

Third Function Valve Kit

#380-344A & #380-348A Installation Instructions



For LX Series Kubota Tractors with Loader LA535

Manual No. 380-347M

Before You Start



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

California Proposition 65



WARNING: Cancer and reproductive harm.
www.P65Warnings.ca.gov

IMPORTANT: Before you begin, thoroughly read these instructions and check to be sure all parts are accounted for. Please retain these installation instructions for future reference and parts ordering.

General Information

Your Third Function Valve Kit has been designed specifically for the Kubota LX series tractor with an attached LA535 front loader. These assembly instructions apply to the Third Function Valve Kits:

- **380-344A: 3FVK FF LX Series** page 2
- **380-348A: 3FVK PC LX Series** page 2

Further Assistance

Your Land Pride dealer wants you to be satisfied with your new Third Function Valve Kit. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss any problems you have with your Third Function Valve Kit with your dealership service personnel so they can address the problem.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the question/problem, and request assistance.
3. For further assistance write to:

Land Pride Service Department
1525 East North Street

P.O. Box 5060
Salina, Ks. 67402-5060

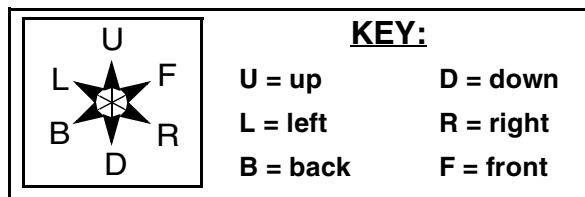
E-mail address
lp servicedept@landpride.com

Assembly Instructions

A detailed listing of parts for Kit #380-344A is provided on page 8 and for Kit #380-348A is provided on page 9. Use the list specific to you as a checklist to inventory parts received. Please contact your local Land Pride dealer for any missing parts.

Direction Reference

All directional references are made from the operator seat while facing the direction the machine will operate.



Directional Arrows Used in Illustrations

Initial Preparations

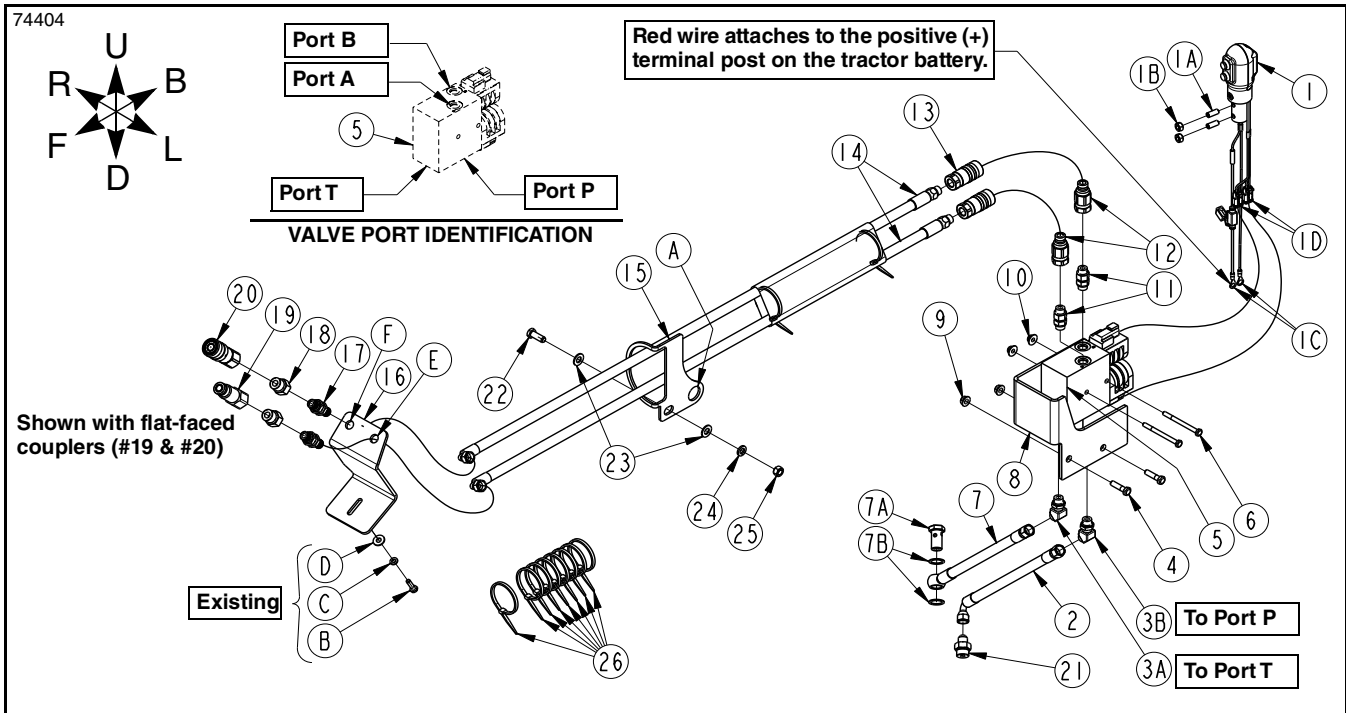


WARNING

To avoid serious injury or death: Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

The steps listed below must be followed before installing this kit:

1. If the front loader is not attached to the tractor, skip to step 8. Otherwise, continue with step 2 below.
2. Lower loader arms fully down, turn tractor off, and relieve all hydraulic pressure to the front loader couplers by operating the loader control lever(s) in all directions.
3. Having released all hydraulic pressure, lock the control lever(s) from moving.
4. Remove all mechanical connections securing the front loader to the tractor.
5. Disconnect all hydraulic lines from the front loader.
6. Refer to your tractor/loader Operator's Manual for additional unhooking instructions.
7. Restart tractor and slowly back away from the loader.
8. Park tractor on a flat, level surface. Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
9. Place chocks in front and back of the tractor's rear wheels.
10. As a safety precaution, disconnect the battery cable from the battery's negative (-) terminal. Move negative cable away from the terminal to avoid accidental contact.



