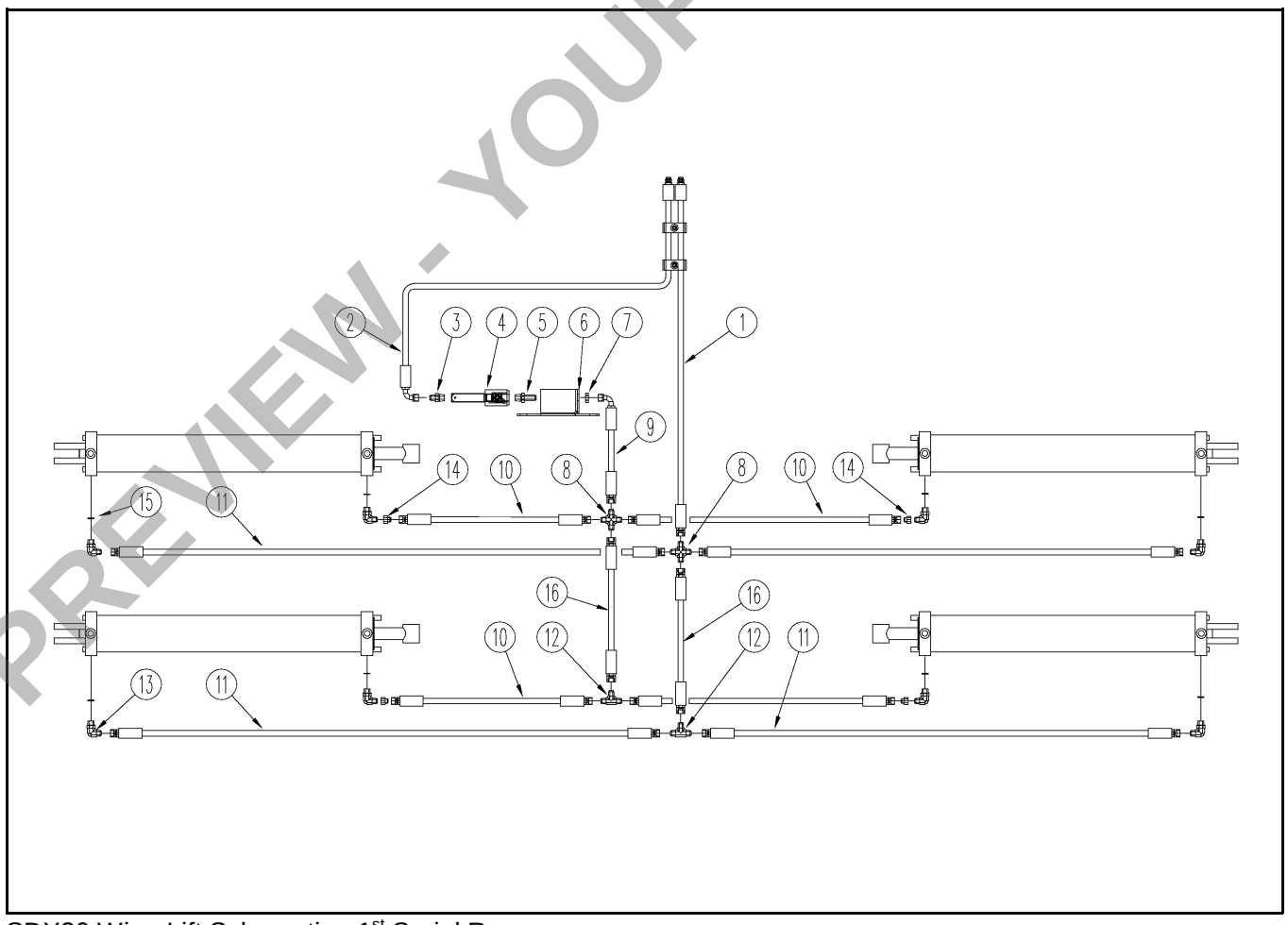
WING LIFT HYDRAULIC SCHEMATICS

SDX30 WING LIFT HYDRAULICS, 1st SERIAL RANGE - up to Serial Number CKB0028188

REF	DESCRIPTION	REF	DESCRIPTION
	CYLINDER ASSY. HYD 4.00 X 30.0 IOWA	9	HOSE ASSY. HYD .375 X 26 FL
1	HOSE ASSY. HYD .375 X 215 FL	10	HOSE ASSY. HYD .375 X 126 FL
2	HOSE ASSY. HYD .375 X 200 FL	11	HOSE ASSY. HYD .375 X 144 FL
3	ADAPTER TMK#2404-8-8	12	TEE FIT STL .5MJ
4	VALVE /A BALL	13	FITTING STL 90DEG .5MB .5MJ
5	FITTING STL .5MP .5MJ BULKHD YZD	14	FITTING STL .5MJ .5FJ RESTRICTOR
6	BRACKET VALVE MOUNT PNT	15	O-RING 1/2 OD TUBE CLASS 6
7	NUT LOCK BULKHEAD .75-16 YZD	16	HOSE ASSY. HYD .375 X 90 FL
8	CROSS FIT STL .5MJ		

