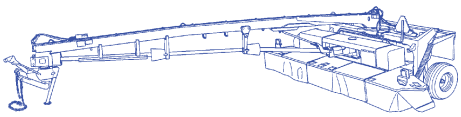


NEW HOLLAND

H7460
H7560

SERVICE MANUAL

NEW HOLLAND
AGRICULTURE

SERVICE

84207371 3/09
1st Printing

H7460, H7560 SERVICE MANUAL CONTENTS

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

The sections listed above are the sections utilized for the H7460 and H7560.

SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

CONTENTS

SPECIAL TOOLS

Tool Number	Description/Use
Section 31	
NHO1386	Pivot tongue gearbox neck cap screws
610R	Snap ring remover
Local Manufacture	Neck lock nut removal
Local Manufacture	Holding tool for neck housing
Local Manufacture	Neck rolling torque measurement
Section 58	
FNH23ET95	Top cap bearing cover
FNH01221-2	Cutter bar tie bolt holding tool
FNH01221-3	Cutter bar wrench

SPECIFICATIONS

MODEL H7460

	Standard Tongue	Swivel Hitch Tongue
Overall Width		
Transport position	4801 mm (15 ft 9 in)	4801 mm (15 ft 9 in)
Field position	7087 mm (23 ft 3 in)	7595 mm (24 ft 11 in)
Overall Length		
Transport position	8966 mm (29 ft 5 in)	9271 mm (30 ft 5 in)
Field position	7366 mm (24 ft 2 in)	7670 mm (25 ft 2 in)
Height		
Transport position	2032 mm (6 ft 8 in)	2032 mm (6 ft 8 in)
Field position	1727 mm (5 ft 8 in)	1727 mm (5 ft 8 in)
Ground Clearance	457 mm (18 in)	457 mm (18 in)
Wheel Tread Width	3772 mm (148.5 in)	3772 mm (148.5 in)
Weight	2948 kg (6500 lb)	2948 kg (6500 lb)

Driveline	
Tractor Requirement	75 kW (100 Hp) or greater with standard category 2 or 3 ASAE hitch and PTO locations. Two remote hydraulic circuits capable of 104 bar (1500 psi).
Input Speed	1000 rpm only
Drive	1000 rpm PTO with slip clutch/overrunning clutch, enclosed gears and (3) HB banded belts with spring loaded idlers.
Header	
Cutting Width	4699 mm (15 ft 7 in)
Flotation	Vertical & radial
Windrow Width	914 mm to 2438 mm (3 ft to 8 ft)
Header Lift	Hydraulic (master-slave system)
Cutter Bar	
Type	Modular
No. of Discs	8 counter-rotating, 4 co-rotating
Knives per Disc	2
Disc Cutting Diameter	500 mm (19.7 in)
Disc Drive	Bevel gears in sealed modules
Disc Speed	3000 RPM
Cutting Height, Approximate	24 mm - 81 mm (0.95 in - 3.20 in)
Cutting Bar Angle	-2° to -10°
Conditioner	
Type	Intermeshing rolls
Drive	4HB V-belt, enclosed gears with u-joint drives to upper & lower rolls.
Rolls	
Type	Molded rubber with intermeshing chevron design.
Length	2591 mm (102 in)
Diameter	264 mm (10.38 in)
Speed	740 rpm
Operating Speed	0 to 14 km/h (0 to 9 mph)
Transport Speed	32 km/h (20 mph) maximum
Capacity	3.36 H/hr (8.97 A/hr) @ 10 km/h (6 mph) & 80% field efficiency.
Tire	31.5 x 13.5L x 15, 6 ply tubeless agricultural rib implement tire
Tire Pressure	207 kPa or 2.07 bar (30 psi).
Jack	2000 lb capacity side-wind
Tongue Shift	Hydraulic

MODEL H7560

	Standard Tongue	Swivel Hitch Tongue
Overall Width		
Transport position	4801 mm (15 ft 9 in)	4801 mm (15 ft 9 in)
Field position	7087 mm (23 ft 3 in)	7595 mm (24 ft 11 in)
Overall Length		
Transport position	8966 mm (29 ft 5 in)	9271 mm (30 ft 5 in)
Field position	7366 mm (24 ft 2 in)	7670 mm (25 ft 2 in)
Height		
Transport position	2032 mm (6 ft 8 in)	2032 mm (6 ft 8 in)
Field position	1727 mm (5 ft 8 in)	1727 mm (5 ft 8 in)
Ground Clearance	457 mm (18 in)	457 mm (18 in)
Wheel Tread Width	3772 mm (148.5 in)	3772 mm (148.5 in)
Weight	2894 kg (6380 lb)	2894 kg (6380 lb)

Driveline	
Tractor Requirement	74 kW (100 Hp) or greater with standard category 2 or 3 ASAE hitch and PTO locations. Two remote hydraulic circuits capable of 104 bar (1500 psi).
Input Speed	1000 rpm only
Drive	1000 rpm PTO with slip clutch/overrunning clutch, enclosed gears and (3) HB banded belts with spring loaded idlers.
Header	
Cutting Width	4750 mm (15 ft 7 in)
Flotation	Vertical & radial
Windrow Width	914 mm to 2438 mm (3 ft to 8 ft)
Header Lift	Hydraulic (master-slave system)
Cutter Bar	
Type	Modular
No. of Discs	8 counter-rotating, 4 co-rotating
Knives per Disc	2
Disc Cutting Diameter	500 mm (19.7 in)
Disc Drive	Bevel gears in sealed modules
Disc Speed	3000 rpm
Cutting Height, Approximate	24 mm - 81 mm (0.95 in - 3.20 in)
Cutting Bar Angle	-2° to -10°
Conditioner	
Type	Flail
Drive	4HB V-belt, enclosed gears with u-joint drives to rotor.

Rolls	
Length	2591 mm (102 in)
Diameter	560 mm (22 in)
Speed	1011 rpm (726 rpm optional)
Operating Speed	0 to 14 km/h (0 to 9 mph)
Transport Speed	32 km/h (20 mph) maximum
Capacity	3.36 H/hr (8.97 A/hr) @ 10 km/h (6 mph) & 80% field efficiency.
Tire	31.5 x 13.5L x 15, 6 ply tubeless agricultural rib implement tire
Tire Pressure	207 kPa or 2.07 bar (30 psi).
Jack	2000 lb capacity side-wind
Tongue Shift	Hydraulic

LUBRICATION

Adequate lubrication and maintenance on a regular schedule is vital to maintaining your equipment. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this manual. The use of proper fuels, oils, grease and filters, as well as keeping the systems clean, will also extend machine and component life.

IMPORTANT: *Always use genuine* ***New Holland*** *replacement parts, oils and filters to ensure proper operation, filtration of engine and hydraulic systems. See your* ***New Holland*** *dealer for additional oil quantities.*

