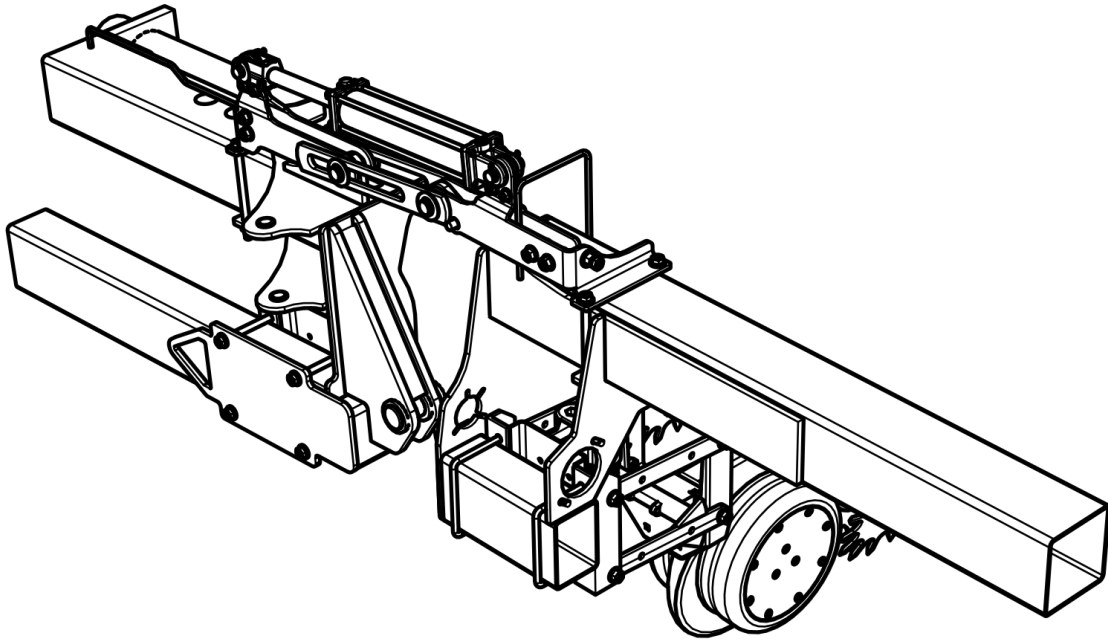


1790/95 WEIGHT TRANSFER SYSTEM

(16 ROW)

INSTALLATION INSTRUCTIONS



MARTIN PLANTER ATTACHMENTS

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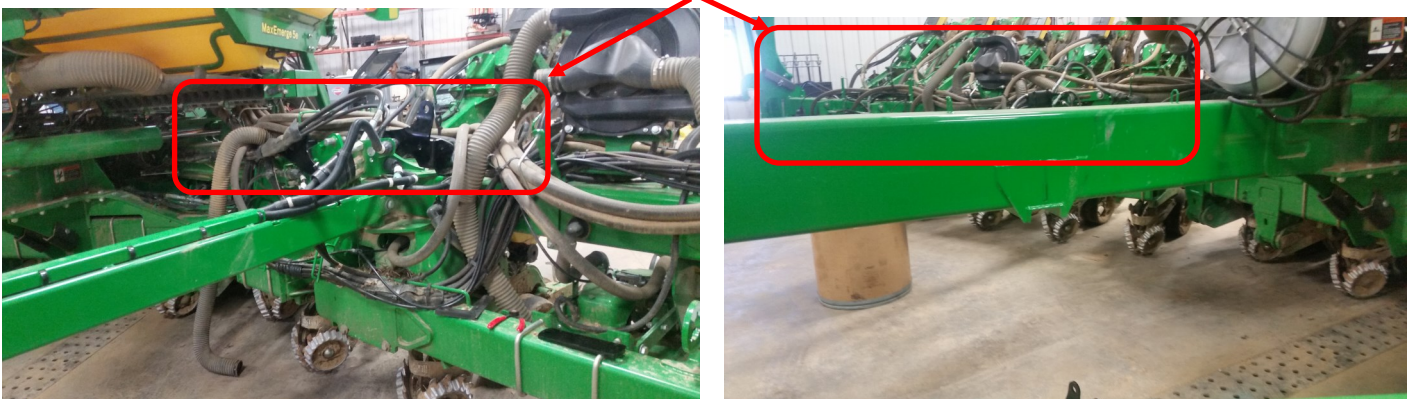
E-Mail: martin@martintill.com

BEFORE INSTALLATION BEGINS EVALUTE POSSIBLE CLEARANCE ISSUES

It is important to verify that you do not have any installed accessories that may cause an interference problem when the planter is folded for transport. Mounting of liquid fertilizer tanks , air compressors, or other accessories along the center spine of the planter must be evaluated for interferences before and carefully confirmed after the initial installation upon the first time folding the planter. Every effort has been made to minimize the possibility of interferences, however any customizations or accessories mounted MUST be carefully evaluated by the installer to prevent the possibility of equipment damage. ***These installation instructions apply to both the 1790 and 1795 planters. Please refer to the appropriate illustrated parts breakdown for the correct part number for your specific kit.***

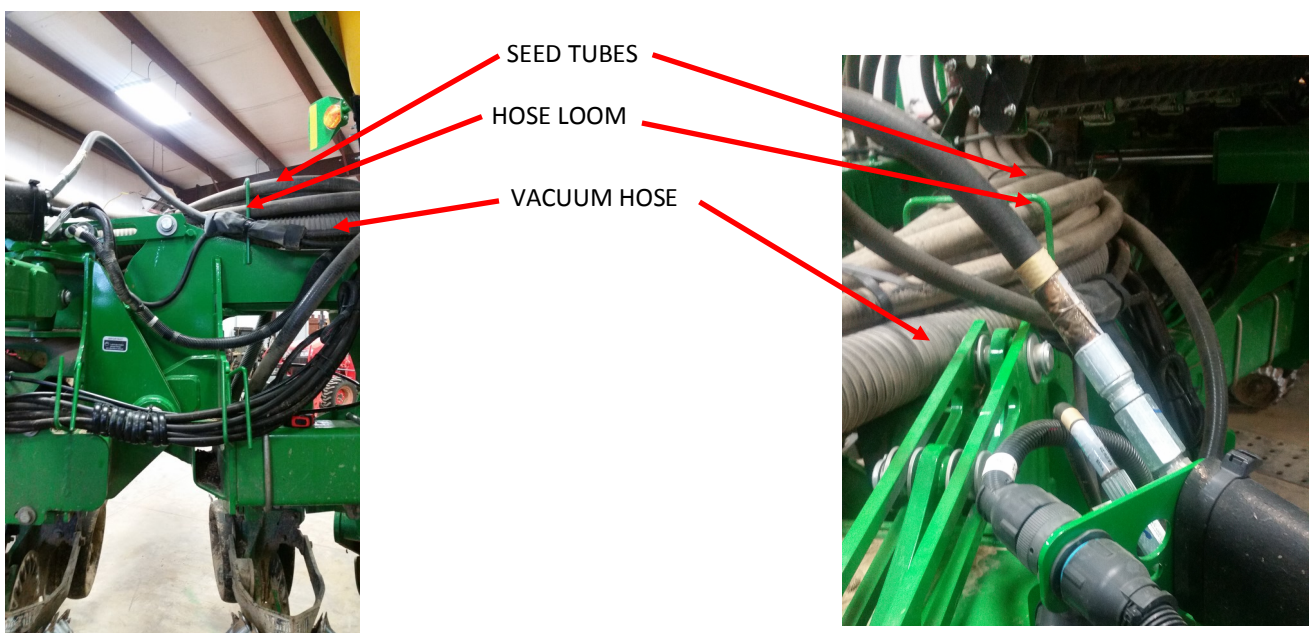
Before beginning the installation the planter should be unfolded and lowered to near operating levels to allow good access to the wing hinge area where the brackets will be installed. All hydraulic system pressure should be released and the planter supported as needed to prevent unexpected movement.