Third Function Valve Kit for LX Series Kubota Tractor
Figure 1

Valve Assembly

Refer to Figure 1:

IMPORTANT: Valve (#5) must be assembled with ports (A & B) up and ports (P & T) down as shown. Banjo hose (#7) attaches to port (T) on valve (#5) and return to tank port on the tractor. Straight hose (#2) attaches to port (P) on valve (#5) and power beyond port on the tractor.

1. Attach adapters (#11) to ports (A & B) and tighten.
2. Attach male couplers (#12) to adapters (#11) and tighten.
3. Attach MORB end of elbows (#3A) to ports (T) and elbow (#3B) to port (P). Draw nut on elbows up snug, do not tighten at this time.
4. Attach banjo hose (#7) to elbow (#3A). Do not tighten at this time.
5. Attach hydraulic hose (#2) to elbow (#3B). Do not tighten at this time.
6. Attach valve (#5) to valve mount (#8) using 1/4"-20 x 3" GR5 bolts (#6) and lock nuts (#10). Tighten lock nuts to the correct torque.

Refer to Figure 2 on page 3:

7. Attach valve mount (#8) to existing holes in the left-hand loader mount (G) with 5-16"-18 x 1" GR5 bolts (#4) and whiz nuts (#9). Tighten whiz nuts to the correct torque.
8. Decals (H) may or may not be in the location shown. Replace any decal partially hidden by flange

bolts (#4). See your nearest Kubota dealer to purchase new safety alert decals.

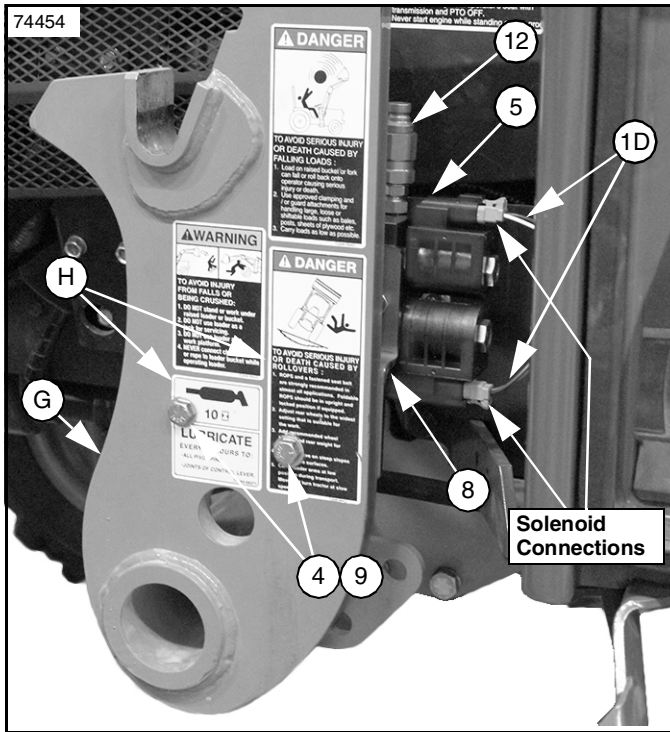
Refer to Figure 1 & Figure 3 on page 3:

9. Attach female couplers (#13) to the straight end of 85" long hydraulic hoses (#14) and tighten.
10. Attach hose stay (#15) to the left-hand loader arm in the location shown in Figure 3 on page 3 with one 3/8"-16 x 1" GR 5 bolt (#22), two flat washers (#23), one lock washer (#24), and one hex nut (#25). Make sure hole (A) is located over the lift cylinder pin as shown. Tighten nut (#25) to the correct torque.

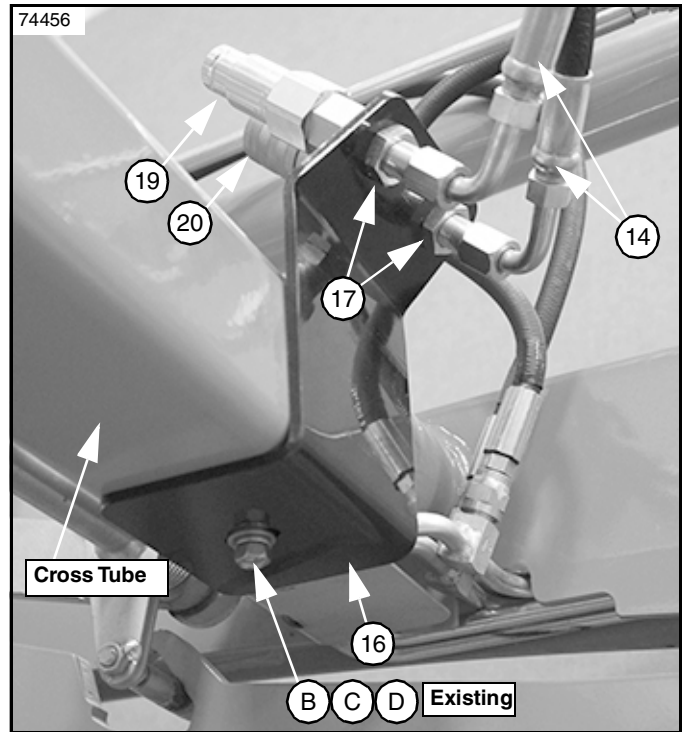
Refer to Figure 1:

NOTE: Verify your kit has the correct couplers. Refer to Figure 5 on page 3: Kit #380-344A is shipped with flat face couplers (#19 & #20). Refer to Figure 6 on page 3: Kit #380-348A is shipped with pioneer couplers (#19 & #20).

