

Keep with Operators Manual

LOADER MOUNTING KIT

SMC AND RHINO 7214 & 7214 MSL LOADER

NEW HOLLAND TM115, TM120, TM125, TM130, TM135, TM140, TM150,
TM155, TM165, TM175 & TM190 SUPER STEER TRACTORS

TRACTOR & LOADER GENERAL INFORMATION

Mounting kit can be installed using tools ordinarily available.

Tractors equipped with mid-mount valves require hydraulic plumbing kit (2-6957) or (2-6959).

Tractors using rear remotes require plumbing kit (2-6958) and (2) New Holland detent removal kits (719362010 and 718362010) for loader operation.

Check front tire and fender clearances once loader is installed and adjust tire track width as necessary.

Tractors are equipped with front axle oscillation stops. They must be used with loader installation.

Tractor steering stops may have to be adjusted to provide clearance between front tire, fender, tractor hood and loader on full left and right turn with front axle fully oscillated. Be sure lift cylinders are fully retracted when checking tire and fender clearances. Refer to tractor operator's manual for steering stop adjustment.

PREPARING TRACTOR

Shut off engine and engage brakes during installation.

If tractor is equipped with front weights, they must be removed. The weight bracket can remain.

If equipped, radar gun and mounting bracket must be removed, to be relocated later (See figure 3, page 4).

Remove tool box and mounting bracket, to be relocated later (See figure 2, page 4).

Tractors equipped with two fuel tanks must have fuel removed to install loader mounting.

Run 20mm-2.50 thread tap into tractor front casting and transmission housing bolt holes which are used for loader mountings.

INSTALLING MID-MOUNTS (Figure 1)

NOTE: Loosely install hardware (unless noted differently in instructions) until mounting kit is completely assembled to facilitate assembly and proper alignment. All mounting hardware will be torqued later.



WARNING: Front window of cab is very vulnerable to breakage when installing mid-mount assemblies. Steps should be taken to protect glass when attaching mid-mounts.

LEFT HAND FUEL TANK REMOVAL

NOTE: Tractors equipped with two fuel tanks must have fuel removed.

1. Remove fuel tank front and rear support straps and foot steps.
2. Disconnect fuel sensors and lines. Mark each for re-assembly.
3. Loosen and disconnect front and rear breather lines by removing hose clamps.
4. If tractor is equipped with auxiliary right hand fuel tank, disconnect transfer tube from left tank.
5. Remove tank.

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AUXILIARY RIGHT HAND FUEL TANK REMOVAL

1. Repeat procedure for left hand fuel tank removal above.

INSTALLING LEFT MID-MOUNT (Figure 1)

1. Raise left mid mount (1) with overhead hoist, and loosely attach to transmission housing with four 20mm x 70mm cap screws (8), four 20mm disc spring washers (10), and one 3/4 inch flat washer (11) used over the lower rear slot on mounting. Attach to front casting using six 20mm x 65 mm cap screws (7), 20mm disc spring washers (10) and 3/4 inch flat washers (11). To assist with positioning mount, start cap screw (8) in lower rear hole in transmission casting. Mounting can be positioned onto cap screw (8) and rotated into place.

IMPORTANT: Flat washers are installed over slotted surface on mounting, then disc spring washers are installed on top of flat washers with serrated surface facing bolt head. Torque 20mm bolts to 426 ft. lbs.

INSTALLING RIGHT MID-MOUNT (Figure 1)

NOTE: If tractor is equipped with a radar gun, the radar mounting bracket is installed over midmounting at lower two holes in transmission housing. Use the spacer plate in place of the radar gun bracket if tractor is not equipped with a radar gun.

1. Raise right mid mount (2) with overhead hoist, and loosely attach to the transmission housing. Use two 20mm x 70mm cap screws (8) and two 20mm disc spring washers (10) to secure midmount to the top two holes. Use two 20mm x 75mm cap screws (9) and two 20mm disc spring washers to secure mounting (2) and radar bracket (6) or spacer plate (5) to the bottom two holes of the transmission casting. Secure mounting (2) to the front casting with six 20mm x 65mm cap screws (7), 3/4 inch flat washers (11), and 20mm disc spring washers (10). To assist with positioning mount, start cap screw (9) in lower rear hole in transmission casting. Mounting can be positioned onto cap screw (9) and rotated into place.