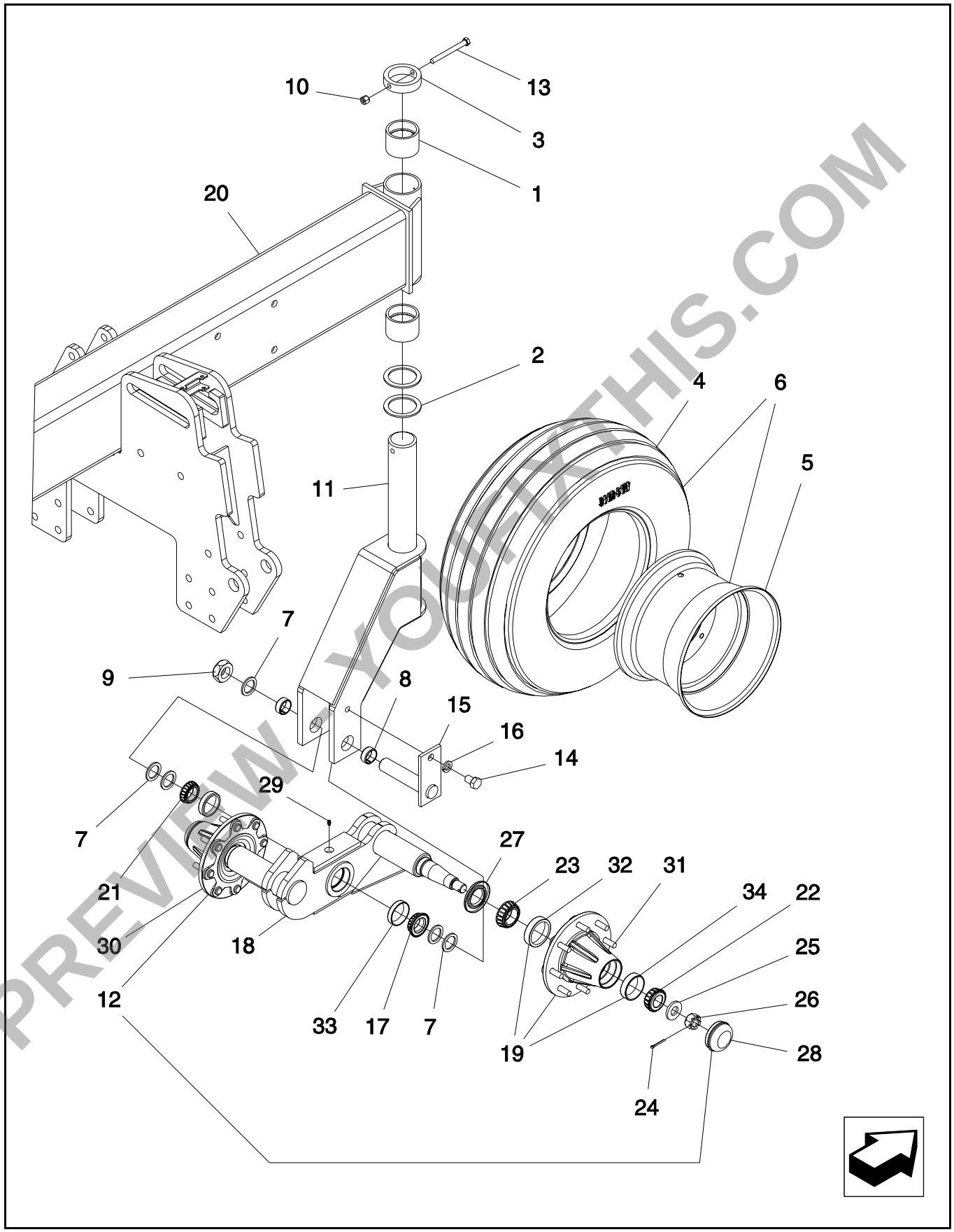
SDX30 Wing Lift Hydraulics



SDX30 Wing Lift Schematic - 1st Serial Range

MA99N062

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Caster Assembly

201092C

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	GRADE 2*				GRADE 5, 5.1, OR 5.2				GRADE 8 OR 8.2				L9 (ALLOY)			
	Dry **		Lubricated**		Dry **		Lubricated**		Dry **		Lubricated**		Head		Nut	
SIZE	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft	N·m	lbf·ft
1/4 UNF	7.5	5.5	5.7	4.2	10.8	8	8.5	6.3	16.3	12	12.2	9	13.6	10	14.9	11
1/4 UNC	8.5	6.3	6.4	4.7	13.6	10	9.8	7.2	19	14	13.6	10	16.3	12	17.6	13
5/16 UNF	15	11	11	8	23	17	18	13	33	24	24	18	26	19	28	21
5/16 UNC	16	12	12	9	26	19	19	14	37	27	27	20	27	20	31	23
3/8 UNF	27	20	20	15	41	30	31	23	61	45	47	35	41	30	45	33
3/8 UNC	31	23	23	17	47	35	34	25	68	50	47	35	47	35	52	38
7/16 UNF	43	32	33	24	68	50	47	35	95	70	68	50	75	55	81	60
7/16 UNC	49	36	37	27	75	55	54	40	108	80	81	60	81	60	88	65
1/2 UNF	68	50	47	35	102	75	75	55	149	110	108	80	115	85	129	95
1/2 UNC	75	55	54	40	115	85	88	65	163	120	122	90	129	95	142	105
9/16 UNF	95	70	75	55	149	110	108	80	203	150	149	110	163	120	190	140
