Installation Instructions for Weight Transfer Kit

Before Getting Started

Before you begin installation of your Weight Transfer Kit, read these instructions carefully and check that all parts and tools in kit are accounted for. All hand and specialty tools for installation are provided at owner's expense. Please retain these installation instructions for future reference and parts ordering information.

These installation instructions contain information for assembling the Weight Transfer Kit to the main planter unit. Please read all instructions in your Yield-Pro® Planter operator manual thoroughly before proceeding. Your operator manual includes information on operation, adjustment, troubleshooting, and maintenance for this attachment (some manual sections do not apply to all accessories).

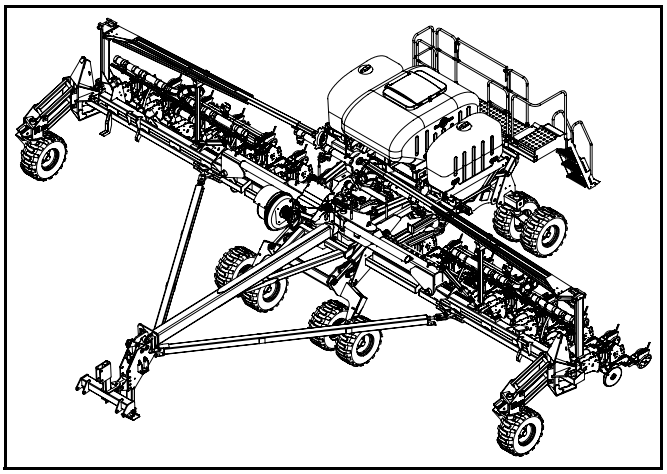


Figure 1 36863
Weight Transfer Kit on Yield-Pro® Planter

General Information

This kit provides a hydraulic control valve that is plumbed into the hydraulic drive circuit, and a cylinder for each wing. Up to 1000 pounds (450 kg) of mainframe weight may be transferred to each wing when oil is being supplied to the hydraulic drive circuit.

Weight Transfer Kit	Reference Number
YP40/44 Weight Transfer Kit	411-172A
YP30 Weight Transfer Kit	411-173A
YP24 Weight Transfer Kit	411-174A
YP24A Weight Transfer Kit	411-179A

Note: The YP40/YP44 Installation Instructions have been combined.

Tools Required

The following tools are required for installation:

- General hand tools
- Hoist capable safely lifting over 200 lbs., or
- Extra person for heavy lifting

Refer to page 11 for a detailed list of parts included in these kits. Use these lists to inventory parts received.

Refer to page 13 for torque values chart.

Document Family

All manuals related to this kit are available free of charge by visiting www.greatplainsag.com. Have machine model and serial numbers available when looking for the manual you need.

YP44A

401-805M	Operator Manual
401-805P	Parts Manual
401-627B	Seed Rate Charts

YP40A

401-627M	Operator Manual
401-627P	Parts Manual
401-627B	Seed Rate Charts

YP40

401-571M	Operator Manual
401-571P	Parts Manual
401-571B	Seed Rate Charts

YP30A

401-705M	Operator Manual
401-705P	Parts Manual
401-627B	Seed Rate Charts

YP30

401-703M	Operator Manual
401-703P	Parts Manual
401-571B	Seed Rate Charts

YP24A

401-626M	Operator Manual
401-626P	Parts Manual
401-626B	Seed Rate Charts

YP24

401-406M	Operator Manual
401-406P	Parts Manual
401-406B	Seed Rate Charts

Using This Manual

This manual was written to help you install and prepare your new kit. The manual includes instructions for installation and setup. Read this manual and follow the recommendations for safe, efficient, and proper assembly and setup.

Read and understand “Important Safety Information” and “Operating Instructions” in the operator’s manual before installing your new kit. As a reference, keep the operator’s manual on hand while installing.

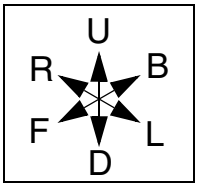
The information in this manual is current at printing. Some parts may change to assure top performance.

Use this kit only in conjunction with a Great Plains implement.

Safety & Symbol Information

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!

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel. An orientation rose in some line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.



NOTICE

A crucial point of information related to the current topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Be Aware of Signal Words

The following signal words designate a degree or level of hazard seriousness. Take the necessary precautions and exercise sound judgment.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Further Assistance

Great Plains Manufacturing, Inc. wants you to be satisfied with your new Weight Transfer Kit. If for any reason you do not understand any part of this manual or are otherwise dissatisfied with the product please contact:

Great Plains Service Department
1525 E. North St.
P.O. Box 5060
Salina, KS 67402-5060

Or go to www.greatplainsag.com and follow the contact information at the bottom of your screen for our service department.

Installation Instructions

1. Fasten the hydraulic control valve (see Figure 2) to the factory-installed bracket on the right wing of the planter by inserting a hex head cap screw 802-474C (HHCS $^{5}/_{16}$ - 18X4 $^{1}/_{2}$ GR5) ① through the control valve casing, ring wing plate, lock washer 804-009C (WASHER LOCK SPRING $^{5}/_{16}$ PLT) ②, and hex nut 803-008C (NUT HEX $^{5}/_{16}$-18 PLT) ③. Tighten hex nut until snug. Repeat for second bolt, washer, and nut set.
2. Install the hydraulic cylinders onto the planter (see Weight Transfer Shipping Links on page 6) and secure with the clevis and cotter pins supplied.

