



4130 Commerce Blvd  
Windom, MN 56101  
(507) 427-3861

## Final Hydraulic Assembly Guide for 8400-Series Applicator

**Date:** 2023-12-12

**To:** Territory Managers and Dealers

**Subject:** Assembling of pieces after shipping

**Relevant Model(s):** 8400 Applicator (2400 Gal., 80' / 90')



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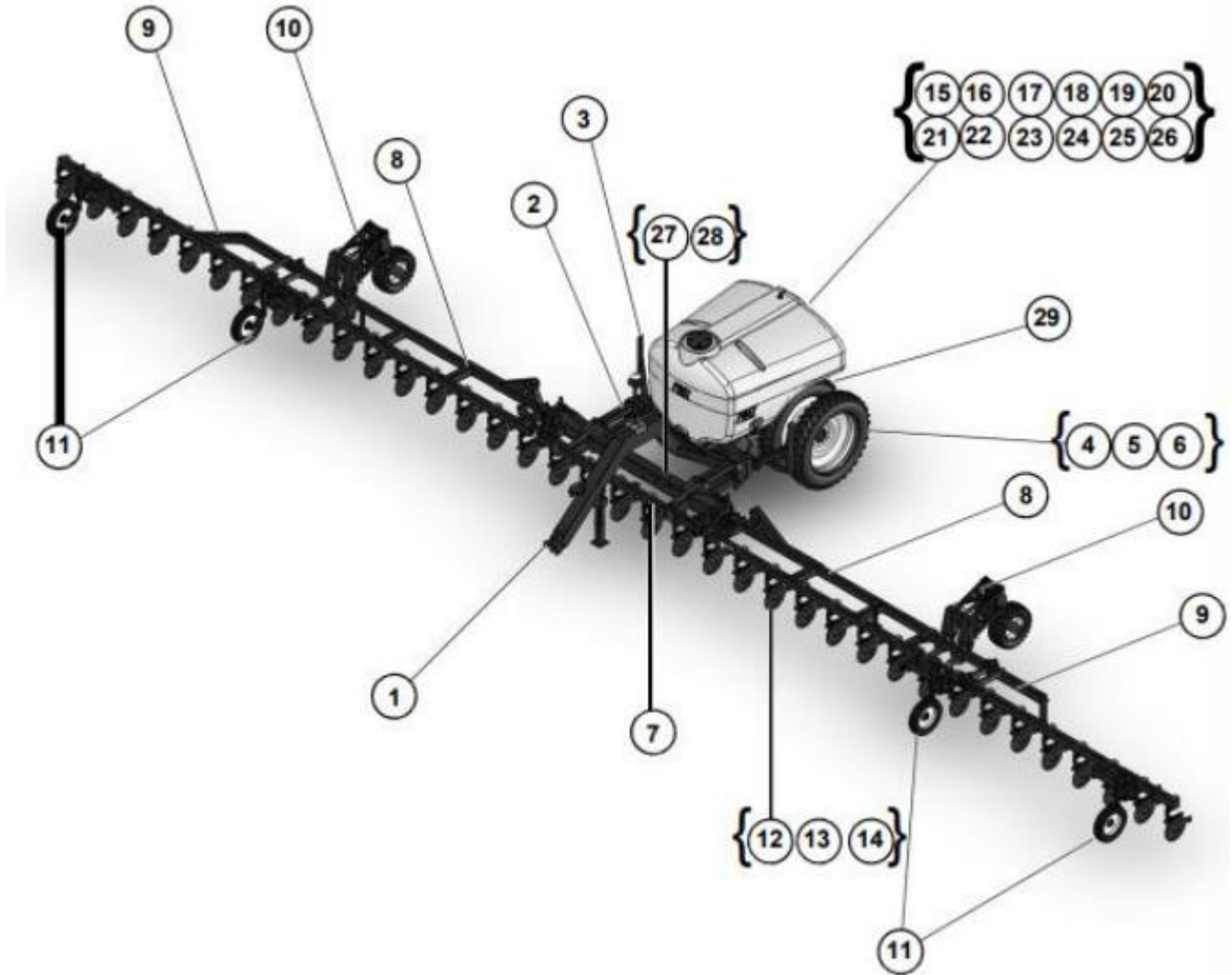
## ASSEMBLY

1. Use the torque values in [TIGHTENING HARDWARE](#) for all final tightness values.
2. Attach all coulter assemblies to the toolbar.
3. Connect all hydraulic lines as shown with the [CONNECTION KEY](#).
4. Use the [CONNECTION REFERENCE](#) and [CONNECTION IDENTIFICATION](#) sections if necessary.
5. Confirm all components are in place with the Parts Manual, [8400 OM PM \(fastagsolutions.com\)](#).



# CONNECTION REFERENCE

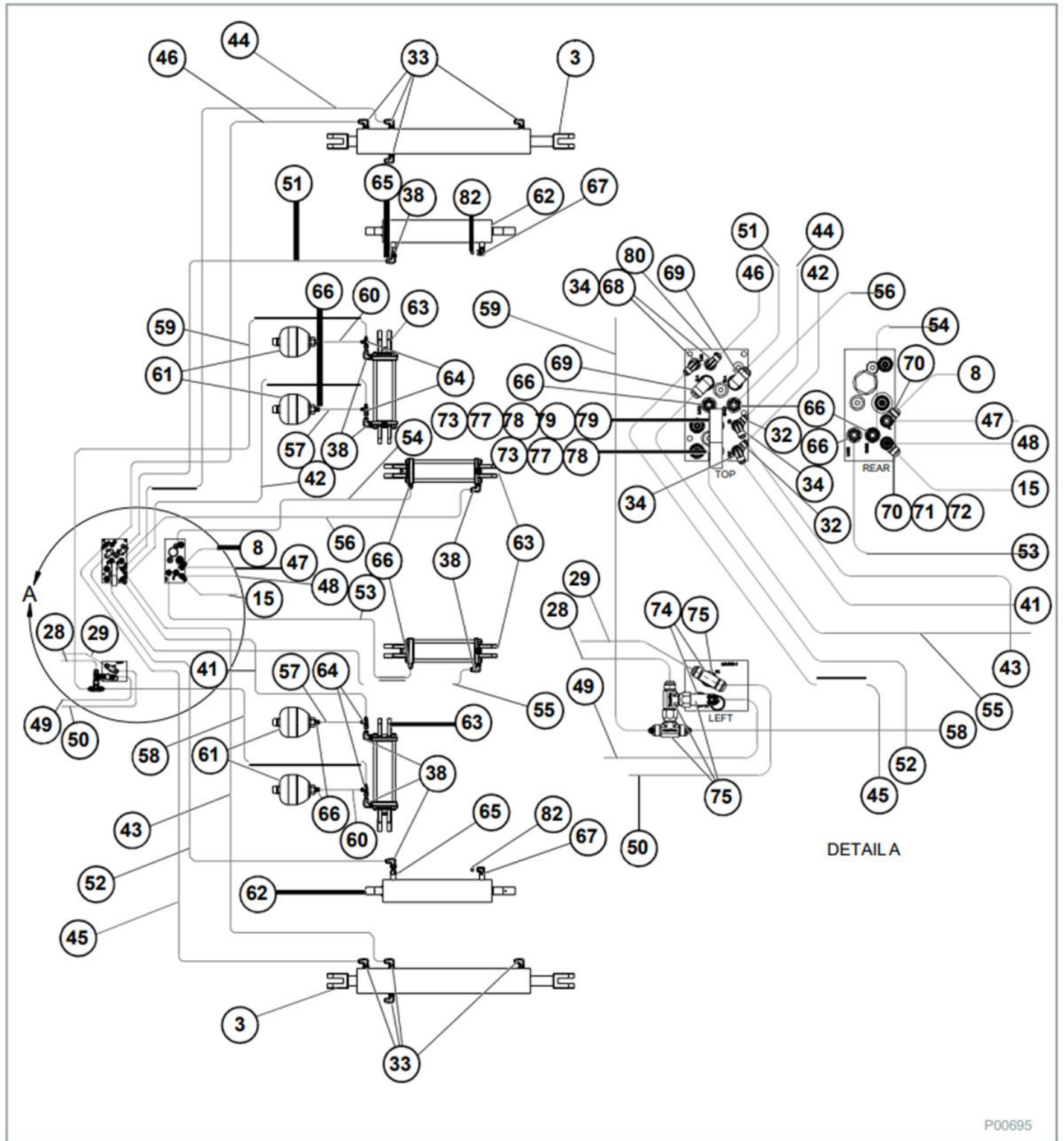
## Assembly Overview



ITEM NO.	DESCRIPTION
1	CART/MAIN FRAME ASSEMBLY (HITCH AND JACK)
2	CART/MAIN FRAME ASSEMBLY (PARALLEL LINKS)
3	CART/MAIN FRAME ASSEMBLY (WING TRANSPORT STOPS)
4	AXLE ASSEMBLIES
5	AXLE ASSEMBLY OPTIONS
6	TIRE AND RIM
7	CENTER WING ASSEMBLY
8	INNER WING ASSEMBLY (LEFT AND RIGHT)
9	OUTER WING ASSEMBLY (LEFT AND RIGHT)
10	LIFT ASSIST AND SWIVEL WHEEL ASSEMBLY
11	GAUGE WHEEL ASSEMBLY
12	FAST COULTER ASSEMBLY
13	COULTER KNIFE ASSEMBLY

ITEM NO.	DESCRIPTION
14	COULTER INJECTION ASSEMBLY
19	1800 - 2400 TANK ASSEMBLIES
21	THREE INCH QUICK FILL
20	TANK TO PUMP PLUMBING
26	LARGE CART TO BALL VALVE PLUMBING
24	TOOLBAR PLUMBING
25	AGITATION AND CONTROL
23	ACE 205F - 304 PUMP
22	HYPRO PUMP
18	DIRECTOVALVE® ELECTRIC 2-WAY BALL VALVE MANIFOLD
15	FLOWMETER, RAVEN, RFM60 P ASSEMBLY (063-0171-793)
17	1-1/2 IN. POLY CONTROL VALVE ASSEMBLY (063-0171-894)
16	FLOWMETER, RAVEN, RFM100 P ASSEMBLY (063-0171-066)
	FLOWMETER, RAVEN, RFM60 P ASSEMBLY (063-0171-793)
NS	RAVEN SCS450 CONSOLE
NS	ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (115-0171-085)
NS	ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (115-0159-856)
NS	ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (115-0171-086)
NS	RAVEN, CABLE 12 FT. PRODUCT, 10 BOOM ASSEMBLY (115-0171-313)
NS	PRODUCT CONTROLLER LIQUID SYSTEM, 16 PIN PRODUCT CABLE
NS	PRODUCT CONTROLLER LIQUID SYSTEM, 37 PIN PRODUCT CABLE
NS	CABLE, 17 FT., ISO, HITCH TO RAVEN ECU ASSEMBLY (115-0172-034)
NS	RAVEN, CABLE 4400/4600 INTERFACE, 37 PIN PRODUCT CONTROLLER ASSEMBLY (115-0171-945)
NS	RAVEN, CABLE, ADAPTER, ISO TO ACTIVE TERMINATOR ASSEMBLY (115-0171-963)
NS	FOLD CONTROL CAB BOX (304-041)
NS	WIRING HARNESS CONNECTION (314-217)
NS	HARNESS CONNECTOR (319-759)
NS	FOLD CONTROL BLOCK HARNESS (304-042)
27	VALVE BLOCK AND HARNESS (303-131)
28	VALVE BLOCK (302-469)
NS	CONTROL BOX TO CONTROL VALVE OPERATION AND PIN-OUT LOCATION
NS	FOLD HYDRAULIC SYSTEM
NS	LIFT AND DOWN PRESSURE SYSTEM
NS	LIFT AND DOWN PRESSURE CONTROL VALVE
NS	FOLD VALVE WITH FITTINGS
NS	HYDRAULIC HOSE DESCRIPTION
NS	PUMP HYDRAULIC SYSTEM
29	TOOLBOX CARRIER
NS	INJECTOR AND KNIFE KITS CONTENTS
NS	LIGHTING

