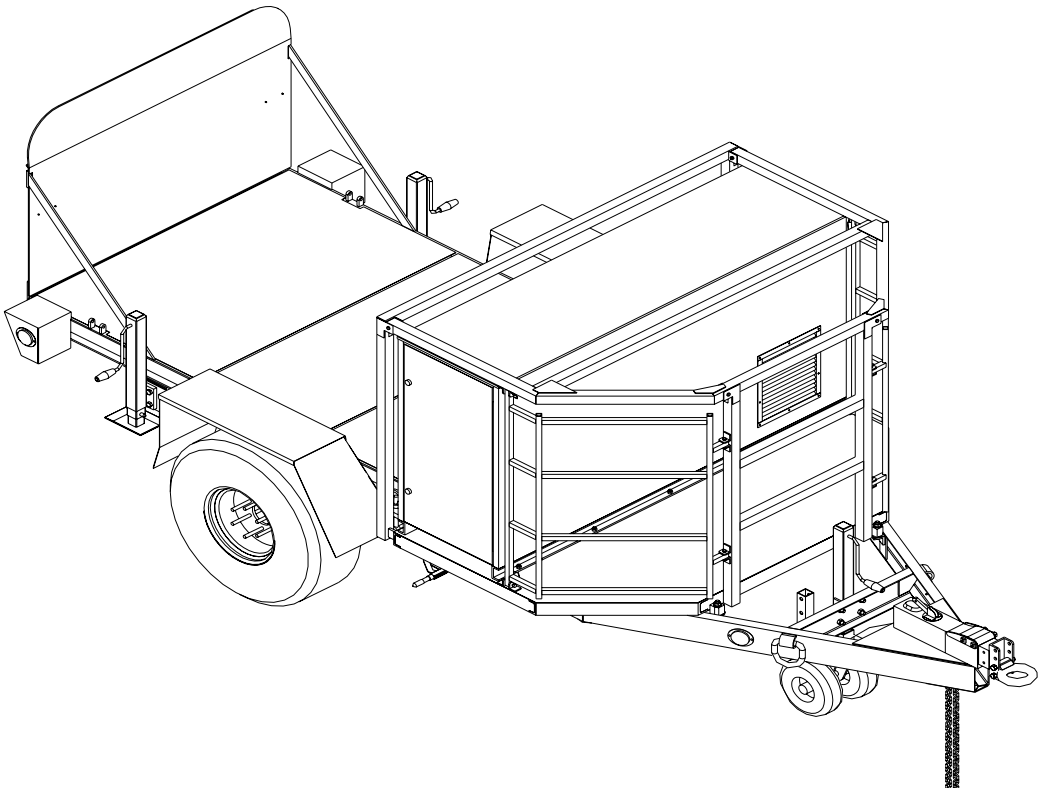
UST TRAILER MODEL HP-J OPERATIONS &

MAINTENANCE MANUAL



ISO 9001: 2000 Registered Quality Management System

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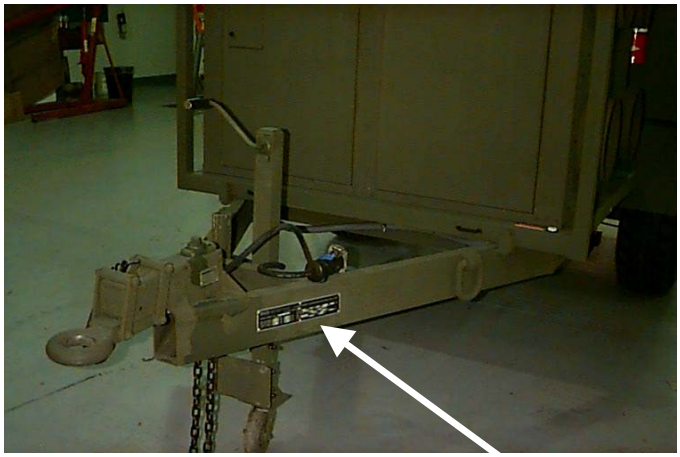
DHS PART NUMBER: 80600
DHS MANUAL PART NUMBER: **T2-95061-01**

Revision History

Date	Revision	Description
06/02/04	T2-95061-00	Original Issue.
08/26/04	T2-95061-01	General edits. Section 4 – Maintenance, adjust service intervals, Global reconfigure to new printing procedures.

PRODUCT IDENTIFICATION

Before calling DHS for assistance, please identify your particular trailer by the Vehicle Identification Number (VIN) indicated on the trailer nameplate affixed to the front of the trailer (by the tow ring).

