

500-02

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SPOKANE METAL PRODUCTS DIVISION
Spokane Washington

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500 GALLON FUEL BOWSER TECHNICAL MANUAL PARTS, OPERATION AND MAINTENANCE MODEL NUMBER BOW 500-02

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500 GALLON REFUELER BOWSER

TECHNICAL MANUAL PARTS, OPERATION AND MAINTENANCE MODEL NUMBER BOW 500-02

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1.0 Introduction

- 1.1 To obtain optimum benefit from your fuel bowser unit, it is recommended that all personnel operating it read and understand this manual prior to operation.
- 1.2 Upon receipt of the bower unit, a visual inspection should be made to determine that it is complete and has not sustained any damage during transportation.

2.0 Safety

2.1 Potential Fire and Explosion

- 2.1.1 Due to the nature of fuel, care should be exercised to eliminate all sparks and open flame in the area of the fuel bowser unit.
- 2.1.2 A 50-foot radius area around the fuel bowser unit for no smoking, sparks or open flames is usually a good practice. It is strongly recommended all local or other regulations be consulted for further restrictions.

CAUTION: The fuel bowser should never be used inside of an enclosed area. Proper ventilation is required at all times.

2.2 Telescoping Drain

- 2.2.1 Care should be exercised in using the telescoping assembly to prevent injuring fingers between clamps by dropping sections.

2.3 Grounding

- 2.3.1 To eliminate static sparks; the fuel bowser unit is equipped with two (2)-grounding reels and two (2) grounding receptacle connectors. Connect prior to draining or filling operations as described in the "Operations Section".

2.4 Towing

- 2.4.1 Make sure the tow bar is securely attached to the towing vehicle.
- 2.4.2 Before moving the fuel bowser unit, check to assure the parking brake is released.
- 2.4.3 Maximum allowable towing speed is 15 MPH.

2.5 Parking

- 2.5.1 Parking brake must be applied when filling and draining or when left unattended.

2.0 Safety (Continued)

2.6 Air Supply

2.6.1 **CAUTION:** Check the air pressure of supply lines to the vacuum generator to assure it is not in excess of 100 PSI.

2.7 Inspections

2.7.1 Inspections of tires, undercarriage, tow bar, vent, valves, hoses, sight gauge, reflectors, safety labels, etc., should be inspected on a periodic basis. It is recommended these inspections be performed weekly.

2.7.2 Internal inspection will be necessary to insure structural integrity and cleanliness. It is recommended that interval inspections be performed at least every six- (6) months.

CAUTION: When entering confined spaces such as the interior of the bowser tank, care should be taken to provide proper breathing equipment and a separate person dedicated solely to a safety watch of the person inside. It is strongly recommended that all local or other regulations be consulted.

2.8 Manway

2.8.1 Insure the manway cover is provided with a "lock out" devised to prevent accidental closing of the manway while doing internal inspections and to prevent unwanted elements from being introduced to the fuel supply.

2.9 Hoses

2.9.1 Inspect the hoses each day before it is put into use. The hoses should be extended, as it normally would be for operating. Check for evidence of blistering, carcass saturation or separation, cuts, nicks or abrasions that expose reinforcement materials. Look for slippage, misalignments or leaks at the couplings; if coupling slippage or leaks are found the cause of the problem shall be determined. All defective hoses should be removed from service.

3.0Operations

- 3.1 Intended Use
 - 3.1.1 The fuel bowser unit is intended for use in draining and collection of fuel from aircraft or storage area and then transportation to the aircraft, storage area or disposal site. Any other use is prohibited and may void any and all warranties.

- 3.2 Tow Bar and Undercarriage
 - 3.2.1 The fuel bowser unit is equipped with steering front wheels controlled by the tow bar.
 - 3.2.2 Care should be taken not to jackknife the fuel bowser when backing up.
 - 3.2.3 Tire inflation should be checked and maintained as described in the "Maintenance Section".
 - 3.2.4 Before towing, check to see the brake is disengaged, grounding reel and hoses are disconnected, air lines and valves are closed, tow bar is securely attached to the towing vehicle and all manway and covers are closed and latched.
 - 3.2.5 The fuel bowser unit is equipped with a tow bar latch to hold it in the upright position.

- 3.3 Parking Brake
 - 3.3.1 The fuel bowser unit is equipped with a mechanically operated parking brake. The brake should be applied prior to disengaging tow bar. The brake should be applied when filling, draining tank or whenever left unattended.

- 3.4 Manway
 - 3.4.1 The fuel bowser unit is equipped with a 16" quick opening manway assembly for internal inspections.
 - 3.4.2 The manway is equipped with a flip locking cross arm assembly to insure sealing and securing the cover lid in place.

- 3.5 Vent, Overflow Preventer
 - 3.5.1 The fuel bowser unit is equipped with a float-actuated seal to prevent fuel from flowing out the vent in the event the bowser is overfilled.

3.0 Operations (Continued)

3.6 Sample Port

3.6.1 The fuel bowser unit is equipped with a ½" NPT valve for use as a sample port. The valve is located at the bottom of the sight gauge assembly.

3.7 Grounding

3.7.1 The fuel bowser unit is supplied with two (2)-grounding reels.

3.7.2 Before filling or draining, the grounding reels must be attached between the aircraft or object being serviced and an appropriate ground.

3.8 Drain Valve

3.8.1 The fuel bowser unit is equipped with a 1-1/2" NPT ball valve with a camlock connector.

3.9 Telescoping Drain Assembly

3.9.1 The fuel bowser is equipped with a telescoping drain assembly. It is capable of being adjusted to 12ft-0in high.

3.9.2 To Raise:

- (1) Loosen top clamp if necessary.
- (2) Grasp top section with one hand and lift until the top clamp raises approximately 6 inches.
- (3) Tighten clamp securely with the other hand.
- (4) Reposition lifting hand by grasping tube below tightened clamp and lift until next clamp is raised approximately 6 inches.
- (5) Repeat steps 1-4 until desired height is obtained or assembly is fully extended.

3.9.3 To Lower:

- (1) Tightly grasp bottom extended tube, with one hand loosen the securing clamp.
- (2) Slowly lower tube, hand over hand, until the following clamp is resting on the loosened clamp.
- (3) Repeat steps 1 and 2 until all sections are lowered.

3.9.4 Funnel is equipped with a nitrile rubber seal around the top edge to allow placement against the underside of the wing.

3.9.5 When not in use, telescoping funnel should be collapsed and the cover closed to eliminate contamination.

3.0

Operations (Continued)

3.10 Telescoping Drain Sump

3.10.1 The fuel bowser unit is equipped with a sump with a removable bottom to allow cleaning of the drain strainer (sediment screen).

3.11 Vacuum Assembly

3.11.1 This assembly is equipped with an air powered vacuum generator.

3.11.2 It is intended for vacuum draining or depuddling fuel and condensation. Caution! If other objects such as rock or metallic pieces are vacuumed into the vacuum chamber, they may create a hazard due to sparking.

3.11.3 Vacuum is started by attaching a recommended air supply of 60 CFM at 100 PSI and turning on the air supply valve.

3.11.4 The vacuum chamber is equipped with an automatic drain valve that opens whenever vacuum is eliminated in the chamber. This valve opens directly into the main tank.

3.11.5 The vacuum assembly is supplied with 50 feet of vacuum hose and a ball valve on the vacuum suction.

3.11.6 The vacuum assembly is equipped with (4) four each ½" NPT opening for use with pencil drains. To use, the pipe caps must be removed and self-closing quick disconnects attached that match local standards. To operate, close vacuum suction valve and turn air supply on and connect drain lines.

4.0

Maintenance

4.1 Tow Bar and Under Carriage

4.1.1 The fuel bowser unit is equipped with steering front wheels, controlled by the tow bar and fixed rear wheels.

4.1.2 Maintenance should consist of the following:

- 1) Kingpin bushing, turning bushings and tie rod ends are self-lubricating and need no additional maintenance.
- 2) Inspect wheel bearings at three (3) month intervals. Repack and, or replace as needed.
- 3) Check tire pressure weekly. Maintain pressure as per tire markings.

4.1.3 Tow bar pivot pin and hook ring should be inspected monthly for excessive wear or cracks.

4.2 Parking Brake

4.2.1 The fuel bowser unit is equipped with a parking brake assembly consisting of a 7" diameter brake drum with 2 ¼" wide brake shoes.

4.2.2 The shoes are activated via a mechanical linkage, eccentric and lever.

4.2.3 Adjustment may be necessary as the shoes wear.

- 1) Tightening is accomplished by removing the bolt through one yoke and screwing yoke in to shorten connecting rod.
- 2) Do not over tighten or brakes may drag when released.

4.2.4 Brake Shoe Replacement

- 1) Remove wheel.
- 2) Remove nut retaining hub and drum assembly.
- 3) Disconnect actuating rod.
- 4) Remove shoe retainers.
- 5) Install new shoes.
- 6) Replace shoe retainers.
- 7) Adjust actuator rod length.
- 8) Replace wheel.

4.3 Manway

4.3.1 Inspect manway gasket weekly for cuts, cracks or galling. Replace as needed.

4.0

Maintenance (Continued)

- 4.4. Vent, Overflow Preventer
 - 4.4.1 The Vent, Overflow Preventer is located inside the tank directly under the vent.
 - 4.4.2 It consists of a caged float with an elastomer gasket.
 - 4.4.3 Inspect gasket once per year for wear. Replace as needed.
- 4.5. Sight Gauge Assembly
 - 4.5.1 The sight gauge should be inspected monthly for loose connections and weathering of clear tubing. Replace as needed.
- 4.6. Grounding
 - 4.6.1 Grounding reel cables should be pulled out, cleaned and inspected monthly.
 - 4.6.2 Cable clamps and ends should be inspected for loose connections monthly.
- 4.7. Telescoping Drain Assembly
 - 4.7.1 The telescoping drain assembly consists of a 4" stainless steel housing permanently attached to the tank and four (4) aluminum tube sections.
 - 4.7.2 The stainless tube and three (3) largest aluminum sections are equipped with a clamp assembly.
 - 4.7.3 Each aluminum section is crimped on the lower end of the tubing, which acts as a stop to prevent the tube from sliding through the clamp.
 - 4.7.4 Disassembling of the funnel sections are accomplished by rotating the three (3) sections 180 degrees from normal position and gently lifting each section so that the crimped edge on the tube is aliend with the slot on the clamp.

4.0 Maintenance (Continued)

4.8 Telescoping Drain Sump

- 4.8.1 The fuel bowser is provided with a sump assembly located directly under the telescoping assembly and is provided with a drain strainer/screen.
- 4.8.2 Maintenance should consist of inspection and cleaning monthly.
- 4.8.3 Removal:
 - (1) Removal is accomplished by loosening the wing nut on the clamp holding the base of the sump. NOTE: Check interior to assure fuel has been thoroughly drained before loosening wing nut.
 - (2) Remove clamp and sump base.
 - (3) Loosen clamp holding screen to stainless steel drain housing and pull screen down.