NOTICE

Do not move planter folded or unfolded without connecting fan case drain and low pressure return to the tractor or installing weight transfer shipping links. Failure to do so can result in damage to weight transfer circuit.

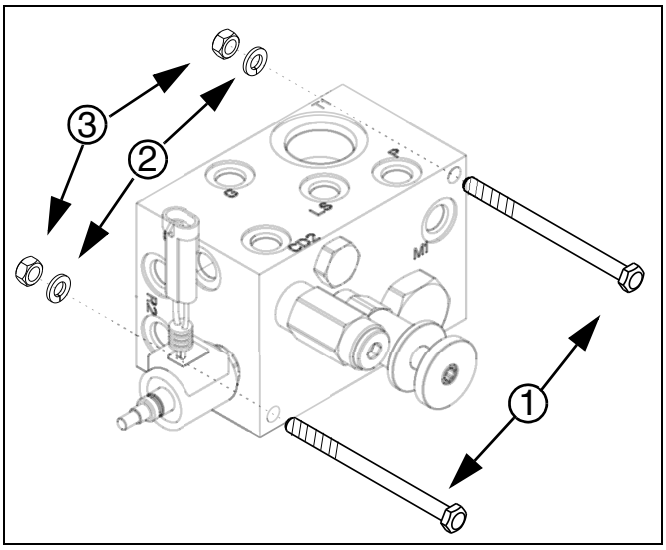


Figure 2 36912
Hydraulic Control Valve Installation

Refer to Figure 3 & 4 for step 3

3. Complete the following steps to install weight transfer lift relay harness to existing monitor and frame control.
   - Locate the lift switch on the rear of the implement. Follow the lift switch's green harness to the adjoining extension harness ①. Determine the extension harness wire color that connects to the lift switch. Follow these wires up to the next coupling.
   - Uncouple the lift switch extension harness (466820714) ① wires from the actuator harness (467980160) ② where shown in Figure 3. Do not disconnect other wires from the actuator harness. Connect the lift switch extension harness to the weather pack terminal ③. Do not connect weather pack shroud ④.
   - Uncouple WSMB harness (467980851) ⑤ and 25' extension harness (467980143) ⑥. Connect WSMB harness to 4F plug ⑦. Connect 25' extension harness to 4M plug ⑧.
   - Route harness extension ⑨ along existing hydraulic hoses to the weight transfer control valve. Connect weight transfer harness's weather pack dual pin ⑨ to weight transfer control valve.

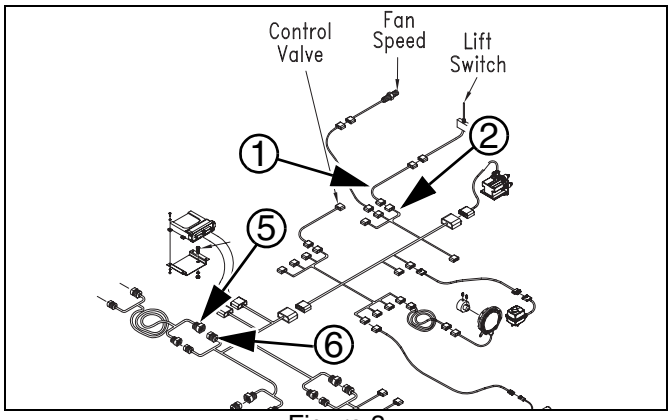


Figure 3
Monitor and Frame Control

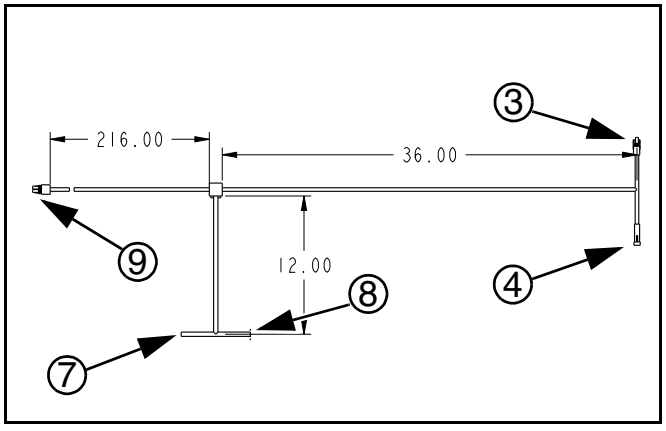


Figure 4 36911
Weight Transfer Relay Harness

Refer to Figure 5

4. Add kit's hydraulic drive T-fitting (811-073C) to existing elbow fitting ① (see Figure 5).

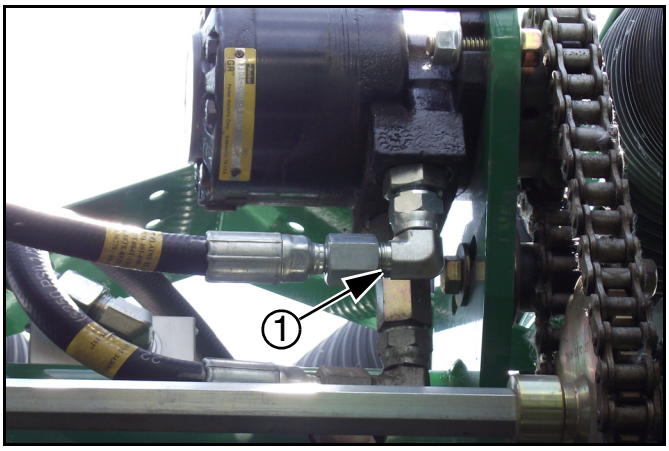


Figure 5 36877
Hydraulic Drive Elbow

5. Install hydraulic hoses from kit and attach to hydraulic control valve. See instructions starting on page 7 for your YP model's hose package's installation instructions.

