

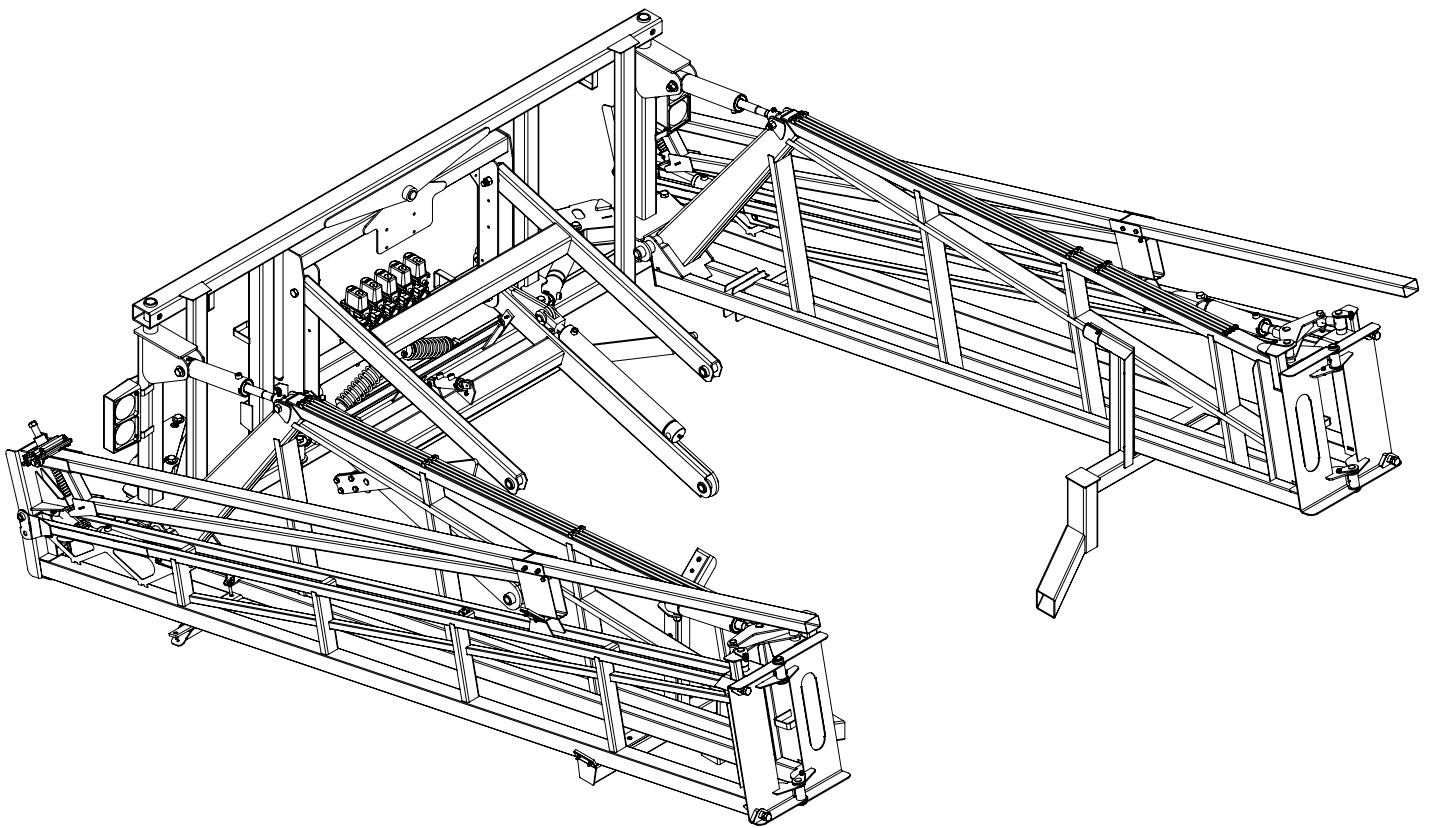


Doing Our Best to Provide You the Best

AB20077, Rev 9
01/23

FRONT FOLD BOOM

80' and 90'



OPERATOR MANUAL

Thank you for purchasing a Demco sprayer. We feel you have made a wise choice and hope you are completely satisfied with your new sprayer. If you have any questions regarding the applications of certain solutions or chemicals, contact your chemical supplier and follow chemical manufacturer recommendations as well as all licensing and use restrictions or regulations.

WARRANTY POLICY, OPERATOR MANUALS & REGISTRATION

Go online to www.demco-products.com to review Demco warranty policies, operator manuals and register your Demco product.



WARNING: TO AVOID PERSONAL INJURY OR PROPERTY DAMAGE, OBSERVE FOLLOWING INSTRUCTIONS:

Chemicals are dangerous. Know exactly what you're going to do and what is going to happen before attempting to work with these products. Improper selection or use can injure people, animals, plants and soil.

Always wear protective clothing such as coveralls, goggles and gloves when working with chemicals or sprayer.

Be sure to dispose of all unused chemicals or solutions in a proper and ecologically sound manner.

GENERAL INFORMATION

1. Unless otherwise specified, high-strength (grade5) (3 radial-line head markings) hex head bolts are used throughout assembly of this piece of equipment.
2. Whenever terms "LEFT" and "RIGHT" are used in this manual it means from a position behind wagon box and facing forward.
3. When placing a parts order, refer to this manual for proper part numbers and place order by PART NO. and DESCRIPTION.

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TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH!



**THIS SYMBOL MEANS
ATTENTION
BECOME ALERT
YOUR SAFETY IS INVOLVED!**

SIGNAL WORDS:

This manual uses the following signal words--DANGER, WARNING, and CAUTION-- with safety messages. The appropriate signal word has been selected using the following guidelines.

WARNING:

Indicates a potentially hazardous situation that, 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.

DANGER:

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

CAUTION:

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

If you have questions not answered in this manual, require additional copies, or if your manual is damaged, please contact your dealer or Demco, 4010 320th Street, Boyden, IA 51234
ph: (712) 725-2311 or Toll Free: 1-800-543-3626 Fax: (712) 725-2380
<http://www.demco-products.com>



SAFETY...YOU CAN LIVE WITH IT



EQUIPMENT SAFETY GUIDELINES

Every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or you yourself, follow them.

In order to provide a better view, certain illustrations in your owners manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace shield prior to use.

Replace any caution, warning, danger or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.

Do not attempt to operate this equipment under the influence of alcohol or drugs.

Review safety instructions with all users annually.

Operator should be a responsible adult. **DO NOT ALLOW PERSONS TO OPERATE OR ASSEMBLE THIS UNIT UNTIL THEY HAVE DEVELOPED A THOROUGH UNDERSTANDING OF SAFETY PRECAUTIONS AND HOW IT WORKS.**

To prevent injury or death, use a tractor equipped with a roll over protective system (ROPS). Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice instructions on them.

Never exceed limits of a piece of machinery. If its ability to do a job, or to do so safely is in question **DON'T TRY IT.**



LIGHTING AND MARKING

It is the responsibility of customer to know lighting and marking requirements of local highway authorities and to install and maintain equipment to provide compliance with regulations. Add extra lights when transporting at night or during periods of limited visibility.

Lighting kits are available from your dealer or from manufacturer.



REMEMBER

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or manufacturer.



SAFETY SIGN CARE

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replacement parts that displayed a safety sign should also display current sign.
- Safety signs are available from your distributor, dealer parts department, or factory.

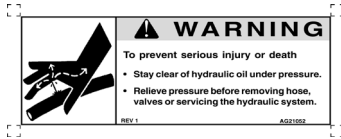
How to install safety signs:

- Be sure that installation area is clean and dry.
- Decide on exact position before you remove backing paper.
- Remove smallest portion of split backing paper.
- Align decal over specified area and carefully press small portion with exposed sticky backing in place.
- Slowly peel back remaining paper and carefully smooth remaining portion of decal into place.
- Small air pockets can be pierced with a pin and smoothed out using piece of decal backing paper.

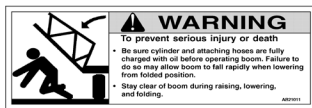


SAFETY SIGN LOCATIONS

Types of safety sign and locations on equipment are shown in illustration below. Good safety requires that you familiarize yourself with various safety signs, type of warning, and area or particular function related to that area, that requires your SAFETY AWARENESS.