9/16 UNC	108	80	81	60	163	120	122	90	231	170	176	130	183	135	203	150
5/8 UNF	136	100	102	75	203	150	149	110	285	210	217	160	231	170	251	185
5/8 UNC	149	110	115	85	231	170	176	130	325	240	244	180	258	190	278	205
3/4 UNF	237	175	176	130	353	260	271	200	515	380	380	280	359	265	393	290
3/4 UNC	271	200	190	140	407	300	298	220	570	420	420	310	447	330	481	355
7/8 UNF	231	170	170	125	583	430	434	320	814	600	610	450	644	475	685	505
7/8 UNC	244	180	190	140	637	470	475	350	909	670	678	500	705	520	793	585
1 UNF	339	250	258	190	868	640	651	480	1234	910	922	680	746	550	1051	775
1 UNC	380	280	285	210	976	720	732	540	1383	1020	1031	760	949	700	1220	900
1-1/8 UNF	475	350	366	270	1071	790	800	590	1749	1290	1315	970	1390	1025	1559	1150
1-1/8 UNC	542	400	407	300	1207	890	909	670	1953	1440	1464	1080	1559	1150	1797	1325
1-1/4 UNF	678	500	515	380	1519	1120	1139	840	2468	1820	1844	1360	1898	1400	2170	1600
1-1/4 UNC	746	550	570	420	1681	1240	1261	930	2726	2010	2048	1510	2170	1600	2373	1750
1-1/2 UNF	1180	870	881	650	2644	1950	1980	1460	4285	3160	3214	2370	3932	2900	4407	3250
1-1/2 UNC	1329	980	990	730	2983	2200	2224	1640	4827	3560	3621	2670	4475	3300	4949	3650