# Fold Hydraulic System



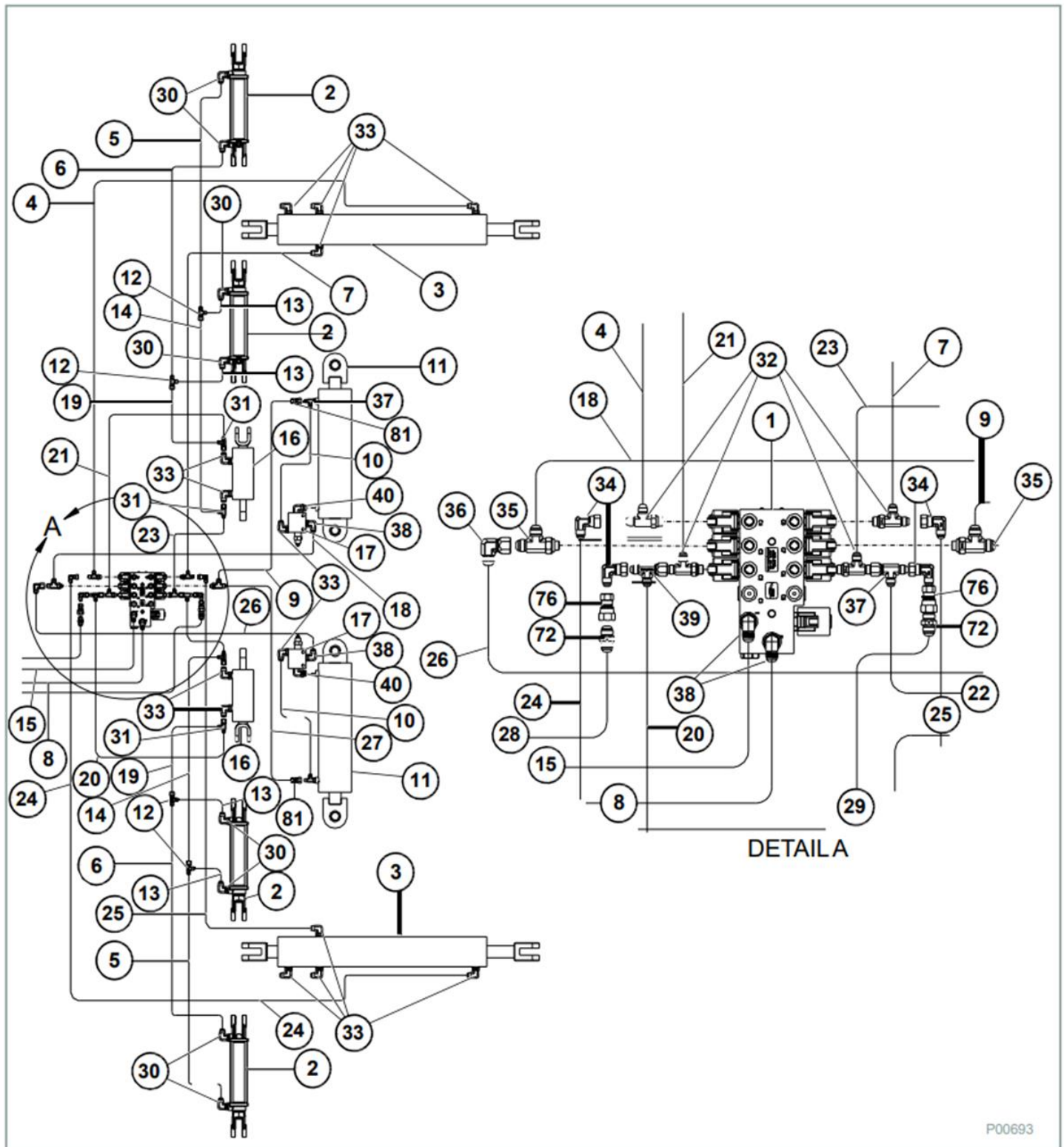
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1*	630039	FOLD SYSTEM BLOCK AND CAB BOX	1
2*	620023	FOLDING GAGE WHEEL CYLINDER	4
3	620027	FLIP WING KICK/FOLD CYLINDER	2
4*	600050-6-ZN	HYDRAULIC HOSE 3/8 X 354 IN (8992 MM)	1

ITEM NO.	PART NO.	DESCRIPTION	QTY.
5*	600085-3-ZN	HYDRAULIC HOSE 1/4 X 220 IN (5588 MM)	1
6*	600085-3-ZN	HYDRAULIC HOSE 1/4 X 220 IN (5588 MM)	1
7*	600050-7A-ZN	HYDRAULIC HOSE 3/8 X 339 IN (8611 MM)	1
8	600050-23-ZN	HYDRAULIC HOSE 1/2 X 43 IN (1092 MM)	1
9*	600050-2A-ZN	HYDRAULIC HOSE 1/2 X 98 IN (2489 MM)	1
10*	600050-9A-ZN	HYDRAULIC HOSE 3/8 X 12.5 IN (318 MM)	1
11*	620046	MAIN WING FOLD CYLINDER	2
12*	610026	T-FITTING #4 FJIX X #4 MJIC X #4 MJIC	4
13*	600085-2-ZN	HYDRAULIC HOSE 1/4 X 24 IN (610 MM)	1
14*	600085-4-ZN	HYDRAULIC HOSE 1/4 X 208 IN (5283 MM)	1
15	600050-23-ZN	HYDRAULIC HOSE 1/2 X 43 IN (1092 MM)	1
16*	620026	WING LATCH CYLINDER	2
17*	500067	COUNTERBALANCE VALVE	2
18*	600050-1A-ZN	HYDRAULIC HOSE 1/2 X 88 IN (2235 MM)	1
19*	600085-4-ZN	HYDRAULIC HOSE 1/4 X 208 IN (5283 MM)	1
20*	600050-11A-ZN	HYDRAULIC HOSE 3/8 X 91 IN (2311 MM)	1
21*	600050-24A-ZN	HYDRAULIC HOSE 3/8 X 137 IN (3480 MM)	1
22*	600050-12A-ZN	HYDRAULIC HOSE 3/8 X 100 IN (2540 MM)	1
23*	600050-4A-ZN	HYDRAULIC HOSE 3/8 X 133 IN (3378 MM)	1
24*	600050-13A-ZN	HYDRAULIC HOSE 3/8 X 309 IN (7849 MM)	1
25*	600050-14-ZN	HYDRAULIC HOSE 3/8 X 305 IN (7747 MM)	1
26*	600050-17A-ZN	HYDRAULIC HOSE 1/2 X 52 IN (1321 MM)	1
27*	600050-18A-ZN	HYDRAULIC HOSE 1/2 X 64 IN (1626 MM)	1
28	600085-1-ZN	HYDRAULIC HOSE 1/2 X 20 IN (508 MM)	1
29	600085-1-ZN	HYDRAULIC HOSE 1/2 X 20 IN (508 MM)	1
30*	610029	FITTING 90° #8 MORB X #4 MJIC	8
31*	610027	T-FITTING #6 FJIX X #6 MJIC X #6 MJIC	4
32	610074	T-FITTING #6 MORB X #6 MJIC X #6 MJIC	6
33	610030	FITTING 90° #8 MORB X #6 MJIC	14
34	610023	FITTING 90° #6 FJIX X #6 MJIC	8
35*	610030	T-FITTING #8 MORB X #8 MJIC X #8 MJIC	2
36*	610024	FITTING 90° #8 FJIX X #8 MJIC	11
37*	6804-8-8-8	T-FITTING #8 MORB X #8 MJIC X #8 MJIC	2
38	610097	FITTING 90° #8 MORB X #8 MJIC	12
39*	610027	T-FITTING #6 FJIX X #6 MJIC X #6 MJIC	2

ITEM NO.	PART NO.	DESCRIPTION	QTY.
40*	6807-08-08	FITTING 900 #8 MORB X #8 MORB	2
41	600050-10A-ZN	HYDRAULIC HOSE 3/8 X 63 IN (1600 MM)	1
42	600050-3-ZN	HYDRAULIC HOSE 3/8 X 130 IN (3302 MM)	1
43	600050-15-ZN	HYDRAULIC HOSE 3/8 X 281 IN (7137 MM)	1
44	600050-5-ZN	HYDRAULIC HOSE 3/8 X 350 IN (8890 MM)	1
45	600050-16-ZN	HYDRAULIC HOSE 3/8 X 282 IN (7163 MM)	1
46	600050-8-ZN	HYDRAULIC HOSE 3/8 X 348 IN (8839 MM)	1
47	600050-19-ZN	HYDRAULIC HOSE 1/2 X 300 IN (7620 MM)	1
48	600050-19-ZN	HYDRAULIC HOSE 1/2 X 300 IN (7620 MM)	1
49	600050-20-ZN	HYDRAULIC HOSE 5/8 X 300 IN (7620 MM)	1
50	600050-20-ZN	HYDRAULIC HOSE 5/8 X 300 IN (7620 MM)	1
51	600050-21-ZN	HYDRAULIC HOSE 5/8 X 370 IN (9398 MM)	1
52	600050-22-ZN	HYDRAULIC HOSE 5/8 X 298 IN (7569 MM)	1
53	600050-27A-ZN	HYDRAULIC HOSE 1/2 X 68 IN (1727 MM)	1
54	600050-28A-ZN	HYDRAULIC HOSE 1/2 X 134 IN (3404 MM)	1
55	600050-25A-ZN	HYDRAULIC HOSE 1/2 X 47 IN (1194 MM)	1
56	600050-26A-ZN	HYDRAULIC HOSE 1/2 X 152 IN (3861 MM)	1
57	600050-29-ZN	HYDRAULIC HOSE 3/8 X 18 IN (457 MM)	1
58	600050-30-ZN	HYDRAULIC HOSE 1/2 X 78 IN (1981 MM)	1
59	600050-31-ZN	HYDRAULIC HOSE 1/2 X 145 IN (3683 MM)	1
60	600050-32-ZN	HYDRAULIC HOSE 1/2 X 36 IN (914 MM)	1
61	630020	ACCUMULATOR	4
62	620089	LIFT ASSIST CYLINDER	2
63	620073	MAIN LIFT AND DOWN PRESSURE CYLINDER	4
64	610053	T-FITTING #8 FJIX X #8 MJIC X #8 MJIC	4
65	610095	FITTING 0.090 IN. ONE WAY ORIFICE	2
66	610013	FITTING STRAIGHT #8 MORB X #8 MJIC	10
67	610035	FITTING #8 MORB X #6 FORB 90°	2
68	610010	FITTING STRAIGHT #6 MORB X #6 MJIC	2
69	610102	FITTING 90° #10 MORB X #10 MJIC	2
70	610130	T-FITTING #6 MORB X #8 MJIC X #8 MJIC	2
71	610068	FITTING #8 FJIX X #8 FJIX SWIVEL UNION	1
72	630043	FITTING #8 MJIC X #8 MJIC INLINE CHECK VALVE	3
73	790052	GAGE	2
74	610106	FITTING STRAIGHT #10 MORB X #10 MJIC	2

ITEM NO.	PART NO.	DESCRIPTION	QTY.
75	610120	T-FITTING #10 MJIC X #10 MJIC X #10 FJIX SWIVEL BRANCH	4
76*	6510-08-06	FITTING #6 FJIX X #8 FJIX ADAPTER	2
77	610008	FITTING STRAIGHT #6 MORB X #4 MJIC	2
78	610025	FITTING STRAIGHT #4 FJIX X 1/4 FNPT	2
79	610129	FITTING STRAIGHT #6 MORB X #6 FORB	2
80	15850	LIFT AND DOWN PRESSURE BLOCK	1
81*	610072	FITTING #8 TO #6 JIC REDUCER	2
82	610036	FITTING #6 MORB BREATHER	2

# Lift and Down Pressure System



P00693

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	630039	FOLD SYSTEM BLOCK	1
2	620023	FOLDING GAGE WHEEL CYLINDER	4
3	620027	FLIP WING KICK/FOLD CYLINDER	2