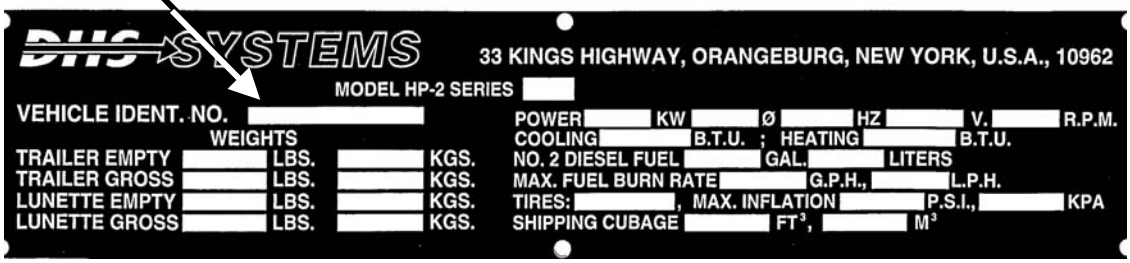


Location of VIN Plate

THIS MANUAL IS SHIPPED WITH TRAILER VIN#

23-9388C-006

VIN #



Detail of VIN Plate

The engine*, generator*, ECU*, and trailer chassis all have serial numbers. If a problem exists with a particular component, identifying its serial number along with the VIN will help DHS respond as quickly as possible.

Only authorized DHS technicians should perform Service and repairs beyond the scope of this manual.

DHS SYSTEMS LLC Contact Information

Phone: 800-977-3647
FAX: 845-365-2114
e-mail: drash@drash.com

* - Depending on trailer configuration

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WARNING SUMMARY

This Warning Summary explains the use of general safety Note, Caution, and Warning notices present in this Technical Manual that must be understood and applied during the operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel.

Equipment Specific Safety Issues

General

The cautions and warnings point out known conditions that are potentially hazardous. However, no manual can cover every possible situation. If in doubt, contact DHS ().

Before calling DHS for assistance, please identify the trailer by its DHS VIN (Vehicle Identification Number). The DHS VIN is on the trailer nameplate on the front of the trailer by the tow ring.

Service and repair procedures not covered in this manual should be performed only by authorized DHS technicians.

General Precautions

REMEMBER SAFETY FIRST. If unsure of the instructions or proper operating procedures, contact DHS before continuing.

This manual emphasizes the safety precautions necessary during the operation and maintenance of the HP-J. Each section uses caution and warning messages for both the safety of the operator as well as the durability of the equipment. If any of the cautions or warnings is not readily understood, contact DHS before proceeding.

When an abnormal condition is observed and procedures in the manual do not specifically describe the condition, all operations should be stopped and DHS Systems should be immediately contacted for assistance.

DHS SYSTEMS LLC Contact Information

Phone: 800-977-3647
FAX: 845-365-2114
e-mail: drash@drash.com

Qualified Personnel

A qualified person is one who is familiar with this manual, the operation of the HP-J and the hazards involved in its operation and maintenance and who has been certified by the DHS SYSTEMS LLC Training program.

This manual is not intended to be a substitute for proper training. DHS SYSTEMS LLC strongly recommends that operators receive training directly from DHS SYSTEMS LLC.

Trailer Chassis

The Trailer Chassis requires the following routine safety precautions:

- Walk around the trailer. Inspect for leaking fluids, fumes, and flat tires.
- Check the fire extinguisher for adequate charge and current inspection date.
- The Trailer for every HP-J has two hand-operated parking brakes, one for each wheel (see Figure 2-1 and Figure 2-2, page 2-1, in Chapter 2). Verify that each wheel's hand-operated parking brake is in the proper position for towing or stationary operation.
- Examine the front of the trailer when the trailer is attached to a tow vehicle, verify that the coupling is secure, the safety chains are in place, and the breakaway chain in place. The breakaway chain is connected to the breakaway lever. The lever must be pointing to the rear of the trailer (see Figure 2-7, page 2-3, in Chapter 2). Accidental application of the lever will cause the trailer brakes to drag, heat up, and possibly burn out.
- When the trailer is supported by the dolly wheel / skid plate assembly, verify that the tongue jack is upright and stable and all the pins are securely in place.

Warning Boxes

Warning Box Words & Icons

Warning Boxes are provided throughout this Technical Manual and are used to call attention to various details about either the equipment that are important enough to separate from the normal operating descriptions and/or procedures or a safety-related situation that the operator must be aware of. The appearance of the basic Warning Box is shown in Figure a. There are generally four information points provided by each Warning Box that follow a defined pattern. Figure a defines the positions of the information points.

