Product: New Holland MY16/MY17/MY19 Tractor Service Repair Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/

NEW HOLLAND

MY16
MY17
MY19

REPAIR MANUAL

NEW HOLLAND

SERVICE

Sample of manual. Download All 166 pages at:
https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/

Product: New Holland MY16/MY17/MY19 Tractor Service Repair Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/

MY16, MY17, MY19 REPAIR MANUAL CONTENTS

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

The sections listed above are the sections utilized for the MY16, MY17, and MY19 series tractors.

Sample of manual. Download All 166 pages at:
https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/

SECTION 1 - GENERAL INFORMATION

CONTENTS

This symbol means WARNING or PERSONAL SAFETY INSTRUCTION - read the instruction because it has to do with your safety. Failure to comply with the instruction may result in personal injury or even death.

This manual is intended as a service and repair manual only. The safety instructions provided herein are for troubleshooting, service, and repair of the MY16, MY17, MY19 tractors. The MY16, MY17, MY19 tractors and attachment operator's manuals contain safety information and operating tips for safe operating practices. Operator's manuals are available through your New Holland dealer.

THINK SAFETY FIRST

AVOID UNEXPECTED STARTING OF ENGINE...

Always turn off the engine and disconnect the spark plug wire(s) before cleaning, adjusting, or repair.

AVOID LACERATIONS AND AMPUTATIONS...

Stay clear of all moving parts whenever the engine is running. Treat all normally moving parts as if they were moving whenever the engine is running or has the potential to start.

AVOID BURNS...

Do not touch the engine, muffler, or other components which may increase in temperature during operation, while the unit is running or shortly after it has been running.

AVOID FIRES AND EXPLOSIONS...

Avoid spilling fuel and never smoke while working with any type of fuel or lubricant. Wipe up any spilled fuel or oil immediately. Never remove the fuel cap or add fuel when the engine is running. Always use approved, labeled containers for storing or transporting fuel and lubricants.

AVOID ASPHYXIATION...

Never operate an engine in a confined area without proper ventilation.

AVOID INJURY FROM BATTERIES...

Battery acid is poisonous and can cause burns. Avoid contact with skin, eyes, and clothing. Battery gases can explode. Keep cigarettes, sparks, and flames away from the battery.

AVOID INJURY DUE TO INFERIOR PARTS...

Use only original equipment parts to ensure that important safety criteria are met.

AVOID INJURY TO BYSTANDERS...

Always clear the area of bystanders before starting or testing powered equipment.

AVOID INJURY DUE TO PROJECTILES...

Always clear the area of sticks, rocks, or any other debris that could be picked up and thrown by the powered equipment.

AVOID MODIFICATIONS...

Never alter or modify any part unless it is a factory approved procedure.

AVOID UNSAFE OPERATION...

Always test the safety interlock system after making adjustments or repairs on the machine. Refer to the Electrical section in this manual for more information.

GARDEN TRACTOR SPECIFICATIONS

	MY16	MY17	MY19
ENGINE			
Type	Kohler	Kawasaki	Kawasaki
Model	CV460S	FH500V	FH5000
Horsepower	16.0 HP@3600 RPM	17.0 HP@3600 RPM	19.0 HP@3600 RPM
Cylinders	Single	Single	Double
Displacement	460CC	494CC	540CC
No Load Speed	3250 ±100 RPM	3250 ±100 RPM	3250 ±100 RPM
Electric Start	12V Bendix Drive	12V Bendix Drive	12V Bendix Drive
DC Alternator	15 amp regulated	13 amp regulated	13 amp regulated
Valve Rotators	Exhaust & Intake	Exhaust & Intake	Exhaust & Intake
Other	Cast iron sleeve, Smart choke, Dynamic balanced, Fuel pump, Solid mounted, Vertical shaft, Solid state ignition, Hydraulic lifters, Dry-type air cleaner w/ pre-cleander, Overhead valve, Separate choke and throttle, C.A.R.B. certified, Pressure lubricated with oil filter	Cast iron sleeve, Smart choke, Dynamic balanced, Fuel pump, Solid mounted, Vertical shaft, Electronic spark ignition, Hydraulic lifters, Dry-type air cleaner w/pre-cleander, Overhead valve, Separate choke and throttle, Solenoid fuel shut off, Dual element air cleaner, Fixed jet carburetor, C.A.R.B. certified, Pressure lubricated with oil filter	Cast iron sleeve, Smart choke, Dynamic balanced, Fuel pump, Solid mounted, Vertical shaft, Electronic spark ignition, Hydraulic lifters, Dry-type air cleaner w/ pre-cleander, Overhead valve, Temperature sensor, Separate choke and throttle, Solenoid fuel shut off, Dual element air cleaner, Fixed jet carburetor, C.A.R.B. certified, Pressure lubricated with oil filter
CONSTRUCTION			
Frame	Welded 2” x 2” x 1/4” angle frame	Welded 2” x 2” x 1/4” angle frame	Welded 2” x 2” x 1/4” angle frame
Other	Plastic console, Plastic hood and grille, Steel fender, Rubber footrest mats, V-511 Seat w/ springs, flip plate & no tool adjustment	Plastic console, Plastic hood and grille, Steel fender, Rubber footrest mats, V-511 Seat w/ springs, flip plate & no tool adjustment	Plastic console, Plastic hood and grille, Steel fender, Rubber footrest mats, V-511 Seat w/ springs, flip plate & no tool adjustment
FUEL SYSTEM			
Capacity	3.9 gals (14.7 l)	3.9 gals (14.7 l)	3.9 gals (14.7 l)
Type	Rear mounted tank	Rear mounted tank	Rear mounted tank
Other	Fuel shut-off valve, Fuel filter, Kelch cap w/top vent, 3” filler neck	Fuel shut-off valve, Fuel filter, Kelch cap w/ top vent, 3” filler neck	Fuel shut-off valve, Fuel filter, Kelch cap w/top vent, 3” filler neck, Electronic low fuel sensor