IMPORTANT: Flat washers are installed over slotted surface on mounting, then disc spring washers are installed on top of flat washers with serrated surface facing bolt head. Torque 20mm bolts to 426 ft. lbs.

INSTALLING CROSSTIE (Figure 1)

NOTE: If optional loader subframe kit (2-7170) is being installed, it should be installed before crosstie installation.

1. Raise crosstie (3) and attach to left and right mid mount assemblies (1 & 2) with eight 3/4 x 2-3/4 cap screws (13), 3/4 flat washers (11) and 3/4 lock nuts (14), as illustrated in figure 1.

2. Tighten and torque hardware to specifications found on torque chart on page 7.

NOTE: Crosstie hardware must be retorqued after initial 10 hours use and after every additional 100 hours.

IMPORTANT: For ease of installation, mid-mount loader valve kits, (if required), loader hydraulic control package, and radar gun (if equipped - refer to figure 3) should be installed prior to reinstallation of right hand fuel tank.

INSTALLING BULKHEAD BRACKET ASSEMBLY

1. Attach bulkhead bracket assembly (4) to right side midmounting (2) using 5/16 x 3/4 cap screws (15) and 5/16 lock washers (12).

FUEL TANK REINSTALLATION

1. Reverse tank removal procedure.

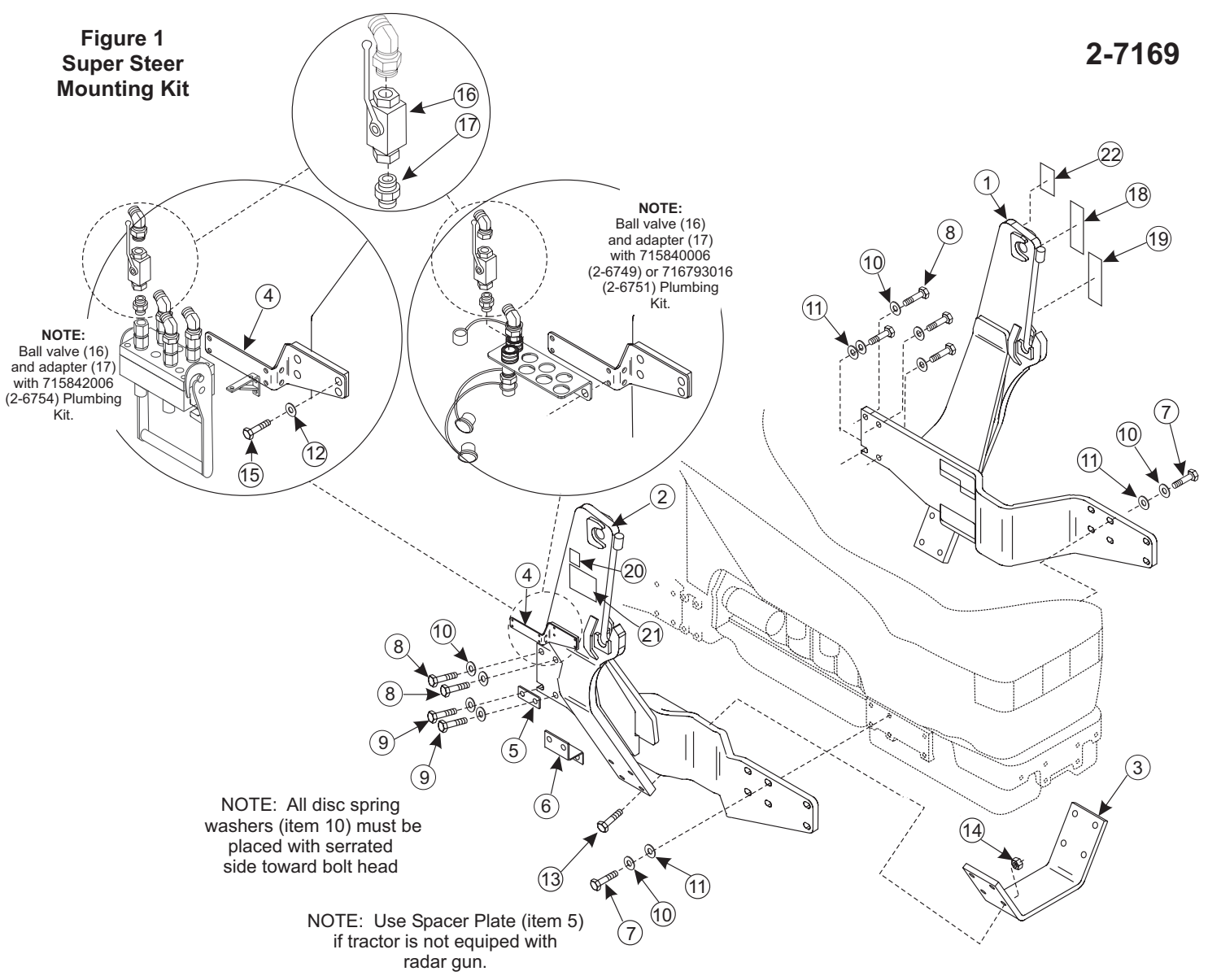
INSTALLING BALL VALVE (Figure 1)