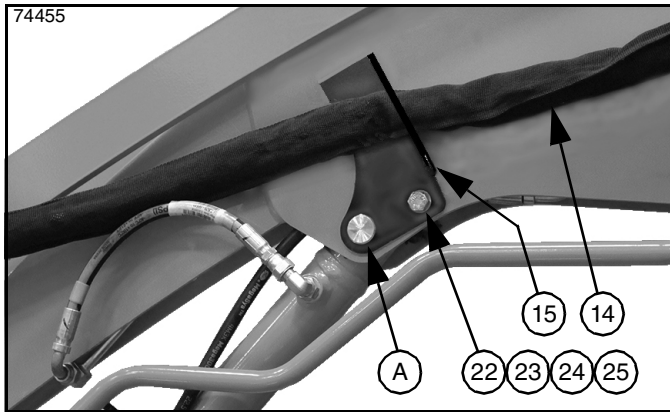
11. Remove jam nuts on bulkhead adapters (#17). Insert bulkheads through holes (E & F) in mount (#16) and secure with removed jam nuts. Tighten jam nuts.
12. Attach straight adapters (#18) to bulkheads (#17) and tighten.
13. Attach male coupler (#19) to adapter (#18) that is in-line with hole (E) and tighten.
14. Attach female coupler (#20) to adapter (#18) that is in-line with hole (F) and tighten.



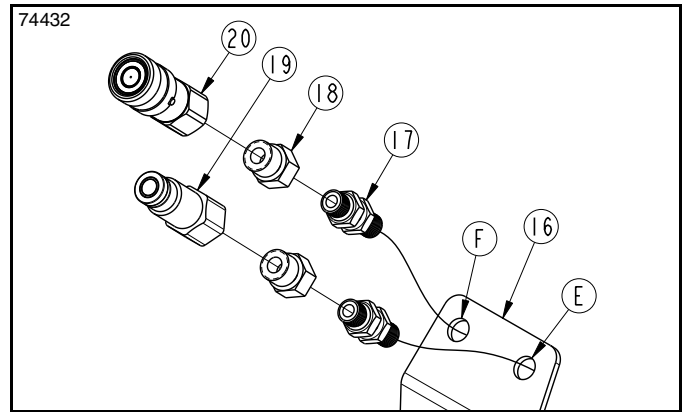
Valve Location
Figure 2



Coupler Mount Location
Figure 4



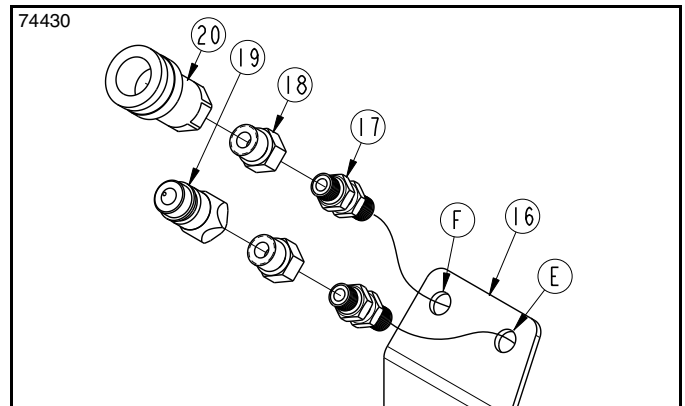
Hose Stay Location
Figure 3



Kit #380-344A With Flat Face Couplers
Figure 5

Refer to Figure 4:

15. Attach coupler mount (#16) to the loader's front cross tube as shown with existing flat washer (D), lock washer (C), and bolt (B). Tighten bolt (B) to the correct torque.
16. Attach elbow end of hydraulic hoses (#14) to bulkheads (#17) and tighten.
17. **Refer to Figure 3:** Thread straight ends of hydraulic hoses (#14) through hose stay (#15).



Kit #380-348A With Pioneer Couplers
Figure 6

Connect to Power Beyond Port

Refer to Figure 1 on page 2:

IMPORTANT: Land Pride recommends that your dealer connect hydraulic hoses (#2 & #7) to your tractor's power beyond port and return to tank port. Improper hook-up can cause damage to your tractor and/or your third function valve.

NOTE: Illustrations are with tractor cab and wheels removed to illustrate the components and their location. It is not necessary to remove the cab, seat, or wheels to connect to the power beyond ports or route the wiring harness.

1. **Refer to Figure 7:** Locate and remove steel tube (L). It is connected to the power beyond port and return to tank port. Discard or store removed hardware (J & K) and steel tube (L).
2. **Refer to Figure 1 on page 2:** Verify banjo hose (#7) is attached to port (T) on valve (#5).

Refer to Figure 8:

3. Run banjo hose from the valve along the left side of the tractor toward the rear wheel.
4. Run banjo hose (#7) up behind all existing tubes, linkages, brackets, etc.

Refer to Figure 9:

IMPORTANT: Because the return to tank port has a raised shoulder, the banjo hose must crossover the transfer case in front of the front seat mount and align with the tank port around the 1 o'clock position as shown. Clock positions between 9 and 12:30 will cause the raised shoulder on the tank port to interfere with the hose and will result in an oil leak.

5. Cross banjo hose (#7) over to the right side of the tractor as shown and connect banjo fitting to the tank port with banjo bolt (#7A) and banjo washers (#7B). Make sure one washer is below and one washer is above the banjo fitting.
6. Verify banjo hose (#7) is not over the raised shoulder and then tighten banjo bolt (#7A).
7. **Refer to Figure 1 on page 2:** Verify hose (#2) is attached to port (P) on valve (#5).

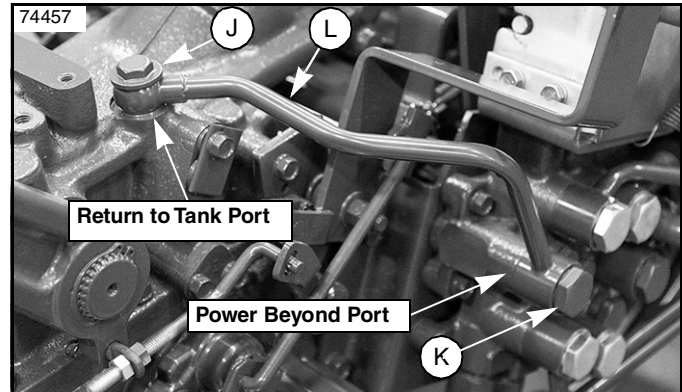
Refer to Figure 8:

8. Run hydraulic hose (#2) from the valve along the left side of the tractor toward the left rear wheel.
9. Run hydraulic hose (#2) up behind all existing tubes, linkages, brackets, etc.

