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600 GALLON FUEL BOWSER

TECHNICAL MANUAL

PARTS, OPERATION AND MAINTENANCE

MODEL NUMBER BOW 600-05

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TECHNICAL MANUAL  
PARTS, OPERATION AND MAINTENANCE  
MODEL NUMBER BOW 600-05

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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 Bowser unit, a visual inspection should be made to determine that it is complete and has not sustained any damage during transportation.

1.3 Leading Particulars

Table 1.3

---

Volume . . . . .	660 Gallons	
Length (Tow bar extended) . . . . .	.199.5 Inches	
(Tow bar raised) . . . . .	.139.5 Inches	
Width . . . . .	79.5 Inches	
Height . . . . .	55 Inches	
Weight empty . . . . .	1735 LBS.	
Enviromental conditions		
Operating temperature range . . . . .	-40 F to +125 F	
Vacuum pump capability (suction inlet blocked) . . . . .	16 in. Hg.	
Flow (no restriction) . . . . .	120 scfm	
Compressed air required . . . . .	60cfm at 100psi	
Vacuum chamber capacity . . . . .	25 gallons	
Vacuum hose		
Length . . . . .	50 Feet	
Inside diameter . . . . .	1-1/4 Inches	
Telescoping funnel		
Maximum height . . . . .	16 Feet	
Minimum height . . . . .	55 Inches	
Remote drain funnel		
Maximum height . . . . .	49 Inches	
Minimum height . . . . .	.20' Inches	
Tire size . . . . .		20.5x8.00-10
Inflation pressure . . . . .	65 PSI cold	
Maximum towing speed (forward only) . . . . .	15 mph	
Note: do not back bowser using tow vehicle		

---

## 2.0 SAFETY

### General Precautions

The following are general safety precautions that are not necessarily related to a specific procedure and therefore may not appear elsewhere in this manual. These are general safety precautions and instructions that personnel must understand and apply during many phases of operation and maintenance to ensure personal safety and health and the protection of Air Force property

### 2.1 Potential Fire Or 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.

2.1.2 A 50 foot radius area around the fuel bowser for no smoking, sparks, or open flames is usually a good practice. It is strongly recommended all local or other regulations such as Military T.O 00-25-172 be consulted for further restrictions.

2.1.3 Bowser should be drained prior to performing any maintenance to the tank.

### 2.2 Telescoping Drain

2.2.1 Care should be exercised in using the telescope to prevent injury to fingers, by pinching them between clamps and dropping sections.

2.2.2 If high wind conditions exist, do not extend telescoping funnel.

### 2.3 Grounding

2.3.1 To eliminate static sparks, the bowser unit is equipped with two grounding reels which should be connected prior to draining or filling operations.

### 2.4 Towing

2.4.1 Make sure the tow bar is securely attached to the towing vehicle.

2.4.2 Before moving the 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.
- 2.6 Inspections
  - 2.6.1 Inspection of tires, undercarriage, tow bar, vent, valves, hoses, sump strainer, sight gauge, reflectors, safety labels, etc., should be carried out in accordance with local maintenance policies and or applicable Air Force directives.
  - 2.6.2 Internal inspection will be necessary to insure structural integrity and cleanliness.
  - 2.6.3 Confined space/crawlspace  
Personnel that work within a confined space that by design has limited openings for entry and exit, has unfavorable natural ventilation, not intended primarily for human occupancy, or contains other recognized safety hazards shall comply with the requirements of AFOSH Std 127-25 "Confined spaces". An AF form 1024, "Confined spaces entry permit" will be processed with the local safety, health, and fire prevention offices prior to entering the space.
  - 2.6.4 Personnel Protective Equipment (PPE)  
If unique local conditions make compliance with the protective clothing or other occupational health requirements specified in this manual unnecessary or impractical, obtain an evaluation of the operation from the bioenvironmental engineer. The environmental engineer and the base safety officer will determine the required precautions.
- 2.7 Other safety
  - 2.7.1 Finger rings/jewelry  
Finger rings have caused many serious injuries. Remove rings, watches and other metallic objects which may cause shock or burn hazards. Unless specifically allowed by shop safety procedures, remove finger rings during all maintenance activity.

- 2.7.2 Cleaners/chemicals/paints/primers  
Some cleaners, chemicals, paints and primers have adverse effects on skin, eyes, and the respiratory tract. Observe manufacturer's warning labels. Material Safety Data Sheets (MSDS) instructions for proper handling, storage, and disposal, and current safety directives. Use only in authorized areas. Unless otherwise indicates in the text, use as described in this manual should not result in any immediate health concerns. Consult the local bioenvironmental engineer and base safety officer for specific protection equipment and ventilation requirements.
- 2.7.3 Do not service or adjust alone  
Do not attempt internal service or adjustment of equipment unless another person capable of rendering air and resuscitation is present.
- 2.7.4 Lifting/handling  
Use adequate number of personnel or appropriately rated lifting and handling devices to move equipment.

### 3.0 OPERATION

- 3.1 Intended Use
  - 3.1.1 The fuel bowser unit is intended for use in draining and collection of fuel from aircraft and the transportation to a disposal site. Any other use is prohibited and may void any and all warranties.
- 3.2 Parking Brake
  - 3.2.1 The 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, or draining tank, or whenever the unit is left unattended.
- 3.3 Towing
  - 3.3.1 The bowser unit is equipped with steerable front wheels controlled by the tow bar.

3.3.2 Caution

Do not back bowser using a tow vehicle because it can jackknife causing damage to towbar and or undercarriage.

3.3.3 Tire inflation should be checked and maintained as described in the maintenance section.

3.3.4 Before towing, check to see the brake is disengaged, grounding reel and hoses are disconnected, valves are closed, tow bar is securely attached to the towing vehicle, telescoping drain is collapsed, and all manways and covers are closed and latched.

3.3.5 The bowser unit is equipped with a tow bar latch to hold it in the upright position.

3.4 Telescoping Drain Assembly (See section 5.5)

3.4.1 Intended use

The fuel bowser is equipped with a telescoping drain assembly, which is used to drain fuel from low point fuel ports. Funnel is equipped with a nitrile rubber seal (#2) around the top edge to allow placement against the underside of a wing.

3.4.2 To Raise:

- (1) Open protective cover (See section 5.3)
- (2) Loosen top clamp if necessary.(See section- 5.5 item #7)
- (3) Grasp top section (#1) with one hand and lift until the top clamp (#3) raises approximately six inches.
- (4) Tighten clamp securely with the other hand.
- (5) Reposition lifting hand by grasping tube below tightened clamp and lift until next clamp is raised approximately 6 inches.
- (6) Repeat steps 1-4 until desired height is obtained or assembly is fully extended.

3.4.3 To Lower:

- (1) Tightly grasp bottom extended tube(#13) with one hand and loosen the securing clamp(#23).
- (2) Slowly lower tube, hand over hand, until the following clamp is resting on the loosed clamp.
- (3) Repeat steps 1 and 2 until all sections are lowered

3.4.4 When not in use, telescope should be collapsed and the protective cover closed to eliminate contamination

3.5 Vacuum Assembly (See section 5.6)

3.5.1 This assembly is equipped with an air powered vacuum generator (#14 thru 21)

3.5.2 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 sparks.

3.5.3 Vacuum is started by attaching a air hose (recommended air supply of 60CFM at 100 PSI) to the quick disconnect (#38) and turning on the air supply valve.(#19) Position vacuum hose (#30) for depuddeling operation and open valve (#26)

3.5.4 The vacuum chamber is equipped with an automatic drain valve (#12) that opens whenever vacuum is eliminated in the chamber. This valve opens directly into the main tank.

3.5.5 The vacuum generator is equipped with an automatic overflow protector (#36) When the level of product is full, the overflow protector shuts off and eliminates the vacuum. The vacuum chamber will then automatically drain. The air supply valve (#19) must be shut off to reset the overflow protector Vacuuming may then continue.

- 3.5.6 The vacuum assembly is supplied with 50 feet of vacuum hose (#30) and a ball valve (#26) on the vacuum suction.
- 3.6 Grounding Reels (See section 5.7)
  - 3.6.1 The bowser unit is supplied with two grounding reels.
  - 3.6.2 Before filling, draining, or vacuuming, the grounding reels must be attached to the aircraft or object being serviced and an appropriate ground.
- 3.7 Drain Valves (See section 5.7)
  - 3.7.1 The bowser unit is equipped with a 1-1/2" NPT ball valve(#15) with a camlock connector(#16).
- 3.8 Sample Port (See section 5.7)
  - 3.8.1 The bowser unit is equipped with a 1/2" NPT valve for use as a sample port(#7).
- 3.9 Sump Drain Strainer (See section 5.5.1)
  - 3.9.1 The bowser unit is equipped with a sump with removable bottom to allow cleaning of the drain strainer(#14).
- 3.10 Vent Overflow Preventor (See section 5.8)
  - 3.10.1 The bowser unit is equipped with a float(#1) actuated seal(#2) to prevent fuel from flowing out the vent in the event the bowser is overfilled.
- 3.11 Remote drain funnel (See section 5.9)
  - 3.11.1 The bowser unit is equipped with a remote drain funnel that is intended to be used to collect fuel from low point fuel ports that are too low to use the standard telescoping drain.

3.11.2 To Raise:

- (1) Open protective cover(#11)
- (2) Loosen top clamp if necessary(#9)
- (3) Grasp top section(#7) with one hand and lift until the top clamp(#9) raises approximately six inches.
- (4) Reposition lifting hand by grasping tube section below the tightened clamp and lift until the next clamp is raised approximately six inches.
- (5) Repeat steps 1-4 until desired height is obtained or assembly is fully extended.

3.11.3 To Lower:

- (1) Tightly grasp bottom extended tube(#6) with one hand and loosen the securing clamp(#9).
- (2) Slowly lower tube(#6), hand over hand, until the following clamp is resting on the loosed clamp.
- (3) Repeat steps 1 and 2 until all sections are lowered.

3.11.4 When not in use, telescope should be collapsed and the cover closed to eliminate contamination

## 4.0 MAINTENANCE

### 4.1 Parking Brake (see section 5.2.3)

4.1.1 The bowser unit is equipped with a parking brake assembly consisting of a 7" diameter brake drum with 2-1/4" wide brake shoes.

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

4.1.3 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.

4.1.4 Replacement of shoes.

- (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.

4.2 Under Carriage and Tow Bar (see section 5.2.1)

4.2.1 The bowser unit is equipped with steerable front wheels, fixed rear wheels, and a tow bar.

4.2.2 Maintenance should consist of the following:

Note:(King pin bushing, turning bushings and tie rod ends are self lubricating and need no additional maintenance).

Inspect entire unit in accordance with 35-1-226 WC-1

4.2.3 If excessive front tire wear or poor steering response is noticed, the front end probably needs a alignment.  
The proper tow setting is 1/8" in toward the front of the unit.

4.3 Telescoping Drain Assembly (see section 5.5)

4.3.1 The telescoping Drain Assembly consists of stainless steel housing 4 1/2" in diameter permanently attached to the tank and five aluminum tube sections.

4.3.2 The stainless tube and four largest aluminum tubes are equipped with a clamp assembly.

4.3.4 Each aluminum tube is crimped on the lower end which acts as a stop to prevent the tube from sliding through the clamp.

4.3.5 Disassembling of the telescope assembly is accomplished by rotating the four sections 180 degrees from normal position and gently lifting each section so that the crimped edge on the tube is aligned with the slot on the clamp.

4.4 Vacuum Assembly (see section 5.6)

4.4.1 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 latches.

4.4.2 The vacuum chamber is equipped with an automatic drain valve (12) located at the bottom of the vacuum chamber underneath. This valve is preset at the factory and should not need further adjustment, however the gasket (2) may be replaced if needed.

4.4.2.1 Gasket replacement:

Removal:

- 1) Drain bowser.
- 2) Remove bolt (3) and nut (6) by reaching down thru the manway.
- 3) Remove drain valve (12) from tank.
- 4) Replace gasket as needed.
- 5) Reinstall in the reverse of the above steps.

4.4.3 The vacuum cover is equipped with an overflow valve (36) which should require no maintenance. However the gasket (8) may be replaced if needed

4.4.3.1 Gasket replacement:

Removal:

- 1) Drain bowser.
- 2) Release the three latches holding vacuum cover down.
- 3) Remove vacuum cover off the bowser.
- 4) Replace gasket as needed.
- 5) Reinstall in the reverse of the above steps.

4.4.4 The vacuum generator is attached to the chamber cover. It is equipped with an exhaust silencer (14) which should be cleaned at six (6) month intervals or more often depending on the amount of use and conditions. Clean silencer in mild soap and water solution and let air dry prior to reinstallation.

4.4.5 The vacuum hose (30) should be replaced if any sudden loss of vacuum suction occurs and or any cracks, leaks are visible.

4.4.6 The cover gasket (13) should be replaced if deterioration has occurred, by removing cover (32) replacing gasket and reinstalling cover.

4.5 Grounding Reels

4.5.1 Grounding reel should be maintained in accordance to 35-1-266WC-1 and local procedures.

4.7 Sump Drain Strainer (see section 5.5.1)

4.7.1 Sump drain strainer is located on the bottom of the stainless steel drain housing.

4.7.2 Removal:

- (1) Removal is accomplished by loosening the wing nut on the clamp holding the base of the sump. **WARNING!** Check interior to assure fuel has been thoroughly drained before loosening wing nut.
- (2) Remove clamp and cover (1)
- (3) Loosen clamp holding screen(14) to stainless steel drain housing and pull screen down.
- (4) Reinstall in reverse order of above steps.

4.8 Vent Overflow Preventor (see section 5.8)

4.8.1 The vent overflow preventor is located inside the tank directly under the vent, and has a replaceable float and gasket.

4.8.2 Removal:

- (1) Drain bowser
- (2) Reach inside of manway and locate vent overflow directly under the exterior of the vent.
- (3) Compress cage (5) until it disengages from mounting tabs and remove from tank.
- (4) Remove float and gasket and replace as needed.
- (5) Reinstall in the reverse order of the above steps.