AREAS OF CONCERN FOR INTERFERENCE/CLEARANCE ISSUES OF
TOUNGE MOUNTED TANKS WHEN FOLDED FOR TRANSPORT



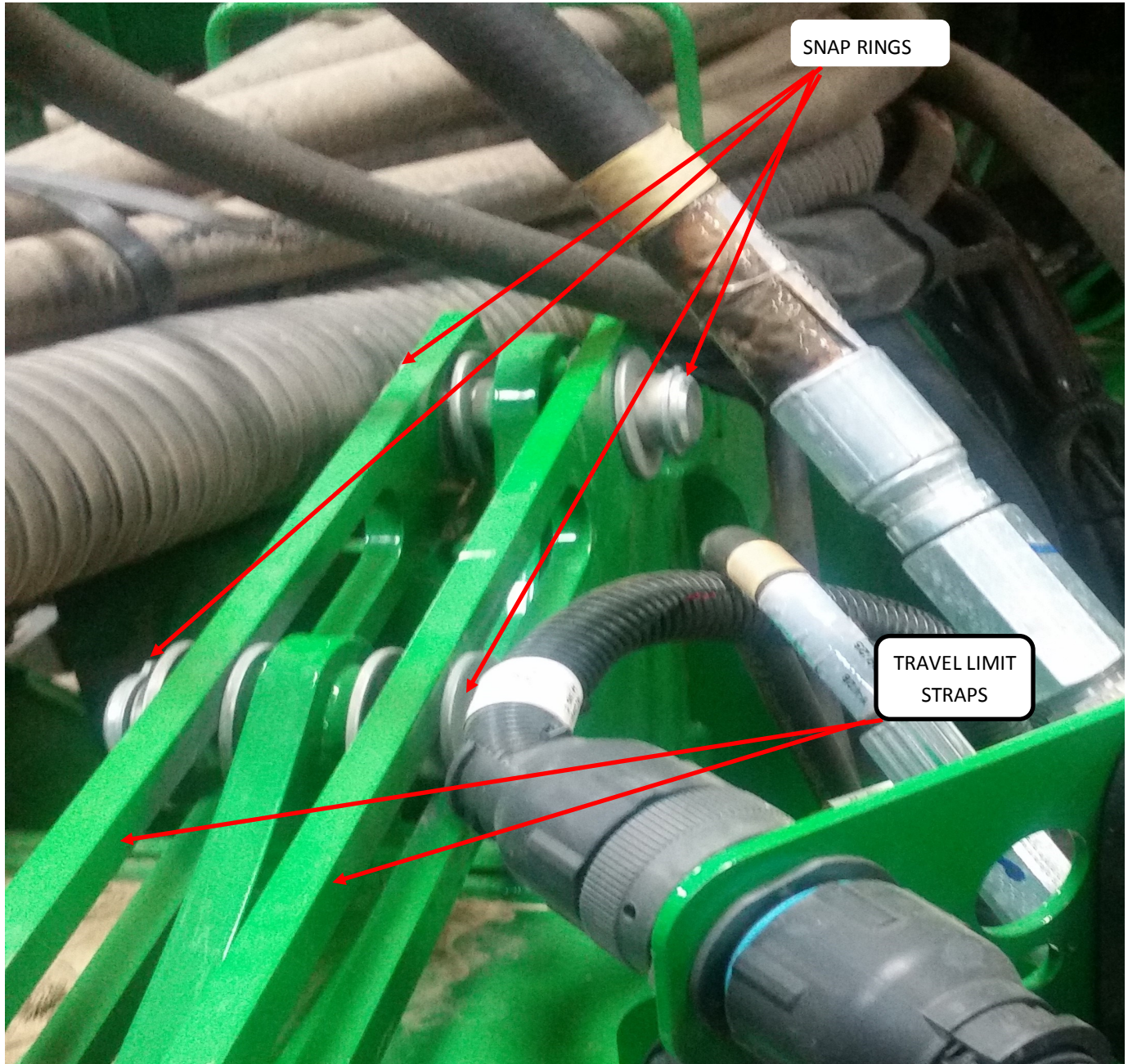
STEP 1. REMOVE WING VACUUM CONNECTOR HOSES.

Loosen the clamp on the vacuum hoses at the plastic elbow connector and remove the hose from the loom on each wing. Normally this hose is routed through the loom at the wing pivot point and is underneath the seed delivery tubes , these hoses should be removed from the loom and set aside for rerouting after the brackets are installed (both sides).



STEP 2: REMOVE TRAVEL LIMIT STRAPS

Using large snap ring pliers, remove the external retaining rings (4) from the pins on the wings at the top of the hinge point for both left and right wings. Remove the washers and the travel limit straps from bot LEFT and RIGHT wings, and set aside for later reinstallation.