Installation of ball valve (16) when installed onto hose kit (2-6957) or (2-6958).

1. With loader resting on ground and tractor engine shut off, cycle loader control valve to relieve system pressure.
2. Uncouple coupler feeding lift cylinder base, color coded green. Remove male coupler from 45° fitting. Attach handle end of ball valve (16) in open position to 45° fitting (See figure 1). Attach adapter fitting (17) to opposite side of ball valve (16) and male coupler to adapter fitting (17). Recouple male coupler to female coupler. **NOTE:** When installing ball valve (16) onto quick disconnect hose kit (2-6959), remove hose feeding lift cylinder base from 45° fitting installed onto outside rear coupler of mobile half of quick disconnect. Remove 45° fitting from coupler. Install adapter fitting (17) into coupler on quick disconnect. Attach ball valve (16) to adapter (17) as shown in figure 1, with handle pointing away from coupler when in open position. Attach 45° fitting to opposite end of ball valve (16). Attach hose to 45° fitting.
3. Adjust ball valve to face out as shown in figure 1 and tighten all fittings.

**Figure 1
Super Steer
Mounting Kit**

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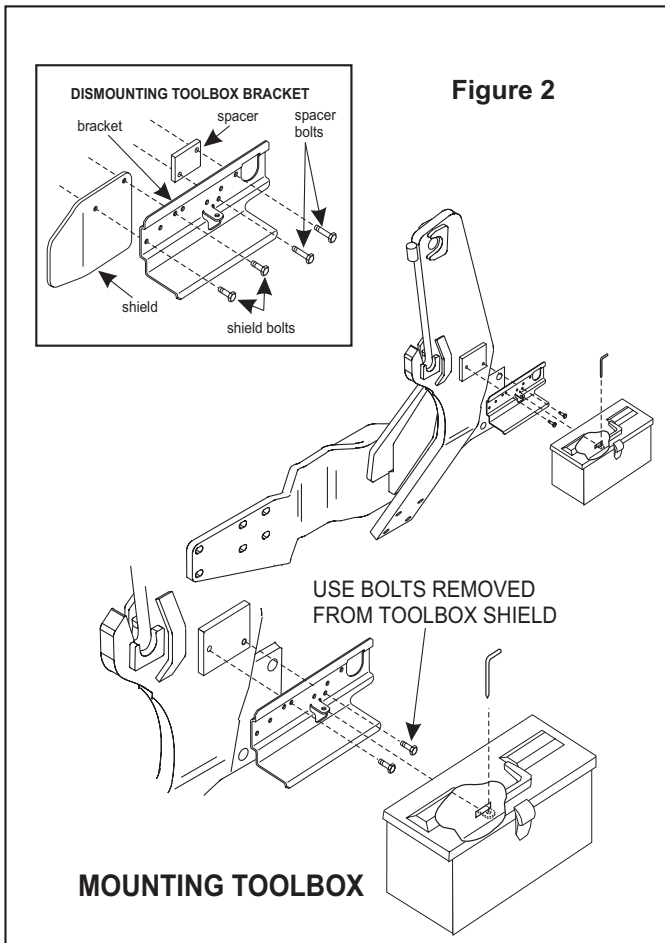
PARTS LIST - 7214 SUPER STEER MOUNTING KIT (Figure 1)