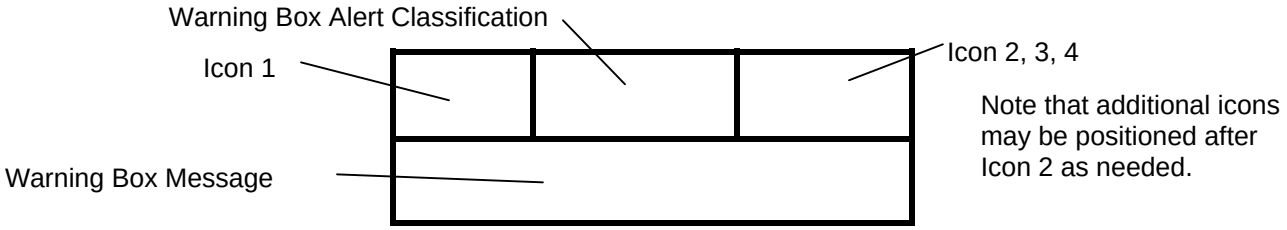


Figure a - Warning Box Definition

Icon 1:

Icon 1 is the primary indication of the contents of the Warning Box. The Icon is meant to visually alert the reader to the level of importance of the Warning.

Icons 2, 3, 4:

The icons that appear to the right of the Warning Box Classification provide a secondary indication of the contents of the Information Box. The position is labeled Icon 2, 3, 4 in Figure a (above) because there may be multiple types of alerts associated with the warning. The types of Icons found in Icon Box 2 are as follows:

When Icon 2 is the same as Icon 1, it means that there is no further specific information about the type of Alert.

If Icon 2 is different than the icon shown in Icon Box 1, it means that there is more specific information available about the type of Alert. An example of an Warning Box where there would be two different Icons shown in Icon Box 1 and Icon Box 2 would be that of a burn hazard. In this case, Icon Box 1 will show an Icon representing a burn hazard. If the burn hazard was created by a particular substance such as gasoline, Icon Box 2 would be an Icon indicating a Flammable Fluid.

In certain instances, additional icons will appear after Icon #2. These icons will either enhance the definition of the warning or they will indicate the presence of additional hazards that may exist either because of the original condition or in addition to the original condition.

Warning Box Alert Classifications

The Warning Box Alert Classification is an indication of the level of importance of the Warning Box. The various levels of Alert Types are defined below, from the most important (Danger) to items of lesser importance.

Danger: Danger refers to immediate hazards that will result in severe personal injury or death.

Warning: Warning refers to a hazard or unsafe method or practice that may result in severe personal injury or death.

Caution: Caution refers to a hazard or unsafe method or practice that may result in personal injury or equipment damage.

Note: Note refers to an important feature that the operator should be aware of for maximum operating efficiency of the equipment.

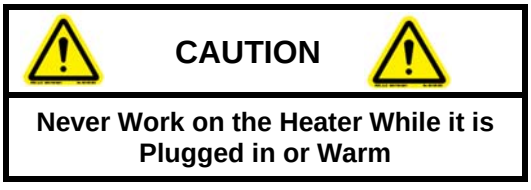


Figure b - Example of a Generic Warning

Common Warning Symbols Definitions

The following symbols are commonly used to indicate that a task requires precautionary measures be understood and practiced during the execution of the task.

Icon	Definition	Notes
	CAUTION The exclamation point is intended to alert the user to the presence of important operating and/or maintenance (servicing) information in the literature accompanying the product.	
	PRESENCE OF ELECTRICITY The lightning bolt is intended to alert the user to the presence of electricity. The electricity can be directly related to the specific operation or it can be in the area of the operation.	This icon is typically used with another, more specific, icon that identifies the nature of the warning.
	HAZARDOUS VOLTAGE The lightning bolt and human figure is intended to alert the user to the presence of voltages that can serious or fatal shock to a person.	
	EXPLOSION The explosion is intended to alert the user to the possibility that something associated with or in the area of the particular operation presents the risk of an explosion.	This icon is typically used with another, more specific, icon that identifies the nature of the warning.
	EXPLOSION The explosion with a face is intended to alert the user that a particular operation or task exposes the individual(s) to a risk of explosion within close proximity to the immediate work location.	This icon is more specific than the previous EXPLOSION icon.
	HOT SURFACE The open flame and heat lines is a generic icon to alert the user that there is or could be an exposed source of flame in the immediate vicinity of the particular operation.	This icon is not the same as the FLAMMABLE icon described below.
	HOT SURFACE w/BURN HAZARD The radiating surface with a hand alerts the user to the risk that there is or could be a potential for being burned by contact with a surface.	Hot surfaces are not always associated with a flame. An engine exhaust pipe is one example of a hot surface with no flame.
	FLAMMABLE The large open flame indicates that the associated operation involves working with fluids and/or gases that are flammable.	Burning gases and liquids can cause severe burns. Keep ignition sources away.