RECOMMENDED LUBRICANTS AND COOLANTS

Lubricant	Type and Description	Part Number	Container Size
Engine Oil	AMBRA SUPER GOLD SSL ENGINE OIL SAE 10W-40	86994335	2.5G / 9.46L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 10W	86641050	5G / 18.93L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 10W-30	9613313	1QT / .946L
		86641052	1G / 3.785L
		9613314	2.5G / 9.46L
		9673508DS	5G / 18.93L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 30	9613286	1QT / .946L
		86641043	1G / 3.785L
		9613289	2.5G / 9.46L
		86641044	5G / 18.93L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 40	9624812DS	55G / 208.2L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 15W-40	86641081	1QT / .946L
		86641082	1G / 3.785L
		86641084	2.5G / 9.46L
		86641083	5G / 18.93L
	AMBRA SUPER GOLD HSP ENGINE OIL SAE 20W-50	86994337	5G / 18.93L
	AMBRA AUTO SUPREME SAE 5W-30	9673589DS	1QT / .946L
	AMBRA AUTO SUPREME SAE 10W-30	86641101	1QT / .946L
Transmission Oil	AMBRA MULTI TRAN	86639558	1G / 3.785L
		86639559	2.5G / 9.46L
		86639560	5G / 18.93L
	AMBRA MULTI TRAN SSL	86994339	2.5G / 9.46L
	AMBRA MULTI BIO S	86994341	2.5G / 9.46L
Hydraulic Oil	AMBRA MULTI G 134	9624655DS	1QT / .946L
		9624656DS	1G / 3.785L
		9624450	2.5G / 9.46L
		9624451	5G / 18.93L
	AMBRA HYDROSYSTEM 46 HYD FLUID	86109085	5G / 18.93L
	AMBRA HYDROSYSTEM 68 HYD FLUID	86994331	5G / 18.93L
	AMBRA HYDROSYSTEM 100 HYD FLUID	86994343	5G / 18.93L
ATF Oil	AMBRA HYDRODEX 3 ATF	9613304	1QT / .946L
		9613312	2.5G / 9.46L
Gear Oil	AMBRA HYPOIDE 90 GEAR LUBE	9613295	1QT / .946L
		9613294	2.5G / 9.46L
		86994348	16G / 60.6L
	AMBRA HYPOIDE 140 GEAR LUBE	87027134*	1QT / .946L
		87027135	2.5G / 9.46L
		86994351	16G / 60.6L
	AMBRA TRANSAXLE FLUID	86994352	5G / 18.93L
	AMBRA HYPOIDE SSL GEAR LUBE	86994354	1QT / .946L
Grease	AMBRA GR-9 MULTI-PURPOSE GREASE	9613310	TUBE - 14 OZ
	AMBRA HI-TEMP GREASE	9861804DS	TUBE - 14 OZ
	AMBRA CORN HEAD GREASE	94107DS	TUBE - 14 OZ
	AMBRA GR 75 MD GREASE	87400001	TUBE - 14 OZ
	AMBRA GR 1000 SYNTHETIC GREASE	86994355	TUBE - 14 OZ
	LIMITED SLIP ADDITIVE	B96606	
Brake Fluid	BRAKE LHM FLUID (Mineral Based Oil)	86541699DS	1QT / .946L
Coolant	ESE-M97B18-D, Ethylene Glycol Coolant Concentrate	FGCC2701DS	1G / 3.785L
	Propylene Glycol Concentrate	FGCC2711DS	1G / 3.785L

MINIMUM HARDWARE TIGHTENING TORQUES

IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

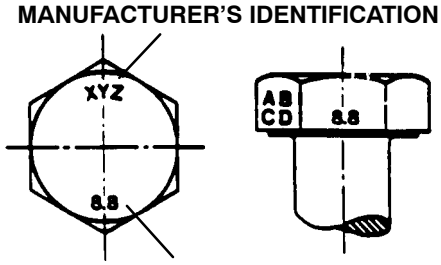
METRIC NON-FLANGED HARDWARE AND LOCKNUTS

NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	1.7 (15)*	2.2 (19)*	2.6 (23)*	3.4 (30)*	3.7 (33)*	4.8 (42)*	2.3 (20)*
M6	5.8 (51)*	7.6 (67)*	8.9 (79)*	12 (102)*	13 (115)*	17 (150)*	7.8 (69)*
M8	14 (124)*	18 (159)*	22 (195)*	28 (248)*	31 (274)*	40 (354)*	19 (169)*
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	38 (28)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	66 (49)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	164 (121)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	330 (243)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	572 (422)

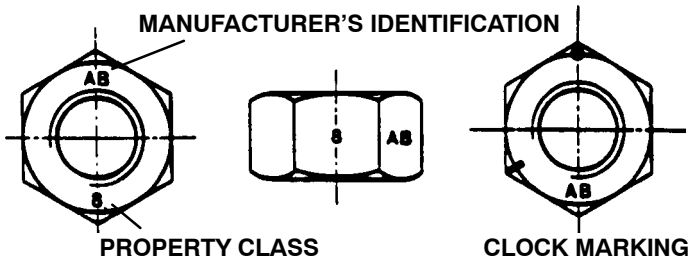
NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION

HEX CAP SCREW AND CARRIAGE BOLTS CLASSES 5.6 AND UP



HEX NUTS AND LOCKNUTS CLASSES 05 AND UP



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MINIMUM HARDWARE TIGHTENING TORQUES

IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

INCH NON-FLANGED HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	6.2 (55)*	8.1 (72)*	9.7 (86)*	13 (112)*	14 (121)*	18 (157)*	8.5 (75)*	12.2 (109)*	1/4
5/16	13 (115)*	17 (149)*	20 (178)*	26 (229)*	28 (250)*	37 (324)*	17.5 (155)*	25 (220)*	5/16
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	31 (23)	44 (33)	3/8
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	50 (37)	71 (53)	7/16
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	76 (56)	108 (80)	1/2
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	111 (82)	156 (115)	9/16
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	153 (113)	215 (159)	5/8
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	271 (200)	383 (282)	3/4
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	437 (323)	617 (455)	7/8
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	654 (483)	924 (681)	1

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
CAP SCREWS AND CARRIAGE BOLTS

SAE GRADE 2

SAE GRADE 5

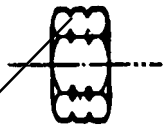
SAE GRADE 8

REGULAR NUTS

SAE GRADE 5 HEX NUTS

SAE GRADE 8 HEX NUTS

LOCKNUTS



GRADE IDENTIFICATION

GRADE A NO NOTCHES

GRADE B ONE CIRCUMFERENTIAL NOTCH

GRADE C TWO CIRCUMFERENTIAL NOTCHES

GRADE IDENTIFICATION

GRADE A NO MARKS

GRADE B THREE MARKS

GRADE C SIX MARKS

MARKS NEED NOT BE LOCATED AT CORNERS

GRADE A NO MARK
GRADE B LETTER B
GRADE C LETTER C

GRADE IDENTIFICATION

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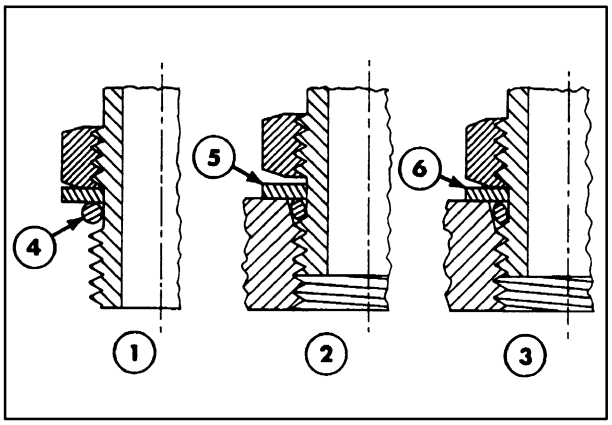
INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O-RING BOSSES

1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove, 4.
2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss, 5.

NOTE: *Do not over tighten and distort the metal backup washer.*

3. Position the fitting by turning out (counter-clockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss, 6.



1

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS								O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC - 37° SEATS			
				TORQUE				TORQUE			
SIZE	TUBING OD		THREAD SIZE	POUND FOOT		NEWTON METERS		POUND FOOT		NEWTON METERS	
	In.	mm		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-18	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	53	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	158
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

These torques are not recommended for tubes of 1/2 inch (12.7 mm) OD and larger with wall thickness of 0.035 inch (0.889 mm) or less. The torque is specified for 0.035 inch (0.889 mm) wall tubes on each application individually.

Before installing and torquing 37° flared fittings, clean the face of the flare and threads with a clean solvent or Loctite cleaner and apply hydraulic sealant Loctite™ no. 569 to the 37° flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorque to specifications.

PIPE THREAD FITTING TORQUE

Before installing and tightening pipe fittings, clean the threads with a clean solvent or Loctite cleaner and apply sealant Loctite no. 567 for all fittings including stainless steel or no. 565 for most metal fittings. For high filtration/zero contamination systems use no. 545.