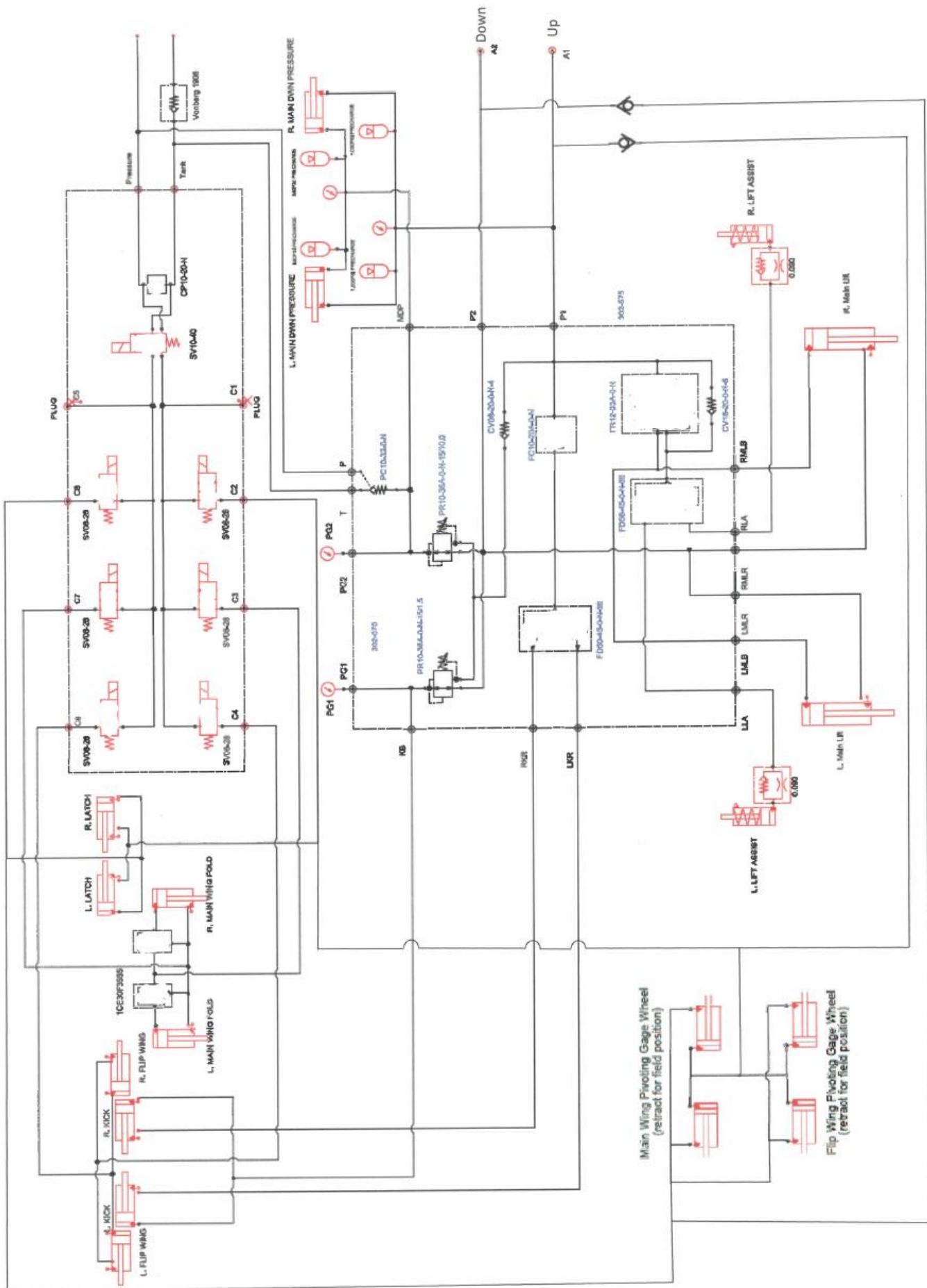


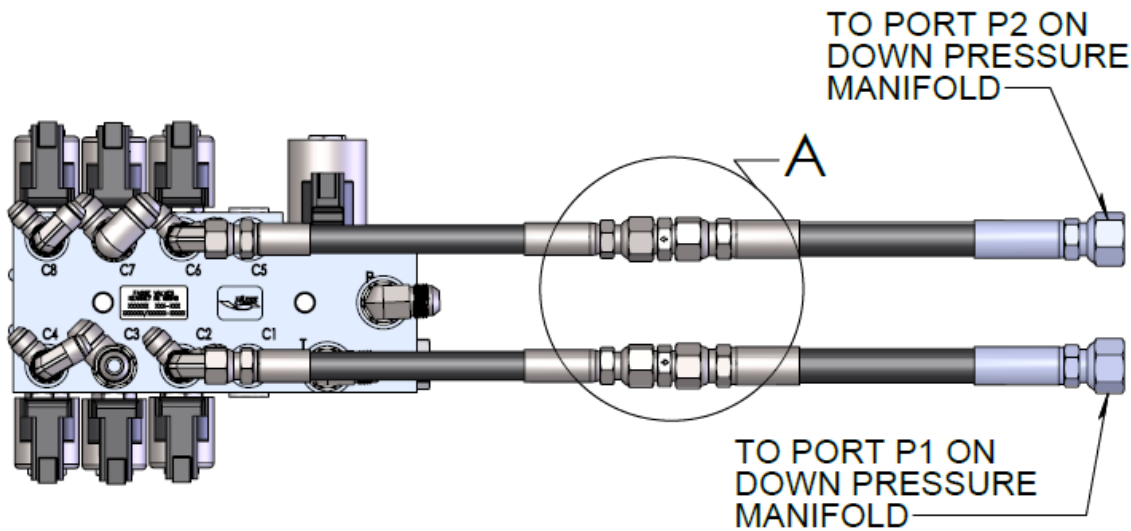
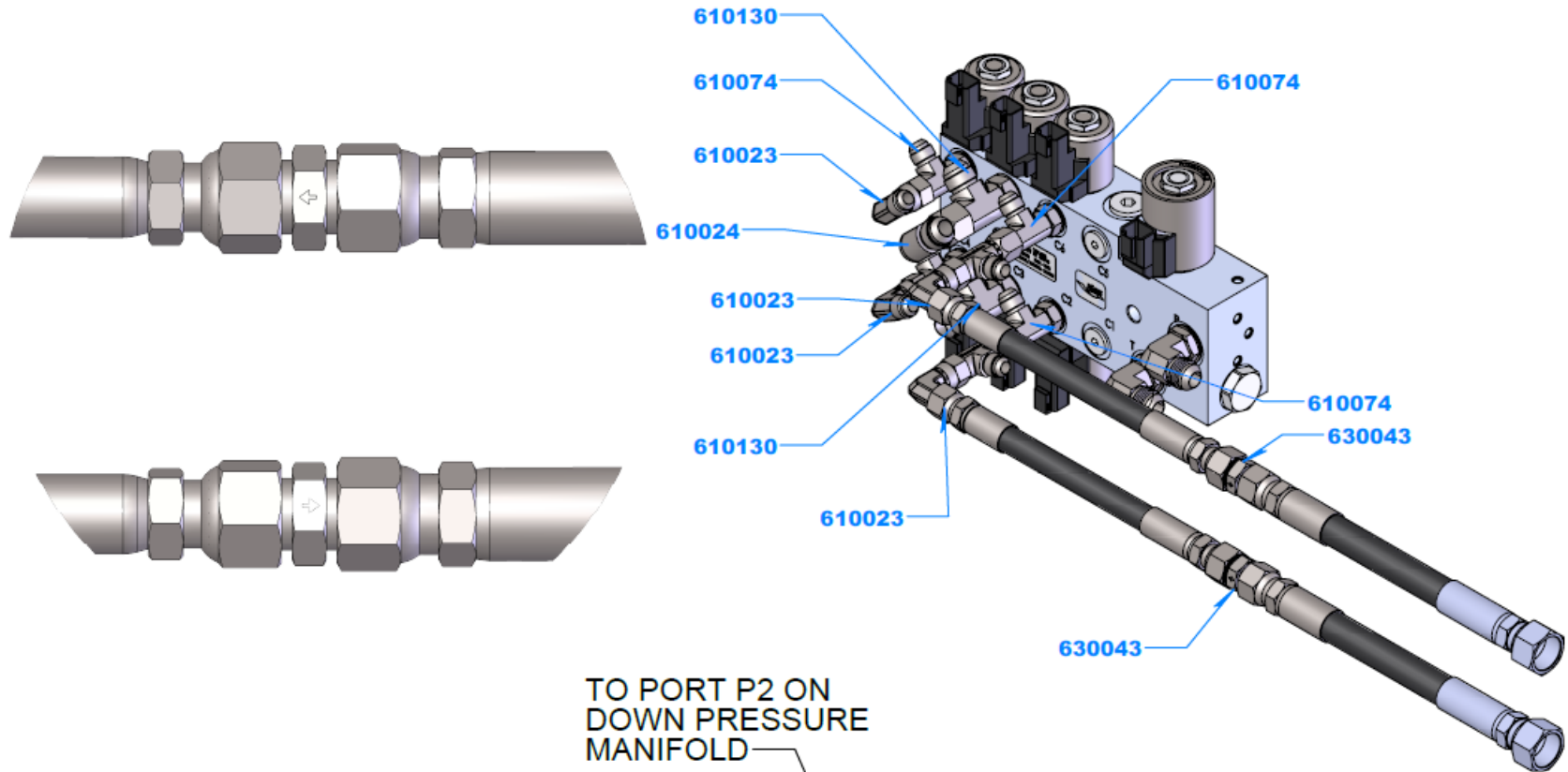
ITEM NO.	PART NO.	DESCRIPTION	QTY.
4	600050-6-ZN	HYDRAULIC HOSE 3/8 X 354 IN (8992 MM)	1
5	600085-3-ZN	HYDRAULIC HOSE 1/4 X 220 IN (5588 MM)	1
6	600085-3-ZN	HYDRAULIC HOSE 1/4 X 220 IN (5588 MM)	1
7	600050-7A-ZN	HYDRAULIC HOSE 3/8 X 339 IN (8611 MM)	1
8	600050-23-ZN	HYDRAULIC HOSE 1/2 X 43 IN (1092 MM)	1
9	600050-2A-ZN	HYDRAULIC HOSE 1/2 X 98 IN (2489 MM)	1
10	600050-9A-ZN	HYDRAULIC HOSE 3/8 X 12.5 IN (318 MM)	1
11	620046	MAIN WING FOLD CYLINDER	2
12	610026	T-FITTING #4 FJIX X #4 MJIC X #4 MJIC	4
13	600085-2-ZN	HYDRAULIC HOSE 1/4 X 24 IN (610 MM)	1
14	600085-4-ZN	HYDRAULIC HOSE 1/4 X 208 IN (5283 MM)	1
15	600050-23-ZN	HYDRAULIC HOSE 1/2 X 43 IN (1092 MM)	1
16	620026	WING LATCH CYLINDER	2
17	500067	COUNTERBALANCE VALVE	2
18	600050-1A-ZN	HYDRAULIC HOSE 1/2 X 88 IN (2235 MM)	1
19	600085-4-ZN	HYDRAULIC HOSE 1/4 X 208 IN (5283 MM)	1
20	600050-11A-ZN	HYDRAULIC HOSE 3/8 X 91 IN (2311 MM)	1
21	600050-24A-ZN	HYDRAULIC HOSE 3/8 X 137 IN (3480 MM)	1
22	600050-12A-ZN	HYDRAULIC HOSE 3/8 X 100 IN (2540 MM)	1
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24	600050-13A-ZN	HYDRAULIC HOSE 3/8 X 309 IN (7849 MM)	1
25	600050-14-ZN	HYDRAULIC HOSE 3/8 X 305 IN (7747 MM)	1
26	600050-17A-ZN	HYDRAULIC HOSE 1/2 X 52 IN (1321 MM)	1
27	600050-18A-ZN	HYDRAULIC HOSE 1/2 X 64 IN (1626 MM)	1
28	600085-1-ZN	HYDRAULIC HOSE 1/2 X 20 IN (508 MM)	1
29	600085-1-ZN	HYDRAULIC HOSE 1/2 X 20 IN (508 MM)	1
30	610029	FITTING 90° #8 MORB X #4 MJIC	8
31	610027	T-FITTING #6 FJIX X #6 MJIC X #6 MJIC	4
32	610074	T-FITTING #6 MORB X #6 MJIC X #6 MJIC	6
33	610030	FITTING 90° #8 MORB X #6 MJIC	14
34	610023	FITTING 90° #6 FJIX X #6 MJIC	8
35	610030	T-FITTING #8 MORB X #8 MJIC X #8 MJIC	2
36	610024	FITTING 90° #8 FJIX X #8 MJIC	11
37	6804-8-8-8	T-FITTING #8 MORB X #8 MJIC X #8 MJIC	2
38	610097	FITTING 90° #8 MORB X #8 MJIC	12

ITEM NO.	PART NO.	DESCRIPTION	QTY.
39	610027	T-FITTING #6 FJIX X #6 MJIC X #6 MJIC	2
40	6807-08-08	FITTING 900 #8 MORB X #8 MORB	2
41*	600050-10A-ZN	HYDRAULIC HOSE 3/8 X 63 IN (1600 MM)	1
42*	600050-3-ZN	HYDRAULIC HOSE 3/8 X 130 IN (3302 MM)	1
43*	600050-15-ZN	HYDRAULIC HOSE 3/8 X 281 IN (7137 MM)	1
44*	600050-5-ZN	HYDRAULIC HOSE 3/8 X 350 IN (8890 MM)	1
45*	600050-16-ZN	HYDRAULIC HOSE 3/8 X 282 IN (7163 MM)	1
46*	600050-8-ZN	HYDRAULIC HOSE 3/8 X 348 IN (8839 MM)	1
47*	600050-19-ZN	HYDRAULIC HOSE 1/2 X 300 IN (7620 MM)	1
48*	600050-19-ZN	HYDRAULIC HOSE 1/2 X 300 IN (7620 MM)	1
49*	600050-20-ZN	HYDRAULIC HOSE 5/8 X 300 IN (7620 MM)	1
50*	600050-20-ZN	HYDRAULIC HOSE 5/8 X 300 IN (7620 MM)	1
51*	600050-21-ZN	HYDRAULIC HOSE 5/8 X 370 IN (9398 MM)	1
52*	600050-22-ZN	HYDRAULIC HOSE 5/8 X 298 IN (7569 MM)	1
53*	600050-27A-ZN	HYDRAULIC HOSE 1/2 X 68 IN (1727 MM)	1
54*	600050-28A-ZN	HYDRAULIC HOSE 1/2 X 134 IN (3404 MM)	1
55*	600050-25A-ZN	HYDRAULIC HOSE 1/2 X 47 IN (1194 MM)	1
56*	600050-26A-ZN	HYDRAULIC HOSE 1/2 X 152 IN (3861 MM)	1
57*	600050-29-ZN	HYDRAULIC HOSE 3/8 X 18 IN (457 MM)	1
58*	600050-30-ZN	HYDRAULIC HOSE 1/2 X 78 IN (1981 MM)	1
59*	600050-31-ZN	HYDRAULIC HOSE 1/2 X 145 IN (3683 MM)	1
60*	600050-32-ZN	HYDRAULIC HOSE 1/2 X 36 IN (914 MM)	1
61*	630020	ACCUMULATOR	4
62*	620089	LIFT ASSIST CYLINDER	2
63*	620073	MAIN LIFT AND DOWN PRESSURE CYLINDER	4
64*	610053	T-FITTING #8 FJIX X #8 MJIC X #8 MJIC	4
65*	610095	FITTING 0.090 IN. ONE WAY ORIFICE	2
66*	610013	FITTING STRAIGHT #8 MORB X #8 MJIC	10
67*	610035	FITTING #8 MORB X #6 FORB 90°	2
68*	610010	FITTING STRAIGHT #6 MORB X #6 MJIC	2
69*	610102	FITTING 90° #10 MORB X #10 MJIC	2
70*	610130	T-FITTING #6 MORB X #8 MJIC X #8 MJIC	2
71*	610068	FITTING #8 FJIX X #8 FJIX SWIVEL UNION	1
72	630043	FITTING #8 MJIC X #8 MJIC INLINE CHECK VALVE	3

ITEM NO.	PART NO.	DESCRIPTION	QTY.
73*	790052	GAGE	2
74*	610106	FITTING STRAIGHT #10 MORB X #10 MJIC	2
75*	610120	T-FITTING #10 MJIC X #10 MJIC X #10 FJIX SWIVEL BRANCH	4
76	6510-08-06	FITTING #6 FJIX X #8 FJIX ADAPTER	2
77*	610008	FITTING STRAIGHT #6 MORB X #4 MJIC	2
78*	610025	FITTING STRAIGHT #4 FJIX X 1/4 FNPT	2
79*	610129	FITTING STRAIGHT #6 MORB X #6 FORB	2
80*	15850	LIFT AND DOWN PRESSURE BLOCK	1
81	610072	FITTING #8 TO #6 JIC REDUCER	2
82*	610036	FITTING #6 MORB BREATHER	2