ITEM	SMC Number	DESCRIPTION	QTY.
1	49433	MID MOUNT ASSEMBLY with DECALS, Left	1
2	49434	MID MOUNT ASSEMBLY, with DECALS, Right	1
3	49426	CROSSTIE	1
4	49442	BULKHEAD BRACKET ASSEMBLY	1
5	49424	SPACER PLATE	1
6	49427	RADAR MOUNTING BRACKET	1
7	49040-2	SCREW, Cap, 20MM-2.5MM x 65MM	12
8	49040-3	SCREW, Cap, 20MM-2.5MM x 70MM	6
9	49040-4	SCREW, Cap, 20MM-2.5MM x 75MM	2
10	47786-3	WASHER, Disc Spring, 20MM	20
11	42502-33	WASHER, Flat, 3/4	13
12	41837-2	WASHER, Lock, 5/16	4
13	41838-42	SCREW, Cap, 3/4-10 x 2.75	8
14	41840-8	NUT, Lock, 3/4-10	8
15	41838-26	SCREW, Cap, 5/16-18 x 3/4	4
16	48639	BALL VALVE	1
17	48670-1	ADAPTER, ADJ., O-RING	1
18	46774	DECAL, Danger (Factory Installed)	1
19	47730	DECAL, Warning (Factory Installed)	1
20	48708	DECAL, Operation (Factory Installed)	1
21	48640	DECAL, Danger (Factory Installed)	1
22	46779	DECAL, Warning (Factory Installed)	1
23	41838-44	SCREW, Cap, 3/4-10 x 1.5	2

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INSTALLING TOOL BOX (Figure 2)

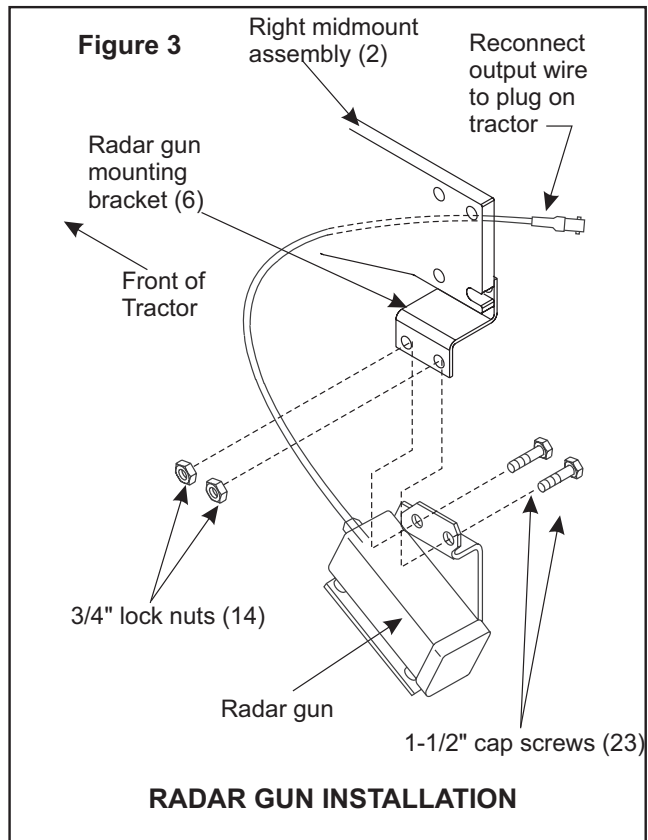
Attach tool box mounting bracket to plate on left mid mount assembly with 8mm x 16mm hardware removed from toolbox shield earlier. Discard shield, spacer and spacer hardware.