Thread Size	Torque (Maximum)
1/8 inch - 27	13 N·m (10 lb ft)
1/4 inch - 18	16 N·m (12 lb ft)
3/8 inch - 14	22 N·m (16 lb ft)
1/2 inch - 14	41 N·m (30 lb ft)
3/4 inch - 14	54 N·m (40 lb ft)

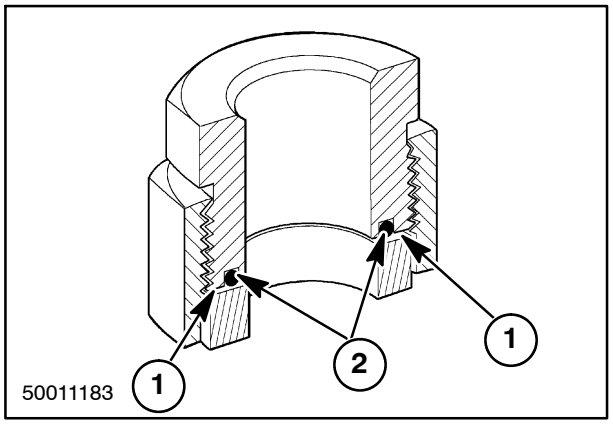
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

When installing ORFS fittings thoroughly clean both flat surfaces of the fittings, 1, and lubricate the O-ring, 2, with light oil. Make sure both surfaces are aligned properly. Torque the fitting to specified torque listed throughout the service manual.

IMPORTANT: *If the fitting surfaces are not properly cleaned, the O-ring will not seal properly. If the fitting surfaces are not properly aligned, the fittings may be damaged and will not seal properly.*

IMPORTANT: *Always use genuine New Holland replacement oils and filters to ensure proper lubrication and filtration of engine and hydraulic system oils.*

The use of proper oils, grease, and keeping the hydraulic system clean will extend machine and component life.



2

SECTION 31 - IMPLEMENT POWER TAKE OFF (PTO)

Chapter 1 - Drive Lines (Standard Tongue)

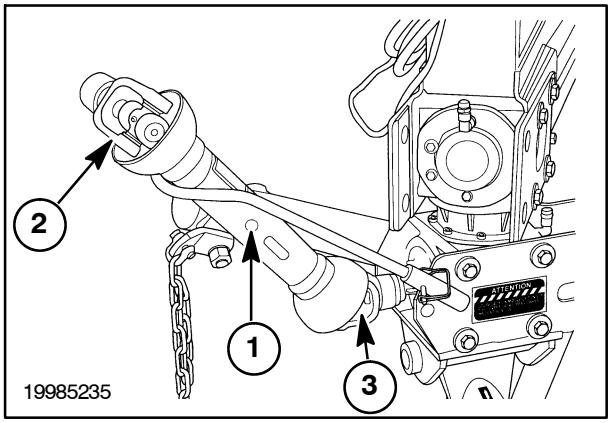
CONTENTS

H7460/H7560 SWIVEL HITCH DRIVELINE

INTRODUCTION

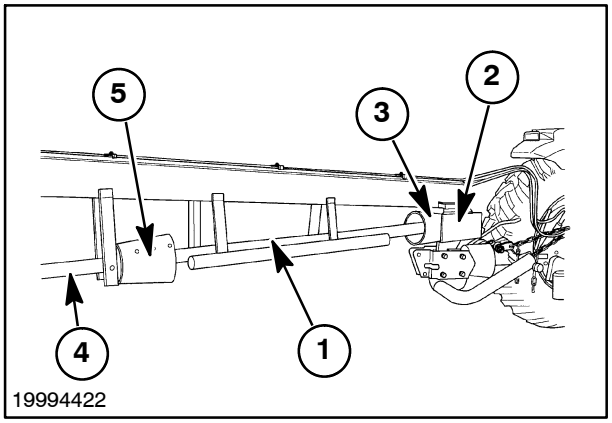
The primary PTO, 1, on the swivel hitch models uses a pair of U-joints to transfer power from the tractor to the lower swivel hitch gearbox. The U-joints are located at the tractor end of the primary PTO shaft, 2, and lower gearbox end, 3, allowing the tractor to turn the driveline during PTO operation.

The lower swivel hitch gearbox turns the upper gearbox, which transfers power to the intermediate PTO.



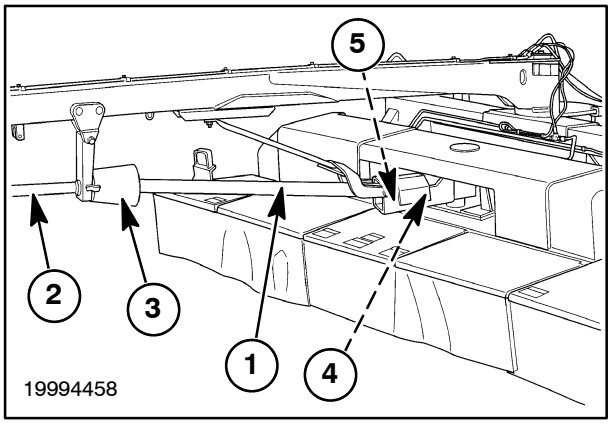
1

The intermediate PTO, 1, runs from the upper gearbox, 2, to a point midway along the tongue. The intermediate PTO uses a clamp yoke, 3, at the gearbox end and attaches to the jackshaft, 4, using a slip clutch assembly, 5.



2

The secondary PTO shaft, 1, attaches to the rear of the jackshaft, 2, using an Auto-Lok yoke, 3, and attaches to the center gearbox, 4, using a clamp hub assembly, 5.



3

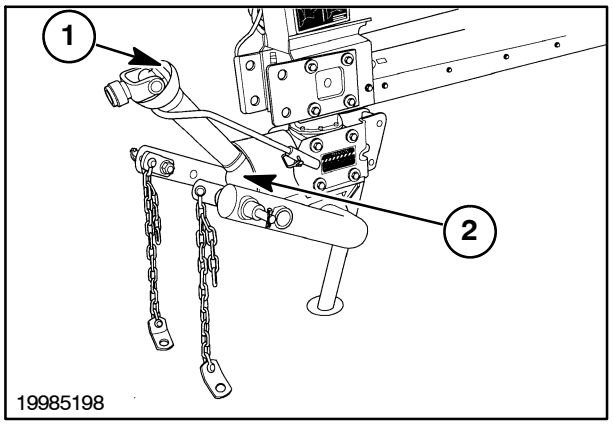
PRIMARY PTO

Front Half Removal

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. To service the front half of the primary PTO, 1, pull the front half from the rear half, 2, of the primary PTO.

Refer to the Slide Lok, Driveline Guards, and U-joints sections in this manual to service the front half of the primary PTO.



4

Front Half Installation

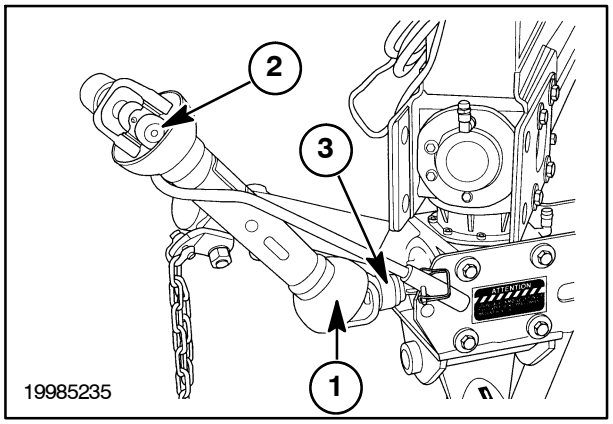
Align the female splines on the front half of the primary PTO with the male splines on the rear half of the primary PTO and slide the two shafts together.