# Hydraulic Schematic





PART	QTY	DESCRIPTION
610130	2	#8 JIC TO #6 O-RING RUN TEE
610023	4	ADAPTER, -6MJIC X -6FJX 90
610024	1	JIC #8 90 DEG
610074	4	JIC TO ORING #6 RUN TEE
630039 Fold Valve	1	90° FOLD VALVE
610027	2	JIC #6 RUN TEE
630043	2	INLINE CHECK VALVE, -08MJIC x -08MJIC
600085-5	2	HOSE ASSY, 06-6FJX-8FJX-10
600085-6	2	HOSE ASSY, 08-8FJX-10FJX-10

UNLESS NOTED OTHERWISE: DIMENSIONS ARE IN INCHES & THE TOLERANCES ARE:  
 X.X: ± .060  
 X.XX: ± .030  
 X.XXX: ± .005  
 FRACTIONS: ± 1/16  
 ANGLE: ± 1°  
 DIM. IN BRACKETS ARE (MM)

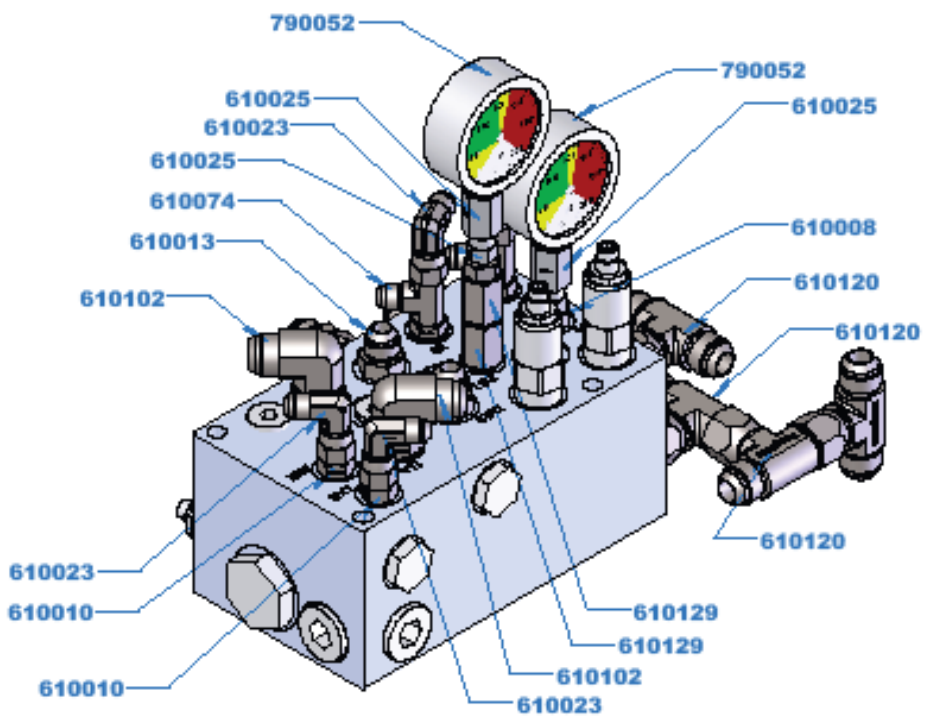
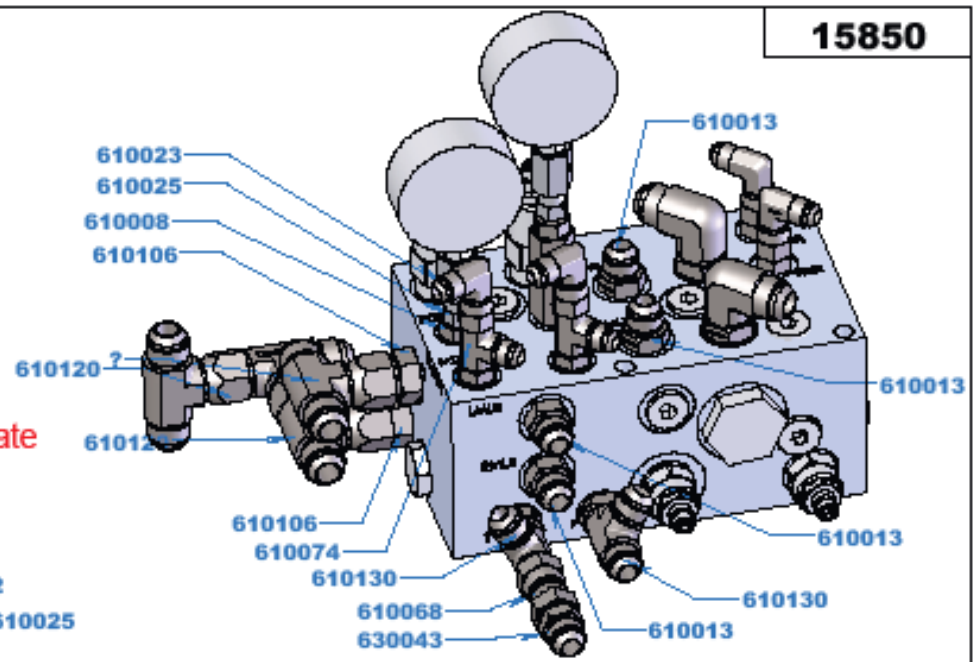
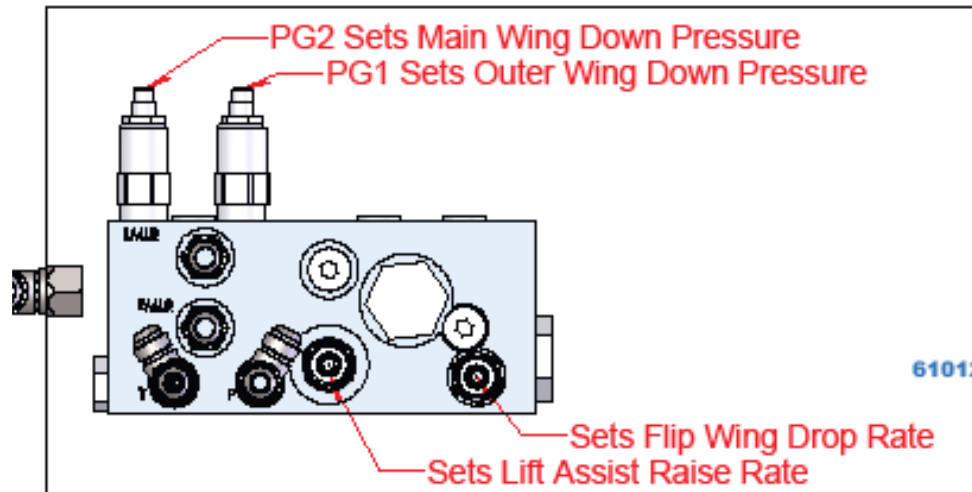
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**FAST**  
AG SOLUTIONS

TITLE: FOLD VALVE W/ FITTINGS 8400  
 PART/DRAWING NO. 15849  
 REV A

**15850**



PART	QTY	DESCRIPTION
610008	2	#4 JIC TO #8 O RING
610010	2	JIC #6 TO ORING #8
610013	4	JIC #8 TO ORING #8
610023	4	JIC #6 90 DEG
610025	2	JIC #4 FEMALE SWIVEL TO 1/4" PIPE
610074	2	JIC TO ORING #8 RUN TEE
610102	2	JIC #10 TO O-RING #10 ELBOW 90°
610106	2	JIC #10 TO JIC #10 FEMALE
790052	2	PRESSURE GAUGE, 3000 PSI
610129	2	#8 O-RING TO #8 O-RING EXTENDER
610130	2	#8 JIC TO #8 O-RING RUN TEE
610068	1	JIC #8 SWIVEL UNION
630043	1	INLINE CHECK VALVE
630039	1	90° LIFT ASSIST BLOCK
610120	4	#10 JIC SWIVEL BRANCH TEE

ECO	REV	BY	DATE	DESCRIPTION

DECIMALS: 1/16" = .0625, 1/32" = .03125, 1/64" = .015625  
 FRACTIONS: 1/16", 1/32", 1/64"  
 ANGLES: ±1 DEG.

Phone: 507-427-3861  
 Fax: 507-427-3030

54857 County Rd. 44  
 Mt. Lake, MN 56157

**FAST**

BY	DATE	DESCRIPTION	DESCRIPTION
			LIFT ASSIST BLOCK 8400
		Weldment Release	WITH UP PRESSURE

Sheet of 1  
**15850**

# CONNECTION IDENTIFICATION

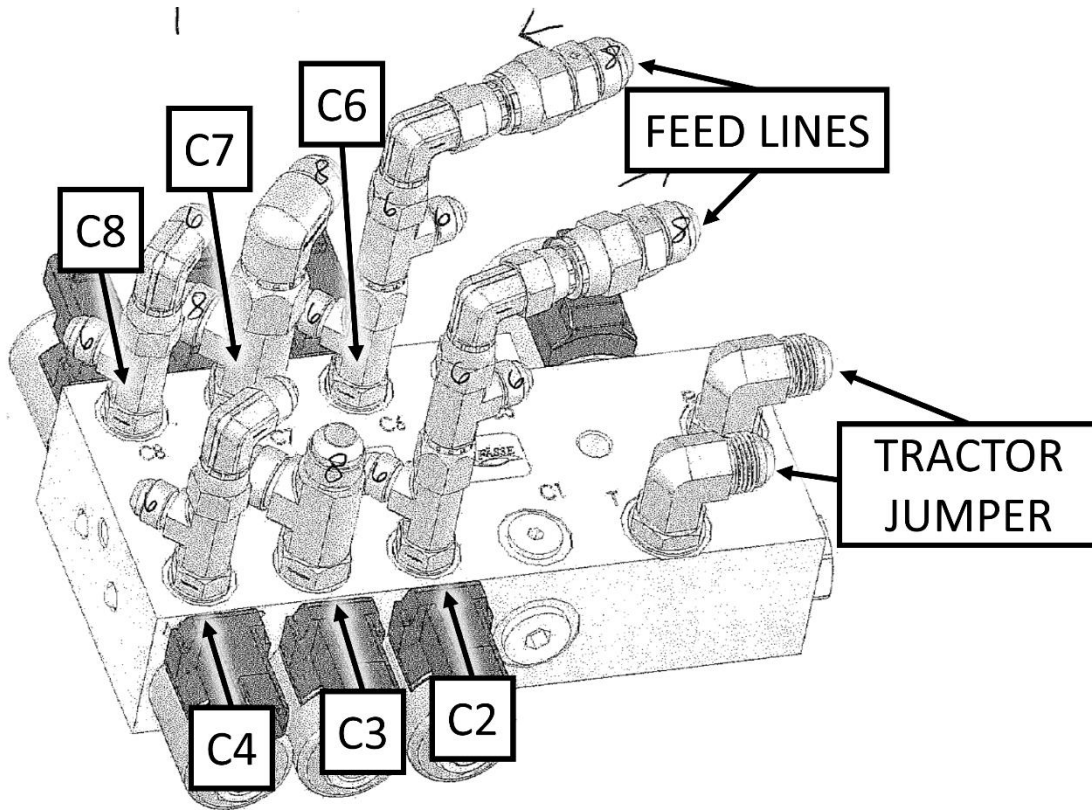


Figure 1: Main Down Pressure block with C#, Feed Lines, and Tractor Jumper connections

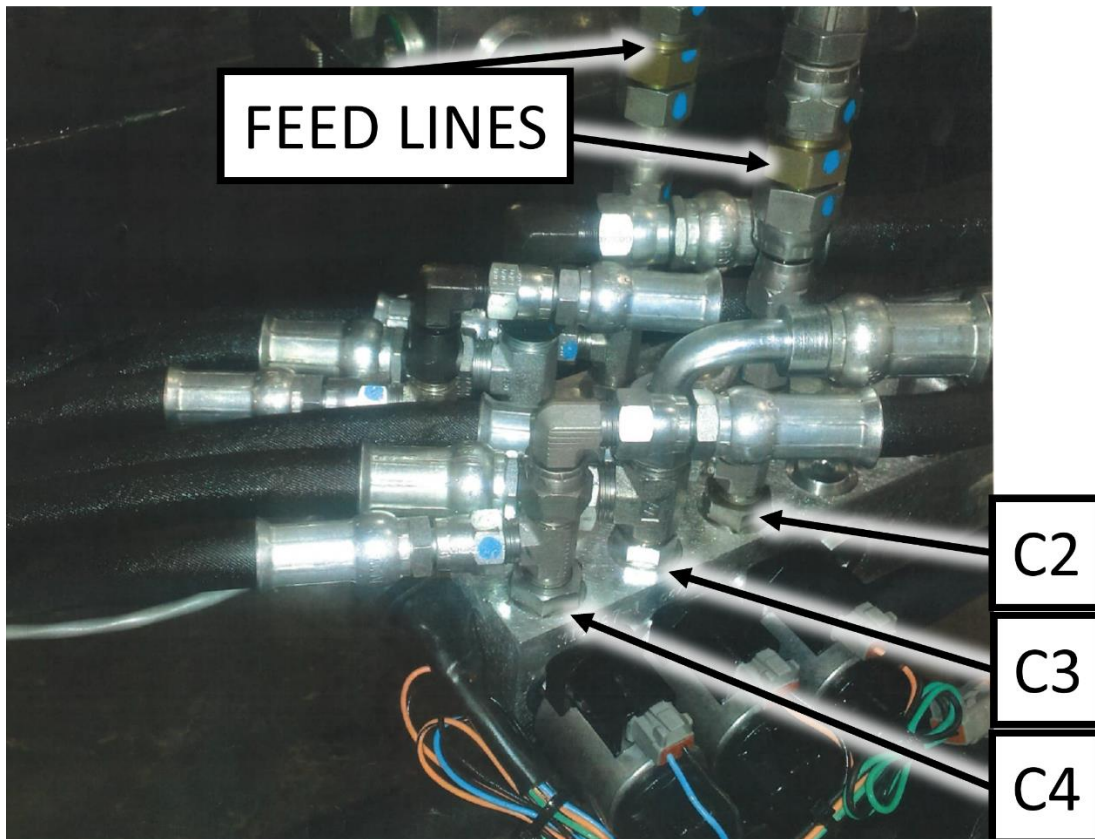


Figure 2: Assembled Main Down Pressure block (Fold Block)