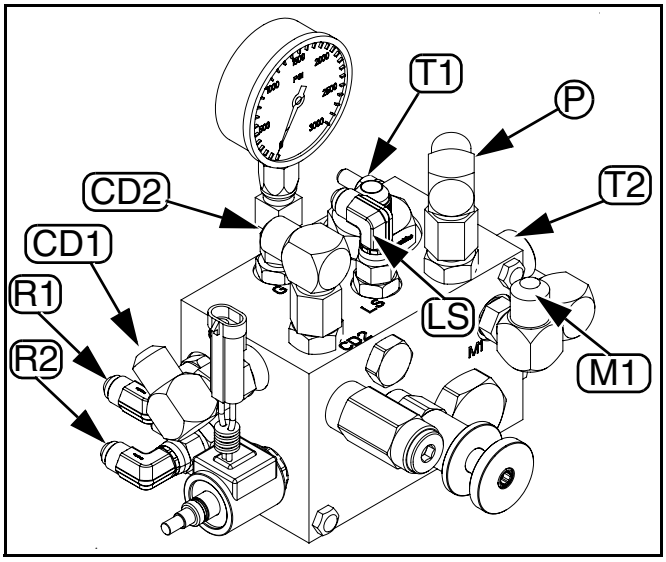


Figure 6 36828
Hydraulic Control Valve

6. Tighten all fittings to the correct torque values shown (see Figure 7).
7. Bleed the system of air.

NOTICE

Over-Torque Leak Risk:
JIC (Joint Industry Conference) fittings do not require high torque. Excess torque causes leaks. JIC and ORB (O-Ring Boss) fittings do not require sealant.

Note: Bleed only at JIC and NPT fittings.
Never try to bleed a QD (Quick Disconnect) fitting.
Avoid bleeding at ORB fittings, as the O-ring is likely to be torn if any pressure remains in the circuit.

JIC Torque Chart

Size	Foot-Pounds	N-m
$^{1}/_{2}$-20	15-16	20-22
$^{11}/_{16}$-12	79-87	108-119
$^{3}/_{4}$-16	38-42	52-58
$^{7}/_{16}$-20	11-12	15-16
$^{7}/_{8}$-14	57-62	77-85
$^{9}/_{16}$-18	18-20	24-28

Figure 7
JIC Torque Values

Setting the Circuit

Once set, the circuit usually requires little adjustment in normal field operations. To set the circuit:

Refer to Figure 8

1. Unfold and lower the planter in field conditions.
2. Supply oil to the hydraulic drive circuit (or operate the PTO at field rpm if using a PTO pump that supplies the hydraulic drive). The hydraulic drive motor itself does not need to be operated.
3. Loosen the lock disc ① at the valve block. Adjust the knob ② until the gauge ③ reads approximately 1000 psi. Tighten the lock disc.
4. Pull forward at normal field speed for a short distance. Stop.
5. Check that the wings are level.
   - If the wings ends are lower than the center, decrease the pressure at the valve ③.
   - If the wing ends are higher than the center, increase the pressure at the valve.

Note: A relief valve in the valve block prevents any damage from over-pressure.

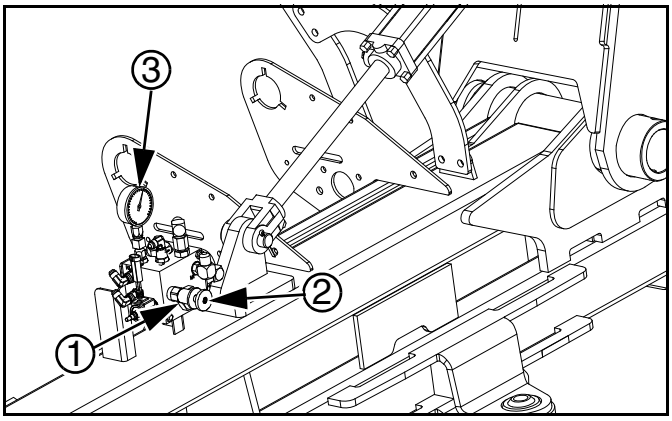


Figure 8 36421
Weight Transfer Valve and Cylinder

⚠ WARNING

Machine Damage Risk:
Do not move the planter with a hydraulically locked weight transfer system. Relieve the system or install shipping links. If the cylinders are not free to flex, oil loss will result from even minor movement flexing. Connect at least the fan case drain and fan return lines to suitable receptacles, or install the shipping links, to allow wing flex.

Weight Transfer Shipping Links

Refer to Figure 9

When a planter is on customer premises, and further movements will only be done with a tractor or towing vehicle having hydraulic motor return and case drain remote ports, remove the weight transfer shipping links.

1. Use a hoist or a second worker to support the weight of the outboard end of a weight transfer cylinder ①.
2. Remove both cotter pins and clevis pins:
   ② 805-058C PIN COTTER $^{3}/_{16}$ X 2
   ③ 805-396C PIN CLVS 1.0X3.13 USBL
   from each end of a shipping link:
   ④ 411-175H WT SHIP LINK
   Remove the link.
3. Swing the cylinder down. Align the clevis with the wing lug ⑤. Secure with one of the clevis pins and cotters.
4. Store the other clevis pin and cotter in the clevis end of the link. Store the link for future use.
5. Repeat step 1 through step 4 for the other wing.