	MY16	MY17	MY19
TRACTION SYSTEM			
Transaxles	Hydro-Gear 330-3000 Hydrostatic	Hydro-Gear 330-3000 Hydrostatic	Hydro-Gear 330-3000 Hydrostatic
Ground Speed	@3250 RPM, 0-6.8-MPH (0-11.5 km/hr) forward, 0-3.2-MPH (0-5.1 km/hr) reverse	@3250 RPM, 0-6.8-MPH (0-11.5 km/hr) forward, 0-3.2-MPH (0-5.1 km/hr) reverse	@3250 RPM, 0-6.8-MPH (0-11.5 km/hr) forward, 0-3.2-MPH (0-5.1 km/hr) reverse
TIRES			
Rear Tires	23 x 10.50-12 Super turf tread	23 x 10.50-12 Super truf tread	23 x 10.50-12 Super truf tread
Front Tires	16 x 6.50-8 Super turf tread w/ball bearings	16 x 6.50-8 Super turf tread w/ball bearings	16 x 6.50-8 Super turf tread w/ball bearings
STEERING			
Steering Wheel	14” Comfort Grip	14” Deluxe Comfort Grip	14” Deluxe Comfort Grip
Front Wheel Spindle	.75” Dia.	.75” Dia.	.75” Dia.
Tilt Wheel	4 position	4 position	4 position
Turning Radius	16” (406.4 mm) RH & LH	16” (406.4 mm) RH & LH	16” (406.4 mm) RH & LH
Other	1.5 turns lock-to-lock	1.5 turns lock-to-lock	1.5 turns lock-to-lock
CONTROLS	Single lever attachment lift, All controls located for easy operator access, Disk brake operated by neutral return/brake pedal, lever operated choke, Lever operated throttle, Single groove electric PTO clutch	Single lever attachment lift, All controls located for easy operator access, Disk brake operated by neutral return/brake pedal, lever operated choke, Lever operated throttle, Single groove electric PTO clutch, Cruise control	Single lever attachment lift, All controls located for easy operator access, Disk brake operated by neutral return/brake pedal, lever operated choke, Lever operated throttle, Single groove electric PTO clutch, Cruise control
ELECTRICAL SYSTEM			
Battery Type	260CCA	340CCA	340CCA
Button Switch Inside Seat.	2 light warning system PTO and “KeyChoice”	4 light indicator system PTO and “KeyChoice”, battery, cruise	6 light indicator system PTO and “KeyChoice”, battery, cruise
Fuses	25 amp, Charge circuit 30 amp, Main circuit 10 amp, Light circuit 10 amp, Dash circuit	25 amp, Charge circuit 30 amp, Main circuit 10 amp, Light circuit 10 amp, Dash circuit	25 amp, Charge circuit 30 amp, Main circuit 10 amp, Light circuit 10 amp, Dash circuit

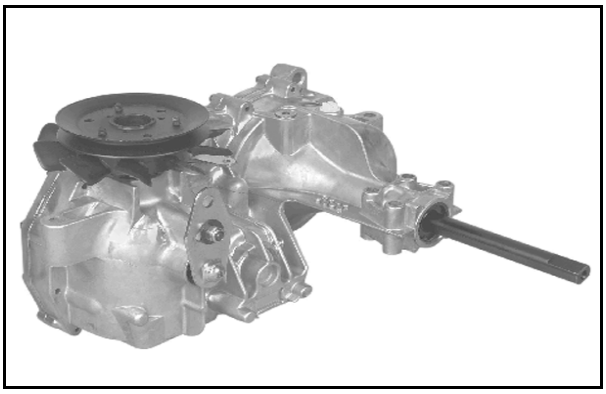
	MY16	MY17	MY19
Other.....	Bulb headlights, Rear reflectors, hourmeter	Bulb headlights, Rear reflectors, hourmeter	Bulb headlights, Rear reflectors, hourmeter
LUBRICATON FITTINGS			
Wheel Spindles.....	2 Fittings	2 Fittings	2 Fittings
Front Wheels	2 Fittings	2 Fittings	2 Fittings
Axle Pivot.....	1 Fittings	1 Fittings	1 Fittings
Hydro Pedal.....	N/A	1 Fitting	1 Fitting
DIMENSIONS			
Wheel Base	49.5” (1257.3 mm)	49.5” (1257.3 mm)	49.5” (1257.3 mm)
Tread Width	35.5” (901.7 mm) Front outside to outside 35.0” (889 mm) Rear outside to outside	35.5” (901.7 mm) Front outside to outside 35.5” (901.7 mm) Rear outside to outside	35.5” (901.7 mm) Front outside to outside 35.5” (901.7 mm) Rear outside to outside
Height	42.2” (1071.88 mm)	42.2” (1071.88 mm)	42.2” (1071.88 mm)
Width	35.5” (901.7 mm) (without mower)	35.5” (901.7 mm) (without mower)	35.5” (901.7 mm) (without mower)
Length.....	71.0” (1803.4 mm)	71.0” (1803.4 mm)	71.0” (1803.4 mm)
Ground Clearance	10.2” (259.08 mm) Front Axle 6.75” (171.45 mm) Rear Axle	10.2” (259.08 mm) Front Axle 6.75” (171.45 mm) Rear Axle	10.2” (259.08 mm) Front Axle 6.75” (171.45 mm) Rear Axle
WEIGHT			
Net Weight.....	530 lbs. (240.4 kg)	560 lbs. (254 kg)	580 lbs. (263 kg)
Shipping.....	614 lbs. (278.5 kg)	664 lbs. (301.2 kg)	664 lbs. (301.2 kg)
OPTIONAL EQUIPMENT			
Mowers			
Bagging Attachments			
Ground Tools			
Snow Attachments			
Kits			
Miscellaneous			
Accessories			
SAFETY			
Starter Interlocks	PTO Drive, Brake, Seat, Traction Drive	PTO Drive, Brake, Seat, Traction Drive	PTO Drive, Brake, Seat, Traction Drive
Operator Presence Interlock.....	PTO Drive, Traction Drive, NMIR, Meets ANSI B71.1-1998	PTO Drive, Traction Drive, NMIR, Meets ANSI B71.1-1998	PTO Drive, Traction Drive, NMIR, Meets ANSI B71.1-1998

MOWER SPECIFICATIONS

	42”	48”	52”
CONSTRUCTION			
Deck	12 gauge formed steel deck	12 gauge formed steel deck w/7 gauge reinforcement plate	12 gauge formed steel deck
Spindle Shafts	Three 17 mm diameter	Three 17 mm diameter	Three 25 mm diameter
Other	Relubable spindle bearings, Ground supported, Three front, Two rear anti-scalp rollers, Attaches to mid Attach-A-Matic hitch, Flip-up deflector	Relubable spindle bearings, Ground supported, Three front, Two rear anti-scalp rollers, Attaches to mid Attach-A-Matic hitch, Flip-up deflector	Relubable spindle bearings, Ground supported, Three front, Two rear anti-scalp rollers, Attaches to mid Attach-A-Matic hitch, Flip-up deflector
DIMENSIONS			
Cutting Width.....	41” (1041.4 mm)	47.1” (1196.34 mm)	52” (1320.8 mm)
Overall Width.....	54” (1371.6 mm) (deflector down) 49 inches (deflector up)	49” (1244.6 mm) (deflector down) 54 inches (deflector up)	65” (1651 mm) (deflector down) 58 inches (deflector up)
Cutting Height.....	1.0” to 4.0” (25.4 to 101.6 mm) (five positions)	1.0“ to 4.0” (25.4 to 101.6 mm) (seven positions)	1.0” to 4.0” (25.4 to 101.6 mm) (seven positions)
Blade Tip Speed.....	15,772 fpm center blade @ 3250 RPM engine speed 16,730 fpm outside blades @3250 RPM engine speed	15,942 fpm center blade @ 3250 RPM engine speed 16,948 fpm outside blades @3250 RPM engine speed	16,647 fpm center blade @3250 RPM engine speed
Uncut Circle.....	53” (1346.2 mm) or less (LH) (16” tractor through radius	44” (1117.6 mm) or less (LH) (16” tractor through radius	29” (736.6 mm) or less (LH) (16” tractor through radius
WEIGHT			
Unit.....	142 lbs. (64.4 kg)	165 lbs. (78.4 kg)	188 lbs. (85.3 kg)
Shipping	170 lbs. (77.1 kg)	195 lbs. (88.5 kg) (approx.)	216 lbs. (98 kg) (approx.)