RADAR GUN (If equipped) Figure 3)

Install Radar Gun to radar gun bracket (6) using two 3/4 x 1-1/2 cap screws (23) and 3/4-10 lock nuts (14) as illustrated in figure 3.

NOTE: If using Subframe Kit (2-7170) to rear axle, discard mounting bracket (6) and mount radar gun onto the bracket attached to right side subframe assembly.



GRILLE GUARD

If Grille Guard is required, install before mounting loader.

MOUNTING 7214 LOADER (Figures 4-7)

WARNING: To avoid injury during installation of quick attach loader, do not permit bystanders within ten feet of loader.



WARNING: To avoid injury during installation of quick attach loader, an overhead hoist must be used for initial mounting. Parking stands are not operational without attachment mounted.

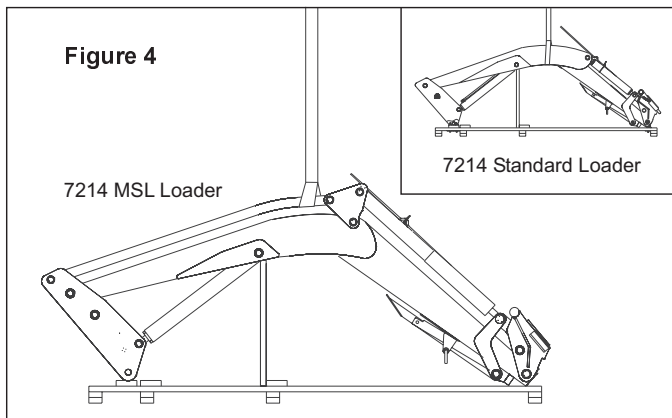


MOUNTING 7214 LOADER (Continued)

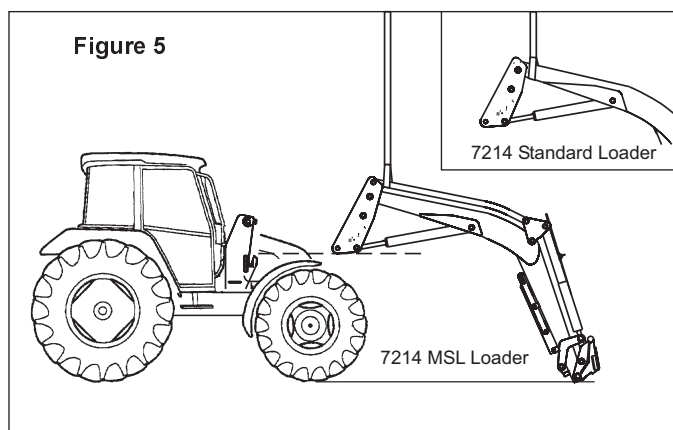
- Using overhead hoist with nylon sling, lift loader at balance point (Figure 4). Remove hardware which secures loader to pallet. Remove linch pins and hitch pins from loader uprights (Figure 6).



WARNING: Loader uprights may rotate downward when loader is lifted from pallet.



- Raise loader from shipping position and remove pallet, lower loader (scraps of cardboard may be used to protect paint).
- Install hydraulic plumbing on loader and tractor. Tractors equipped with mid-mount valves require hydraulic plumbing kit (2-6957) or (2-6959). Tractors using rear remotes require plumbing kit (2-6958) and (2) New Holland detent removal kits (719362010 and 718362010) for loader operation. Follow instruction sheets provided with kits for installation.



- Secure a hoist strap around the boom arm assembly or secure with a chain hook into hole provided in underside of boom arm. If using a strap, the strap should be located around the boom arm in about the same location (See figure 5).

Slowly raise loader with overhead hoist until loader upright will clear tractor tires or fenders (See figure 5).