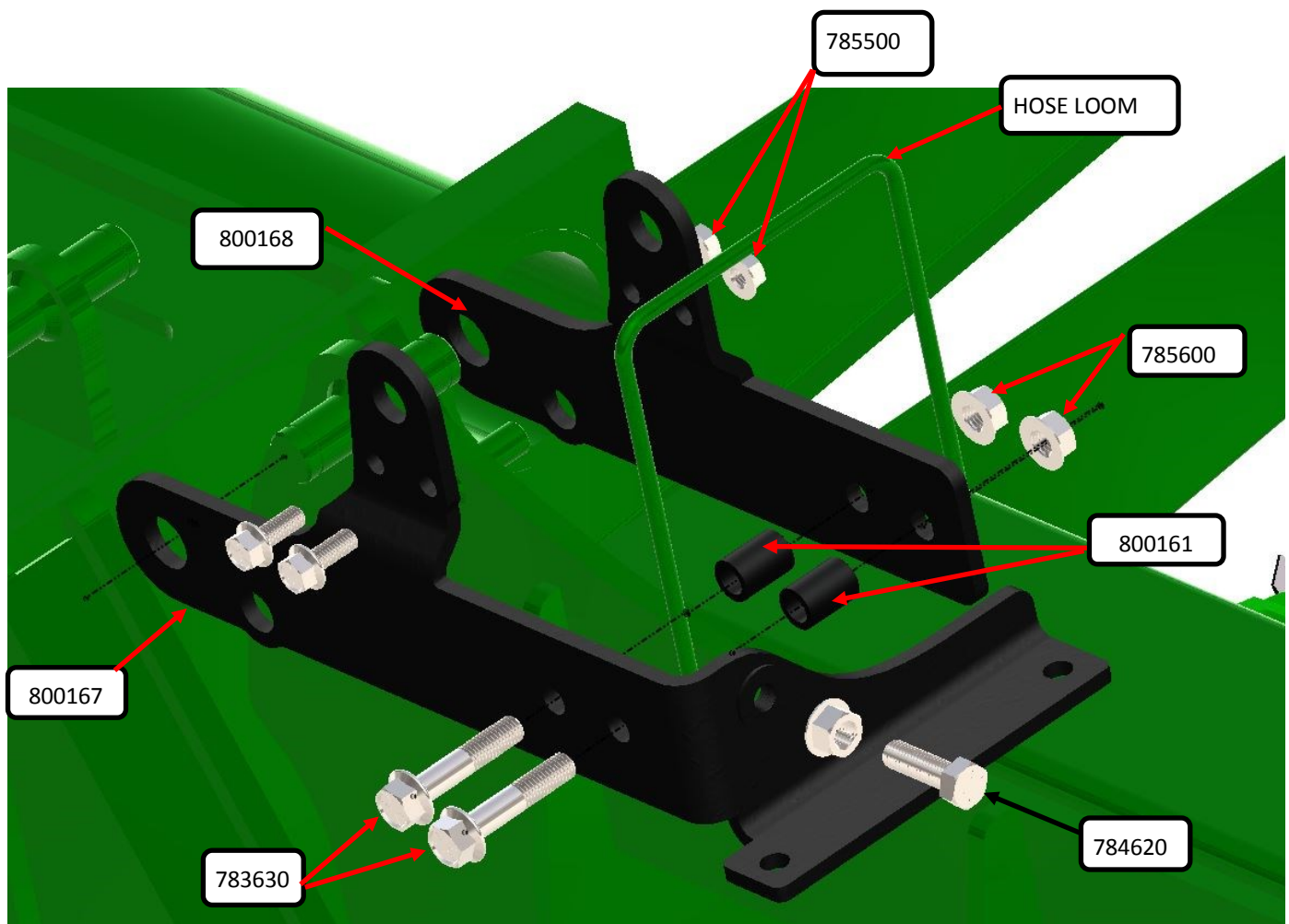


STEP 3 : INSTALL THE INNER WING BRACKETS

NOTE: It may be necessary to place a block under the seed hoses, raising them to allow for better clearance when installing the brackets.

1. Place the 800167(front) bracket on the outside of the loom and locate on the 2 pins where the travel limit straps were removed. (the 1790 has only the large pin) Place the 800168 (rear) inner bracket on the inside of the loom as shown.
2. Then insert the two 5/8 X 3 (783630) bolts, placing a 800161 spacer over each bolt. Insert the bolts through 800168 bracket and install the 5/8 flange nuts(785600) finger tight .
3. install the two 1/2 X 1-1/4 (783512) bolts through the two holes in the tower section of the bracket and start the nuts (785500) to finger tight .
4. Ensure that there is no wiring or air lines underneath or between the brackets and that no seed hoses are pinched and that the brackets will move on the travel limit pins so that they will be free to pull up close to the frame web when tightened.

NOTE: The part numbers shown here are for the RIGHT WING , the LEFT WING inner brackets are part numbers 800162 (front) and 800163(rear) and follow the same method of installation. **Part numbers for the 1795 Kit are shown, please see the appropriate illustrated parts breakdowns for both kits at the end of this manual. Follow the same installation procedures for the 1790 Kit**

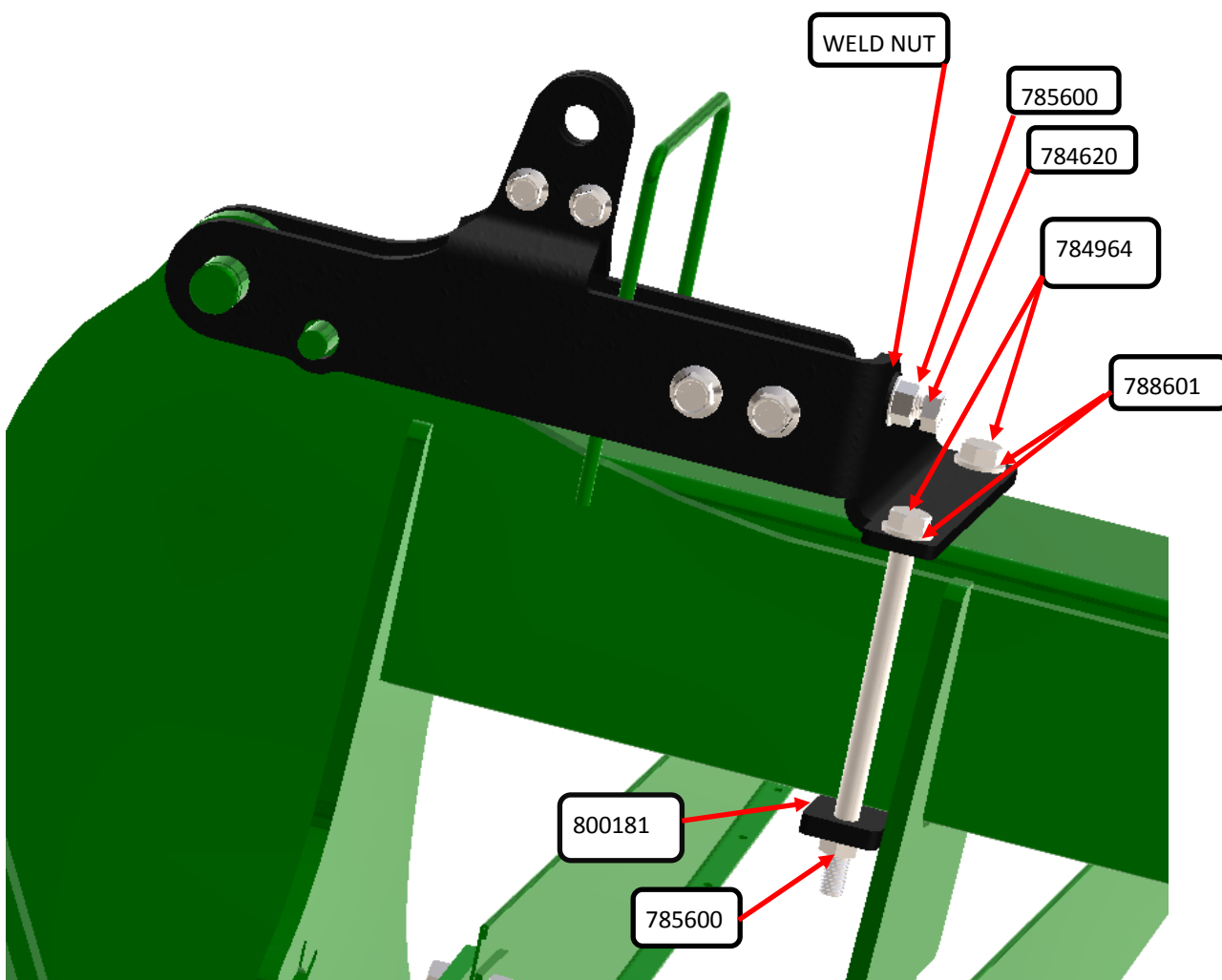


1795 PARTS SHOWN

STEP 3 : CONTINUED

5. Place the two 5/8 X 9 (784964)bolts with flat washer (788601) through the holes in bracket 800167 on the front and rear of the toolbar.
6. Place the Clamp bar (800181) over the bolts underneath the upper toolbar as shown and install the 5/8 flange nuts (785600) finger tight.
7. Start the 5/8 X 2 bolt (784620) with jam nut (785600) in the weld nut in the location shown. This will be adjusted and locked in the final steps later.