#### 4.10 TROUBLE SHOOTING

SYMPTOM	PROBABLE CAUSE	PROBABLE CORRECTIONS
Bowser does not track or steer correctly or steers loosely	Bent King Pin housing see section 5.2.1 Item #6	Replace King Pin housing
	Defective Tie Rod End see section 5.2.1 Item #12	Replace Tie Rod End
	Loose or worn out Bushings, see section 5.2.1 Items #11,16 or 18	Replace as needed
Toe Bar does not stay in the upright position	Alignment incorrect See section 4.2.3	Adjust as needed
	Broken or stretched spring see section 5.2.1 Item # 26	Replace as needed
Parking Brake does not work	Need adjustment	Adjust as per instructions in section 4.1.3
	Needs repairing see section 5.2.3	Replace as needed
Vacuum System will not depuddle	Defective lower drain stop gasket, see section 4.4.2.1 Item #2	Replace as needed
	Not enough air pressure to operate vacuum generator, see section 3.5.3	Increase air pressure and volume
	Plugged outlet Filter see section 4.4.4	Replace or clean as required
	Defective lid gasket See section 4.4.6	
	Suction hose leaking See section 4.4.5	
Fuel misting is occurring through vacuum generator	Bowser tank is too full	Empty main Bowser tank
	Overflow stop gasket needs replacing See section 4.4.3	Replace or adjust as needed

<u>SYMPTOM</u>	<u>PROBABLE CAUSE</u>	<u>PROBABLE CORRECTIONS</u>
Telescoping Drain won,t stay up	Loose clamp handles	Retighten handles
Telescoping Drain is over flowing	Bowser tank is full	Empty main Bowser tank
	Clogged sump screen or strainer, see section 4.7.	Remove and clean as required
Fuel will not drain	Cloged screen	Remove and clean as required
	Cloged overflow vent	

#### 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 METAL PRODUCTS  
P.O. Box 3303  
Spokane, WA 99220-3303  
Telephone: (509)928-0720  
Tele Fax:(509)927-0826

# MANUFACTURE DIRECTORY

COAST IND.  
15959 PLUMA AVE.  
CERRITOS, CA. 90701  
FSCM 1N109

SCHRADER AUTOMOTIVE INC.  
566 MAINSTREAM DRIVE  
P.O. BOX 675  
NASHVILLE, TENNESSEE 37202-0675  
FSCM 27783

ALINABAL  
28 WOODMONT ROAD  
MILFORD, CONNECTICUT 06460  
FSCM 31633

LINCOLN, A PENTAIR CO.  
ONE LINCOLN WAY  
ST. LOUIS, MO 63120  
FSCM 36251

PT COUPLING COMPANY INC.  
P.O. BOX 3909  
ENID, OK. 73702-3909  
FSCM 33813

McMASTER CARR  
P.O. BOX 54960  
LOS ANGELES, CA 90054  
FSCM 3A054

CARDINAL INDUSTRIAL PRODUCTS  
3873 W. QUENDO  
LOS VEGAS, NV. 89118  
FSCM 57454

APOLLO BALL VALVE DIVISION  
CONBRACO INDUSTRIES, INC.  
P.O. BOX 125  
PAGELAND, SC 29728  
FSCM 57661

AMETEK  
U.S. GAUGE DIVISION/  
HUNTER SPRING PRODUCTS  
SELLERSVILLE, PA 18960  
FSCM 61349

SPOKANE METAL PRODUCTS  
P.O. BOX 3303  
BLD. 4 SPOKANE INDUSTRIAL PARK  
SPOKANE, WA 99220  
FSCM 66144

BUNTING BEARINGS CORP.  
1001 HOLLAND PARK BLVD  
P.O. DRAWER 729  
HOLLAND, OH 43528J  
FSCM 71366

CHICAGO HD  
9100 PARK AVE.  
FRANKLIN PARK, IL. 60131  
FSCM 71747

DIXON VALVE AND COUPLING CO.  
800 HIGH ST.  
CHESTERTOWN, MD. 21620  
FSCM 76621

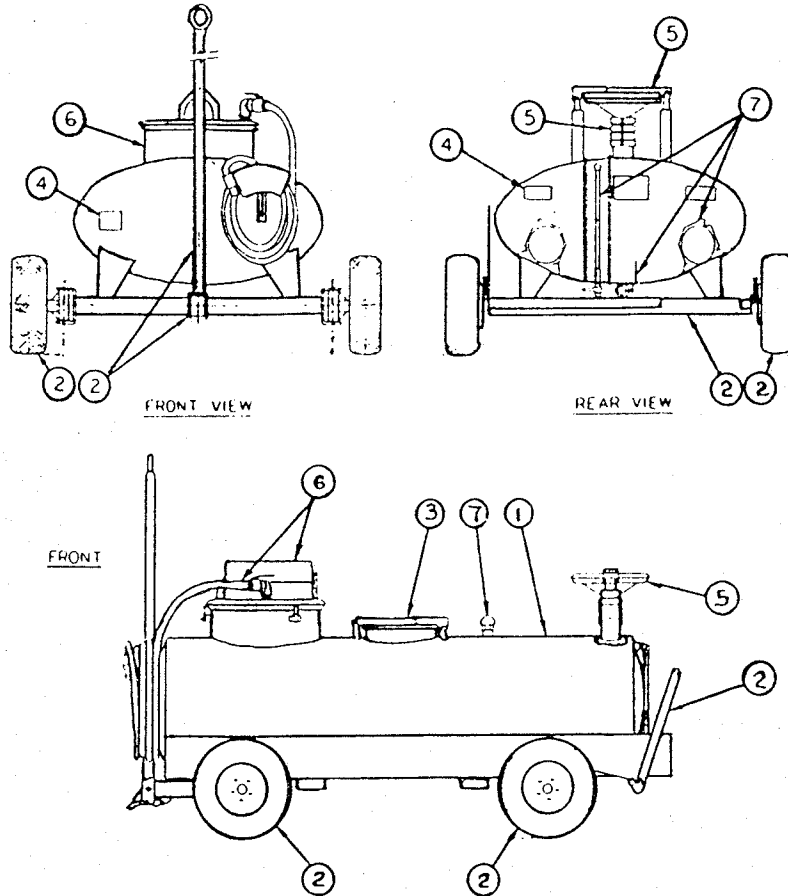
A F C  
COSGROVE INDUSTRIAL PARK  
BRANFORD, CT. 06405  
FSCM 7R846

MAC LEAN'FOGG CO.  
P.O. BOX 91396  
CHICAGO, IL. 60693  
FSCM 82465

KNAPPCO  
9304 MATTOX RD.  
KANSAS CITY, MISSOURI 64150  
FSCM 91840

COOPER INDUSTRIES  
COOPER HAND TOOL DIVISION  
1000 LULKIN RD.  
P.O. BOX 728  
APEX, NC. 27502-0728  
FSCM 96508

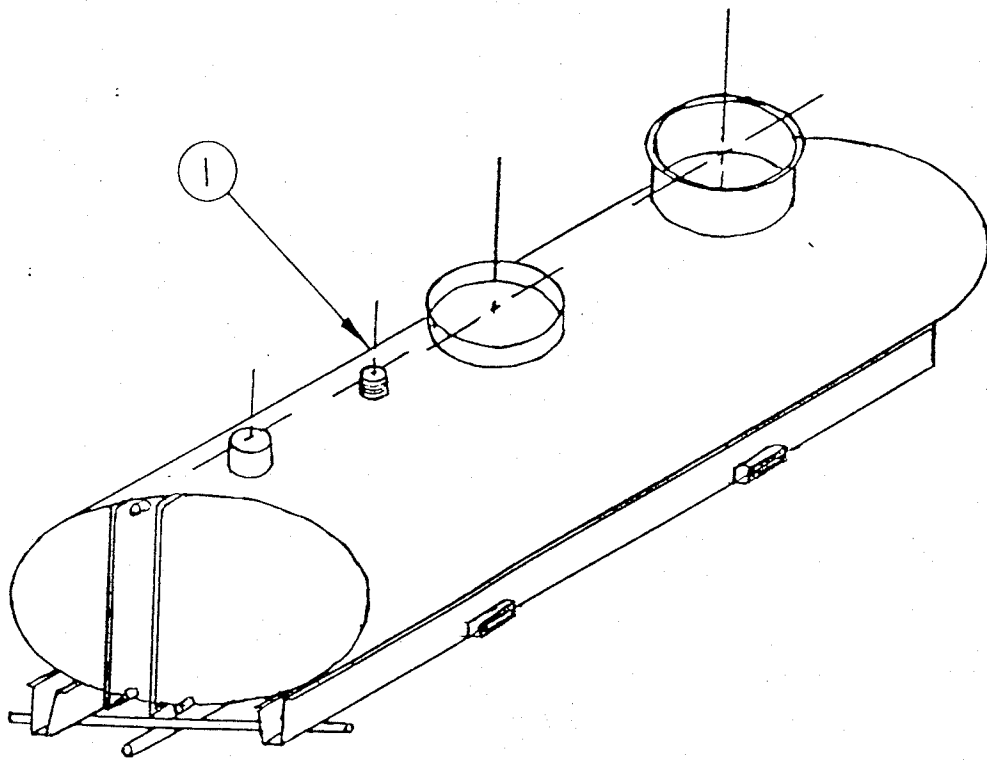
BINDER METAL  
P.O. BOX 2306  
GARDENA, CA. 90248  
FSCM OBJ40



<u>Item No.</u>		<u>Section</u>
1	Main Tank . . . . .	5.1
2	Axle, Front . . . . .	5.2.1
2	Axle, Rear . . . . .	5.2.2
2	Brake, Parking . . . . .	5.2.3
2	Wheel Assembly, Front . . . . .	5.2.4
2	Wheel Assembly, Rear . . . . .	5.2.5
3	Manway Assembly . . . . .	5.3
4	Decal Package . . . . .	5.4
5	Telescoping Drain . . . . .	5.5
6	Vacuum Assembly . . . . .	5.6
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7	Vent, Overflow Preventor . . . . .	5.8

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SECTION 5.1



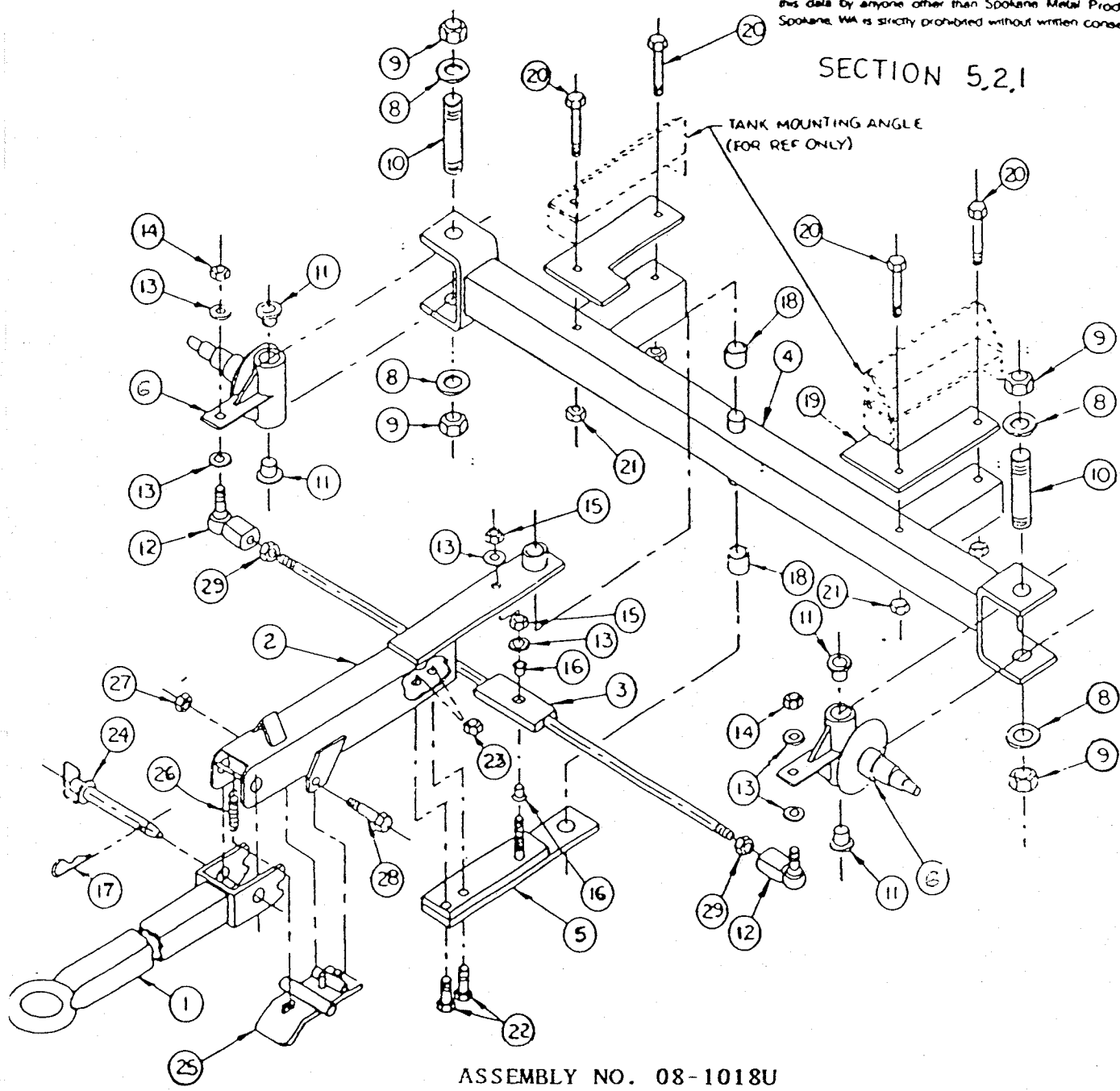
ASSEMBLY NO. 08-11009

MAJOR ASSEMBLY - TANK WELDMENT

Item No.	Part No.	Cage code	Description	Qty per Assy	Usable on code	SMR code
1	08-11009	66144	Tank weldment	1		XB

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### SECTION 5.2.1

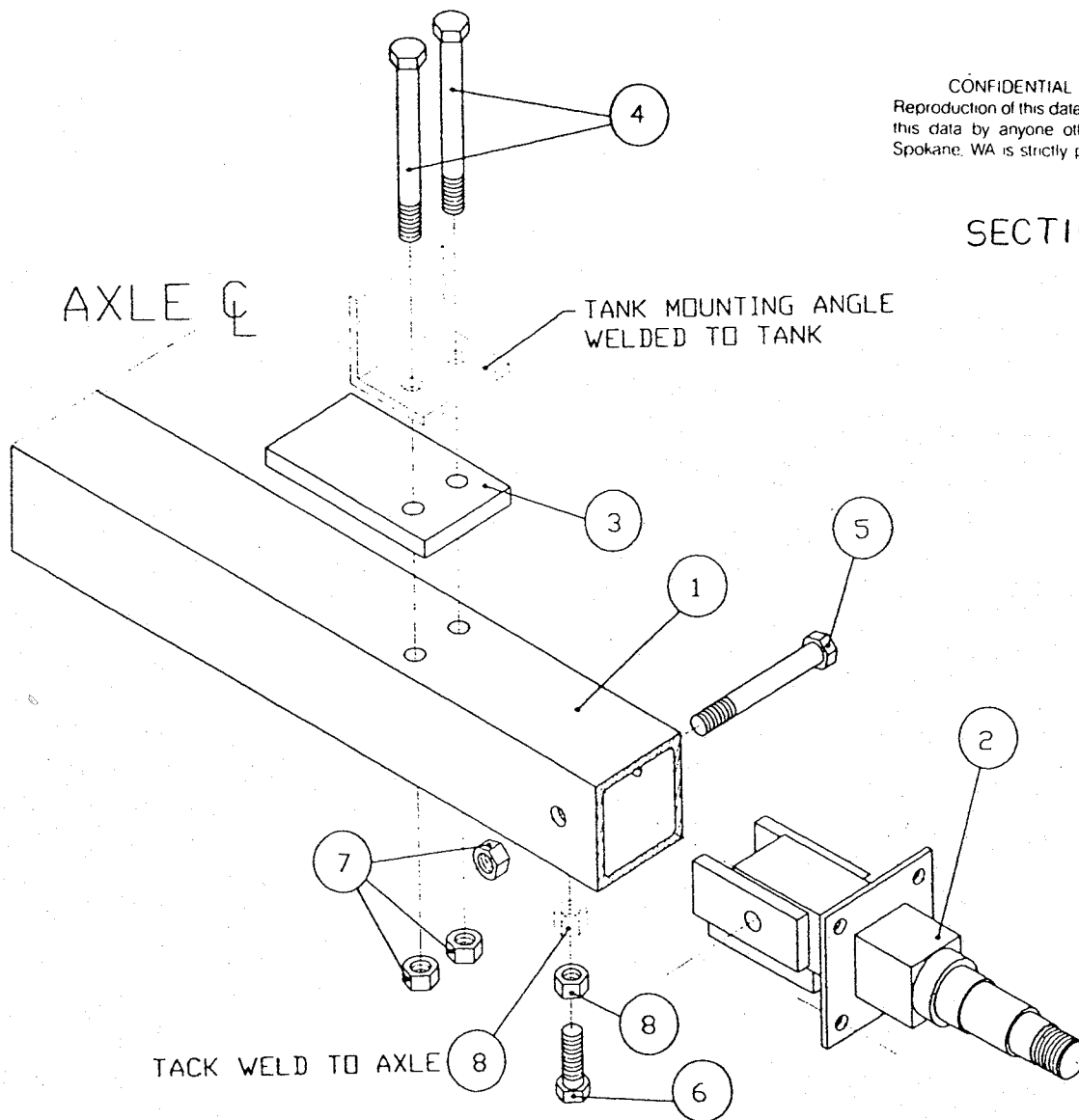


ASSEMBLY NO. 08-1018U  
MAJOR ASSEMBLY - AXLE ASSEMBLY

Item No.	Part No.	Cage code	Description 1234	Qty per Assy	Usable on code	SMR code
0	08-1018U	66144	.Undercarriage,front	1		XB
1	07-1103	66144	..Bar,Tow	1		PAFZZN
2	07-1104	66144	..Arm,Steering	1		XB
3	07-1005	66144	..Rod,Tie	1		PAFZZN
4	07-1107	66144	..Axle,Front	1		PAFZZN
5	07-1016	66144	..Plate, Lower	1		XB
6	07-1009	66144	..Housing,King Pin	2		XB
7						
8	MS27183-31	96906	...Washer, Flat	4		PAFZZN
9	MS51922-86	96906	...Nut, Self Locking	4		PAFZZN
10	05-1010	66144	...Pin, King	2		XB
11	FFB242812	71366	...Flange Bearing	4		PAFZZN
12	VF-12-G	31633	...Ball Joint	2		PAFZZN
13	3/4Flat,ZP	OBJ40	...Washer, Flat, 3/4	5		PAFZZN
14	MS51943-46	96906	...Nut, 3/4 UNF,lock	3		PAFZZN
15						
16	FF101102	71366	...Flange Bearing	2		PAFZZN
17	3/16Cotter	57454	...Pin, Cotter,3/16ZP	1		PAFZZN
18	AA1704-15	70417	...Bearing, Sleeve	2		PAFZZN
19	06-1023	66144	...Pad,Mounting,Front	2		PAFZZN
20	1/2UNCx5	57454	...Bolt,1/2x5,ZP,CS	4		PAFZZN
21	1/2UNC,NUT	57454	...Nut,1/2UNC,Nylock	4		PAFZZN
22	1/2UNCx1.75	57454	...Bolt,1/2x1.75ZP,CS	2		PAFZZN
23	1/2UNC,NUT	57454	...Nut,1/2UNC,Nylock	2		PAFZZN
24	1x4.5,ZP	57454	...Pin,Hitch,1x4.5,ZP	1		PAFZZN
25	07-1020	66144	..Latch,Tow	1		XB
26	9628K5	3A054	...Spring,Helical,Ext	1		PAFZZN
27	5/16UNC,NUT	82465	...Nut,5/16UNC,Nylock	1		PAFZZN
28	5/16UNCx4.5	57454	...Bolt,5/16UNCx4.5,ZP	1		PAFZZN
29	MS51922-61	96906	...Nut,selflocking,Hex	2		PAFZZN