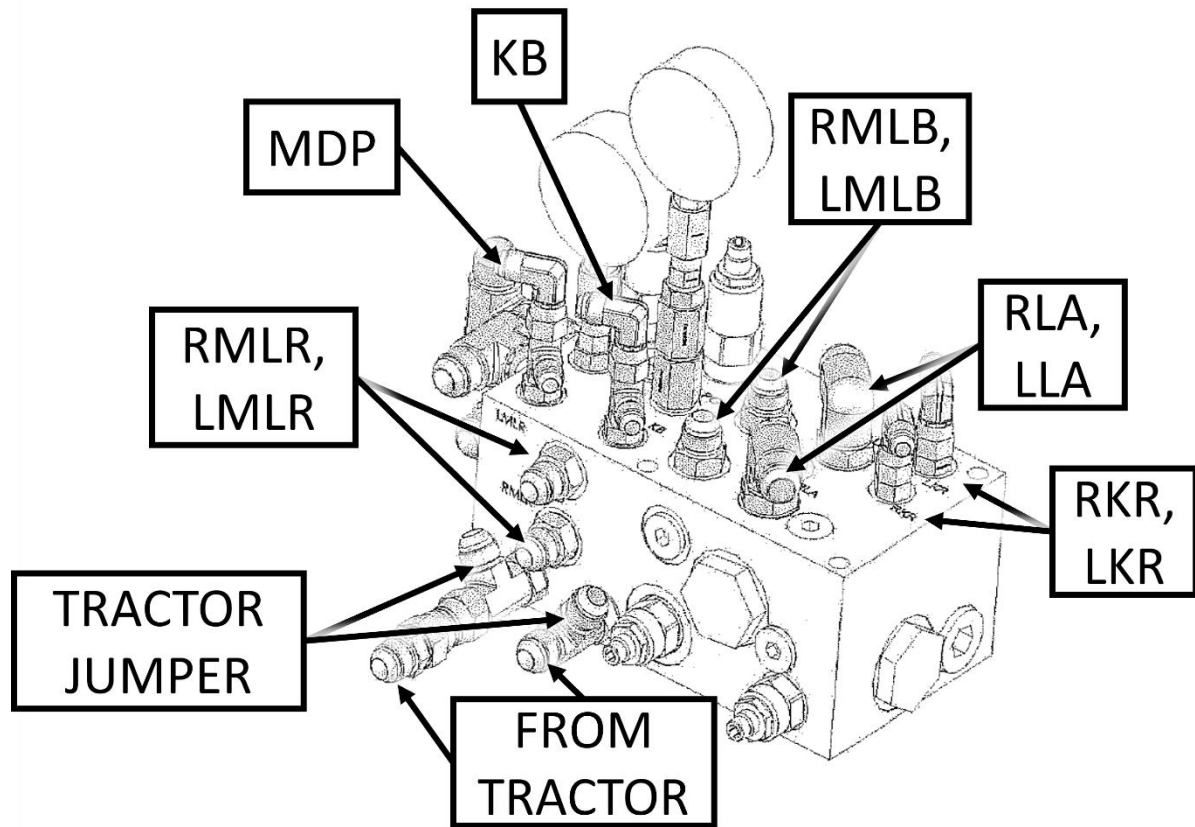


Figure 3: Lift Assist block, rear CAD view

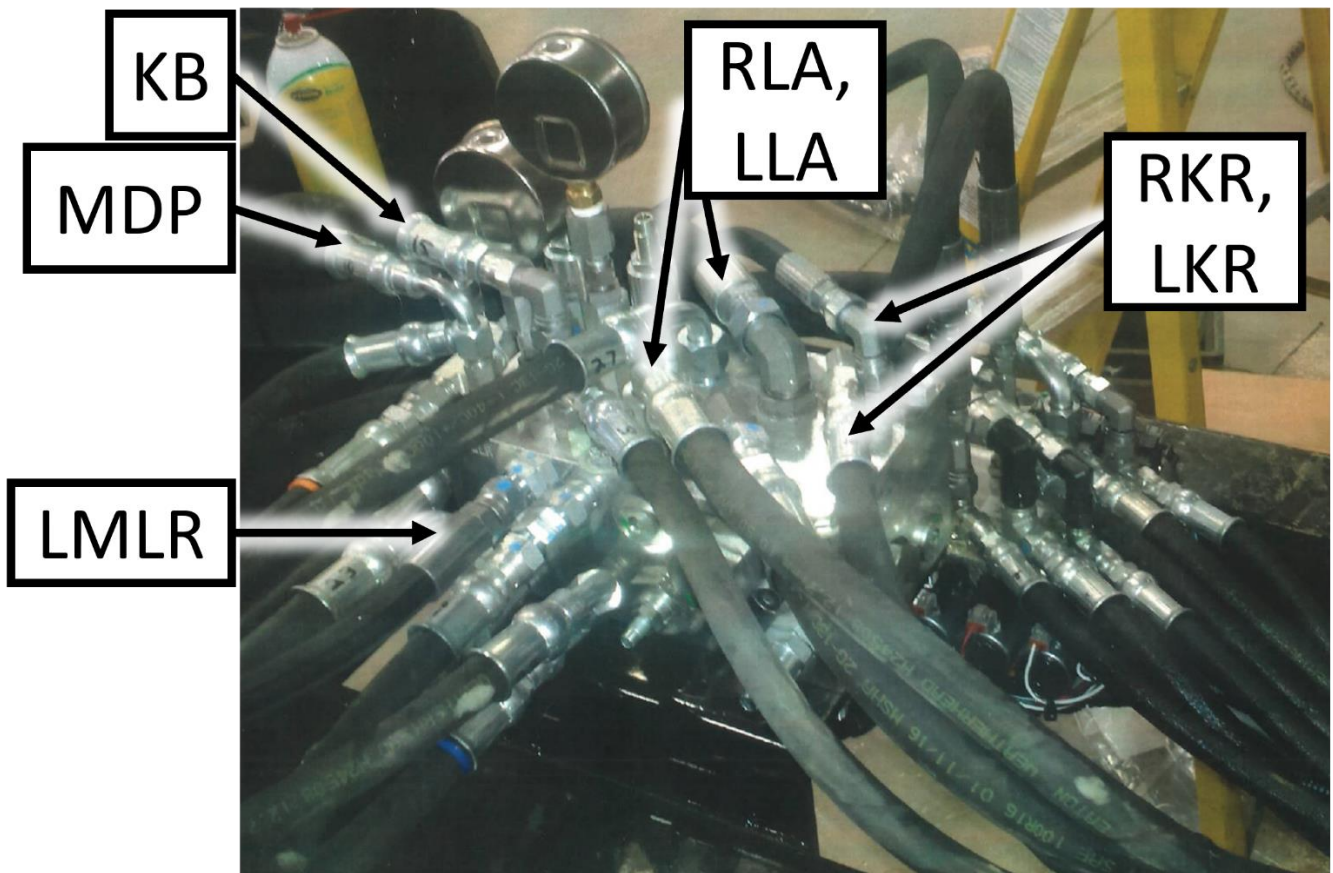


Figure 4: Assembled Lift Assist block, rear view 1



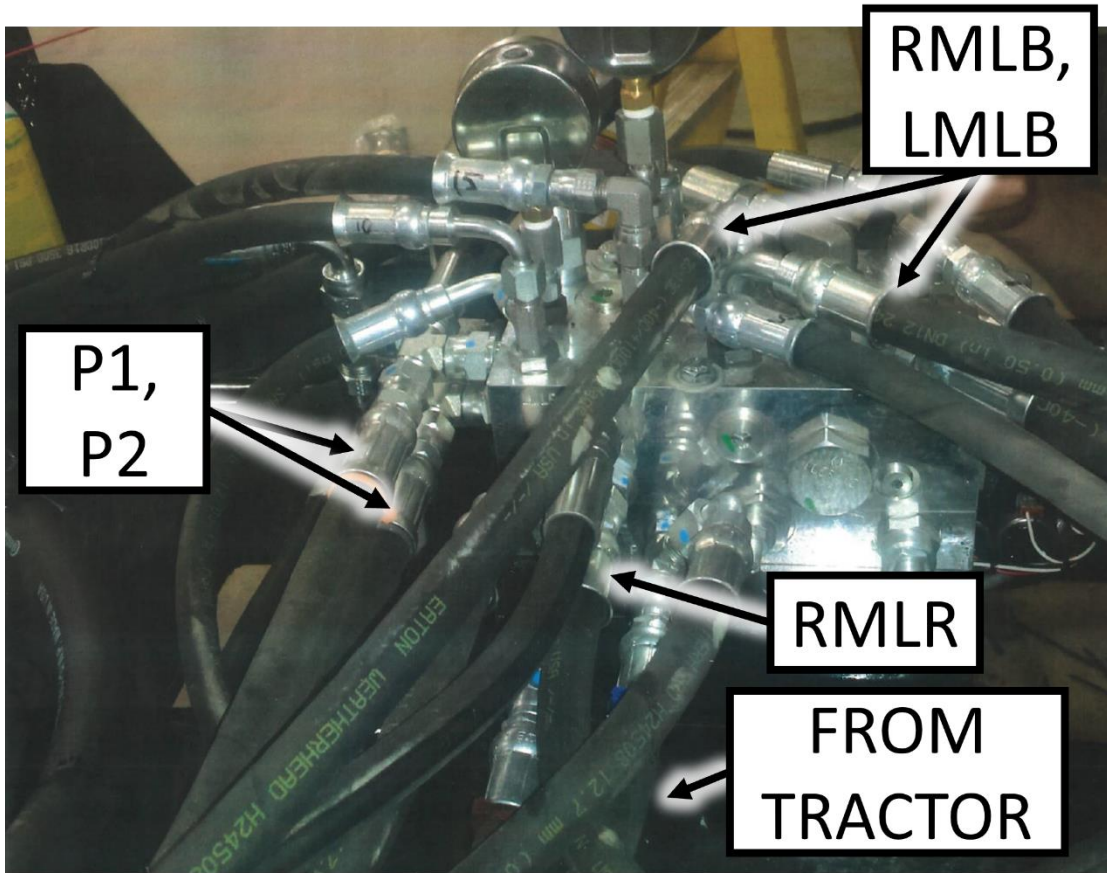


Figure 5: Assembled Lift Assist block, rear view 2

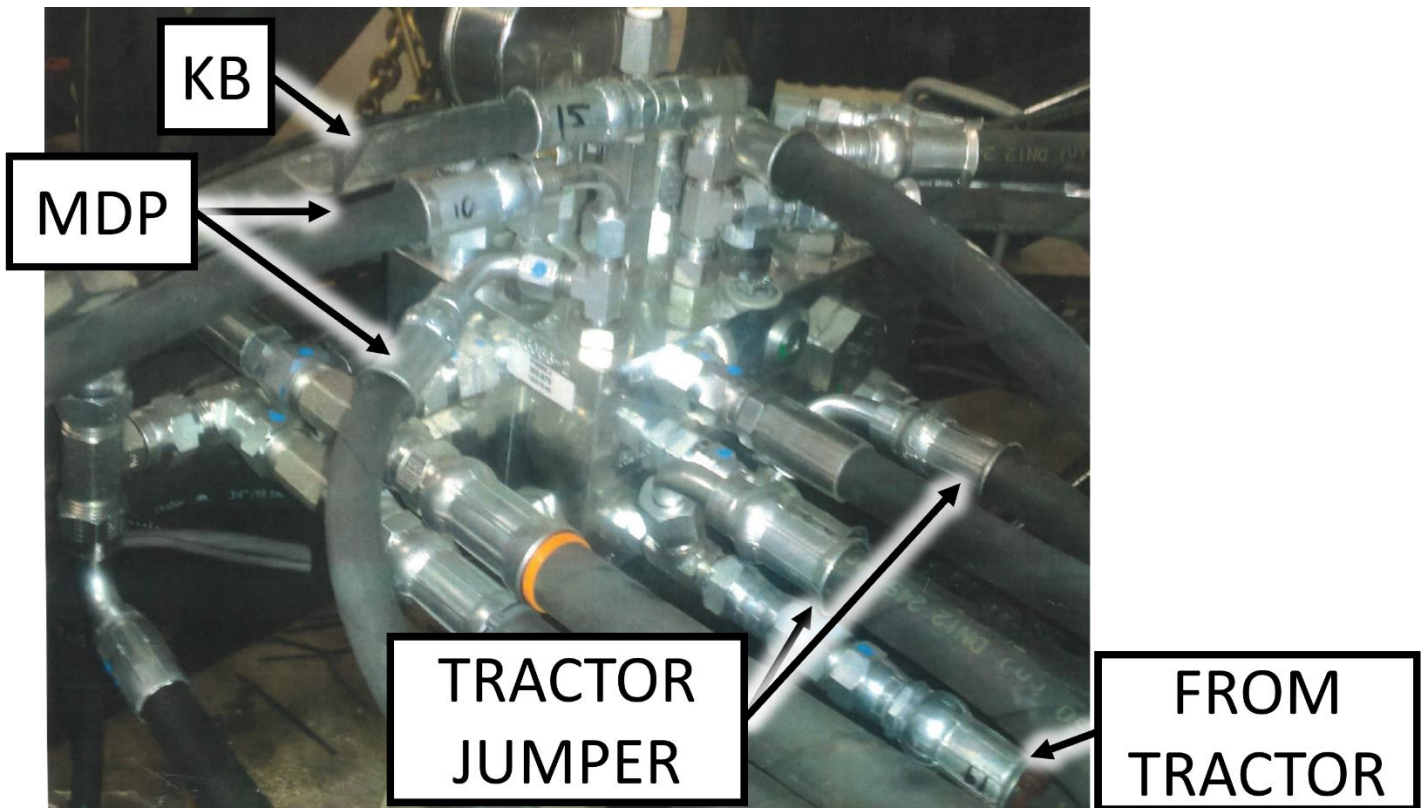


Figure 6: Assembled Lift Assist block, rear view 3

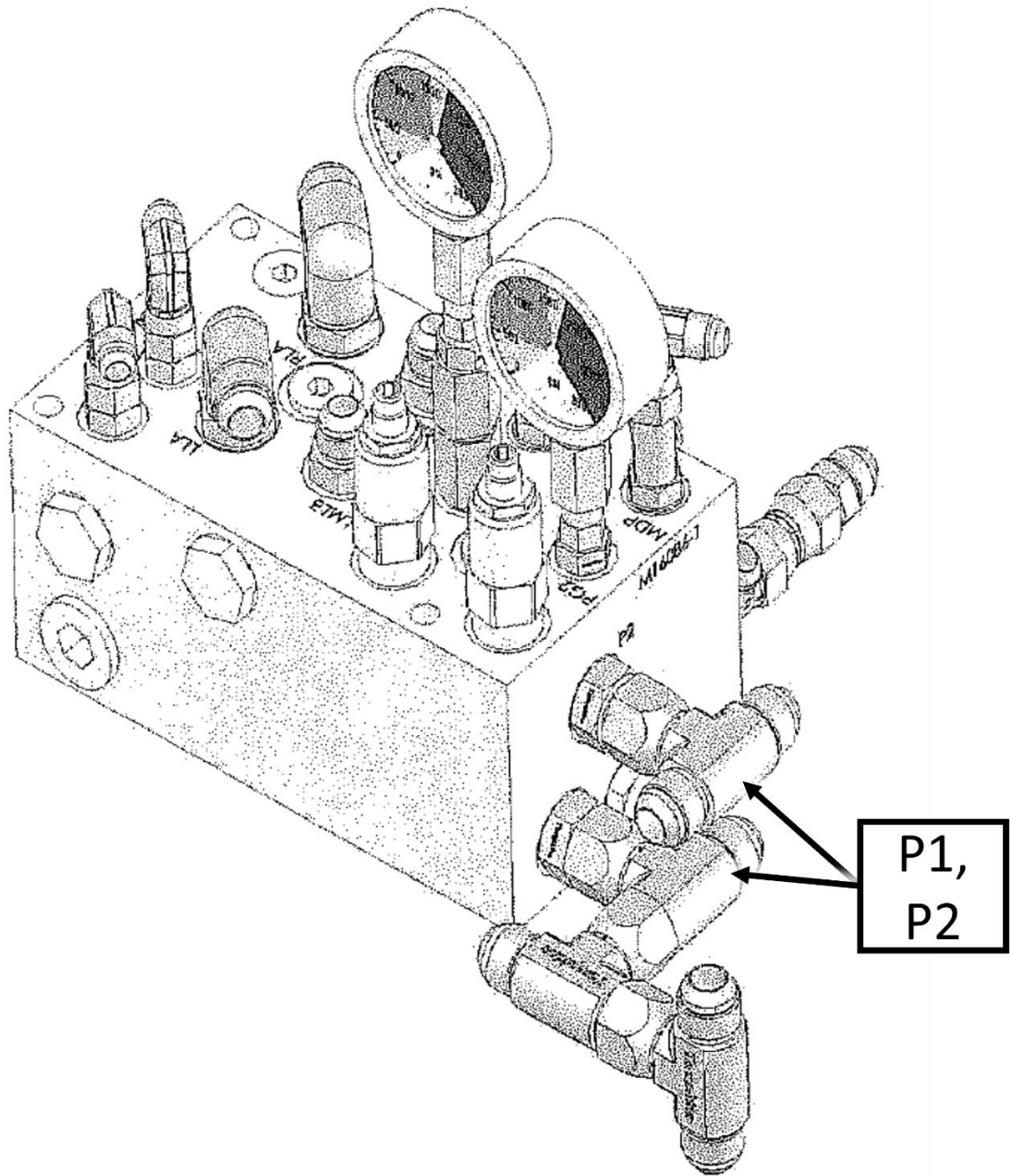


Figure 7: Lift Assist block, front CAD view

FEED LINES

P1,  
P2

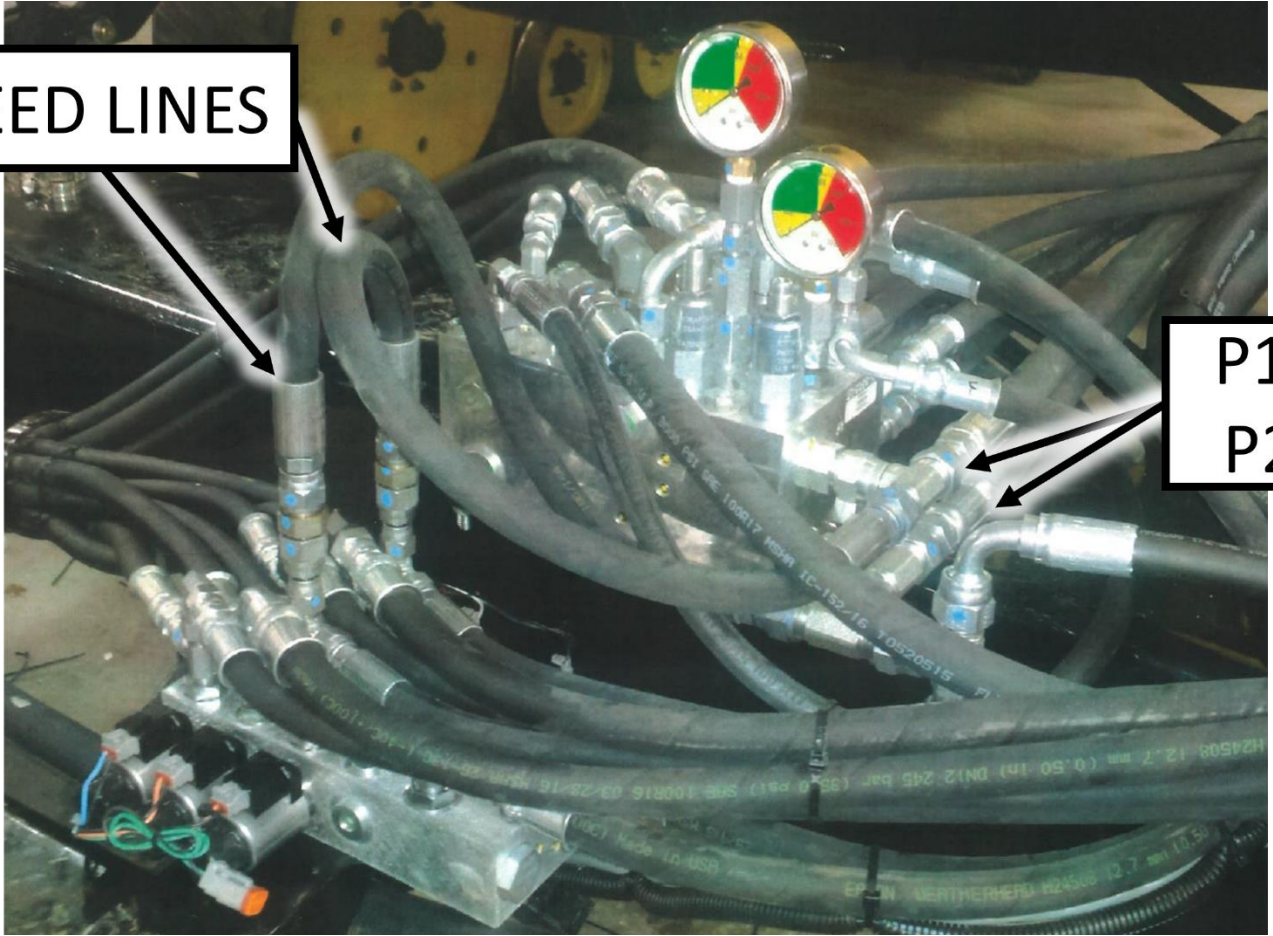