1795 PARTS SHOWN



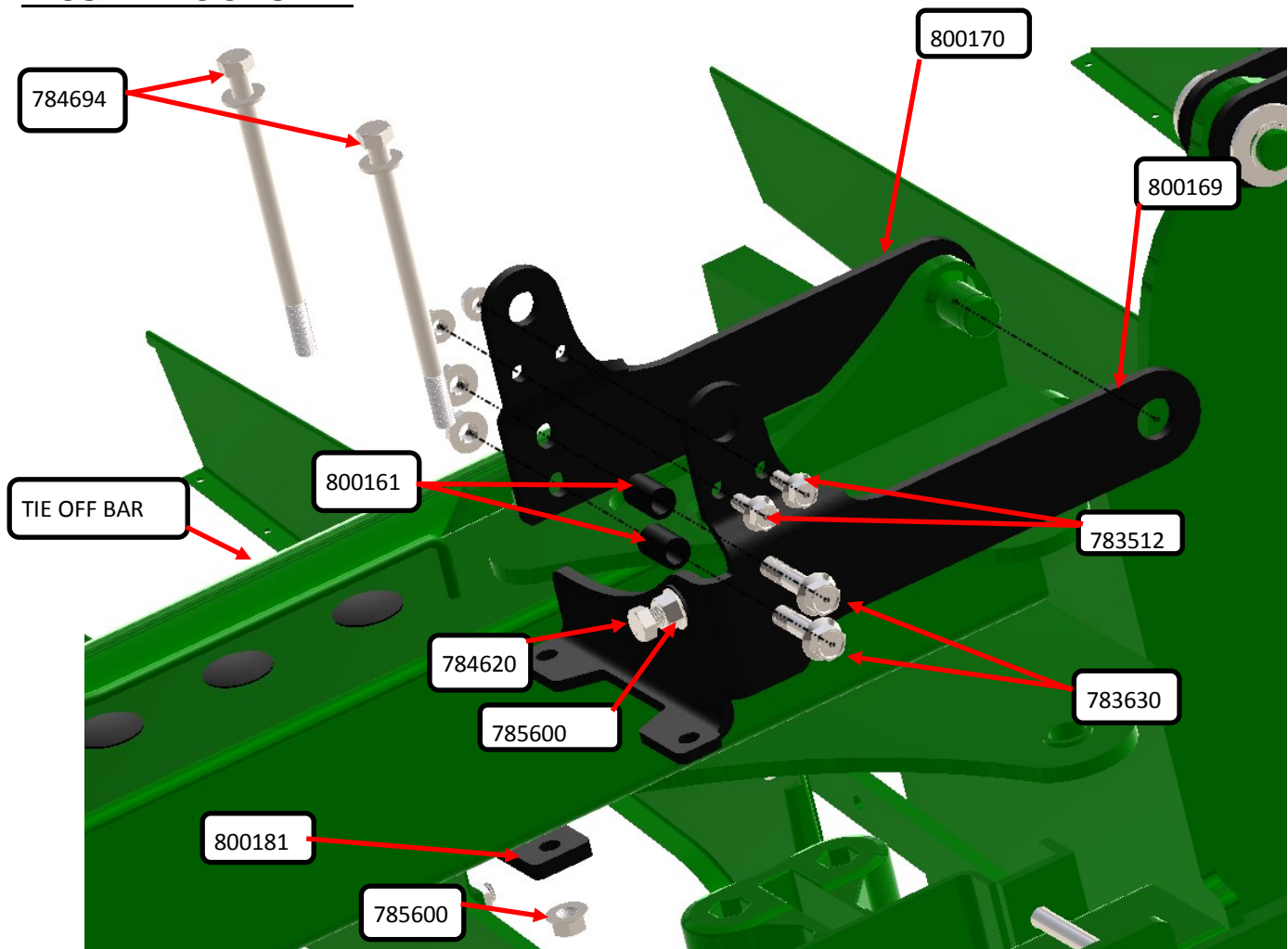
**SEE 1790 ILLUSTRATED PARTS BREAKDOWN FOR PART NUMBERS FOR
1790 KIT**

STEP 4: INSTALL THE OUTER WING BRACKETS

1. Place the 800170 bracket over the rear travel limit pin on the outer wing.
2. For this step it may be helpful to use a wooden block to hold any CCS hoses and wiring harnesses up 4-5 inches from the top of the toolbar for ease of installation of the next bracket. Place the 800169 bracket over the front travel limit pin, and push the bracket rearward so that the notched area of the bracket clears the tie off bar shown. Ensure that any wiring running across the top of the toolbar IS NOT under the bracket .
3. Insert the two 5/8 X 3 bolts (783630) through the holes in the front bracket (800169) then place the spacers(800161) over each bolt and then through the corresponding holes in the rear bracket (800170). Install the two 5/8 flange nuts (785600) on the bolts finger tight.
4. Install the two 1/2-13 bolts (783512) in the holes in the upper part of the front and rear (800169-800170) brackets and install the flange nuts (785500) finger tight.
5. Place the two 5/8 X 9 (784964)bolts with flat washer (788601)through the holes in bracket 800169 on the front and rear of the toolbar.
6. Place the Clamp bar (800181) over the bolts underneath the upper toolbar as shown and install the 5/8 flange nuts (785600) finger tight.
7. Start the 5/8 X 2 (784620) bolt and the jam nut(785600)in the weld nut shown . This will be adjusted in a later step

NOTE: Part numbers for RIGHT WING shown, LEFT WING brackets are 800167(front) and 800168(rear)