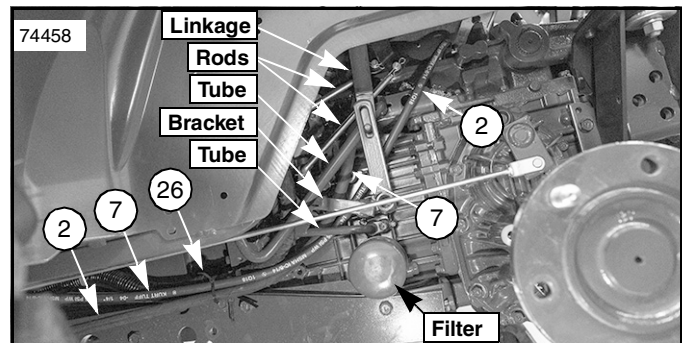
Refer to Figure 9:

10. Cross hydraulic hose (#2) over to the right side of the tractor and down to the power beyond port.
11. Attach straight adapter (#21) to the power beyond port and tighten.

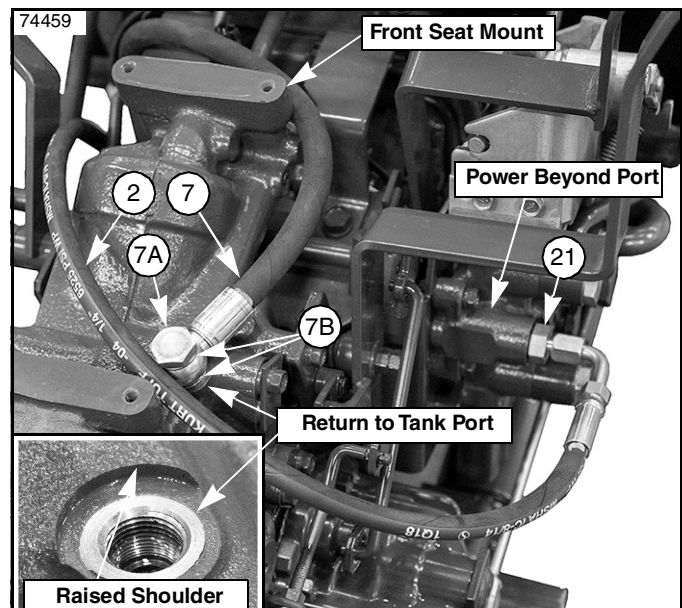
12. Attach elbow end of hydraulic hose (#2) to straight adapter (#21) and tighten.
13. **Refer to Figure 1 on page 2:** Tighten hoses (#2 & #7) to elbows (#3A & #3B) and elbows to valve (#5).
14. **Refer to Figure 8:** Secure hoses (#2 & #7) to the left side of the tractor with zip ties (#26) as needed.