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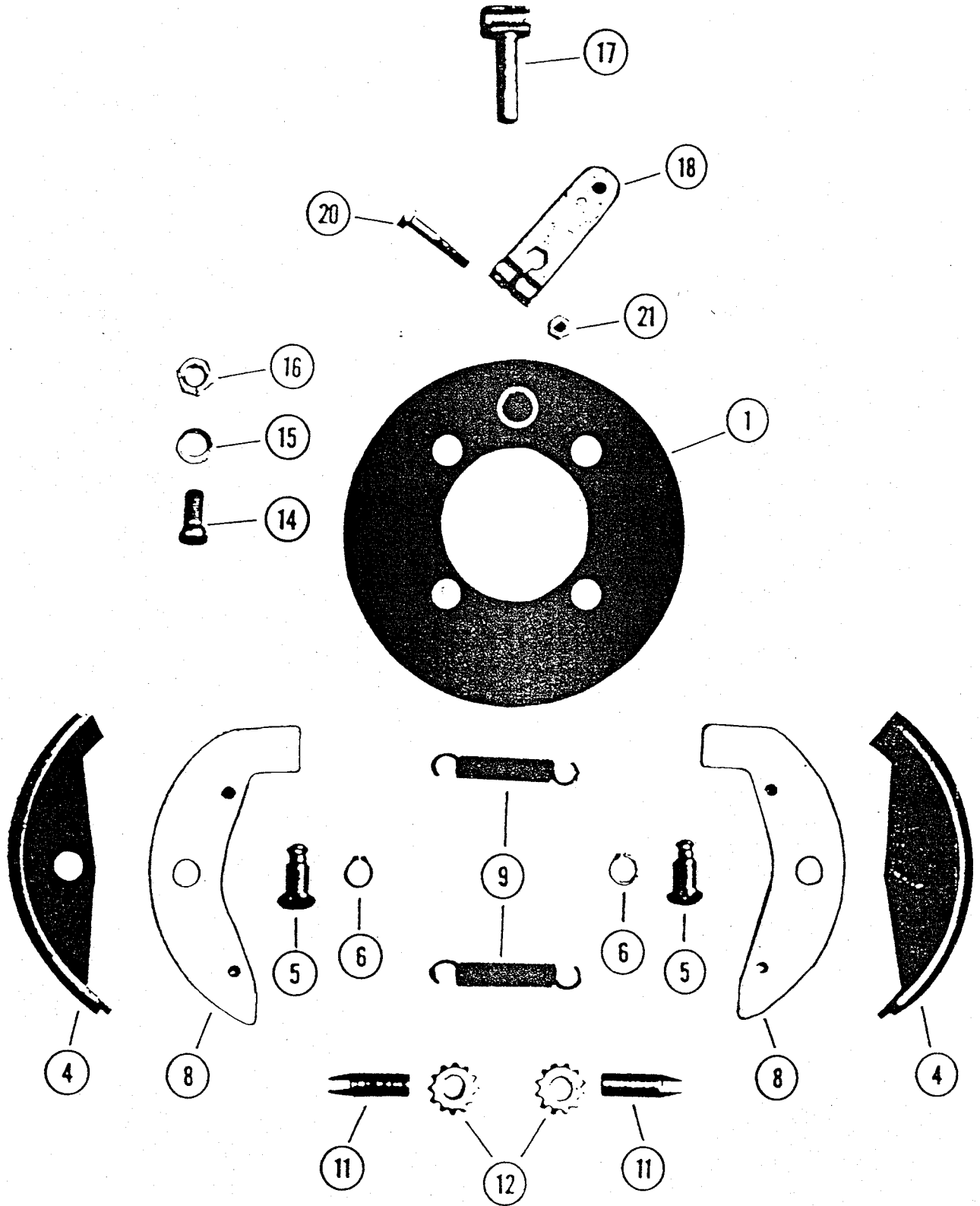
SECTION 5.2.2



ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	08-1010U	66144	.UNDERCARRIAGE, REAR	1		XB
1	05-1023U	66144	..AXLE, REAR	1		XB
2	07-1010	66144	..SPINDLE, REAR	2		XB
3	06-1012	66144	...PAD, MOUNTING, REAR	2		PAFZZN
4	1/2"UNCX5, C/S	57454	...BOLT, 1/2-UNCX5	4		PAFZZN
5	1/2-UNCX4, C/S	57454	...BOLT, 1/2-UNCX4	2		PAFZZN
6	1/2"-UNCX1-1/2	57454	...SCREW	2		PAFZZN
7	MS51943-39	96906	...NUT, SELF LOCKING, HE	6		PAFZZN
3	1/2-UNC, ASTMA3082465		...NUT, 1/2-UNC	4		PAFZZN

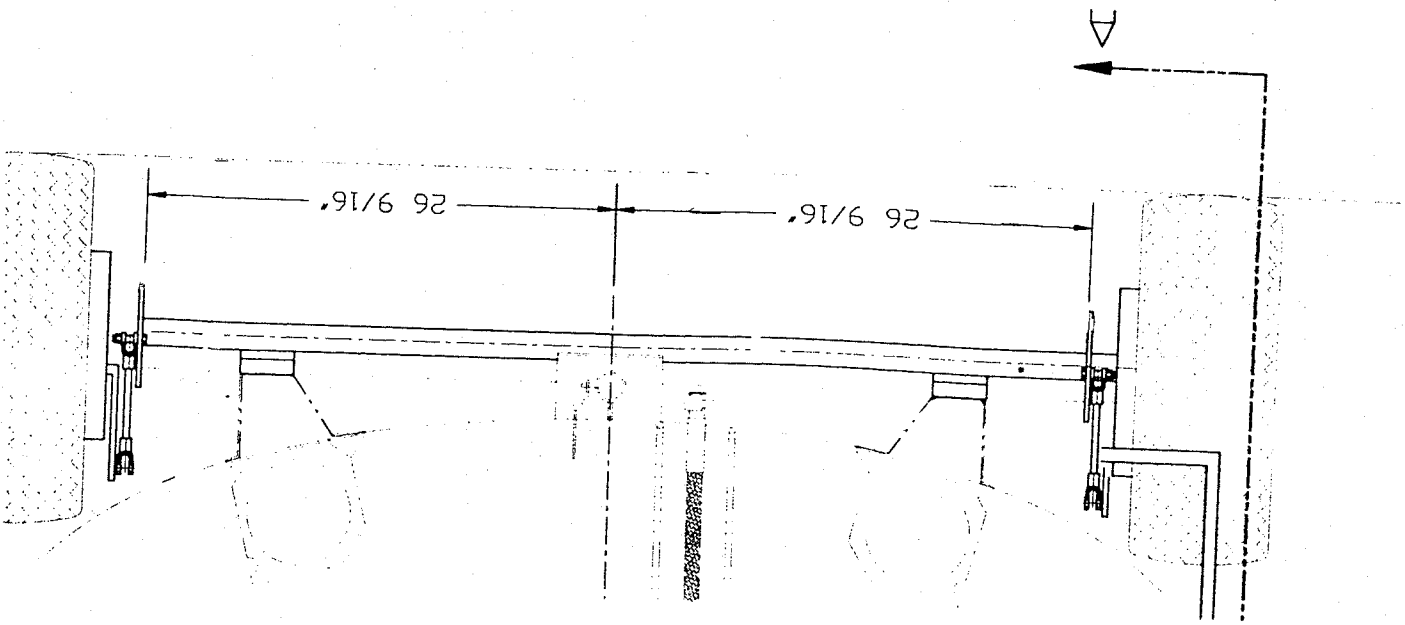
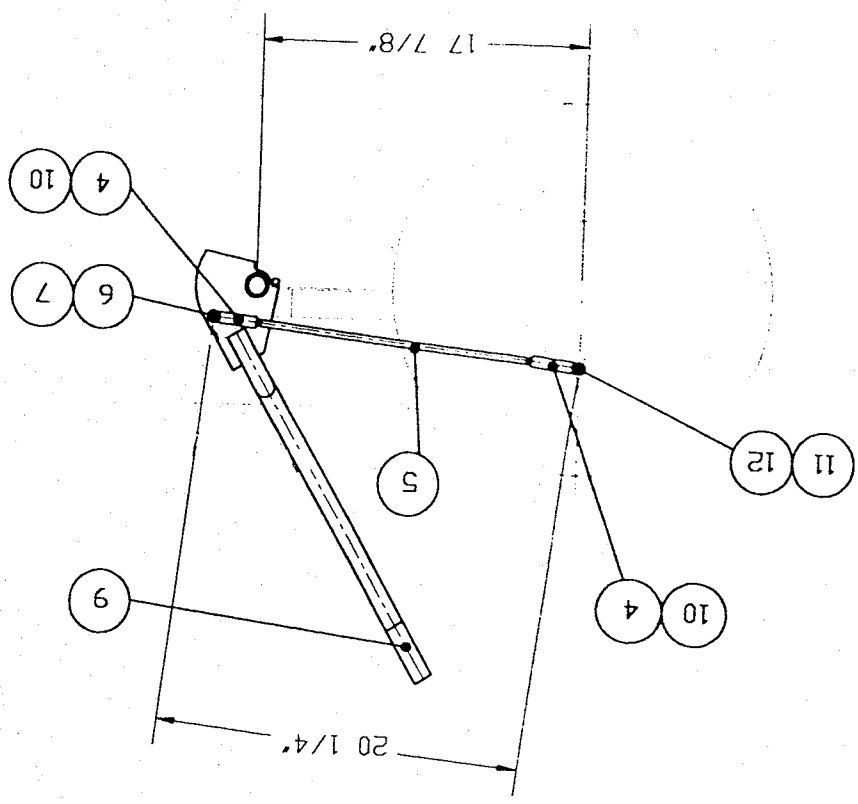
7" x 2-1/4" MECHANICAL BRAKE PARTS DIAGRAM

SECTION 5,2,3



ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY.	USEABLE	SMR CODE
				PER	ON	ASSY. CODE

0	08-1007	66144	..BRAKE, ASSY	2		
1	04-1064	66144	..PLATE, BACK	2		
2						
3						
4	04-1065	66144	..SHOE, BRAKE, ASSY	4		
5	04-1066	66144	..PIN, ANCHOR	4		
6	02-1400	66144	..RING, RETAINING	4		
7						
8	04-1025	66144	..LEVER, SHOE, BRAKE	4		
9	04-1026	66144	..SPRING, LEVER, BRAKE	4		
10						
11						
12	04-1027	66144	..SCREW, ADJUST, BRAKE	4		
13						
14	7/16"-UNFX1", C	57454	..BOLT, SHOULDER 7/16"	8		
15	MS35338-47	96906	..WASHER, LOCK	8		
16	MS1922-29	96906	..NUT, SELF-LOCKING	8		
17	04-1028	66144	..CAM, CONTROL	2		
18	04-1030	66144	..LEVER, REMOTE CONTROL	2		
19						
20	1/4X 1 1/2"C/S	57454	..BOLT, LEVER, CAM	2		
21	1/4-UNC, C/S ZIN	57454	..NUT, LEVER, CAM	2		

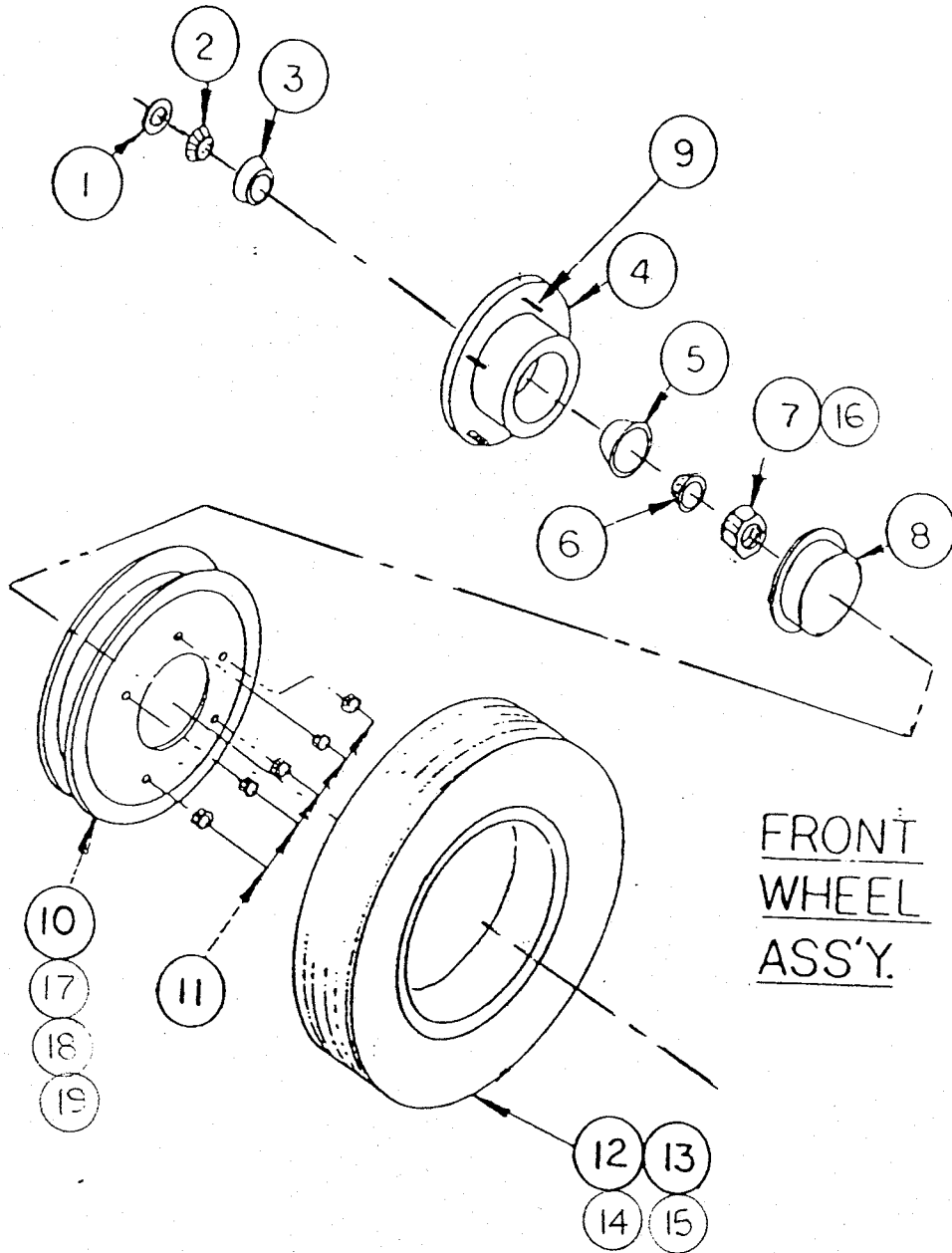


CONT.  
SECTION 5.2,3

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	08-1008	66144	..BRAKE, LINKAGE	1		PAFZZN
1						
2						
3						
4	53, 3/8"-UNF	71747	...YOKE, REAR	4		PAFZZN
5	05-1026	66144	...ROD, BRAKE	2		MFF
6	S ZINC PLATED	57454	...BOLT, 3/8-UNCX2	2		PAFZZN
7	MS51922-17	96906	...NUT, SELF-LOCKING, HE	2		PAFZZN
8	63120	36251	...FITTING LUBRICATION	2		PAFZZN
9	9729K73	3A054	...GRIP, HANDLE	1		XB
10	3/8-UNF, JAM, C/S	57454	...NUT, JAM, 3/8-UNF	4		PAFZZN
11	02-1302	66144	...PIN, STRAIGHT, HEADED	2		PAFZZN
12	MS24665-437	96906	...PIN, COTTER	2		PAFZZN

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SECTION 5.2.4.