Note: To install a link, complete step 4 through step 1 in reverse order. See page 4 for initial weight transfer setup information.

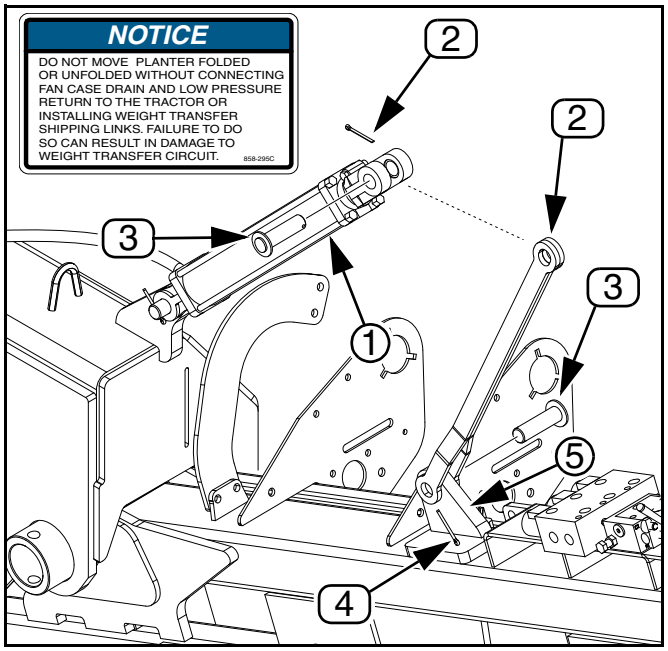


Figure 9 36422
Weight Transfer Shipping Link

YP40/44 Hose Installation

Run the hydraulic hoses from the hydraulic control valve ports (See Figure 2 for port labels) and complete setup for each of the following:

Refer to Figure 10

- Connect hose 841-073C (HH$^{1}/_{4}$R2 220") ① from control valve LS ② to hydraulic drive T-fitting ③.
- Connect hose 811-930C (HH$^{3}/_{8}$R2 308") ④ from control valve R1 ⑤ to left wing's down pressure cylinder base ⑥.
- Connect hose 841-406C (HH$^{3}/_{8}$R2 107") ⑦ from control valve R2 ⑧ to right wing's down pressure cylinder base ⑨.

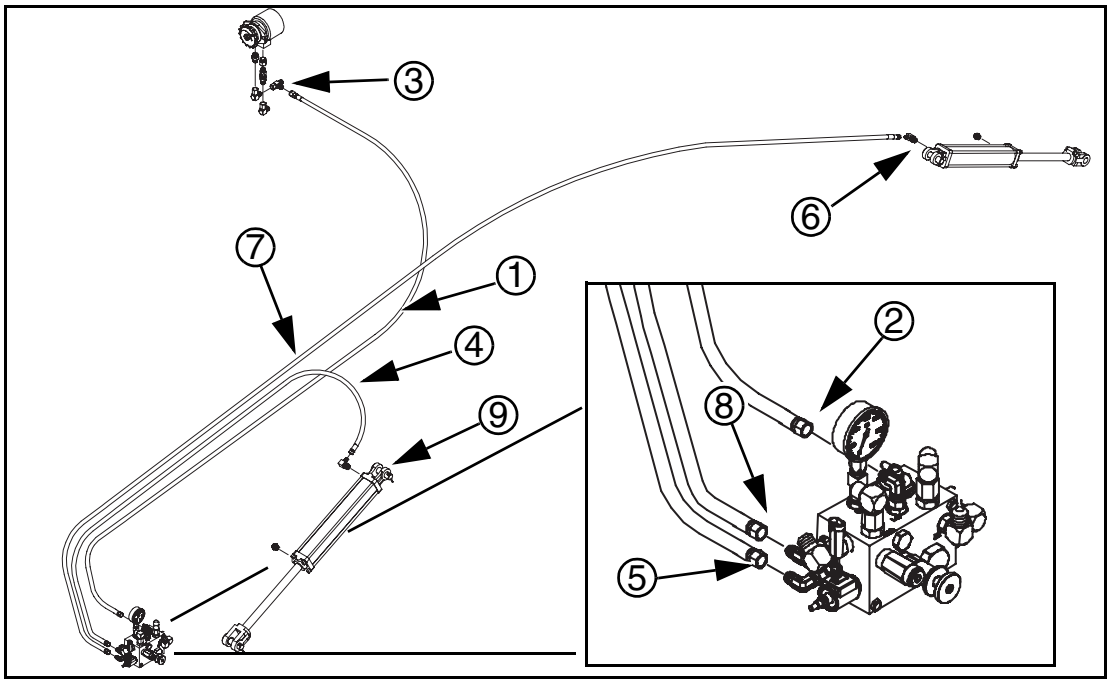


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Figure 10
YP40/44 Hose Routing

Refer to Figure 11

- Disconnect the hydraulic drive pressure hose leading to tractor from its elbow fitting. Connect hose to control valve P. Connect hose 811-269C (HH$^{1}/_{2}$R2 36") ⑩ from control valve M1 to preexisting elbow fitting leading to hydraulic drive pressure.
- Disconnect the fan case drain hose leading to tractor from its elbow fitting. Connect hose to control valve CD2. Connect hose 811-386C (HH$^{3}/_{8}$R2 36") ⑪ from control valve CD1 to preexisting elbow fitting and fan case drain hose.
- Disconnect the fan return hose leading to tractor from its elbow fitting. Connect hose to control valve T2. Connect hose 811-269C (HH$^{1}/_{2}$R2 36") ⑫ from control valve T1 to preexisting elbow fitting and fan return hose.