Icon	Definition	Notes
	LIFTING HAZARD The image of a person lifting a box indicates that the object in question is particularly heavy and presents a risk of back injury if not lifted properly or with assistance.	Other warnings that use this same icon include: HEAVY OBJECT TWO-PERSON LIFT MULTI PERSON LIFT
	HAND ENTANGLEMENT The image of a hand being trapped between two rollers indicates that there is a risk of a hand being trapped and possibly injured by one or more pieces of moving machinery.	
	PINCH POINT The image of a hand being crushed between two objects indicates that the particular piece of equipment or the particular operation presents the possibility that a hand or other part of the body can be pinched during the task.	
	STOP The uplifted hand within a red circle indicates that the person should stop and identify all possible risks and hazards associated with the particular operation before proceeding. Failure to observe this warning can lead to serious problems and the risk of injury or death.	Other warnings that use this same icon include: STAY CLEAR
	HAZARDOUS GASSES The image of a person inhaling gasses is intended to alert the user to the possible presence or release of gasses in the immediate area that can be harmful if inhaled.	
	FIRE EXTINGUISHER The image of a fire extinguisher indicates that the person should have an extinguisher ready or be aware of the location of the nearest fire extinguisher during a particular operation or task.	
	FIRST AID The cross in a circle is the international standard icon for a first aid kit. When used within an Operation & Maintenance Technical Manual, the First Aid icon indicates that the person should be aware of the location of such a kit.	

HOW TO USE THIS MANUAL

Work Package Description

This Technical Manual and the procedures within it are organized according to the Work Package numbering format identified in DoD Standard Practice for Preparation of Technical Information for Technical Manuals (MIL-STD-40051A) and DoD Guide to the General Style Format of US Army Work Package Technical Manuals (MIL-HDBK-1222B(TM).

Work Package Numbering

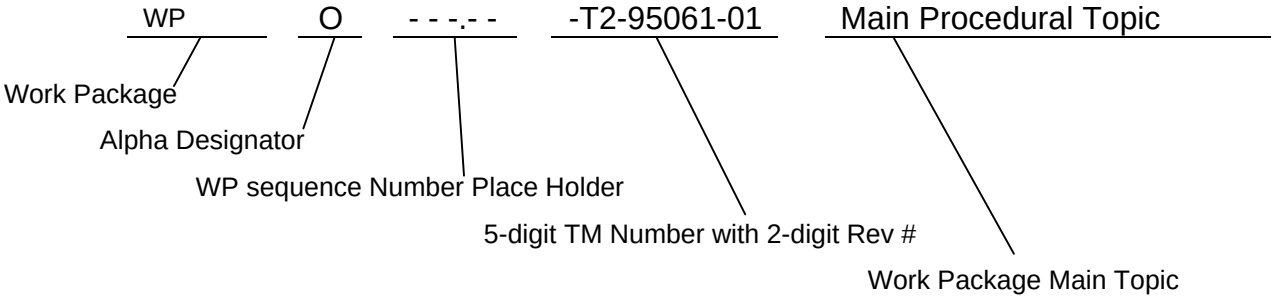
The Work Package numbering and lettering sequence is derived from MIL-STD-40051, page 25, and is explained here for reference.

The following alpha designators describe the specific types of information within this Technical Manual and within the specific Work Packages.

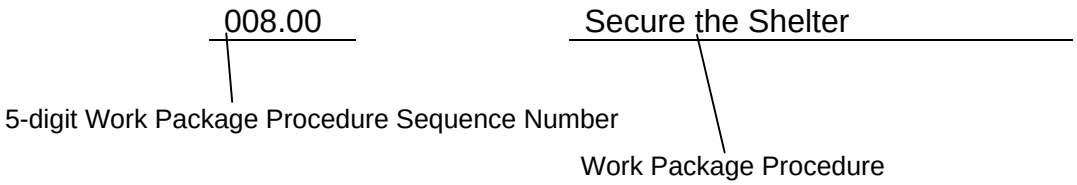
Alpha Designator	Description		Alpha Designator	Description
G	Descriptive information and theory of operation		**R**	Repair parts and Special Tools List (RPSTL)
I	Inspection Procedures		**S**	Supporting Information
M	Maintenance Procedures		**T**	Troubleshooting Procedures
O	Operation Procedures			

This manual uses two methods to present the Work Package numbering sequence:

The first method identifies the Parent Work Package by Alpha Designator, 5-digit Technical Manual number with revision number, and Work Package Main Topic. The Work Package Main Topic identifies the general scope of the Work Package Procedures to follow. An example Parent Work Package number is defined below.



The second numbering method identifies the titles of specific procedures by Work Package Sequence Number and Work Package Procedure. The Work Package Procedure Sequence Numbers will always flow from a lower number to a higher number, indicating the progress towards completing the Main Topic Procedure. An example of a specific Work Package Procedure is defined below.



Note that the first three digits of the Work Package Sequence Number will never change for the life of the product.

The last two digits of the Work Package Sequence Number and the last two digits of the Technical Manual Number are revision numbers and will change from time to time as revisions to either the product or the Work Package occur.

In all instances, the last two digits of the Work Package Sequence Number and the last two digits of the Technical Manual Number must always match. An examination of the Table of Contents page will show how the two numbering systems integrate.