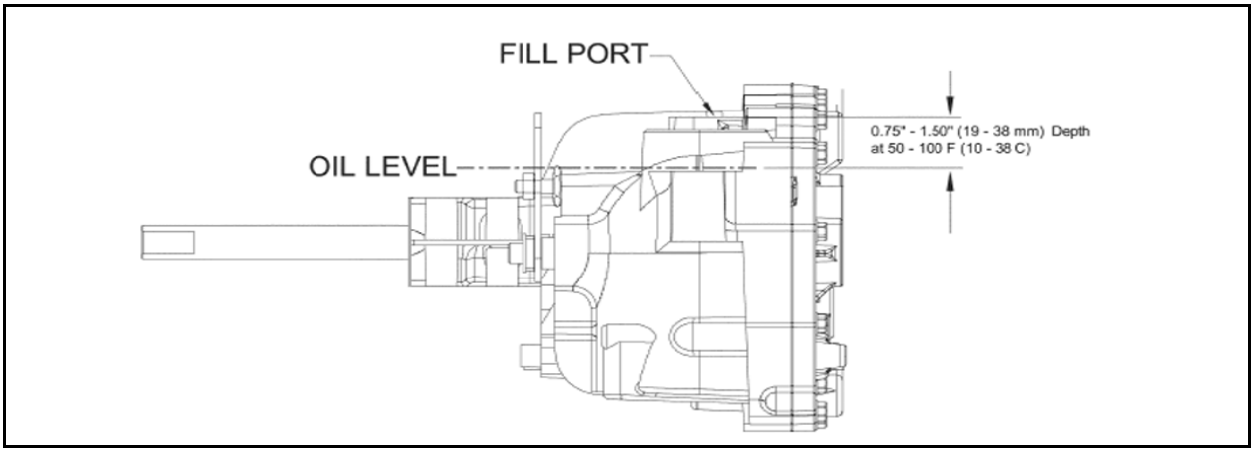
	42”	48”	52”
SAFETY	Certified to ANSI B71.1-1996 standards	Certified to ANSI B71.1-1996 standards	Certified to ANSI B71.1-1996 standards

HYDROSTATIC TRANSAXLES

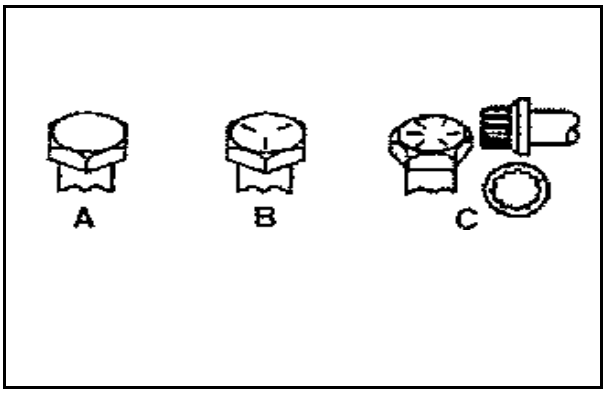


.

GENERAL SPECIFICATIONS	
Lubrication	SAE 20W-50 API Classification SH/CD Oil
Oil Capacity	3.8 qts. (3.6 l)
Oil Level	The transaxle is a sealed system and does not require periodic checking. If the oil needs to be checked, IT CAN ONLY BE CHECKED COLD. There is a plug located on the right rear side of the transaxle. Using a 1/4 inch Allen wrench, slowly remove the plug. Oil level should be to the bottom of the port.

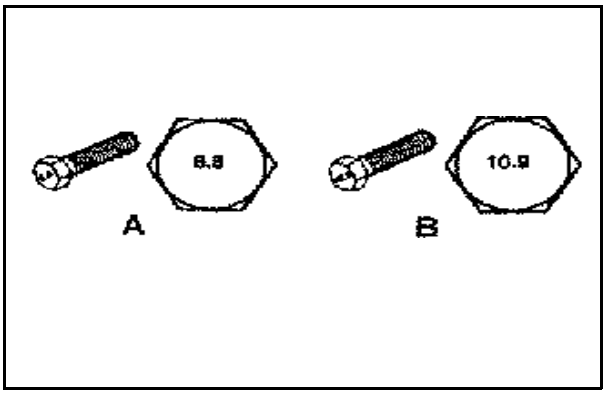


TORQUE SPECIFICATIONS



Recommended fastener torque values are listed in the following tables. For critical applications, as determined by New Holland, either the recommended torque or a torque that is unique to the application is clearly identified and specified in the service manual.

These torque specifications for the installation and tightening of fasteners shall apply to all fasteners which do not have a specific requirement identified in the service manual. The following factors shall be considered when applying torque: cleanliness of the fasteners, use of a thread sealant (Loctite), degree of lubrication on the fastener, presence of a prevailing torque feature, hardness of the surface underneath of the fastener's head, or similar condition which affects the installation.



As noted in the following tables, torque values should be reduced by 25% for lubricated fasteners to achieve the similar stress as a dry fasteners. Torque values may also have to be reduced when the fastener is threaded into aluminum or brass. The specific torque value should be determined based on the aluminum or brass material strength, fastener size, length of thread engaement, etc.

INCH SERIES BOLTS AND SCREWS	
(A) Grade 1	(C) Grade 8
(B) Grade 5	

METRIC BOLTS AND SCREWS	
(A) Class 8.8	(B) Class 10.9

The standard method of verifying torque shall be performed by marking a line on the fastener (head or nut) and mating part, then back off fastener 1/4 of a turn. Measure the torque required to tighten the fastener until the lines match up.