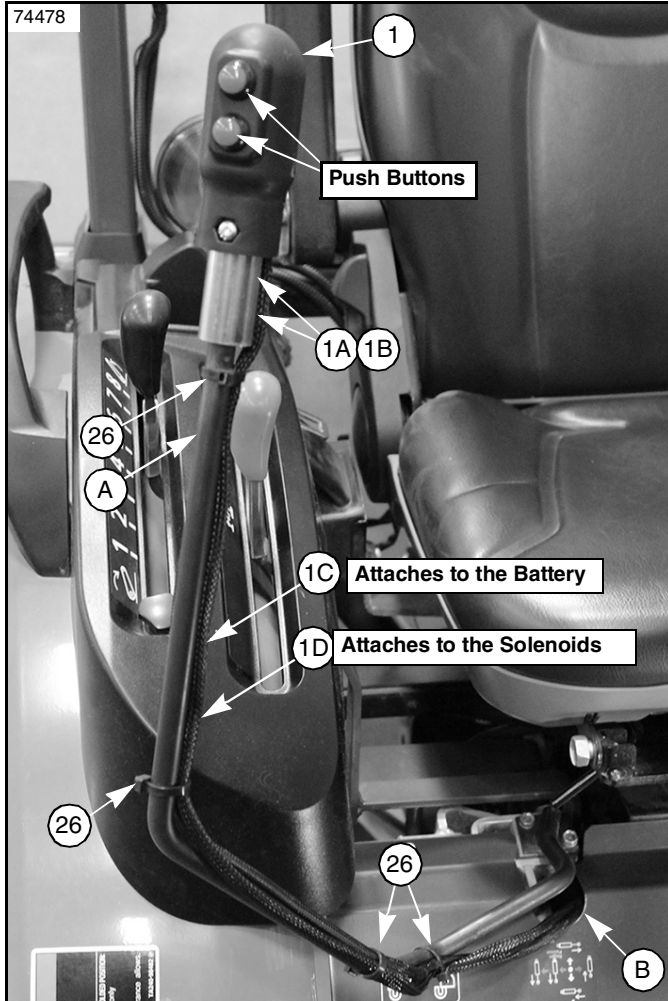
Remove Power Beyond Steel Tube
Figure 7



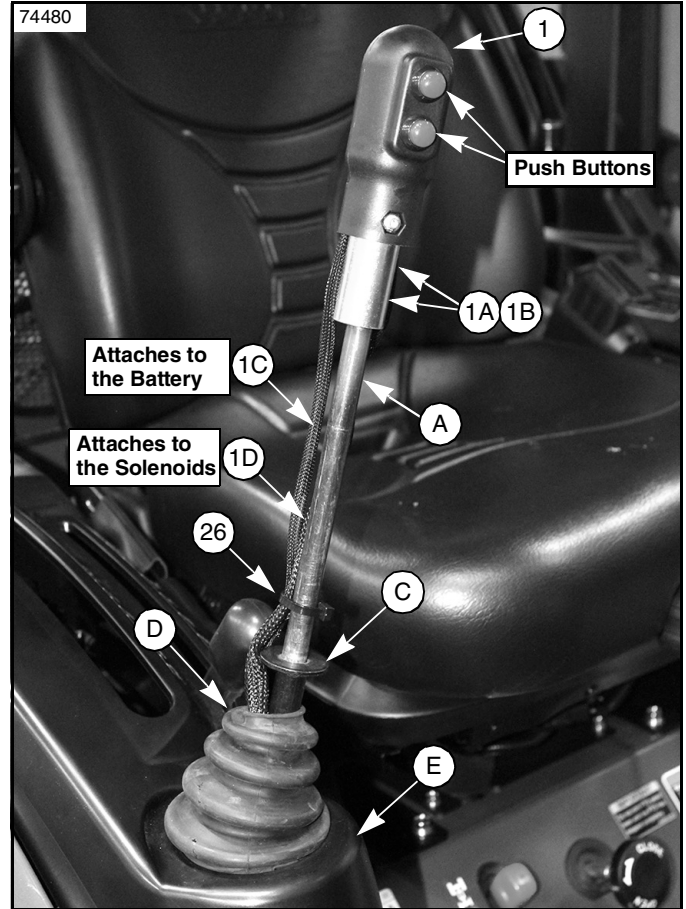
Route Hydraulic Hoses Along the Left Side of Tractor
Figure 8



Connect Hydraulic Hoses to the Tractor Ports
Figure 9



Control Lever Assembly Without Cab
Figure 10



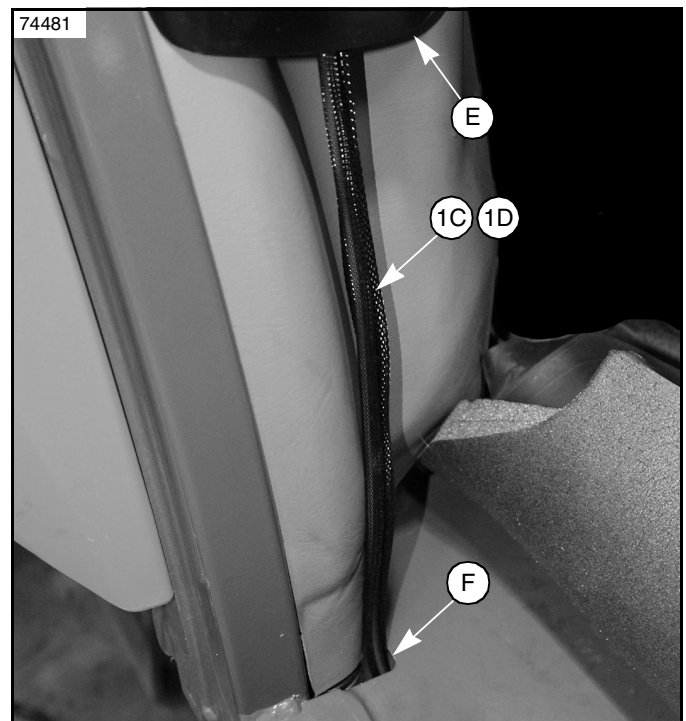
Control Lever Assembly With Cab
Figure 11

Control Lever Assembly

Refer to Figure 10 if tractor is without cab:

Refer to Figures 11 & 12 if tractor is with cab:

1. Remove existing knob from control lever (A).
2. Install new control handle (#1) onto control lever (A). Adjust control handle to align the push buttons to suit the operator and then tighten set screws (#1A). Tighten jam nuts (#1B) to lock set screws.
3. **Refer to Figure 10:** Without a cab, run wire harness (#1C & #1D) along side control lever (A) and through floor opening (B) as shown.
4. **Refer to Figure 11:** With a cab, remove rubber boot (D) from flange (C) and run wire harness (#1C & #1D) through the boot and out the bottom of shield (E).
5. **Refer to Figure 12:** With a cab, run wire harness (#1C & #1D) through floor opening (F).
6. **Refer to Figure 11:** Replace boot (D) over flange (C).
7. Attach wiring harness (#1C & #1D) to control lever (A) as needed with zip ties (#26).



Control Lever Assembly With Cab
Figure 12

Wire Harness Hook-up

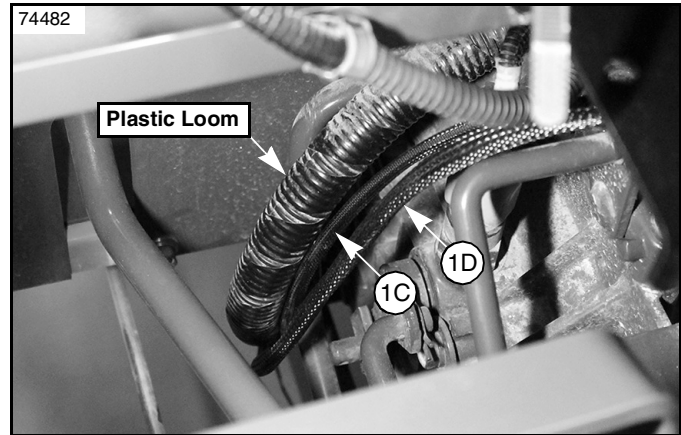
1. **Refer to Figure 13:** Cross wire harness (#1C & #1D) over to the left side and close to the plastic loom.
2. **Refer to Figure 14:** Run wire harness (#1C & #1D) along side the plastic loom and under the operator's platform.
3. **Refer to Figure 15:** Connect wire harness (#1D) to the solenoids on third function valve (#5). See solenoid connections in Figure 2 on page 3.
4. Continue routing wire harness (#1C) along the left side of the tractor to the tractor battery at the front.
5. Connect the eyelet with the fused red wire to the battery's positive (+) post.
6. Connect the eyelet with the black wire to the battery's negative (-) post.
7. **Refer to Figures 13, 14, & 15:** Secure wire harness (#1C & #1D) with cable ties (#26) as needed.
8. Reconnect the disconnected battery cable in step 10 on page 1 to the battery's negative (-) terminal.

