

Keep With Operator's Manual

**NEW HOLLAND 756C,920GH, 930GH, and CASE IH BHX172,
BH90, and BH102 BACKHOE HYDRAULIC KIT
NEW HOLLAND T29DA SN G10009 and HIGHER,
TC33DA SN G10009 and HIGHER, and T2210&T220 TRACTORS
CASE IH DX29 SN HBA010464 AND HIGHER,
DX33 SN HBA010010 AND HIGHER, and FARMALL 31&35 TRACTORS**

Hydraulic kit can be installed on tractor and backhoe using tools ordinarily available. Tractor must be equipped with loader to operate backhoe.

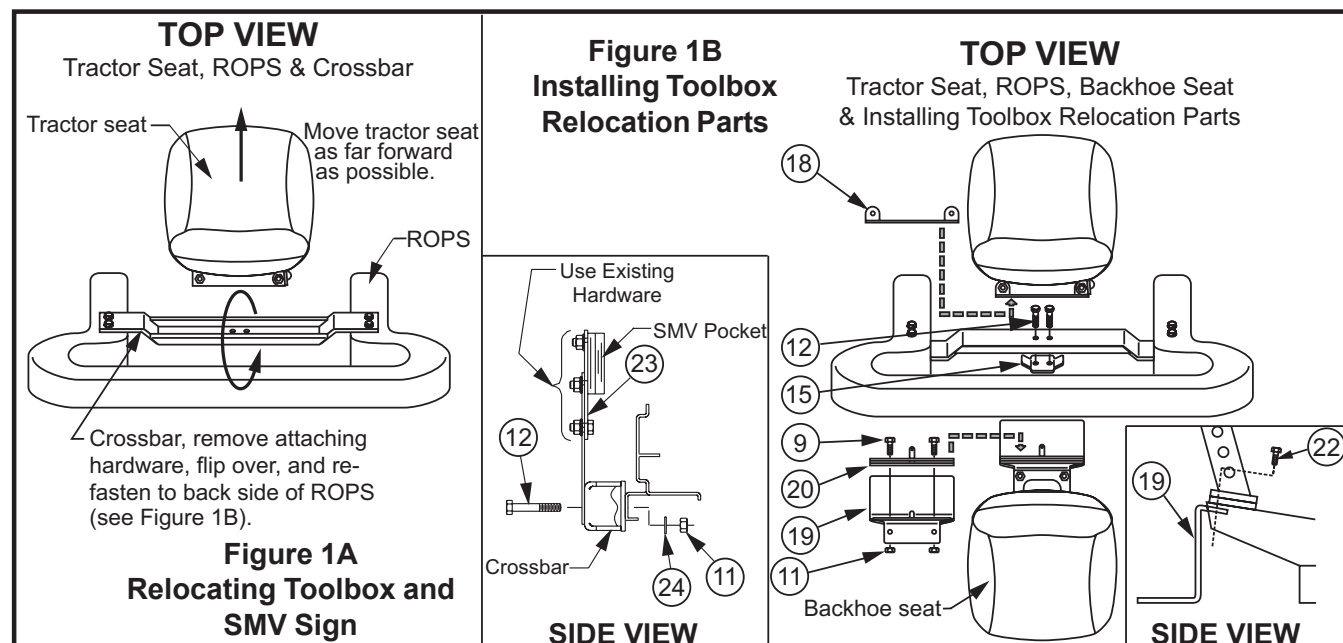
RELOCATING TOOLBOX (Figure 1A & 1B)

1. Remove tractor toolbox. Remove SMV pocket from SMV bracket. Remove SMV bracket from toolbox support angle. Remove toolbox support angle and upper three-point link hook from crossbar, which is fastened to ROPS. Save hardware for later use.
2. Temporarily remove crossbar from ROPS tube, saving all hardware for re-use.
3. Slide tractor seat as far forward as possible. Remove rear two 8MM socket head bolts holding seat base to tractor sheet metal. Install seat stop (18) by sandwiching it between base of seat assembly and sheet metal. Seat stop (18) will prevent interference between swiveled seat and crossbar. Reinstall socket head bolts and tighten.