NOTE: *Ensure the shields fit together properly and the two halves telescope freely.*

Rear Half Removal

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. To service the rear half of the primary PTO, 1, pull the front half, 2, from the rear half of the primary PTO.
2. Remove the protective shielding by squeezing the sides together until they release from the retaining pins.
3. Pull back the slide lock, 3, and slide the primary PTO off the lower swivel gearbox.
4. Refer to the Slide Lok, Driveline Guards, and U-joints sections in this manual to service the rear half of the primary PTO.

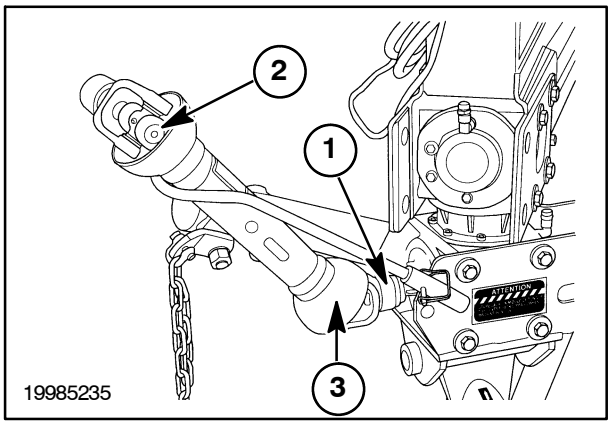


5

Rear Half Installation

1. Pull back the slide lock, 1, and slide the primary PTO on the lower swivel gearbox.
2. Install the protective shielding by squeezing the sides together until the mounting holes align with the retaining pins, and release the shield.
3. Align the female splines on the front half, 2, of the primary PTO with the male splines on the rear half, 3, of the primary PTO and slide the two shafts together.

NOTE: *Ensure the shields fit together properly and the two halves telescope freely.*



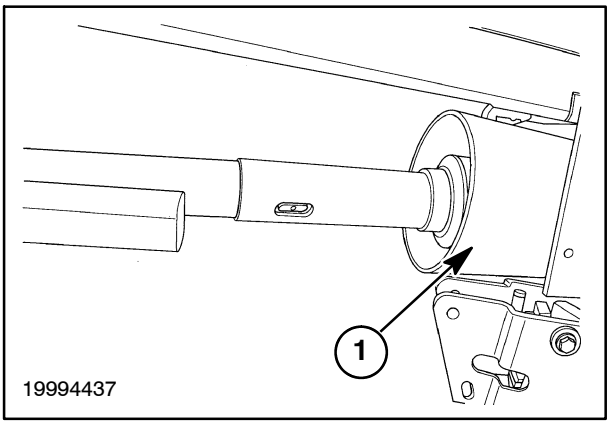
6

INTERMEDIATE PTO

Front Half Removal

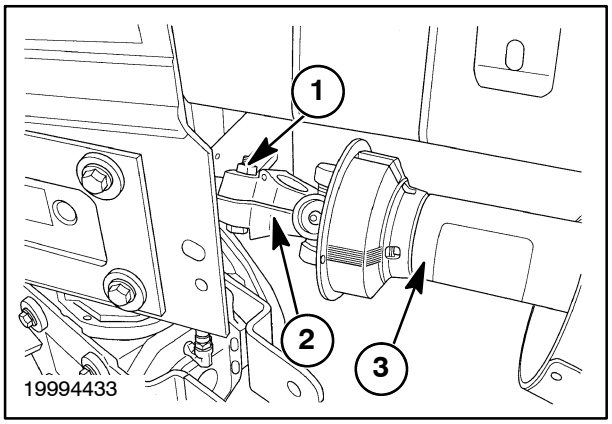
IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. Remove the protective shielding, 1, by squeezing the sides together until they release from the retaining pins. Slide the shield rearward on the shaft to gain access to the retaining bolts.



7

2. Remove the two 1/2 inch x 3 inch yoke bolts, 1, and lock nuts from the clamp yoke, 2, and slide the intermediate PTO off the upper swivel gearbox output shaft.
3. To service the front half, 3, of the intermediate PTO pull the front half from the rear half of the primary PTO.
4. Refer to the Slide Lok, Driveline Guards, and U-joints sections in this manual to service the rear half of the primary PTO.



8

Front Half Installation

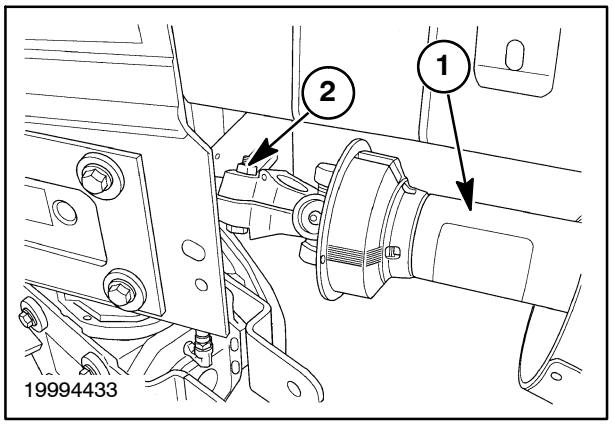
1. Align the male yoke shaft on the front half, 1, of the intermediate PTO with the female yoke tube on the rear half of the intermediate PTO and slide the two shafts together.

NOTE: *In the female yoke tube of the intermediate PTO there is a phase, the male yoke shaft will only fit in two positions.*

2. Install the intermediate PTO, shield and position over the PTO with the small end of the shield facing the gearboxes.

NOTE: *Ensure the shields fit together properly and the two halves telescope freely.*

3. Slide the intermediate PTO onto the upper gearbox output shaft until the clamp yoke bolt holes align with the groove in the output shaft.
4. Install the two 1/2 inch x 3 yoke bolts, 2, and lock nuts. Torque to 159 N·m (117 lb ft).
5. Install the protective shielding by squeezing the sides together until the mounting holes align with the retaining pins, and release the shield.



9

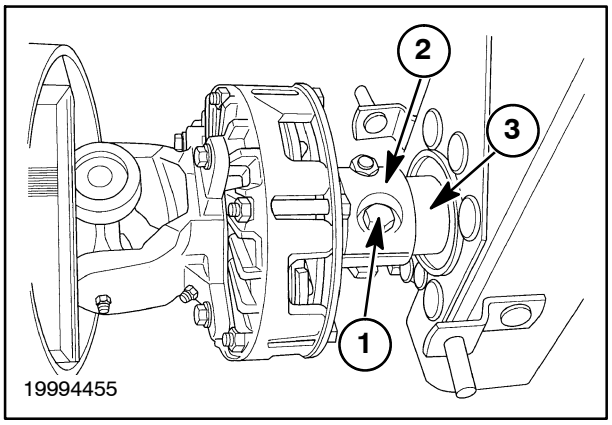
Rear Half Removal

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. Remove the protective shielding by pulling one side of shield from the retaining pin, then pull the other side from the retaining pin. Slide the shield rearward on the shaft to gain access to the retaining bolts.
2. Remove the two 1/2 inch x 2 inch yoke bolts, 1, and lock nuts form the slip clutch shaft, 2, and slide the intermediate PTO off the splined shaft.

NOTE: *Use caution not to loose the spacer, 3, and shims when removing the rear half of the PTO.*

3. Pull the rear half of the intermediate PTO from the front half.
4. Refer to the Driveline Guards, U-joints sections, and the Slip Clutch sections in this manual to service the rear half of the intermediate PTO.



10

Rear Half Installation

1. Align the male yoke shaft on the front half of the intermediate PTO with the female yoke tube on the rear half of the intermediate PTO and slide the two shafts together.