4.9 Vacuum Assembly

- 4.9.1 The vacuum assembly consists of a vacuum chamber with an air powered vacuum generator mounted on a removable cover. The cover is held in place by three (3) eccentric latches.
- 4.9.2 The vacuum chamber is equipped with an automatic drain valve. This valve is pre-adjusted at the factory and should not need further adjustments.
- 4.9.3 The vacuum cover is equipped with an overflow valve which should require no maintenance.
- 4.9.4 The vacuum generator is attached to the chamber cover. The generator is equipped with an exhaust silencer which should be cleaned at six (6) month intervals or more often depending on the amount of use and conditions.
- 4.9.5 The vacuum hose should be inspected monthly for cracks. Any sudden loss of vacuum suction power may indicate a crack in the vacuum hose.
- 4.9.6 The cover gasket should be inspected monthly for deterioration. This gasket should be pliable and free from weather checking.

4.0 Maintenance (Continued)

4.9 Vacuum Assembly (Continued)

4.9.7 The drain stop and overflow stop pivot bolts should not be over tightened. Over tightening will restrict motion of the floats.

4.10 Trouble Shooting

Trouble Shooting

SYMPTOM

PROBABLE CAUSE

PROBABLE CORRECTIONS

Bowser does not track or steer

Bent king pin housing

Replace king pin housing
see section 5.2.1 Item #7

Defective tie rod end

Replace tie rod end
See section 5.2.1 Item #12

Loose or worn out bushings

Replace as needed
see section 5.2.1 item #11
#16 or #18

Toe bar does not stay in the up-right position

Broken or stretched spring

Replace as needed
see section 5.2.1 item #26

Parking brake does not work

Need adjustment or repairing

Adjust or replace as per instructions. See section 4.2 and 5.3.3-B

Fuel drains out vent

Vent, overflow preventer is stuck in the open condition

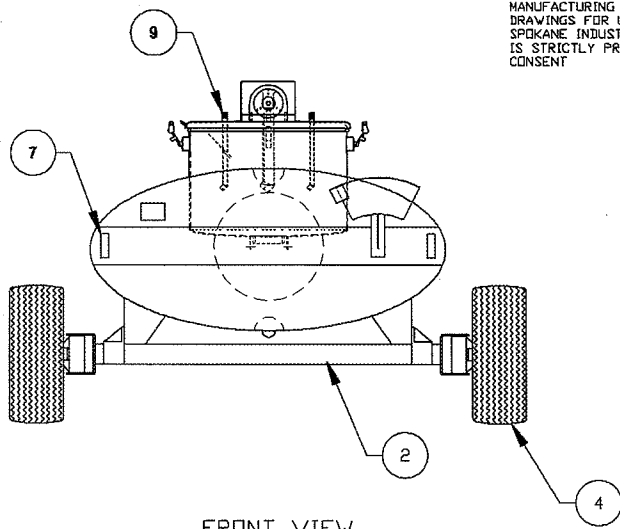
Remove and clean as required. See section 4.4 and section 5.6

5.0 Replacement Parts

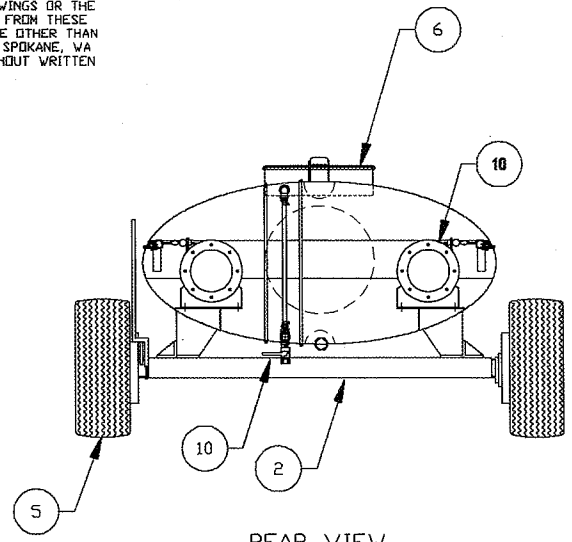
This section provides information for identification of parts for ordering. To Order, it is important to have the Model Number, Subassembly Number, Part Number and Description. Parts may be ordered by calling or writing to:

Spokane Industries, Inc.
Spokane Metal Products Division
P.O. Box 3303
Spokane, WA 99220-3303
Telephone: (509) 928-0720
Tele Fax: (509) 927-0826
Email: DYORKE@SPOKANEINDUSTRIES.COM

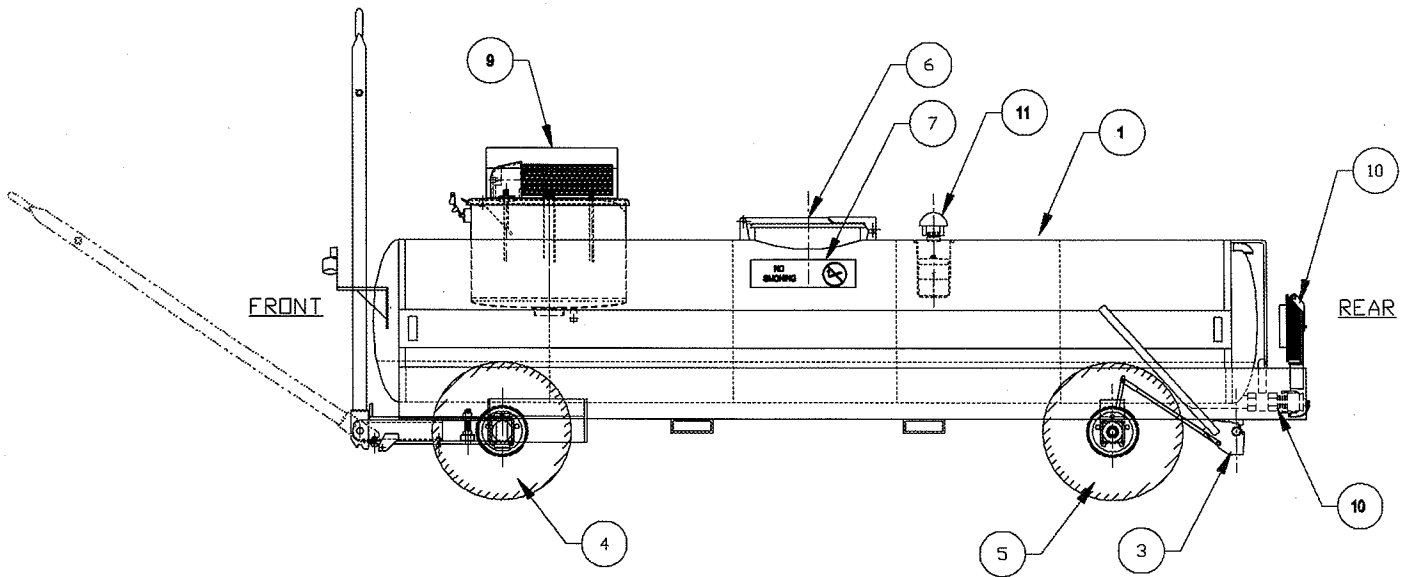
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FRONT VIEW



REAR VIEW



ITEM No.

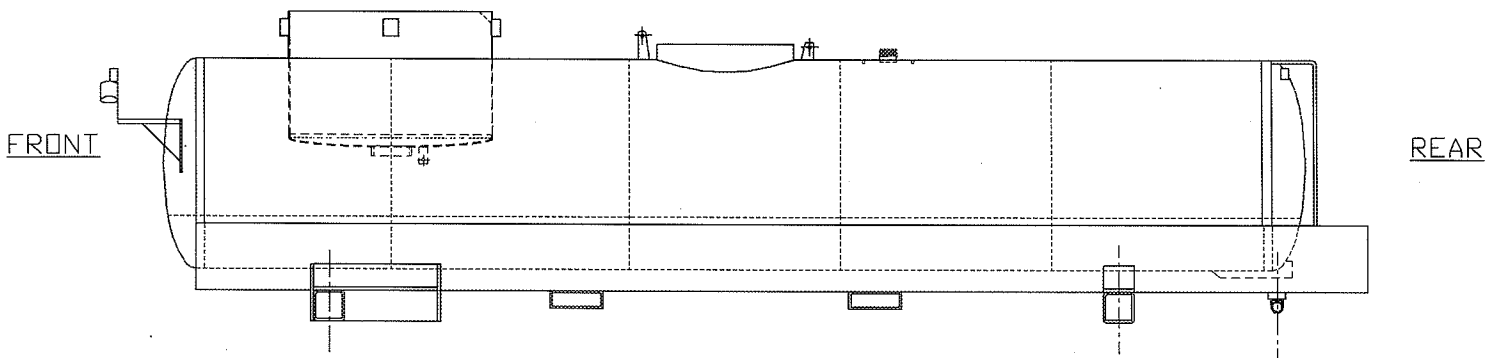
ASSEMBLY

SECTION

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2	Axle Front	5.2.1
2	Axle Rear	5.2.2
3	Brake, Parking	5.2.3
4	Wheel Assembly, Front	5.2.4
5	Wheel Assembly, Rear	5.2.5
6	Manway Assembly	5.3
7	Decal Package	5.4
9	Vacuum Assembly	5.6
10	Miscellaneous Fixtures	5.7
11	Vent Overflow Preventor	5.8