#1 Warning : Stay clear of hydraulic oil under pressure



#2 Warning : Stay clear of boom during raising, lowering and folding

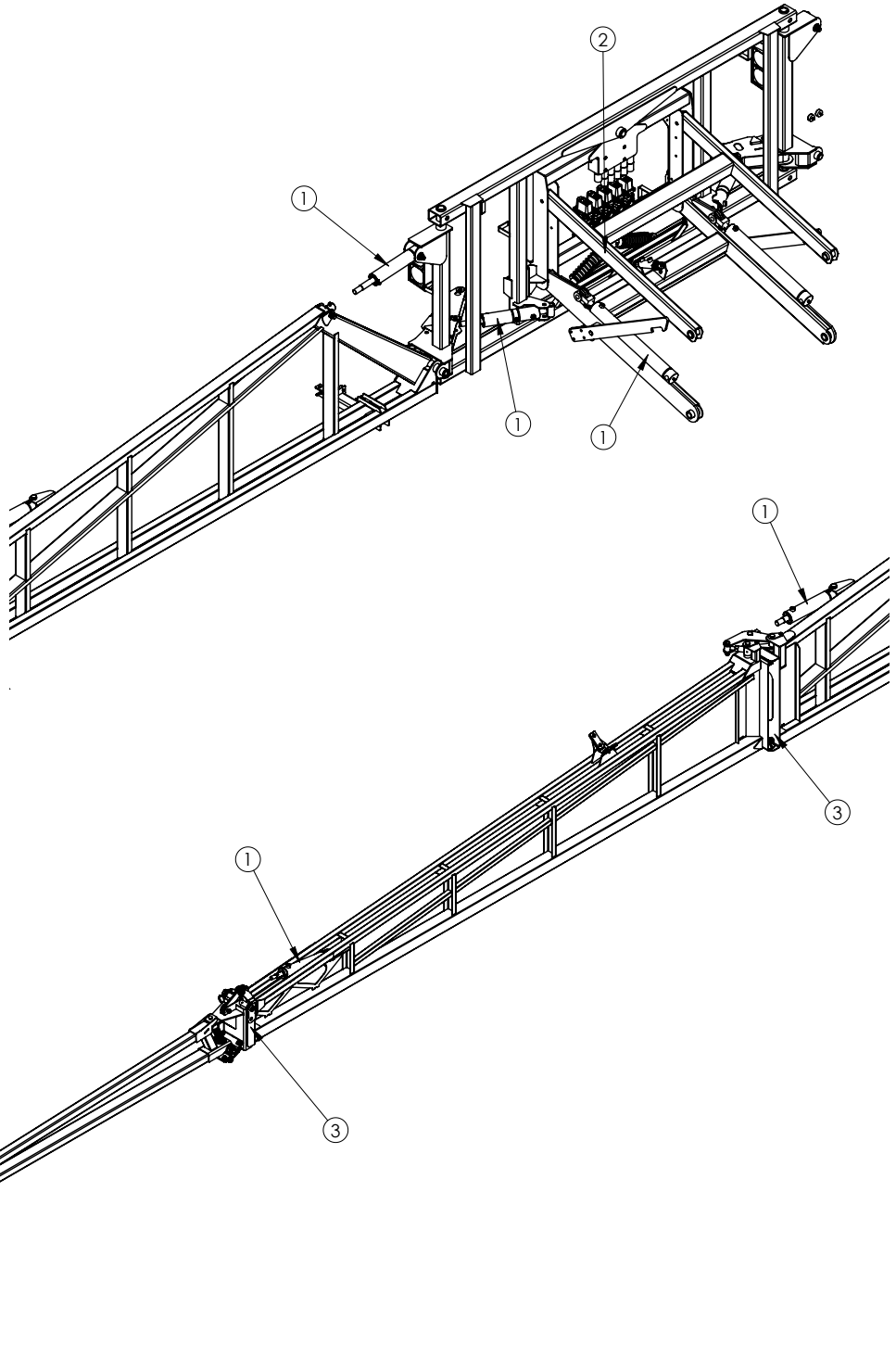


#3 Warning : PINCH POINTS



#4 Warning : Be aware of PINCH POINT symbols on boom, and all related parts.

These decals are available for replacement as a kit. Order # AB21039



**BEFORE OPERATION**

- Carefully study and understand this manual and the Owner's Manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- It is recommended that suitable protective hearing and eye protection be worn.
- Operator may come in contact with certain materials which may require specific safety equipment relative to handling of such materials. (Examples: extremely dusty, molds, fungus, bulk fertilizers, etc.)
- Keep wheel and lug nuts tightened to specified torque.
- Assure that agricultural implement tires are inflated evenly.
- Give unit a visual inspection for any loose bolts, worn parts, or cracked welds, and make necessary repairs. Follow maintenance safety instructions included in this manual.
- Be sure there are no tools lying on or in equipment
- Do not use unit until you are sure that area is clear, especially around children and animals.
- Don't hurry learning process or take unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Make sure that brakes are evenly adjusted (if equipped with brakes)
- Use a tractor equipped with Roll Over Protection System (ROPS) and fasten your seat belt prior to starting the engine.
- Manufacturer does not recommend usage of a tractor with the ROPS removed.
- Move tractor wheels to widest recommended settings to increase stability.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach a safety chain.
- Do not allow anyone to stand between tongue or hitch and towing vehicle when backing up to equipment.

**DURING OPERATION**

- Beware of bystanders, PARTICULARLY CHILDREN! Always look around to make sure that it is safe to start engine of towing vehicle or move unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- NO PASSENGERS ALLOWED- Do not carry passengers anywhere on or in tractor or equipment.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate, or adjust your equipment while it is moving.
- When halting operation, even periodically, set tractor or towing vehicles brakes, disengage PTO, shut off engine, and remove ignition key.
- Be especially observant of operating area and terrain. Watch for holes, rocks, or other hidden hazards. Always inspect area prior to operation.
 - DO NOT operate near edge of drop-off or banks.
 - DO NOT operate on steep slopes as overturn may result.
 - Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.

- Pick the most level possible route when transporting across fields. Avoid edges of ditches, gullies, and steep hillsides.
- Be extra careful when working on inclines.
- Maneuver tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose gravel, rocks, and holes; they can be dangerous for equipment operation or movement.
- Allow for unit length when making turns.
- Do not walk or work under raised components or attachments unless securely positioned and blocked.
- Keep all bystanders, pets, and livestock clear of work area.
- Operate towing vehicle from operators seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment unattended.
- As a precaution, always recheck hardware on equipment following every 100 hours of operation. Correct all problems. Follow maintenance safety procedures.



FOLLOWING OPERATION

- Following operation, or when unhitching, stop tractor or towing vehicle, set brakes, shut off engine and remove ignition key.
- Store unit in an area away from human activity.
- Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.
- Do not permit children to play on or around stored unit.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- Wheel chocks may be needed to prevent unit from rolling.



HIGHWAY AND TRANSPORT OPERATIONS

- **SAFETY CHAINS:** If equipment is going to be transported on a public highway, always follow state and local regulations regarding safety chains and auxiliary lighting. Be sure to check with local law enforcement agencies for your own particular regulations. Only safety chains (not elastic or nylon/plastic tow straps) should be used to retain connection between towing and towed machines in event of separation of primary attaching system.
- Adopt safe driving practices:
 - Keep brake pedals latched together at all times. NEVER USE INDEPENDENT BRAKING WITH MACHINE IN TOW, LOSS OF CONTROL AND/OR UPSET OF UNIT CAN RESULT.
 - Always drive at a safe speed relative to local conditions, ensure that your speed is low enough for an emergency stop. Keep speed to a minimum.
 - Reduce speed prior to turns to avoid risk of overturning.
 - Always keep tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
 - Do not drink and drive!

- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting, flags and necessary warning devices to protect operators of other vehicles on highway during transport. Various safety lights and devices are available from your dealer.
- Use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving tractor and equipment on road under 20 m.p.h. (40 kph) at night or during day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge load ratings. Do not cross bridges rated lower than gross weight at which you are operating.
- Watch for obstructions overhead and side to side while transporting.
- Always operate equipment in a position to provide maximum visibility. Make allowances for increased length and weight of equipment when making turns, stopping unit, etc.



PERFORMING MAINTENANCE

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate engine of towing vehicle in a closed building. Exhaust fumes may cause asphyxiation.
- Before working on this machine, stop towing vehicle, set brakes, disengage the PTO and all power drives, shut off the engine and remove the ignition keys.
- Be certain all moving parts and attachments have come to a complete stop before attempting to perform maintenance.
- Always use safety support and block wheels. Never use a jack to support machine.
- Always use proper tools or equipment for job at hand.
- Use extreme caution when making adjustments.
- Follow torque chart in owners manual when tightening bolts and nuts.
- Never use your hands to locate a hydraulic leak on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate skin.
- Openings in skin and minor cuts are susceptible to infection from hydraulic fluid. Without immediate medical treatment, serious infection and reactions can occur.
- When disconnecting hydraulic lines, shut off hydraulic supply and relieve all hydraulic pressure.
- Replace all shields and guards after servicing and before moving.
- After servicing, be sure all tools, parts and service equipment are removed.
- Do not allow grease or oil to build up on any steps or platform.
- Never replace hex bolts with less than grade five bolts unless otherwise specified.
- Refer to bolt torque chart in owners manual for head identification marking.

- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. Manufacturer will not claim responsibility for use of unapproved parts or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, manufacturer does not accept any liability for injury or warranty.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment



TORQUE SPECIFICATION

Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* GRADE or CLASS value for bolts and capscrews are identified by their head markings.

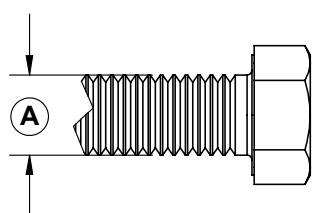
BOLT TORQUE DATA FOR STANDARD NUTS, BOLTS, AND CAPSCREWS

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with same grade bolt.

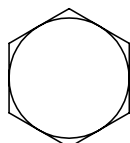
NOTE: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.

Bolt Torque for Standard bolts *						
"A"	GRADE 2		GRADE 5		GRADE 8	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	(8)	9	(12)	12	(16)
5/16"	10	(13)	18	(25)	25	(35)
3/8"	20	(27)	30	(40)	45	(60)
7/16"	30	(40)	50	(70)	80	(110)
1/2"	45	(60)	75	(100)	115	(155)
9/16"	70	(95)	115	(155)	165	(220)
5/8"	95	(130)	150	(200)	225	(300)
3/4"	165	(225)	290	(390)	400	(540)
7/8"	170	(230)	420	(570)	650	(880)
1"	225	(300)	630	(850)	970	(1310)

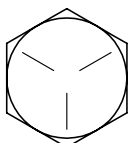
Bolt Torque for Metric bolts *						
"A"	CLASS 8.8		CLASS 9.8		CLASS 10.9	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	(13)	10	(14)	13	(17)
7	15	(21)	18	(24)	21	(29)
8	23	(31)	25	(34)	31	(42)
10	45	(61)	50	(68)	61	(83)
12	78	(106)	88	(118)	106	(144)
14	125	(169)	140	(189)	170	(230)
16	194	(263)	216	(293)	263	(357)
18	268	(363)	--	--	364	(493)
20	378	(513)	--	--	515	(689)
22	516	(699)	--	--	702	(952)
24	654	(886)	--	--	890	(1206)



