

STRIP-TILL EQUIPMENT

ASSEMBLY, OPERATOR AND PARTS MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

TABLE OF CONTENTS

INTRODUCTION	1
SAFETY SUGGESTIONS	2
SPECIFICATIONS & LUBRICATION.....	3
PREPARING FOR FIELD USE	4-6
OPERATION PROCEDURES AND ADJUSTMENT	7-9
Adjustment Photo	7
Depth Control	7
Gauge Wheel.....	8
Air Compressor Operation	9
PARTS BREAKDOWN.....	10-18
AIR COMPRESSOR WIRING DIAGRAM.....	19
AIR COMPRESSOR OWNERS MANUAL	20-24
ASSEMBLY	25-26
Assembly To Toolbar.....	25
Adjustable Row Cleaner Assembly	xx
Air Compressor	26
HarrowAttachment.....	xx
Liquid Fertilizer Assembly Instructions	xx
Trailer Hitch.....	16-17
WARRANTY	27

INTRODUCTION

Congratulations on your purchase of a new ZoneMaster Strip-Till unit.

This manual is provided as set-up and assembly instructions, and as an aid to the operator in explaining settings and adjustments for all soil, residue and functional applications. It also includes replacement parts breakdown. Careful application of the recommended procedures contained in this manual will assure you of many years of dependable, efficient operation.

“Right hand” and “left hand” sides of your unit are determined by facing the direction that the unit travels while in use.

Always obtain original Vulcan service parts because substitute parts could adversely affect equipment performance and warranty.

Record the following information for later reference when obtaining service parts:

Purchase Date_____

Purchaser's Name_____

Dealer's Name_____

Machine Serial No._____

3-Point Mounted Strip-Till Toolbar

The serial number tag is located on the left front of the toolbar.



Individual Row Units

The serial number tag is located on the left side of the row unit main frame.



SAFETY SUGGESTIONS



WARNING: Your safety and the safety of those around you depend upon your using care and good judgement in the operation of this equipment. Know the positions and functions of all controls before attempting to operate.

All equipment has limitations. Understand the speed, braking, steering, stability, and load characteristics of the machine before starting to operate. Read your OPERATOR'S MANUAL!

The following are general safety comments that apply to all equipment. Review them often as safety reminders.

- Don't be in a hurry.
- Check all controls and operating functions of the machine in a safe area before starting to work.
- Never allow anyone around machinery when you are performing operating functions.
- When service demands working on, under, or around, tillage implement, proper precautions should be taken to stabilize or secure implement. (Lowering stands, blocking of implement, etc.)
- When transporting the machine, ensure all warning devices, such as, SMV sign and reflective devices are in place, clean, and clearly visible.
- Watch where you are going. Note all hazards and obstructions such as ditches, overhead electrical wires, narrow gates, etc. when transporting and/or operating the machine. Refer to page 3 of this manual for transport height and width specifications.
- Never unhook from folding model with the wing section in the up transport position. Lower wings to ground first then un-hook.
- Never ride or permit others to ride on tractor drawbar or on machine; nor allow anyone other than yourself on the tractor while in operation.
- Reduce tractor speed when transporting over uneven or rough terrain.
- When transporting down steep hills or slopes, shift tractor into lower gear.
- Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Before connecting lines, be sure to relieve all pressures in the system by moving hydraulic control levers in both directions before attaching couplers.
- Before disconnecting lines, be sure to relieve all pressures to the system.
- Be sure all connections are tight and that lines, pipes, and hoses are not damaged or worn.
- A very small leak from a hydraulic line, pipe, hose, or fitting can be almost invisible. Use a piece of cardboard or wood when checking for suspected leaks rather than your hands.
- If injury is received from escaping fluid, see a doctor at once, as serious reaction or infection can result if proper medical treatment is not received immediately.
- Never operate wing lift cylinders on folding toolbar models without (4) re-stricter fittings, one at each end of lift cylinder.

SPECIFICATIONS

Toolbar Type	Number Of Rows	Row Spacing	Transport Width	Transport Height	Tank Type Capacity	Approximate Weight Includes Row Units
3-Point Mounted Strip-Till Toolbar Only						
6 Row Rigid	6	30 In.	15 Ft. 0 In.	N/A	None	2230 Lbs.
8 Row Rigid	8	30 In.	20 Ft. 0 In.	N/A	None	2700 Lbs.
12 Row Fold	12	30 In.	18 Ft. 0 In.	10 Ft. 0 In.	None	5130 Lbs.
16 Row Fold	16	30 In.	23 Ft. 0 In.	13 Ft. 6 In.	None	6420 Lbs.
24 Row Fold	24	30 In.	0	0	None	11020 Lbs.

LUBRICATION



CAUTION: Never clean, lubricate, inspect, repair, or adjust your machine, nor allow anyone else to, while it is in operation.

Following are the fitting locations and hourly intervals requiring a high quality SAE multi-purpose grease.

Lubrication of moving parts and wear surfaces is essential to the extended service life of those parts. Inspect your machine frequently to ensure that all parts are working smoothly in addition to inspection and lubrication at required intervals as indicated.

The use of sealed ball bearings throughout the ZoneMaster limits the grease fittings requiring periodic lubrication.

100 HOURS

FOLDING TOOLBAR HINGE - No restriction of grease volume in two hinge fitting.

PREPARING FOR FIELD USE

RECOMMENDED TORQUE VALUES

The torque values given in Table 1 are valid for standard zinc coated and lubricated fasteners assembled in rigid joints.

A ± 20 percent tolerance is to be used when a single value torque is specified.

PREPARING STRIP-TILL

Prior to the operation of your new Strip-Till or one which has been stored, inspect all hardware and verify proper torque on all bolts and nuts in accordance with the recommended torque specifications.

TABLE 1 - RECOMMENDED TORQUE VALUES FOR INCH FASTENERS (ZINC PLATING & LUBRICATED)**						
Nominal Size	SAE 2 74 000 psi Min Tensile lb - ft		SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
1/4-20	6	4	8	6	12	9
1/4-28	6	5	10	7	14	10
5/16-18	11	8	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	30	24	50	35	70	55
7/16-20	35	25	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	170	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	195	145	300	220	420	320
7/8-9	165	125	430	320	600	460
7/8-14	185	140	470	350	660	500
1-8	250	190	640	480	900	680
1-12	270	200	700	500	1000	740
1 1/8-7	350	270	800	600	1280	960
1 1/8-12	400	300	880	660	1440	1080
1 1/4-7	500	380	1120	840	1820	1360
1 1/4-12	550	420	1240	920	2000	1500
1 3/8-6	660	490	1460	1100	2380	1780
1 3/8-12	740	560	1680	1260	2720	2040
1 1/2-6	870	650	1940	1460	3160	2360
1 1/2-12	980	730	2200	1640	3560	2660

** MACHINE DESIGN FASTENER AND JOINT REFERENCE ISSUE.



CAUTION: Loose bolts can cause elongation of holes and part failures resulting in dangerous operating conditions and equipment breakdown. Check all bolts and nuts periodically during equipment operation and keep them tightened to torques specified. When bolt replacement becomes necessary, replace worn bolt with equal SAE grade number bolts.

LOOK FOR SUPPLEMENTAL INFORMATION

Occasionally new or revised information will become available after the operator's manual is printed. To get this up-to-date information to you, supplements are prepared and supplied to the field in the operator's manual package.

Supplements are usually supplied in the form of instruction sheets.

Before your initial review of the operator's manual, look through the operator's manual package to see if any supplemental information has been provided. If you find any, review this information to determine which operating procedures have been changed by the supplement. Pay close attention to **"DANGER"**, **"WARNING"**, **"CAUTION"**, and **"IMPORTANT"** statements as they address your safety, the safety of others, and the safe operation of the machine.

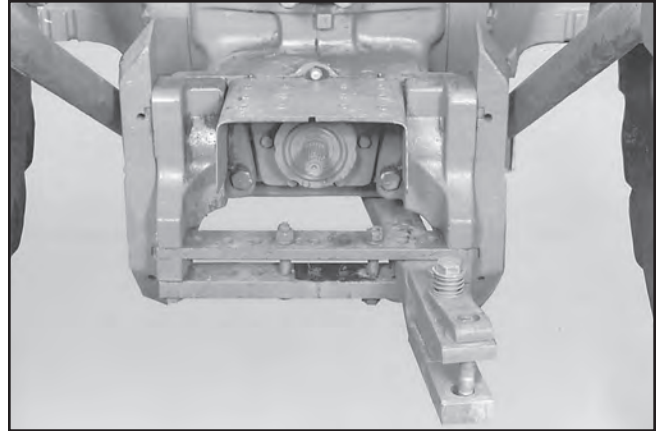
Operator's manuals are revised periodically, at which time the supplement is incorporated directly into the operator's manual, eliminating the need for the supplement.

TRACTOR PREPARATION 3-POINT MOUNTED STRIP-TILL

For complete tractor operating instructions and use of 3-point hitch implements, refer to your tractor operator's manual.

Place tractor on level surface and check tire inflation to ensure equal tire pressure. Lower draft arms to their lowest position and adjust lift links so that both draft arms are the same distance off the ground as measured from the draft arm sockets.

Reference tractor operator's manual for proper adjustment of draft arms and center link. If a quick hitch coupler is to be used, install it to the 3-point hitch at this time in accordance with the tractor operator's manual.



CAUTION: The tractor sway blocks should be positioned, as shown, to prevent too much sway whether the Unit is in working position or in transport position.

There should be 1/2 inch to 3/4 inch of spacing between the lower lift arms on the tractor and the sway blocks. This will allow the toolbar to follow contours, terraces, etc. Some model tractors use different methods to secure lift arms and must be set to allow equivalent movement.

HITCH PREPARATION 3-POINT MOUNTED STRIP-TILL

The toolbar hitch is designed to accommodate both Category II and Category III tractor hitches. It may also be used with a quick hitch.