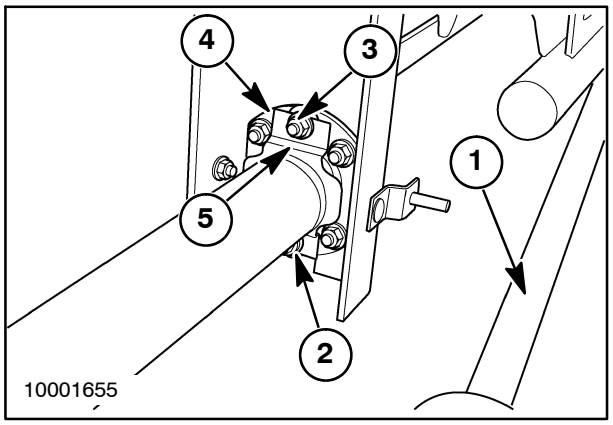
NOTE: *In the female yoke tube of the intermediate PTO there is a phase, the male yoke shaft will only fit in two positions.*

2. Slide the intermediate PTO onto the splined shaft until the clamp yoke bolt holes align with the groove in the shaft.
3. Install the two 1/2 inch x 2 inch yoke bolts, 1, Figure 10, and lock nuts form the slip clutch shaft. Torque to 159 N·m (117 lb ft).
4. Install the protective shielding by pulling one side of shield on the retaining pin, and then pull the other side on the retaining pin.

JACKSHAFT

Removal

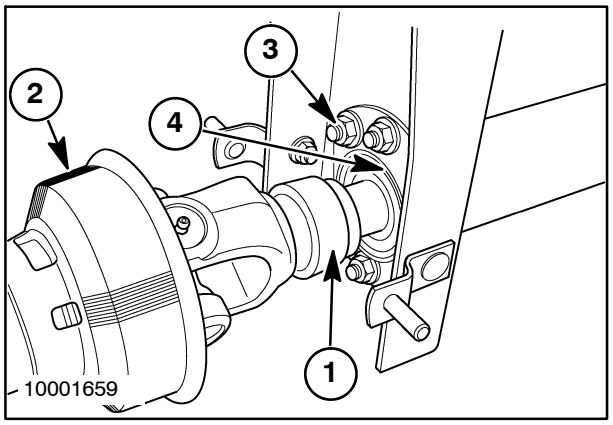
1. Remove the intermediate PTO, 1, from the jackshaft, as described earlier in this section.
2. Remove the five 1/2 inch-13 carriage bolts and one 1/2 inch-13 cap screw, 2, and nuts, 3, from the flangettes, 4, and bracket, 5.



11

3. Remove the protective shielding by pulling one side of shield from the retaining pin, then pull the other side from the retaining pin. Slide the shield rearward on the shaft to gain access to the retaining bolts.
4. Pull back on the auto lock collar, 1, and pull the secondary PTO, 2, from the jackshaft.
5. Remove the six 1/2 inch-13 carriage bolts and nuts, 3, from the flangettes, 4.

NOTE: *There are two 1/2 inch flat washers installed between the shield bracket and flangette at the slot in the support.*



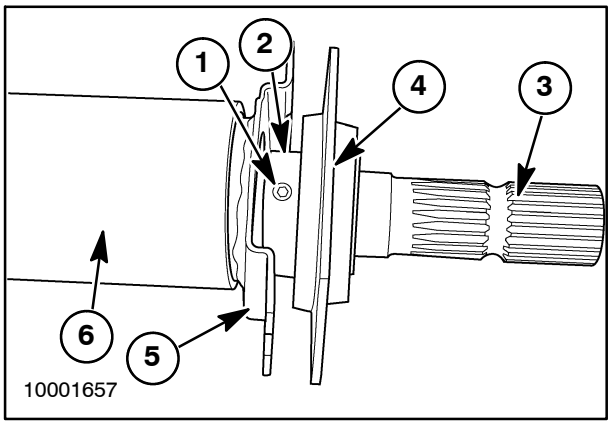
12

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

6. Support the entire jackshaft and shift the jackshaft towards the cutter bar, then lower the jackshaft to the ground.

Disassembly

1. Loosen the setscrews, 1, from the bearing, 2, on the rear half of the shaft assembly, 3.
2. Remove the bearing and inside flangette, 4, from the shaft assembly.
3. Remove the bracket, 5, from the shaft assembly.
4. Slide the protective tube, 6, from the shaft assembly.



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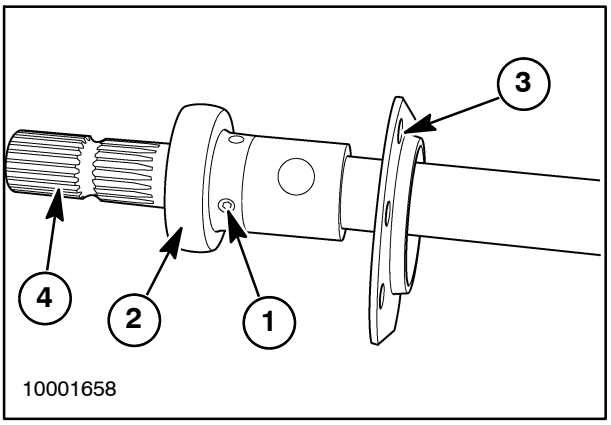
5. Loosen the setscrews, 1, from the bearing, 2, on the front half of the shaft assembly.
6. Remove the bearing and inside flangette, 3, from the shaft assembly, 4.



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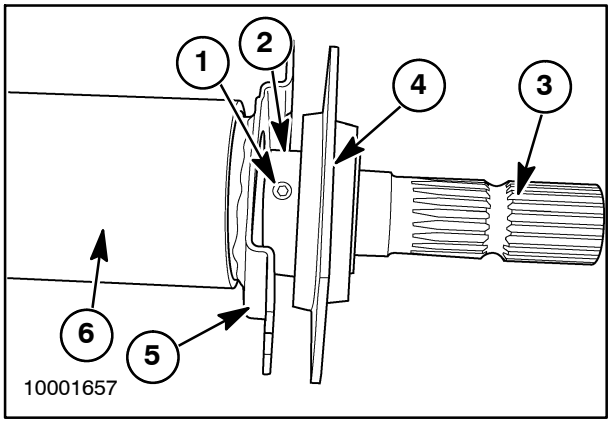
Inspection

1. Clean and check the splines on the shaft for wear or distortion. If necessary, replace the shaft.
2. Check the flange bearing for heat discoloration. A blue discoloring indicates overheating and possible damage to the bearing. Make sure that the flange bearing rotates smoothly with no binding or roughness.

Assembly

1. Install the inside flangette, 3, on the shaft assembly, 4.
2. Install the bearing, 3, on the front half of the shaft assembly until bearing touches the welded spacer.
3. Tighten the setscrews, 1, securely.
4. Slide the protective tube, 6, on the shaft assembly.
5. Install the bracket, 5, on the rear half of the shaft assembly.
6. Install the inside flangette, 4, on the shaft assembly.
7. Install the bearing, 2, on the shaft assembly, tighten the setscrews securely.



15

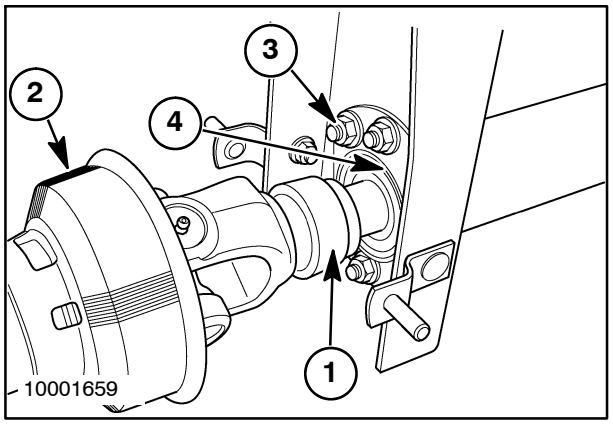
Installation

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. Support the entire jackshaft and raise it into position so the flangettes rest in the bracket openings.

NOTE: *There are two 1/2 inch flat washers installed between the shield bracket and flangette at the slot in the support.*

2. Install the outside flangette, 4, and six 1/2 inch-13 carriage bolts and nuts. Torque the bolts to 113 N·m (83 lb ft).
3. Pull back on the auto lock collar, 1, and push the secondary PTO, 2, on the jackshaft.
4. Install the protective shielding by pulling one side of shield on the retaining pin, then pull the other side on the retaining pin.