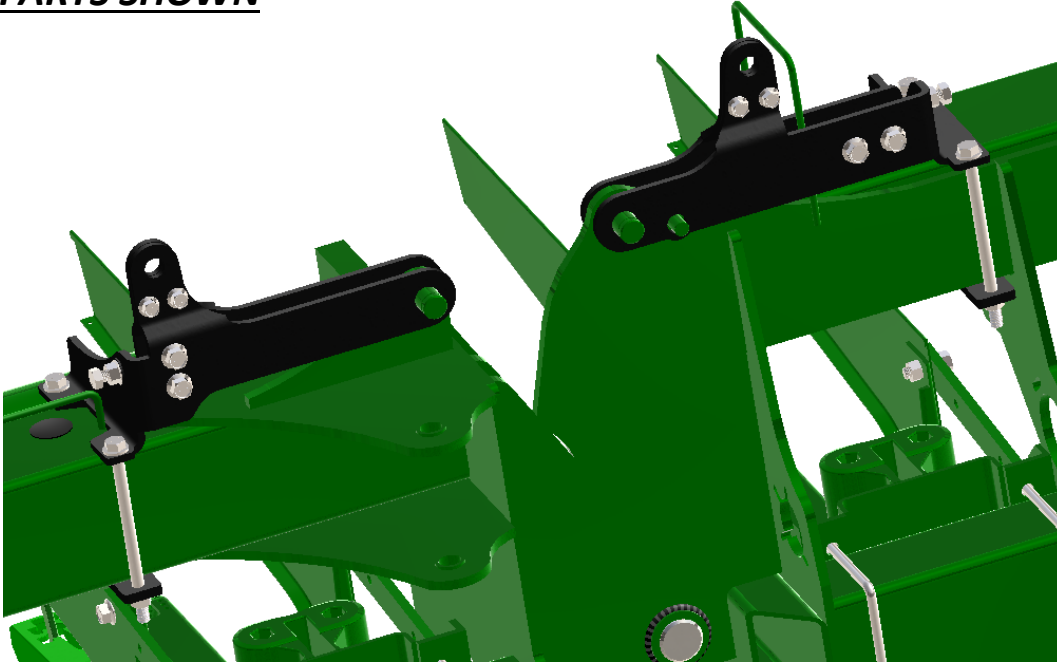
1795 PARTS SHOWN



STEP 5 : ATTACH THE HYDRAULIC CYLINDERS

At this stage of the installation both inner and outer wing bracket assemblies for both wings should be installed and all bolts in a finger tight condition to allow for cylinder installation and final adjustment and tightening. Right wing shown below (LEFT WING is mirror image)

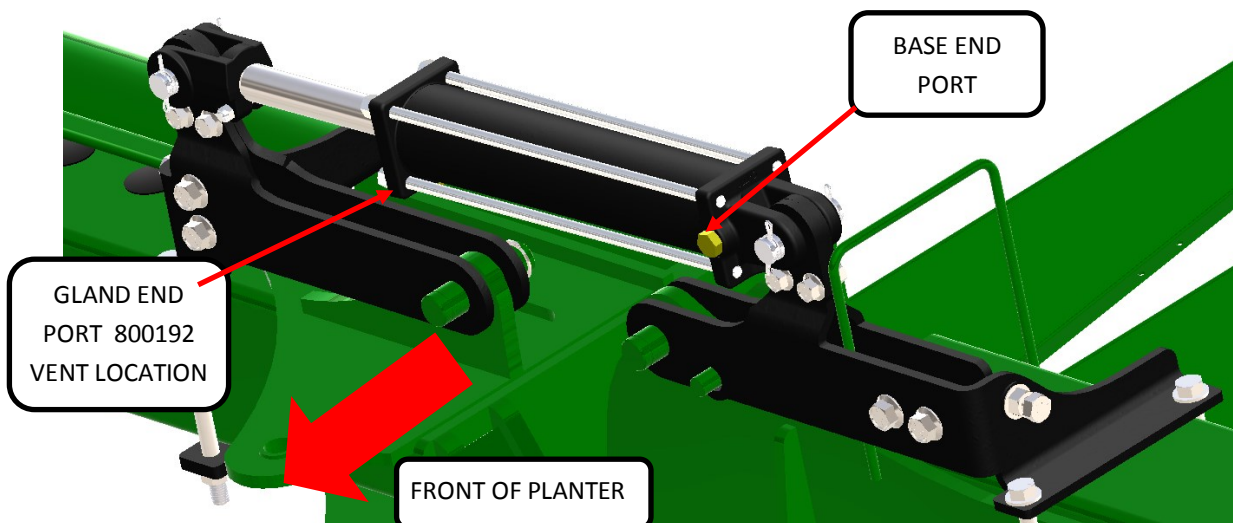
1795 PARTS SHOWN



1. Install the cylinder as shown , using the pin kit supplied with the cylinder. Place the gland port (Rod End) on the bottom side. This port will require the installation of the breather vent unit (800192) supplied with the kit, this will prevent rain-water entry into the vented end of the cylinder.
2. When installing the hydraulic fittings and hoses, use the port on the base end of the cylinder.

NOTE: Left wing cylinder installation with the gland port DOWN will place the BASE end port facing rearward. Cylinder(s) may be rotated to place connections as needed for clearance of fertilizer tanks or other items.