Hook-up Tractor to The Font Loader

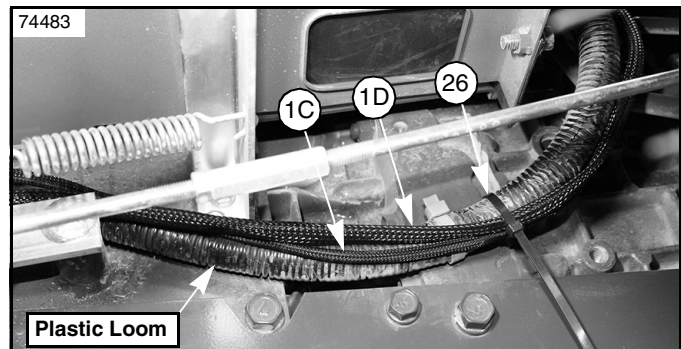
1. Make sure hydraulic hoses and couples are out of the way while hooking-up the front loader.
2. Remove chocks in front and back of the tractor's rear wheels.
3. Start tractor and hook-up the front loader to the tractor. Refer to the tractor/loader Operator Manuals for detailed instructions.

Refer to Figure 1 on page 2:

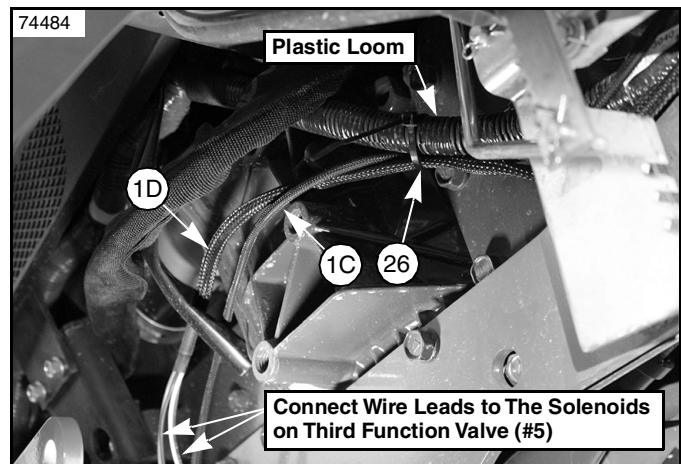
4. Attach female couplers (#13) to male couplers (#12) as follows:
 - Connect hose (#14) associated with female coupler (#20) to port B on valve (#5).
 - Connect hose (#14) associated with female coupler (#19) to port A on valve (#5).
5. Verify hydraulic hoses (#14) will not become pinched, kinked, or twisted. If needed, install zip ties (#26) to contain the hydraulic hoses.



Cross Wire Harness over to the Left Side
Figure 13



Route Wire Harness Under the Platform
Figure 14



Route Wire Harness Along the Left Side
Figure 15

Check Operating and Fluid Level

The Third Function Valve is now ready to be used with a multitude of attachments. Be sure to familiarize yourself with a complete understanding of how to operate the Third Function Valve Kit.



DANGER

To avoid serious injury or death:

Do not allow bystanders to be near the attachment, loader arms, or tractor during operation. They can become entangled, pinched, or crushed by the equipment. Disconnect and lockout power source before making adjustments or servicing tractor and attachment.

1. Hook attachment to the tractor front loader and couple hydraulic hoses to the bulkhead couplers at the front of the loader.
2. Raise attachment off the ground and operate the third function hydraulics using the push-buttons on the newly installed control handle.
 - The top red button switch will actuate the attachment in one direction.
 - The bottom red button switch will actuate the attachment in the opposite direction.
3. **Refer to Figure 2 on page 3:** Switch wire connections (#1D) at the solenoids on third function valve (#5) if the attachment's hydraulic cylinder(s) operate in the opposite direction intended.

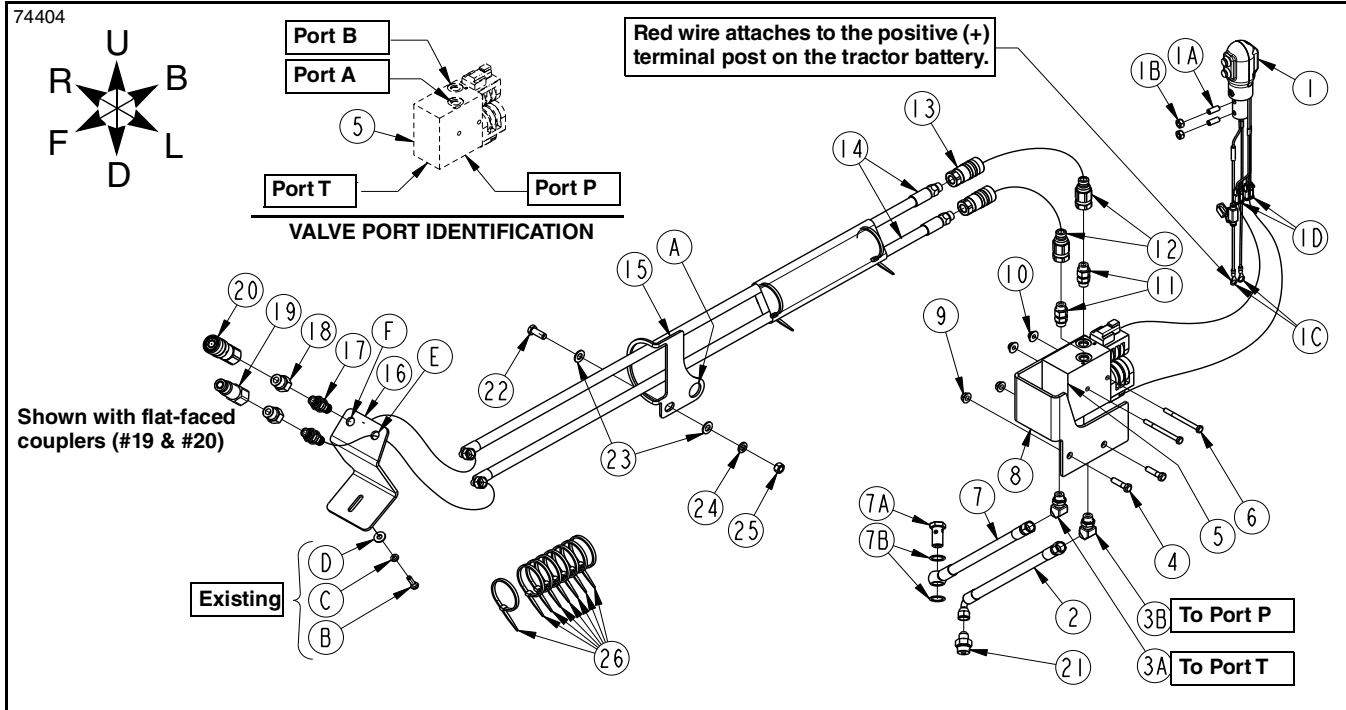
IMPORTANT: Refer to your tractor Operator's Manual for recommended hydraulic fluid and procedure for checking hydraulic fluid level.