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SECTION 5.1

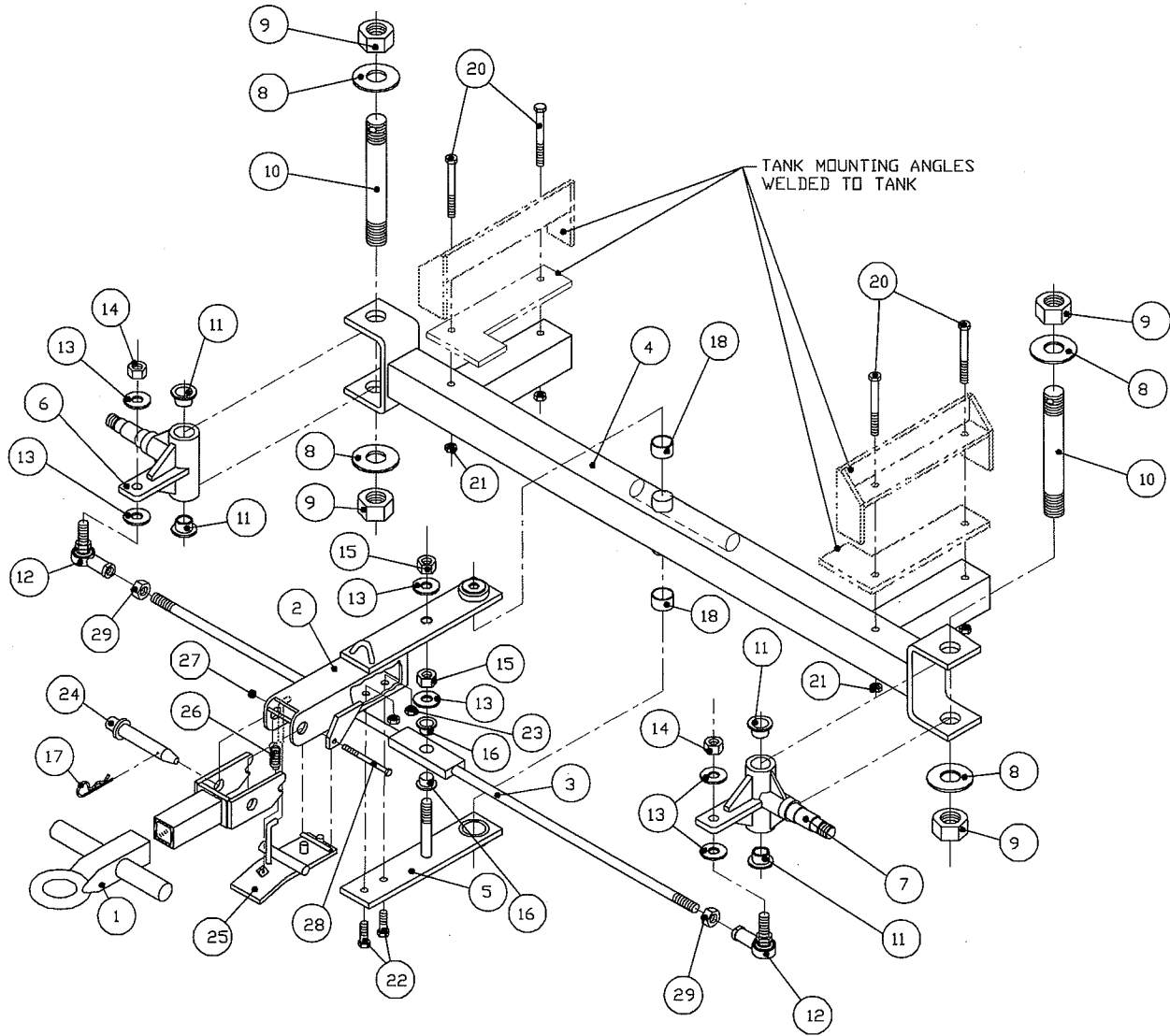


ASSEMBLY No. 08-10009SP
MAJOR ASSEMBLY - TANK WELDMENT

Sub Assy	Item No.	Part No.	Description	Weight
	1	08-10009SP	Stainless Steel Tank Weldment 500 Gallon Capacity	725#

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SECTION 5.2.1



ASSEMBLY No. 08-1018
 MAJOR ASSEMBLY- AXLE ASSEMBLY

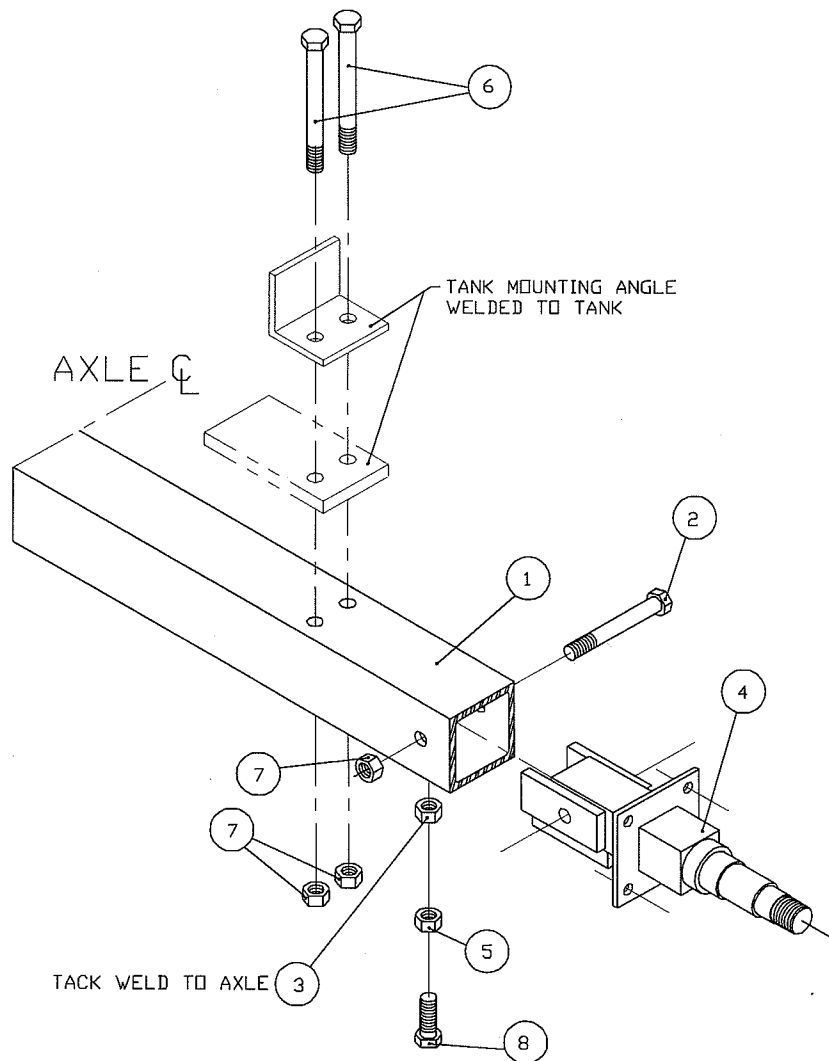
Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1018	-	-	1	Axle, Assembly, Front	175#
-	1	07-1103	1	Tow Bar	23
-	2	07-1104	1	Arm, Turning	16
-	3	07-1005	1	Tie Rod	8.6
-	4	07-11071	1	Axle, Front	63.3

ASSEMBLY No. 08-1018
 MAJOR ASSEMBLY- AXLE ASSEMBLY (CONTINUED)

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
	5	07-1016	1	Steering Arm, Lower Plate	6.7
07-1009	6	05-1009	1	Sleeve, King Pin, Right	12
07-1009	7	05-1009	1	Sleeve, King Pin, Left	12
	8	02-11131	4	Washer, King Pin	.7
	9	02-12131	4	Nut, King Pin	2
	10	05-1010	2	King Pin	11
	11	03-1013	4	Bushing, King Pin Sleeve	1
	12	03-1016	2	Ends, Tie Rod	5
	13	02-11072	5	Washers, Tie Rod	.4
	14	02-12071	2	Nuts, Tie Rod Ends	.6
	15	02-12071	2	Nut, Tie Rod Pivot	.6
	16	03-1015	2	Bushing, Tie Rod Pivot	.8
	17	02-1300	2	Cotter Pin	.2
	18	03-1014	2	Bushing, Axle Pivot	1
	19	-	-	-	-
	20	02-1503	4	Bolts, Tank Mounting	1.3
	21	02-12041	4	Nuts, Tank Mounting	.8
	22	02-1502	2	Bolts, Turning Arm Clamp	.3
	23	02-12041	2	Nuts, Turning Arm Clamp	.4
	24	02-1304	1	Hitch Pin	2
	25	07-1020	1	Toe Latch	3.7
	26	04-1054	1	Sprint, Toe Latch	.5
	27	02-12012	1	Nut, Toe Latch	.6
	28	02-1501	1	Bolt, Toe Latch	.2
	29	02-12141	2	Hex Nut, Tie Rod	.6

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SECTION 5.2.2

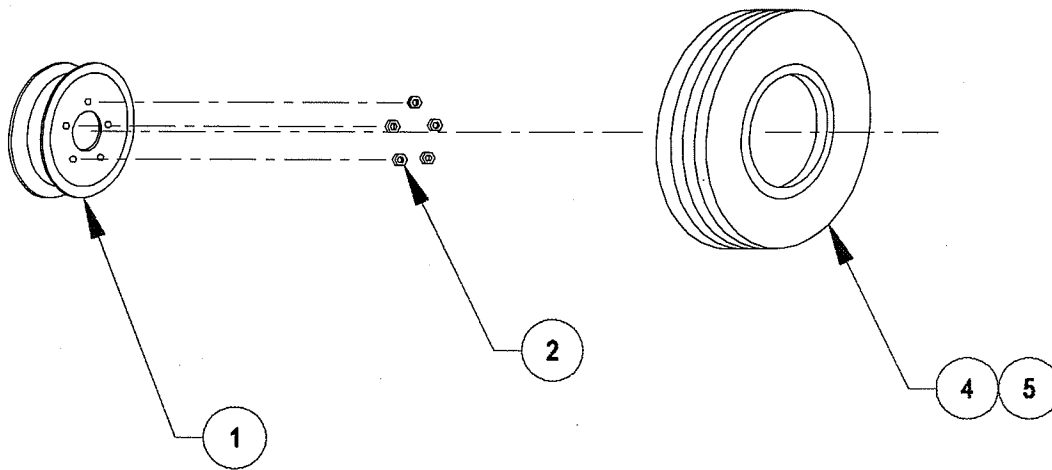


ASSEMBLY No. 08-10102
 MAJOR ASSEMBLY- AXLE ASSEMBLY

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-10102	-	-	1	Axle, Assembly, Rear	72#
-	1	05-1023	1	Axle,Rear, Special	41.9
-	2	02-1505	2	Bolts, Mounting Spindle	2
-	3	02-12035	2	Nuts, Mounting Spindle	1
-	4	07-1010	2	Spindle, Rear	20
-	5	02-1203	2	Nut, Mounting Spindle	1
-	6	02-1503	4	Bolt, Mounting Angles	2
-	7	02-1204	6	Nuts, Mounting	3
-	8	02-10041	2	Bolt, Mounting Spindle	1.5