Bolt Torque Information

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade bolts.

** *'Lubricated' means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. 'Dry' means plain or zinc plated without any lubrication.*

* *Grade 2 applies for hex caps (not hex bolts) up to 152 mm (6") long. Grade 1 applies for hex cap screws over 152 mm (6") long, and for all other types of bolts and screws of any length.*

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HYDRAULICS

DANGER! After hydraulic repair or maintenance, bleed the air from the hydraulic system. Air in the system could cause a loss in pressure. This loss in pressure could cause the wings to fall unexpectedly causing death or serious injury. Stand clear of the machine when the hydraulic cylinders are being extended and retracted.

CAUTION! ESCAPING HYDRAULIC FLUID IS A SERIOUS HAZARD. Escaping hydraulic fluid that is under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting the hydraulic lines. Do not over-tighten swivel connections. Check/tighten all connections BEFORE activating hydraulics.

IMPORTANT: Use a thread sealant on male to female pipe thread connections only. Do not use a thread sealant on O.R.B. or swivel connections.

HYDRAULIC CYLINDER SEAL REPLACEMENT

REMOVE CYLINDER FROM DRILL

IMPORTANT: The procedure shown is for the wing lift cylinders on the drill. Subbar cylinder repair is similar. Refer to the subbar cylinder diagrams for location of seals etc. Note that the subbar cylinders do not have tie rods.

1. Make sure the implement is fully lowered into field position and the openers are resting on the ground. Stop the tractor engine and move the tractor hydraulic remote lever back and forth several times to relieve pressure in the system.

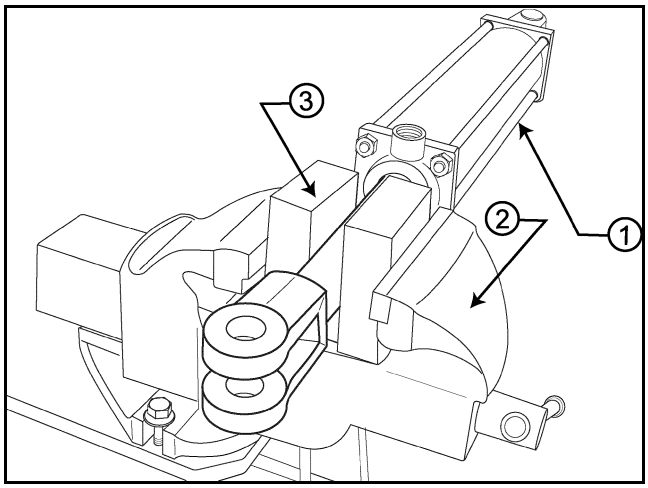
2. Clean the areas on and around the cylinder, near the fittings that attach the lines or hoses to the cylinder.

3. Remove all fittings and drain the oil from the cylinder. Loosen the lines slowly to allow the release of any residual pressure. Plug the hoses and fittings.

4. Remove the cylinder from the drill.

5. Remove all fittings and drain the oil from the cylinder.

6. Block the cylinder (1) in a vise (2) using wooden blocks (3) or other material to protect the cylinder rod from damage.