4. Once hoses and cylinder(s) are full of hydraulic fluid, check tractor hydraulic fluid level.
5. If low, add recommended hydraulic fluid.

Relieve Hydraulic System Pressure

Be sure to lower the attachment to the ground and to relieve all hydraulic pressure to the attachment before leaving the tractor seat. Relieve hydraulic pressure to the attachment as follows:

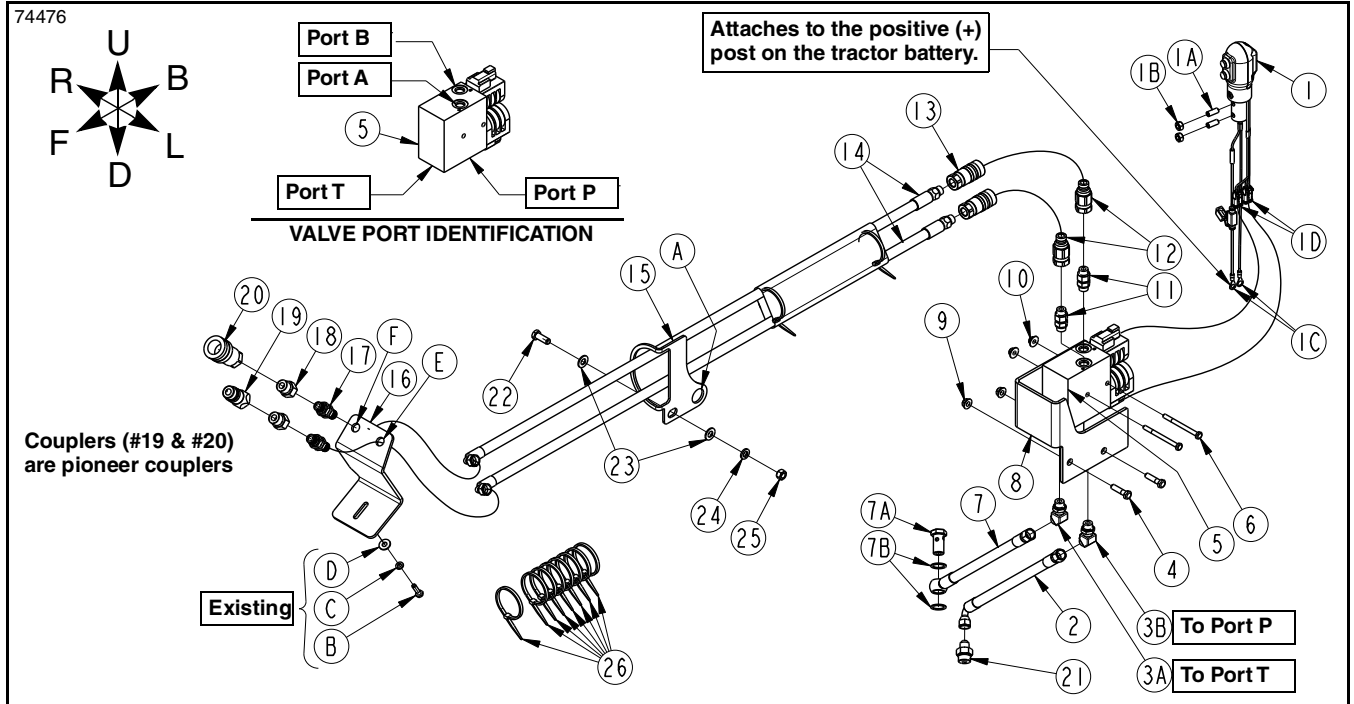
1. Turn tractor switch key to off.
2. Press and hold both red buttons down on the control handle until all movement at the attachment stops.



TThird Function Valve Kit #380-344A With Flat Face Couplers at the Attachment
Figure 16

Kit No. 380-344A 3FVK FF LX SERIES (Equipped with flat face couplers)