4. Reverse crossbar so offset is toward front of tractor and refasten crossbar to rear side of ROPS tube, using existing hardware.
5. Refasten toolbox support angle, upper three-point link hook, and SMV bracket (see NOTE) to crossbar using 5/16 x 2-1/4 cap screws (12), spacer flat (15), 5/16 flat washer (24), and 5/16-18 lock nut (11).
6. Fasten backhoe toolbox support (19) to bottom side of seat mounting bracket on backhoe frame using existing lock nuts and 3/8 x 1-1/2 cap screws (22).
7. Fasten toolbox lock bracket (20) to toolbox support (20) under backhoe seat using 5/16 x 3/4 cap screws (9) and lock nuts (11).

NOTE: Put SMV bracket at front of crossbar and toolbox, 3-point link hook assembly and spacer (15) at rear of crossbar.

NOTE: When mounting backhoe to tractor, relocate toolbox from back of tractor to location under backhoe seat to prevent toolbox from interfering with backhoe seat. Reinstall toolbox back onto tractor when backhoe is removed.



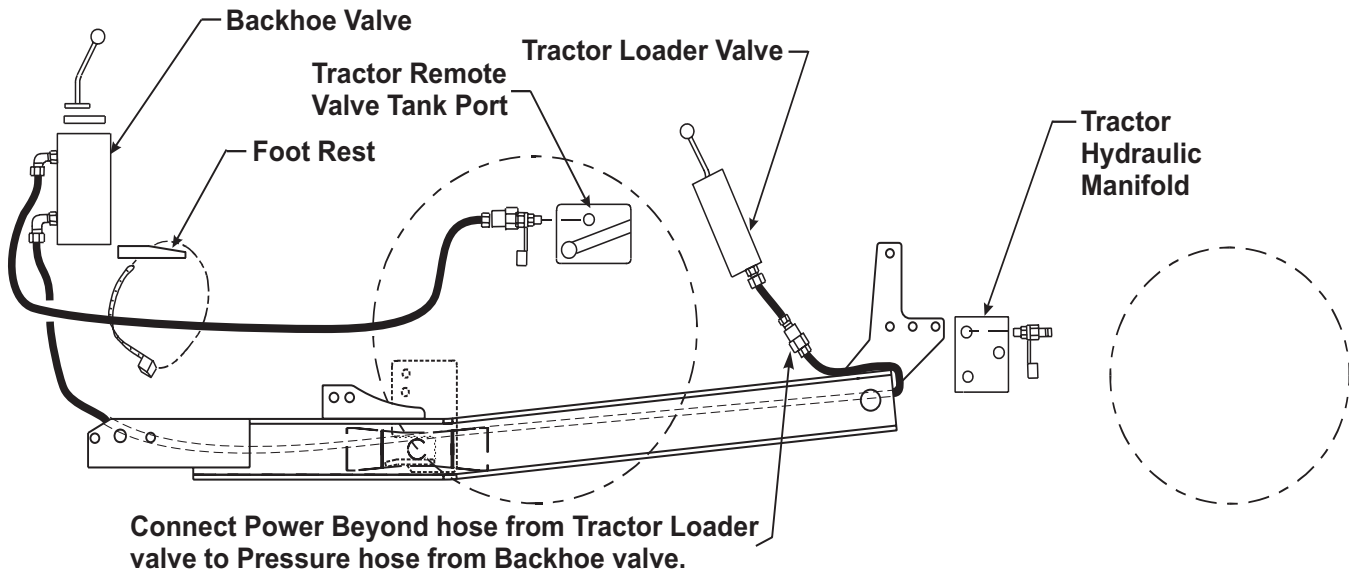


Figure 2
Mounting Backhoe to Tractor

PARTS LIST - HYDRAULIC KIT

ITEM	PART NO.	NH NO.	DESCRIPTION	QTY.
1	31221-3		FITTING, Adapter, 3/4 JIC x 38 NPTF	1
2	34644-2		FTG 90 DEG 1/2 MNPT X 3/8MNPT	1
3	41838-9		HHCS, 3/8/16 X 1-1/4 GR5	1
4	6137-4		COUPLER, 3/8 Male Quick	2
5	36336-13		HOSE, .500 X 90" LG.	1
6	6147-4		COUPLER, 3/8 Female Quick	1
7	52158-1		HOSE, .500 X 24"	1
8	4838-3		CAP, 1/2" Dust	1
9	41838-26		HHCS, 5/16-18 X 3/4" LG GR 5	2
10	41053-4		HOSE, .500 X 72" LG.	1
11	41840-2		NUT, Lock 5/16-18	4
12	41838-85		HHCS, 5/16-18 X 2 1/4" LG GR 5	2
13	6147-8		COUPLER, 1/2 Female Quick	1
14	6137-6		COUPLER, 1/2 Male Quick	1
15	51000		SPACER, Flat Toolbox Relocation Bracket	1
16	8137-6		STRAP, Adjustable Tie, 5/16 X 11"	1
17	41840-3		NUT, Lock 3/8-16 YDP	1
18	50997		BRACKET, Seat Stop	1
19	50998		BRACKET, Toolbox	1
20	50999		BRACKET, Toolbox Lock	1
21	4838-5		CAP, 3/8" Dust	1
22	41838-23		HHCS, 3/8-16 X 1 1/2" LG. GR 5	2
23	52161		FLAT, Extension	1
24	42502-7		WASHER, Flat 5/16	2
25	52160		OIL LINE, PB	1
26	13722		CLAMP	1
27	52159		CLAMP FLAT	1
28	50227-6		SPACER, 3/4 O.D. X 7/16" Long	1