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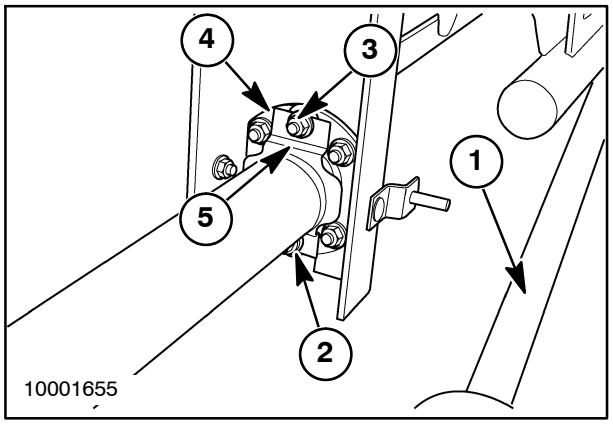
5. Install the five 1/2 inch-13 carriage bolts and nuts, 3, from the flangettes, 4, and bracket. Torque the bolts to 113 N·m (83 lb ft).
6. Install the one 1/2 inch-13 cap screw, 2, in the bottom hole of the bracket. Torque the bolts to 113 N·m (83 lb ft).
7. Install the intermediate PTO, 1, on the jackshaft, as described earlier in this section.



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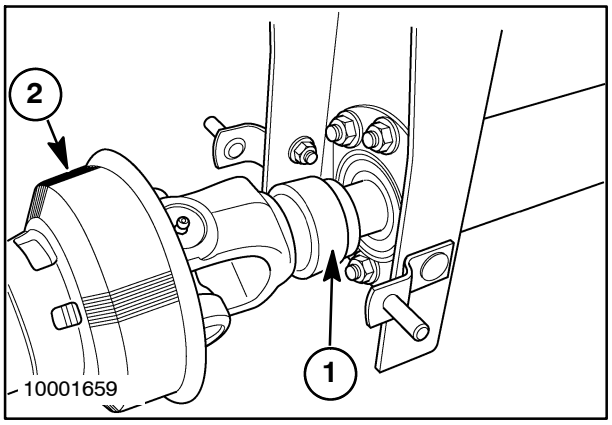
SECONDARY PTO

Front Half Removal

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. Remove the protective shielding by squeezing the sides together until they release from the retaining pins. Slide the shield rearward on the shaft to gain access to the auto lock collar.
2. Slide the auto lock collar, 1, rearward and pull the secondary PTO, 2, from the jackshaft.
3. To service the front half of the secondary PTO pull the front half from the rear half of the secondary PTO.
4. Refer to the Auto Lok, Driveline Guards, and U-joints sections in this manual to service the rear half of the secondary PTO.



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Front Half Installation

1. Align the male yoke shaft on the rear half of the secondary PTO with the female yoke tube on the front half of the secondary PTO and slide the two shafts together.
2. Install the secondary PTO, shield and position over the PTO with the small end of the shield facing the gearboxes.

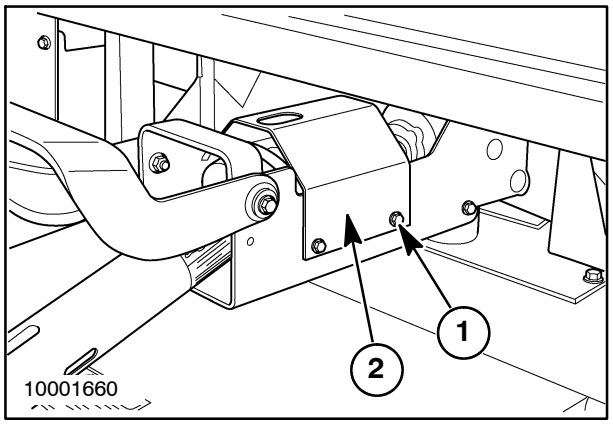
NOTE: *Ensure the shields fit together properly and the two halves telescope freely.*

3. Slide the secondary PTO onto the jackshaft until the auto lock slips into position.
4. Install the protective shielding by squeezing the sides together until the mounting holes align with the retaining pins, and release the shield.

Rear Half Removal

IMPORTANT: *The PTO shafts are very heavy and awkward; use caution not to drop the shaft assemblies as personal injury or damage to the components may result.*

1. Remove the secondary PTO front half from the secondary rear half as described earlier in this section.
2. Remove the four retaining bolts, 1, from the shield, Remove the shield.



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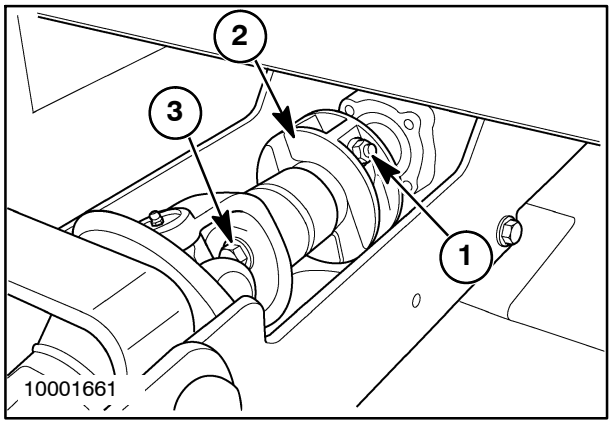
3. Remove the two 1/2 inch-13 cap screws, 1, from the clamp hub assembly, 2.
4. Remove the clamp hub assembly. Turn out the center cap screw, 3, about 9.5 mm (3/8 in).
5. Pull the rear half of the secondary PTO from the center gearbox.

NOTE: *It may be necessary to heat the clamp yoke to break the shaft loose from the gearbox.*

6. Refer to the Driveline Guards and U-joints sections in this manual to service the rear half of the secondary PTO.



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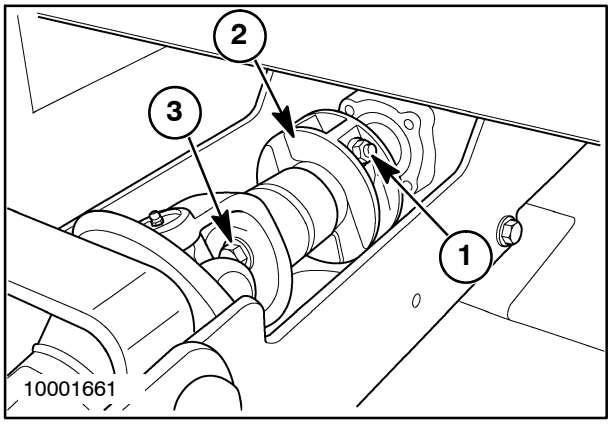
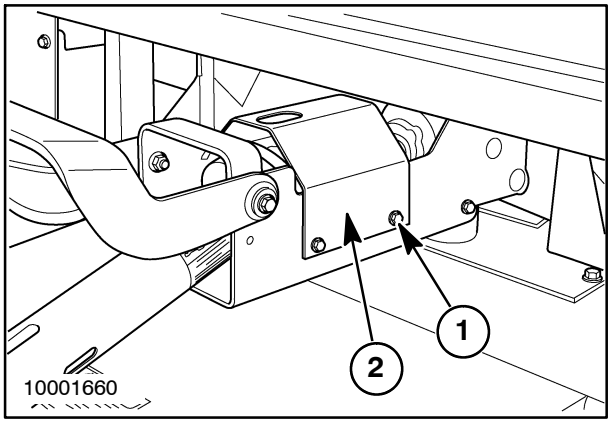
Rear Half Installation

1. Clean the center gearbox spline shaft of rust and dirt. Lubricate the shaft with corrosion inhibiting compound.
2. Slide the clamp yoke end of the drive shaft onto the center gearbox spline shaft.
3. Use a soft faced hammer or mallet and strike the tractor end of the shaft and seat the shaft completely on the gearbox spline.
4. Turn in the center cap screw, 1, and tighten as much as possible to pull the clamp yoke securely onto the tapered end of the gearbox shaft.
5. Install the shaft clamp. Torque the two cap screws, 3, to 87 N·m (64 lb ft).