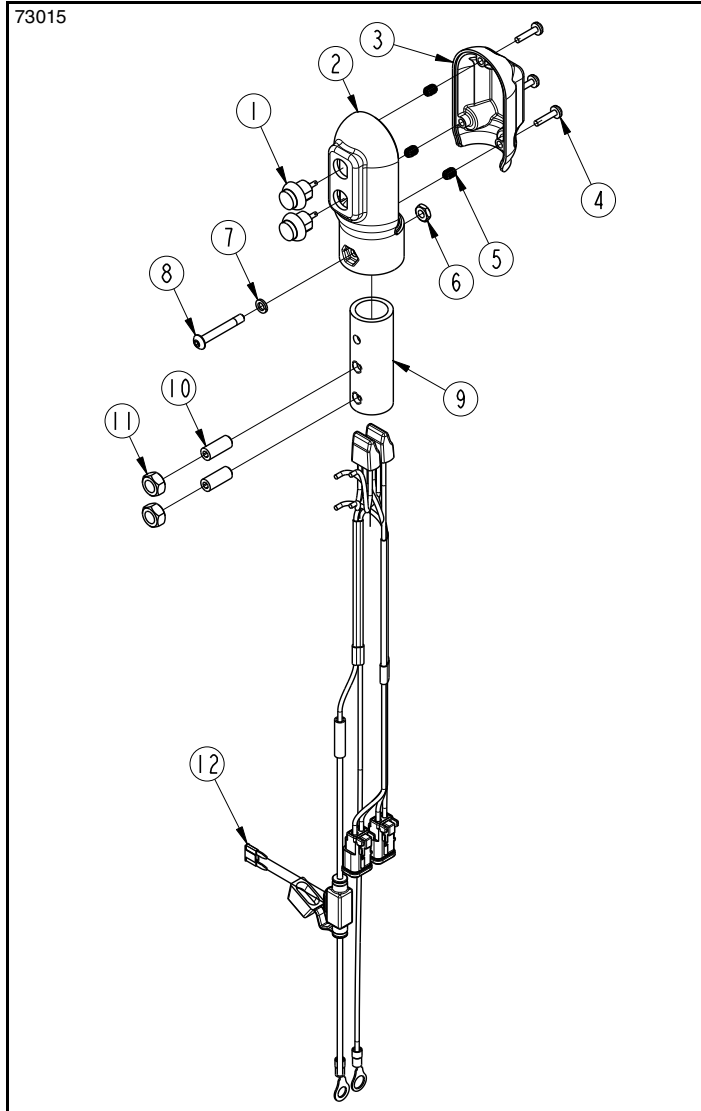
Item	Part No.	Description	Qty
1	380-345S	ASSY PUSH BUTTON CONTROL HNDL (Refer to page 10 for component breakdown)	1
2	861-948C	HH1/4R2 74 9/16FJIC90	1
3	811-416C	EL 45 9/16MJIC 9/16MORB	2
4	802-010C	HHCS 5/16-18X1 GR5	2
5	850-313C	VALVE, THIRD FUNCTION (DELTA)	1
6	802-274C	HHCS 1/4-20X3 GR5	2
7	861-949C	BNJ 5/8-1/4 64 9/16FJIC	1
8	380-467D	3FV MOUNT	1
9	803-043C	NUT HEX WHIZ 5/16-18 PLT	2
10	803-088C	NUT HEX LOCK 1/4-20 FLG	2
11	811-636C	AD 9/16MORB STRAIGHT UNION	2
12	861-288C	CP 9/16FORB QD 1/4 BODY MALE	2
13	861-287C	CP 9/16FORB QD 1/4 BODY FEMALE	2
14	381-170L	ASY, BX80 3RD VLV LOADER HOSE	1
15	380-469D	HOSE STAY	1
16	380-468D	COUPLER MNT	1
17	851-276C	AD 9/16MJIC9/16MORB BLKHD W/LN	2
18	841-103C	AD 3/4MORB 9/16FORB	2
19	841-099C	CP 3/4FORB QD FLATFACE	1
20	861-543C	CP 3/4FORB QD FML FLATFACE	1
21	811-133C	AD 9/16MJIC 3/4MORB	1
22	802-017C	HHCS 3/8-16X1 GR5	1
23	804-012C	WASHER FLAT 3/8 SAE PLT	2
24	804-013C	WASHER LOCK SPRING 3/8 PLT	1
25	803-014C	NUT HEX 3/8-16 PLT	1
26	800-112C	CABLE TIE .19X7.25 1.75D 50LB	10



Third Function Valve Kit # 380-348A With Pioneer Couplers at the Attachment.
Figure 17

Kit No. 380-348A 3FVK PC LX SERIES (Equipped with pioneer couplers)

Item	Part No.	Description	Qty
1	380-345S	ASSY PUSH BUTTON CONTROL HNDL (Refer to page 10 for component breakdown)	1
2	861-948C	HH1/4R2 74 9/16FJIC90	1
3	811-416C	EL 45 9/16MJIC 9/16MORB	2
4	802-010C	HHCS 5/16-18X1 GR5	2
5	850-313C	VALVE, THIRD FUNCTION (DELTA)	1
6	802-274C	HHCS 1/4-20X3 GR5	2
7	861-949C	BNJ 5/8-1/4 64 9/16FJIC	1
8	380-467D	3FV MOUNT	1
9	803-043C	NUT HEX WHIZ 5/16-18 PLT	2
10	803-088C	NUT HEX LOCK 1/4-20 FLG	2
11	811-636C	AD 9/16MORB STRAIGHT UNION	2
12	861-288C	CP 9/16FORB QD 1/4 BODY MALE	2
13	861-287C	CP 9/16FORB QD 1/4 BODY FEMALE	2
14	381-170L	ASY, BX80 3RD VLV LOADER HOSE	1
15	380-469D	HOSE STAY	1
16	380-468D	COUPLER MNT	1
17	851-276C	AD 9/16MJIC9/16MORB BLKHD W/LN	2
18	841-103C	AD 3/4MORB 9/16FORB	2
19	811-394C	CP 3/4FORB MALE QD POPPET TYPE	1
20	811-870C	CP 3/4FORB FEMALE QD POPPET TYPE	1
21	811-133C	AD 9/16MJIC 3/4MORB	1
22	802-017C	HHCS 3/8-16X1 GR5	1
23	804-012C	WASHER FLAT 3/8 SAE PLT	2
24	804-013C	WASHER LOCK SPRING 3/8 PLT	1
25	803-014C	NUT HEX 3/8-16 PLT	1
26	800-112C	CABLE TIE .19X7.25 1.75D 50LB	10



Control Handle Assembly
Figure 18

Part No. 380-345S Push Button Control Handle

Item	Part No.	Description	Qty
1	833-739C	SWITCH, P9 PB NO SPST MOM RED	2
2	837-054C	BASE, PUSH BUTTON CNTRL HNDL	1
3	837-053C	COVER, PUSH BUTTON CNTRL HNDL	1
4	801-091C	CRPHMS 6-32X5/8 SS	3
5	99362A300	6-32 BRASS TAPPING INSERT	3
6	803-269C	NUT HEX 10-32 PLT	1
7	804-054C	WASHER LOCK #10	1
8	801-250C	HSBHCS #10-32X1 3/8	1
9	380-225D	MOUNT TUBE, CONTROL STICK	1
10	801-204C	SCREW SET SCKT HD 5/16-18X3/4	2
11	803-008C	NUT HEX 5/16-18 PLT	2
12	833-495C	FUSE, 10 AMP MINI BLADE	1



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