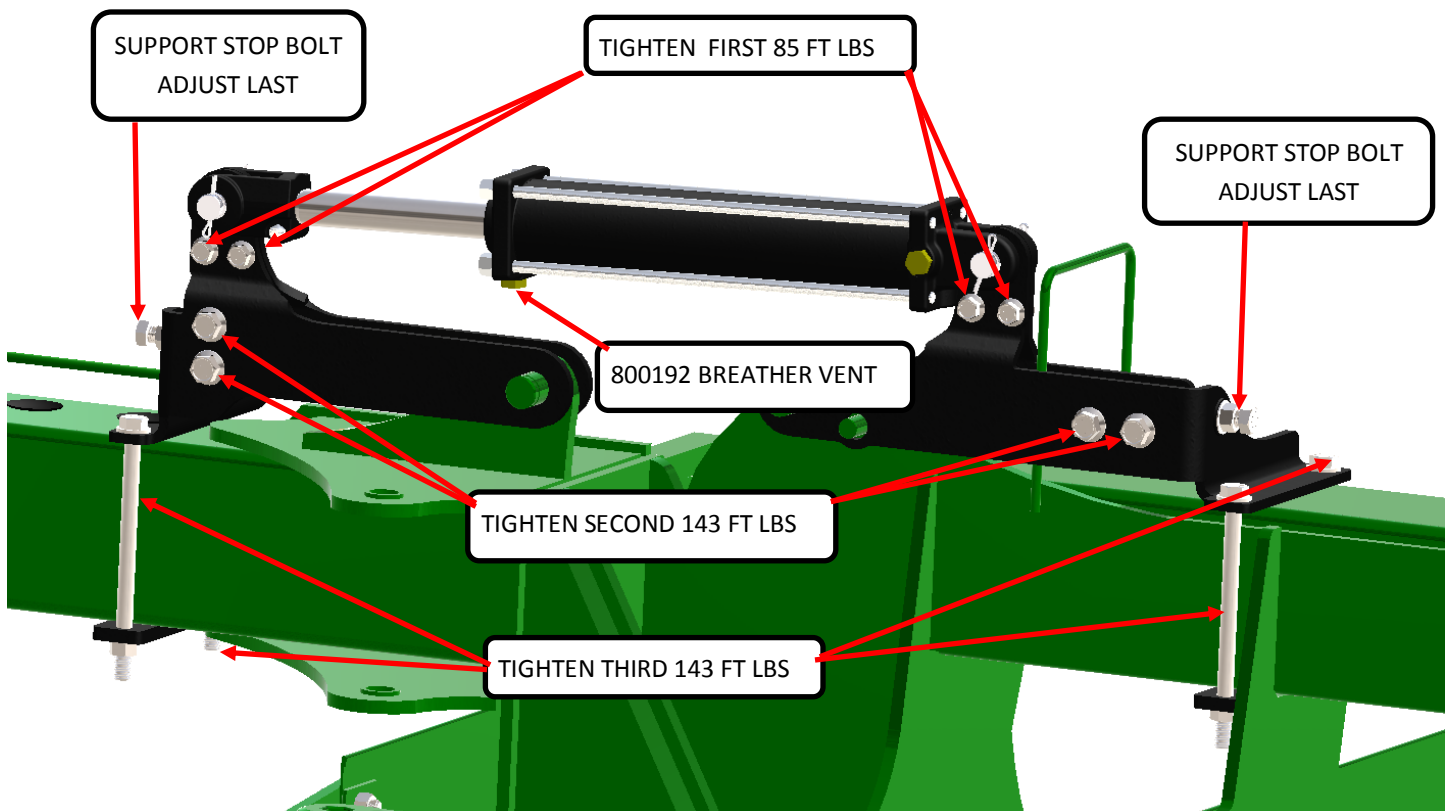
1795 PARTS SHOWN



STEP 6: TIGHTEN ALL BRACKETS

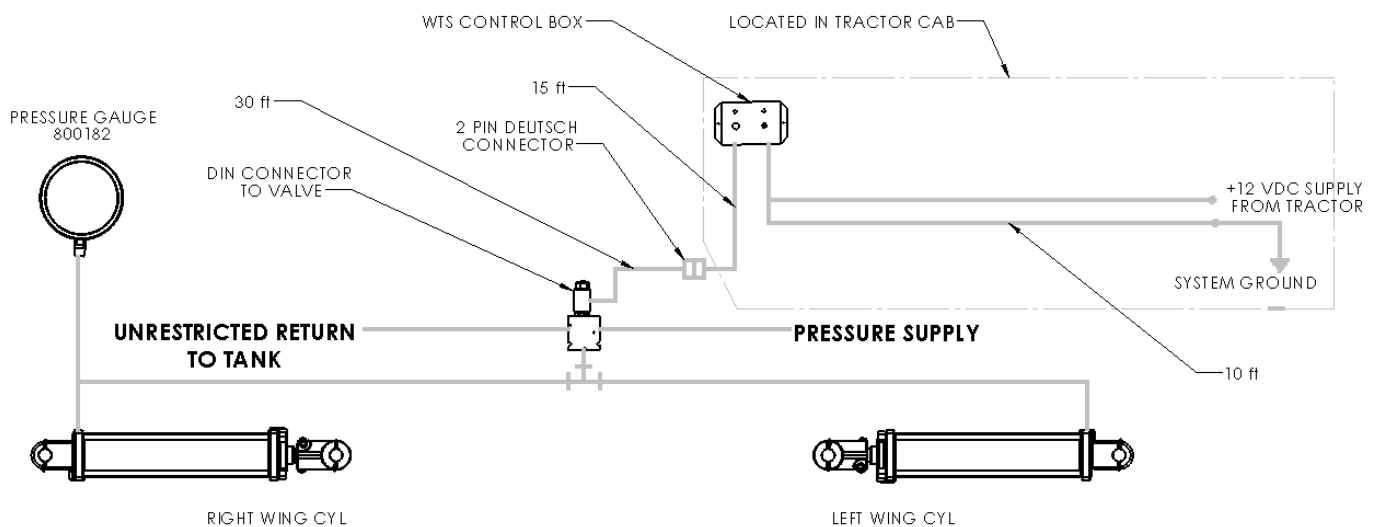
Before proceeding with this step inspect both inner and outer brackets and both wings to ensure that the brackets are not on top of any hoses or wiring harnesses or there are any interferences with aftermarket custom brackets or installed accessories before tightening.

1. Begin by tightening the top two bolts next to the cylinder ends on the inner and outer brackets, tighten to 85 foot lbs torque
2. Tighten the 5/8 bolts attaching the front and rear brackets together, ensure that the brackets are as close to the welds on the travel limit pins as possible Tighten to 143 ft lbs torque
3. Tighten the 5/8 X 9 bolts clamping the brackets to the wings , tighten to 143 ft lbs torque.
4. Reinstall the travel limit straps removed at the beginning of the installation noting that the notched end of the bar goes to the inner wing pin. Reinstall the Flat washers and the heavy duty snap rings to retain the travel limit straps in place.
5. With all bolt tightened, now adjust the support stop bolt on the ends of the inner wing and outer wing brackets to firmly contact the end of the rear bracket and lock into position with the jam nut.
6. Remove any blocking used to support seed tubes or other hoses ,route and tie off as appropriate to ensure there are no pinch points or radical bends in seed tubes.
7. Route as needed and reattach the vacuum hoses to the connectors where they were removed in step 1