All Work Packages will end with " **END OF WORK PACKAGE** " statement in bold type. The next Work Package will then begin and be identified by a Parent Work Package title described above.

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Section 1

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1. SCOPE

This Operator's Manual describes the safe operation and field maintenance of the DRASH Utilities Shelter Transporter (UST) Trailer Model HP-J.

1.1 Equipment Description

The trailer consists of one 4.2 kW, 120 Volt, single-phase, 60 Hz, Diesel engine Generator Set mounted on a trailer chassis. A rapidly deployable DRASH J Shelter and shelter accessories are added as cargo. The trailer can be towed by a vehicle capable of pulling 6000 pounds. The trailer has an overall length of 228 inches, an overall width of 96 inches and an overall height of 86 3/4 inches.

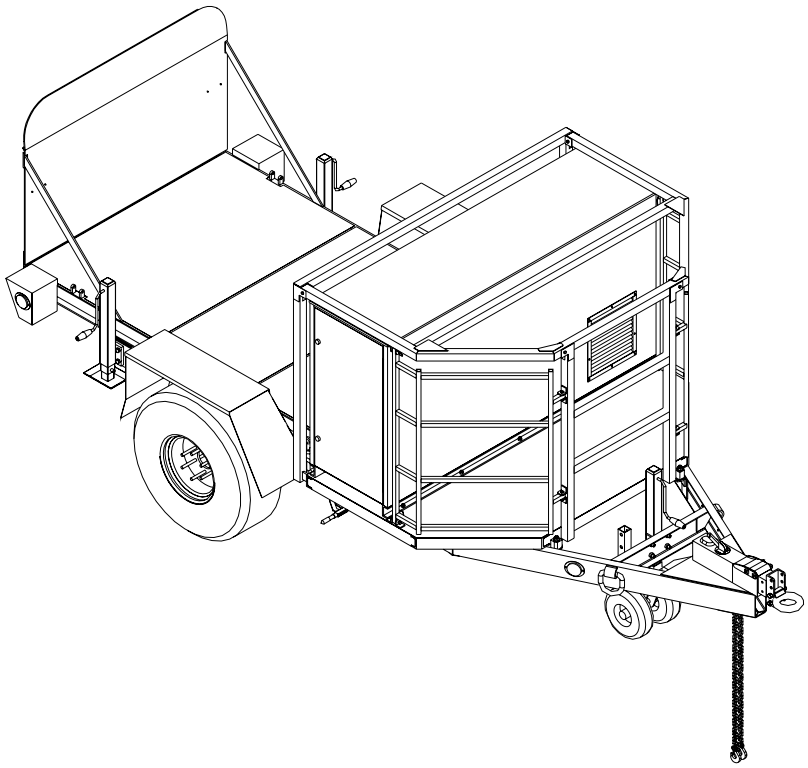

Figure 1-1 - DRASH J-Shelter Trailer System

WP G ---.-- -95061-01 Major Components

001.01 Trailer Chassis

The trailer chassis consists of a six-inch structural steel channel frame, an aluminum shelter bed and a cargo box and cargo area for accessories.

The trailer chassis is equipped with a hydraulic surge brake system, two hand-operated parking brakes, two run-flat tires and four tie-down rings.

A mechanical actuator using two extension handles to raise and lower the aluminum shelter bed to load and unload the J shelter. The enclosure houses the generator and equipment.

Two 24 VDC tail light assemblies are connected via a cable to a 12-pin plug for connecting to the towing vehicle receptacle. An adjustable tongue jack is provided to raise and lower the tow ring (lunette) to pintle height. The jack is also used to level the trailer during storage or operation. A storage post for attaching the dolly wheel / skid plate assembly during towing is provided adjacent to the jack.

002.01 Generator Set

The 4.2 kW Generator Set consists of a one cylinder, air-cooled, 3600 RPM, Diesel engine coupled to a single bearing, two-pole generator.

The engine's fuel is supplied from the fuel tank mounted on the engine. The Generator Set supplies power to utility outlets for external use.

The Generator Set is housed in a weatherproof, acoustically insulated, aluminum enclosure. The enclosure also contains the Generator Set Instrument Panel and one 12 VDC, non-spillable, maintenance-free battery suitable for 12 VDC engine starting.

003.01 Auxiliary Equipment

Standard equipment consists of the following:

- A blower, an inflatable bladder with ducting, and one (1) 30 foot, 120V, 20A, single-phase trailer lead are included to erect and strike the J shelter.
- Other components of the shelter including: one (1) fabric floor, two (2) side doors and two fabric endwalls, twelve (12) windlines, two (2) exterior "T" faceplates, two (2) "JT" boot sets, two (2) interior faceplates, two (2) bags for "T" faceplates, four (4) aluminum end wall sets, and one (1) J Shelter repair kit.
- Two 1XBTJ end shelter walls.
- 24 shelter stakes with a sledgehammer and stake puller, eight (8) red stakes, one (1) 3lb mallet, and one (1) 30pc stake set.
- A collapsible 10' ladder.
- One (1) five-pound ABC dry chemical fire extinguisher is mounted on the trailer.
- A waterproof and mildew-resistant tarp protects the trailer during transportation or storage. Tarp tie-downs are provided.
- One (1) floodlight and one (1) 50' lead (for night time set up).
- Two (2) extension handles for mechanical actuator to raise and lower the shelter bed.