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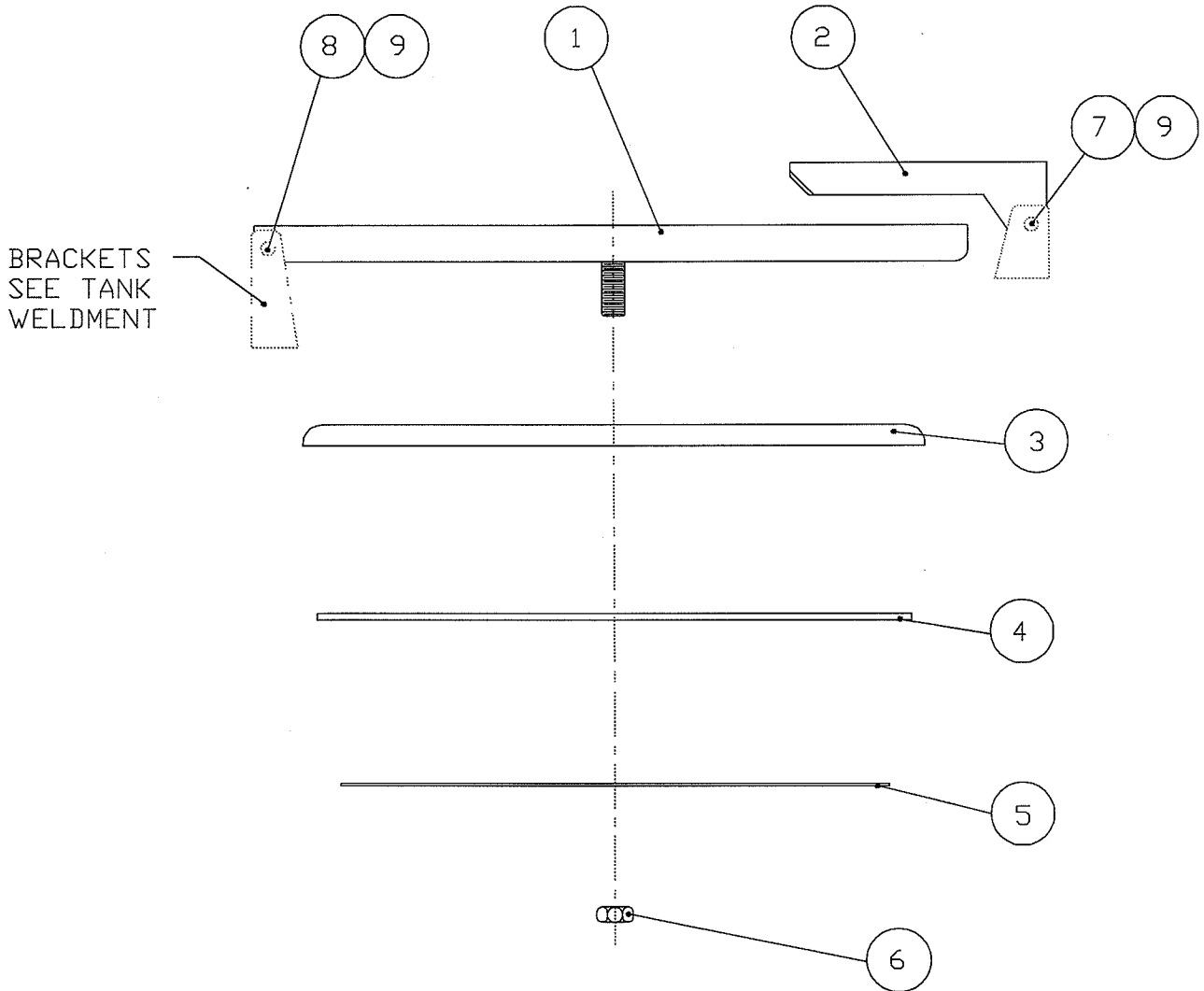
SECTION 5.2.5-B



ASSEMBLY No. 08-10061
 MAJOR ASSEMBLY- FRONT WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-10061	-	-	1	Tire/Wheel/Tube Assembly	35#
-	1	04-1020	1	Wheel, Split Rim	19
-	2	04-1021	5	Nuts, Lug	1
-	3	04-10221	1	Tire	4
-	4	04-1045	1	Tube	11

SECTION 5.3

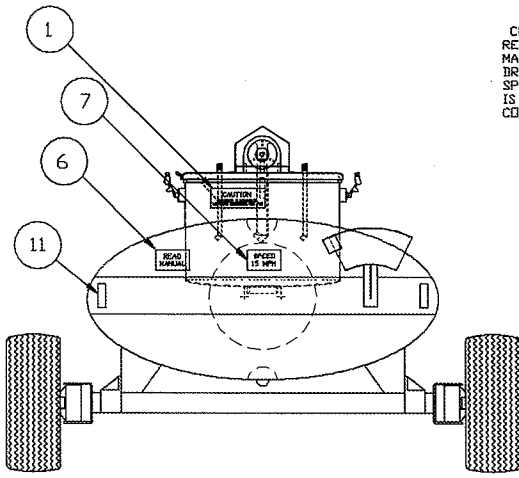


ASSEMBLY No. 08-1025
 MAJOR ASSEMBLY- 16" QUICK OPENING MANWAY

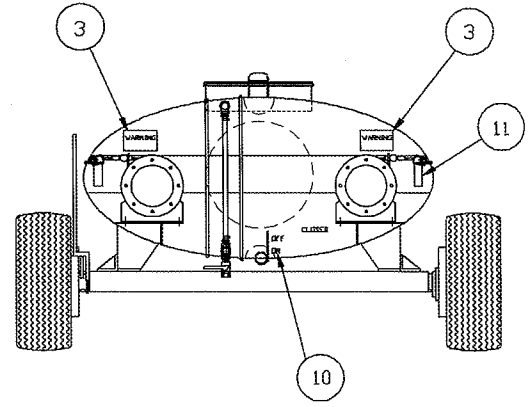
SUB ASSY.	ITEM	QTY.	PART NO.	DESCRIPTION	WGHT.
	1	1	07-1039S	CROSSARM,19 1/2"	2.5
	2	1	01-8222S	CROSSARM,7"	1
	3	1	01-86001	LID,COVER,MANWAY	6
	4	1	06-25025	GASKET,MANWAY	1.5
	5	1	01-8700	RETAINER,GASKET	1
	6	1	02-1206	NUT,5/8"-18 UNF,NYL0C	.2
	7	1	02-10014	BOLT,3/8"-UNC X 3 1/2"	.14
	8	1	02-10013	BOLT,3/8"-UNC X 3"	.12
	9	2	02-1202	NUT,3/8"-UNC,NYL0C	.2

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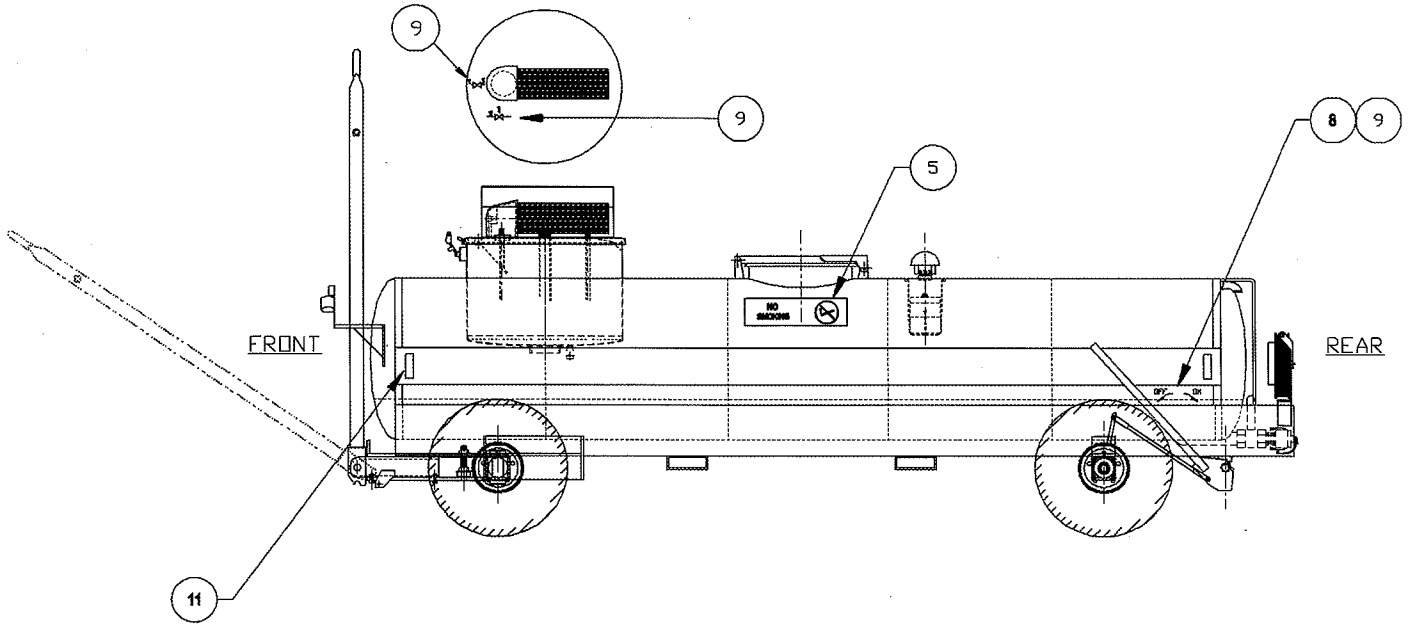
SECTION 5.4



FRONT VIEW



REAR VIEW

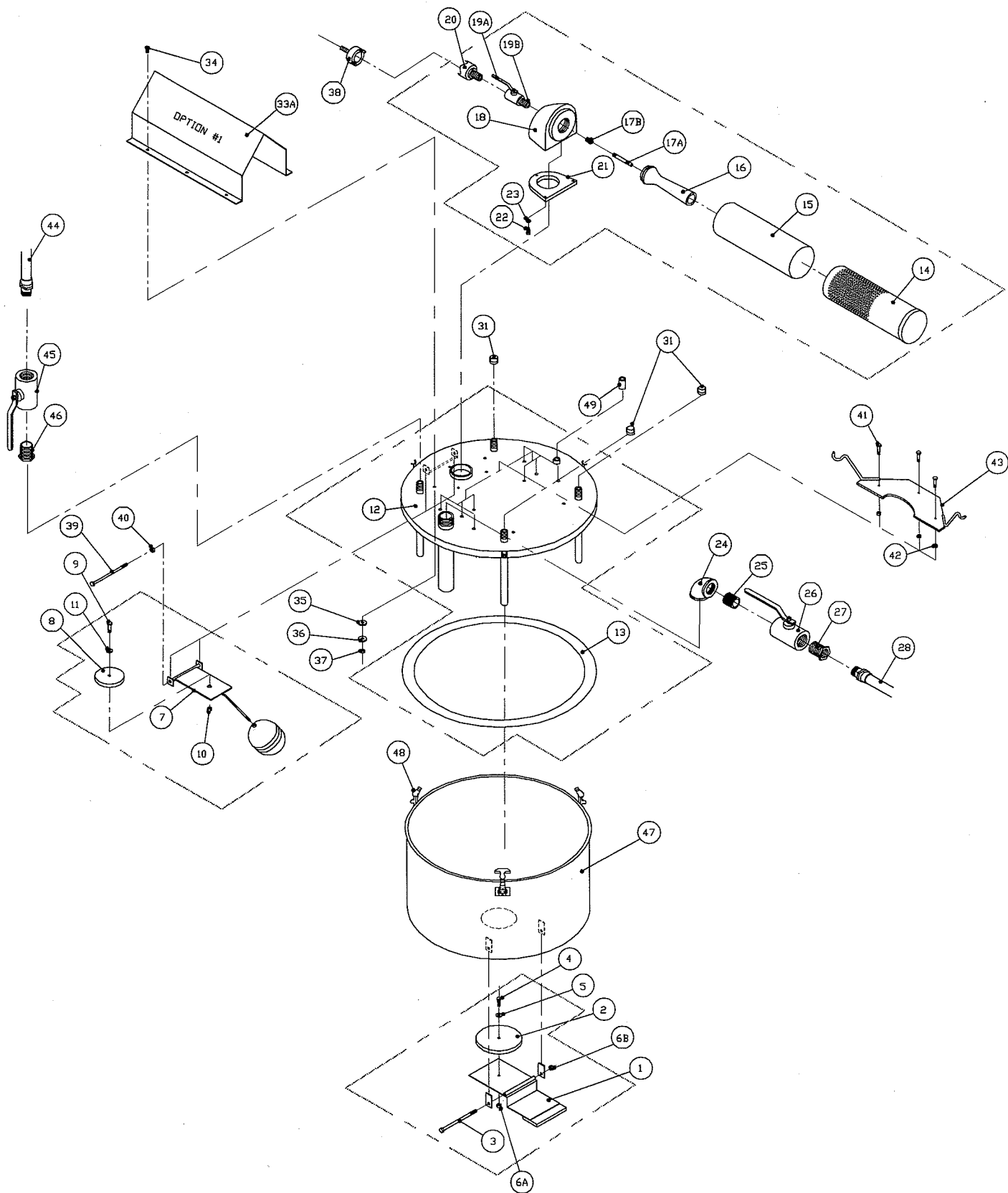


ASSEMBLY No. 10-10070
 MAJOR ASSEMBLY- DECAL PACKAGE

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
10-10070	-	-	1	DECAL PACKAGE	2.7#
	1	06-1002	1	Caution, Vacuum System	.1
	2	06-1003	1	Caution-Park Brake	.1
	3	06-1004	2	Warning-Grounding Reels	.1
	4	-	-	-	.1
	5	06-1006	2	Danger-No Smoking	.2
	6	06-1007	1	Notice-Read Manual	.1
	7	06-1008	1	Maximum Tow Speed	.1
	8	06-1010	1	On/Off-Park Brake	.1
	9	06-1010	1	On/Off-Park Brake	.1
	10	06-1011	8	On/Off Drain Valve	.8
	11	-	8	Reflector Tape, 6" lg.	.8
	12	-	-	-	-