NOTE: If the tractor will not lift the toolbar high enough for transport or turning, the hitch pins may have to be placed in a lower set of holes, and adjust tractors lower lift arms to the highest lift position.



CAUTION: After attaching 3-Point mounted unit to tractor, check front end stability. Tractor front end

stability is necessary for safe and efficient operation. Therefore, it is important that the proper amount of weight be installed on the front of the tractor, as recommended in your tractors operator's manual.

TRACTOR HYDRAULIC SETTINGS 3-POINT MOUNTED STRIP-TILL

Most modern tractors have a POSITION/DRAFT control which will lift the hitch as draft increases when in the draft mode. This setting could decrease penetration of the strip-till units, so be sure the POSITION setting is used.

TOOLBAR

See toolbar owner's manual for operation and adjustments

Important!

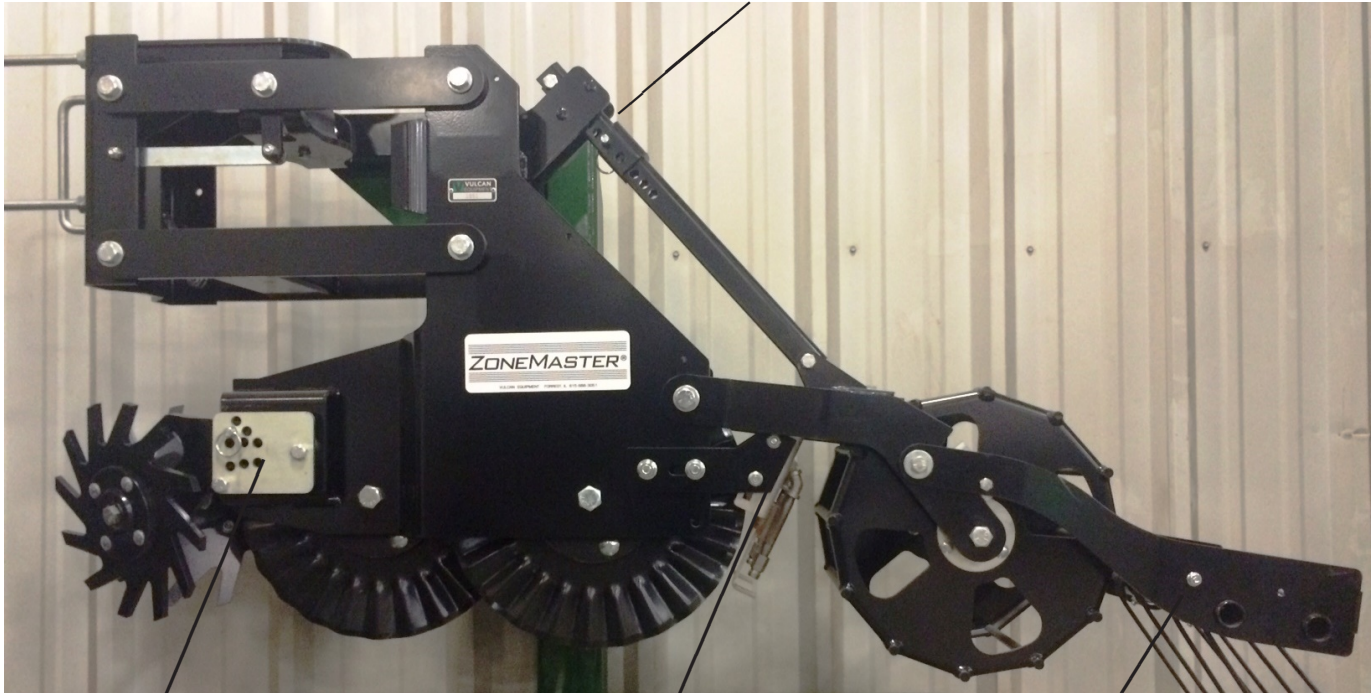
Toolbar should be operated at approximately 22" from ground surface to bottom of toolbar. On pull-type, use cylinder stops if necessary. Parallel links should be level during operation.

Row units **MUST** be level. Accomplish this by adjusting 3rd link on mounted implement or by adjusting hitch on pull type.

OPERATION PROCEDURES AND ADJUSTMENTS

ADJUSTMENT PHOTO

ROW UNIT DEPTH CONTROL



ROW CLEANER
HEIGHT ADJUSTMENT

INJECTOR NOZZLE
ADJUSTMENT

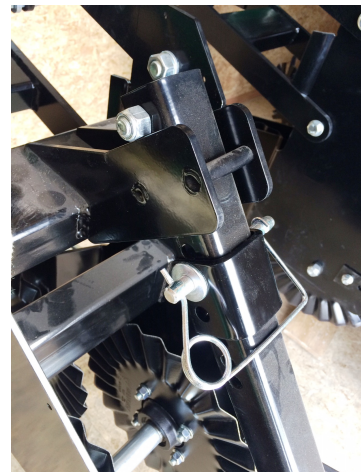
HARROW ADJUSTMENT

NOTE: REFERENCE ADJUSTMENT PHOTO FOR ALL OPERATION PROCEDURES AND ADJUSTMENTS.



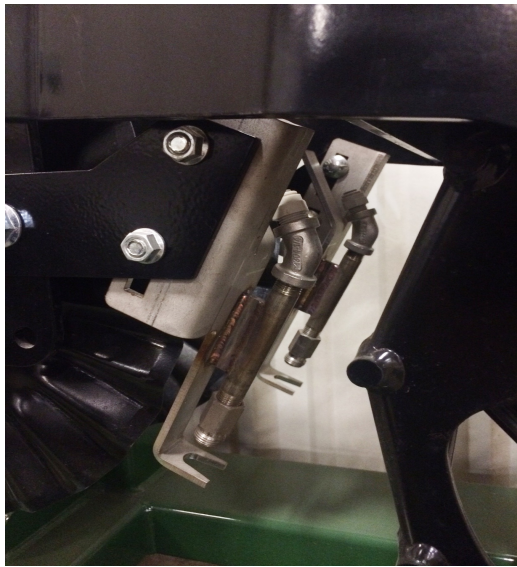
ROW CLEANER ADJUSTMENT

Remove adjustment pin and move trash wheels to desired position and replace pin.



ROW UNIT DEPTH ADJUSTMENT

With row unit in the raised position, pull the pin, move or rotate stop clamp to the desired position and replace pin.



OPTIONAL FERTILIZER INJECTORS

Loosen the bracket bolts to adjust the fertilizer brackets up, down, fore and aft.



TOOLBAR HEIGHT

The tool-bar height should be set to a height so that the parallel links are level or slightly higher on the front leaving the underside of tool-bar to ground line at a dimension of approximately 22 inches in field operation. Loosen top bolt and remove lower bolt. Place lower bolt in desired position and re-tighten both bolts. The tool-bar should be level by adjusting the tractor's top link or the hitch on a pull-type.



OPTIONAL HARROW ATTACHMENT

Loosen 5/16" carriage bolt and rotate harrow pipe to adjust harrow teeth angle. Re-tighten bolts.



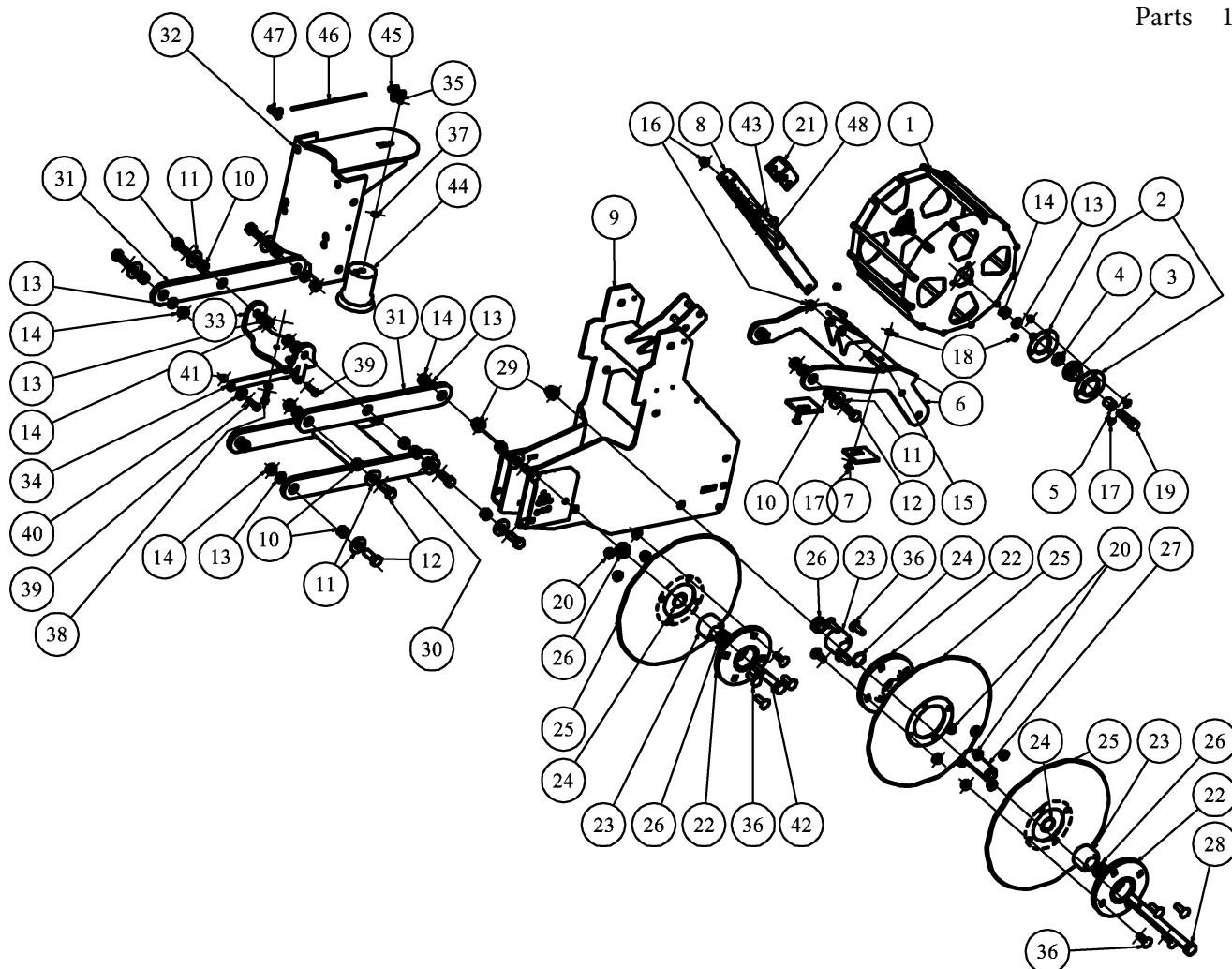
AIR COMPRESSOR OPERATION

Push the power switch to supply electrical power to the air compressor. NOTE: Most tractor electrical systems will not supply electrical power to the auxiliary terminal of the implement plug unless the ignition switch is in the on position.