Optional equipment that can be with shelter:

- One (1) J light Set with cord set.
- One (1) J plenum, and one (1) plastic window set (4 windows per set)
- Additional XBT shelters for side doors.

004.01 Shelter

One (1) DRASH J shelter and its accessories can be transported on the trailer. Shelter accessories can be installed on the trailer in their labeled canvas bags. For detailed information regarding DRASH shelters, refer to the Operators' Manual provided with each shelter or contact DHS (phone: 800-977-3647, fax: 845-365-2114 or e-mail: drash@drash.com).

END OF WORK PACKAGE

WP G ---.-- -95061-01 Specifications

005.01 General

Color: OD Green or Desert Tan

Paint: CARC Mil-C-46168

Overall Dimensions:

Length:	210 in (5.33 m)
Width:	92 in (2.33 m)
Height:	86.75in (2.08 m)

Wheel Track: 72 in (1.83 m)

Ground Clearance:

Unloaded:	18 in (0.46 m)

Loaded: 16 in (0.41 m)

Tow Ring (Lunette)

Nominal Height: 28 in (0.71 m)

Weights:

Tare: 2,588 lb (1174 kg)

Utilities: 1,549 lb (703 kg)

Shelter: 1,550 lb (703 kg)

Gross: 5,687 lb (2580 kg)

Cargo Area:

Height: 56 in (1.42 m)

Length: 35 in (0.89 m)

Width: 63 in (1.60 m)

Capacity: 71.5 CF (2.0 m^3)

006.01 Trailer Chassis

Construction: Steel and Aluminum

Electrical System: 12 Volt

Brakes:

1. Hydraulic surge brake system with automatic breakaway actuator.

2. Two independent, lever-operated mechanical parking brakes.

Axle and Suspension: Single axle with Torflex suspension rated at 6000 lb

Tires: Two 37 x 12.50 x 16.5 LT *Goodyear Wrangler M/T II*, Load Rating D, run flat tires.

007.01 Generator Set

Engine: One-cylinder, air-cooled, direct injection, 3600 RPM, Diesel

Fuel Type: Diesel, JP5 or JP8

Battery Capacity: 12 VDC

Generator: Two-pole, single bearing generator rated for 4.2 kW at 125 °F providing 120 VAC, 60 Hz, single phase power

Power Distribution Panel

(1) - 120 VAC, 20 A, 1 phase, receptacle

(1) - 120 VAC, 15 A, 1 phase, receptacle

END OF WORK PACKAGE

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Section 2

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2. STORAGE & TRANSPORT

2.1 General Storage & Transport Information

The trailer is designed for outdoor use. No special packaging is required for storage or transport.

NOTE

THE PICTURES AND DRAWINGS IN THE FOLLOWING SECTION ARE NOT ALWAYS EXACT REPLICATIONS OF THE TRAILER THIS MANUAL REFERS TO.

THESE DRAWINGS AND PICTURES ARE USED TO REFERENCE TRANSPORTING AND STORING THE TRAILER.

There are two ways to transport the trailer. Shipping pertains to moving the trailer by truck, aircraft, railroad or sea. Towing means that the trailer will be hooked up to a vehicle capable of pulling 6,000 lbs., on both on and off road conditions.

The following equipment is used for storing, shipping, and towing the trailer:

- TARP - A waterproof and mildew-resistant tarp protects the trailer during transportation or storage. Tarp tie-downs are provided.
- TONGUE JACK - The tongue jack is equipped with a dolly wheel/skid plate assembly.
- PARKING BRAKES - The trailer is equipped with two independent, hand-operated, mechanical parking brakes.
- TIE DOWN RINGS - Four tie down rings are provided on the trailer chassis.
- SURGE BRAKE SYSTEM - The surge brake system assists in slowing down the trailer when braking the tow vehicle.
- CHAINS - The trailer has two safety chains and one breakaway chain for towing.
- TAIL LIGHTS - Two 24 VDC tail light assemblies are connected via a cable to a 12-pin plug for connecting to the towing vehicle receptacle.
- REFLECTORS - There are reflectors on the sides and rear of the trailer chassis.

WP O --- . -- -95061-01 Transporting the Trailer

IMPORTANT!

THE OWNER OF THE TRAILER IS RESPONSIBLE FOR INVESTIGATING APPLICABLE LAWS AND REGULATIONS CONCERNING THE TRANSPORTATION OF OIL, DIESEL FUEL, AND PRESSURIZED REFRIGERANT.