21

6. Install the shield, Install the four retaining bolts, 1, and tighten securely.
7. Install the secondary PTO front half on the secondary rear half as described earlier in this section.



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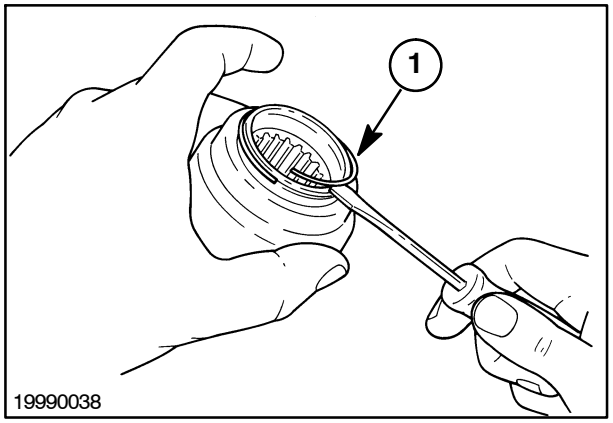
SLIDE LOCK

Both ends of the primary PTO shaft feature a quick slide lock. The primary PTO shaft can be removed and attached quickly at either end.

Disassembly

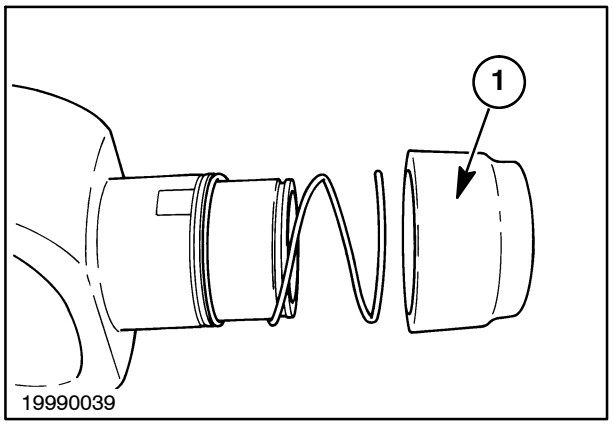
1. Pull the collar rearward and hold it in place. Use a screwdriver or spring pick to remove the retaining ring, 1, from the end of the yoke.



23

2. Slide the collar, 1, off the yoke, and remove the spring from the yoke barrel.

NOTE: *The spring is an interference fit, and will have to be worked off the yoke barrel.*



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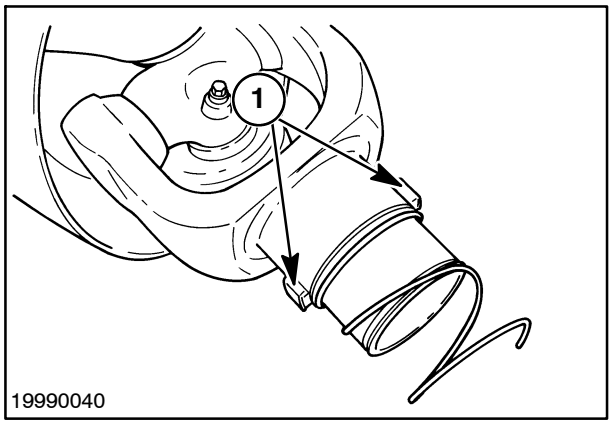
3. Remove the pawls, 1, by reaching into the yoke bore and pushing them out from the inside. Once they protrude to the outside of the yoke, grab and remove them.
4. Thoroughly clean all parts. Clean the yoke bore and pawl holes. Inspect the yoke for damage or excessive wear, and replace if necessary.



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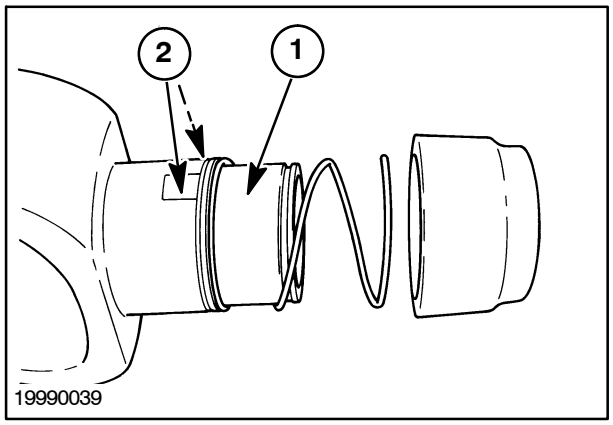
Assembly

1. Coat the outer surface of the yoke barrel, 1, with grease. Push grease into the pawl holes, 2.



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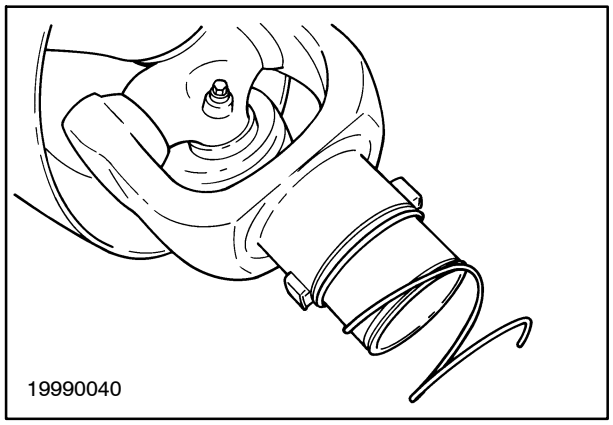
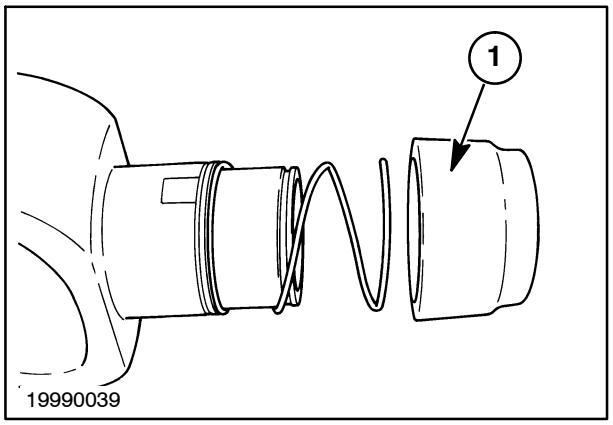
2. Apply grease to the sides of the pawls and insert them into the square holes. The lip of the pawl should face into the groove in the yoke barrel. The pawls must slide freely up and down, and must be flush with the top of the yoke barrel.
3. Push a new spring over the yoke barrel up to the shoulder.

NOTE: *One end of the spring has a smaller diameter than the other. Place the small diameter against the shoulder on the yoke barrel.*



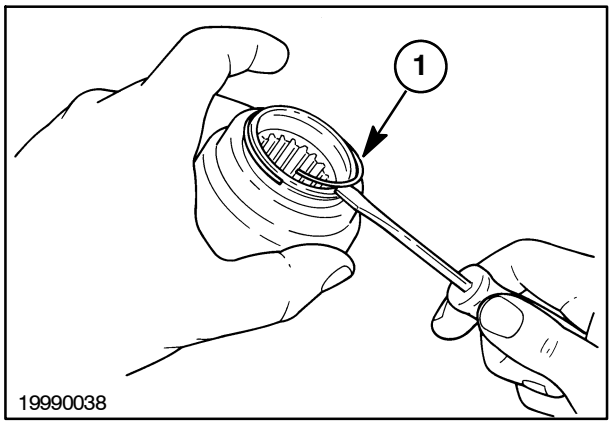
27

4. Fill the inside of the collar cavity with grease. Slide the collar, 1, over the yoke barrel. Keep the large diameter end of the spring inside the collar against the front lip. Pull the collar past the retaining ring groove and hold it in place.