Pull out on the pressure control knob to unlock and turn knob to increase or decrease to reach desired pressure. Push knob in to lock after pressure is set. The maximum system air pressure is 60 psi. and is controlled by a relief valve.

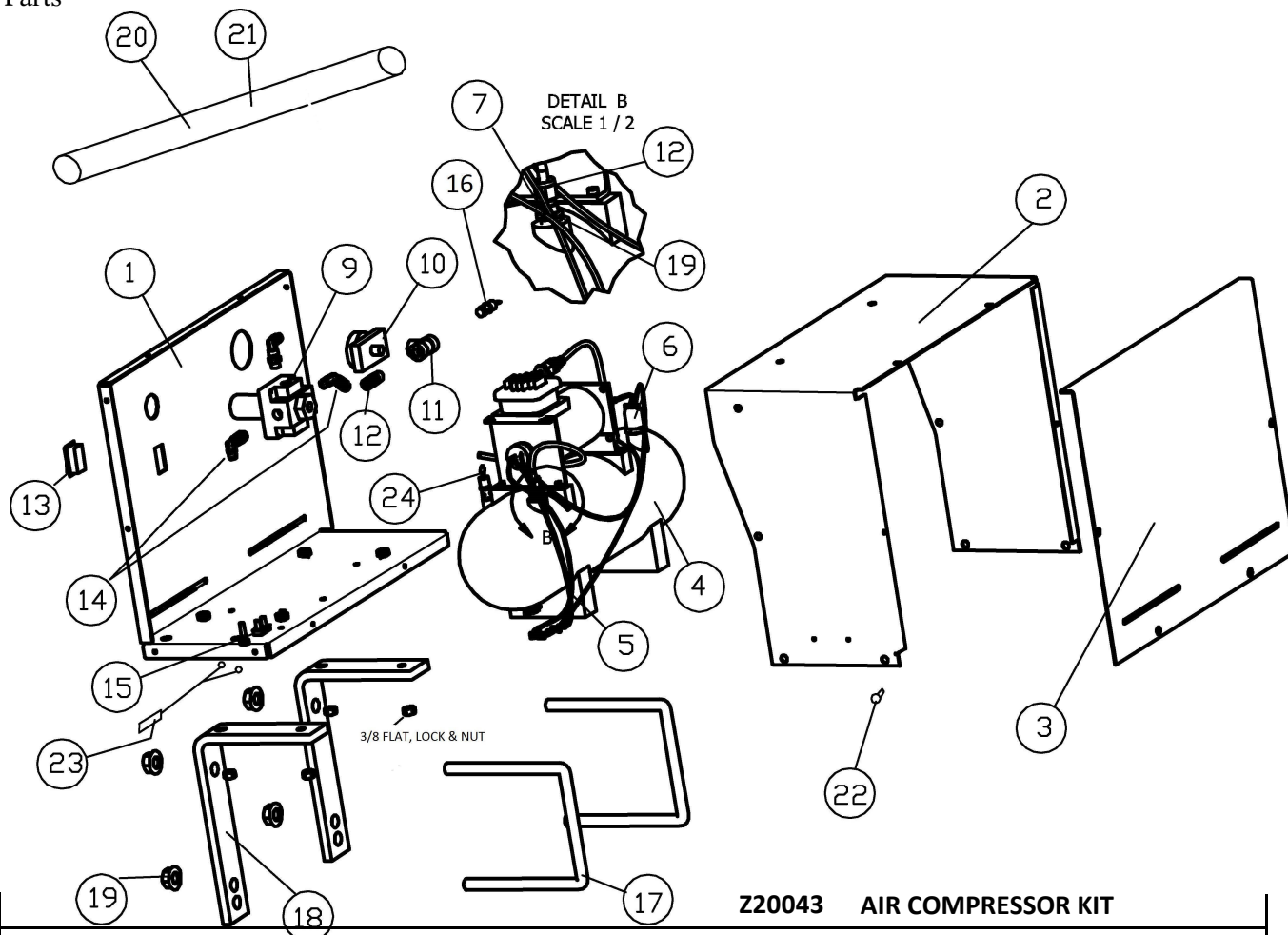
Setting air pressure higher than necessary can cause wing gauge wheels to ride up off the soil surface and can cause increased wear on row unit parallel linkage.

See air compressor manual page 20



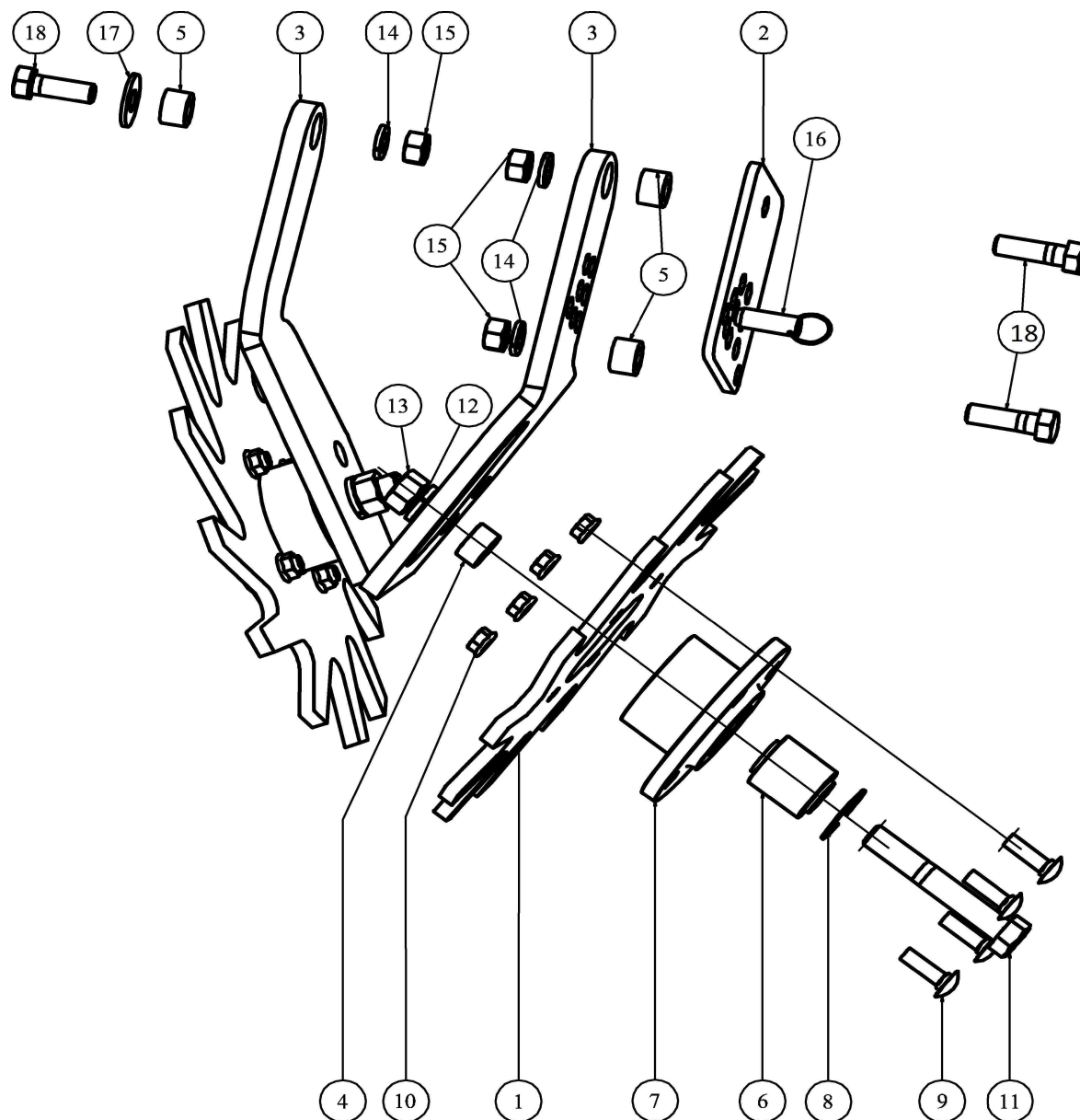
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Z20021-00	ROLLING BASKET
2	2*	FL52MS	3 HOLE ROUND 1" BEARING FLANGE
3	2	150-825	SB205-16 BEARING
4	2	Z20051-01	WASHER HD
5	2	Z20032-01	BUSHING, ROLLING BASKET BEARING
6	1	Z20023-00	FRAME, ROLLING BASKET
7	2	Z20038-01	SCRAPER
8	1	Z20007-01	CHANNEL, DEPTH ADJUSTMENT
9	1	Z20000-00	FRAME, ROW UNIT
10	12	Z20030-01	BUSHING
11	12	FLAT WASHER 5/8" SAE	5/8" FLAT WASHER SAE
12	12	BOLT 5/8-11X1 3/4"	5/8-11X1 3/4" BOLT
13	14	LOCK WASHER 5/8"	5/8" LOCK WASHER
14	14	HEX NUT 5/8"-11	5/8"-11 HEX NUT
15	1	BOLT 1/2-13X3 1/4"	1/2-13X3 1/4" BOLT
16	2	NYLOK 1/2"	1/2" NYLOCK
17	8	5/16-18X3/4" CARRIAGE BOLT	5/16-18X3/4" CARRIAGE BOLT
18	8	HEX 5/16"-18 FLANGE NUT	5/16"-18 HEX FLANGE NUT
19	2	BOLT 5/8-11X2 1/2"	5/8-11X2 1/2" BOLT
20	12	HEX NUT 1/2"-13 FLANGE LOCK	1/2"-13 LOCK, NON-SERATED FLANGE NUT
21	1	Z20013-01	STOP, DEPTH ADJUSTMENT
22	3	SH8641	COULTER HUB WITH BEARING