STANDARD TORQUE FOR DRY, ZINC PLATED, AND STEEL FASTENERS (INCH SERIES)

THREAD SIZE	GRADE 1, 5, & 8 WITH THIN HEIGHT NUTS	SAE GRADE 1 BOLTS, SCREWS, STUDS, & SEMS WITH REGULAR HEIGHT NUTS (SAE J995 GRADE 2 OR STRONGER NUTS)		SAE GRADE 5 BOLTS, SCREWS, STUDS, & SEMS WITH REGULAR HEIGHT NUTS (SAE J995 GRADE 2 OR STRONGER NUTS		SAE GRADE 8 BOLTS, SCREWS, STUDS, & SEMS WITH REGULAR HEIGHT NUTS (SAE J995 GRADE 2 OR STRONGER NUTS	
	In-lb	**In-lb**	**N-cm**	**In-lb**	**N-cm**	**In-lb**	**N-cm**
# 6 - 32 UNC	10 ± 2	13 ± 2	147 ± 23	15 ± 2	170 ± 20	23 ± 2	260 ± 20
# 6 - 40 UNF				17 ± 2	190 ± 20	25 ± 2	280 ± 20
# 8 - 32 UNC	13 ± 2	25 ± 2	282 ± 30	29 ± 3	330 ± 30	41 ± 4	460 ± 45
# 8 -36 UNF				31 ± 3	350 ± 30	43 ± 4	31 ± 3
# 10 - 24 UNC	18 ± 2	30 ± 5	339 ± 56	42 ± 4	475 ± 45	60 ± 6	674 ± 70
# 10 - 32 UNF				48 ± 4	540 ± 45	68 ± 6	765 ± 70
1/4 - 20 UNC	48 ± 7	53 ± 7	599 ± 79	100 ± 10	1125 ± 100	140 ± 15	1580 ± 170
1/4 - 28 UNF	53 ± 7	65 ± 10	734 ± 113	115 ± 10	1300 ± 100	160 ± 15	1800 ± 170
5/16 - 18 UNC	115 ± 15	105 ± 17	1186 ± 169	200 ± 25	2250 ± 280	300 ± 30	3390 ± 340
5/16 - 24 UNF	138 ± 17	128 ± 17	1446 ± 192	225 ± 25	2540 ± 280	325 ± 30	3670 ± 340
	ft-lb	**ft-lb**	**N-m**	**ft-lb**	**N-m**	**ft-lb**	**N-m**
3/8 - 16 UNC	16 ± 2	16 ± 2	22 ± 3	30 ± 3	41 ± 4	43 ± 4	58 ± 5
3/8 - 24 UNF	17 ± 2	18 ± 2	24 ± 3	35 ± 3	47 ± 4	50 ± 4	68 ± 5
7/16 - 14 UNC	27 ± 3	27 ± 3	37 ± 4	50 ± 5	68 ± 7	70 ± 7	68 ± 9
7/16 - 20 UNF	29 ± 3	29 ± 3	39 ± 4	55 ± 5	75 ± 7	77 ± 7	104 ± 9
1/2 - 13 UNC	30 ± 3	48 ± 7	65 ± 9	75 ± 8	102 ± 11	105 ± 10	142 ± 14
1/2 - 20 UNF	32 ± 3	53 ± 7	72 ± 9	85 ± 8	115 ± 11	120 ± 10	163 ± 14
5/8 - 11 UNC	65 ± 10	88 ± 12	119 ± 16	150 ± 15	203 ± 20	210 ± 20	285 ± 27
5/8 - 18 UNF	75 ± 10	95 ± 15	129 ± 20	170 ± 15	230 ± 20	240 ± 20	325 ± 27
3/4 - 10 UNC	93 ± 12	140 ± 20	190 ± 27	265 ± 25	359 ± 34	374 ± 35	508 ± 47
3/4 - 16 UNF	115 ± 15	165 ± 25	224 ± 34	300 ± 25	407 ± 34	420 ± 35	569 ± 47
7/8 - 9 UNC	140 ± 20	225 ± 25	305 ± 34	430 ± 45	583 ± 61	600 ± 60	813 ± 81
7/8 - 14 UNF	155 ± 25	260 ± 30	353 ± 41	475 ± 45	644 ± 61	660 ± 60	895 ± 81

NOTE: *Reduce torque values listed in the table above by 25% for lubricated fasteners. Lubricated fasteners are defined as threads coated with a lubricant such as oil, graphite, or thread sealant such as Loctite.*

NOTE: *Torque values may have to be reduced when installing fasteners into threaded aluminum or brass. The specific torque value should be determined based on the fastener size, the aluminum or base material strength, length of thread engagement, etc.*

NOTE: *The nominal torque values listed above for Grade 5 and 8 fasteners are based on 75% of the minimum proof load specified in SAE J429. The tolerance is approximately ± 10% of the nominal torque value. Thin height nuts include jam nuts.*

STANDARD TORQUE FOR DRY, ZINC PLATED, AND STEEL FASTENERS (METRIC FASTENERS)

THREAD SIZE	CLASS 8.8 BOLTS, SCREWS, AND STUDS WITH REGULAR HEIGHT NUTS (CLASS 8 OR STRONG NUTS)		CLASS 10.9 BOLTS, SCREWS, AND STUDS WITH REGULAR HEIGHT NUTS (CLASS 10 OR STRONG NUTS)	
M5 x 0.8	57 ± 5 in-lb	640 ± 60 N-cm	78 ± 7 in-lb	885 ± 80 N-cm
M6 x 1.0	96 ± 9 in-lb	1018 ± 100 N-cm	133 ± 13 in-lb	1500 ± 150 N-cm
M8 x 1.25	19 ± 2 ft-lb	26 ± 3 N-m	27 ± 2 ft-lb	36 ± 3 N-m
M10 x 1.5	38 ± 4 ft-lb	52 ± 5 N-m	53 ± 5 ft-lb	72 ± 7 N-m
M12 x 1.75	66 ± 7 ft-lb	90 ± 10 N-m	92 ± 9 ft-lb	125 ± 12 N-m
M16 x 2.0	166 ± 15 ft-lb	225 ± 20 N-m	229 ± 22 ft-lb	310 ± 30 N-m
M20 x 2.5	325 ± 33 ft-lb	440 ± 45 N-m	450 ± 37 ft-lb	610 ± 50 N-m

NOTE: *Reduce torque values listed in the table above by 25% for lubricated fasteners. Lubricated fasteners are defined as threads coated with a lubricant such as oil, graphite, or thread sealant such as Loctite.*

NOTE: *Torque values may have to be reduced when installing fasteners into threaded aluminum or brass. The specific torque value should be determined based on the fastener size, the aluminum or base material strength, length of thread engagement, etc.*

NOTE: *The nominal torque values listed above are based on 75% of the minimum proof load specified in SAE J1199. The tolerance is approximately ± 10% of the nominal torque value. Thin height nuts include jam nuts.*