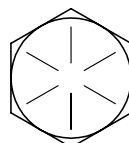
GRADE-2



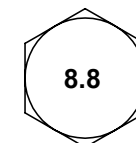
GRADE-5



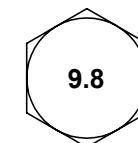
GRADE-8



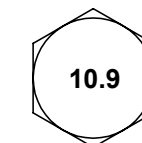
CLASS 8.8



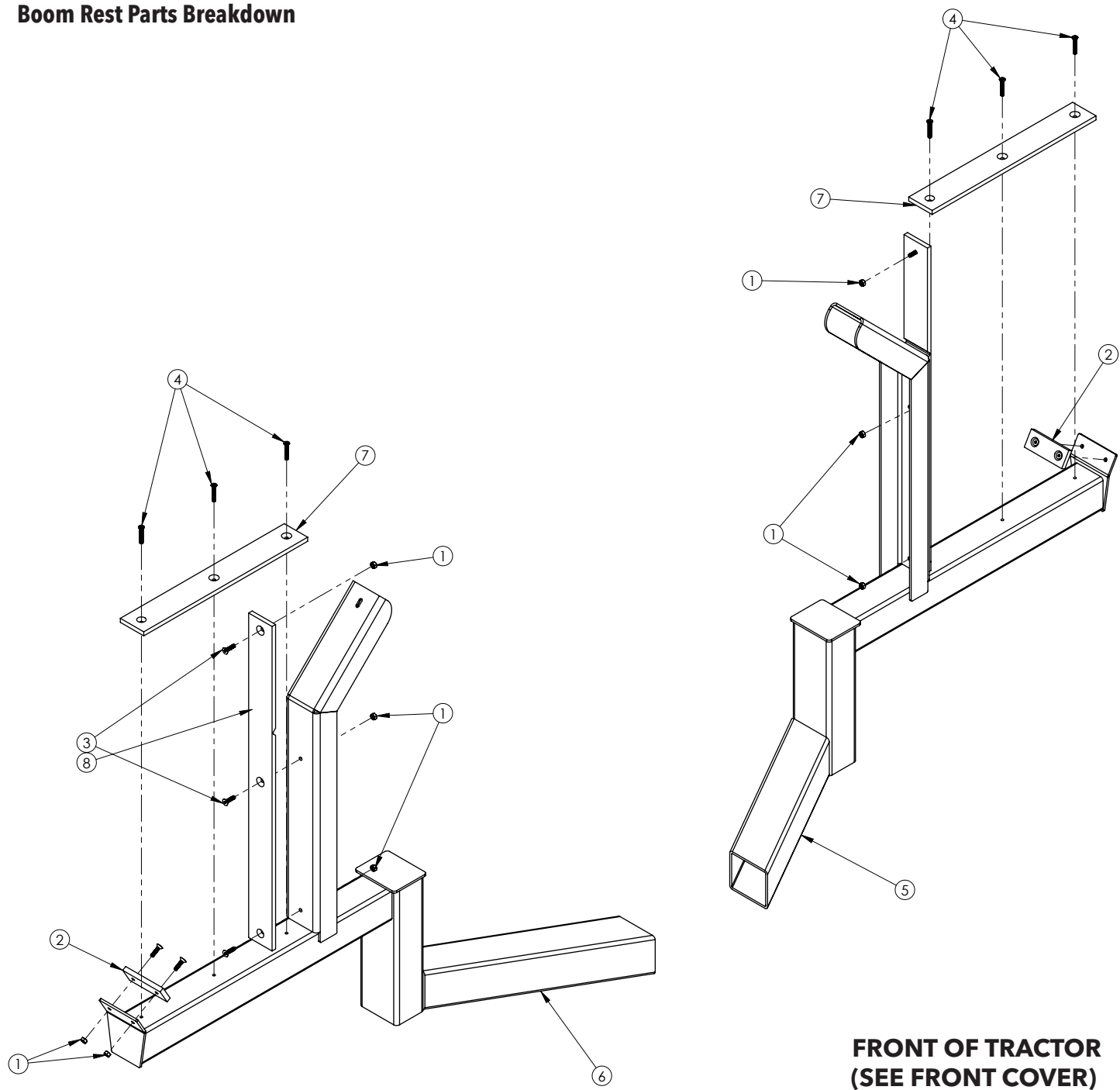
CLASS 9.8



CLASS 10.9

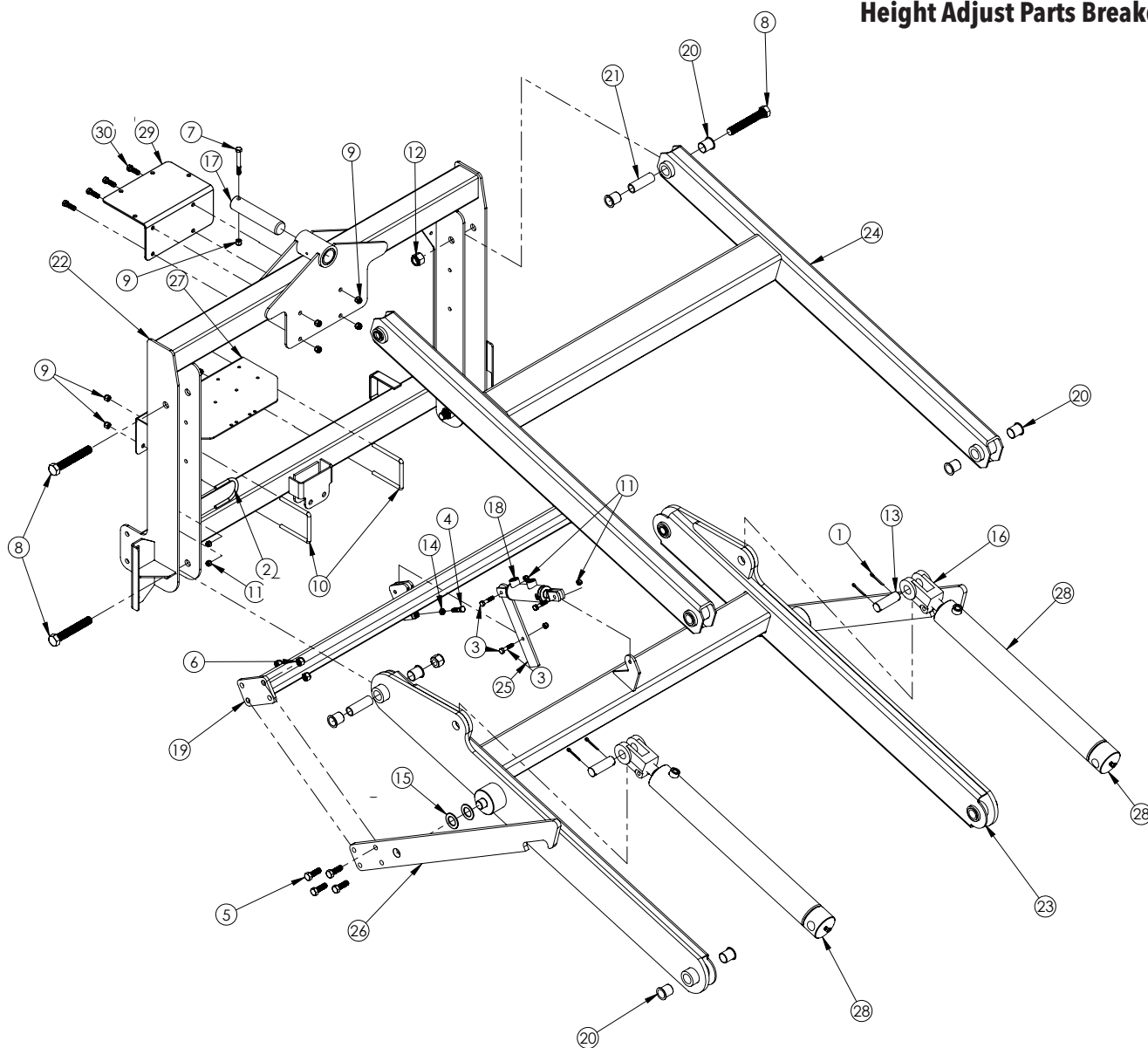


Boom Rest Parts Breakdown



ITEM	PART #	DESCRIPTION	QTY
1	02772	NUT, .25NC LOCK NYLON INSERT	10
2	02946	PLATE, WEAR	2
3	07082	.25NC X 1.00 FLAT HD TORX	10
4	12852	BOLT .25NC X 1.50 FLAT HEAD TORX F-POINT	6
5	12853-30	LEFT WING REST 50 SERIES 90°	1
6	12854-30	RIGHT WING REST 50 SERIES 90°	1
7	12880	PLATE, WEAR 17.50"	2
8	13251	PLATE, WEAR 30.00"	2