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SECTION 5.6



ASSEMBLY No. 08-0002U
 MAJOR ASSEMBLY- VACUUM SYSTEM

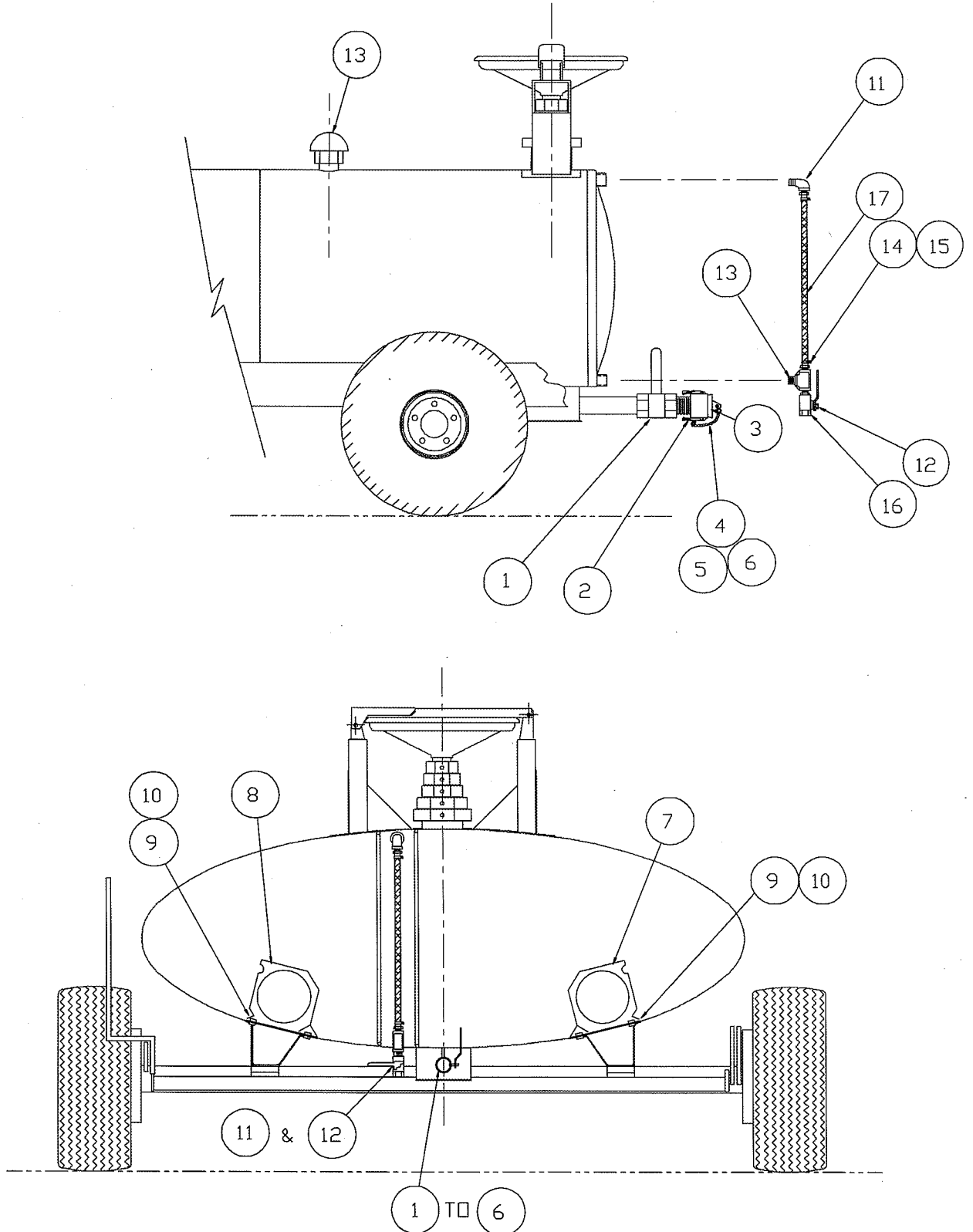
Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-0002U			1	VACUUM SYSTEM ASSEMBLY	208.1#
08-1000	1	07-1000	1	Drain Stop Arm (Optional)	3.5
-	2	04-1000	1	Gasket (Optional)	.1
-	3	02-10016	1	Bolt (Optional)	.1
	4	02-10002	1	Bolt (Optional)	.1
	5	02-1100	1	Washer, Flat (Optional)	.1
	6A	02-1201	1	Nut (Optional)	.1
	6B	02-1200	1	Nut (Optional)	.1
08-1001			1	Overflow Stop Assembly	
	7	07-1001	1	Float Assembly	4
	8	04-1001	1	Gasket	.1
	9	02-10003	1	Bolt	.1
	10	02-1200	1	Nut, Nylon Lock	.1
	11	02-1102	1	Washer, Flat	.1
08-1002	12		1	Cover Assembly	29.6
06-1022	13		1	Gasket	3.5
08-1003			1	Vacuum Generator Assembly	
	14	04-1004	1	Housing, Exhaust	9.5
	15	04-1005	1	Silencer	4.7
	16	04-1006	1	Venturi	2.2
	17A	04-1007	1	Jet, Air	2.7
	17B	03-11135	1	Reducer, Air Jet	.1
	18	04-1008	1	Box, Venturi	2.7
	19A	04-1032	1	Valve, Ball	5.8
	19B	03-0264S	1	Nipple	.2
	20	04-1056	1	Coupler, Air Twist	.7
	21	04-1010	1	Gasket	.1
	22	02-10010	3	Bolt	.1
	23	02-11002	3	Washer, Lock	.1
08-1004			1	Assessories	
	24	03-1001	1	Elbow, 90°	2
	25	03-02922S	1	Nipple	.5
	26	04-10321	1	Valve, Ball	3
	27	03-1002	1	Bushing	.2
	28	06-10162	50ft	Hose, Jet Fuel Bonded and Certified	25
	29	-	-	-	-
	30	-	-	-	-

ASSEMBLY No. 08-0002U
MAJOR ASSEMBLY- VACUUM SYSTEM

	31	03-1021	3	Cap, Pipe	1
	32	-	-	-	-
	33A	07-1034	1	Cover, Vacuum Generator	11
	33B	-	-	-	-
	34	02-10010	6	Bolt	.1
	35	06-25123	6	Washer, Flat	.1
	36	02-1100	6	Washer, Flat	.1
	37	02-1200	6	Nut, Nylon Insert	.1
	38	04-1057	1	Coupler, Air Twist	.1
	39	02-10004	1	Bolt	.1
	40	02-1200	1	Nut	.1
	41	02-100115	6	Bolt	1
	42	02-1202	6	Nut	.5
	43	07-1075	2	Hanger, Hose	3
	44	-	3	Hose, Jet Fuel Bonded And Certified	12
	45	04-2507	3	Valve, Ball	6
	46	-	3	Bushing	3.1
08-1009			1	Vacuum Tank Fabricated Assembly	
	47	07-1032	1	Tank Assembly	65
	48	04-1062	1	Fastener, Hood	1.1
07-10341	49		1	Valve, Vacuum Check Assembly	2.5

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SECTION 5.7

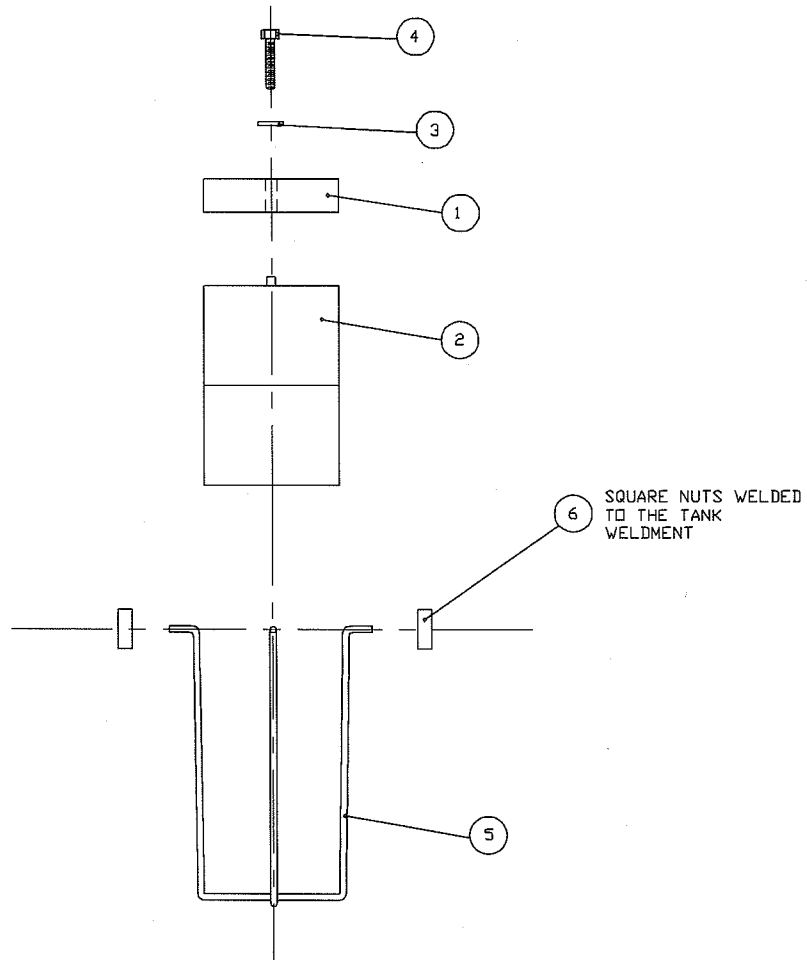


ASSEMBLY No. 10-100110
 MAJOR ASSEMBLY- MISC. FIXTURES

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1012			1	Drain Assemblby	
	1	04-10321	1	Valve, Ball Locking	6
	2	04-1033	1	Coupler, Camlock	1.5
	3	04-10331	1	Plug, Camlock	.5
	4	04-1034	1	Chain	.2
	5	04-1035	1	Link	.1
	6	04-10351	1	Hook, S-Type	.1
08-1013			1	Grounding Reel Assemblies	
	7	04-1036	1	Reel, Grounding Clamp Type	12
	8	04-10361	1	Reel, Grounding Plug Type	12
	9	02-10040	4	Bolt	.3
	10	02-100115	4	Nut	.1
08-1014			1	Sight Gauge Assembly	
	11	03-0017S	2	Elbow	.3
	12	03-1007	1	Tee	.3
	13	03-1008	2	Nipple	.3
	14	03-11130	2	Hose Barb	.3
	15	03-1010	2	Hose Clamp	.3
	16	04-1032	1	Valve, Ball	.3
	17	06-2527	1	Tubing	.3
	18	-	-	-	-
	19	-	-	-	-
04-1037	20	04-1037	1	Vent, Morrison	1