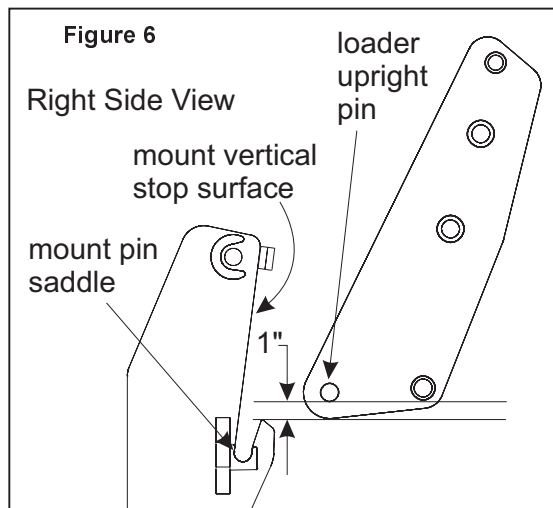
- Drive tractor into loader until mounts and loader uprights are 6" to 8" apart. Shut off engine. Attach lift cylinder function hoses (color coded green and yellow) to corresponding tractor couplers, or attach mobile half of quick disconnect to fixed half if so equipped. **NOTE:** Route hoses under tractor exhaust.

NOTE: Important to attach lift cylinder hoses (yellow and green spiral band coded) for loader to function properly.

- Start engine. Retract lift cylinders fully and continue to activate control lever for approximately 10 seconds. Cycle cylinders several times to remove air. Extend lift cylinders 6" to 8" from the fully closed position. Shut off engine.

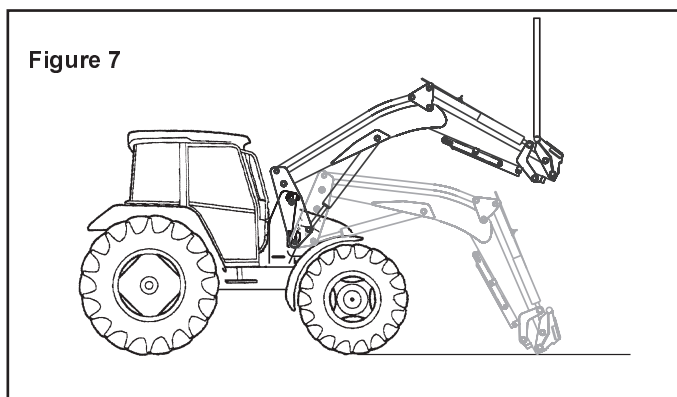
MOUNTING 7214 LOADER (Continued)

8. With overhead hoist, position loader upright pin to clear mount pin saddle by 1" (see figure 6). Move tractor forward until both loader upright pins come to rest against the flat vertical stop surface of both mounts. Lower loader with overhead hoist until both loader upright pins rest into mount pin saddles.



9. Remove hoist chain or strap from loader boom and secure to quick attach assembly. Using overhead hoist raise front of loader to rotate loader upright into upper mount saddle (Refer to Figure 7). Continue to rotate loader upright until upright has fully seated into back of mount saddle. Insert two 1-1/2 x 8" pins and linch pins which were removed from loader uprights in step 1. Remove hoist chain or strap from loader boom.

NOTE: In some cases a small amount of additional force may be required to insert the pins.



10. Attach tilt cylinder function hoses (color coded blue and red) to corresponding tractor couplers.

INSTALLING BUCKET OR ATTACHMENT

Refer to loader operator's manual to install bucket or optional attachments.



WARNING: Always have an attachment mounted to loader when it is removed from tractor.

ADJUST BUCKET LEVEL INDICATOR

Refer to instruction sheet and assembly manual with bucket or optional attachments.

11. Start engine and slowly cycle all cylinders several times with full strokes to purge air from hydraulic system. Replenish hydraulic system using New Holland 134 hydraulic oil.
12. Adjust front wheel tread settings or steering stops, if necessary, to provide a minimum 3/4 inch clearance between front tires and any part of loader with lift cylinders fully retracted and front axle fully oscillated. Be sure lift cylinders are fully retracted. Refer to page 1 under preparing tractor. Refer to tractor operator's manual for tread setting and steering stop adjustment procedures.

NOTE: Cross tie hardware must be retorqued after initial 10 hours of use and after every additional 100 hours.