STEP 7: HYDRAULIC AND ELECTRICAL CONNECTIONS

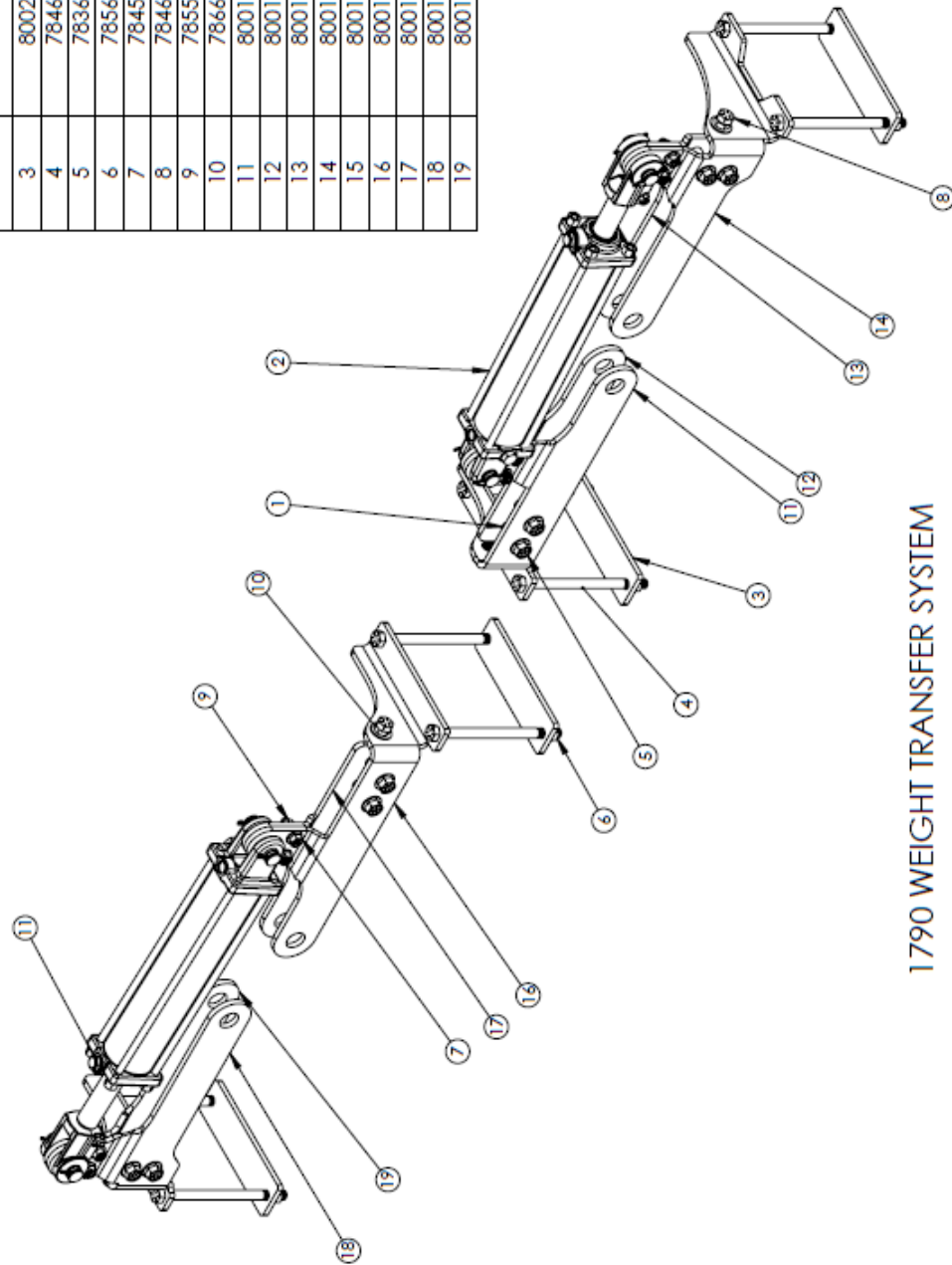
The supplied valve may be mounted in any desired location but typically would be installed in the center of the planter to reduce hose length. 2 different valve types are used, Delta power, and Hydraforce. The Delta valve is Black anodized, while the Hydraforce is silver with the Hydraforce logo on the top of the coil. Plumbing for the Delta valve is as follows: Port 1= Return to tank, Port 2= System supply pressure, Port 3 = Output to cylinders. The ports are numbered differently on the Hydraforce valve, where Port 2=supply, Port 3=return and Port 1= Output to cylinders. Normally a "tee" fitting is used to connect both cylinders to this port. The hydraulic flow requirements for this system are very low and typically will be less than 1 gpm. ***CAUTION*** The return line **MUST** be connected to an unrestricted return to tank port such as hydraulic motor return. Equipment damage may result if the return line is blocked and prevented from returning oil to tank either while in use or if disconnected. Use Parker fitting 0304-170 or Specialty Manufacturing part number S71-4-CV when connecting to tractor hydraulics system.



Due to the unique nature of the installations on each planter the hoses are not supplied with this kit and it is up to the installer/owner to properly route and secure the hoses according to the space available and the accessories installed on each particular planter. The use of 3000 psi rated hose is strongly recommended. A 3000 PSI gauge is supplied and may be connected to the cylinder hydraulic line by means of a "TEE" fitting. The gauge may be remote mounted in an area close to the hitch to allow easy viewing from the tractor cab.

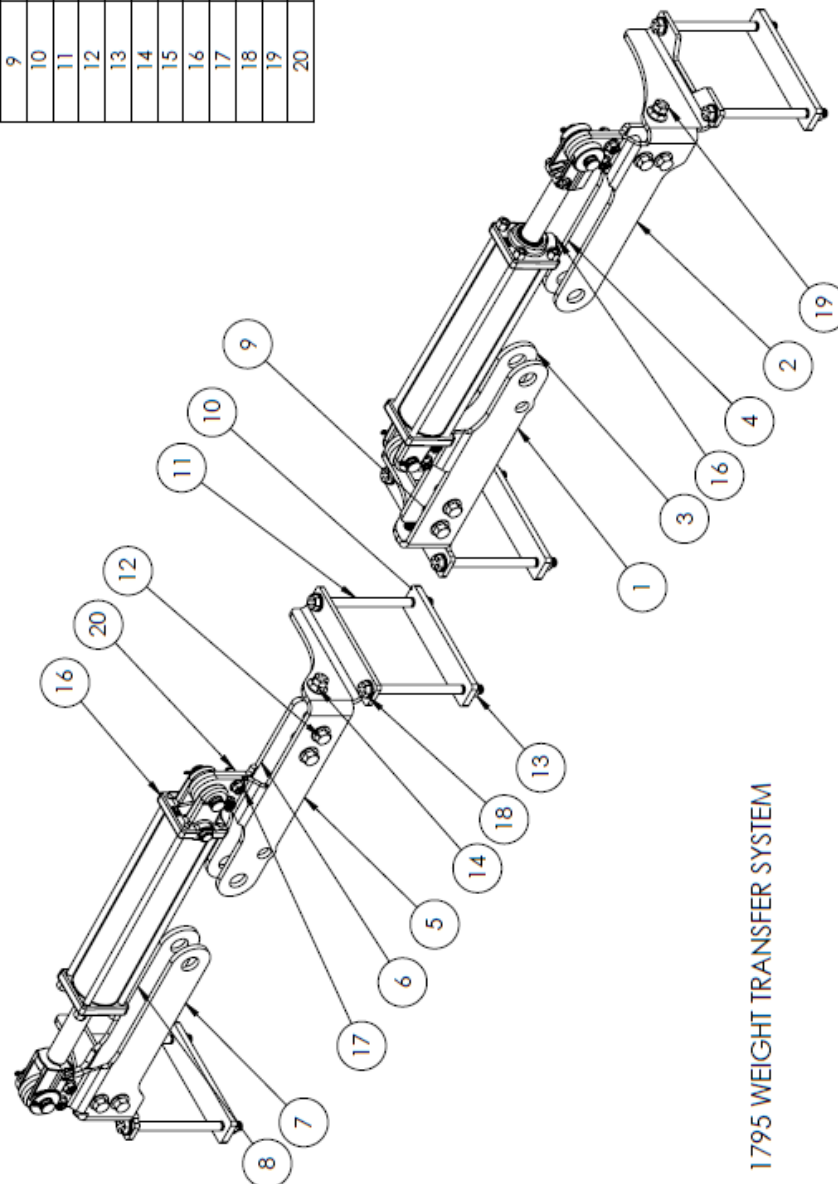
The control box may be located in any convenient area of the cab, and is provided with approximately 10 feet of power supply cable and 15 feet of valve control cable to a 2 pin connector to be secured in an accessible and safe location on the back of the tractor. The power supply cable should be attached to a fused "key on" +12 VDC input, (black lead is +, white=grd) and is supplied with a standard automotive style female blade connector mating to a male blade found on most tractor fuse panels. The controller has an internal self resetting circuit breaker that protect the controller out to the valve. Attach the ground lead to a clean, secure ground connection with the attached female blade connector. A 30 foot valve connection cable is provided to allow for the widest range of valve locations possible and for ample length for transport and operational configurations. The valve cable is provided with a DIN style connector to the valve and the mating 2 pin Deutsch connector mating to the control box lead. The valve connection cable should be carefully routed and located to clear all pinch point areas in transport and operational modes and properly secured with Zip ties or other suitable semi permanent methods to prevent damage. Excess cable should be looped and tied off in a secure manner out of the way of possible physical damage.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	800161	SPACER, 1"OD X 5/8 ID X 1.40L 1790/95 WTS	8
2	800157	3.00 X 14.00 STROKE HYD CYLINDER	2
3	800229	BRACKET ATTACH PLATE	4
4	784694	BOLT, HEX 5/8-11 X 9-1/2 GR8	8
5	783630	BOLT, 5/8-11 X 3 FL GR8	8
6	785600	NUT, 5/8-11 FL, PT	16
7	784514	BOLT, 1/2-13 X 1 1/2 HEX GR8	8
8	784614	BOLT, 5/8-11 X 1 1/2 HEX GR8	4
9	785500	NUT, 1/2-13 FL PT GR8	8
10	786601	NUT, 5/8-11 HEX, JAM GR8	4
11	800192	VENT	2
12	800150	BRACKET, LH INNER WING A	1
13	800151	BRACKET, LH INNER WING B	1
14	800152	BRACKET, LH OUTER WING A	1
15	800153	BRACKET, LH, OUTER WING B	1
16	800154	BRACKET, RH INNER WING A	1
17	800155	BRACKET, RH INNER WING B	1
18	800182	BRACKET, RH OUTER WING A	1
19	800183	BRACKET, RH, OUTER WING B	1