Cylinder in Vise 202035M1

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TROUBLESHOOTING TABLES

PROBLEM	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Excessive seed bounce in furrow.	1. Worn seed retention tab.	1. Replace tab.
Seeds sitting on the surface.	1. Inadequate disk penetration. 2. Broken/worn seed retaining tab. 3. Worn scraper. 4. Worn disk.	1. Increase disk penetration adjustment. 2. Replace tab. 3. Replace scraper. 4. Replace disk.
Poor or uneven seeding depth.	1. High residue amounts. 2. Inadequate disk penetration. 3. Worn scrapers. 4. Inconsistent opener adjustments. 5. Furrow not closing properly. 6. Mud buildup on gauge wheel. 7. Broken/worn seed retaining tab. 8. Worn disk. 9. Seed tab worn or broken.	1. Harrow residue to ensure even distribution. 2. Increase disk opener down pressure. 3. Replace scrapers. 4. Ensure consistent opener adjustments. 5. Increase packing pressure. and/or move side-to-side position of packer wheel. 6. Wait for soil conditions to dry. 7. Increase disk penetration adjustment. 8. Replace disk. 9. Replace tab.
Plugging of seed tubes.	1. Poor seed cleaning prior to use. 2. Wet fertilizer. 3. Backing up drill in the field. 4. Seed stuck in openers. 5. Seed build-up in openers. 6. Wet field conditions.	1. Use clean seed. 2. Use dry, high quality fertilizer. 3. Raise openers prior to backing up. 4. Ensure openers are clean for storage. 5. Ensure proper air flow rates from air system. 6. Wait for soil conditions to dry.

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SDX30/SDX40
Single Disk No-Till Air Drill
SERVICE MANUAL

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SAFETY

SAFETY-ALERT SYMBOL



This symbol is used to denote possible danger and care should be taken to prevent bodily injury. This symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

THIS SYMBOL APPEARS WITH TEXT READING "DANGER!", "CAUTION!", OR "WARNING!" THESE WORDS INDICATE THREE LEVELS OF POSSIBLE HAZARDS, THAT ARE DESCRIBED BELOW.

THREE WORDS USED IN CONJUNCTION WITH THE SAFETY-ALERT SYMBOL:

DANGER!



Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

WARNING!



Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.

CAUTION!



Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. The color associated with Caution is YELLOW.

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WELDING PROCEDURES

CAUTION!



Always follow all necessary safety procedures when welding.

Remove all flammable and explosive materials from the area around the welding location and shield flammable material that cannot be removed for the immediate area.

Always have a fire guard and a fire extinguisher readily available.

Grind or sand the paint off of the area to be welded before welding. Avoid inhaling potentially hazardous fumes or dust when grinding and welding. If a chemical was used to remove the paint clean the surface throughly and let any fumes disperse before welding.

Work in a well ventilated area.

MODIFICATIONS TO THE IMPLEMENT

DANGER!



Unauthorized modifications are not recommended by the manufacturer. Changes to the design of the machine may impair the operation of the implement that could cause death or serious injury.

FRAME REPAIR

DANGER!



Use caution when repairing any part of the machine. A repair that is insufficient may fail, causing increased damage to the implement or tractor, and possibly cause death or serious injury to the operator.

WELDING REPAIR TIPS

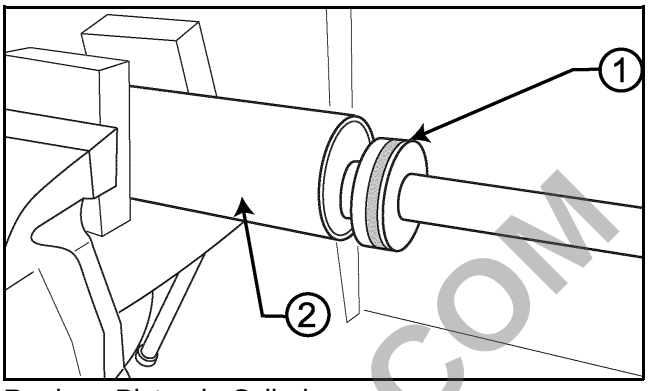
Misuse of the machine or extreme exertion on the frame can cause cracks to occur. When repairing a frame crack, realign the parts affected. In some cases the areas may need to be heated. Avoid excessively heating and then rapidly cooling the area; this will change the characteristics of the metal.