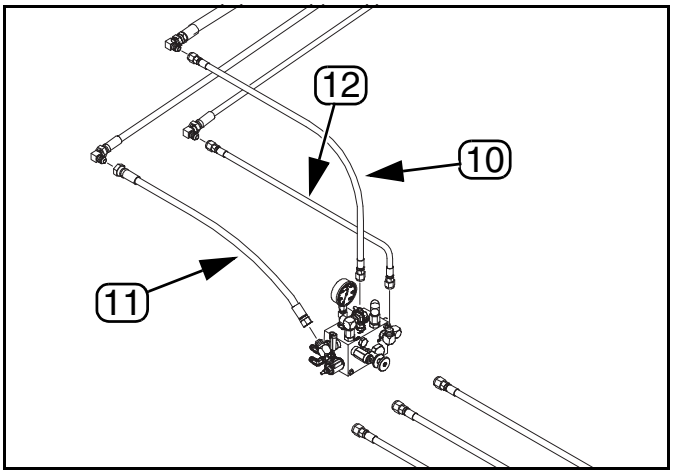

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Figure 11
Hydraulic Valve Hose Routing

YP30 Hose Installation

Run the hydraulic hoses from the hydraulic control valve ports (See Figure 2 for port labels) and complete setup for each of the following:

Refer to Figure 12

- Connect hose 851-273C (HH$^{1}/_{4}$R2 170") ① from control valve LS ② to hydraulic drive T-fitting ③.
- Connect hose 841-069C (HH$^{3}/_{8}$R2 230") ④ from control valve R1 ⑤ to left wing's down pressure cylinder base ⑥.
- Connect hose 851-045C (HH$^{3}/_{8}$R2 36") ⑦ from control valve R2 ⑧ to right wing's down pressure cylinder base ⑨.

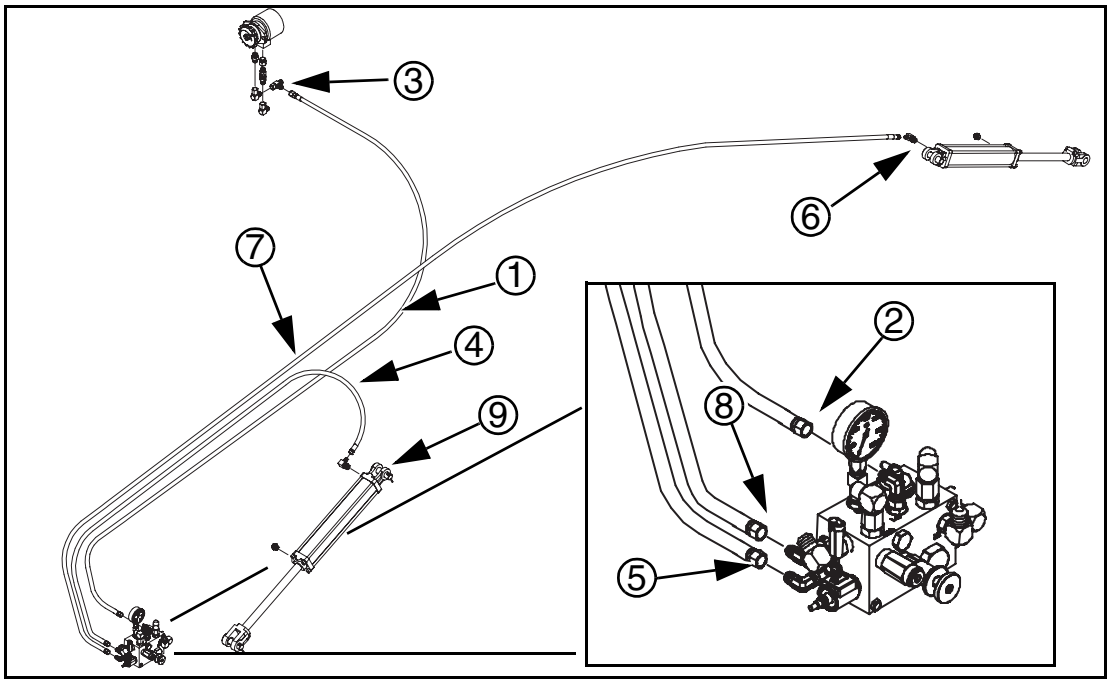

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Figure 12
YP30 Hose Routing

- Disconnect the hydraulic drive pressure hose leading to tractor from its elbow fitting. Connect hose to control valve P. Remove elbow fitting and connect remaining hydraulic drive pressure hose to control valve M1.
- Disconnect the fan case drain hose leading to tractor from its elbow fitting. Connect hose to control valve CD2. Remove elbow fitting and connect remaining fan case drain hose to control valve CD1.
- Disconnect the fan return hose leading to tractor from its elbow fitting. Connect hose to control valve T2. Remove elbow fitting and connect remaining fan return hose to control valve T1.

YP24 Hose Installation

Run the hydraulic hoses from the hydraulic control valve ports (See Figure 2 for port labels) and complete setup for each of the following:

Refer to Figure 13

- Connect hose 841-356C (HH$^{1}/_{4}$R2 204") ① from control valve LS ② to hydraulic drive T-fitting ③.
- Connect hose 851-542C (HH$^{3}/_{8}$R2 304") ④ from control valve R1 ⑤ to left wing's down pressure cylinder base ⑥.
- Connect hose 841-452C (HH$^{3}/_{8}$R2 138") ⑦ from control valve R2 ⑧ to right wing's down pressure cylinder base ⑨.