008.01 Shipping Procedures

Before shipping the trailer, make sure all circuit breakers and switches are in the OFF position. Disconnect the batteries by disconnecting the negative (black) lead on one of the batteries. Put the tarp cover on and attach it to the trailer chassis by way of the tie-downs.

Figure 2-1 - Parking Brake in ON (engaged) Position

The trailer parking brakes should be engaged. The handles are located on each side of the trailer directly forward of the wheel.

To engage the parking brake, set the handle so that it is in-line or parallel to the trailer frame. To release the brake, place the handle perpendicular to the trailer frame.

When the trailer is being transported, the wheels should be chocked as shown in Figure 2-3.

Figure 2-2 - Parking Brake in OFF (released) Position

Do not use the dolly wheel to support the tongue jack during shipping. The skid plate resting on the deck surface will support the tongue jack. The trailer tongue jack must be fully retracted.

IMPORTANT!

WHEN LOADING AND UNLOADING THE TRAILER, AVOID HITTING THE RETRACTED TONGUE JACK OR DAMAGE WILL OCCUR.

Figure 2-3 - Wheel Properly Chocked

The trailer should be secured to the transport deck using only the four tie-down rings. No additional tie downs should be attached from the trailer to the transport deck.

The axle allows the trailer to move in an up and down motion. If extra tarpaulins are used to cover the trailer, they should be tied only to the trailer and not to

Figure 2-4 - Front (Left) and Rear (Right) of Shrink-wrapped Trailer Secured to Flatbed

END OF WORK PACKAGE

WP O --- . -- -95061-01 Towing Procedures

009.01 Before Towing

Before towing the trailer;

1. Verify that all circuit breakers and switches are in the OFF position.
2. Put on the trailer tarp and secure it to the trailer chassis.

IMPORTANT!
THE CARGO AREA MUST BE LOADED WITH A SHELTER TO ENSURE THAT THE TONGUE MEETS TACOM TOWABILITY REQUIREMENTS.

TOWING WITHOUT CARGO MAY RESULT IN DAMAGE TO THE TOWING VEHICLE.

Figure 2-5 - Tow Ring Connected to Pintel

3. Engage the tow ring (lunette) with the pintle on the towing vehicle.
4. Secure the pintle-locking device.
5. Release the trailer parking brakes (see Figure 2-1 and Figure 2-2, page 2-1).
6. Criss-cross the two safety chains under the tongue as shown in Figure 2-6 when attached to the towing vehicle so that the chains cradle the tongue in the event of a breakaway.

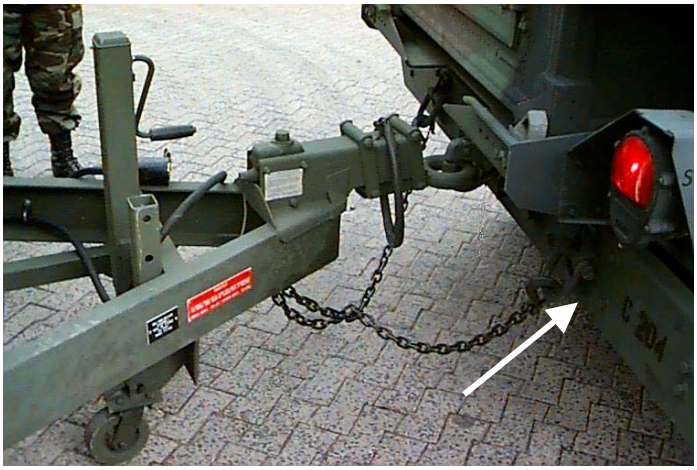

Figure 2-6 - Safety Chains Connected to Vehicle

7. Secure the breakaway chain to the frame of the towing vehicle, near the pintle as shown in Figure 2-7.
8. Be sure that the breakaway chain is as slack as possible during towing.
9. Verify that the breakaway lever is pointing towards the rear of the trailer and is fully released (no breakaway teeth are engaged in the leaf spring).

Figure 2-7 - Breakaway Chain Connected to Vehicle

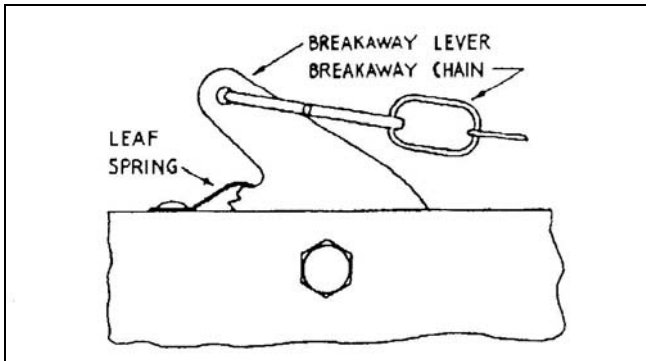

Figure 2-8 - Breakaway Lever in Fully Released Position

10. After the trailer is engaged to a vehicle, rotate the tongue jack handle to raise the dolly wheel / skid plate assembly off the ground.