OTHER TORQUE SPECIFICATIONS

SAE GRADE 8 STEEL SET SCREWS

THREAD SIZE	RECOMMENDED TORQUE	
	SQUARE HEAD	HEX SOCKET
1/4 - 20 UNC	140 ± 20 in-lb	73 ± 12 in-lb
5/16 - 18 UNC	215 ± 35 in-lb	145 ± 20 in-lb
3/8 - 16 UNC	35 ± 10 ft-lb	18 ± 3 ft-lb
1/2 - 13 UNC	75 ± 15 ft-lb	50 ± 10 ft-lb

WHEEL BOLTS AND LUG NUTS

THREAD SIZE	RECOMMENDED TORQUE**	
7/16 - 20 UNF Grade 5	65 ± 10 ft-lb	88 ± 14 N-m
1/2 - 20 UNF Grade 5	80 ± 10 ft-lb	108 ± 14 N-m
M12 x 1.25 Class 8.8	80 ± 10 ft-lb	108 ± 14 N-m
M12 x 1.5 Class 8.8	80 ± 10 ft-lb	108 ± 14 N-m

** For steel wheels and non-lubricated fasteners.

THREAD CUTTING SCREWS (ZINC PLATED STEEL)

TYPE 1, TYPE 23, OR TYPE F	
THREAD SIZE	BASELINE TORQUE*
No. 6 - 32 UNC	20 ± 5 in-lb
No. 8 - 32 UNC	30 ± 5 in-lb
No. 10 - 24 UNC	38 ± 7 in-lb
1/4 - 20 UNC	85 ± 15 in-lb
5/16 - 18 UNC	110 ± 20 in-lb
3/8 - 16 UNC	200 ± 100 in-lb

THREAD CUTTING SCREWS (ZINC PLATED STEEL)

THREAD SIZE	THREADS PER INCH		BASELINE TORQUE*
	TYPE A	TYPE B	
No. 6	18	20	20 ± 5 in-lb
No. 8	15	18	30 ± 5 in-lb
No. 10	12	16	38 ± 7 in-lb
No.12	11	14	85 ± 15 in-lb

* Hole size, material strength, material thickness and finish must be considered when determining specific torque values. All torque values are based on non-lubricated fasteners.

Conversion Factors

in-lb x 11.2985 - N-cm
ft-lb x 1.3558 = N-m

N-cm x 0.08851 = in-lb
N-cm x 0.73776 - ft-lb

EQUIVALENTS AND CONVERSIONS

DECIMAL AND MILLIMETER EQUIVALENTS

FRACTIONS	DECIMALS	MM	FRACTIONS	DECIMALS	MM
1/64	0.015625	0.397	33/64	0.515625	13.097
1/32	0.03125	0.794	16/32	0.53125	13.484
3/64	0.046875	1.191	35/64	0.546875	13.891
1/16	0.0625	1.588	9/16	0.5625	14.288
5/64	0.078125	1.984	37/64	0.578125	14.684
3/32	0.9375	2.381	19/32	0.59375	15.081
1/8	0.1250	3.175	5/8	0.6250	15.875
9/64	0.140625	3.572	41/64	0.640625	16.272
5/32	0.15625	3.969	21/32	0.65625	16.669
11/64	0.171875	4.366	43/64	0.671875	17.066
3/16	0.1875	4.762	11/16	0.6875	17.462
13/64	0.203125	5.159	45/64	0.703125	17.859
7/32	0.21875	5.556	23/32	0.71875	18.256
15/64	0.234375	5.953	47/64	0.734375	18.653
1/4	0.2500	6.350	3/4	0.7500	19.050
17/64	0.265625	6.747	49/64	0.765625	19.447
9/32	0.28125	7.144	25/32	0.78125	19.844
19/64	0.296875	7.541	51/64	0.796875	20.241
5/16	0.3125	7.541	13/16	0.8125	20.638
21/64	0.328125	8.334	53/64	0.828125	21.034
11/32	0.34375	8.731	27/32	0.84375	21.431
23/64	0.359375	9.128	55/64	0.859375	21.828
3/8	0.3750	9.525	7/8	0.8750	22.225
25/64	0.390625	9.922	57/64	0.890625	22.622
13/32	0.40625	10.319	29/32	0.90625	23.019
27/64	0.421875	10.716	59/64	0.921875	23.416
7/16	0.4375	11.112	15/16	0.9375	23.812
29/64	0.453125	11.509	61/64	0.953125	24.209
15/32	0.46875	11.906	31/32	0.96875	24.606
31/64	0.484375	12.303	63/64	0.984375	25.003
1/2	0.5000	12.700	1	1.000	25.400
1 mm = 0.03937 in.			0.001 in. = 0.0254 mm		

U.S. METRIC CONVERSIONS

	TO CONVERT	INTO	MULTIPLY BY
Linear Measurement	Miles	Kilometers	1.609
	Yards	Meters	0.9144
	Feet	Meters	0.3048
	Feet	Centimeters	30.48
	Inches	Meters	0.0254
	Inches	Centimeters	2.54
	Inches	Millimeters	25.4
Area	Square Miles	Square Kilometers	2.59
	Square Feet	Square Meters	0.0929
	Square Inches	Square Centimeters	6.452
	Acre	Hectare	0.4047
Volume	Cubic Yards	Cubic Meters	0.7646
	Cubic Feet	Cubic Meters	0.02832
	Cubic Inches	Cubic Centimeters	28.3495
Weight	Tons (Short)	Metric Tons	0.9078
	Pounds	Kilograms	0.4536
	Ounces	Grams	28.3495
Pressure	Pounds/Sq.In.	Kilopascal	6.895
Work	Foot-pounds	Newton-Meters	1.356
	Foot-pounds	Kiogram-Meters	0.1383
	Inch-pounds	Kilogram-Centimeters	1.152144
Liquid Volume	Quarts	Liters	0.9463
	Gallons	Liters	3.785
Liquid Flows	Gallons/Minute	Liters/Minute	3.785
Temperature	Fahrenheit	Celsius	1. Subtract 32° 2. Multiply by 5/9

SECTION 2 - MODEL/SERIAL NUMBER LOCATION

CONTENTS

MODEL AND SERIAL NUMBER LOCATION

The model and serial number plate location is under the seat.

SECTION 3 - GREASING AND LUBRICATION

CONTENTS

GREASING AND LUBRICATION

The machine should be greased every 50 hours or yearly, whichever occurs first. You should grease more frequently when operating conditions are extremely dusty or sandy.

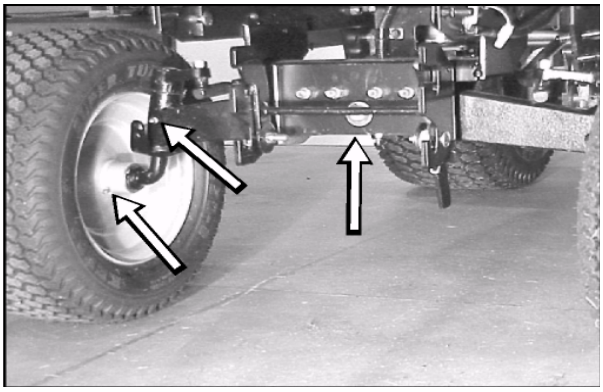
Grease type: New Holland Ambra GR-9 multi-purpose grease (general purpose lithium base grease).