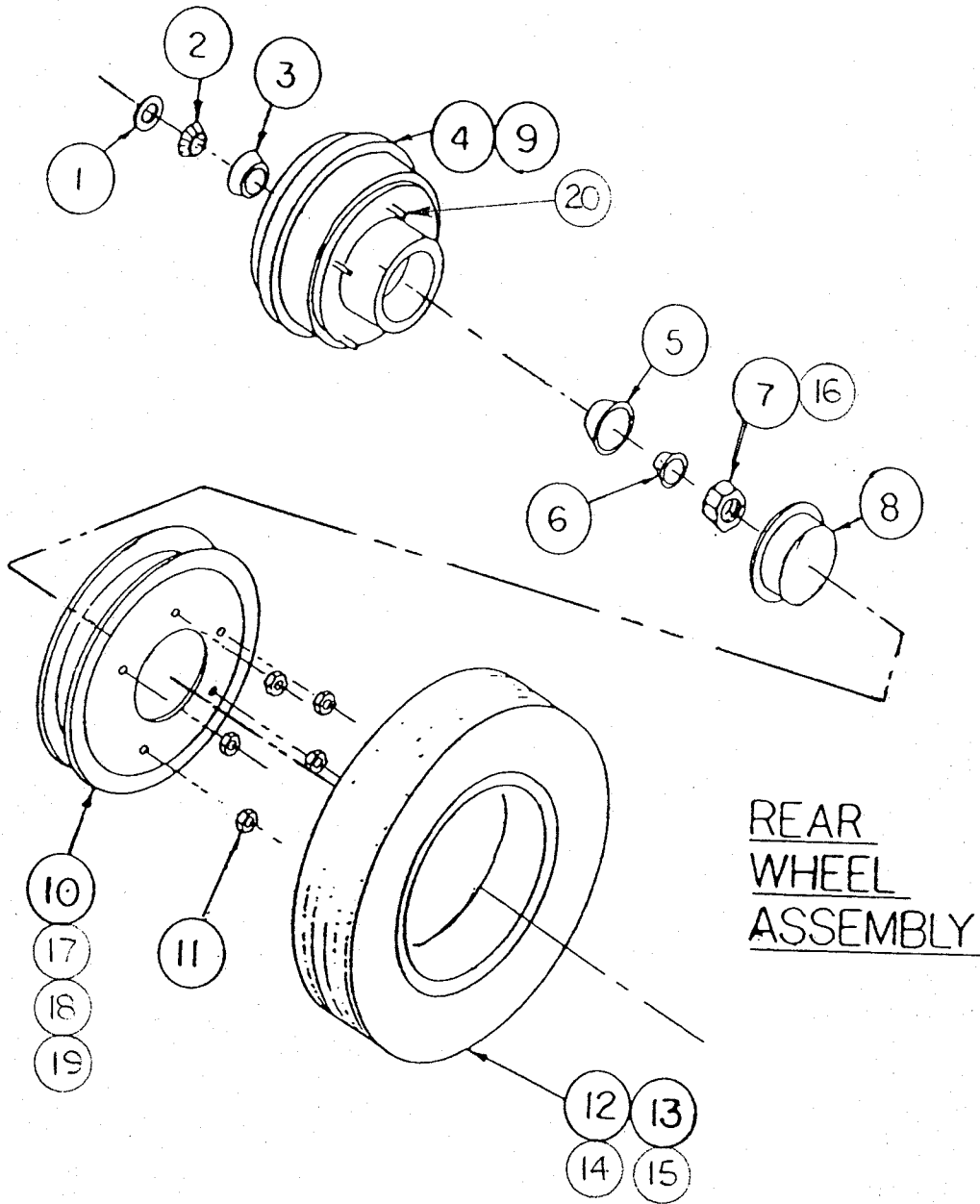


FRONT U-CARRIAGE

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0						
1	04-1012	66144	....SEAL	2		
2	017271	1FP59	....CONE AND ROLLERS	2		PAFZZN
3	L68111	60038	....CUP,TAPERED ROLLER	2		PAFZZN
4	04-1017	66144	....HUB,FRONT	2		PAFZZN
5	L44610	60038	....CUP,TAPERED ROLLER	2		XB
6	L44649	61220	....CONE AND ROLLERS,TA	2		PAFZZN
7	1"-UNF,C/S ZINC	57454	....NUT,SPINDLE	2		PAFZZN
8	04-1019	66144	....CAP,DUST	2		PAFZZN
9	02-1017	66144	....STUD	2		PAFZZN
10	04-10202	66144	....RIM	10		PAFZZN
11	04-1021	66144	...NUTS,LUG	2		XB
12	04-1020	66144	....TIRE	10		PAFZZN
13	04-10221	66144	....TUBE,TIRE	2		PAFZZN
14	8500TV	53477	.....VALVE CHECK	2		PAFZZN
15	660V	27783	.....CAP,PNEUMATIC VALVE	2		PAFZZN
16	02-1303	66144	....PIN,COTTER	2		PAFZZN
17	1/2-UNFX1",C/S	57454	....BOLT,RIM,1/2"-UNF	2		PAFZZN
18	1/2UNFX1",C/S	57454	....BOLT,RIM 1/2"-UNF	20		PAFZZN
19	1/2" LOCK,C/SZ1	57454	....WASHER,LOCK,1/2"	20		PAFZZN

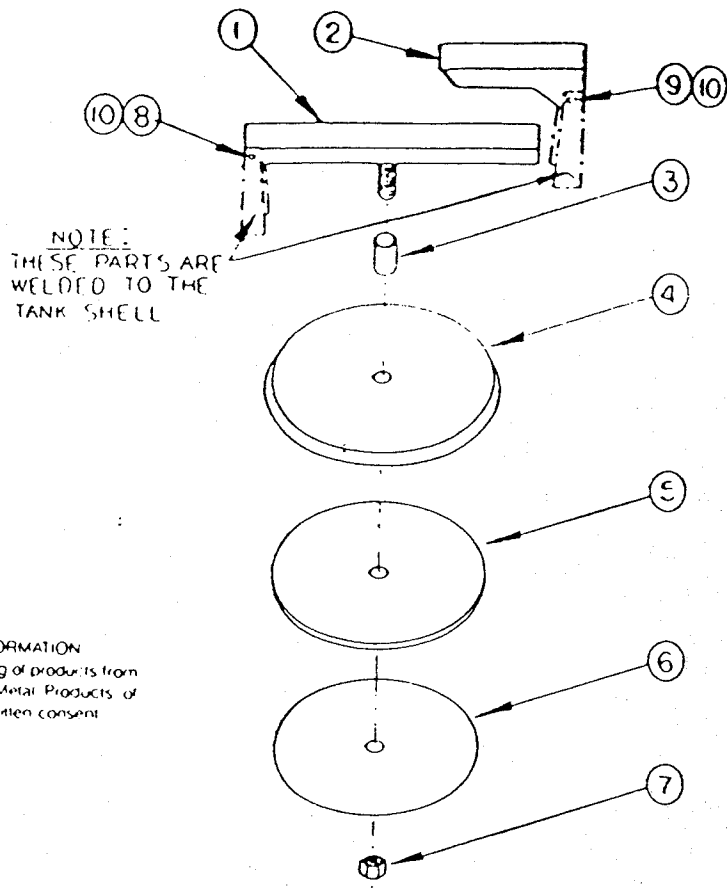
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SECTION 5.2.5.



REAR U-CARRIAGE

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0						
1	04-1012	66144	....SEAL	2		PAFZZN
2	017271	1FP59	....CONE AND ROLLERS,TA	2		PAFZZN
3	L68111	60038	....CUP,TAPERED ROLLER	2		PAFZZN
4	05-1020	66144	....HUB,REAR	2		XB
5	L44610	60038	....CUP,TAPERED ROLLER	2		PAFZZN
6	L44649	61220	....CONE AND ROLLERS,TA	2		PAFZZN
7	1"UNF,C/S ZINC	57454	....NUT,SPINDLE	2		PAFZZN
8	04-1019	66144	....CAP,DUST	2		PAFZZN
9	05-1021	66144	....DRUM,BRAKE,REAR	2		XB
10	04-10202	66144	....RIM	2		XB
11	04-1021	66144	...NUTS,LUG	10		PAFZZN
12	04-1020	66144	....TIRE	2		PAFZZN
13	04-10221	66144	....TUBE,TIRE	2		PAFZZN
14	8500TV	53477	....VALVE CHECK	2		PAFZZN
15	660V	27783	....CAP,PNEUMATIC VALVE	2		PAFZZN
16	02-1303	66144	....PIN,COTTER	2		PAFZZN
17	1/2-UNFX1",C/S	57454	....BOLT,RIM,1/2"-UNF	20		PAFZZN
18	1/2-UNFX1",C/S	57454	....BOLT,RIM,1/2"-UNF	20		PAFZZN
19	1/2" LOCK,C/S Z1	57454	....WASHER,LOCK,1/2"	20		PAFZZN
20	02-1017	66144	...STUD	10		PAFZZN



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SECTION 5,3

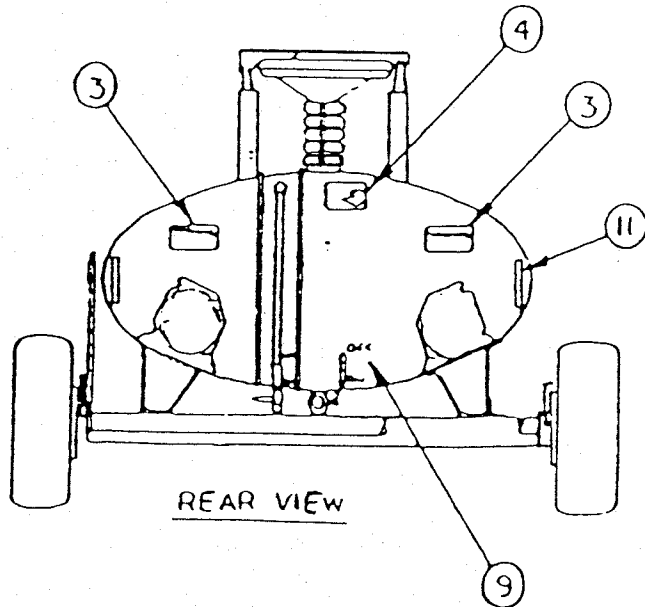
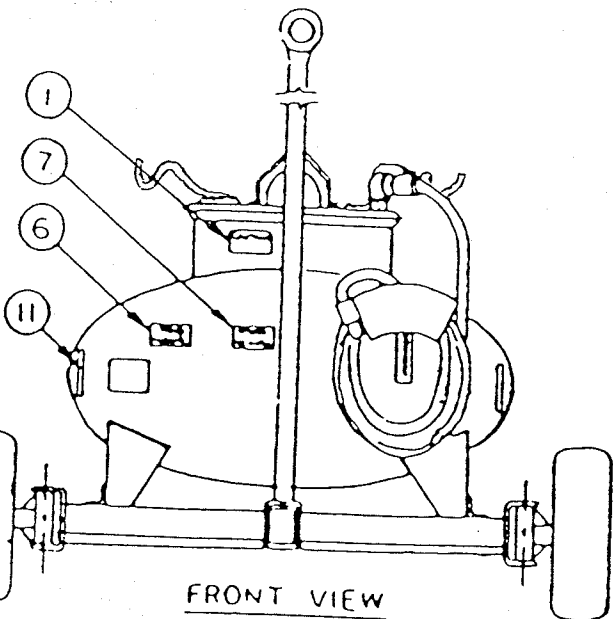
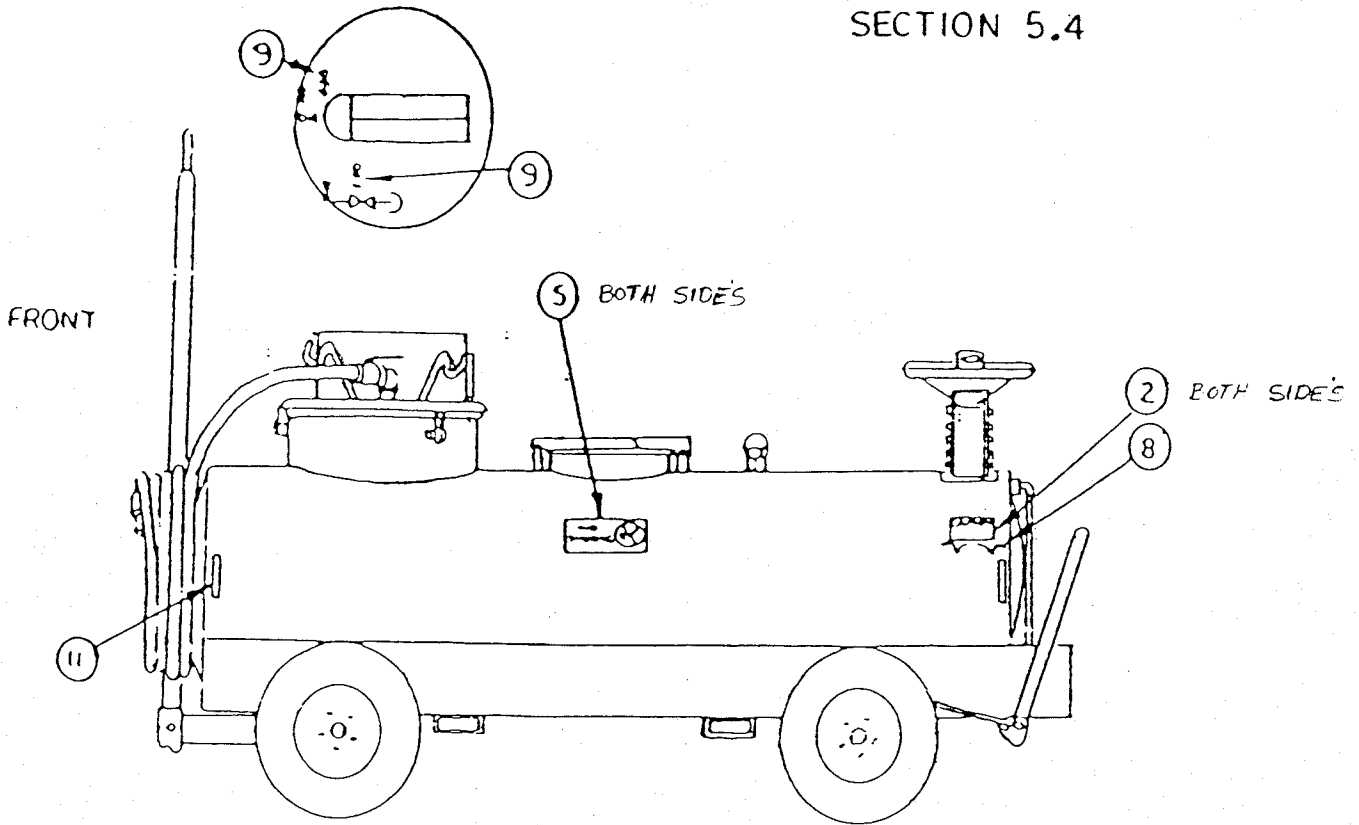
ASSEMBLY NO. 08-1025