If there is a crack in the tubing it is suggested to drill a hole at the end of the crack. The hole diameter should be the same size as the thickness of the material.

If the damage occurs at a point where three sections of tubing are welded together, use a gusset to strengthen the area.

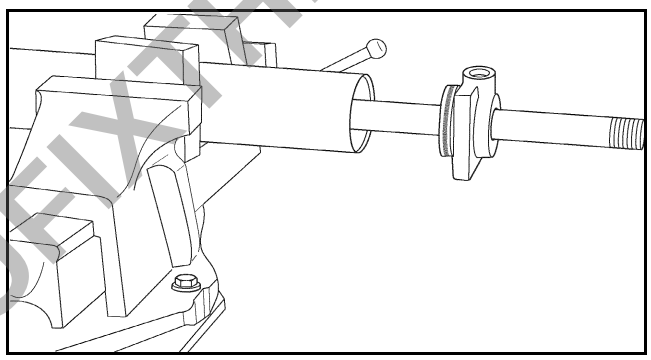
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17. Replace the piston (1) into the cylinder barrel (2). Piston inserted into the cylinder barrel (below).

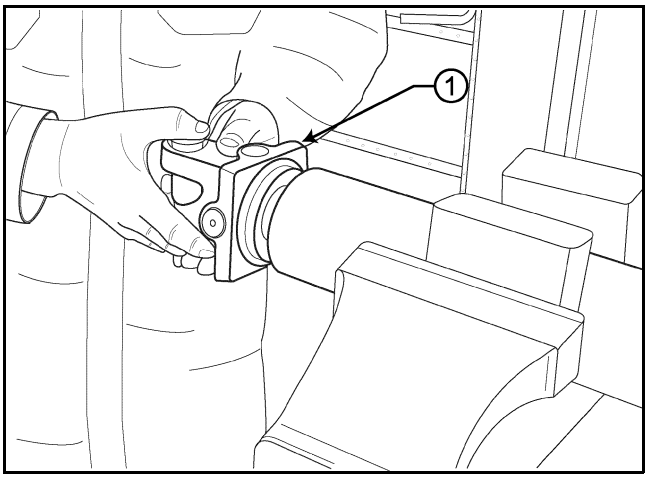


Replace Piston in Cylinder 202044M1

18. Inserting piston rod cap assembly into the cylinder.


Replace End Cap 202043M1

19. Replace clevis cap and rod cap (1) back onto the cylinder. Rotate caps and align fluid connection ports.



Replace Clevis and Rod Cap 202042M1

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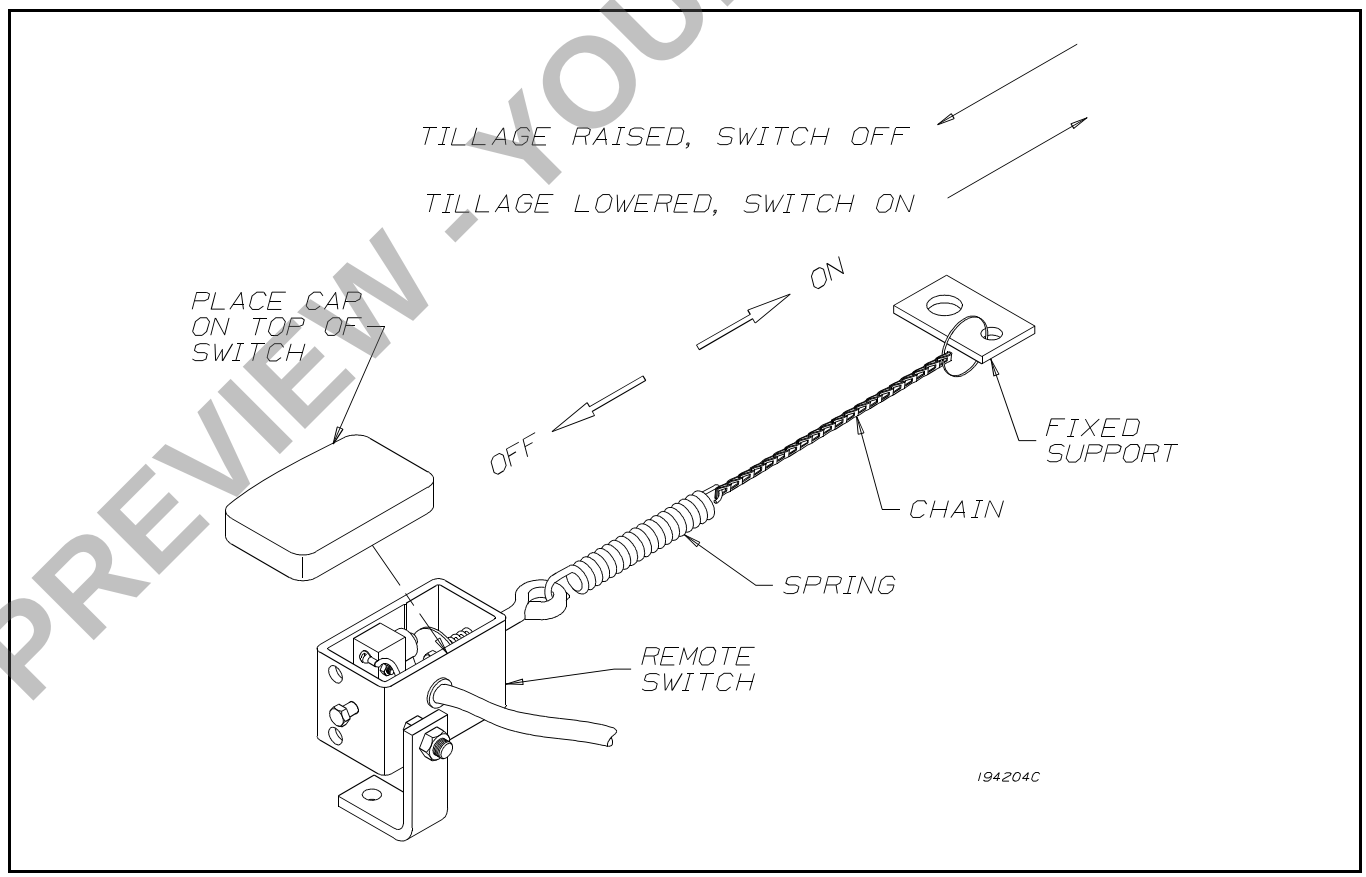
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REMOTE SWITCH ADJUSTMENTS

- Lower the seeding tool until the ground openers are resting on the ground.
- Position the switch so that it is aligned with the fixed support and tighten in place.
- Adjust the length of chain between the switch and the fixed support so that the switch is pulled by the chain just enough to cause switching to occur.
- Press the black polyurethane cap onto the **top** of the switch housing to prevent debris from entering.
- Operate the seeding tool to check that the switch functions properly.

NOTE: Adjust the length of the chain so that:
- the switch closes as the seeding tool is lowered into working position.
- the switch opens as the seeding tool is raised out of working position.

NOTE: The spring mounted to the fixed support must be in place to allow for over-extension as the seeding tool is lowered further into the ground.



Operating Positions of the Remote Switch

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