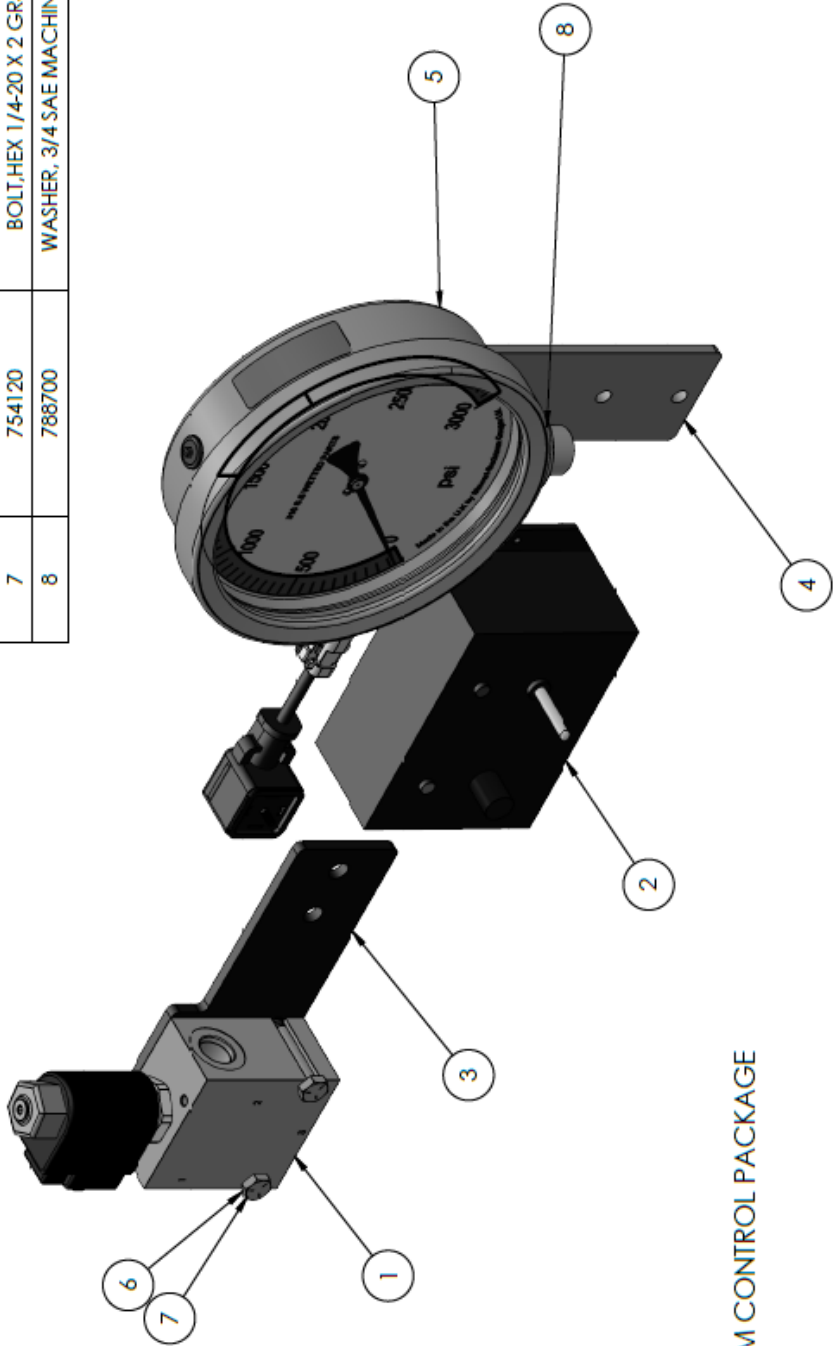
1790 WEIGHT TRANSFER SYSTEM

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	800162	BRACKET, LH INNER WING A	1
2	800164	BRACKET, LH OUTER WING A	1
3	800163	BRACKET, LH INNER WING B	1
4	800165	BRACKET, LH, OUTER WING B	1
5	800167	BRACKET, RH INNER WING A	1
6	800168	BRACKET, RH INNER WING B	1
7	800169	BRACKET, RH OUTER WING A	1
8	800170	BRACKET, RH, OUTER WING B	1
9	800161	SPACER	8
10	800181	PLATE CLAMP 1795	4
11	800157	3.00 X 14.00 STROKE HYD CYLINDER	2
12	784694	BOLT, HEX 5/8-11 X 9-1/2 GR8	8
13	783630	BOLT, FL- 5/8-11 X 3 GR 8	8
14	785600	NUT, FLANGE, 0.625" GRADE 8	16
15	786601	NUT, JAM 5/8-11 GRADE 8	4
16	800192	VENT	2
17	784514	BOLT, 1/2-13 X 1 1/2 HEX GR8	8
18	788601	WASHER, FLAT, 5/8 HVY	8
19	784614	BOLT, 5/8-11 X 1 1/2 HEX GR8	4
20	785500	NUT, 1/2-13 FL PT GR8	8



1795 WEIGHT TRANSFER SYSTEM

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	800369	HYD PROPORTIONAL VALVE	1
2	900243	WTS CONTROL KIT	1
3	800428	BRACKET, HYD VALVE	1
4	800443	BRACKET, WTS GAUGE	1
5	800458	GAUGE,0-3000 PSI ,MARTIN TILL	1
6	757100	NUT,NYLOCK,1/4-20	2
7	754120	BOLT,HEX 1/4-20 X 2 GR5	2
8	788700	WASHER, 3/4 SAE MACHINED	1



WEIGHT TRANSFER SYSTEM CONTROL PACKAGE

NOTES



The most trusted name in no-till

Established 1991

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