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SECTION 5.8

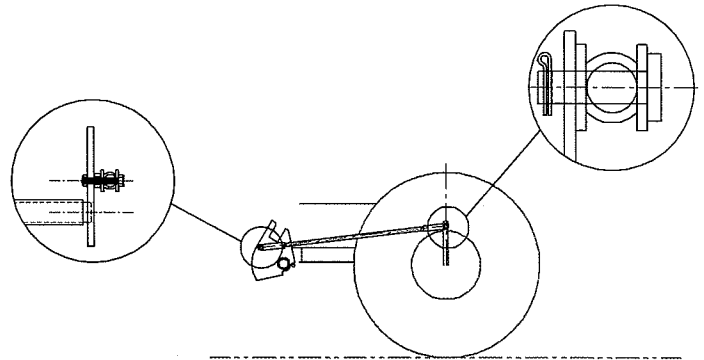


ASSEMBLY No. 08-10011
 MAJOR ASSEMBLY- VENT, OVERFLOW PREVENTOR

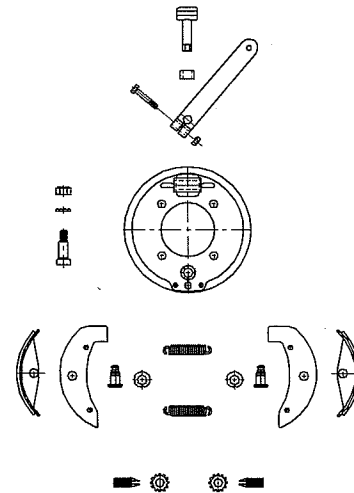
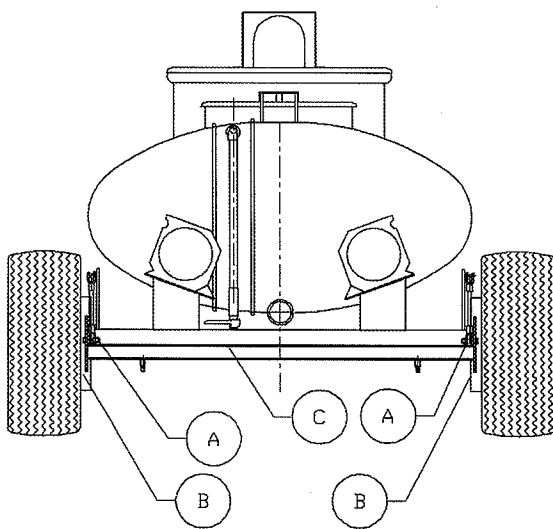
Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1022			1	Float Assembly	2.7#
	1	04-1047	1	Gasket	1
	2	06-1013	1	Float	.5
	3	02-1100	1	Washer	.1
	4	02-10001	1	Bolt	.1
08-1023			1	Gage Assembly	
	5	07-1032	1	Cage, Wire	.9
	6	02-12140	4	Nut	.1

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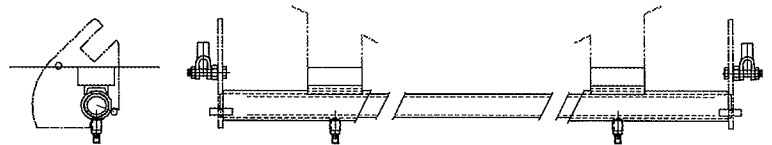
SECTION 5.2.3



(A) BRAKE LINKAGE ASSEMBLY
 SECTION 5.2.3-A



(B) BRAKE ASSEMBLY
 SECTION 5.2.3-B



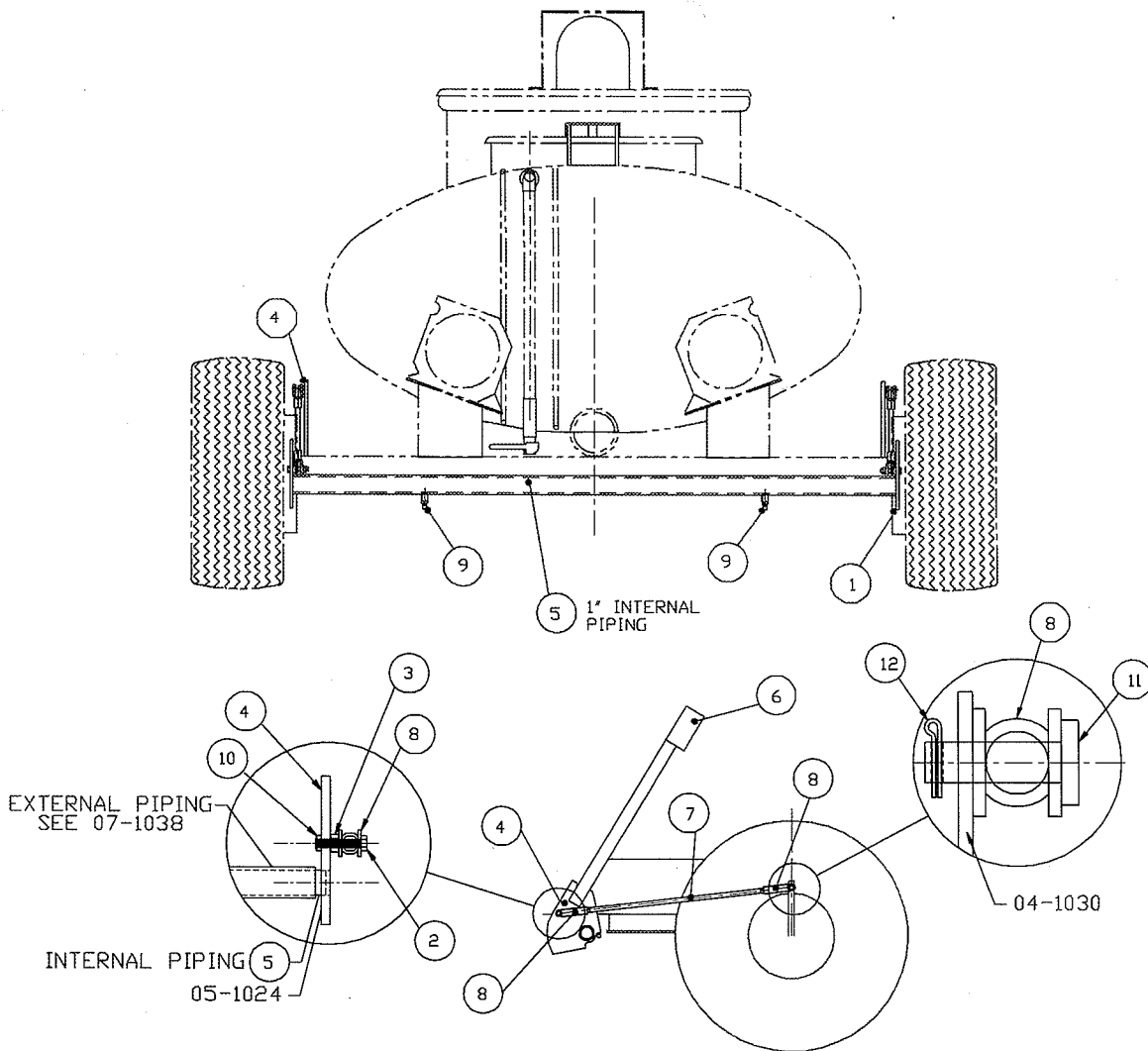
(C) BRAKE SLEEVE ASSEMBLY
 SECTION 5.2.3-C

ASSEMBLY No. 10-100030
 MAJOR ASSEMBLY- BRAKE ASSEMBLY

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
10-100030	-	-	1	Brake Assembly	45#
-	A	08-1008	1	Brake Linkage Assembly	14.3
-	B	08-1007	1	Brake Assembly	17.9
-	C	07-1038	1	Brake Sleeve Assembly	8.6

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SECTION 5.2.3-A

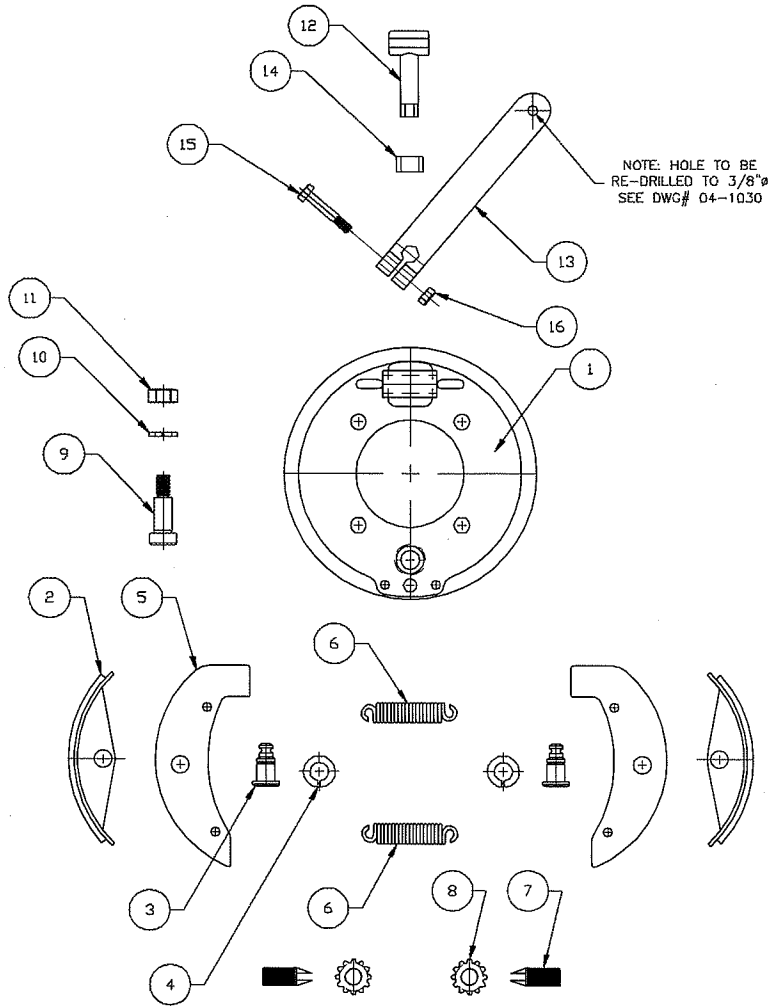


ASSEMBLY No. 08-1008
 MAJOR ASSEMBLY- BRAKE ASSEMBLY

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1008			1	Brake Linkage Assembly	14.5#
	1	05-1025	1	Cam, Brake Linkage, Right	1.4
	2	02-10012	2	Bolt, Cam	1.6
	3	02-12021	2	Nut, Cam	.4
	4	07-1033	1	Brake Handle Fab'd Sub Assembly	1.4
	5	01-8104	1	Shaft, Brake	7.5
	6	04-1055	1	Hand Grip	.2
	7	05-1026	2	Rod, Brake	.5
	8	04-2516	4	Yoke End	.5
	9	03-1020	2	Greese Fitting	.5
	10	02-100231	2	Nut, Jam	.5
	11	-	2	Pin	.1
	12	-	2	Pin, Cotter	.1