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
23	3	5206 KPP3	BEARING, HUB
24	3	SNAP RING	SNAP RING
25	3	M2516YW	COULTER BLADE, 25 WAVE 16"
26	4	Z20042-01	SPACER, HUB
27	1	Z20041-01	SPACER, HUB
28	1	BOLT 3/4-10X10.5"	3/4-10X10.5" BOLT
29	2	NYLOK 3/4"-10	3/4"-10 NYLOK
30	1	Z20002-00	PARALLEL LINK, LOWER
31	2	Z20005-01	PARALLEL LINK, UPPER
32	1	Z20001-00	MOUNT BRACKET
33	1	Z20015-01	AIRBAG BRACKET, LOWER
34	1	Z20049-01	LINK, AIRBAG
35	1	BOLT 3/8 X 1"	3/8 X 1" BOLT
36	12	1/2-13X1 1/2" CARRIAGE BOLT	1/2-13X1 1/2" CARRIAGE BOLT
37	2	LOCK WASHER 3/8"	3/8" LOCK WASHER
38	1	BOLT 3/8 X 1 1/4"	3/8 X 1 1/4" BOLT
39	2	BOLT 3/8 X 1 1/2"	3/8 X 1 1/2" BOLT
40	1	FLAT WASHER 3/8"	3/8" FLAT WASHER
41	2	NYLOK 3/8"	3/8" NYLOK
42	1	BOLT 3/4-10X4 1/2"	3/4-10X4 1/2" BOLT
43	1	BOLT 1/2-13X2 1/2"	1/2-13X2 1/2" BOLT
44	1	1S5-135	AIR SPRING, GOOD YEAR
45	1	MTL 1/4" - NO 1 FITTING	MTL 1/4" - NO 1 FITTING
46	1	Z20069-01	AIR HOSE 1/4 X 9 1/2"
47	1	MTE 1/4 - 1/4	TEE
48	1	SLP0811 Z	1/2 X 3



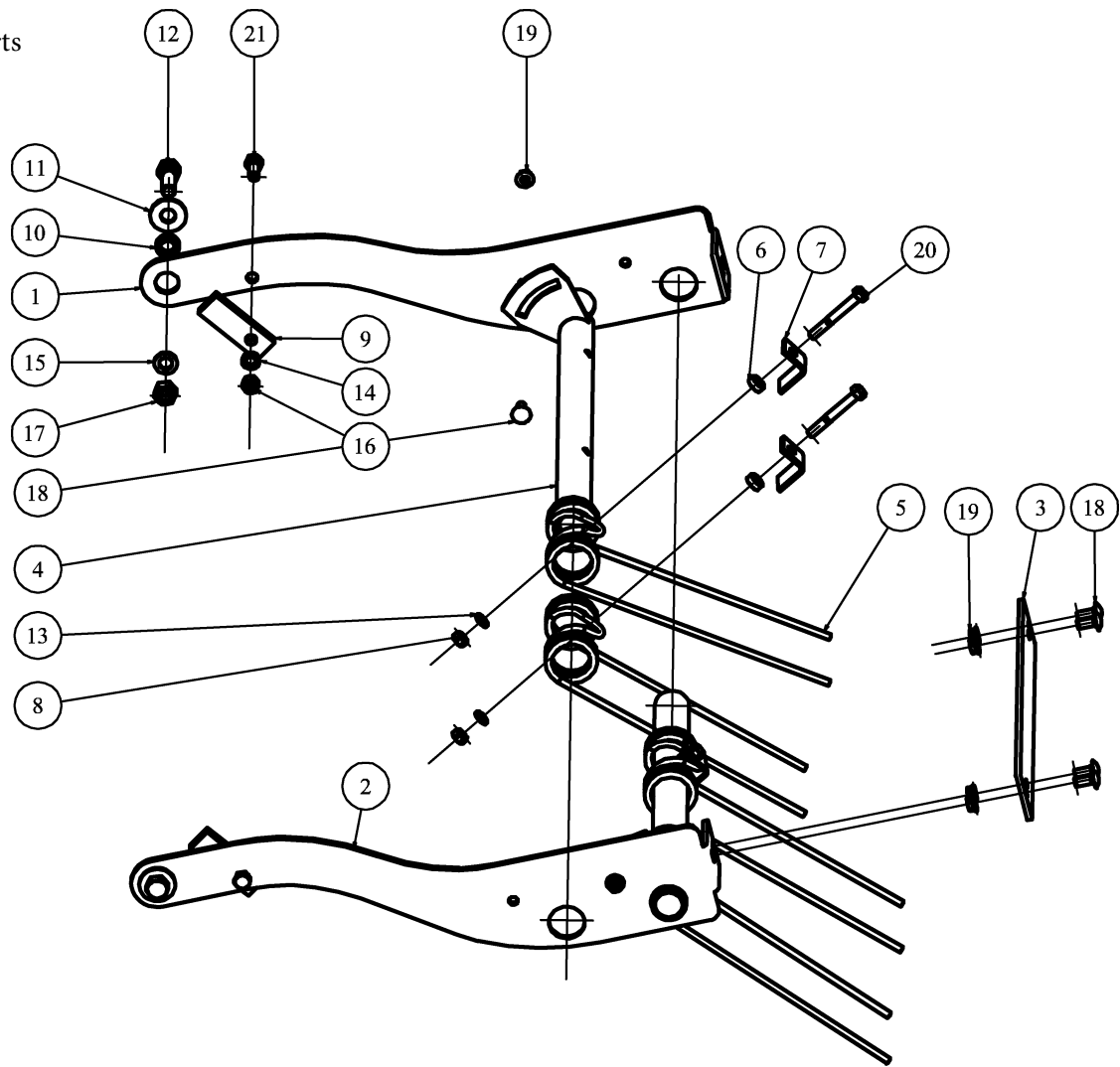
PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Z20043-01	FRONT COVER
2	1	Z20044-01	TOP COVER
3	1	Z20044-02	BACK COVER
4	1	20005	AIR COMPRESSOR, COMPLETE
5	1	Z20044-03	HARNESS
6	1	90102	PRESSURE SWITCH
7	1	110-DB	REDUCER
8	1		
9*	1	AR2000-NO2-60	AIR PRESSURE REGULATOR compressor ser# 1134 and prior
9*	1	AR20-NO2H-2-A	AIR PRESSURE REGULATOR compressor ser# 1134 and after
10	1	3846K9	AIR PRESSURE GAUGE, 0-60 PSI
11	1	101-B	BRASS T 1/4"
12	2	MTC1/4-N02	FITTING, 1/4"OD-1/4" NPT MALE
13	1	7700007	ROCKER SWITCH SPST
14	2	MTL1/4-N02	FITTING, L 1/4"OD-1/4" NPT MALE
15	1	72125	20 AMP CIRCUIT BREAKER
16	1	48435K72	RELIEF VALVE, 60 PSI
17	2	Z20058-01	U-BOLT FOR 7X7 TUBE
18	2	Z20045-01	MOUNTING BRACKET
19	4	HEX NUT 5/8-11 FLANGE	HEX NUT 5/8-11 FLANGE
20	2	Z20090-01	1/4" X 21" AIR TUBING REGULATOR TO T FITTING & TANK
21	1	Z20092-01	1/4" X 40" AIR TUBING REGULATOR TO T IMPLEMENT
22	16	SCREW, 1/4"X1/2"	COVER ATTACHING BOLTS
23	1	Z20070-01	HARNESS, POWER SUPPLY
24	1		TANK RELIEF VALVE, 120PSI