Figure 8: Assembled Lift Assist block with Main Down Pressure Block, front view

RKR,  
LKR

LLA

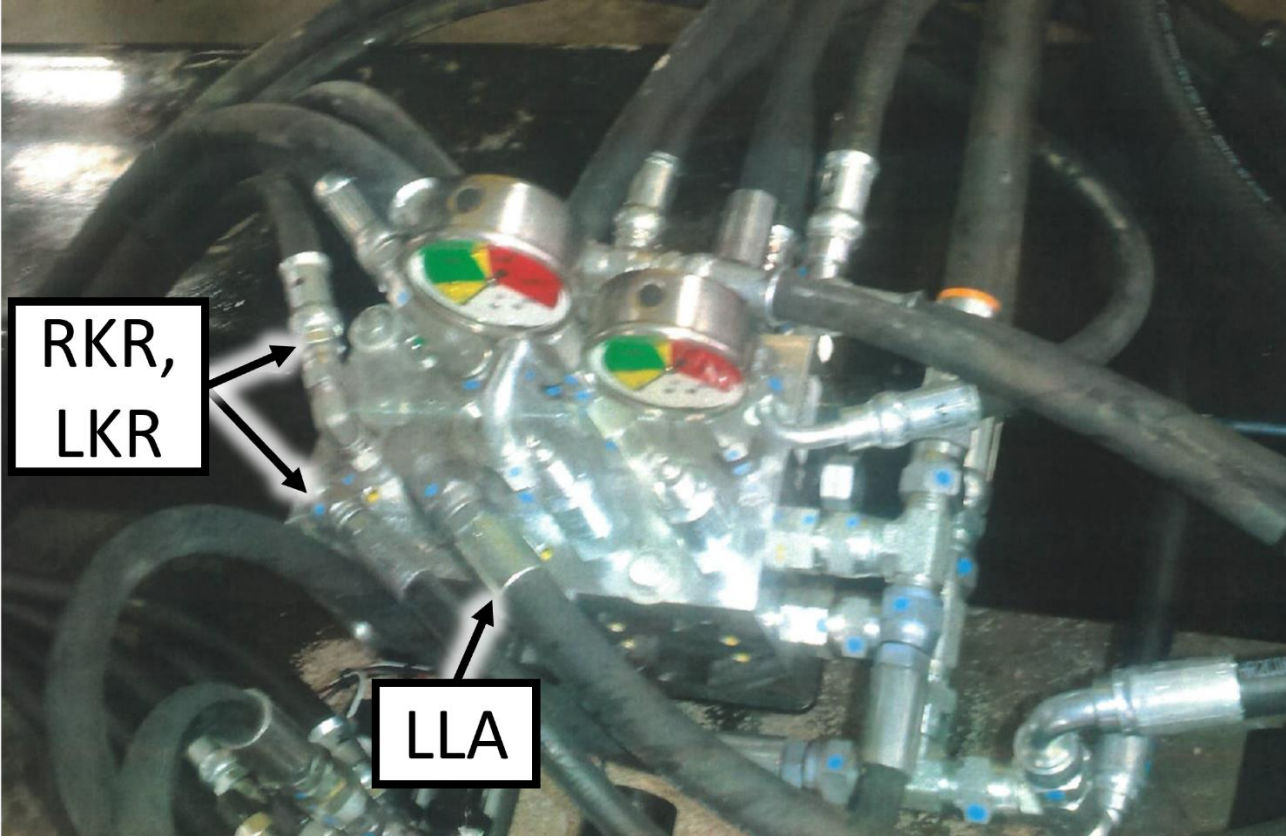


Figure 9: Assembled Lift Assist block, top view

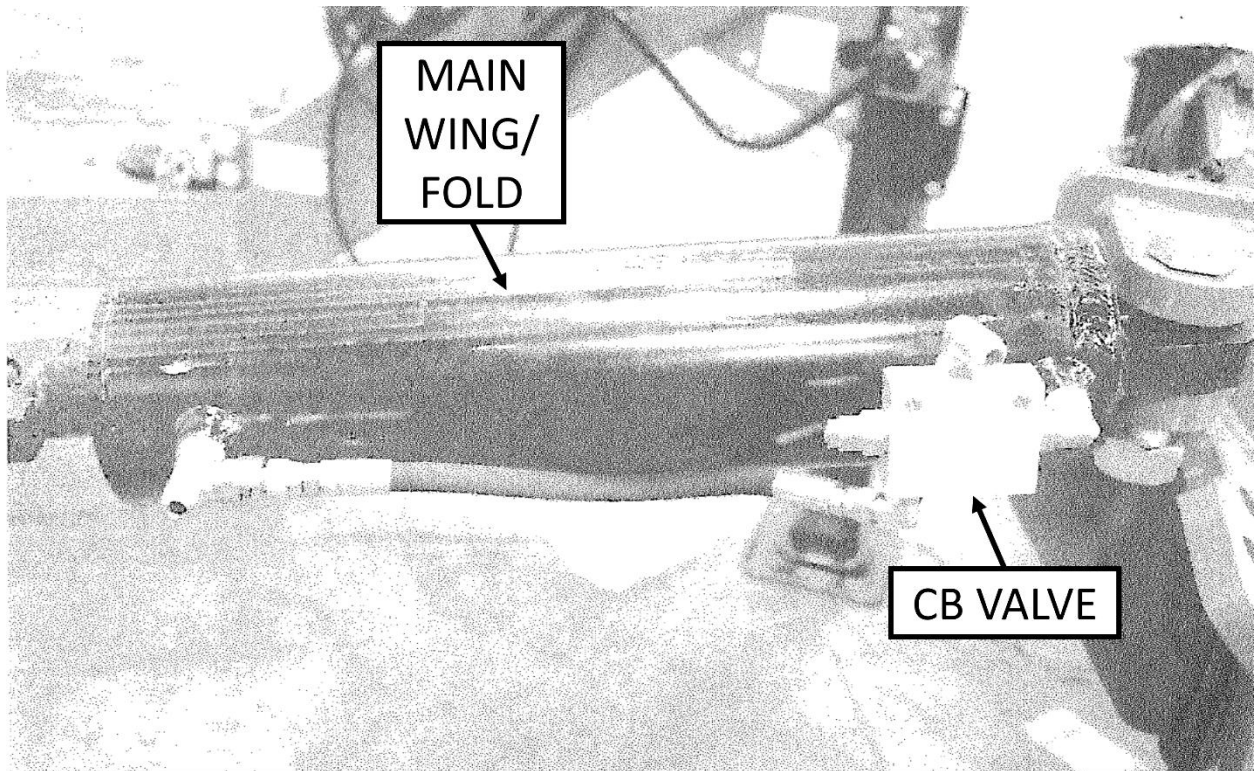


Figure 10: Main Wing or Main Wing Fold cylinder with Counterbalance Valve

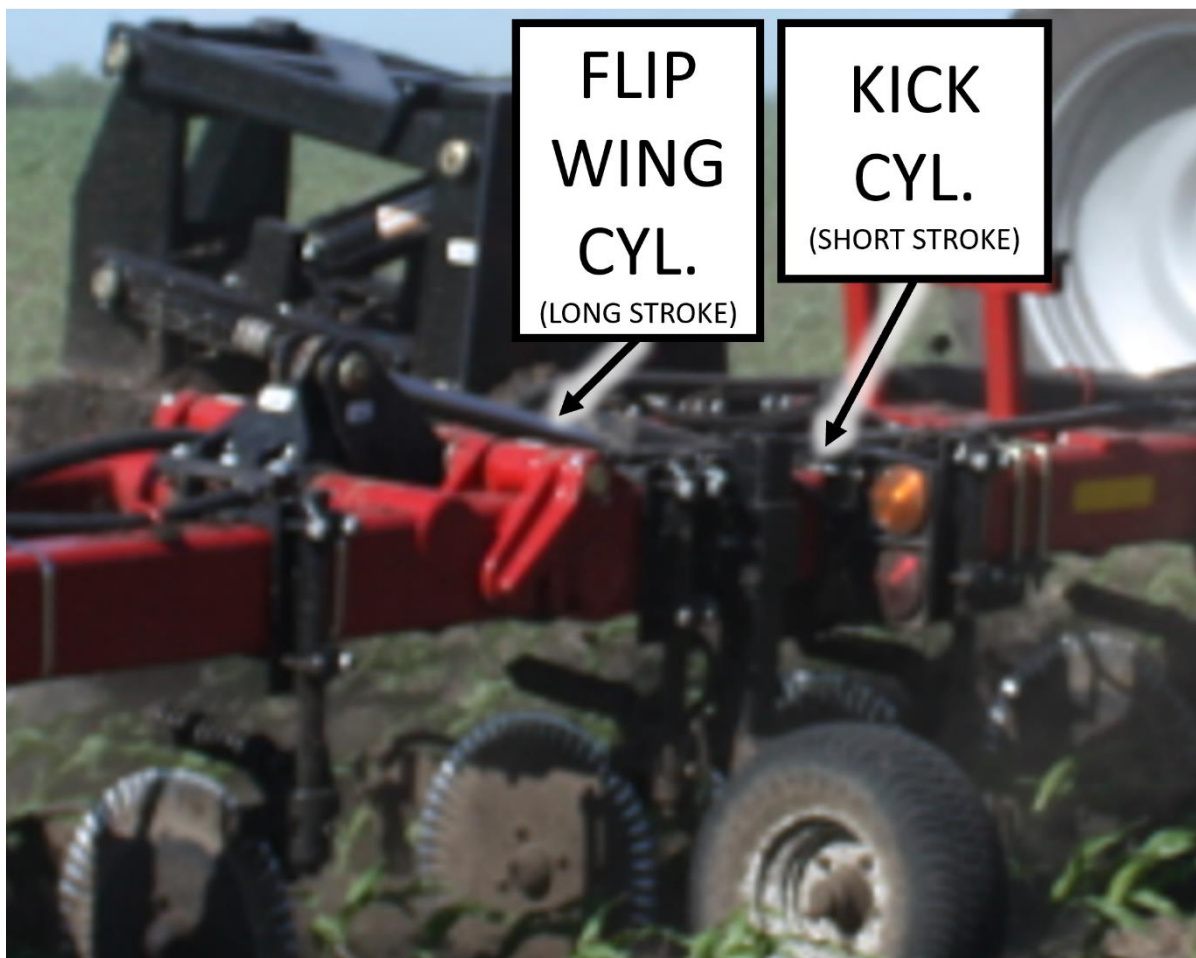


Figure 11: Right Flip cylinder in extended position in toolbar assembly

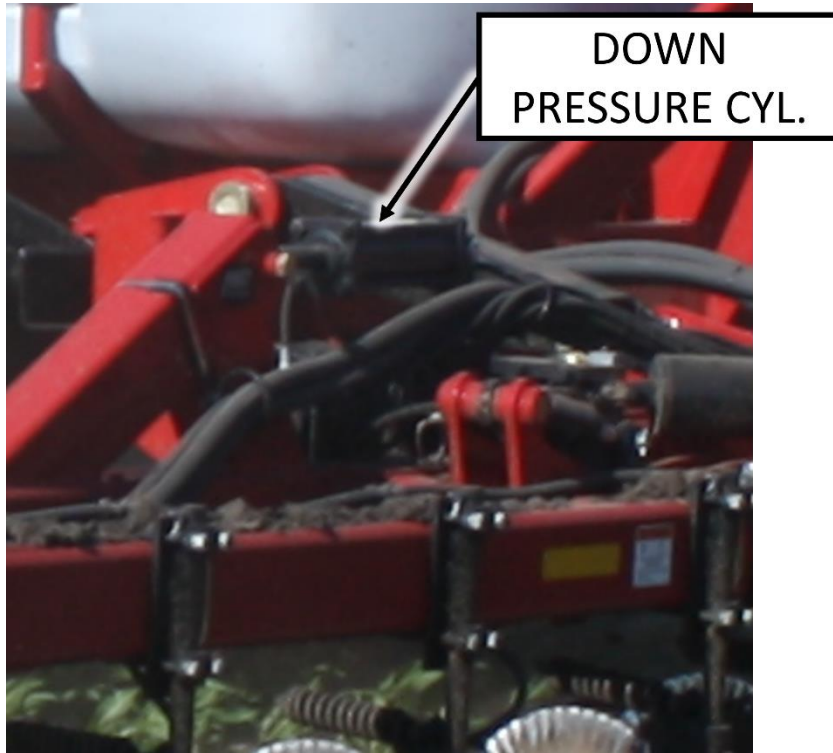


Figure 12: Down Pressure cylinder near Wing Pivot

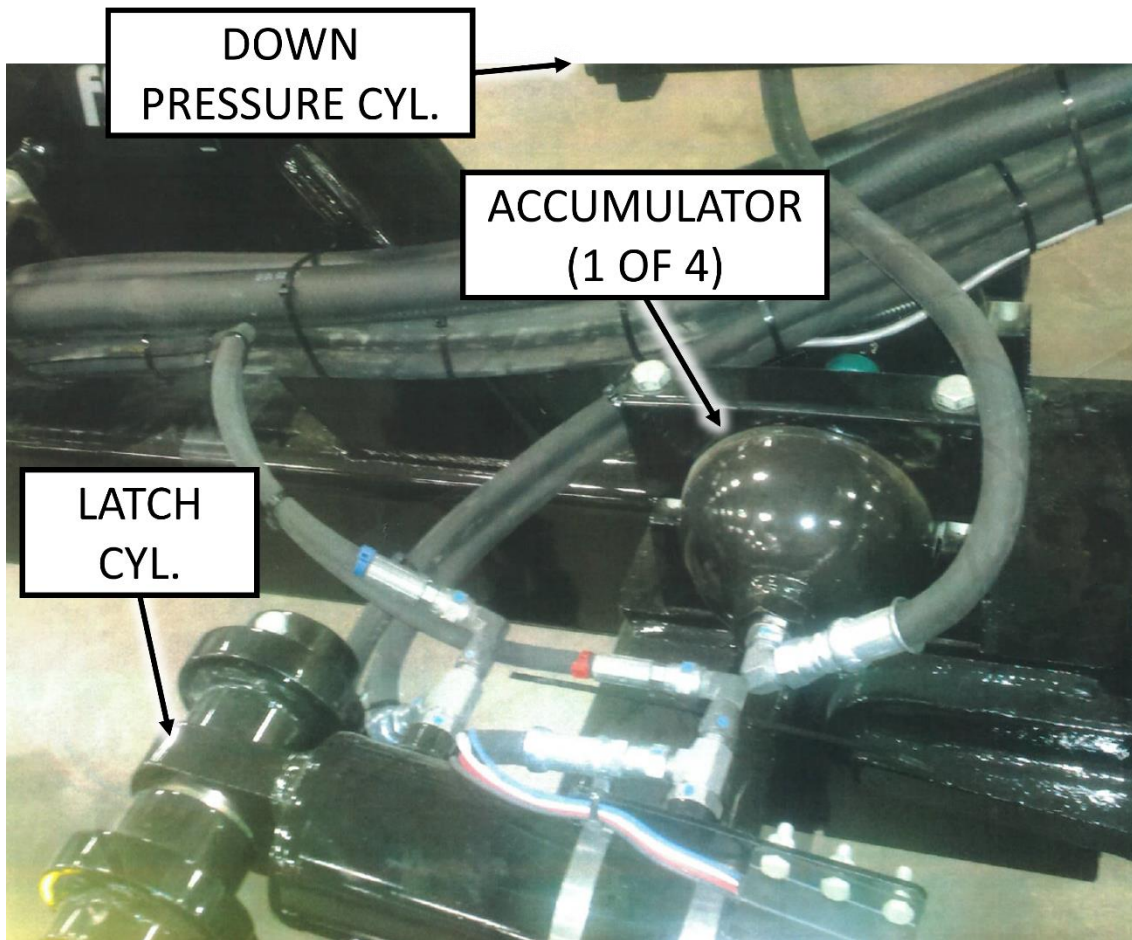