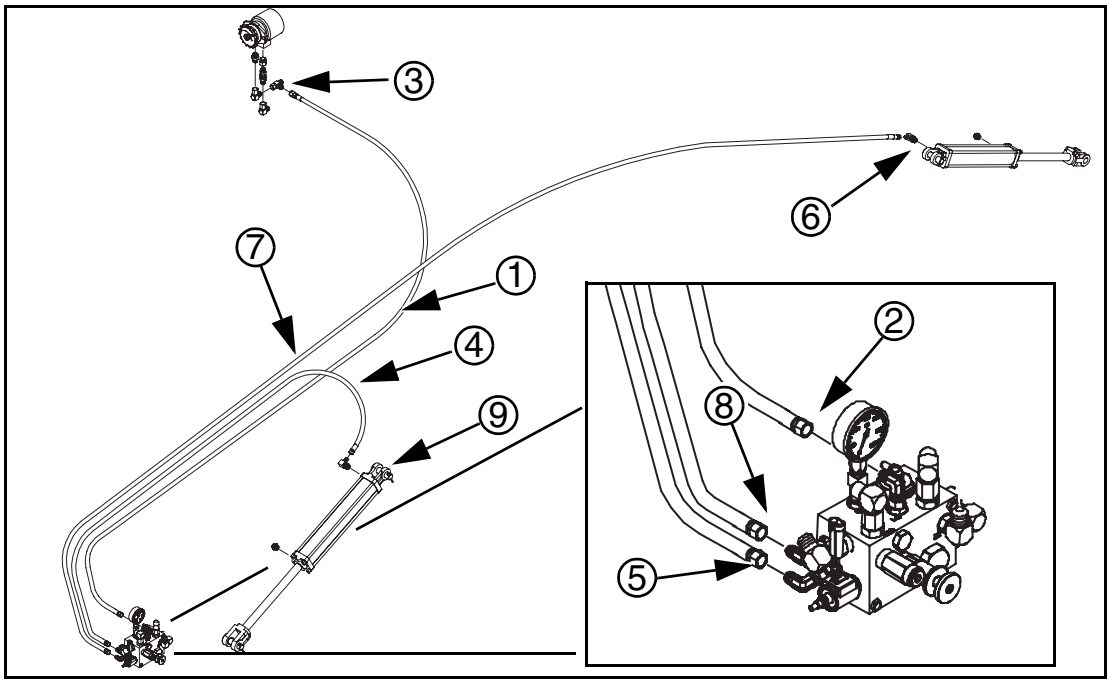

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Figure 13
YP24 Hose Routing

Refer to Figure 14

- Disconnect the hydraulic drive pressure hose leading to tractor from its elbow fitting. Connect hose to control valve P. Connect hose 811-269C (HH$^{1}/_{2}$R2 36") ⑩ from control valve M1 to preexisting elbow fitting leading to hydraulic drive pressure.
- Disconnect the fan case drain hose leading to tractor from its elbow fitting. Connect hose to control valve CD2. Connect hose 811-386C (HH$^{3}/_{8}$R2 36") ⑪ from control valve CD1 to preexisting elbow fitting and fan case drain hose.
- Disconnect the fan return hose leading to tractor from its elbow fitting. Connect hose to control valve T2. Connect hose 811-269C (HH$^{1}/_{2}$R2 36") ⑫ from control valve T1 to preexisting elbow fitting and fan return hose.

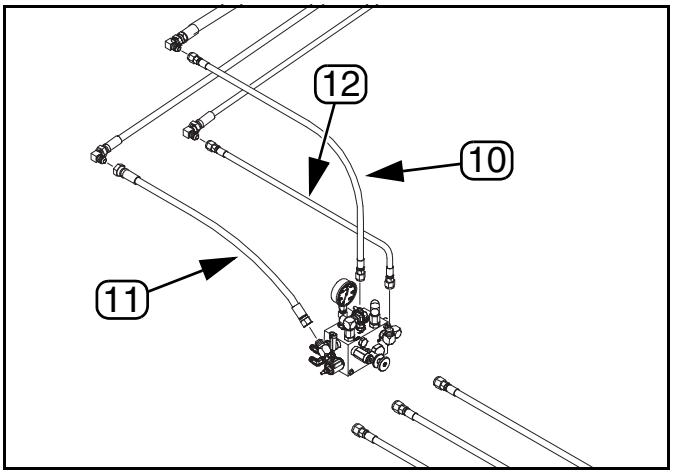

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Figure 14
Hydraulic Valve Hose Routing

YP24A Hose Installation

Run the hydraulic hoses from the hydraulic control valve ports (See Figure 2 for port labels) and complete setup for each of the following:

Refer to Figure 15

- Connect hose 841-356C (HH$^{1}/_{4}$R2 204") ① from control valve LS ② to hydraulic drive T-fitting ③.
- Connect hose 851-542C (HH$^{3}/_{8}$R2 304") ④ from control valve R1 ⑤ to left wing's down pressure cylinder base ⑥.
- Connect hose 841-452C (HH$^{3}/_{8}$R2 138") ⑦ from control valve R2 ⑧ to right wing's down pressure cylinder base ⑨.