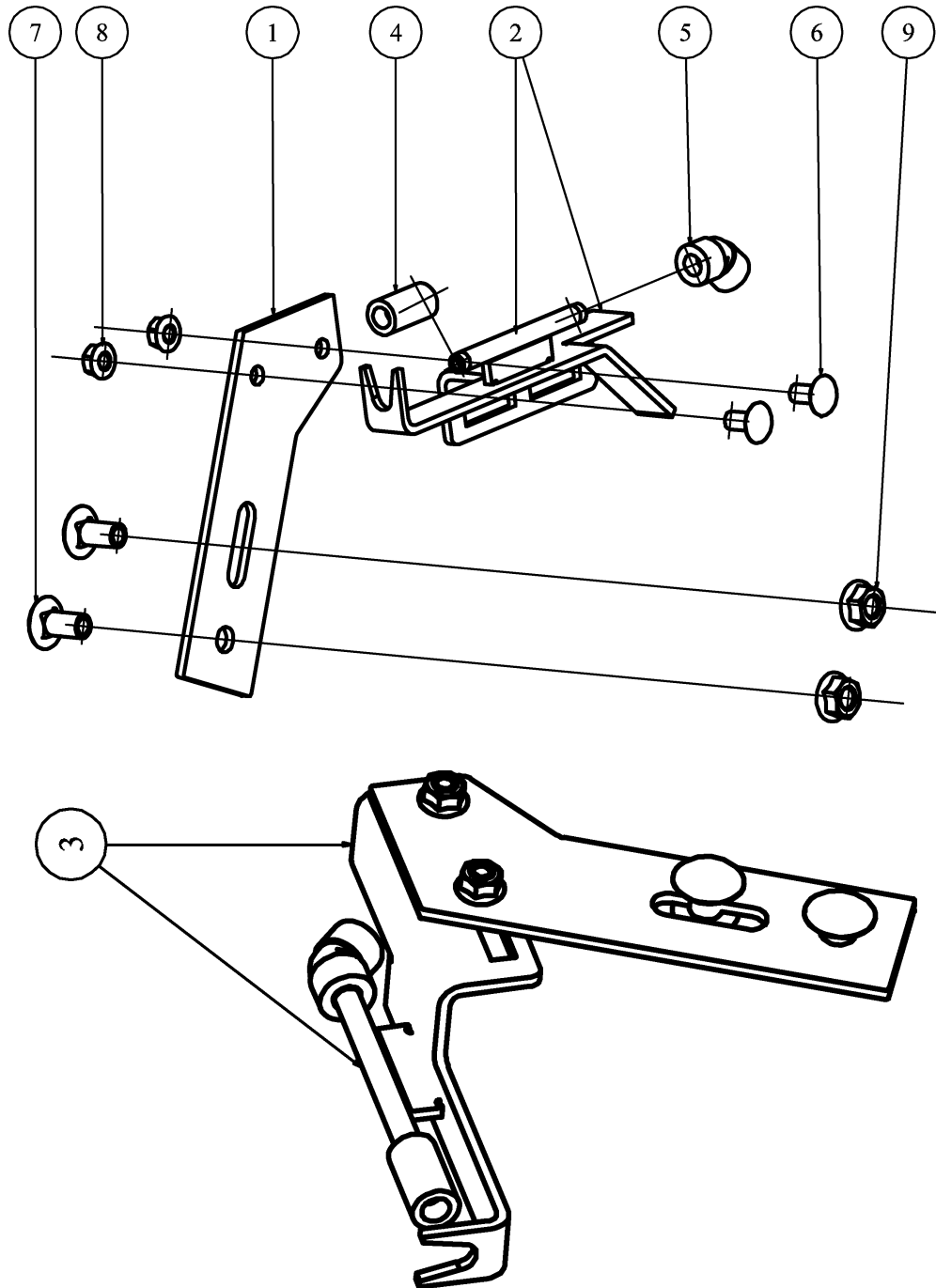
Z20029 RESIDUE MANAGER KIT
PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	Z20053-01	ROW CLEANER
2*	1	Z20028-01	DEPTH CONTROL PLATE SER# 1134 and PREVIOUS
2*	1	Z20075-01	DEPTH CONTROL PLATE SER# 1135 and AFTER
3*	1	Z20036-00	TRASH WHEEL BRACKET ROUND HOLE
3*	1	Z20029-00	TRASH WHEEL BRACKET D-SHAPE HOLE
4	2	Z20030-01	BUSHING
5	3	Z20027-01	BUSHING
6	2	SH8603	BEARING, HUB
7	2	340-2A	HUB AND BEARING, ROW CLEANER
8	2	SNAP RING	SNAP RING
9	8	CARRIAGE BOLT 3/8-16x1-1/4"	
10	8	3/8-16 FLANGE NUT	
11	2	5/8-11 x 4" BOLT	
12	2	LOCK 5/8	5/8" LOCK WASHER
13	2	NUT 5/8-11	5/8-11 HEX NUT
14	3	LOCK 1/2	1/2" LOCK WASHER
15	3	HEX 1/2	1/2" HEX NUT
16*	1	PIN 1/2x1-1/2"	DETENT 1/2 x 1-1/2" PIN SER# 1134 and PREVIOUS
16*	1	Z20076-01	PIN, DEPTH CONTROL SER# 1135 and AFTER
17	1	FLAT 1/2	1/2" FLAT WASHER
18	3	1/2-13 x -3/4" BOLT	



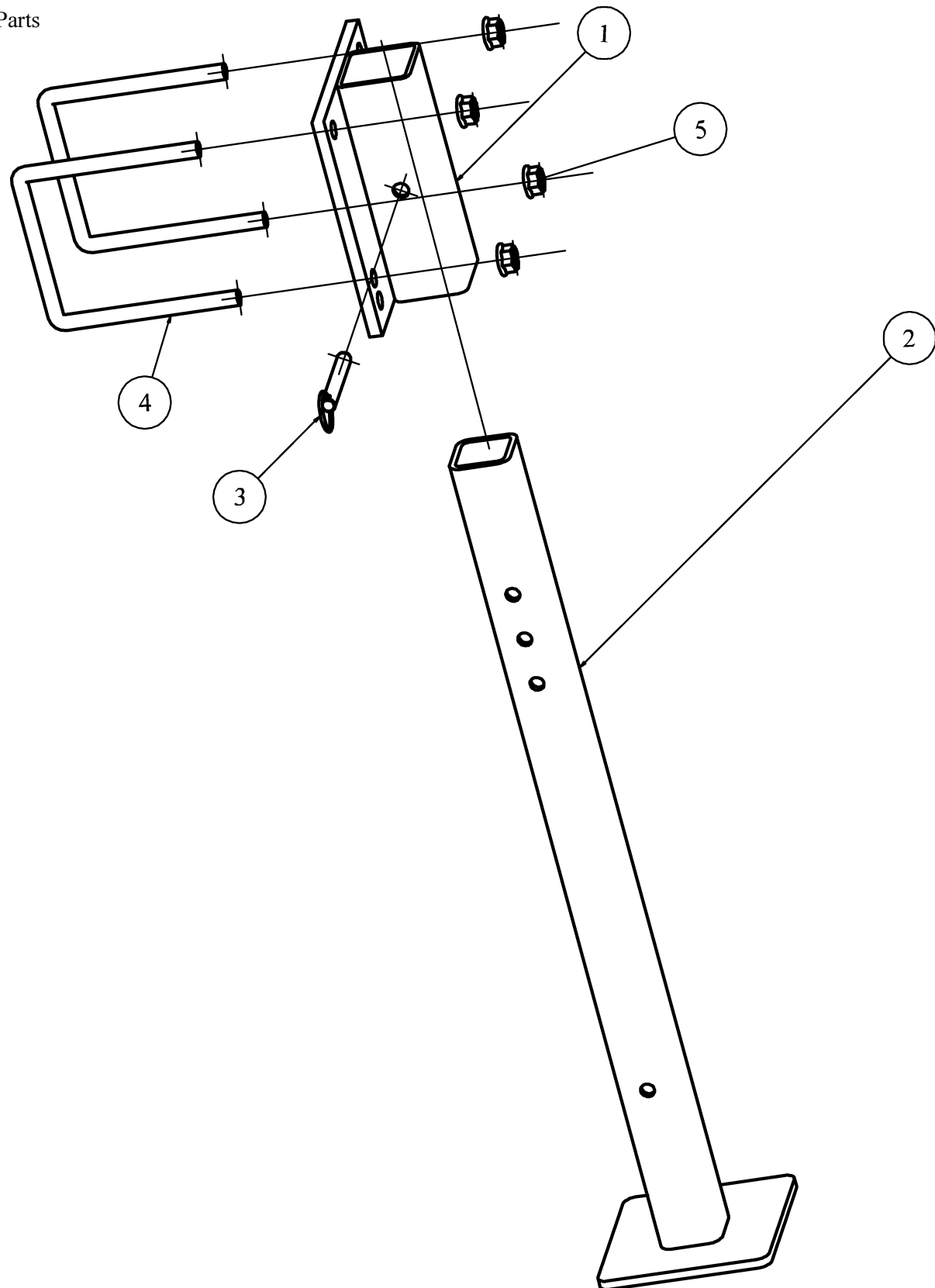
Z20024 HARROW KIT

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Z20024-02	ARM, HARROW RH
2	1	Z20024-01	ARM, HARROW LH
3	1	Z20025-01	BAR, HARROW FRAME
4	2	Z20026-00	HARROW PIPE
5	4	H712	SCHLUETER HARROW TINE
6	4	Z20050-01	BUSHING
7	4	H10040-01	TINE CLIP
8	4	5/16"-18 HEX NUT	5/16"-18 HEX NUT
9	2	Z20034-01	STOP
10	2	Z20031-01	BUSHING
11	2	1/2" FLAT WASHER	1/2" FLAT WASHER
12	2	1/2-13X1 1/2" BOLT	1/2-13X1 1/2" BOLT
13	4	5/16" LOCK WASHER	5/16" LOCK WASHER
14	2	3/8" LOCK WASHER	3/8" LOCK WASHER
15	2	1/2" LOCK WASHER	1/2" LOCK WASHER
16	2	3/8"-16 HEX NUT	3/8"-16 HEX NUT
17	2	1/2"-13 HEX NUT	1/2"-13 HEX NUT
18	6	5/16-18X3/4" CARRIAGE BOLT	5/16-18X3/4" CARRIAGE BOLT
19	6	5/16"-18 HEX FLANGE NUT	5/16" HEX FLANGE NUT
20	4	5/16-18X2 1/2" BOLT	5/16-18X2 1/2" BOLT
21	2	3/8-16X1" BOLT	3/8-16X1" BOLT