Height Adjust Parts Breakdown

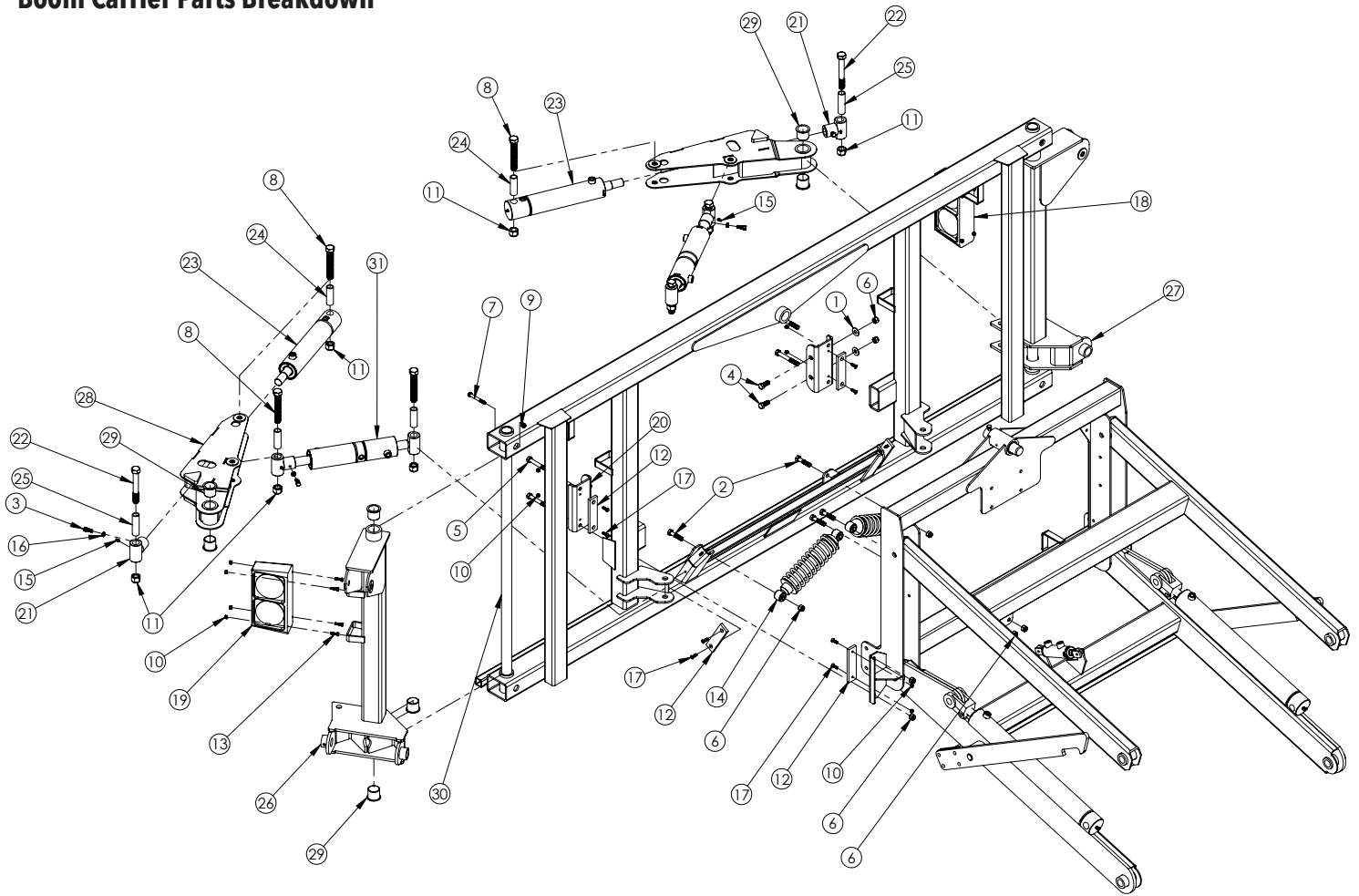


ITEM	PART #	DESCRIPTION	QTY
1	00116	COTTER PIN, .156 X 1.50	4
2	00263	U-BOLT, RND, .313NC 2.50 x 3.00	1
3	00372	BOLT, .31 X 1.50 HEX GR 5	3
4	00914	BOLT, .375 NC X 1.50 HEX HEAD GR.5	1
5	01254	BOLT, .50 NC X 1.50 GR.5 HEX	8
6	02178	NUT, .50NC LOCK, NY. INSERT	8
7	02207	BOLT, .375 NC X 3.00 GR.5	1
8	02389	.75NC X 5.00 GR5 HEX BOLT	4
9	02592	NUT, .375NC NYLON LOCK	9
10	02759	U-BOLT .375-16	2
11	02802	NUT, .313 NC NYLON LOCK	5
12	02961	.75NC NYLON INSERT LOCK NUT	4
13	03738-95	CYLINDER PIN	2
14	04886	NUT, .75 JAM	1
15	05587	WASHER, MACHINE, 1.00 x 18GA	4
Please order replacement parts by PART NO. and DESCRIPTION			

16	09741-30	CYLINDER CLEVIS	2
17	09911-95	PIN, MAIN FOLDING	1
18	17583-30	HYD. CYL 1.50" X .63" STR W/O SPRING	1
19	10447-30	LATCH CONNECTOR	1
20	12291	1.00 ID X 1.25 PLASTIC BUSHING	16
21	12602-95	1.0 OD BUSHING 2.96	4
22	12604-30	BOOM MOUNT ASSEMBLY	1
23	12612-30	LOWER HEIGHT ADJUST	1
24	12613-30	TOP HEIGHT ADJUST FRAME	1
25	12635-95	LATCH LINK	1
26	12636-30	LATCH FOR 80/90 BOOM	2
27	12869-30	BOOM VALVE MOUNT (SAFI)	1
28	13448-30	CYLINDER, 2.50 X 20.00 X 1.25" ROD	2
-	13473-30	CYLINDER, 2.50 X 19.00 X 1.25" ROD (3 POINT ONLY)	2
29	15890	HYDRAULIC BLOCK MOUNTING PLATE	1
30	00523	BOLT, .375NC X 1.25 HEX HEAD GR.5	4
Please order replacement parts by PART NO. and DESCRIPTION			

Installation

Boom Carrier Parts Breakdown



ITEM	PART #	DESCRIPTION	QTY
1	00085	.50 FLAT WASHER	4
2	00348	BOLT, .50 NC X 2.25 HEX HEAD GR.5	4
3	00907	BOLT, .375NC X 1.00 HEX HEAD GR.5	4
4	00967	BOLT, .50NC X 1.25	4
5	01896	BOLT, .50 NC X 4.00 HEX HEAD GR.5	4
6	02178	NUT, .50NC LOCK, NY. INSERT	12
7	02207	BOLT, .375 NC X 3.00 GR.5	3
8	02389	.75NC X 5.00 GR5 HEX BOLT	6
9	02592	NUT, .375NC NYLON LOCK	3
10	02772	NUT, .25NC LOCK NYLON INSERT	20
11	02961	.75NC NYLON INSERT LOCK NUT	8
12	03324	PLATE, WEAR	6
13	04055	.25-20NC X 1 GD5 HEX	8
14	04524	SHOCK ABSORBER W/ SPRING	2
15	04642	ZERK, GREASE, .25 UNF SF	4
16	04886	NUT, .75 JAM	4
17	07082	.25NC X 1.00 FLAT HD TORX	12
18	17715	LEFT LIGHT	1
19	17716	RIGHT LIGHT	1
20	12302-30	WEAR PAD MOUNT	2
21	12311-95	3" CYLINDER END	4

Please order replacement parts by PART NO. and DESCRIPTION

Amber light goes to the top
Red light must face the rear

Connect Yellow wire to left light
Connect Green wire to right light

22	12320	BOLT, .75-10 UNC HEX 5.5	2
23	12588-30	CYLINDER 2.50 X 8.00 X 1.25" ROD	2
24	12602-95	1.0 OD BUSHING 2.96	6
25	12603-95	1.0 OD BUSHING 3.47	2
26	12606-30	WING HINGE RIGHT	1
27	12607-30	WING HINGE LEFT	1
28	12617-30	HINGE BREAKAWAY	2
29	12632	1.50 ID X 1.50 PLASTIC BUSHING	10
30	12641-95	MAIN HINGE PIN	2
31	13452-30	CYLINDER 2.50 X DOUBLE	2

Please order replacement parts by PART NO. and DESCRIPTION

ADJUSTMENT & BREAK-IN INSTRUCTIONS

These adjustments should be done with the inner wings attached. (see page 16-17)

1. Unfold the wings fully.
2. Adjust wing straightness by using adjustable cylinder end (#21) of the cushion cylinder (#31). The folding cylinder (#23) should be adjusted so the stops on the hinge and breakaway are touching.
3. Bring wings to the folded position.
4. To adjust wings in forward position, use folding cylinder adjustable ends (#21) or move wingrests in or out.
5. Re-Torque all Cylinder mounting bolts (#8 & #22) to 290 lb-ft.