Figure 13: Down Pressure cylinder, latch cylinder, and Accumulator near Wing Pivot



Figure 14: Toolbar Lift Assist cylinder in Right Lift Assist assembly

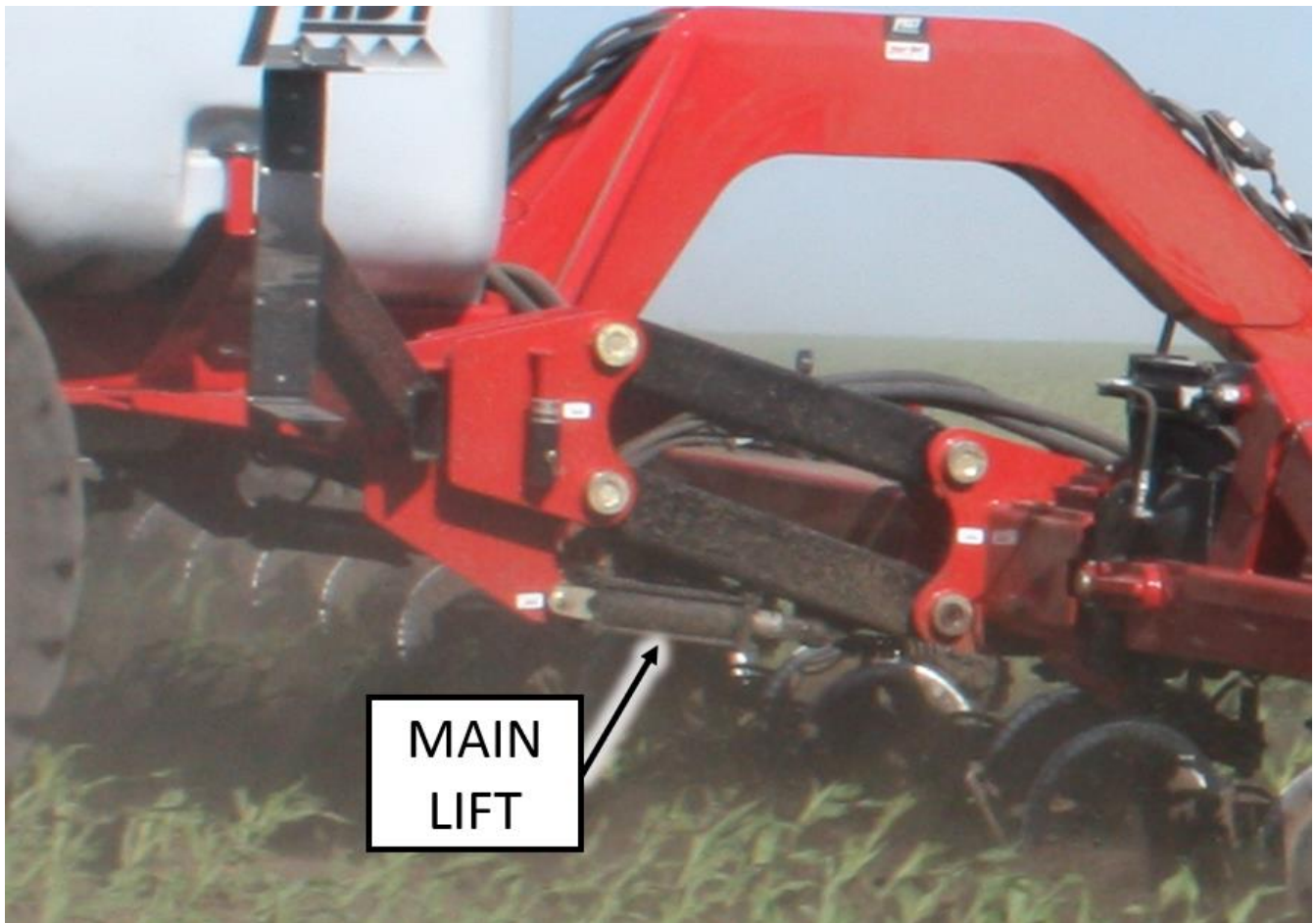


Figure 15: Right Main Lift Cylinder underneath right P-Links

## CONNECTION KEY

ABBREVIATION	NAME
CB	Counterbalance
DP	Down Pressure
KB	Kick, base
LH	Left-hand
LKR	Left Kick, rod
LLA	Left Lift Assist
LMLB	Left Main Lift, base
LMLR	Left Main Lift, rod
MDP	Main Down Pressure
RH	Right-hand
RKR	Right Kick, rod
RLA	Right Lift Assist
RMLB	Right Main Lift, base
RMLR	Right Main Lift, rod