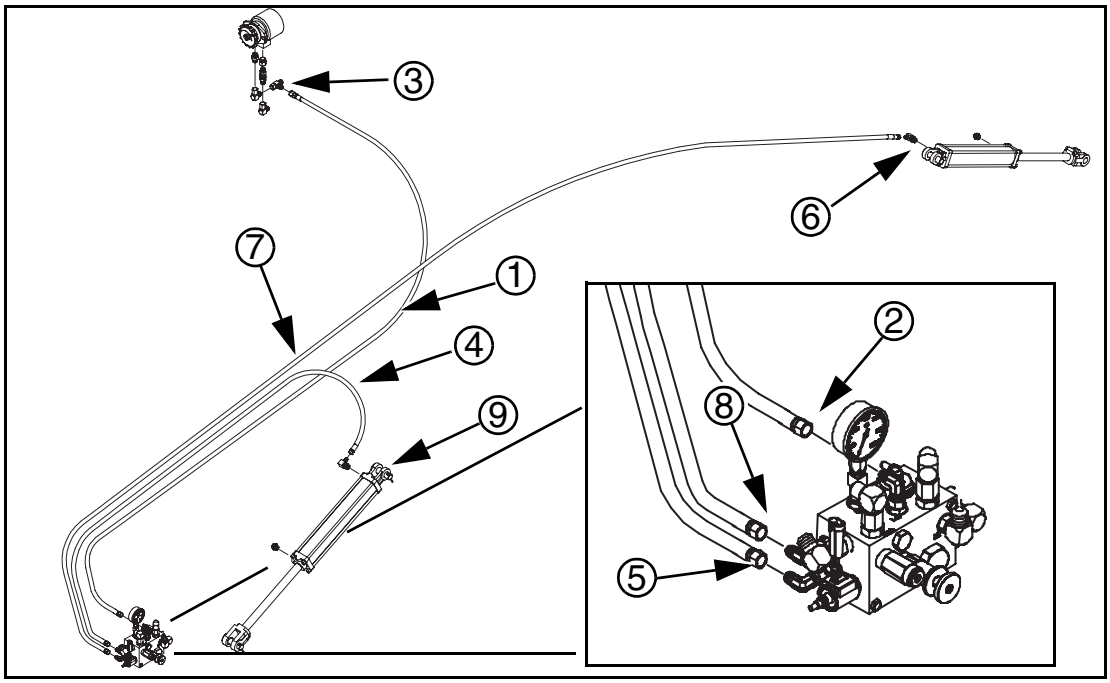

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Figure 15
YP24A Hose Routing

Refer to Figure 16

- Disconnect the hydraulic drive pressure hose leading to tractor from its elbow fitting. Connect hose to control valve P. Connect hose 811-269C (HH$^{1}/_{2}$R2 36") ⑩ from control valve M1 to preexisting elbow fitting leading to hydraulic drive pressure.
- Disconnect the fan case drain hose leading to tractor from its elbow fitting. Connect hose to control valve CD2. Connect hose 811-386C (HH$^{3}/_{8}$R2 73") ⑪ from control valve CD1 to preexisting elbow fitting and fan case drain hose.
- Disconnect the fan return hose leading to tractor from its elbow fitting. Connect hose to control valve T2. Connect hose 841-269C (HH$^{1}/_{2}$R2 32") ⑫ from control valve T1 to preexisting elbow fitting and fan return hose.

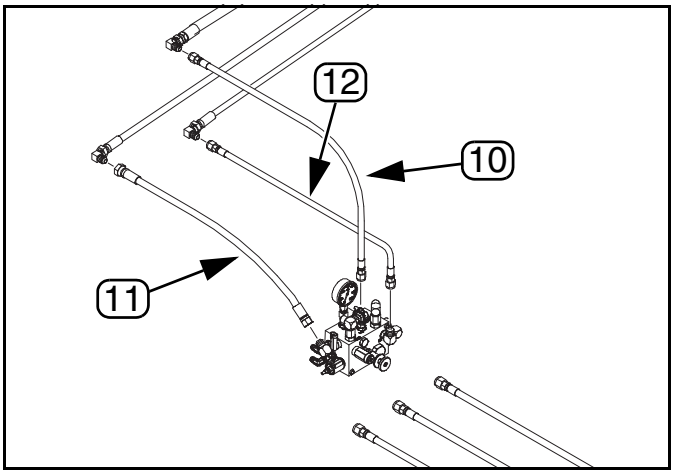

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Figure 16
Hydraulic Valve Hose Routing

Appendix - Parts List

The YP40/YP44 kit includes the following:

Item	Qty.	Part No.	Part Description
1	2	411-175H	Weight Shipping Link
2	2	811-269C	HH 1/2 R2 036" 3/4 FJIC Hose
3	1	811-386C	HH 3/8 R2 036" 3/4 FJIC Hose
4	1	841-930C	HH 3/8 R2 308" 9/16 FJIC Hose
5	1	811-073C	HH 1/4 R2 220" 9/16 FJIC Hose
6	1	841-406C	HH 3/8 R2 107" 9/16 FJIC Hose
7	1	411-180S	Weight Transfer Valve ASM 3/4
8	1	411-199M	Installer/Operator Manual for YP Weight Transfer System
9	2	800-306C	Fill Plug, Vented 3/4-16 PLT
10	2	805-058C	Cotter Pin 3/16
11	2	805-396C	Clevis Pin 1/8
12	2	810-708C	Tie Rod Cyl 2.5X14X1.125
13	1	811-073C	TE 3/4 MJIC 3/4 MJIC 3/4 FJIC
14	1	811-146C	AD 9/16 MJIC 3/4 FJIC
15	2	811-171C	EL 3/4 MORB 9/16 MJIC
16	1	823-445C	Weight Transfer Lift Relay Harness
17	2	858-295C	Caution Decal for Machine Damage