MAJOR ASSEMBLY - MANWAY ASSEMBLY

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	08-1025	66144	..COVER,MANWAY ASSY.	1		XB
1	07-1039S	66144	...CROSSARM,19 1/2"	2		PAFZZN
2	01-8222S	66144	..CROSSARM,7"	2		PAFZZN
3						
4	01-86001	66144	...COVER,17"	2		XB
5	06-25025	66144	...GASKET,MANWAY	1		PAFZZN
6	07-2303	66144	...RETAINER,GASKET,MAN	1		XB
7	MS51922	96906	...NUT,5/8-UNF,NYLOC	2		PAFZZN
8	3/8-UNCX3",18	1N109	...BOLT,3/8-UNCX3	2		PAFZZN
9	3/8-UNCX3 1/2"	1N109	...BOLT,3/8-UNCX3 1/2	2		PAFZZN
10	MS51922	96906	...NUT,3/8-UNC,NYLOC	4		PAFZZN

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### SECTION 5.4

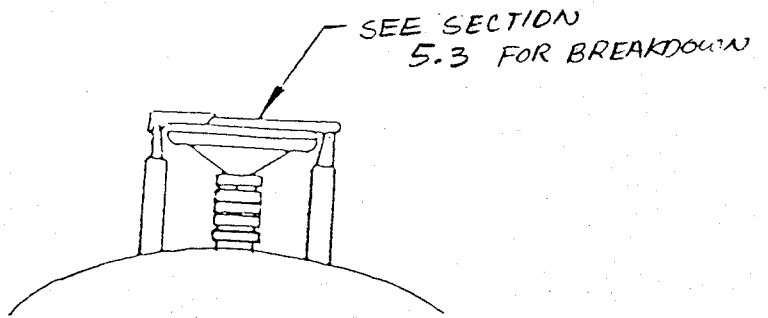
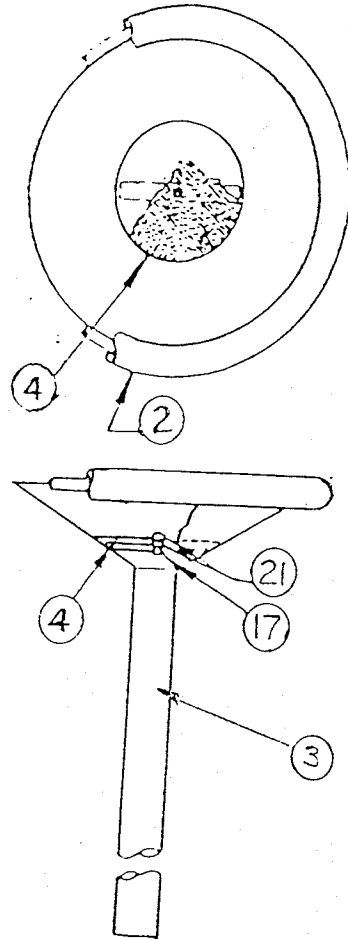
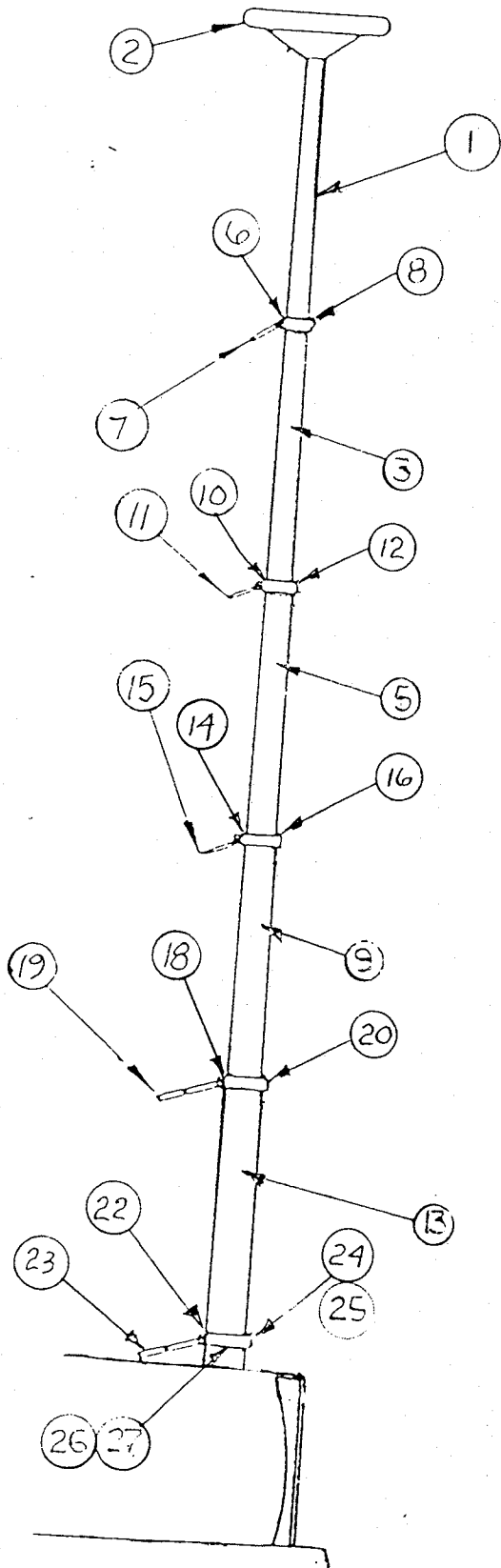


ASSEMBLY NO 10-100070  
 MAJOR ASSEMBLY - DECAL PACKAGE

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	10-100070	66144	..MARKER,IDENTIFI	1		PAFFFFP
1	06-1002	66144	...DECAL	1		MFF
2	06-1003	66144	...DECAL,CAUTION,BRAKE	1		MFF
3	06-1004	66144	...MARKER,IDENTIFI	1		MFF
4	08-1005	66144	...DECAL	1		MFF
5	06-1006	66144	...DECAL,NO-SMOKING	2		MFF
6	06-1007	66144	...MARKER,IDENTIFI	1		MFF
7	08-1008	66144	...DECAL	1		MFF
8	06-1009	66144	...DECAL,ON/OFF BRAKE	1		MFF
9	06-1011	66144	...MARKER,IDENTIFI	2		MFF
10	06-1020U	66144	...DECAL	2		MFF

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### SECTION 5.5



ASSEMBLY 08-1034U  
 MAJOR ASSEMBLY - TELESCOPING DRAIN ASSEMBLY

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	08-1034U	66144	.DRAIN, TELESCOPING	1		AFF
1	07-10541	66144	..FUNNEL, DRAIN	1		PAFFFFP
2	06-1022T	66144	...SEAL, LID, FUNNEL	2		PAFZZN
3	08-1017U	66144	..CLAMP, 2" DRAIN	1		XB
4	04-1039	66144	...SCREEN, DRAIN	2		XB
5	08-1027U	66144	..CLAMP, 2 1/2", DRAIN	1		XB
6	05-10011	66144	...WEDGE, CLAMP, 2"	1		PAFZZN
7	05-10181	66144	...HANDLE, CLAMP, DRAIN	5		PAFZZN
8	02-1005	66144	...SCREW, SET, WEDGES	5		PAFZZN
9	08-1028U	66144	..CLAMP, 3" DRAIN	1		XB
10	05-10021	66144	...WEDGE, CLAMP, 2 1/2"	1		PAFZZN
11	05-10181	66144	...HANDLE, CLAMP, DRAIN	5		PAFZZN
12	02-1005	66144	...SCREW, SET, WEDGES	5		PAFZZN
13	07-1014U	66144	..TUBE ASSEMBLY, METAL	1		PAFZZN
14	05-10031	66144	...WEDGE, CLAMP, 3"	1		PAFZZN
15	05-10181	66144	...HANDLE, CLAMP, DRAIN	5		PAFZZN
16	02-1005	66144	...SCREW, SET, WEDGES	5		PAFZZN
17	1/4-UNCX1,18-8	1N109	...BOLT, CARRIAGE, 1/4"	2		PAFZZN
18	05-10041	66144	...WEDGE, CLAMP, 3 1/2"	1		PAFZZN
19	05-10181	66144	...HANDLE, CLAMP, DRAIN	1		PAFZZN
20	02-1005	66144	...SCREW SET WEDGES	1		PAFZZN
21	NUT, 1/4"-UNC 18	1N109	...NUT, 1/4"-UNC NYLON	11		PAFZZN
22	05-10051	66144	...WEDGE, CLAMP, BASE, 4"	1		PAFZZN
23	05-10181	66144	...HANDLE, CLAMP	5		PAFZZN
24	05-10302	66144	..CLAMP, BASE, 4"	1		XB
25	02-1005	66144	..SCREW, SET	5		PAFZZN
26	MS35338	96908	...WASHER, LOCK, 1/4"	7		PAFZZN
27	1/4-UNCX3/4,18	1N109	...BOLT, 1/4"-UNC X 3/4"	4		PAFZZN

SECTION 5.5.1

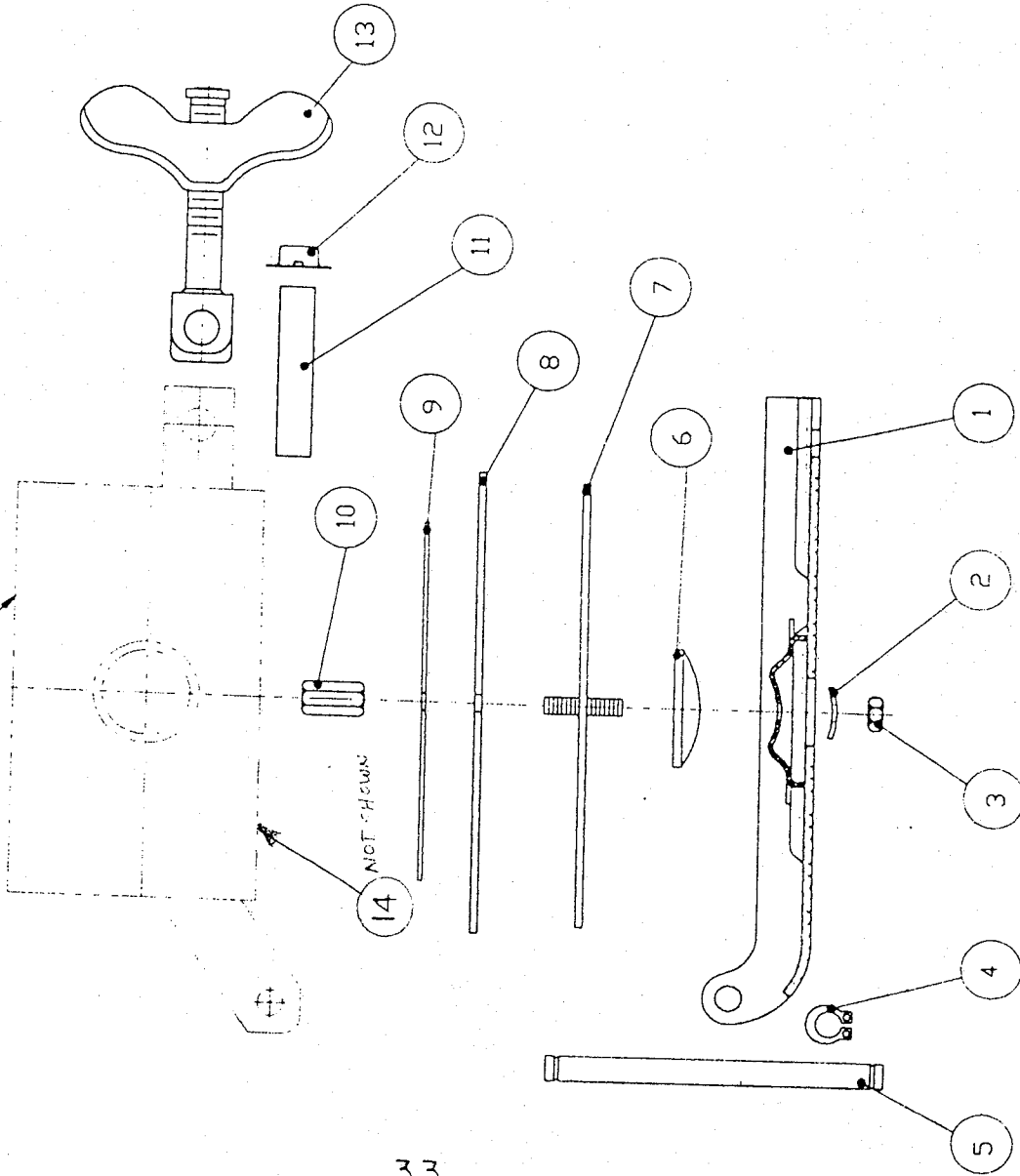
CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY

REVISIONS

SYMB	DESCRIPTION	DATE	BY	APP.

PURCHASE FROM:  
 KNAPPCO  
 9304 MATTOX RD  
 KANSAS CITY, MISSOURI 64150  
 FSCM 91840

RING WELDED TO TANK WELDMENT



NO.	PART NO.	DESCRIPTION	QTY.
13	2627	STUD,ASSY.	1
12	1020	NUT,PAL	2
11	3952	PIN,STUD ASSY.	1
10	4988	NUT,CAP,HEX,SUMP	1
9	3765	RETAINER,GASKET	1
8	2526	GASKET,SUMP	1
7	2652	COVER,GASKET	1
6	1101	SPACER,COVER,GASKET	1
5	5045	PIN,HINGE	1
4	4096	RING,SNAP,HINGE. PIN	2
3	1104	NUT,HEX,SUMP	1
2	1117	WASHER,RETAINER	1
1	2655	LID,SUMP	1
04-10581		KIT,REPAIR,SUMP (INCLUDES ITEMS 1 THRU 5)	1