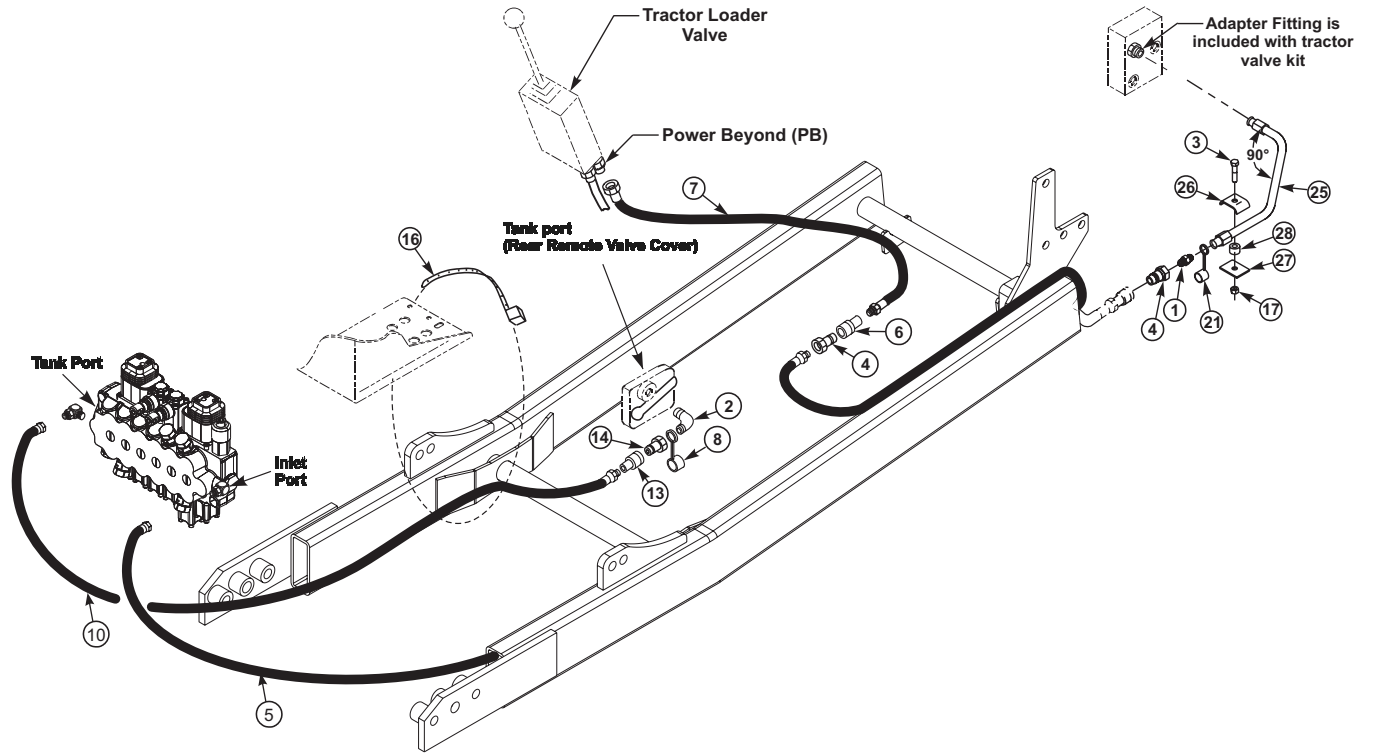


Figure 3
Installing Hydraulic Hose Kit

INSTALLING HYDRAULIC KIT (Figure 3)

1. Using 8mm allen wrench, remove plug from tank port on tractor remote valve cover plate on right side above rear axle. Install 1/2 x 3/8 elbow fitting (2) then 1/2 dust cap (8) and 1/2 male quick coupler (14) to tank port. Point fittings rearward and slightly downward to avoid tractor valve linkage.
2. Remove backhoe valve cover plate. Install 3/8 x 90" (5) hose to inlet port on backhoe valve (figure 3). Install 3/8 male quick coupler (4) to end of 3/8 x 90" hose (5).
3. Install 1/2 x 72" hose (10) to tank port on backhoe valve (Figure 3). Install 1/2 inch female quick coupler (13) to end of 1/2 x 72" hose (10). Reinstall backhoe valve cover plate.
4. Route hoses under backhoe footrest. Secure hoses under footrest using 11 inch tie strap (16).
5. Remove valve cover on tractor loader valve. Remove steel oil line between tractor loader valve power beyond port and adapter fitting in tractor hydraulic manifold power beyond port "A".
6. Install PB oil line (25), 3/8 dust cap (21), 3/8 adapter (1) and 3/8 male coupler (4) to adapter fitting in power beyond port "A" of hydraulic manifold. Clamp PB oil line (25) to adjacent oil line using clamp (26), clamp flat (27), 3/4" O.D. spacer (28), 3/8 x 1-1/4 cap screw (3) and lock nut (17).
7. Install 1/2 x 24" hose (7) to fitting in power beyond port of tractor loader valve. Route hose through floorboard cutout. Reinstall valve cover onto loader valve. Install 3/8 female quick coupler (6) to end of 1/2 x 24" hose (7). Couple power beyond hose (7) from loader valve to manifold PB oil line (25).