The YP30 kit includes the following:

Item	Qty.	Part No.	Part Description
1	2	411-175H	Weight Shipping Link
2	1	841-069C	HH 3/8 R2 230" 9/16 FJIC Hose
3	1	851-045C	HH 3/8 R2 036" 9/16 FJIC Hose
4	1	851-273C	HH 1/4 R2 170" 9/16 FJIC Hose
5	1	411-180S	Weight Transfer Valve ASM 3/4
6	1	411-199M	Installer/Operator Manual for YP Weight Transfer System
7	2	800-306C	Fill Plug, Vented 3/4-16 PLT
8	2	805-058C	Cotter Pin 3/16
9	2	805-396C	Clevis Pin 1/8
10	2	810-704C	Tie Rod Cyl 2X14X1.125
11	1	811-073C	TE 3/4 MJIC 3/4 MJIC 3/4 FJIC
12	1	811-146C	AD 9/16 MJIC 3/4 FJIC
13	1	811-150C	EL 3/4 FJIC 3/4 MJIC
14	2	811-171C	EL 3/4 MORB 9/16 MJIC
15	1	823-445C	Weight Transfer Lift Relay Harness
16	2	858-295C	Caution Decal for Machine Damage

The YP24 kit includes the following:

Item	Qty.	Part No.	Part Description
1	2	411-175H	Weight Shipping Link
2	2	811-269C	HH 1/2R2 036" 3/4FJIC
3	1	811-386C	HH 3/8R2 036" 9/16FJIC
4	1	841-356C	HH 1/4R2 204" 9/16FJIC
5	1	841-452C	HH 3/8R2 138" 9/16FJIC
6	1	851-542C	HH 3/8R2 304" 9/16FJIC
7	1	411-180S	Weight Transfer Valve ASM 3/4
8	1	411-199M	Installer/Operator Manual for YP Weight Transfer System
9	2	800-306C	Fill Plug, Vented 3/4-16 PLT
10	2	805-058C	Cotter Pin 3/16
11	2	805-396C	Clevis Pin 1/8
12	2	810-704C	Tie Rod Cyl 3X16X1.25
13	1	811-073C	TE 3/4MJIC 3/4MJIC 3/4FJIC
14	1	811-146C	AD 9/16MJIC 3/4FJIC
15	2	811-171C	EL 3/4MORB 9/16MJIC
16	1	823-445C	Weight Transfer Lift Relay Harness
17	2	858-295C	Caution Decal for Machine Damage

The YP24A kit includes the following:

Item	Qty.	Part No.	Part Description
1	2	411-175H	Weight Shipping Link
	2	841-269C	HH 1/2R2 036" 3/4FJIC
3	1	811-386C	HH 3/8R2 036" 3/4FJIC
	1	841-356C	HH 1/4R2 204" 9/16FJIC
5	1	841-921C	HH 5/8R2 032" 7/8FJIC
	1	851-542C	HH 3/8R2 304" 9/16FJIC
7	1	411-195S	Weight Transfer Valve ASM 7/8
	1	411-199M	Installer/Operator Manual for YP Weight Transfer System
9	2	800-306C	Fill Plug, Vented 3/4-16 PLT
	2	805-058C	Cotter Pin 3/16
11	2	805-396C	Clevis Pin 1/8
	2	810-704C	Tie Rod Cyl 3/16X1.25
13	1	811-073C	TE 3/4MJIC 3/4MJIC 3/4FJIC
	1	811-146C	AD 9/16MJIC 3/4FJIC
15	2	811-171C	EL 3/4MORB 9/16MJIC
	1	823-445C	Weight Transfer Lift Relay Harness
17	2	858-295C	Caution Decal for Machine Damage

Appendix - Torque Values Chart

Bolt Size	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8	
in-tpi[a]	N-m[b]	ft-lb[d]	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12
1/4-28	8.5	6	13	10	18	14
5/16-18	15	11	24	17	33	25
5/16-24	17	13	26	19	37	27
3/8-16	27	20	42	31	59	44
3/8-24	31	22	47	35	67	49
7/16-14	43	32	67	49	95	70
7/16-20	49	36	75	55	105	78
1/2-13	66	49	105	76	145	105
1/2-20	75	55	115	85	165	120
9/16-12	95	70	150	110	210	155
9/16-18	105	79	165	120	235	170
5/8-11	130	97	205	150	285	210
5/8-18	150	110	230	170	325	240
3/4-10	235	170	360	265	510	375
3/4-16	260	190	405	295	570	420
7/8-9	225	165	585	430	820	605
7/8-14	250	185	640	475	905	670
1-8	340	250	875	645	1230	910
1-12	370	275	955	705	1350	995
1 1/8-7	480	355	1080	795	1750	1290
1 1/8-12	540	395	1210	890	1960	1440
1 1/4-7	680	500	1520	1120	2460	1820
1 1/4-12	750	555	1680	1240	2730	2010
1 3/8-6	890	655	1990	1470	3230	2380
1 3/8-12	1010	745	2270	1670	3680	2710
1 1/2-6	1180	870	2640	1950	4290	3160
1 1/2-12	1330	980	2970	2190	4820	3560

Bolt Size	Bolt Head Identification					
	 Class 5.8		 Class 8.8		 Class 10.9	
mm x pitch[c]	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

a. in-tpi = nominal thread diameter in inches-threads per inch

b. N· m = newton-meters

c. mm x pitch = nominal thread diameter in mm x thread pitch

d. ft-lb = foot pounds

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above. 25199

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