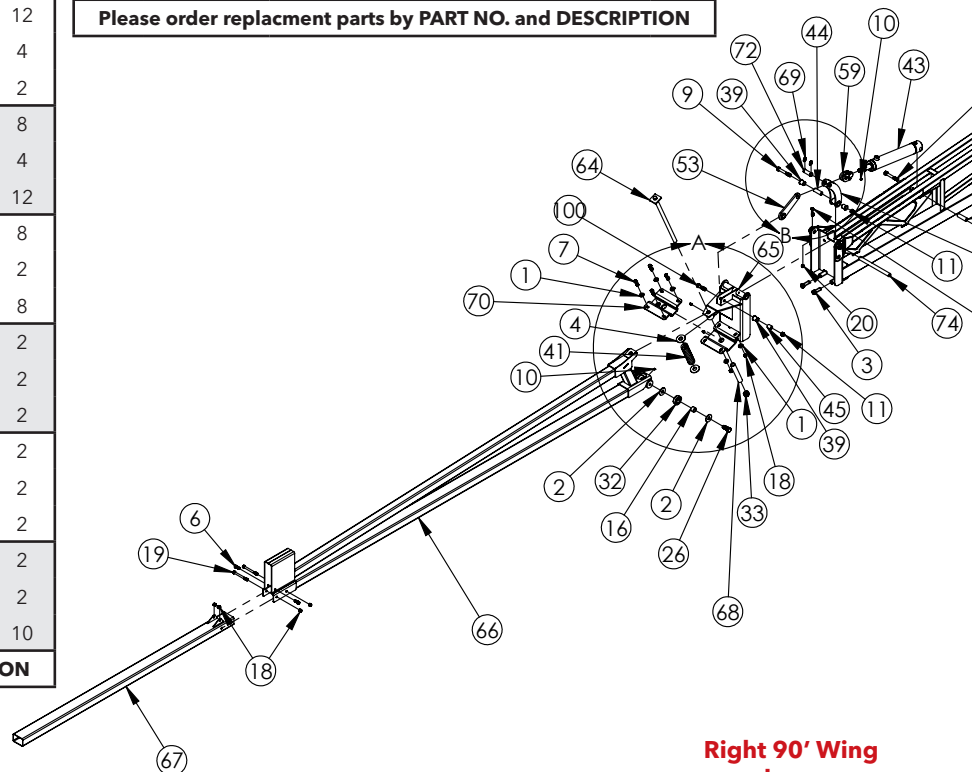
Wing Parts Breakdown

ITEM	PART #	DESCRIPTION	QTY
1	00059	Washer, Flat .375	16
2	00477	Washer, Flat, .625	8
3	00482	Bolt, .50NC X 1.75 Hex Head Gr.5	4
4	00492	Washer, Flat, .75	4
5	00879	Bolt, .25NC X 1.75 Hex Head Gr.5	2
6	00907	Bolt, .375NC X 1.00 Hex Head Gr.5	16
7	00914	Bolt, .375NC X 1.50 Hex Head Gr.5	8
8	01235	Bolt .75NC X 2.00 Hex Head Gr.5	4
9	01897	Bolt, .50NC X 3.50 Hex Head Gr.5	4
10	01923	Set Screw .25NC X .25 Socket Cup Point	4
11	02178	Nut, .50NC Nylon Lock	6
12	02207	Bolt, .375NC X 3.00 Hex Head Gr.5	5
13	02389	Bolt, .75NC X 5.00 Hex Head Gr.5	4
14	02425	Nut, .75NF Hex	2
15	02494	Bolt, .375NC X 2.25 Hex Head Gr.5	2
16	02562-95	Spacer	4
17	02587	Nut, .625NC Nylon Lock	2
18	02592	Nut, .375NC Nylon Lock	35
19	02769	Bolt, .375NC X 4.00 Hex Head Gr.5	4
20	02772	Nut, .25NC Nylon Lock	18
21	02946	Plate, Wear	4
22	02961	Nut, .75NC Nylon Lock	6
23	03324	Plate, Wear	2
24	03700	Bolt, .75-10 UNC X 4.50	2
25	03701	Nut, .75 Jam	4
26	04051	Bolt, .625 NC X 1.50 Hex Head Gr.5	4
27	04055	Bolt, .25NC X 1.00 Hex Head Gr.5	4
28	04215	Bolt, .625 NC X 3.00 Hex Head Gr.5	2
29	04642	Zerk, Grease, .25 UNF Sf	6
30	04886	Nut, .75 Jam	4
31	07082	.25NC X 1.00 Flat HD Torx	12
32	07134	HD Breakaway Roller	4
33	09726	Nut .75NF Lock Stover Gr. C	2
34	11360	External Snap Ring	8
35	11867	Rubber Bumper	4
36	12291	1.00 ID X 1.25 Plastic Bushing	12
37	12292	1.00 ID X .75 Plastic Bushing	8
38	12293	1.25 ID X 1.25 Plastic Bushing	2
39	12296	.75 ID X 1.00 Plastic Bushing	8
40	12311-95	3" Cylinder End	2
41	12359	Breakaway Spring	2
42	12588-30	Cylinder 2.50 X 8.00 X 1.25" Rod	2
43	12590-30	Cylinder 2.00 X 8.00 X 1.00" Rod	2
44	12592-95	.75 OD X 2.13" Bushing	2
45	12593-95	.75 OD X 0.96" Bushing	2
46	12595-95	.75 OD X 2.46" Bushing	2
47	12600-95	.88 OD X 1.53" Bushing	2
48	12602-95	1.0 OD X 2.96" Bushing	10

Please order replacment parts by PART NO. and DESCRIPTION

49	12608-30	Inner Wing Right	1
50	12609-30	Inner Wing Left (Not Shown)	1
51	12610-30	Middle Wing Right	1
52	12611-30	Middle Wing Left (Not Shown)	1
53	12620-30	Outer Fold Link Outer	2
54	12623-30	Outer Fold Link Inner	2
55	12631-30	Inner Wing Rest	2
56	12634	.875 ID X 1.50 Plastic Bushing	2
57	12639-30	Wing Rest Clamp	2
58	12640-95	Wing Hinge Pin	2
59	12645-30	Cylinder End	2
60	12767-30	Middle Wing Fold Link	2
61	12768-72	Inner Lock Link	2
62	12769-72	Outer Lock Link	2
63	12770-95	Cylinder End	2
64	12855-95	Breakaway Pin	2
65	12856-30	Outer Breakaway	2
66	12857-30	Outer Wing	2
67	12858-30	Steel Outer Extension	2
68	12866-95	Breakaway Bushing	2
69	12867	.75" External Spiral Retaining Ring	4
70	12868-30	Breakaway Plate	2
71	12877-95	Cylinder Pin	2
72	12878-95	Outer Pin	2
73	13449-30	2.50" X 8.00" Lift Cylinder	2
74	13602-95	Outer Hinge Pin	2
75	13603-95	Link Mount Pin	4
76	13604-95	Wing Hinge Pin	4
100	01253	Bolt, .50NC x 2.00 Hex Head Gr.5	2
101	15890	Hydraulic Block Mounting Plate	1
102	00523	Bolt, .375NC x 1.25 Hex Head Gr.5	4

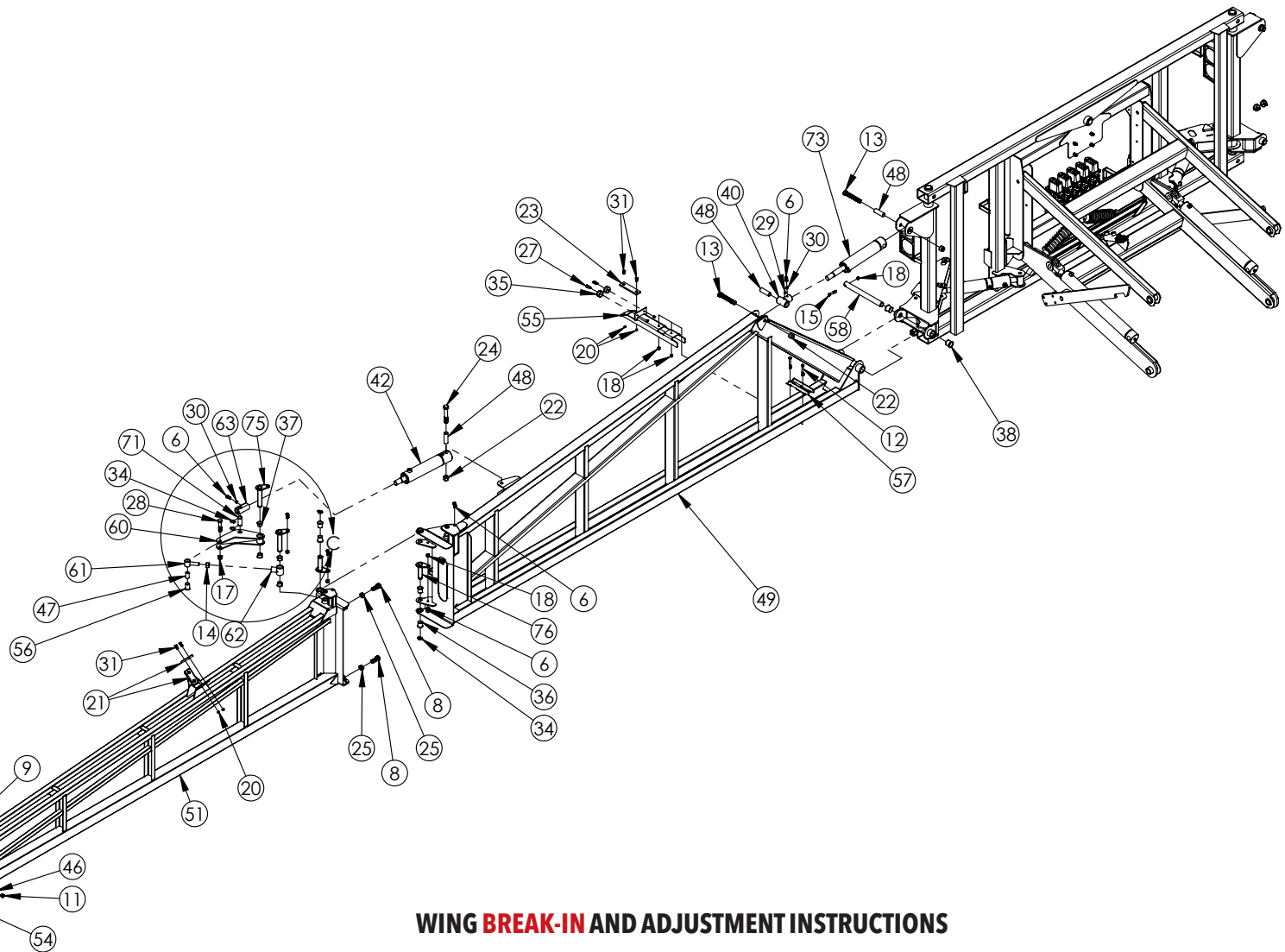
Please order replacment parts by PART NO. and DESCRIPTION