MATERIAL LIST

SPOKANE METAL PRODUCTS  
 P.O. BOX 3303, SPOKANE WA 99220 (509) 928 0720

TITLE: KIT,REPAIR,SUMP

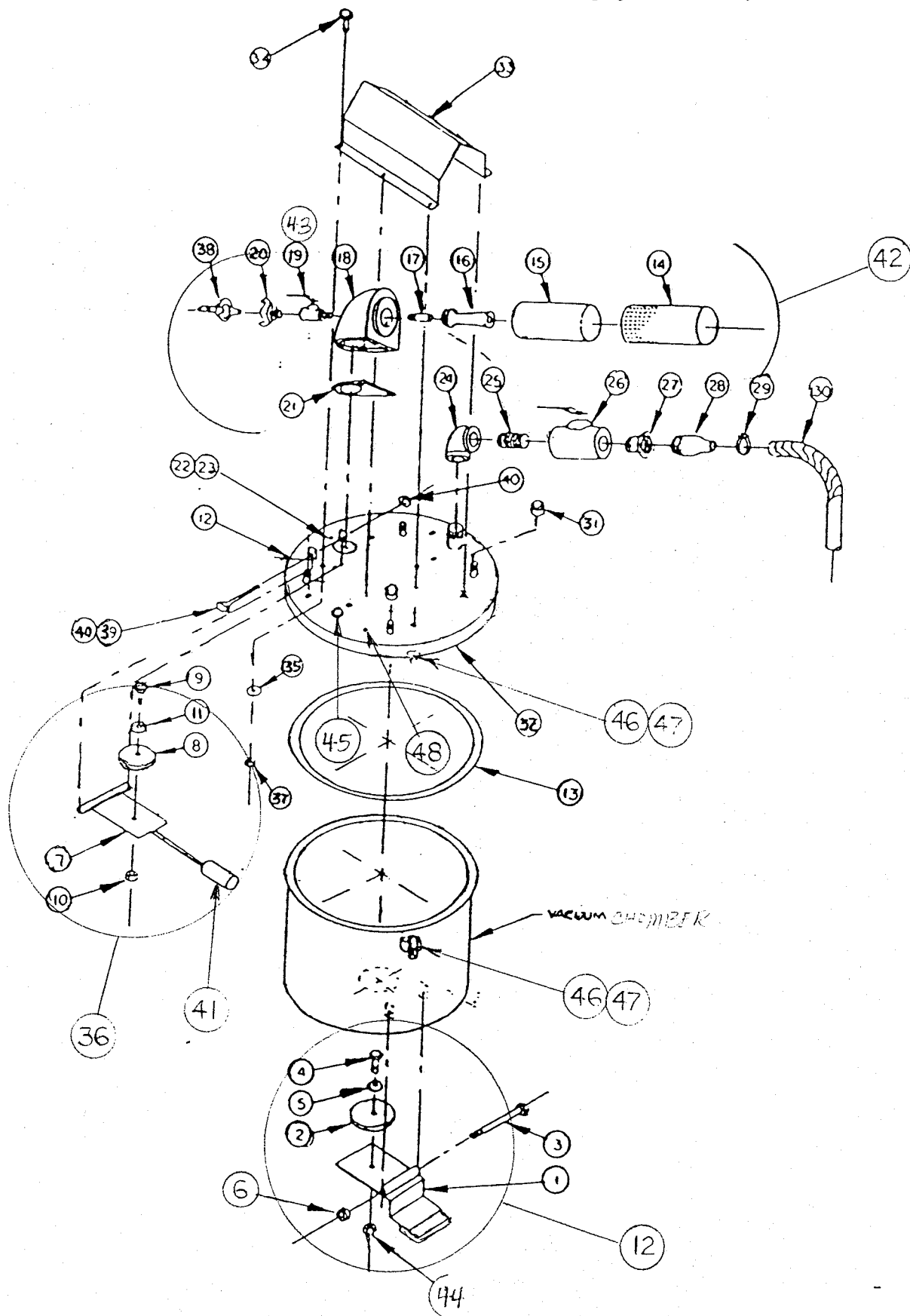
NAME	TTSJ	SIZE	CAGE CODE #	DWG. NO.
DATE	93-03-17	B	91840	04-10581
CHECK			SCALE: 1/2	SHT 1 OF 1

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MAJOR ASSEMBLY - DRAIN SUMP ASSEMBLY

ITEM NO.	PART NO.	CAGE CODE	DESCRIPTION	QTY. PER ASSY.	USEABLE ON CODE	SMR CODE
0	04-10581	91840	..SUMP, REPAIR KIT	1		PAFFFFP
1	2655	91840	...LID, SUMP	1		PAFZZN
2	1117	91840	...WASHER, RETAINER	1		XB
3	1104	91840	...NUT, HEX, SUMP	1		PAFZZN
4	4096	91840	...RING, SNAP	2		PAFZZN
5	5045	91840	...PIN, HINGE, SUMP	1		PAFZZN
6	1101	91840	...SPACER, COVER, GASKET	1		XB
7	2652	91840	...COVER, GASKET	1		PAFZZN
8	2526	91840	...GASKET, SUMP	1		PAFZZN
9	3765	91840	...RETAINER, GASKET	1		XB
10	4988	91840	...NUT, CAP, HEX, SUMP	1		PAFZZN
11	3952	91840	...PIN, STUD ASSY	1		XB
12	1020	91840	...NUT, PAL	2		PAFZZN
13	2827	91840	...STUD, ASSY	1		PAFZZN
14	01-8223	66144	..STRAINER, SUMP	1		PAFZZN

# SECTION 5.6

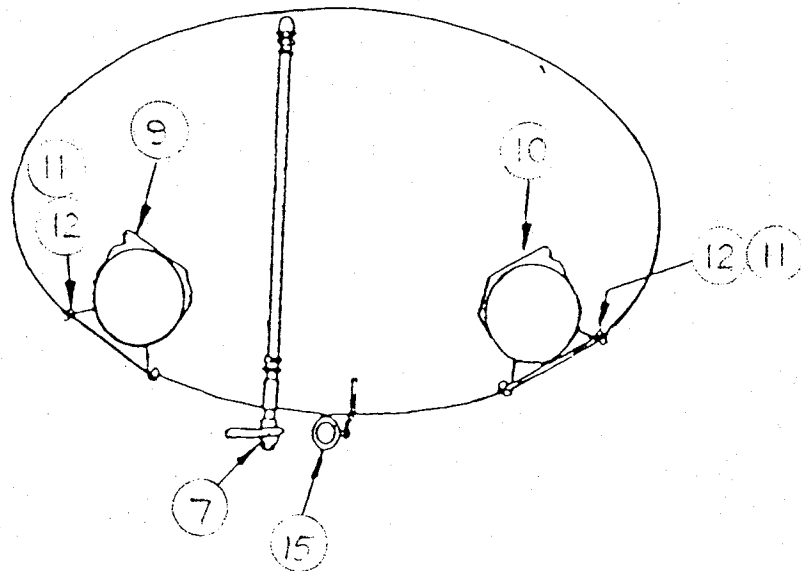
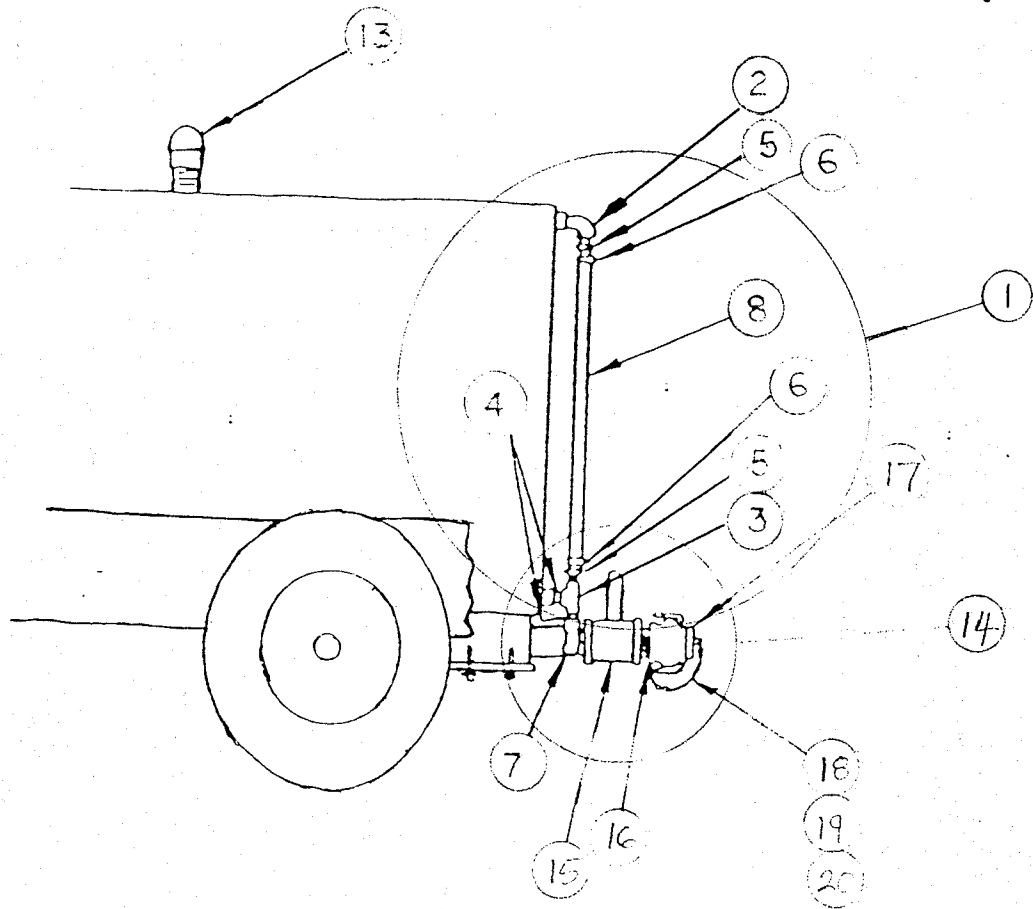


ASSEMBLY NO. 08-0001U (CONTINUED)  
VACUUM SYSTEM ASSEMBLY

Item No.	Part No.	Cage code	Description 1234	Qty per Assy	Usable on code	SMR code
0	08-0001U	66144	.Vacuum Pot, Assy.	1		XB
1	07-1000	66144	...Arm, Drain	1		XB
2	04-1000	66144	...Gasket, Drain	1		PAFZZN
3	5/16-UNCx6	1N109	...Bolt,5/16-UNC x 6	1		PAFZZN
4	1/4UNCx1.25	1N109	...Bolt,1/4-UNC x 1.25	1		PAFZZN
5	90313A106	3A054	...Washer,Flat	1		PAFZZN
6	79NTE058	72963	...Nut, Self locking	1		PAFZZN
7	07-1001	66144	...Arm,Float,Overflow	1		XB
8	04-1001	66144	...Gasket,Overflow	1		PAFZZN
9	1/4UNCx1.25	1N109	...Bolt,1/4UNCx1.25	1		PAFZZN
10	MS51922-2	96906	...Nut,1/4 Nylock	2		PAFZZN
11	S8157N9303259364		...Washer, Flat	1		PAFZZN
12	08-1000	66144	..Stop, Drain	1		XB
13	06-1022V	66144	..Gasket,Pot,Vacuum	1		PAFZZN
14	04-1004	66144	...Housing, Exhaust	1		XB
15	04-1005	66144	...Pneumatic Muffler	1		PAFZZN
16	04-1006	66144	...Venturi	1		XB
17	04-1007	66144	...Jet,Air,Venturi	1		XB
18	04-1008	66144	...Box,Venturi	1		XB
19	07-003-27	57661	...Valve,Ball	1		PAFZZN
20	STYLEAKMPT	72661	...Coupling Half,Quick	1		PAFZZN
21	04-1010	66144	...Gasket,Venturi	1		PAFZZN
22	1/4UNFx3/4	57454	...Bolt,1/4UNFx3/4	3		PAFZZN
23	MS35333-40	96906	...Washer,Lock	3		PAFZZN
24	03-1021	66144	...Elbow,90,1-1/2-NPT	1		PAFZZN
25	03-02922S	66144	...Nipple,Close, 1-1/2"	1		PAFZZN
26	70-107-27	57661	...Valve, Ball	1		PAFZZN
27	03-1002	66144	...Bushing,Hex	1		XB
28	AST-15,1.25	76621	...Nipple,King,1-1/4	1		PAFZZN
29	03-10101	66144	...Clamp,Hose	1		PAFZZN
30	06-10161	66144	...Hose,Nonmetallic	1		PAFZZN
31	03-1021	66144	...Cap,Pipe	4		PAFFZN
32	08-1002	66144	..Lid,Pot,Vacuum	1		PAFZZN
33	07-1034U	66144	..Cover,Generator,Vac	1		XB
34	1/4UNCx5/8	1N109	...Bolt,1/4UNCx5/8	6		PAFZZN
35	1/4Flat18/81	1N109	...Washer,Flat,1/4	6		PAFZZN
36	08-1001	66144	..Stop,Valve	1		PAFFFP
37	MS51922-2	96906	...Nut,1/4UNC Nylock	6		PAFZZN
38	AM-2	72661	...Coupling Half,Quick	1		PAFZZN
39	5/16UNCx6	1N109	...Bolt,5/16UNCx6 ss	1		PAFZZN
40	79NTE058	72962	...Nut,5/16UNC,Nylock	1		PAFZZN
41	9775K12	39428	...Float,Valve	1		PAFZZN
42	08-1003	66144	..Head,Vacuum Assy.	1		PAFFFP
43	03-11135	66144	...Reducer,Air Jet	1		XB
44	1/4UNC,NYLK	1N109	...Nut,1/4UNC,Nylock	1		PAFZZN
45	07-10341	66144	..Valve,Check	1		PAFZZN
46	04-1062	66144	...Latch Lid Vacuum	3		PAFZZN
47	SSD64SSBS	07707	...Rivit,Nail	18		PAFZZN
48	9688K22	3A045	...Plug,Button,Nylon	4		PAFZZN

CONFIDENTIAL PROPRIETARY INFORMATION  
Reproduction of this data or the manufacturing of products from  
this data by anyone other than Spokane Metal Products of  
Spokane WA is strictly prohibited without written consent

### SECTION 5.7



REAR VIEW

Item No.	Part No.	Cage Code	Description 1234	Qty per Assy	Usable on code	SMR code
0	07-1110U	66144	.Drain,Remote,Funnel	1		PAFFFP
1	07-11103	66144	..Base Section,Funnel	1		XB
2	AST-15	72661	...Adapter,Straight,Pi	1		PAFZZN
3	05-10012	66144	...Clamp,Funnel Base	1		PAFZZN
4	1/4-UNC x 5/8,18	1N109	...Bolt,1/4-UNC x 5/8"	3		PAFZZN
5	MS35338-139	96906	...Washer,Lock	3		PAFZZN
6	07-11104	66144	..Stem,Lower,Funnel	1		PAFZZN
7	07-11105	66144	..Stem,Upper,Funnel	1		PAFZZN
8	07-11106	66144	..Stem Funnel Section	1		PAFZZN
9	05-10182	66144	....Handle,Clamp	3		PAFZZN
10	05-0037	66144	....Wedge,Clamp	3		PAFZZN
11	07-11107	66144	...Cover,Funnel	1		XB
12	06-1022T	66144	...Seal,Lid,Funnel	1		PAFZZN
13	04-1053	66144	....Latch,Pull Down	1		XB
14	04-1039	66144	...Strainer,Funnel	1		PAFZZN
15	MS51922-2	96906	....Nut,Self-Locking,He	1		PAFZZN
16	1/4 x 1 UNC,18-8	1N109	....Bolt,Carriage	1		PAFZZN
17	1/4 UNC,18-8 STA	1N109	....Nut,1/4"-UNC,Nyloc	2		PAFZZN
18	01-8407	66144	....Pin,Hinge	1		PAFZZN
19	1/4,18-8 Stainle	1N109	....Washer,Flat,1/4"	2		PAFZZN
20	01-8406	66144	....Spacer,Hinge	1		XB
21	SSD64SSBS	07707	....Rivet,Blind	4		PAFZZN
22	9753K42	3A054	.....Cap,Handle	3		XB

2. CONTRACT NO. F11603-94-C0003 3. SOLICITATION NO. F11603-94-B0001 4. TYPE OF SOLICITATION  SEALED BID (IFB)  NEGOTIATED (RFP) 5. DATE ISSUED 26 APR 94 6. REQUISITION/PURCHASE NO. SEE PAGE 3 (SECTION B, B-2)

7. ISSUED BY 928 AG/LGC 6626 N Patton Road Bldg 500, Room 94 O'Hare IAP ARS IL 60666-5023 8. ADDRESS OFFER TO (If other than Item 7) (Same as Block 7) Handcarried proposals should be delivered to Bldg 500, Room 94

100 - 11000  
3-200 - 11059  
4-600 - 11058

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

**SOLICITATION**

9. Sealed offers in original and 1 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Bldg 500, Room 94 until 1:00 local time 26 MAY 94 (Hour) (Date)  
This contract was approved by Harry E Ivey, Chief, Contracting Division, HQ AFRES/LGC, Robins AFB GA, by letter dated 10 Aug 94.