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SECTION 5.2.3-B

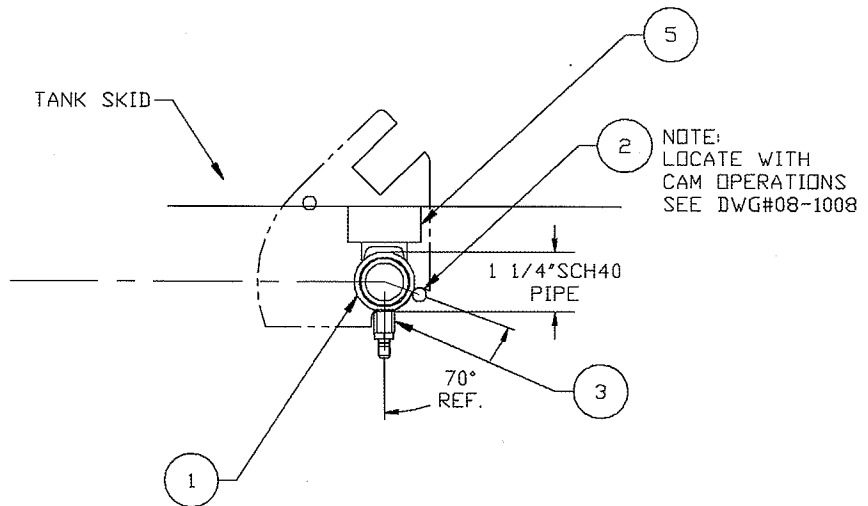
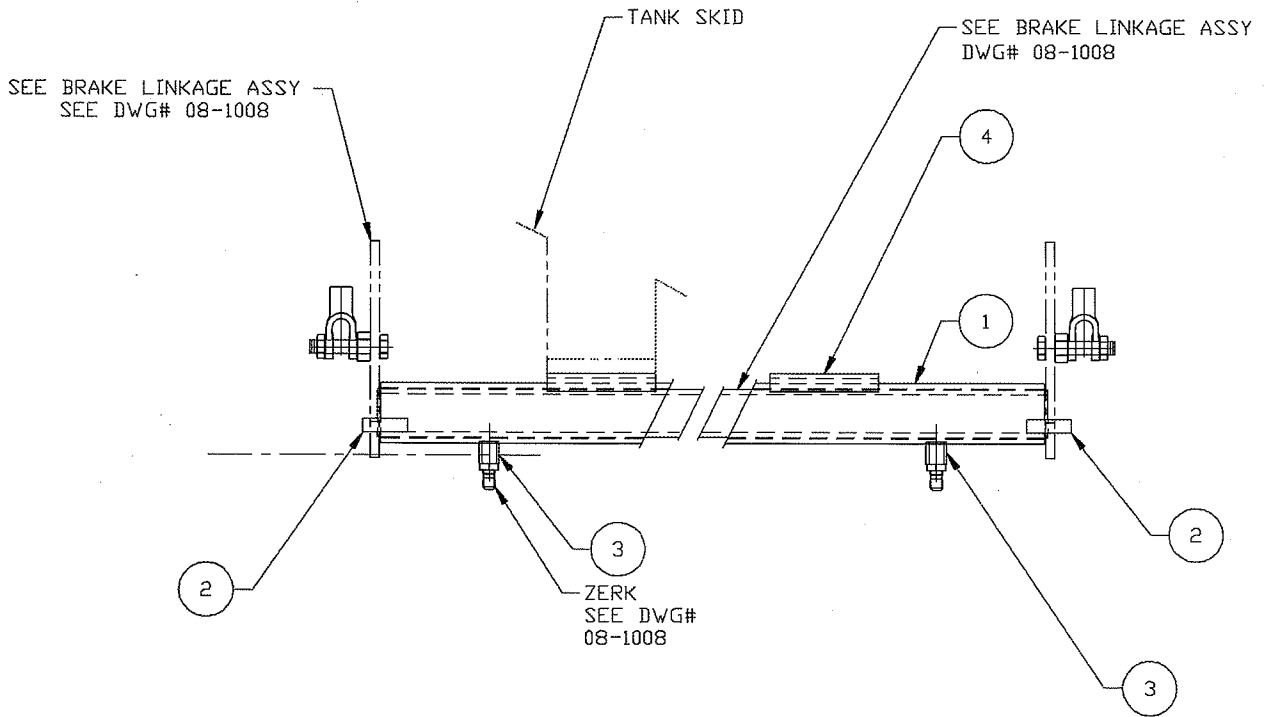


ASSEMBLY No. 08-1007
 MAJOR ASSEMBLY- BRAKE ASSEMBLY

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1007		-	1	MECHANICAL BRAKE ASSEMBLY PRE ASSEMBLED	18.5#
	1	04-1064	1	Brake Plate Assembly	7
	2	04-1065	2	Brake Shoe Assembly	4
	3	04-1066	2	Anchor Pin	.2
	4	02-1400	2	Retaining Ring	.2
	5	04-1025	2	Lever, Brake Shoe	1
	6	04-1026	2	Spring, Brake Shoe Lever	1
	7/8	04-1027	2	Adjusting Screw Assembly	.7
	9	02-10031	4	Bolt, Shoulder Type	.5
	10	02-11031	4	Lock Washer	.1
	11	02-12031	4	Nut	.2
	12	04-1028	1	Cam	.2
	13	04-1030	1	Lever	3
	14	04-1031	1	Spacer	.1
	15	02-10001	1	Bolt	.2
	16	02-12140	1	Nut	.1

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SECTION 5.2.3-C

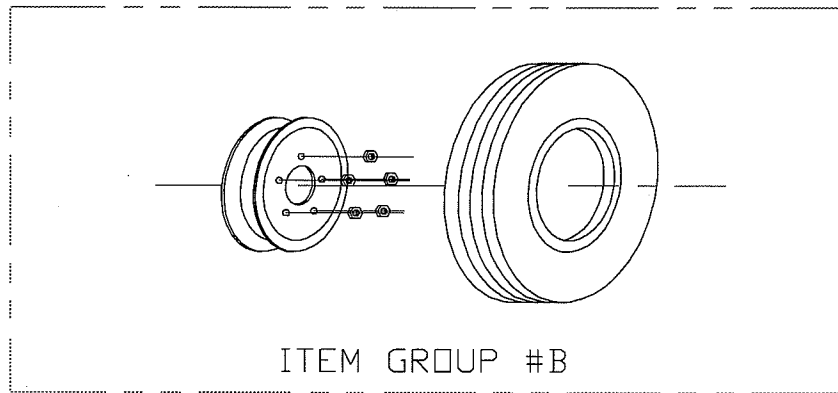
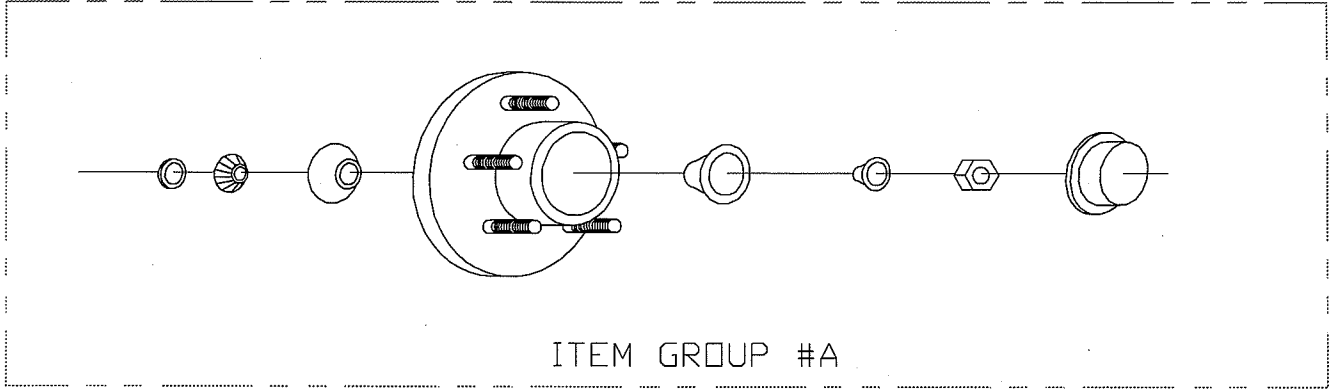


ASSEMBLY No. 07-1038
 MAJOR ASSEMBLY- BRAKE ASSEMBLY

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
07-1038	-	-	1	BRAKE SLEEVE ASSEMBLY	13#
	1	01-8031	1	Sleeve, Brake Assembly	7.4
	2	01-9124	2	Stop, Cam	.08
	3	03-0371	1	Coupling, Zirk	.03
	4	01-8545	2	Mount, Cannel	.49
	5	01-9791	2	Spacer	5.0

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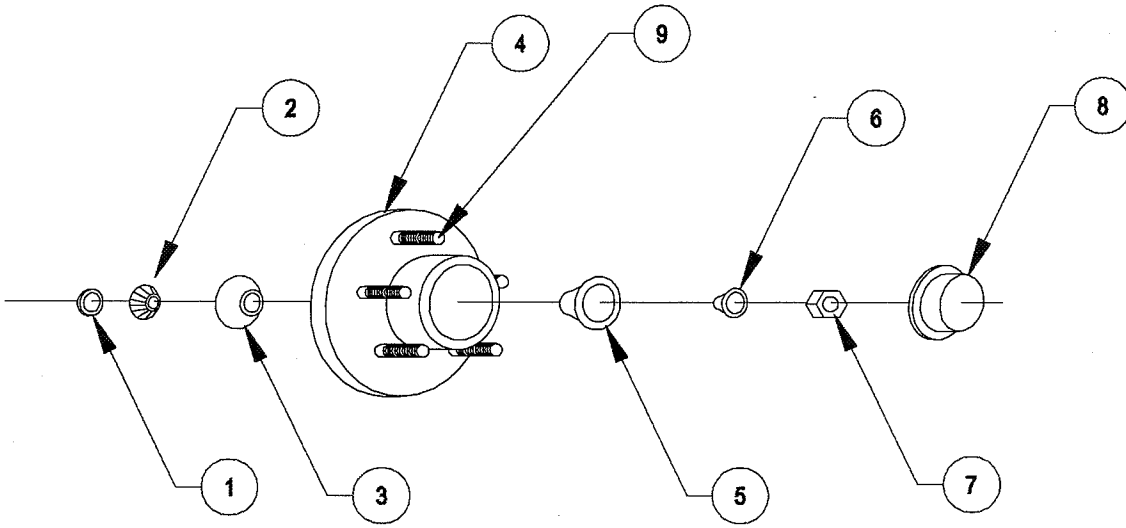
SECTION 5.2.4