MOUNTING BACKHOE TO TRACTOR

1. Back tractor slowly toward backhoe, parallel to subframe assembly, until hoses can be connected to tractor. Lower 3-point lift arms to near level position. Shut off tractor engine.



WARNING: To prevent possible damage to hoses and backhoe valve, always shut off tractor engine when coupling or uncoupling hoses from backhoe. Make sure connections are complete at couplers.

2. Connect tank hose (10) to tractor tank port. Uncouple power beyond hose (7) at manifold. Connect backhoe pressure hose (5) to tractor power beyond hose (7).
3. Start tractor. Using backhoe controls, extend bucket and lower stabilizers to provide a base for raising subframe. Using stabilizers, raise subframe to proper height to connect to tractor. Position 3-point lift arms inside backhoe subframe support braces.
4. Slowly back tractor until subframe is engaged in mounting bracket and mounting ears.

NOTE: Check to be sure hoses are not pinched between tractor and subframe.

Connect subframe to mounting ears using pins provided in subframe kit.

5. After backhoe has been mounted to tractor, check all hydraulic connections. Slowly cycle backhoe cylinders several times to purge air from hydraulic system. Retract cylinders and shut off engine. Replenish tractor hydraulic system



WARNING: Escaping hydraulic fluid under pressure can penetrate skin causing serious injury.