Right 90° Wing
shown

Wing Assembly and Parts Breakdown

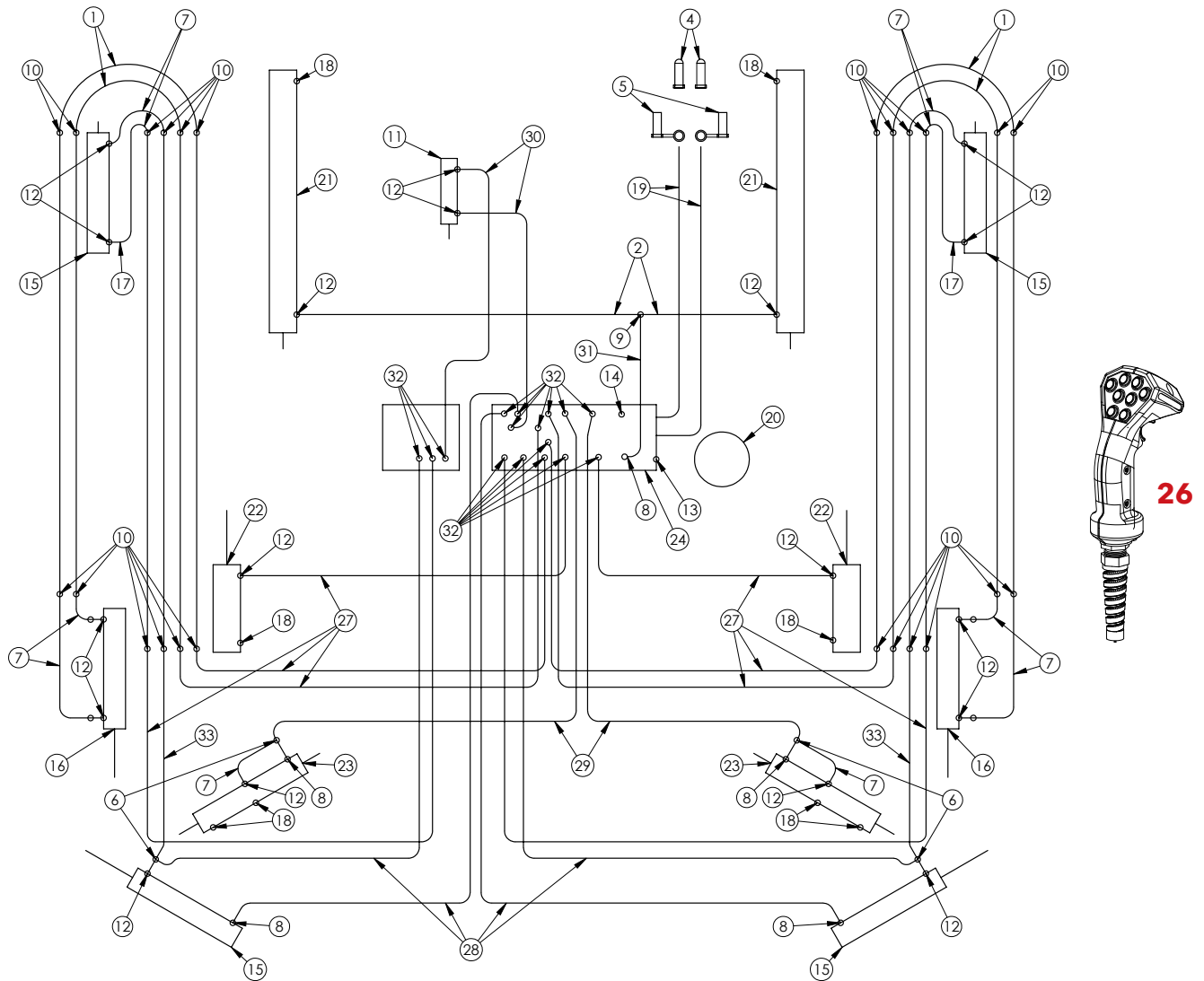
Right Wing shown



WING BREAK-IN AND ADJUSTMENT INSTRUCTIONS

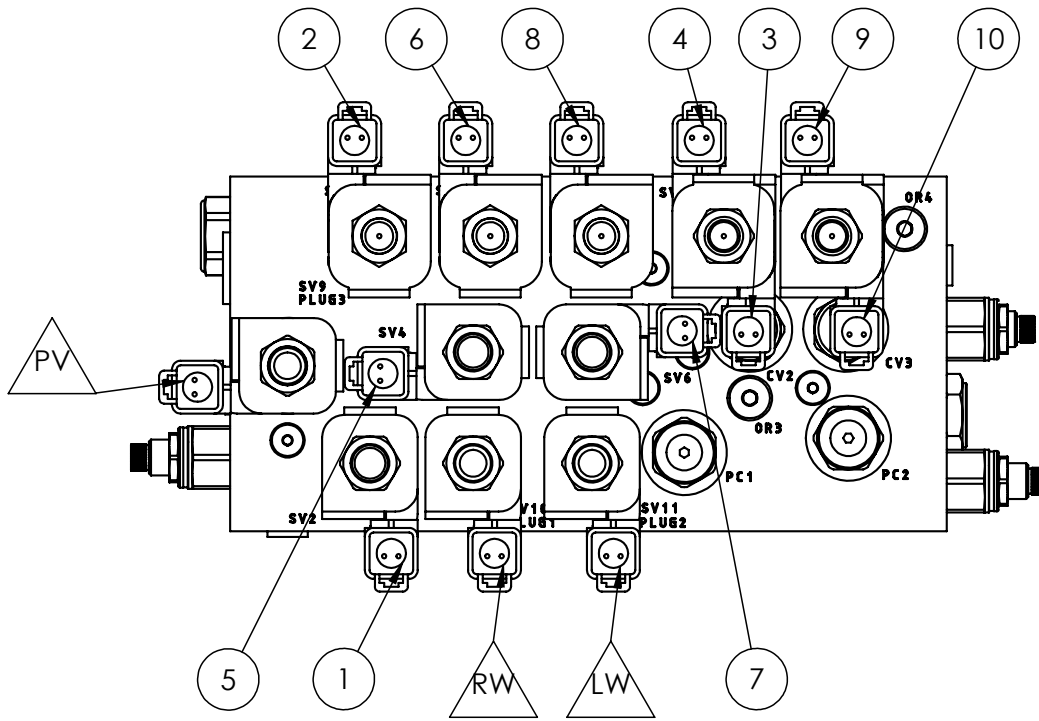
- Fold Boom out.
- Inner Wing Height - Adjust Cylinder End (#40). This is best done by turning the cylinder shaft.
- Middle Wing Straightness - Adjust by turning stop bolts (#8) on the middle wing. The Inner and Outer Lock Links will need to be reset.
- **Middle Wing Lock Link (#61)** - Hold Middle Wing out with a clamp. Remove pin (#72) by removing snap ring (#69). Adjust Lock Link so it can be locked by hand but is still tight and will snap when released. Reinstall pin and snap ring.
- **Outer Wing Height** - Adjust stop bolts (#3). Cylinder end (#59) will need to be adjusted if it does not hold the outer wing down. Cylinder (#43) should be applying pressure to hold the wing down.
- Outer Wing Straightness - Adjust by loosening 4 bolts (#7) and moving wing by hand to correct position. Tighten bolts (#7) when complete. Take note of the position of this wing while folding to be sure it lands in the wing rest notch of the middle wing. If not, the Outer Wing will need to be adjusted.

80 & 90 Front Fold Hydraulic Schematic



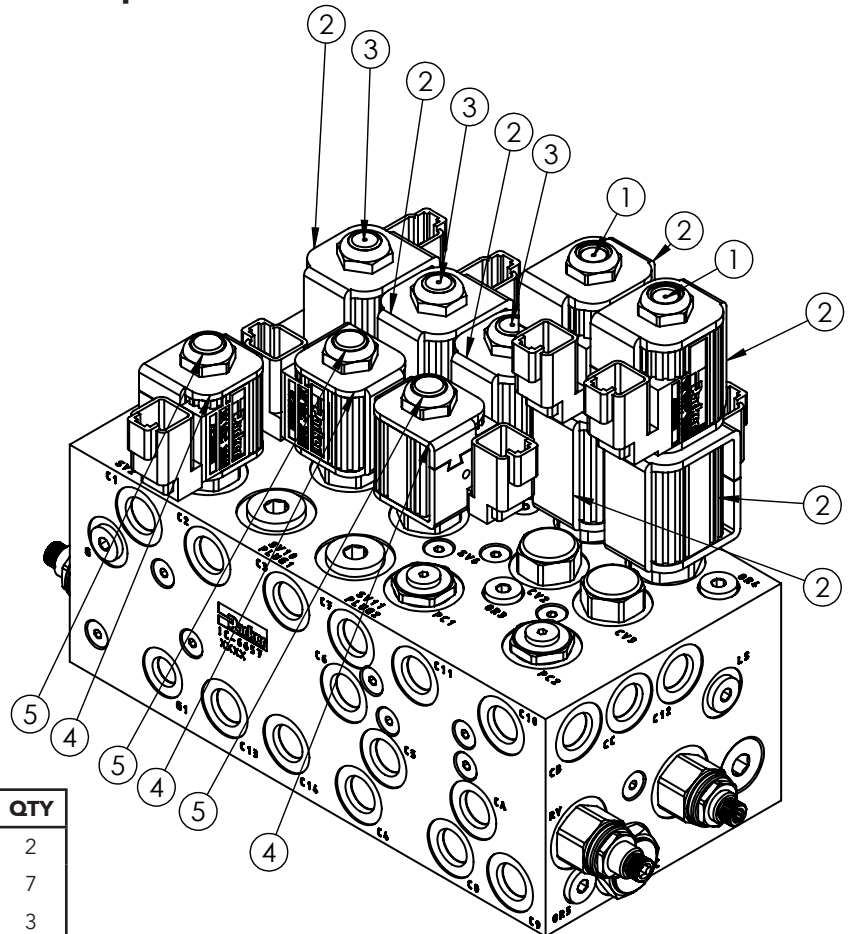
ITEM	PART #	DESCRIPTION	QTY
1	05190	48" .25" HYD HOSE	4
2	05191	36" .25" HYD HOSE	2
4	05197	PIONEER COUPLER	2
-	13786	PIONEER COUPLER #10 O-RING (REAR MOUNT)	2
5	05198	COUPLER RUBBER CAP	2
6	05203	#6 FEMALE JIC to #6 MALE JIC (2X) TEE	4
7	05212	18" .25" HYD HOSE	10
8	05243	#6 MALE O-RING to #6 JIC MALE STR	5
9	07072	TEE .563 M TUBE	1
10	09950	#6 MALE JIC UNION	24
11	17583-30	CYLINDER HYD 1.50" X .63" w/o SPRING	1
12	11143	#6 O-RING to #6 MALE JIC 90°	18
13	12327	#8 O-RING MALE x METRIC	1
14	12369	GAUGE HYDRAULIC 3000PSI -4 O-RING	1
15	12588-30	CYLINDER HYD 2.50 X 8.00 X 1.25 ROD	4
-	5584	Repair Kit	-
16	12590-30	CYLINDER HYD 2.00 X 8.00 X 1.00 ROD	2
-	5972	Repair Kit	-

17	12710	FTG HYD .031 ORIFICE	2
18	12711	AIR VENT SAE-6 BRASS BREATHER	8
19	12849	.50 X 28' HYD HOSE	2
-	18304	.50 X 20' HYD HOSE (REAR MOUNT)	2
20	12895	ACCUMULATOR 500PSI	1
21	13448-30	CYLINDER HYD 2.50 X 20.00 X 1.25 ROD	2
-	5584	Repair Kit	-
22	13449-30	CYLINDER HYD 2.50 X 8.00 X 1.25 ROD	2
23	13452-30	CYLINDER HYD 2.50 DOUBLE 1.25 ROD	2
-	5584	Repair Kit	-
-	6039	Repair Kit	-
24	15757	5 FUNCTION COMBINATION BLOCK	1
25	15758	WIRING HARNESS	1
26	15759	PENDANT FOR COMBO BLOCK	1
27	15885	128" .25 HYD HOSE	8
28	15886	100" .25 HYD HOSE	4
29	15887	60" .25 HYD HOSE	2
30	15888	42" .25 HYD HOSE	2
31	15889	53" .38 HYD HOSE	1
32	15891	FTG HYD 6400-04-06	16
33	07071	72" .25 HYD HOSE	2