ASSEMBLY No. 10-100042
 MAJOR ASSEMBLY- FRONT WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
10-100042	-	-	2	FRONT WHEEL ASSEMBLY	116#
-	A	08-1011	1	Bearing And Hub Assembly, Front	23
-	B	08-10061	1	Tire/Wheel/Tube Assembly	35

SECTION 5.2.4-A

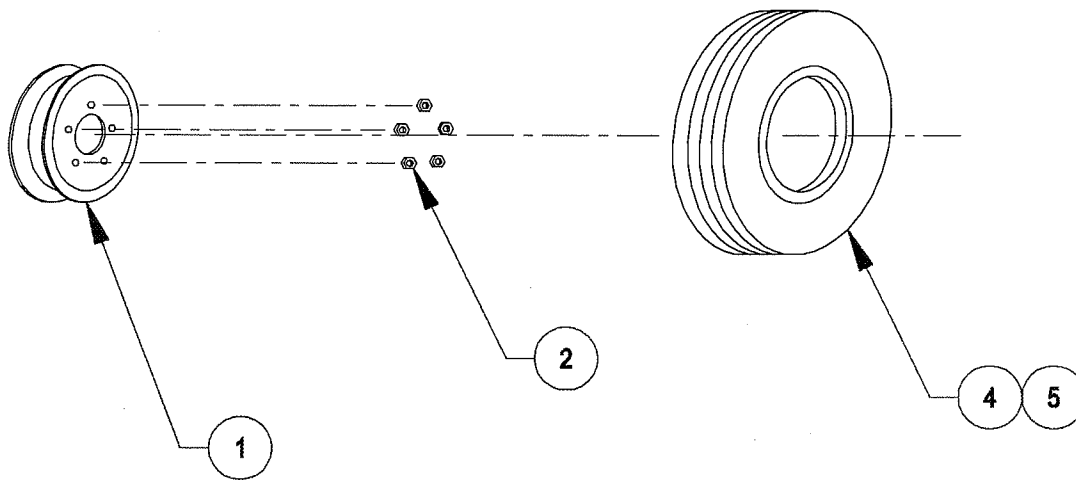


ASSEMBLY No. 08-1011
 MAJOR ASSEMBLY- FRONT WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-1011		04-1050	1	Bearing and Hub Assembly, Front	23#
	1	04-1012	1	Seal, Bearing	1
	2	04-1013	1	Bearing, Inner	3
	3	04-1015	1	Cup, Inner	2
	4	04-1017	1	Hub, Wheel	7
	5	04-1016	1	Cup, Outer	4
	6	04-1014	1	Bearing, Outer	3
	7	02-1205	1	Nut, Spindle	1
	8	04-1019	1	Cap, Dust	1
	9	02-1017	5	Studs, Hub	1

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SECTION 5.2.4-B

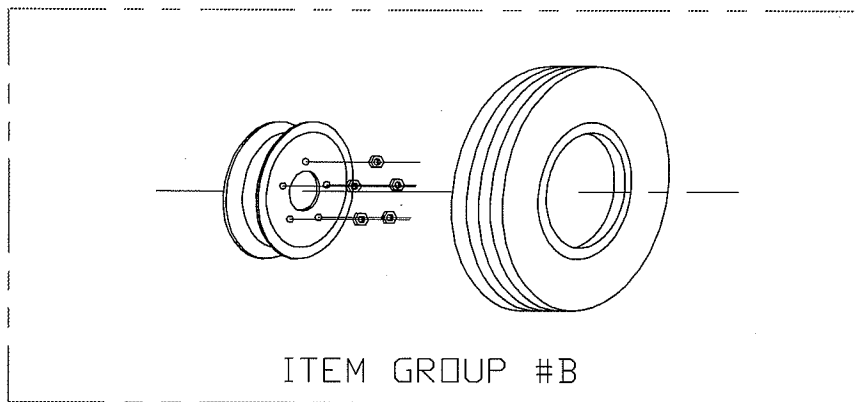
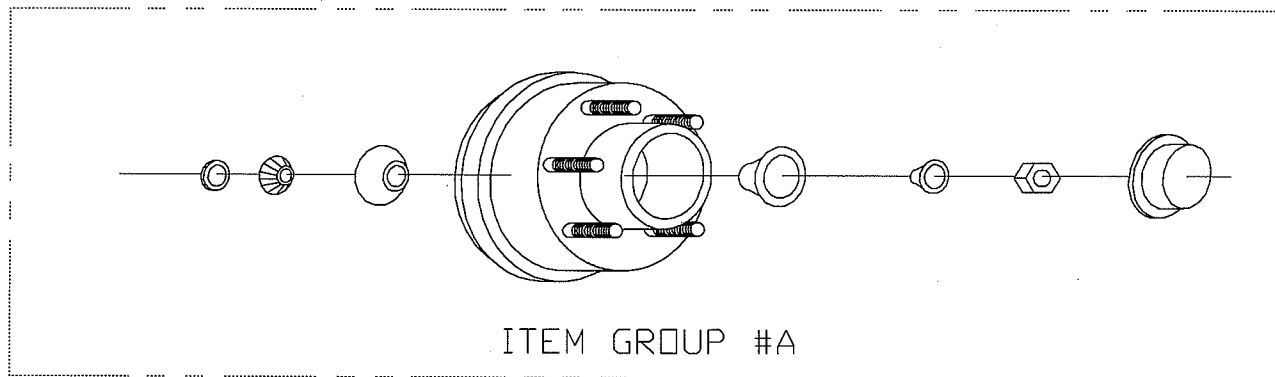


ASSEMBLY No. 08-10061
 MAJOR ASSEMBLY- FRONT WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-10061	-	-	1	Tire/Wheel/Tube Assembly	35#
-	1	04-1020	1	Wheel, Split Rim	19
-	2	04-1021	5	Nuts, Lug	1
-	3	04-10221	1	Tire	4
-	4	04-1045	1	Tube	11

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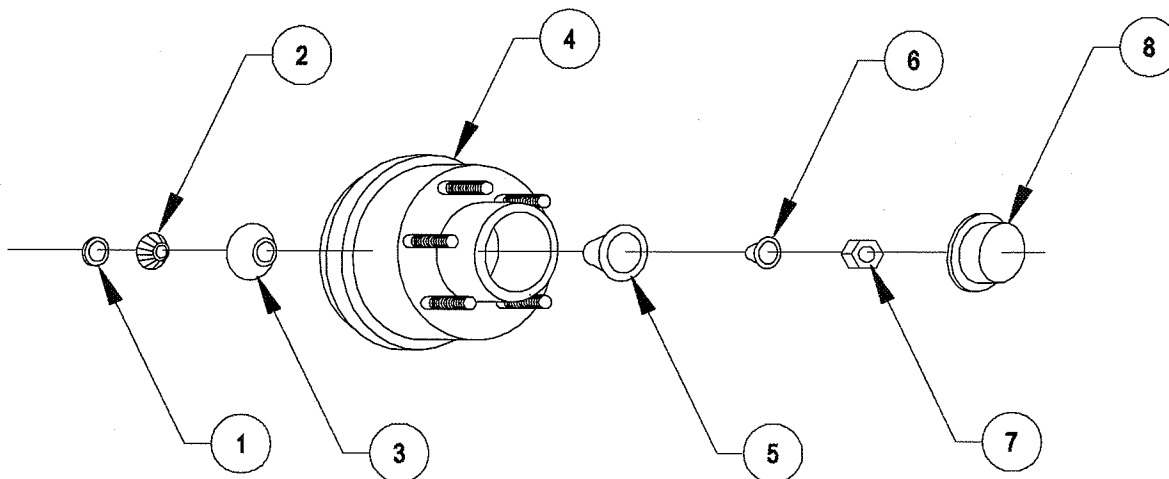
SECTION 5.2.5



ASSEMBLY No. 10-100052
 MAJOR ASSEMBLY- REAR WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
10-100052	-	-	2	REAR WHEEL ASSEMBLY	136.3#
-	A	08-10111	1	Bearing And Hub Assembly, Front	32.6
-	B	08-10061	1	Tire/Wheel/Tube Assembly	35

SECTION 5.2.5-A



ASSEMBLY No. 08-10111
 MAJOR ASSEMBLY- REAR WHEEL

Sub Assy.	Item	Part No.	Quantity	Description	Wt. #'s
08-10111			1	Bearing and Hub Assembly, Rear	32.6#
	04-1062		1	Bearing and Hub Assembly, Rear	32.6
	1	04-1012	1	Seal, Bearing	1
	2	04-1013	1	Bearing, Inner	3
	3	04-1015	1	Cup, Inner	2
	4	05-1008	1	Hub And Brake Drum Sub-Assembly	17.6
		05-1021	1	Brake Drum (04-1051)	6.3
		05-1020	1	Hub, 5-Hole (04-1017)	9.0
		02-1017	5	Studs, Hub	2.3
	5	04-1016	1	Cup, Outer	4
	6	04-1014	1	Bearing, Outer	3
	7	02-1205	1	Nut, Spindle	1
	8	04-1019	1	Cap, Dust	1

WARRANTY

SPOKANE INDUSTRIES, INC.

SPOKANE METAL PRODUCTS DIVISION

Spokane Washington

500 GALLON FUEL BOWSER TANK ONE YEAR LIMITED WARRANTY

Seller warrants its "500 Gallon Fuel Bowser Tank" to be free from defects in material and workmanship under the normal use and service for which the unit is intended if, but only if the unit has been properly operated, maintained and stored in accordance with printed directions contained in the product manual. Our obligation under this warranty shall be limited to the repair or exchange of equipment and parts which may prove defective within one year of the date the unit is put into service but shall in no event extend beyond a date two years from the date the unit is shipped from our plant. All transportation charges on parts returned to us for replacement under this warranty must be returned pre-paid.

This warranty does not extend to damages caused by environmental factors varying from normal design conditions, whether natural or man-made, or to units subjected to misuse, negligence or accident. This warranty likewise does not extend to the unit or any parts thereof which have been repaired or altered improperly or in any way so as to effect adversely its stability or reliability. This warranty does not cover parts or labor required to repair or replace parts whose usefulness is exhausted due to normal operation of this unit.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOT SET FORTH IN A WRITING SIGNED BY AN AUTHORIZED REPRESENTATIVE OR SELLER. SELLER SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL LOSS OR DAMAGE RESULTING FROM THE USE OR LOSS OF USE OF THIS UNIT.