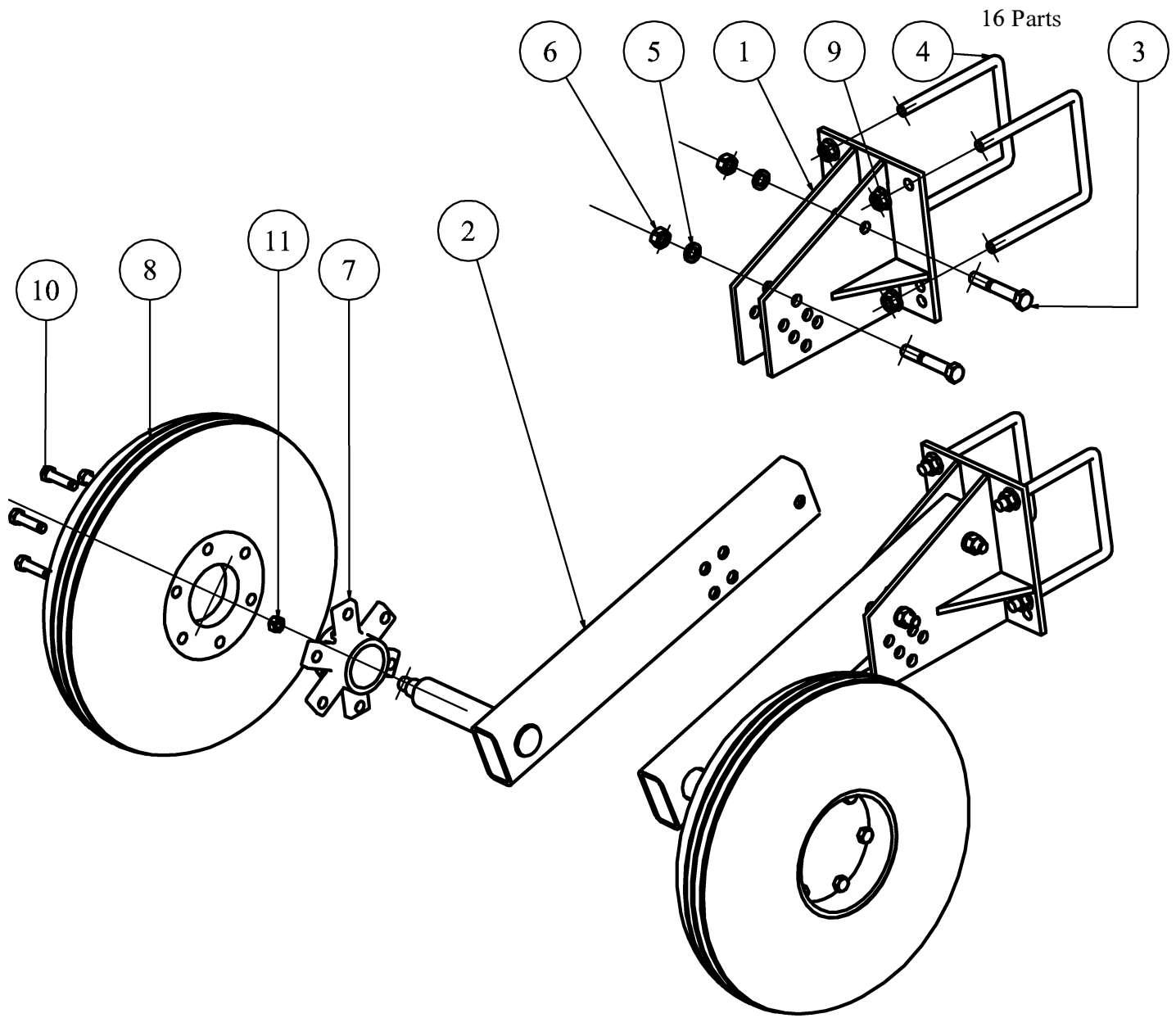
Z20062 & Z20063 NOZZLE KIT, LH & RH

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	Z20064-01	BRACKET, NOZZLE HOLDER
2	1	Z20063-80	NOZZLE BRACKET, LH
3	1	Z20062-80	NOZZLE BRACKET, RH
4	2	CT304-1/4-4 COUPLING	THREADED COUPLING
5	2	CT7LL145	THREADED ELBOW, 45 DEG
6	4	BOLT CARRIAGE 3/8-16X3/4"	3/8-16X3/4" CARRIAGE BOLT
7	4	BOLT CARRIAGE 1/2-13X1"	1/2-13X1" CARRIAGE BOLT
8	4	HEX NUT 3/8"-16 FLANGE SERRATED	3/8"-16 SERRATED FLANGE NUT
9	4	HEX NUT 1/2"-13 FLANGE SERRATED	1/2"-13 LOCK, SERRATED FLANGE NUT



Z20066 STAND KIT PAIR

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Z20065-00	STAND BRACKET
2	1	Z20066-00	STAND
3	1	15190	PIN
4	2	Z20058-01	5/8-11X7.08X6-7/16 SQ. U-BOLT, CLEAR ZINC
5	4	HEX NUT 5/8"-11 FLANGE	5/8"-11 FLANGE NUT

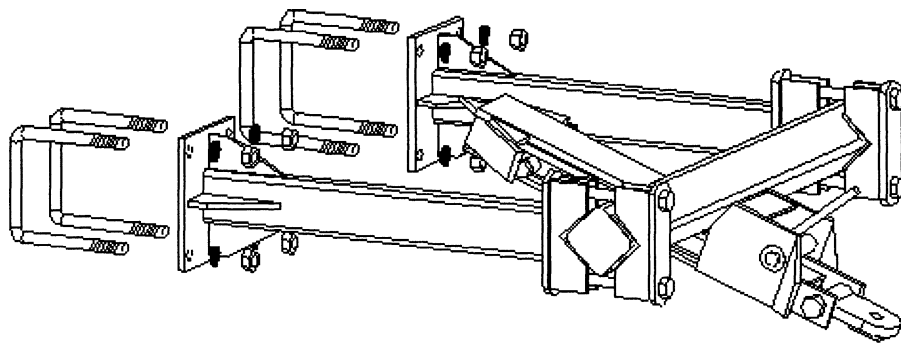


Z20056 GUAGE WHEEL KIT

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	Z20057-00	BRACKET, GUAGE WHEEL
2	2	Z20056-00	ARM, GUAGE WHEEL
3	4	BOLT 5/8-11X4"	5/8-11X4" BOLT
4	4	Z20058-01	5/8-11X7.08X6-7/16 SQ. U-BOLT, CLEAR ZINC
5	4	LOCK WASHER 5/8"	5/8" LOCK WASHER
6	4	HEX NUT 5/8"-11	5/8"-11 HEX NUT
7	2	W888	HUB ASSEMBLY 6 BOLT
8	2	WHEEL	WHEEL WITH 9.5L-15 TIRE
9	8	HEX NUT 5/8"-11 FLANGE	5/8"-11 HEX FLANGE NUT
10	12	WHEEL BOLT	WHEEL BOLT
11	2	CASTLE NUT	CASTLE NUT