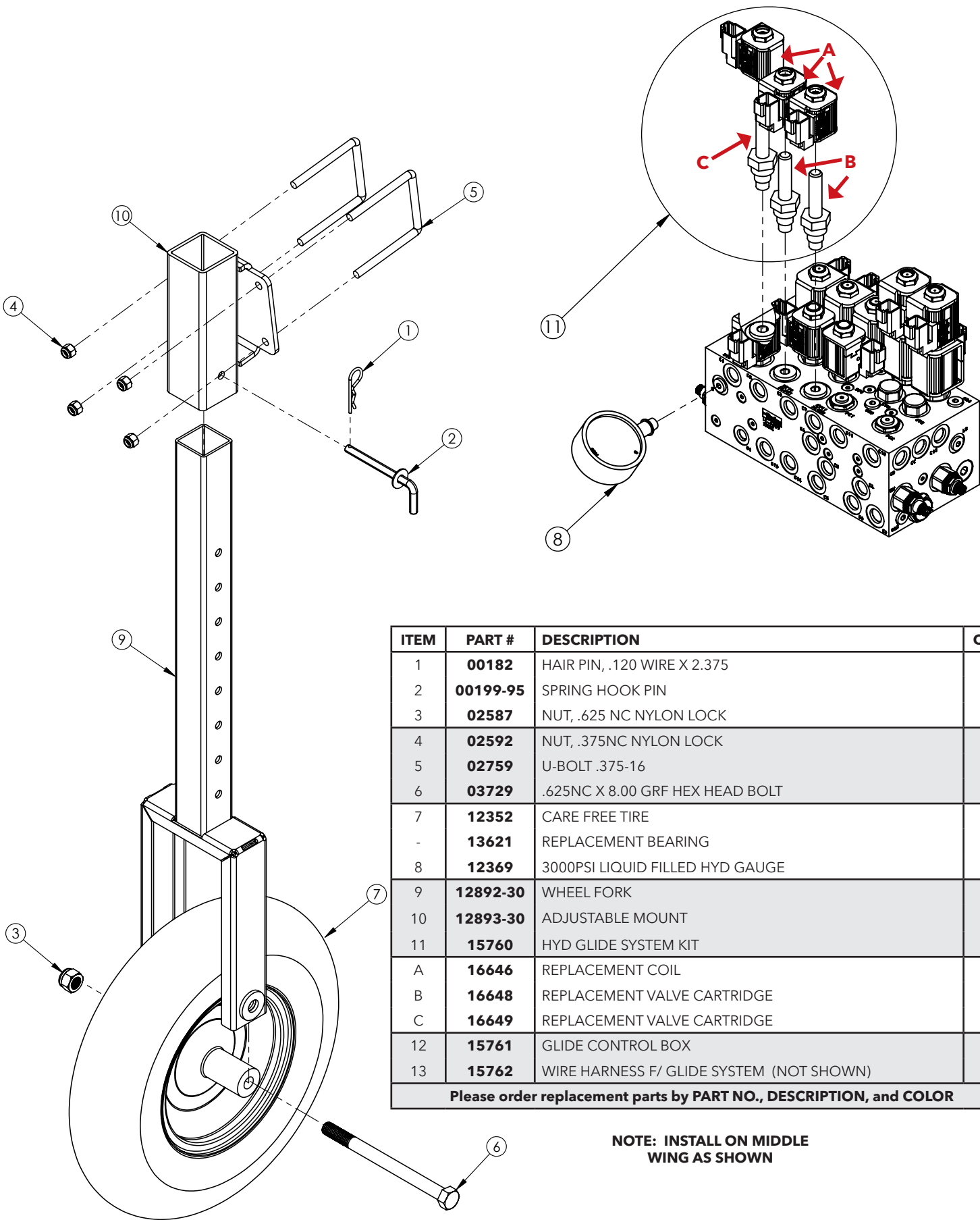


* HYDRAULIC GLIDE SUSPENSION WIRING

Hydraulic Block Replacement Parts



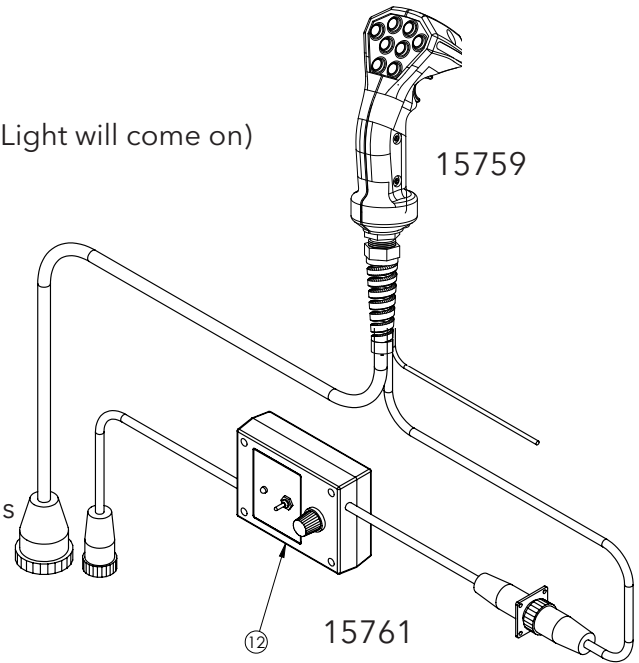
ITEM	PART #	DESCRIPTION	QTY
1	12093	REPLACEMENT VALVE CARTRIDGE	2
2	15636	REPLACEMENT COIL 0.625	7
3	16645	REPLACEMENT VALVE CARTRIDGE	3
4	16646	REPLACEMENT COIL 0.50	3
5	16647	REPLACEMENT VALVE CARTRIDGE	3
Please order replacement parts by PART NO., and DESCRIPTION.			



ITEM	PART #	DESCRIPTION	QTY
1	00182	HAIR PIN, .120 WIRE X 2.375	2
2	00199-95	SPRING HOOK PIN	2
3	02587	NUT, .625 NC NYLON LOCK	2
4	02592	NUT, .375NC NYLON LOCK	8
5	02759	U-BOLT .375-16	4
6	03729	.625NC X 8.00 GRF HEX HEAD BOLT	2
7	12352	CARE FREE TIRE	2
-	13621	REPLACEMENT BEARING	-
8	12369	3000PSI LIQUID FILLED HYD GAUGE	1
9	12892-30	WHEEL FORK	2
10	12893-30	ADJUSTABLE MOUNT	2
11	15760	HYD GLIDE SYSTEM KIT	1
A	16646	REPLACEMENT COIL	3
B	16648	REPLACEMENT VALVE CARTRIDGE	2
C	16649	REPLACEMENT VALVE CARTRIDGE	1
12	15761	GLIDE CONTROL BOX	1
13	15762	WIRE HARNESS F/ GLIDE SYSTEM (NOT SHOWN)	1
Please order replacement parts by PART NO., DESCRIPTION, and COLOR			

NOTE: INSTALL ON MIDDLE WING AS SHOWN

1. Fold Boom out, leave hydraulics on.
2. Turn on Glide System with switch on the Control Box. (Light will come on)
3. Turn dial clockwise until wings raise.
4. Turn dial counter clockwise until wings drop slowly.
5. System is now ready.
6. To set wing height, adjust wheels on boom.
7. For more wheel pressure, turn dial counter clockwise.
8. Turn off Glide System before folding Boom.
9. Wing lift operations can be done with system on, wings will automatically drop.



BOOM OPERATING INSTRUCTIONS

Initial Operation:



WARNING: To avoid personal injury or property damage, observe the following instructions. Do not attempt to operate the boom until the hydraulic lines and cylinders are completely charged with hydraulic fluid. Failure to do so may cause erratic and unpredictable boom operation that may cause personal injury and physical damage to the boom.

Note: Do not select more than one switch at a time.
Note: Tractor hydraulic flow control lever should be reduced to 25% for initial start up. Increased oil flow may be required on certain model tractors.

(See tractor manual for location and procedure)



WARNING: To avoid personal injury or property damage, observe the following instructions. Make sure whenever operating the boom that there is no one in the line of unfolding and that there are no electric lines or tree branches that will come in contact with the boom during folding or unfolding.

Unfolding the boom :

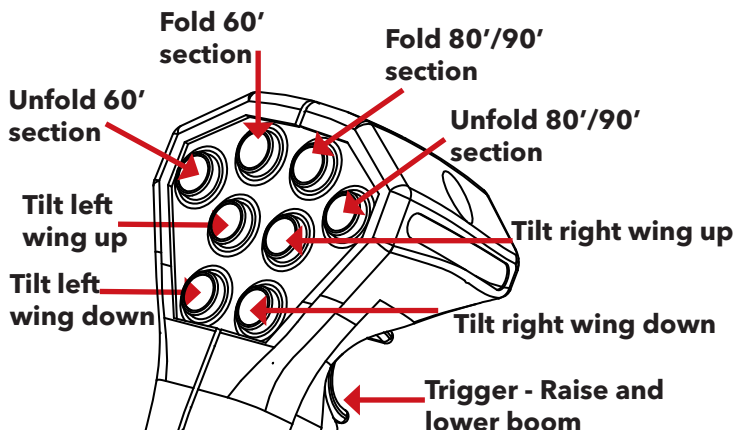
When doing this the first time it would be advisable to have another person standing safely behind the sprayer to ensure that none of the hoses or cables are interfering with the boom operation and that the boom is correctly unfolding.