There are six grease fittings total on the tractor; five grease fittings are located in the front axle area:

1. One located on the inside of each wheel hub (two total).

2. One located on each end of the front axle for the spindles (two total).

3. One located on the front axle pivot area (one total).



4. One located on the forward/reverse pedal.

SECTION 4 - TRANSAXLE

CONTENTS

GENERAL DESCRIPTION

The transaxle is a self contained unit designed for the transfer and control of power. It provides an infinitely variable speed range between zero and maximum in both forward and reverse modes of operation.

This transaxle uses a variable displacement pump with a maximum displacement of 10cc per revolution, and motor with a fixed displacement of 21cc per revolution. The variable displacement pump features a cradle swashplate with a direct-proportional displacement control. Reversing the direction of the swashplate reverses the flow of oil from the pump and thus reverses the direction of the motor output rotation. The pump and motor are of the axial piston design and utilize spherical nosed pistons which are held against a thrust race by internal compression springs.

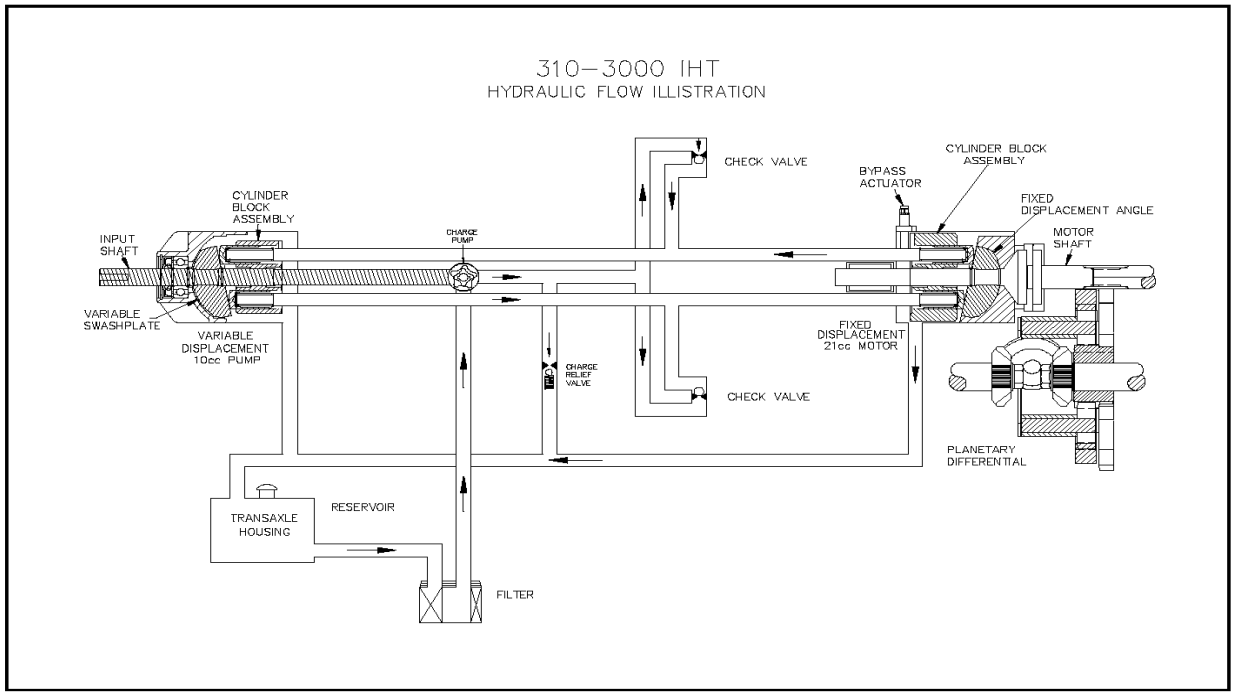
The transaxle has a self contained fluid supply and an internal filter. The fluid is drawn through the internal reservoir and feeds the fixed displacement gerotor charge pump. Excess fluid in the charge circuit is discharged over the charge relief valve and dumps back to case. Charge check valves in the center section are used to control the makeup flow of the fluid to the low pressure side of the loop.

The transaxle is filled and tested at the factory and should not require fluid or filter changes unless the fluid becomes contaminated.

A cam style, block lifting bypass is utilized in the transaxle to permit moving the vehicle for a short distance at a maximum of 2 m.p.h. (3.2 km/h) without starting the engine.

WARNING

Actuating the bypass will result in the loss of hydrostatic braking capacity. The machine must be stationary on a level surface and in neutral when actuating the bypass.



HYDRAULIC SCHEMATIC

The illustration above provides a flow diagram of the hydraulic oil circuit. The oil supply for the hydraulic system of the transaxle is also utilized for lubricating the components of the final drive assembly.

The input shaft and pump cylinder block are turned in one direction only by the engine/drive belt/pulley combination. Output of the oil flow is controlled by the direction and amount that the swashplate is angled. As the pump pistons compress they force the oil to flow through one of two passageways (forward or reverse) in the center section (or valve body) to the motor cylinder block and motor shaft. Since the motor has fixed displacement angle it is forced to turn with the flow of oil. As the angle of the pump swashplate is increased the amount of oil being pumped will increase and cause a higher RPM output of the motor. Reversing the angle of the pump swashplate will reverse the direction of oil flow.

During the operation of the transaxle, fluid is “lost” from the hydraulic loop through leak paths designed into the product for lubrication purposes (around pistons, under the rotating cylinder blocks, etc.). This “lost” fluid returns to the transmission housing and must be made up in the loop. A charge pump is included on the transaxle to supply this makeup flow. The make up flow is controlled (or directed) by the check valves. Each check valve will either be held opened or closed (depending upon the direction of vehicle operation) by the system operating pressure (closed) or by charge pressure (open) from the charge pump.

The charge pump maintains a continuous flow of oil as long as the input shaft is turning. All of the oil being pulled into the charge pump first must pass through an internal filter. Any oil not needed by the transmission for make up flow is discharged through the charge relief valve. The charge relief valve maintains the charge pressure at no more than 40 PSI.

The motor cylinder block mounts onto the splined motor shaft which drives the planetary differential gear/differential assembly.

The bypass feature in the transaxle has a mechanical lever which lifts the motor block off of the center section running surface, allowing any oil flowing from the pump block to be discharged into the housing without turning the motor.

WARNING

Do not attempt any servicing or adjustments with the engine running. Use extreme caution while inspecting the drive belt assembly, and all vehicle linkage!