- **DO NOT** use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
- Stop engine and relieve pressure before connecting or disconnecting lines.
- Tighten all connections before starting engine or pressurizing lines.
- Make sure hoses are secure and will not rub on ground or tires.

If any fluid is injected into skin, obtain medical attention immediately or gangrene may result.

GENERAL TORQUE SPECIFICATIONS

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Standard American and Metric Cap Screws

AMERICAN STANDARD CAP SCREWS									METRIC CAP SCREWS								
SAE Grade	5				8				Metric Class	8.8				10.9			
Typ. Head Markings									Typ. Head Markings								
Cap Screw	TORQUE				TORQUE				Cap Screw	TORQUE				TORQUE			
Size	FT-LBS		N-m		FT-LBS		N-m		Size	FT-LBS		N-m		FT-LBS		N-m	
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	M6 x 1.00	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	21.5	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	NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphite or molysulphide greases or other extreme lubricants are used.								
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									

37° JIC Fittings

Size	Thread Size	Assembly Torque		Tube Connection F. F. F. T.	Swivel Nut or Hose Connection F. F. F. T.
		in.-lb.	ft.-lb.		
-4	7/16 - 20	140 ± 10	12 ± 1	2	2
-5	1/2 - 20	180 ± 15	15 ± 1	2	2
-6	9/16 - 18	250 ± 15	21 ± 1	1 1/2	1 1/4
-8	3/4 - 16	550 ± 25	45 ± 5	1 1/2	1
-12	1 1/16 - 12	1000 ± 50	85 ± 5	1 1/4	1
-16	1 5/16 - 12	1450 ± 50	120 ± 5	1	1
-20	1 5/8 - 12	2000 ± 100	170 ± 10	1	1
-24	1 7/8 - 12	2400 ± 150	200 ± 15	1	1
-32	2 1/2 - 12	3200 ± 200	270 ± 20	1	1

O-Ring Face Seal Tube/ Hose Swivel Nut

Metric Tube O.D. (mm)	Dash Size	Thread Size (in.)	Swivel Nut Hex Size (in.)	Swivel Nut Torque	
				N-m	lb _r .ft
5	-3	--	--	--	--
6	-4	9/16 - 18	11/16	16	12
8	-5	--	--	--	--
10	-6	11/16 - 16	13/16	24	18
12	-8	13/16 - 16	15/16	50	37
16	-10	1 - 14	1-1/8	69	51
20	-12	1-3/16 - 12	1-3/8	102	75
22	-14	1-3/16 - 12	--	102	75
25	-16	1-7/16 - 12	1-5/8	142	105
32	-20	1-11/16 - 12	1-7/8	190	140
38	-24	2 - 12	2-1/4	217	160
50.8	-32	--	--	--	--

SAE O-Ring Fittings

Size	Swivel Nut or Hose	Assembly Torque		F. F. F. T.
		in.-lb.	ft.-lb.	
2	5/16 - 24	90 ± 5	7.5 ± 0.5	1 ± .25
3	3/8 - 24	170 ± 10	14 ± 1	1 ± .25
4	7/16 - 20	220 ± 15	18 ± 1	1 ± .25
5	1/2 - 20	260 ± 15	22 ± 1	1 ± .25
6	9/16 - 18	320 ± 20	27 ± 2	1.5 ± .25
8	3/4 - 16	570 ± 25	48 ± 2	1.5 ± .25
10	7/8 - 14	1060 ± 50	90 ± 5	1.5 ± .25
12	1 1/16 - 12	1300 ± 50	110 ± 5	1.5 ± .25
14	1 3/16 - 12	1750 ± 75	145 ± 6	1.5 ± .25
16	1 5/16 - 12	1920 ± 125	160 ± 6	1.5 ± .25
20	1 5/8 - 12	2700 ± 150	225 ± 12	1.5 ± .25
24	1 7/8 - 12	3000 ± 150	250 ± 12	1.5 ± .25
32	2 1/2 - 12	3900 ± 200	325 ± 15	1.5 ± .25

INSTALLATION INSTRUCTIONS