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-10. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL: A. NAME JOHN MINISCALCO B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (312) 825-6086

**11. TABLE OF CONTENTS**

(V)	SEC.	DESCRIPTION	PAGE(S)	(V)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
X	A	SOLICITATION/CONTRACT FORM	1	X	I	CONTRACT CLAUSES	5
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
X	C	DESCRIPTION/SPECS./WORK STATEMENT	1	X	J	LIST OF ATTACHMENTS	1
X	D	PACKAGING AND MARKING	1	PART IV - REPRESENTATIONS AND INSTRUCTIONS			
X	E	INSPECTION AND ACCEPTANCE	1	X	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	20
X	F	DELIVERIES OR PERFORMANCE	2				
X	G	CONTRACT ADMINISTRATION DATA	1	X	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	4
X	H	SPECIAL CONTRACT REQUIREMENTS	1	X	M	EVALUATION FACTORS FOR AWARD	1

**OFFER (Must be fully completed by offeror)**

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

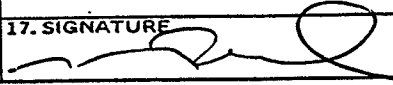
12. In compliance with the above, the undersigned agrees, if this offer is accepted within \_\_\_\_\_ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52-232-8) 10 CALENDAR DAYS 20 CALENDAR DAYS 30 CALENDAR DAYS CALENDAR DAYS  
1 % % Net % %

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:)

AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
001	94 May 12	003	94 May 25
002	94 May 12	004	94 June 01

15A. NAME AND ADDRESS OF OFFEROR: CODE 66144 FACILITY SPOKANE METAL PRODUCTS BLDG #4, SPOKANE INDUSTRIAL Park P.O. BOX 3303 SPOKANE, WA 99220-3303 16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) GREG TENOLD, PRESIDENT

17. SIGNATURE  18. OFFER DATE 6/10/94

15B. TELEPHONE NO. (Include area code) 509/928-0720 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.

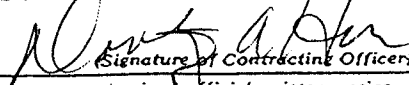
**AWARD (To be completed by Government)**

19. ACCEPTED AS TO ITEMS NUMBERED 0001 - 0002 - 0003 20. AMOUNT \$111,125.00 21. ACCOUNTING AND APPROPRIATION 97X4930.FCOC 6C 503100

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:  10 U.S.C. 2304(c)  41 U.S.C. 253(c)

23. SUBMIT INVOICES TO ADDRESS SHOWN IN ITEM (4 copies unless otherwise specified) 25

24. ADMINISTERED BY (If other than Item 7) CODE 25. PAYMENT WILL BE MADE BY CODE OC-ALC/DAO-DE, TINKER/FMS 3350 D AVE. - SUITE N-29 TINKER AFB OK 73145-9103

26. NAME OF CONTRACTING OFFICER (Type or print) DOROTHY A HARRIS 27. UNITED STATES OF AMERICA  (Signature of Contracting Officer) 28. AWARD DATE 19 Aug 94

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

PART I - THE SCHEDULE  
SECTION B

<u>CLIN</u>	<u>SUPPLIES/SERVICES</u>	<u>QTY</u>	<u>UNIT</u>	<u>PRICE</u>	<u>AMOUNT</u>
0001	Stainless Steel Double Wall Bowers with the Capacity of 100 Gallons for Reclaimed Ethylene Glyco in accordance with Attachment 1, Bowser Tank Specifications dated 29 Mar 94, paragraphs 1 through 1.13 and paragraph 2.1	1	EA	\$11,115.00	\$11,115.00
	OFFEROR TO COMPLETE THE FOLLOWING:				
	Mfg Name: <u>SPOKANE METAL PRODUCTS</u>				
	Brand: <u>BOWSER VACUUM FUEL DRAIN TANKS</u>				
	Model No: <u>BOW100-07</u>				
0002	Stainless Steel Double Wall Bowers with the Capacity of 200 Gallons for Reclaimed petroleum products in accordance with Attachment 1, Bowser Tank Specifications dated 29 Mar 94, paragraphs 1 through 1.13 and paragraph 2.2	3	EA	\$12,430.00	\$37,290.00
	OFFEROR TO COMPLETE THE FOLLOWING				
	Mfg Name: <u>SPOKANE METAL PRODUCTS</u>				
	Brand: <u>BOWSER VACUUM FUEL DRAIN TANKS</u>				
	Model No: <u>BOW200-07</u>				
0003	Stainless Steel Double Wall Bowers with the Capacity of 600 Gallons for JP-4 Jet Fuel in accordance with Attachment 1, Bowser Tank Specifications dated 29 Mar 94, paragraphs 1 through 1.13 and paragraph 2.3	4	EA	\$15,680.00	\$62,720.00
	OFFEROR TO COMPLETE THE FOLLOWING:				
	Mfg Name: <u>SPOKANE METAL PRODUCTS</u>				
	Brand: <u>BOWSER VACUUM FUEL DRAIN TANKS</u>				
	Model No: <u>BOW600-07</u>				
				TOTAL	\$111,125.00

Bidder to bid FOB Destination price only.

**AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT**

1. CONTRACT ID CODE PAGE OF PAGES  
 1 2

2. AMENDMENT/MODIFICATION NO. 001  
 3. EFFECTIVE DATE 94 MAY 12  
 4. REQUISITION/PURCHASE REQ. NO.  
 5. PROJECT NO. (If applicable)  
 6. ISSUED BY CODE  
 928th TAG/LGC  
 6626 Patton Road, Bldg 500, Room 94  
 o'Hare IAP ARS, IL 60666-5023  
 7. ADMINISTERED BY (If other than Item 6) CODE  
 Same as Item 6 F11603-94 C0003

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  
 SPOKANE METAL PRODUCTS  
 BLDG #4, SPOKANE INDUSTRIAL PARK  
 P.O. BOX 3303  
 SPOKANE WA 99220-3303  
 SPOKANE COUNTY  
 9A. AMENDMENT OF SOLICITATION NO. X F11603-94-B0001  
 9B. DATED (SEE ITEM 11) 26 April 1994  
 10A. MODIFICATION OF CONTRACT/ORDER NO.  
 10B. DATED (SEE ITEM 13)  
 CODE 66144 FACILITY CODE

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above-numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended  is not extended to 15 June 1994  
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.  
 12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT/ORDER NO. IN ITEM 10A.  
 B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b)  
 C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  
 D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

SEE PAGE 2

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MAY 17 1994

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 15 1 16 20

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) JIM KUNTZ, SALES MANAGER  
 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)  
 15B. CONTRACTOR/OFFEROR  
 15C. DATE SIGNED 5/20/94  
 15D. UNITED STATES OF AMERICA  
 16C. DATE SIGNED  
 BY (Signature of Contracting Officer)

PART II - CONTRACT CLAUSES  
SECTION I  
CONTRACT CLAUSES

## I. CLAUSES INCORPORATED BY REFERENCE (JUN 1988) (FAR 52.252-2)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

## a. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

REF NO.	FAR REF	TITLE	DATE
1	52.203-1	Officials Not to Benefit	APR 1984
2	52.203-3	Gratuities	APR 1984
3	52.203-5	Covenant Against Contingent Fees	APR 1984
4	52.203-6	Restrictions on Subcontractor Sales to the Government	JUL 1985
5	52.203-7	Anti-Kickback Procedures	OCT 1988
	52.203-9	Requirement for Certification Integrity -- Modification	NOV 1990
6	52.203-10	Price or Fee Adjustment for Illegal or Improper Activity	SEP 1990
7	52.203-12	Limitation on Payments to Influence Certain Federal Transactions	JAN 1990
8	52.209-6	Protecting the Govt's Interest, When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment	NOV 1992
9	52.219-8	Utilization of Small Business Concerns & Small Disadvantaged Business Concerns	FEB 1990
10	52.219-13	Utilization of Women-Owned Small Businesses	AUG 1986
11	52.222-1	Notice to the Government of Labor Disputes	APR 1984
--	52.222-3	Convict Labor	APR 1984
12	52.222-20	Walsh-Healey Public Contracts Act	APR 1984
13	52.222-26	Equal Opportunity	APR 1984
14	52.222-35	Affirmative Action for Special Disabled and Vietnam Era Veterans	APR 1984
15	52.222-36	Affirmative Action for Handicapped Workers	APR 1984
16	52.222-37	Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era	JAN 1988
--	52-223-2	Clean Air and Water Act (\$100,000 or more)	
17	52.223-6	Drug-Free Workplace	JUL 1990
18	52.225-3	Buy American Act -- Supplies	JAN 1994
19	52.225-11	Restrictions on Certain Foreign Purchases	MAY 1992
20	52.229-3	Federal, State, and Local Taxes	JAN 1991
21	52.232-17	Interest	JAN 1991
22	52-232-23	Assignment of Claims	jan 1986

12 May 1994

Solicitation No. F11603-94-B0001  
Contract No. F111603-94C0003

I-3 ELIMINATION OF CLASS I OZONE DEPLETING SUBSTANCES IN AIR FORCE  
PROCUREMENTS (MAY 1993) (AF FAR SUPP 5352.210-9000)

(a) It is the Air Force policy to eliminate the use of Class I Ozone Depleting Substances (ODS) in all Air Force procurements.

(b) Unless a specific waiver has been authorized, Air Force procurements:

(1) May not include any specification, standard, drawing or other document that requires the use of a Class I ODS in the design, manufacture, test, operation, or maintenance of any system, subsystem, item, component or process;

(2) May not include any specification, standard, drawing or other document that establishes a requirement that can only be met by use of a Class I ODS; and

(3) May not require the delivery of any item of supply that contains a Class I ODS or any service that includes the use of a Class I ODS.

(c) For the purposes of the Air Force policy, the following are Class I ODS:

(1) Halons: 1211, 1301 and 2402

(2) Chlorofluorocarbons (CFC): CFC-11, CFC-12, CFC-13, CFC-111, CFC-112, CFC-114, CFC-115, CFC-211, CFC-212, CFC-213, CFC-214, CFC-215, CFC-216 and CFC-217.

(3) Other controlled substances: carbon tetrachloride, methyl chloroform and methyl bromide.

(d) The Air Force has reviewed the requirements specified in this contract to reflect this policy. Where considered essential, specific authorization has been obtained to continue use of these substances. Notify the contracting officer if any additional Class I ODS have been required in the performance of this contract or will be delivered as part of end item(s) or service(s) under this contract.

(2) "Offer" means either "bid" in sealed bidding or "proposal" in other than sealed bidding.

(3) "Solicitation" means an invitation for bids in sealed bidding or a request for proposal in other than sealed bidding.

L-4 CONTRACT AWARD--COMMERCIAL ITEMS (MAY 1991) (DFARS 252.211.7014)

(a) The Government will evaluate offers in response to invitations for bid without discussions and will award a contract to the responsible offeror whose offer, conforming to the solicitation, will be most advantageous to the Government considering only price and the price related factors specified in the solicitation.

(b) The Government will award a contract resulting from a request for proposals to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, price and other factors specified in the solicitation, considered. The Government intends to award a contract on the basis of initial offers received in Response to a request for proposals without discussions unless discussions are necessary. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint.

(c) The Government may:

- (1) Reject any or all offers if such action is in the public interest;
- (2) Accept other than the lowest offer; and
- (3) Waive informalities and minor irregularities in offers received.

(d) The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

(e) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer or any extension thereof shall result in a binding contract without further action by either party unless the offer was withdrawn:

(ii) Prior to the date for bid opening if the offer was submitted in response to an invitation for bid; or,

(ii) Prior to contract award if the offer was submitted in response to a request for proposal.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE PAGE OF PAGES  
1 1

2. AMENDMENT/MODIFICATION NO. 002  
 3. EFFECTIVE DATE 94 MAY 12  
 4. REQUISITION/PURCHASE REQ. NO.  
 5. PROJECT NO. (If applicable)  
 6. ISSUED BY CODE 928th TAG/LGC  
 6626 Patton Road, Bldg 500, Room 94  
 o'Hare IAP ARS, IL 60666-5023  
 7. ADMINISTERED BY (If other than Item 6) CODE Same as Item 6  
 F11603- 94 C 0003

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  
 SPOKANE METAL PRODUCTS  
 BLDG #4, SPOKANE INDUSTRIAL PARK  
 P.O. BOX 3303  
 SPOKANE WA 99220-3303 SPOKANE COUNTY  
 9A. AMENDMENT OF SOLICITATION NO. X F11603-94-B0001  
 9B. DATED (SEE ITEM 11) 26 April 1994  
 10A. MODIFICATION OF CONTRACT/ORDER NO.  
 10B. DATED (SEE ITEM 13)  
 CODE 66144 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above-numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended  is not extended to 15 June 1994  
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  
 B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b)  
 C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  
 D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The time for receipt of bids on the extended date of 15 June is 1:00 P.M.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) JIM KUNTZ, SALES MANAGER  
 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)  
 15B. CONTRACTOR/OFFEROR  
 15C. DATE SIGNED 5/20/94  
 15D. UNITED STATES OF AMERICA  
 16C. DATE SIGNED  
 (Signature of person authorized to sign) (Signature of Contracting Officer)

**AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT**

11. CONTRACT ID CODE

PAGE OF PAGES

1 | 1

2. AMENDMENT/MODIFICATION NO. 003		3. EFFECTIVE DATE 94 MAY 25		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY 928TH TAG/LGC 6626 N PATTON ROAD BLDG 500, ROOM 94 O'HARE IAP ARS IL 60666-5023		7. ADMINISTERED BY (If other than Item 6) Same as Item 6		F11603-94		C0000	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)		9A. AMENDMENT OF SOLICITATION NO. F11603-94-B0001	
RECEIVED 94165 12 5 94165 12 5		9B. DATED (SEE ITEM 11) 26 April 94	
		10A. MODIFICATION OF CONTRACT/ORDER NO.	
10B. DATED (SEE ITEM 13)			

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

SEE ATTACHMENT 1 DATED 25 MAY 1994.

**RECEIVED**  
 MAY 31 1994  
 SPOKANE METAL PRODUCTS

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) JIM KUNTZ. SALES MANAGER		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 6/7/94	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED

BOWSER TANK SPECIFICATIONS  
25 May 1994

Contractor to provide bowser tanks as specified below:

1. GENERAL: All tanks shall have the same basic trailer assembly inclusive of tires, wheels, bearings, tow bar with with an eyelet (i.e. not a ball hookup point) and shall include the following:
  - 1.1. Tow bars at least 5 feet long, reinforced and fitted with bushings and zerk fittings at tow bar joint and all steering knuckles.
  - 1.2. Ball joint steering.
  - 1.3. Four (4) pneumatic tire chassis.
  - 1.4. Mechanical brakes for each rear wheel that shall be operated by a single handle hand-brake system.
  - 1.5. Stainless steel double wall construction throughout.
  - 1.6. A built-in pneumatic operated dispensing pump, and pneumatic operated vacuum pump to depuddle hard to reach areas. Both referenced pneumatic systems shall operate with a source air pressure of 40CFM at 90 lbs per square inch.
  - 1.7. Grounding reels, Two (2) each with alligator and aircraft pin grounds.
  - 1.8. All openings to the basic tank and containment shall be lockable.
  - 1.9. All drains shall be lockable.
  - 1.10. Shall be constructed so that there is a low point to which contaminants will settle with a drain valve at that lowest point, and the same for secondary containment.
  - 1.11. Depending upon capacity, shall have one or more baffles on the inside to control sloshing. Maximum horizontal and longitudinal distance between baffles is 2 ft.
  - 1.12. All fuel wetted parts of the bowser shall be of corrosion resistant material. Any connections or dissimilar metals shall have provisions to prevent galvanic corrosion.
  - 1.13. Must have an access panel/panels on the top to allow for repair and/or inspection to all baffled compartments inside the bowser.