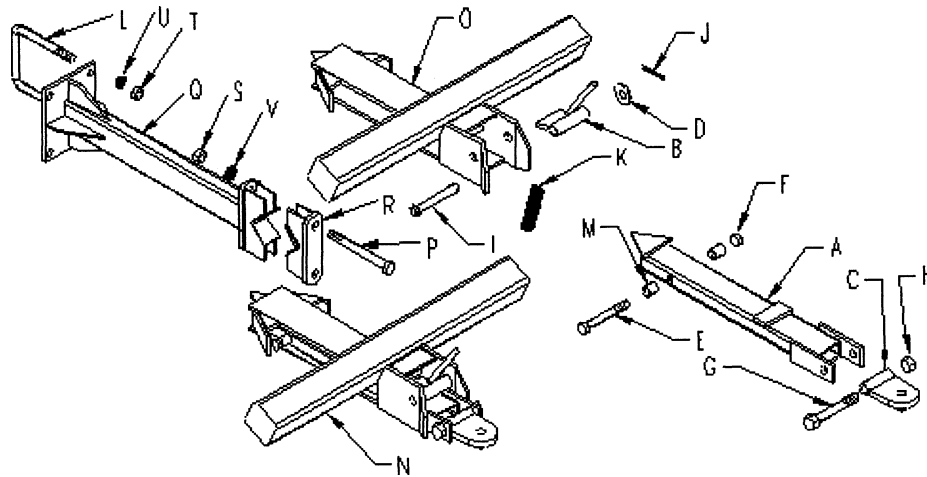
UNIVERSAL TELESCOPING NURSE TANK HITCH



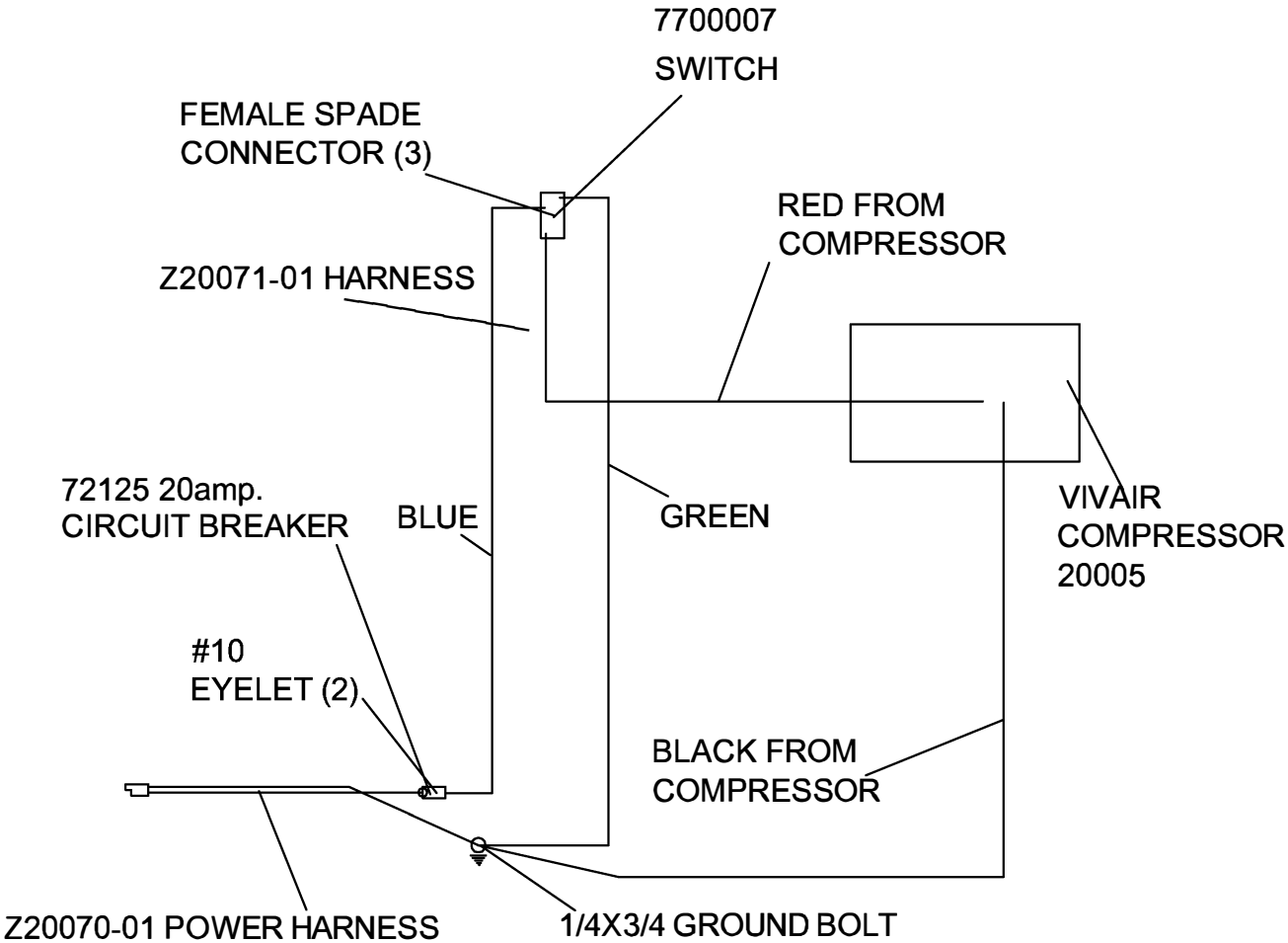
FEATURING:
7" SWING/SLIDE HITCH
HEAVY DUTY CONSTRUCTION FOR APPLICATORS 30" AND 36"
ADJUSTABLE SPACING
UNIVERSAL MOUNTING WITH U-BOLTS
HEAVY DUTY CONSTRUCTION FOR 7" X 7" BAR MOUNTING
TELESOPES OUT 14" PLUS 4" SIDE TO SIDE MOVEMENT
30" OR 36" ADJUSTABLE SPACING
3/4" U-BOLTS FOR MOUNTING
WEIGHT 245#



TELESCOPING NURSE TANK HITCH PARTS



REF#	PART #	DESCRIPTION	WT.	
A	RSA30040	RSA INNER SLIDE	25.5#	
B	RSA30041	RSA LATCH HANDLE	3.8#	
C	RSA30042	RSA TONGUE	5.2#	
D	10000008	1" X 1 1/2" X 10 GAUGE MACHINE BUSHING	.1#	
E	PP001918	3/4" X 8" BOLT HHCS GR5	1.2#	
F	PP001990	3/4" CENTER LOCK NUT	.1#	
G	PP002182	1" X 6" BOLT HHCS GR5	1.6#	
H	PP002272	1" CENTER LOCK NUT	.3#	
I	RSA30044	LATCH PIVOT PIN	1.6#	
J	10000106	1/4" X 2" COTTER KEY	.1#	
K	RSA31003	COMPRESSION SPRING	.2#	
L	UBT32008	3/4" U BOLT 7"X9"	2.3#	
M	RSA30039	SAFETY BOLT BUSHING	.3#	
N	RSA33013	RSA 2000 REAR HITCH ASSY WITHOUT ARMS	152#	
O	RSA30043	RSA OUTER BOX WITH CROSS TUBE	112#	
P	PP002134	1" X 10" BOLT HHCS GR5	2.4#	
Q	RSA33001	30" ADJUSTABLE NURSE TANK HITCH ARM	36.7#	
Q	RSA33042	42" ADJUSTABLE NURSE TANK HITCH ARM	44.7#	
R	SCL32102	3 1/2" OR 4" DIAMOND CLAMP CAP	6.8#	
S	PP002266	1" HEX NUT	.3#	
T	PP002002	3/4" HEX NUT	.2#	
U	PP002050	3/4" LOCK WASHER	.1#	
V	PP002314	1" LOCK WASHER	.1#	



COMPRESSOR WIRING DIAGRAM



150 PSI HIGH-FLOW AIR SOURCE KIT

***30% Duty Compressor on
2.0 Gallon Air Tank***

PART NO. 20005



IMPORTANT:

It is essential that you and any other operator of this product read and understand the contents of this manual before installing and using this product.

SAVE THIS MANUAL FOR FUTURE REFERENCE

USER MANUAL



**Only Compressor
is CE Certified*

150 PSI HIGH-FLOW AIR SOURCE KIT

IMPORTANT SAFETY INSTRUCTIONS:

CAUTION: To reduce risk of electrical shock or electrocution:

- Do not disassemble. Do not attempt repairs or modifications. Refer to qualified service agencies for all service and repairs.
- Do not use this product in or area where it can fall or be pulled into water or other liquids.
- Do not reach for this product if it has fallen into liquid.
- Use this compressor with 12-volt DC systems only.
- This product should never be left unattended during use.

WARNING: To prevent injuries:

- Never allow children to operate this compressor. Close supervision is necessary when this compressor is being used near children.
- This compressor will become very hot during and immediately after use. Do not touch any part of this compressor with bare hands other than the ON/OFF switch during and immediately after use.
- Do not use this product near flames or explosive materials or where aerosol products are being used.
- Do not operate this product where oxygen is being administered.
- Do not pump anything other than atmospheric air.
- Never use this product while sleepy or drowsy.
- Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
- Never point any air nozzle or air sprayer toward another person or any part of the body.
- This air compressor is equipped with an Automatic Reset Thermal Protector, and can automatically restart after the thermal protector resets. Always cut off power source when thermal protector becomes activated.
- Wear safety glasses or goggles when operating this product.
- Use only in well ventilated areas.

150 PSI HIGH-FLOW AIR SOURCE KIT

INSTALLATION:

Please read and follow the Installation Instructions carefully to avoid injury or damage to the compressor or your vehicle.

Selecting a Mounting Location:

The selection of a proper mounting location for your air source kit will help ensure a long and trouble free service life. Please pay close attention to the following guidelines:

1. Select a FLAT, UPRIGHT AND SECURE location where the air source kit can be mounted.
2. To maximize air compressor performance, locate compressor as CLOSE TO THE BATTERY as possible so that length of positive lead wire required is at a minimum.
3. Choose mounting location that is as cool as possible and AWAY FROM HEAT SOURCES. The cooler the ambient temperature the less chance the compressor will overheat.
4. The compressor is moisture & splash resistant, but NOT WATERPROOF. Do not mount air source kit in locations where the unit is likely to come in contact with water.
5. If it is necessary to mount the air compressor further away from the battery, such as inside your vehicle or in the bed of your pickup, use a minimum 8-10 AWG positive lead wire for remote installation.
6. Do not mount air source kit near areas where flammable liquids are stored.

150 PSI HIGH-FLOW AIR SOURCE KIT

MOUNTING AND WIRING:

1. Disconnect ground cable from vehicle's battery.
2. Temporarily position the air source kit in the location where it will be mounted.
3. Route ground wire to the negative post of the battery or to an appropriate grounding point and cut ground wire to length as needed.
4. Mount air source kit at tank leg mounts with the four grommets, and four sets of bolts, nuts, washers, and locking washers provided. Use of thread sealant is recommended.
5. Route 3/8-inch I.D. air line from the 1/2-inch tank port to a 3/8-inch compression fitting and make your air line connection. Tighten compression fitting nut securely using a wrench.
6. Connect ground (Black) wire to a clean ground, (preferably a chassis ground) and secure with a self-tapping screw.
7. Connect positive (Red) lead wire from pre-installed pressure switch to a fuse holder (25-amp minimum).
8. Once the kit is properly fused as close as possible to the power source, connect and test compressor system by running the compressor for a short time to build up pressure in your air tank.
9. Once air pressure reaches preset cut out pressure of your pressure switch (100 PSI cut-on, 145 PSI cut-off), the compressor will shut off automatically. Inspect all air line connections for leaks with soap and water solution. If a leak is detected, the air line may not be cut squarely or pushed all the way in. Tighten connections if needed.

150 PSI HIGH-FLOW AIR SOURCE KIT

OPERATING INSTRUCTIONS:

1. **IMPORTANT:** Always operate the compressor BELOW the MAXIMUM PRESSURE RATING of the compressor. Please refer to Application & Specifications Sections of this manual for details.
2. Always observe the MAXIMUM DUTY CYCLE of the air compressor. Refer to Compressor Applications and Specifications Section of this manual for details. Operation exceeding maximum pressure ratings and or duty cycle will result in damage to air compressor.
3. Your air compressor is equipped with an AUTOMATIC THERMAL OVERLOAD PROTECTOR. This feature is designed to protect the air compressor from overheating causing permanent damage to your air compressor. The thermal overload protector will automatically cut off power to your air compressor should the internal operating temperature of the air compressor rise above safe levels during excessive use.
4. Should at any time during use, your air compressor automatically shuts off; do not attempt to restart air compressor. Turn power switch to the air compressor to the OFF position. The automatic thermal overload protector will automatically reset when internal temperature of the air compressor drops below safe levels. After allowing air compressor to cool off for about 30 minutes, you can safely resume use of the air compressor by turning on the air compressor.
5. To prevent discharge of your vehicle's battery, we strongly recommend that you keep the vehicle's engine running while using the air compressor. Compressor performance is enhanced when operating compressor with vehicle's engine running.
6. **IMPORTANT:** ONLY OPERATE THE AIR COMPRESSOR IN WELL-VENTILATED AREAS.