Follow all safety procedures outlined in the vehicle owner's manual!

In many cases problems with the drive system are not related to a defective transaxle, but are caused by slipping drive belts, partially engaged bypass valves, and loose or damaged control linkages. Be sure to perform all operational checks and adjustments before assuming the unit is malfunctioning. The table below provides a troubleshooting check list to help determine the cause of operational problems.

TROUBLESHOOTING CHECKLIST

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit operates in one direction only	Control linkage bent or out of adjustment	Repair or replace linkage
	Drive belt slipping or pulley damaged	Repair or replace drive belt or pulley
Unit is noisy	Oil level low or contaminated oil	Fill to proper level or change oil
	Excessive loading	Reduce vehicle loading
	Brake setting incorrect	Adjust brake to proper setting
	Loose parts	Repair or replace loose parts
	Bypass assembly sticking	Repair or replace valve or linkage
	Air trapped in hydraulic system	Purge hydraulic system
Unit has no/low power	Engine RPM low	Adjust to correct setting
	Control linkage bent or out of adjustment	Repair or replace linkage
	Brake setting incorrect	Adjust brake to proper setting
	Drive belt slipping or pulley damage	Repair or replace drive belt or pulley
	Oil level low or contaminated oil	Fill to proper level or change oil
	Excessive loading	Reduce vehicle loading
	Bypass assembly sticking	Repair or replace valve or linkage
	Air trapped in hydraulic system	Purge hydraulic system

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit operating hot	Debris buildup around transaxle	Clean off debris
	Brake setting incorrect	Adjust brake to proper setting
	Cooling fan damaged	Repair or replace cooling fan
	Oil level low or contaminated oil	Fill to proper level or change oil
	Excessive loading	Reduce vehicle loading
	Air trapped in hydraulic system	Purge hydraulic system
Transaxle leaks oil	Damaged seals, housing, or gaskets	Replace damaged component
	Air trapped in hydraulic system	Purge hydraulic system

EXTERNAL MAINTENANCE

Reference Tools Required table in the maintenance of the transaxle.

Regular external maintenance of the transaxle should include the following:

1. Check the vehicle operator's manual for the recommended load ratings. Ensure the current application does not exceed load rating.

2. Check the oil level by removing the plug on the right rear side of the transaxle; the oil level should be to the bottom of the port. Refer to illustration below.

   NOTE: *Only check the oil level when the oil is cold.*

3. Inspect the vehicle drive belt, idler pulley(s), and idler spring(s). Ensure that no belt slippage can occur. Slippage can cause low input RPM to the transaxle.

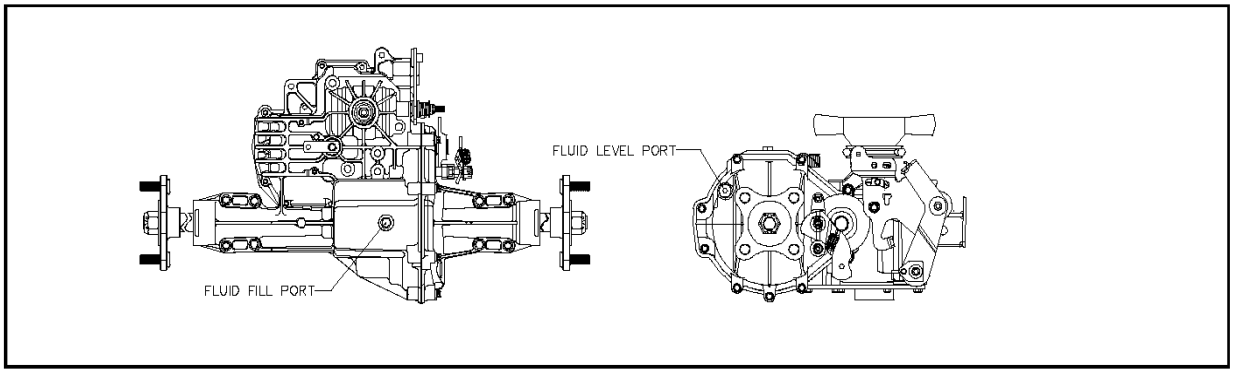
4. Inspect the transaxle cooling fan for broken or distorted blades and remove any obstructions (grass clippings, leaves, dirt, etc.).

SERVICE AND MAINTENANCE PROCEDURES

All the service and maintenance procedures presented on the following pages can be performed while the transaxle is mounted on the vehicle. Any servicing beyond those given must be performed after the unit has been removed from the vehicle.

FLUIDS

Engine oil with a minimum rating of 55 SUS at 210°F and an API classification of SH/CD is recommended. A 20W-50 engine oil has been selected for use by the factory and is recommended for normal operating temperatures.

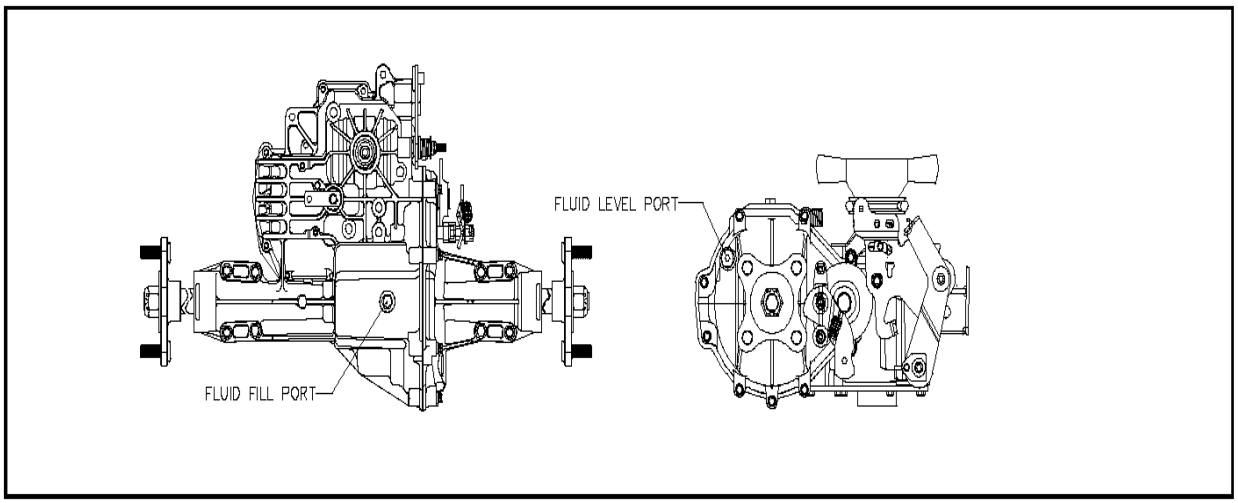


FLUID CHANGE

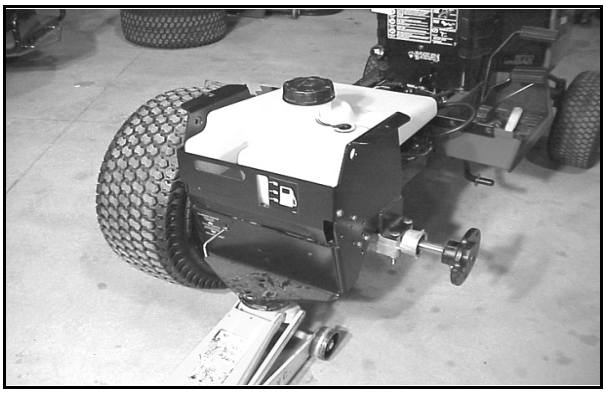
This transaxle is factory filled and does not require regular oil changes. In the event of oil contamination or degradation an oil change may improve performance.

