand ... or a business partner with a broader range of expertise than your New Holland dealer. Committed to your success, your dealer will work hand-in-hand with you to determine which New Holland equipment is right for your operation.

To keep you moving forward, your New Holland dealer will assist you with competitive-rate finance, lease and insurance plans available through New Holland Credit — customer-tailored



plans designed to maximize

cash flow and preserve working capital. Talk to your dealer, too, about the

purchasing convenience afforded by the New Holland Plan.



And, after the sale, turn to your dealer for factory-trained service and total parts support. Your New Holland dealer is ready to

answer all your questions, help in any decisions, and resolve problems — in the field or at the dealership. You wouldn't expect anything less from a specialist who understands the way you work.

See your New Holland dealer today and talk to the specialists.



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Safety begins with a thorough understanding of the equipment. Always make sure you and your operators read the Operator's Manual before using the equipment. Pay close attention to all safety and operating decals and never operate machinery without all shields, protective devices and structures in place.