GENERAL TORQUE SPECIFICATIONS

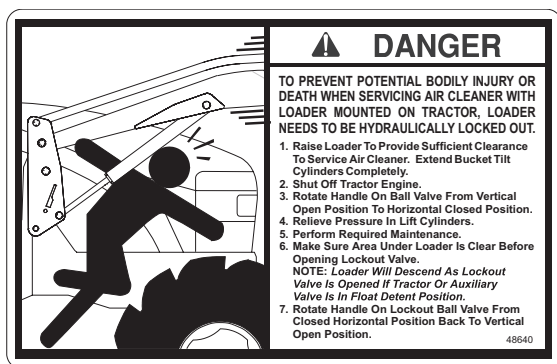
USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

AMERICAN STANDARD CAP SCREWS									METRIC CAP SCREWS								
SAE Grade	5				8				Metric Class	8.8				10.9			
Cap Screw	TORQUE				TORQUE				Cap Screw	TORQUE				TORQUE			
Size	FT-LBS		Nm		FT-LBS		Nm		Size	FT-LBS		Nm		FT-LBS		Nm	
Inches	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	Millimeters	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1/4-20	6.25	7.25	8.5	10	8.25	9.5	11	13	M6x100	6	8	8	11	9	11	12	15
1/4-28	8	9	11	12	10.5	12	14	16	M8 x 1.25	16	20	215	27	23	27	31	36.5
5/16 - 18	14	15	19	20	18.5	20	25	27	M10 x 1.50	29	35	39	47	42	52	57	70
5/16 - 24	17.5	19	23	26	23	25	31	34	M12 x 1.75	52	62	70	84	75	91	102	123
3/8 - 16	26	28	35	38	35	37	47.5	50	M14 x 2.00	85	103	115	139	120	146	163	198
3/8 - 24	31	34	42	46	41	45	55.5	61	M16 x 2.50	130	158	176	214	176	216	238	293
7/16 - 14	41	45	55.5	61	55	60	74.5	81	M18 x 2.50	172	210	233	284	240	294	325	398
7/16 - 20	51	55	69	74.5	68	75	92	102	M20 x 2.50	247	301	335	408	343	426	465	577
1/2 - 13	65	72	88	97.5	86	96	116	130	M22 x 2.50	332	404	450	547	472	576	639	780
1/2 - 20	76	84	103	114	102	112	138	152	M24 x 3.00	423	517	573	700	599	732	812	992
9/16 - 12	95	105	129	142	127	140	172	190	M27 x 3.00	637	779	863	1055	898	1098	1217	1488
9/16 - 18	111	123	150	167	148	164	200	222	M30 x 3.00	872	1066	1181	1444	1224	1496	1658	2027
5/8 - 11	126	139	171	188	168	185	228	251									
5/8 - 18	152	168	206	228	203	224	275	304									
3/4 - 10	238	262	322	355	318	350	431	474									
3/4 - 16	274	305	371	409	365	402	495	544									
7/8 - 9	350	386	474	523	466	515	631	698									
7/8 - 14	407	448	551	607	543	597	736	809									
1 - 8	537	592	728	802	716	790	970	1070									
1 - 14	670	740	908	1003	894	987	1211	1337									

NOTE: These values apply to fasteners as received from the supplier, dry or when lubricated with normal engine oil. They do not apply if special graphite or molydisulphide greases or other extreme pressure lubricants are used.

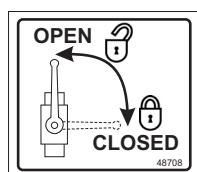
SAFETY DECALS

NOTE: Loader safety decals are at locations listed below each decal part number. Replace decals if they are damaged or illegible. Replacement decals are available from your dealer.



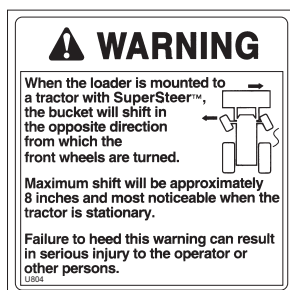
DECAL P.N. 48640

Location: Right Side Mid-Mount



DECAL P.N. 48708

Location: Right Side Mid-Mount



DECAL P.N. 46779

Location: Left Side Mid-Mount



DECAL P.N. 46774

Location: Left Side Mid-Mount



DECAL P.N. 47730

Location: Left Side Mid-Mount

INSTALLATION INSTRUCTIONS