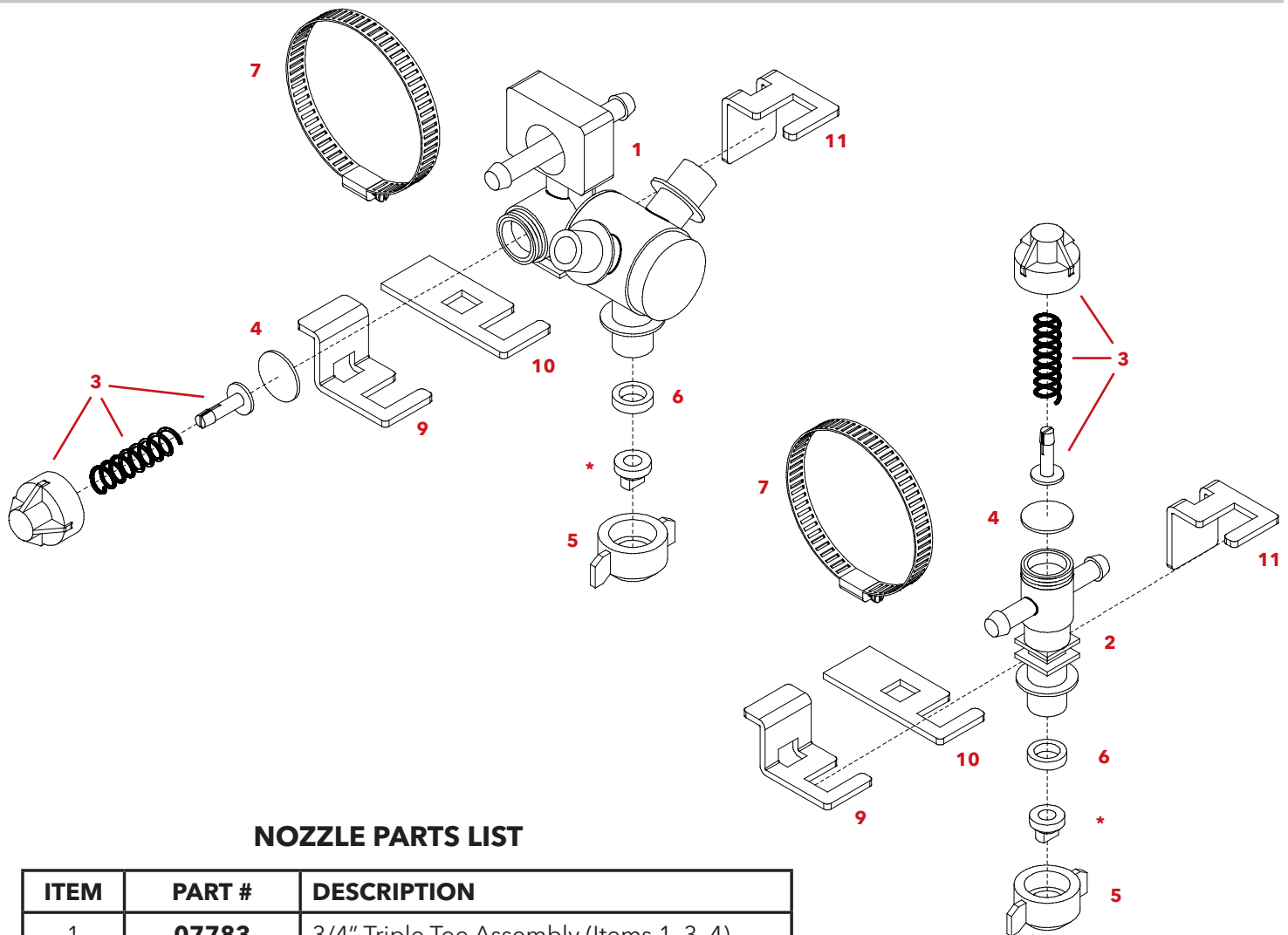
1. Lock hydraulic lever in tractor to the ON position.
2. Raise boom to full height using Trigger switch.
3. Unfold boom completely using 60' section switch.
4. Lower wings using 80'/90' section switch.
5. Set desired height using Trigger switch.

After the boom has been unfolded the first time, stop and take a moment to make sure all hose are routed correctly and that there are no interference problems.

Folding the boom:

1. Lock hydraulic lever in tractor to the on position.
2. Raise boom to full height using Trigger switch.
3. Fully raise wings using 80'/90' section switch.
4. Fold boom completely using 60' section switch.
5. Lower boom onto Boom Rest using Trigger switch.





NOZZLE PARTS LIST

ITEM	PART #	DESCRIPTION
1	07783	3/4" Triple Tee Assembly (Items 1, 3, 4)
-	07782	3/4" Triple Elbow Assembly (Items 1, 3, 4)
2	09147	3/4" Single Elbow Assembly (Items 2-4)
-	09148	3/4" Single Tee Assembly (Items 2-4)
3	21950 10PP	Spring Retainer Cap Assembly
4	21953VI	Diaphragm (viton)
5	07787	Red Flat Fan Cap w/ gasket
-	07788	Blue Flat Fan Cap w/ gasket
-	07789	Brown Flat Fan Cap w/ gasket
-	07790	Green Flat Fan Cap w/ gasket
6	19438EPR	Gasket (EPDM)
*	-	Tip (specify tip size) (not included)
7	B64H	Stainless Steel Gear Clamp
8	07786	1-1/2" Square Clamp Assy (center section)
9	13605-95	Top Tip Bracket (inner wings)
10	13607-95	Top Tip Bracket (outer breakaway)
11	13606-95	Lower Tip Bracket (boom wings)

NOTE: To avoid wind drift, use lower pressure and higher spray volume.

Guidelines For Sprayer Calibration

Calibrating the Sprayer

1. Mark off 660 feet (1/8 mile).
2. Fill the tank with water.
3. Set the sprayer to your desired operating pressure.
4. Turn the sprayer on and drive at the constant speed you will be spraying. Calibration on a road or unplowed field will give different results than on soft cultivated ground. Note tachometer reading so same speed can be maintained later.
5. Measure the amount of water it takes to refill the tank completely.
6. Calculate the amount applied:

$$\frac{\text{Number of gallons used} \times 66 \text{ (factor)}}{\text{Spray Swath in Feet}} = \text{Gallons applied per acre}$$

Example: If 10 gallons are used in 660 feet and the spray swath is 40 feet, spraying rate is 16.5 gallons per acre.

$$\frac{10 \times 66}{40} = \frac{660}{40} = 16.5 \text{ or } 16.5 \text{ gallons per acre}$$

7. To calculate the amount of chemical to put in the tank: $\frac{\text{Sprayer Tank Size}}{\text{Desired GPA}} = \text{Acres Covered}$ then;

$$\text{Recommended amount of chemical per acre} \times \frac{\text{Acres Covered}}{\text{Amount of chemical per tankful}} = \text{Amount of chemical per tankful}$$

Example: If a 500 gallon tank is used and 16.5 gallons per acre are applied, one tank will cover 30.3 acres. If three pounds of chemical are required per acre, then 90 pounds of chemical are required per tankful.

$$\frac{500}{16.5} = 30.3 \text{ acres covered then;}$$

$$3 \text{ lbs. (gal.)} \times 30.3 = 90 \text{ lbs. (gal.) per tankful}$$

$$10 \text{ mph} \quad .50$$

Sprayer Tips

FLAT SPRAY NOZZLE for Broadcast Spraying

Nozzle No.	Liquid Pressure in PSI	Nozzle Capacity in GPM	Gallons Per Acre Based on 20" Nozzle Spacing			
			4 MPH	5 MPH	7.5 MPH	10 MPH
XR8001VS	20	.07	5.3	4.3	2.8	2.2
	25	.08	5.9	4.7	3.1	2.4
	30	.09	6.4	5.1	3.4	2.6
	40	.10	7.4	6.0	4.0	3.0
XR80015VS	20	.11	7.8	6.3	4.3	3.2
	25	.12	8.8	7.1	4.7	3.6
	30	.13	9.7	7.7	5.2	3.9
	40	.15	11.1	8.9	6.0	4.5
XR8002VS	20	.14	10.5	8.4	5.6	4.2
	25	.16	11.8	9.4	6.3	4.7
	30	.17	12.9	10.3	6.9	5.2
	40	.20	14.8	11.8	7.9	5.9
XR8003VS	20	.21	15.7	12.6	8.4	6.3
	25	.24	17.6	14.1	9.4	7.1
	30	.26	19.0	15.4	10.3	7.7
	40	.30	22.0	17.8	11.8	8.9
XR8004VS	20	.28	21.0	16.8	11.2	8.4
	25	.32	24.0	18.7	12.5	9.4
	30	.35	26.0	21.0	13.7	10.3
	40	.40	30.0	24.0	15.8	11.9
XR8005VS	20	.35	26.0	21.0	14.0	10.5
	25	.40	29.0	23.0	15.7	11.7
	30	.43	32.0	26.0	17.2	12.9
	40	.50	37.0	30.0	19.8	14.9
XR8006VS	20	.42	31.0	25.0	16.9	12.6
	25	.47	35.0	28.0	18.7	14.1
	30	.52	39.0	31.0	21.0	15.5
	40	.60	45.0	36.0	24.0	17.8
XR8008VS	20	.56	42.0	34.0	22.0	17.0
	25	.63	47.0	37.0	25.0	19.0
	30	.69	52.0	41.0	27.0	21.0
	40	.80	59.0	48.0	32.0	24.0
8010SS	20	.70	53.0	42.0	28.0	21.0
	25	.78	59.0	47.0	31.0	24.0
	30	.86	64.0	51.0	34.0	26.0
	40	1.00	74.0	59.0	40.0	30.0

To determine GPA for solutions other than water, determine the weight per gallon or specific gravity and use the following conversion table.

Weight per Gallon	Specific Gravity	Multiply By
7.0 lbs.	.84	1.09
8.0 lbs.	.96	1.02
8.34 lbs. (water)	1.00	1.00
9.0 lbs.	1.08	.96
10.0 lbs.	1.20	.91
11.0 lbs.	1.32	.87
12.0 lbs.	1.44	.83



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