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Amendment 003  
25 May 1994

- 1.14. Shall be designed so that fuel enters the fuel bowser tanks (free volume) not more than 2 inches from the bottom.
- 1.15. Shall have a vent at the opposite end from where the fuel enters. The opening of the vent shall face downwards, shall have mesh screen across the opening which can be removed for periodic maintenance and cleaning, and the same for secondary containment.
- 1.16. Shall have some type of device (either gauge or sight glass) to indicate the amount of fuel in the bowser, and separate for secondary containment.
- 1.17. Shall have a collection funnel that must be able to telescope to 12 feet. The edges of the funnel must be cushioned to prevent damage to the aircraft surface. The collection funnel must be mounted to units.
- 1.18. The funnel shall have a filter screen to catch solid objects. The filter must be made from MIL-S-12875 material or equivalent.
- 1.19. The collection funnel shall have a lid with a hasp so a device can be used to insure lid stays closed when not in use, thus preventing entry of foreign objects, debris, or falling precipitation, and to prevent unauthorized use of the bowser.
- 1.20. The fuel drain/defuel and secondary containment ports shall be easily accessible with suitable sure locking connectors.
- 1.21. Running gear shall be sized to safely carry the weight of the bowser with full load of fuel.
- 1.22. Shall have a hand pump mounting capability for fuel transfer.
- 1.23. Bowser shall have forklift points for mobility.
- 1.24. Bowser designs shall adhere to established ground fuel handling safety requirements.
- 1.25. Color shall be polyurethane coating, green, color number Fed spec 24052/MIL-C-83286.
- 1.26. All bowsers must be low profile.
2. TYPES OF BOWSER TANKS with all the features described above shall be:
  - 2.1. 100/Gal capacity bowser tank for reclaimed Ethylene Glyco products.
  - 2.2. 200/Gal capacity bowser tank to reclaim petroleum products.
  - 2.3. 600/Gal capacity to reclaim JP-4 Jet Fuel with 4 fuel cell attachments.

**AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT**

CONTRACT ID CODE: \_\_\_\_\_ PAGE OF PAGES: 1 | 2

AMENDMENT/MODIFICATION NO. 004		3. EFFECTIVE DATE 94 JUNE 01	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
ISSUED BY 928TH TAG/LGC 6626 N PATTON ROAD BLDG 500, ROOM 94 O'HARE IAP ARS IL 60666-5023		CODE	7. ADMINISTERED BY (If other than Item 6) Same as Item 6	CODE F11603- 94 C 0003

NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  SPOKANE METAL PRODUCTS P.O. BOX 3303 SPOKANE, WA 99220-3303	(v)	9A. AMENDMENT OF SOLICITATION NO. F11603-94-B0001
	X	9B. DATED (SEE ITEM 11) 26 April 94
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
ODE 66144	FACILITY CODE	

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**2. ACCOUNTING AND APPROPRIATION DATA (If required)**

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

(v)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**4. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

See attached page 2.

**RECEIVED**

JUN 7 1994

SPOKANE METAL PRODUCTS

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) JIM KUNTZ, SALES MANAGER		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED

AMENDMENT 004  
OF  
SOLICITATION F11603-94-B0001  
01 JUNE 1994

A. Amendment 003 to the above cited Solicitation is changed as follows:

In Paragraph 2.3 of Attachment 1, Bowser Tank Specifications dated 25 May 1994, the words "with 4 fuel cell attachments" are hereby deleted.

////////// Last Entry //////////

Solicitation No. F11603-94-B0001

Contract No. F11603- 94 C 0003

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PART I - THE SCHEDULE  
SECTION C  
DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C-1 SPECIFICATIONS. The specifications, for the CLIN's described in Section B are as follows: Attachment 1, Bowser Tank Specifications dated 29 March 94.

**PART I - THE SCHEDULE  
SECTION E  
INSPECTION AND ACCEPTANCE**

**E-1. CLAUSES INCORPORATED BY REFERENCE (JUN 1988) (FAR 52.252-2)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

<u>REF NO.</u>	<u>FAR REF</u>	<u>TITLE</u>	<u>DATE</u>
1	52.246-2	Inspection of Supplies - Fixed Price	JUL 1985
2	52.246-16	Responsibility for Supplies	APR 1984

**E-2 INSPECTION AND ACCEPTANCE.** Inspection and acceptance will be at the destination(s) specified in Section F hereof.

## OFFEROR'S PROPOSED DELIVERY SCHEDULE

CLIN	QUANTITY	WITHIN DAYS AFTER DATE OF CONTRACT
<u>0001</u>	<u>1 EACH</u>	<u>90 DAYS</u>
<u>0002</u>	<u>3 EACH</u>	<u>90 DAYS</u>
<u>0003</u>	<u>4 EACH</u>	<u>90 DAYS</u>

(b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed, or otherwise furnished to the successful offeror, results in a binding contract. The Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day award is dated. Therefore, the offeror should compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding five days for delivery of the award through the ordinary mails. If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

PART I - THE SCHEDULE  
SECTION G  
CONTRACT ADMINISTRATION DATA

G-1 ACCOUNTING AND APPROPRIATION DATA

97X4930.FCOC.6G 503100

G-2 Reference Block 15c, SF 33, Enter Remittance Address Here:

SPOKANE METAL PRODUCTS  
(Firm Name)

P.O. BOX 3303  
(Street, P.O. Box)

SPOKANE WA 99220-3303  
(City, County, State, Zip Code)

G-3 Payment shall be made after delivery and acceptance and after receipt of a proper invoice.

PART I - THE SCHEDULE  
SECTION H  
SPECIAL CONTRACT REQUIREMENTS

**H-1 COMMERCIAL WARRANTIES.** The contractor will provide all manufacturer's commercial warranties on components to the Operational Contracting Officer prior to acceptance by the Government of the system. This clause does not require any additional warranties except those the manufacturer's provides for their products.

**H-2 CHANGES REQUIRING NO EQUITABLE ADJUSTMENT.**

a. Purpose. The purpose of this special provision is to establish a procedure whereby one contractual amendment may be used both to direct changes of the type specified in the Changes clause of this contract and to settle any question of changes which will have no effect on the contract price, delivery schedule, or other provisions of the contract.

b. Procedures. When it is proposed to make a change under the Changes clause and both parties can agree that such proposed change will not necessitate any equitable adjustment as contemplated by said clause and this paragraph, the Contractor shall submit a written proposal or offer to accomplish the proposed change without an equitable adjustment. If, after receipt of the proposal or offer, the Contracting Officer determines that no adjustment is necessary, he/she may accept the Contractor's proposal or offer by issuing an executed copy of Standard Form 30, Amendment of Solicitation/Modification of Contract. The modification shall (i) cite this paragraph, (ii) reference the Contractor's proposal or offer, and (iii) direct the changes to be accomplished. The issuance of the modification shall constitute acceptance of the Contractor's proposal or offer; shall be binding on both parties; and shall constitute a full, complete, and final settlement for the changes directed.

**H-3 CHANGES IN REGULATIONS, MANUALS, STANDARDS, AND SPECIFICATIONS WHICH ARE INCORPORATED BY REFERENCE.** Whenever the Contractor receives notification of changes to Regulations, Manuals, Standards, and Specifications which are incorporated into this contract by reference, they shall be complied with provided there is no impact on contract performance or cost. If there is any impact, the Contracting Officer shall be notified, in writing, within 30 days of Contractor's receipt of notification and the Contractor shall not comply until written direction is received from the Contracting Officer.

REF NO.	FAR REF	TITLE	DATE
23	52.220-4	Labor Surplus Area Subcontracting Program	APR 1984
24	52.222-1	Notice to the Government of	APR 1984
25	52.222-18	Notification of Employee Rights Concerning Payment of Union Dues or Fees	MAY 1992
		Labor Disputes	
26	52.222-20	Walsh-Healey Public Contracts Act	APR 1984
27	52.222-26	Equal Opportunity	APR 1984
28	52.222-35	Affirmative Action for Special Disabled and Vietnam Era Veterans	APR 1984
29	52.222-36	Affirmative Action for Handicapped Workers	APR 1984
30	52.222-37	Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era	JAN 1988
31	52.223-6	Drug-Free Workplace	JUL 1990
32	52.225-3	Buy American Act -- Supplies	JAN 1994
33	52.225-11	Restrictions on Certain Foreign Purchases	MAY 1992
34	52.227-1	Authorization and Consent	APR 1984
35	52.229-3	Federal, State, and Local Taxes	JAN 1991
36	52.229-5	Taxes-Contracts Performed in U.S. Possessions or Puerto Rico	APR 1984
37	52.232-1	Payments	APR 1984
38	52.232-8	Discounts for Prompt Payment	APR 1989
39	52.232-9	Limitation on Withholding of Payments	APR 1984
40	52.232-11	Extras	APR 1984
41	52.232-17	Interest	JAN 1991
42	52.232-23	Assignment of Claims	JAN 1986
43	52.232-25	Prompt Payment	SEP 1992
44	52.232-28	Electronic Funds Transfer Payment Methods	APR 1989
45	52.233-1	Disputes (with Alternate I)	DEC 1991
46	52.233-3	Protest After Award	AUG 1989
47	52.242-13	Bankruptcy	APR 1991
48	52.243-1	Changes-Fixed-Price	AUG 1987
49	52.249-1	Termination for Convenience of the Government (Fixed Price) (Short Form)	APR 1984
50	52.249-2	Termination for Convenience of the Government (Fixed Price)	APR 1984
51	52.249-8	Default (Fixed-Price Supply and Service)	APR 1984
52	52.253-1	Computer Generated Forms	JAN 1991
53	52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement	APR 1984
54	52.227-3	Patent Indemnity	APR 1984

b. DOD FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR  
CHAPTER 2) CLAUSES

REF NO.	DFARS REF	TITLE	DATE
1	252.203-7000	Statutory Prohibition on Compensation to Former Dept of Defense Employees	DEC 1991
2	252.203-7001	Special Prohibition on Employment	APR 1993
3	252.210-7000	Brand Name or Equal	DEC 1991
4	252.211-7000	Termination--Commercial Items	MAY 1991
5	252.211-7001	Invoice and Payment--Commercial Items	MAY 1991
6	252.211-7002	Changes--Commercial Items	MAY 1991
7	252.211-7003	Patents and Copyright Indemnification Commercial Items	MAY 1991
8	52.211-7004	Inspection and Acceptance Commercial Items	MAY 1991
9	252.211-7006	Title and Risk of Loss Commercial Items	MAY 1991
10	252.211-7010	Price Reduction for Defective Cost or Pricing Data--Contract Modifications Commercial Items	MAY 1991
11	252.211-7011	Audit of Contract Modifications Commercial Items	MAY 1991
12		NOT USED	
13	252.211-7021	Clauses to be Included in Contracts with Subcontractors and Suppliers	MAY 1991
14	252.219-7008	Pilot Mentor Protege Program	OCT 1992
15	252.223-7004	Drug-Free Work Force	SEP 1988
16	252.225-7001	Buy American Act and Balance of Payments Program	JAN 1994
17	252.225-7002	Qualifying Country Sources as Subcontractors	DEC 1991
18	252.225-7009	Duty-Free Entry-Qualifying Country End Products and Supplies	DEC 1991
19	252.225-7012	Preference for Certain Domestic Commodities	DEC 1991
20	252.225-7031	Secondary Arab Boycott of Israel	JUN 1992
21	252.231-7000	Supplemental Cost Principles	DEC 1991
22	252.232-7006	Reduction or Suspension of Contract Payments Upon Finding of Fraud	AUG 1992
23	252.233-7000	Certification of Claims and Request for Adjustment or Relief	APR 1993
24	252.243-7001	Pricing of Contract Modifications	DEC 1991

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Contract No. F11603- 94 00003

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PART III - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS  
SECTION J  
LIST OF ATTACHMENTS

J-1 Attachment 1, Bowser Tank Specifications, dated 29 March 94.

PART IV - REPRESENTATIONS AND INSTRUCTIONS  
SECTION L  
INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFEROR

**L-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (JUN 1988) (FAR 52.252-1)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

REF NO.	FAR REF	TITLE	DATE
1	52.212-7	Notice of Priority Rating For National Defense Use (DO Rated)	SEP 1990
2	52.214-1	Solicitation Definitions - Sealed Bidding	JUL 1987
3	52.214-3	Amendments to Invitations For Bids	DEC 1989
4	52.214-4	False Statements In Bids	APR 1984
5	52.214-5	Submission of Bids	DEC 1989
6	52.214-6	Explanation to Prospective Bidders	APR 1984
7	52.214-9	Failure to Submit Bid	APR 1984
8	52.214-10	Contract Award - Sealed Bidding	JUL 1990
9	52.214-12	Preparation of Bids	APR 1984
10	52.214-15	Period of Acceptance of Bids	APR 1984
11	52.214-17	Affiliated Bidders	APR 1984
12	52.214-34	Submission of Offers in the English Language	APR 1991
13	52.214-35	Submission of Offers in U.S. Currency	APR 1991
14	52.216-1	Type of Contract	APR 1984

REF NO.	FAR REF	TITLE	DATE
1	DFAR 252.211-7018	Late Submission, Modifications and Withdrawals of Offers--Commercial Items	MAR 1991

**L-2 SERVICE OF PROTEST (NOV 1988) (FAR 52.233-2)**

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) or the General Services Administration Board of Contract Appeals (GSBCA), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment 30 days of receipt from the 928th AG/LGC, O'Hare IAP ARS IL.

(b) Definitions.

(1) "contracting officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the contracting officer.

(2) "Offer" means either "bid" in sealed bidding or "proposal" in other than sealed bidding.

(3) "Solicitation" means an invitation for bids in sealed bidding or a request for proposal in other than sealed bidding.

L-6 CONTRACT AWARD--COMMERCIAL ITEMS (MAY 1991) (DFARS 252.211.7014)

(a) The Government will evaluate offers in response to invitations for bid without discussions and will award a contract to the responsible offeror whose offer, conforming to the solicitation, will be most advantageous to the Government considering only price and the price related factors specified in the solicitation.

(b) The Government will award a contract resulting from a request for proposals to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, price and other factors specified in the solicitation, considered. The Government intends to award a contract on the basis of initial offers received in Response to a request for proposals without discussions unless discussions are necessary. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint.

(c) The Government may:

(1) Reject any or all offers if such action is in the public interest;

(2) Accept other than the lowest offer; and

(3) Waive informalities and minor irregularities in offers received.

(d) The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

Solicitation No. F11603-94-B0001

Contract No. F11603-94 00003  
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PART IV - REPRESENTATIONS AND INSTRUCTIONS  
SECTION M  
EVALUATION FACTORS FOR AWARD

M-1 The evaluation shall be based upon price and in accordance with FAR 52.214-10, Contract Award - Sealed Bidding.

**BOWSER TANK SPECIFICATIONS**  
29 March 1994

Contractor to provide bowser tanks as specified below:

1. **GENERAL:** All tanks shall have the same basic trailer assembly inclusive of tires, wheels, bearings, tow bar with with an eyelet (i.e. not a ball hookup point) and shall include the following:
  - 1.1. Tow bars at least 5 feet long, reinforced and fitted with bushings and zerk fittings at tow bar joint and all steering knuckles.
  - 1.2. Ball joint steering.
  - 1.3. Four (4) pneumatic tire chassis.
  - 1.4. Leaf type suspension adequate to support the filled capacity weight of each individual bowser.
  - 1.5. Mechanical brakes for each rear wheel that shall be operated by a single handle hand-brake system.
  - 1.6. Stainless steel double wall construction throughout.
  - 1.7. A telescoping funnel with a variable height from the top of the bowser to 12 feet from the ground. The funnel must telescope and store from the unit itself. (i.e not have to be inserted into the top of the unit). Additionally, it can be raised from its stored position and must be lockable.
  - 1.8. A built-in pneumatic operated dispensing pump, and pneumatic operated vacuum pump to depuddle hard to reach areas. Both referenced pneumatic systems shall operate with a source air pressure of 40CFM at 90 lbs per square inch.
  - 1.9. Grounding reels, Two (2) each with alligator and aircraft pin grounds.
  - 1.10. Paint shall be Poly Urethane Base Primer and two (2) coats of Poly Urethane;
    - 1.10.1. Color shall be Sage Green Military spec number MIL-C-83286B.
    - 1.10.2. All markings shall correspond with the product to be contained and also comply with all requirements in Military Technical Order 42B-1-23.
  - 1.11. A product sight gage and a product quantity gage.
  - 1.12. All openings to the basic tank and containment shall be lockable.
  - 1.13. All drains shall be lockable.
2. **TYPES OF BOWSER TANKS** with all the features described above shall be:
  - 2.1. 100/Gal capacity bowser tank for reclaimed Ethylene Glyco products.