150 PSI HIGH-FLOW AIR SOURCE KIT

AIR TANK PRECAUTIONS:

IMPORTANT:

- The air source kit air tank is rated for 150 PSI maximum working pressure. Do not overfill. Overfilling may result in death or serious injury.
- Tank is not to be used as a breathing device.
- Always wear ANSI approved safety glasses when operating air tank.
- Bleed pressure from tank after each use, and before servicing or adding attachments.
- Use only attachments or tools rated for 150 PSI working pressure or less.

DRAIN TANK OFTEN TO REMOVE CONDENSATE. FAILURE TO DRAIN TANK WILL ALLOW TANK TO RUST INTERNALLY.

- To remove any accumulated condensation inside the tank, bleed pressure from tank until pressure is approximately 5 PSI to 20 PSI.
- Drain water from tank by opening the drain cock drain valve.
- If drain cock is plugged, release all air pressure from tank, remove drain valve and clean, then reinstall.
- After condensate has been drained, close the drain cock.

IMPORTANT: Observe air tank Date of Manufacture (stamped on tank leg). Replace air tank 2 to 5 years from date air tank was first used, or use the date of manufacture as reference. Your adherence to air tank draining guidelines will determine the replacement date of your air tank. **RUSTED TANKS CAN FAIL CAUSING EXPLOSIONS OR FATAL INJURIES.** Discard tank immediately if tank is rusted.

NOTE: When using a safety pressure relief valve, point the safety pressure relief valve away from your body. Use the pull ring on the safety relief valve; open the relief valve to vent any pressure inside the tank before attempting to service tank.

150 PSI HIGH-FLOW AIR SOURCE KIT

COMPRESSOR APPLICATION GUIDE:

ABOUT COMPRESSOR DUTY CYCLE:

Compressor Duty Cycle refers to amount of time a compressor can be operated in a given time period, at 100 PSI & at a standard ambient temperature of 72°F.

Duty Cycle is commonly expressed as:

Compressor On Time / (Compressor On Time + Off Time)

As an example, a compressor that is rated for 20% duty cycle means that compressor can be operated at 100 PSI @ 72°F for 8 Minutes and rested for 32 Minutes.

8 min. on / (8 min. on + 32 min. off) = 20% Duty Cycle

DUTY CYCLE REFERENCE CHART

DUTY CYCLE @100PSI / 72°F	MINUTES ON / OFF
15%	6 Min. On / 34 Min. Off
17%	7 Min. On / 30 Min. Off
20%	8 Min. On / 32 Min. Off
22%	9 Min. On / 30 Min. Off
25%	10 Min. On / 30 Min. Off
30%	13 Min. On / 30 Min. Off
33%	15 Min. On / 30 Min. Off
100%	Continuous Duty

ABOUT RATED WORKING PRESSURE:

To ensure trouble free service life of your compressor, always operate compressor within rated working pressure of the compressor. Never use a pressure switch with a higher cut-off pressure than compressor's rated working pressure.

SPECIFICATIONS:

280C AIR COMPRESSOR

Motor Voltage:	12 Volts
Max. Current Consumption:	16 Amps
Recommended Fuse:	30 Amps
Motor Type:	Perm. Magnetic
Horse Power:	1/4
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@72°F & 100 PSI):	30%
Minutes On/Off (@72°F & 100 PSI):	13 On / 30 Off
Continuous Use (@72°F & 40 PSI):	40 Minutes
Max. Restart Pressure:	200 PSI
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes

COMPRESSOR TROUBLESHOOTING GUIDE:

PROBLEM:	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Tank pressure drops when compressor(s) shut off	<ol style="list-style-type: none"> 1. Loose drain cock 2. Check valve leaking 3. Loose connections 	<ol style="list-style-type: none"> 1. Tighten drain cock 2. Replace check valve or compressor(s) 3. Check all connections with soap and water solution and tighten
Compressor runs continuously and air flow lower than normal	<ol style="list-style-type: none"> 1. Excessive air usage 2. Loose connections 3. Worn piston ring or inlet valve. 4. Clogged air filter element 	<ol style="list-style-type: none"> 1. Decrease air usage 2. Check all connections with soap and water solution and tighten. 3. Repair or replace compressor 4. Replace air filter element
Compressor runs continuously causing safety valve (if equipped) to open	<ol style="list-style-type: none"> 1. Bad pressure switch 2. Defective safety valve 	<ol style="list-style-type: none"> 1. Replace pressure switch 2. Replace safety valve
Excessive moisture in discharge	<ol style="list-style-type: none"> 1. Excessive water in air tank 2. High humidity 	<ol style="list-style-type: none"> 1. Drain tank, tilt tank to drain. Drain tank more frequently 2. Move compressor to area with less humidity, or use air line filter.
Compressor will not run	<ol style="list-style-type: none"> 1. No power, or power switch in OFF position 2. Blown fuse 3. Motor overheats 4. Faulty pressure switch. 	<ol style="list-style-type: none"> 1. Make sure compressor switch is ON 2. Disconnect compressors from power source, replace fuse. (Refer to Specifications section for correct fuse amperage.) 3. Let compressors cool off for about 30 Minutes to allow thermal overload switch reset. 4. Replace pressure switch
Thermal overload protector cuts out repeatedly	<ol style="list-style-type: none"> 1. Lack of proper ventilation or ambient temperature too high 2. Compressor valves failed 	<ol style="list-style-type: none"> 1. Move compressor to well ventilated area, or area with lower ambient temperature 2. Repair or replace compressor
Excessive knocking or rattling	<ol style="list-style-type: none"> 1. Loose mounting bolts 2. Worn bearing on eccentric or motor shaft 3. Cylinder or piston ring is worn 	<ol style="list-style-type: none"> 1. Tighten mounting bolts 2. Repair or replace compressor 3. Repair or replace compressor

CAUTION: NEVER DISASSEMBLE COMPRESSOR WHILE COMPRESSOR IS PRESSURIZED.

LIMITED WARRANTY:

VIAIR Corporation warrants this product, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from its original date of purchase. To receive warranty service or repair, please contact VIAIR Corporation.

Returns should be made within one year of the date of purchase, after a Return Goods Authorization (RGA) number has been assigned by VIAIR Corporation. To obtain RGA, fax a copy of your receipt to (949) 585-0188. For complete warranty details, please visit: www.viaircorp.com/warranty

PLEASE NOTE:

THIS WARRANTY COVERS PRODUCT DEFECTS ONLY;
IT DOES NOT COVER INCIDENTAL OR CONSEQUENTIAL DAMAGES AS RESULT OF MISUSE OR ABUSE.



15 EDELMAN • IRVINE, CA 92618
TEL: (949) 585-0011 • FAX: (949) 585-0188 www.viaircorp.com

Row Unit Mounting Bracket Installation

Items Needed Per Row:

- 1 – Row unit mounting bracket
- 2 – 5/8" U bolts
- 4 – 5/8" Flange Nuts

Steps:

1. Find desired position for one of the center rows.
2. Using two U bolts and two flange nuts to fasten the first row unit to the toolbar. Torque flange nuts evenly to 110 ft lbs.
3. Measuring from the mounted row unit and using it as reference, continue to mount the remaining row units on the toolbar at the desired row-gap.
4. When all row units are mounted, check measurements once more to insure proper mounting positions.



Air Compressor Installation

Items Needed:

- 2 – Air compressor mounting brackets
- 2 – 5/8" U-bolts
- 4 – 3/8" lock washers
- 4 – 3/8" hex nuts

Steps:

1. Find a spot on the toolbar that is convenient for the operator that will not interfere with wing fold-up.
2. Mount the air compressor mounting brackets using two U bolts & four flange nuts. The brackets should be 11 1/4" from center to center.
3. Once brackets are mounted, set the air compressor assembly on the brackets with controls facing the front of the toolbar.
4. Using the 3/8" lock washers and hex nuts, fasten air compressor assembly to the brackets.



Vulcan Equipment WARRANTY

The only warranty Vulcan Equipment gives and the only warranty the dealer is authorized to give is as follows:

We warranty new products sold by Vulcan or authorized Vulcan dealers to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing or replacing, at our option, within one year after date of retail delivery, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any transportation charges or costs or any liability for direct, indirect or consequential damage or delay. If requested by Vulcan Equipment, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Vulcan Equipment, or any alteration or repair by others in such manner as in our judgement affects the product materially and adversely shall void this warranty. **NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

Vulcan Equipment reserves the right to make improvement changes on any of our products without notice.

Vulcan Equipment does not warrant the following:

1. Used products
2. Any product that has been repaired modified or altered in a way not approved by Vulcan Equipment.
3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operator Manual Instructions, misuse, lack of proper protection during storage, or accident.
4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, belts, cutting parts, and ground engaging parts.
5. Breakage or damage caused by rocks.

A DELIVERY REPORT - warranty registration form must be filled out and returned to Vulcan Equipment to initiate the warranty within 30 days of retail sale. Failure to complete the form will void the warranty.

Vulcan Equipment
2911 N 2700 East Rd.
Forrest, IL 61741
PHONE (815)688-3051
FAX (815)688-3367
vulcanequip@gmail.com
www.vulcanequip.com