1. Remove the transaxle from the vehicle.
2. Clean the oil fill port area of any debris.
3. Remove the oil fill port fitting.
4. Position the transaxle so the oil will drain completely out of the housing.
5. Fill the transaxle at the oil fill port according to illustration.
6. Install the oil fill port fitting.
7. Purging will be required. Refer to the Purging Procedures in this section.
8. Recheck the fluid level once the unit has been operated for approximately one minute.

FLUID DESCRIPTION	VOLUME
20W50 engine oil	0.95 gal. (116.5 oz.) [4.3 l]

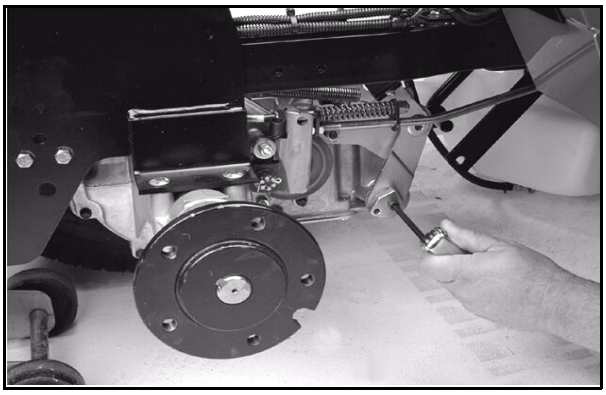


NEUTRAL ADJUSTMENT



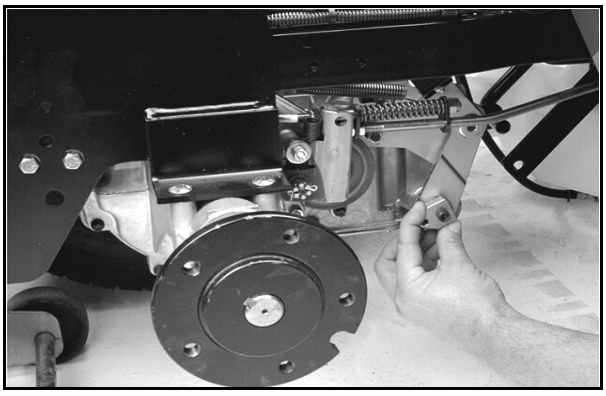
Before making a neutral adjustment, the transaxle must be warmed up, usually 5 to 10 minutes. Steps to perform neutral adjustment:

1. Jack-up and support the right rear end of the tractor, allowing enough clearance to remove the right rear tire. Make sure the left tire stays on the ground. (Optional: remove the fender and seat assembly. If they are removed, you will need to temporarily bypass the seat switch).



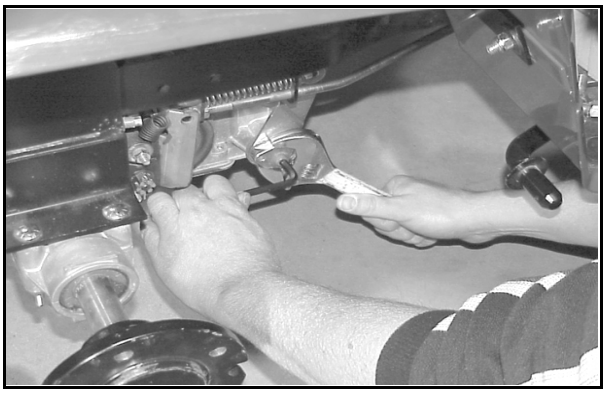
2. Locate the adjusting puck and loosen the Allen head set screw.

3. Start the engine and run at 3/4 to full throttle.



4. Rotate the adjusting puck in both directions and watch the axle direction. You want to adjust the puck so it is set in the mid-point between forward and reverse axle rotation. Make sure the axle is not moving.

5. Once you are in neutral, hold the puck with an adjustable wrench so it won't move when you retighten the Allen set screw.



6. Operate the foot control in forward and reverse and allow the pedal to return to the neutral position to test the adjustment.

NOTE: *You may not be able to eliminate creep entirely, due to the narrow neutral zone of this transaxle. In this case, adjust for the smallest amount of reverse creep possible. Correctly adjusted, a very light tap on the foot control pedal should be all that is needed to stop the reverse creep.*

Product: New Holland MY16/MY17/MY19 Tractor Service Repair Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/

TRANSAXLE PURGING PROCEDURES

Due to the effects air has on efficiency in hydrostatic drive applications, it is critical that it be purged from the system.

These purge procedures should be implemented any time oil has been added to the system, when a new transaxle is installed, or after a transaxle has been repaired.

Air creates inefficiency because its compression and expansion rate is higher than that of the oil normally approved for use in hydrostatic drive systems.

The resulting symptoms in hydrostatic systems may be:

1. Noisy operation.
2. Lack of power or drive after short term of operation.
3. High operation temperature and excessive expansion of “oil”; in the latter case, oil may overflow.

Before starting, make sure the transaxle is at specified oil level; refer to Section 1.

The following procedures should be performed with the vehicle drive wheels off the ground, then repeated under normal operating conditions.

1. With the bypass valve open and the engine running, slowly move the directional control (foot control) in both forward and reverse directions 5 to 6 times; as air is purged from the unit, the oil level will drop.
2. With the bypass valve in the closed position and the engine running, slowly move the directional control valve (foot control) in both forward and reverse directions 5 to 6 times. After stopping the engine, check the oil level and add oil as required.
3. It may be necessary to repeat step 1 and 2 until all the air is completely purged from the system. When the transaxle moves forward and reverse at normal speed, purging is complete.

CAUTION

DO NOT OVERFILL. If you overfill the transaxle while the unit is “cold”, it may overflow as it reaches normal operating temperature. The oil level should not be above the level described in Section 1. This will allow the space needed for the oil to expand as it warm up.

Sample of manual. Download All 166 pages at:
https://www.arepairmanual.com/downloads/new-holland-my16-my17-my19-tractor-service-repair-manual/