28

5. Install the retaining ring, 1, in the groove. The collar must slide freely and the pawls must move up and down after assembly.



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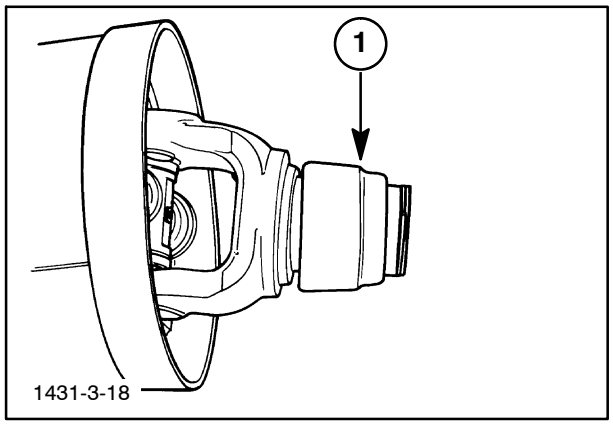
AUTO-LOK SLIDE LOCK

The H7460 and H7560 are equipped with an Auto-Lok slide lock, 1, which automatically latches in the rearward position when pulled back. The primary PTO shaft may then be held with both hands to guide it onto the tractor shaft; as the yoke slides onto the tractor shaft, the slide lock collar springs forward to latch the PTO shaft to the tractor shaft.



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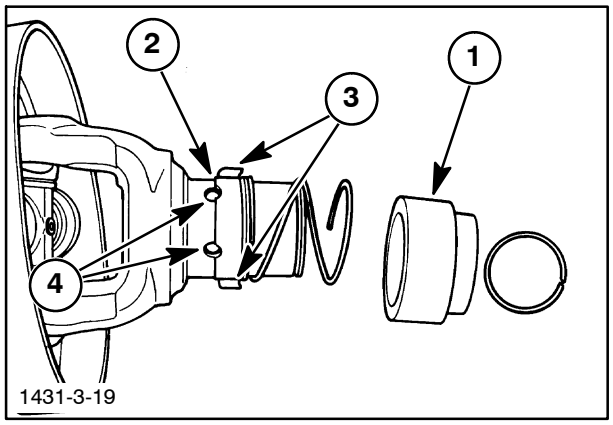
The Auto-Lok slide lock works as follows; as the collar is slid rearward, it tends to twist or cock slightly sideways, allowing a shoulder in the collar, 1, to catch on a ridge on the yoke, 2. As the yoke is slid onto the tractor shaft, and the pawls, 3, line up with the groove on the tractor shaft, four balls, 4, in the yoke are pushed outward by the end of the shaft. These four balls center the collar, causing the shoulder to disengage from the ridge, and the collar springs forward to lock the pawls in the tractor PTO shaft groove.



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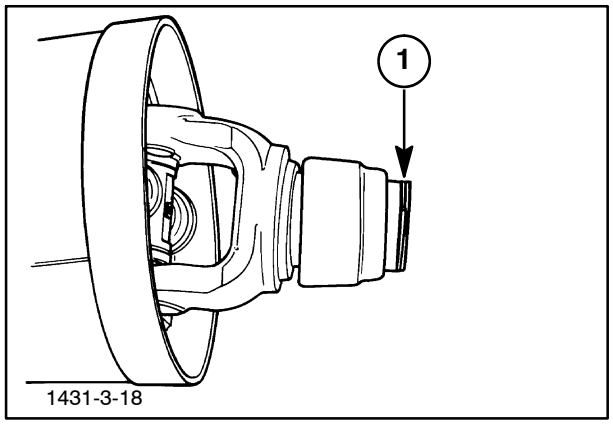
AUTO-LOK Slide Lock - Disassembly

1. Pull the slide lock collar rearward until it latches in place. Use a screwdriver or spring pick to remove the retaining ring, 1, from the end of the yoke.

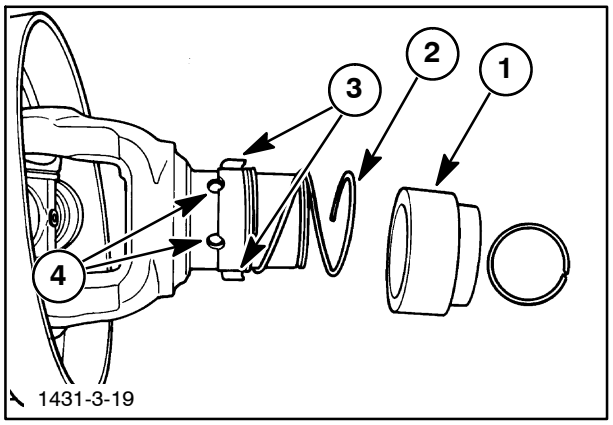


32

2. Slide the collar, 1, off the yoke, and remove the spring, 2, from the yoke barrel.

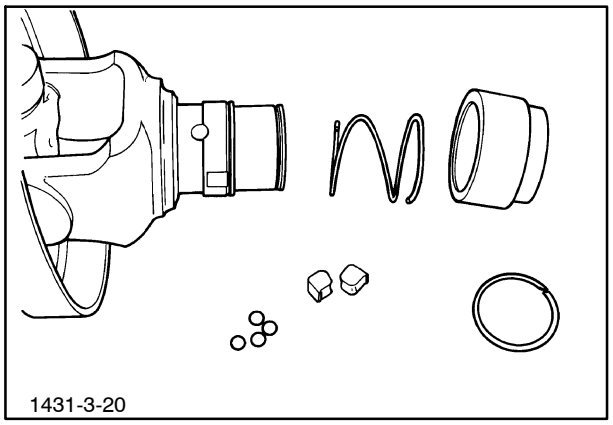
NOTE: *The spring is an interference fit, and will have to be worked off the yoke barrel.*

3. Remove the pawls, 3, by reaching into the yoke bore and pushing the pawls outwards, so that they can be grabbed and removed. Remove the four centering balls, 4, from the yoke using the same process.



33

4. Thoroughly clean all slide lock components. Clean the yoke bore and pawl holes. Replace the yoke if damage or excessive wear is found.



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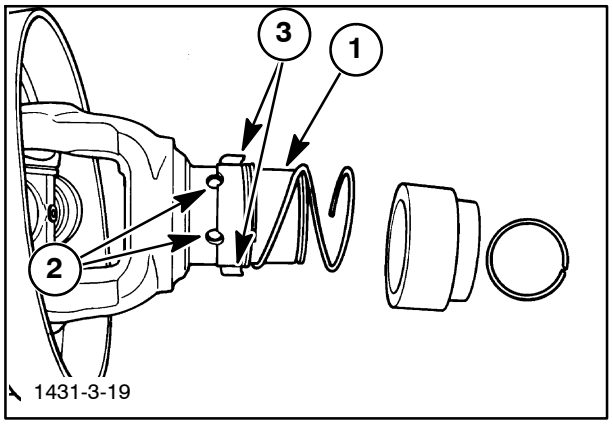
AUTO-LOK Slide Lock - Assembly

1. Coat the outer surface of the yoke barrel, 1, with grease; push grease into the centering ball bores and the pawl holes in the yoke. Apply grease to the four centering balls, 2, and insert them into their bores; the grease will hold them in place.

   Apply grease to the sides of the pawls, 3, and insert them into the square holes, positioning them so that the lip of the pawl faces into the groove in the yoke barrel. The pawls must slide freely up and down, and must be flush with the top of the yoke barrel.



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2. Push a new spring over the yoke barrel up to the shoulder.

NOTE: *One end of the spring has a smaller diameter than the other. Be sure the small diameter of spring is up against the shoulder on the yoke barrel.*