PART NUMBER	DESCRIPTION	QUANTITY
520048	2-NV12-12SAE-M 8ORB HYDRAULIC TIP	6
610003	JIC UNION TEE #4 TO-2603-04- 04-	4
610023	JIC #6 90 DEG TO-6500-6	2
610027	JIC #6 RUNTEE TO-6602-06-06- 06	2
610029	JIC #4 TO ORING #8 90 DEG TO-	8
610060	ADAPTER ORB TO JIC 6400-8-10- O-TCT	1
610066	#8 ORING TO #6 JIC RUN TEE PA-	4
610086	ADAPTER ELBOWORB TO JIC 6801-8-10-NWO-	1
610106	#10 JIC TO #10 FEMALE JIC #10 JI	1
610114	SWIVEL UNION FITTING	2
610120	BRANCH TEE #10 JIC	2
630043	CHECK VALVE FV271040	2

PART NUMBER	DESCRIPTION	QUANTITY	CONNECTION
600050-10A-ZN	FDM6R17-6FJX-6FJX90S-63	1	LH DOWN PRESSURE BASE TO MDP
600050-3-ZN	FMD6R17-6FJX-6FJX-130	1	RH DOWN PRESSURE BASE TO MDP
600050-11A-ZN	FDM6R17-6FJX-6FJX-91	1	LH LATCH ROD TO C2
600050-24A-ZN	FMD6R17-6FJX-6FJX-137	1	RH LATCH ROD TO C2
600050-12A-ZN	FDM6R17-6FJX-6FJX-100	1	LH LATCH BASE TO C6
600050-4A-ZN	FDM6R17-6FJX-6FJX-133	1	RH LATCH BASE TO C6
600050-13A-ZN	FDM6R17-6FJX-6FJX-309	1	LH FLIP ROD TO C4
600050-6-ZN	FDM6R17-6FJX-6FJX-354	1	RH FLIP ROD TO C4
600050-14-ZN	FDM6R17-6FJX-6FJX-305	1	LH FLIP BASE TO C8
600050-7A-ZN	FDM6R17-6FJX-6FJX-339	1	RH FLIP BASE TO C8
600050-15-ZN	FDM6R17-6FJX-6FJX-281	1	LH KICK BASE TO KB
600050-5-ZN	FDM6R17-6FJX-6FJX-350	1	RH KICK BASE TO KB
600050-16-ZN	FDM6R17-6FJX-6FJX-282	1	LH KICK ROD TO LKR
600050-8-ZN	FDM6R17-6FJX-6FJX-348	1	RH KICK ROD TO RKR
600050-17A-ZN	FDM8R17-8FJX-8FJX90S-52	1	LH MAIN FOLD BASE COUNTERBALANCE VALVE #2 TO C7
600050-1A-ZN	FDM8R17-8FJX-8FJX-88	1	RH MAIN WING FOLD BASE COUNTERBALANCE VALVE #2 TO C7

PART NUMBER	DESCRIPTION	QUANTITY	CONNECTION
600050-18A-ZN	FDM8R17-8FJX-8FJX90S-64	1	LH MAIN FOLD ROD TO C3
600050-2A-ZN	FDM8R17-8FJX-8FJX90S-98	1	RH MAIN WING FOLD ROD TO C3
600050-19-ZN	FDM8R17-8FJX-8MBO-30	1	TRACTOR PRESSURE TO "P" TEE ON LIFT ASSIST MANIFOLD
600050-19-ZN	FDM8R17-8FJX-8MBO-300	1	TRACTOR TANK TO RESTRICTOR FITTING AT "T" ON LIFT ASSIST MAN.
600050-20-ZN	FDM10R17-8MBO-10FJX-300	1	TRACTOR A1 TO P1 ON LIFT ASSIST MANIFOLD
600050-20-ZN	FDM10R17-8MBO-10FJX-300	1	TRACTOR A2 TO P2 ON LIFT ASSIST MANIFOLD
600050-21-ZN	FDM10FP3-8FJX-10FJX-370	1	RH CASTER WHEEL BASE TO RLA
600050-22-ZN	FDM10FP3-8FJX-10FJX-298	1	LH CASTER WHEEL BASE TO LLA
600050-23-ZN	FDM8R17-8FJX-8FJX90S-43	1	T ON LIFT ASSIST MANIFOLD JUMPER TO T ON SOLENOID MANIFOLD
600050-23-ZN	FDM8R17-8FJX-8FJX90S-43	1	P ON LIFT ASSIST MANIFOLD JUMPER TO P ON SOLENOID MANIFOLD
600050-25A-ZN	FDM8R17-8FJX-8FJX90S-47	1	LH MAIN LIFT BASE TO LMLB
600050-26A-ZN	FDM8R17-8FJX-8FJX90S-152	1	RH MAIN LIFT BASE TO RMLB
600050-27A-ZN	FDM8R17-8FJX90S-8FJXS-68	1	LH MAIN LIFT ROD TO LMLR
600050-28A-ZN	FDM8R17-8FJX-8FJX90S-134	1	RH MAIN LIFT ROD TO RMLR
600050-29-ZN	FDM6R17-6FJX-6FJX90S-18	2	BASE OF DOWN PRESSURE TO ACCUMULATOR (BOTH SIDES}
600050-9A-ZN	FDM6R17-6FJX-6FJX-12.5	2	MAIN FOLD COUNTERBALANCE VALVE #3 TO MAIN FOLD ROD
600054-1-ZN	FDM8R17-8MBOZ-100MOZ-163	1	TRACTOR PRESSURE TO OVERSPEED VALVE 1
600054-2A-ZN	FDM8R17-8FJXZ-8FJX90MZ-85	1	OVERSPEED VALVE 2 TO PUMP INLET
600054-3-ZN	FDM10R17-8MBOZ-10FJXZ-250	1	PUMP OUTLET TO TRACTOR RETURN
600054-30-ZN	FDM8R17-10FJX90S-8FJX-78	1	P1 TO LH MAIN WING D.P. CYLINDER RAM
600054-31-ZN	FDM8R17-10FJX90S-8FJX-145	1	P1 TO RH MAIN WING D.P. CYLINDER RAM
600054-32-ZN	FDM8R17-8FJX-8FJX90S-36	2	RAM OF DOWN PRESSURE TO ACCUMULATOR
600085-1-ZN	FDM8R17-8FJX-10FJX-20	2	FOLD BLOCK C2 TO DOWN PRESSURE BLOCK P1; FOLD BLOCK C6 TO DOWN PRESSURE BLOCK P2
600085-2-ZN	FDM4R17-4FJX-4FJX-24	4	MAIN WING FOLDING GAUGE WHEEL CYLINDER TO FOLDING GAUGE WHEEL FEED LINES
600085-3-ZN	FDM4R17-4FJX-4FJX-220	4	INNER FOLDING GAUGE WHEEL TO OUTER FOLD GAUGE WHEEL; BASE TO BASE, RAM TO RAM
600085-4-ZN	FDM4R17-4FJX-6FJX-208	4	INNER FOLDING GAUGE WHEEL TO WING LATCH, BASE TO RAM, RAM TO BASE



# TIGHTENING HARDWARE

Check the tightness of ALL BOLTS, U-BOLTS, and CAP SCREWS after the first 10-15 hours of operation and again at end of the first week (50 hours) of operation. Tighten all bolts to torques specified unless otherwise noted. Check tightness of hardware periodically.

## Unified Inch Bolt and Screw Torque Values

Screw Size	SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated <sup>1</sup>		Dry <sup>2</sup>		Lubricated <sup>1</sup>		Dry <sup>2</sup>	
	N-m	lb.-in.	N-m	lb.-in.	N-m	lb.-in.	N-m	lb.-in.
1/4	9.5	84	12	106	13.5	120	17	150
	N-m	lb.-ft.	N-m	lb.-ft.				
5/16	19.5	172	25	221	28	20.5	35	26
3/8	35	26	44	32.5	49	36	63	46
7/16	56	41	70	52	80	59	100	74
1/2	85	63	110	80	120	88	155	115
9/16	125	92	155	115	175	130	220	165
5/8	170	125	215	160	240	175	305	225
3/4	300	220	380	280	425	315	540	400
7/8	490	360	615	455	690	510	870	640
1	730	540	920	680	1030	760	1300	960
1-1/8	910	670	1150	850	1450	1075	1850	1350
1-1/4	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	2250	1650	2850	2100	3600	2650	4550	3350
Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.					Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts, or wheel nuts, unless different instructions are given for the specific application.			

<sup>1</sup> "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F, or F13J zinc flake coating.

<sup>2</sup> "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E, or F13H zinc flake coating.

# Hydraulic Fittings Assembly & Installation - All Pressure Applications

## Fitting Installation

1. Install the fitting by hand until it is snug.
2. Position adjustable fittings by unscrewing the fitting no more than one turn.
3. Apply with an assembly torque per table.

## Assembly Torque

1. Use one wrench to hold the connector body and one wrench to tighten the nut.
2. For a hydraulic hose, it may be necessary to use three wrenches to prevent twist: one on the connector body, one on the nut, and one on the body of the hose fitting.

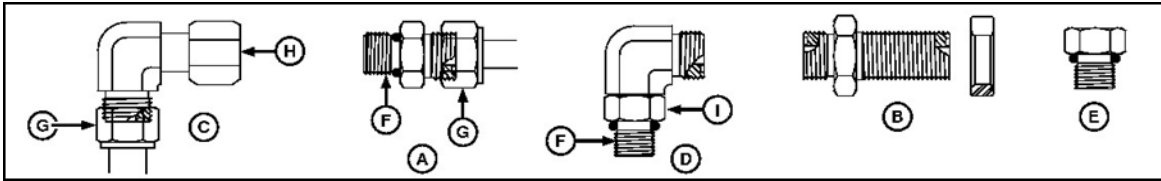


Figure 16: Common hydraulic fitting shapes and components

- A. Stud Straight and Tube Nut
- B. Bulkhead Union and Bulkhead Lock Nut
- C. 90° Swivel Elbow and Tube Nut
- D. 90° Adjustable Stud Elbow
- E. Port Plug
- F. Stud End
- G. Tube Nut
- H. Swivel Nut
- I. Lock Nut

# SAE Face Seal and O-Ring Stud End Fitting Torque Chart

SAE Face Seal and O-Ring Stud End Fitting Torque Chart - Standard Pressure-Below 27.6 MPA (4,000 PSI)													
Nominal Tube OD Hose ID				Bulkhead Jam Nut Torque			O-Ring Straight, Adjustable, and External Port Plug Stud Ends <sup>3</sup>						
Metric Tube OD	Inch Tube OD			Jam Nut Hex Size	Jam Nut Torque		Thread Size	Straight Hex Size <sup>4</sup>	Adj Lock Nut Hex Size	Steel or Gray Iron Torque		Aluminum or Brass Torque <sup>5</sup>	
	mm	Dash Size	in.	mm	N-m	lb.-ft	in.	in.	in.	N-m	lb.-ft	N-m	lb.-ft
5	-3	0.188	4.78	—	—	—	3/8-24	5/8	9/16	12	9	8	6
6	-4	0.250	6.35	13/16	32	24	7/16-20	5/8	5/8	16	12	11	8
8	-5	0.312	7.92	—	—	—	1/2-20	3/4	11/16	24	18	16	12
10	-6	0.375	9.53	1	42	31	9/16-18	3/4	3/4	37	27	25	18
12	-8	0.500	12.70	1-1/8	93	69	3/4-16	7/8	15/16	50	37	33	25
16	-10	0.625	15.88	1-5/16	118	87	7/8-14	1-1/16	1-1/16	69	51	46	34
20	-12	0.750	19.05	1-1/2	175	129	11/16-12	1-1/4	1-3/8	102	75	68	50
22	-14	0.875	22.23	—	175	129	13/16-12	1-3/8	1-1/2	122	90	81	60
25	-16	1.000	25.40	1-3/4	247	182	15/16-12	1-1/2	1-5/8	142	105	95	70
32	-20	1.25	31.75	2	328	242	1-5/8-12	1-3/4	1-7/8	190	140	127	93
38	-24	1.50	38.10	2-3/8	374	276	1-7/8-12	2-1/8	2-1/8	217	160	145	107
50.8	-32	2.000	50.80	—	—	—	2-1/2-12	2-3/4	2-3/4	311	229	207	153

<sup>3</sup> Tolerance is +15%/-20% of mean tightening torque unless otherwise specified.

<sup>4</sup> The straight hex wrench sizes listed apply to connectors only and may not be the same as the corresponding plug of the same thread size.

<sup>5</sup> These torques were established using steel plated connectors in aluminum and brass.