11. There is an extension between the jack and the dolly wheel / skid plate assembly.

1.

12. Remove the two assembly pins that hold the dolly wheel / skid plate assembly to the tongue jack extension (shown in Figure 2-9).

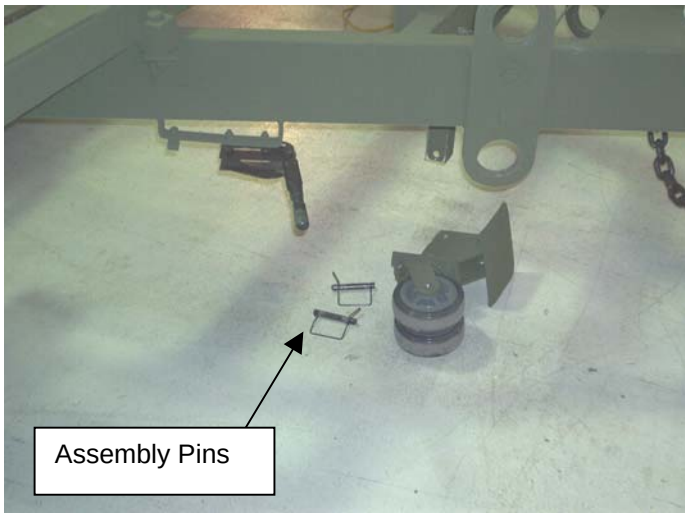

Figure 2-9 - Dolly Wheel/Skid Plate Assembly Removed

2. The extension is held in place with one extension pin. Release the pin and push the extension all the way up into the tongue jack.

13. Secure the extension by reinserting the pin in the tongue jack.

14. Continue to rotate the tongue jack handle to fully raise the tongue jack.

Figure 2-10 - Jack Extension Shown in Extended Position

15. Place the dolly wheel / skid plate assembly onto the storage post with the skid plate facing the spare tire.

16. Secure in place by inserting the two assembly pins used to hold the assembly to the jack.

Figure 2-11 - Dolly Wheel/Skid Plate Assembly Pinned to Storage Post

17. Connect the 12-pin 24 VDC taillight plug to the receptacle provided at the towing vehicle.

18. Verify that the plug is properly aligned with the receptacle on the vehicle.

19. Verify that there is enough slack in the tail light cable between the trailer and the vehicle to enable the trailer to turn while maintaining adequate ground clearance of the cable.

20. Test the following:

- **a.** brake lights
- **b.** running lights
- **c.** turn signals
- **d.** hazard lights.

Figure 2-12 - Tail Light Cable Connected to Back of Vehicle

21. The trailer has a tailgate or cargo netting to secure cargo. Inspect for damage before use and repair if necessary.

22. The cargo load must be equally distributed.

23. Failure to load the trailer properly may result in serious damage or injury.

010.01 During Towing

Prior to departure, check performance of towing vehicle's and trailer's braking systems. The trailer should not push or pull the tow vehicle or jackknife during braking. Investigate erratic brake performance immediately.

Avoid tight turns. Extremely tight turns may actuate the surge brake system and/or engage the breakaway lever (see Figure 2-8).

Follow proper driving procedures for the vehicle being used for towing. Observe the road conditions and compensate for poor driving situations.

011.01 After Towing

After towing, reverse the steps listed in Procedure 009.01 to release the trailer from the tow vehicle.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Positioning the Trailer for Operation

The dolly wheel gives personnel the ability to move the trailer short distances, linear and rotational. This is beneficial when the trailer needs to be hooked up to a towing vehicle or be positioned with respect to the DRASH shelters for operation setup. The dolly wheel is part of the skid plate assembly (see Figure 2-9, page 2-4).

If the terrain around the trailer is soft, uneven, or generally unfavorable, do not use the dolly wheel; use the skid plate.

NOTE

UNDER NO CIRCUMSTANCES IS THE DOLLY WHEEL USED FOR SHIPPING OR TOWING. THE DOLLY WHEEL IS USED FOR DEPLOYMENT AND STORAGE ONLY

To change from the skid plate to the dolly wheel or vice versa:

1. Position tow vehicle under the trailer tongue. Engage both parking brakes. Lower the trailer tongue onto the tow vehicle using the tongue jack.
3. After trailer tongue is secured, raise the dolly wheel / skid plate assembly by rotating the tongue jack handle.
4. Remove the lower assembly pin that holds the dolly wheel / skid plate assembly to the jack. Leave the upper assembly pin in place.
5. Rotate the dolly wheel / skid plate assembly around the upper pin so that the dolly wheel or skid plate is facing the ground. If the dolly wheel or skid plate does not clear the ground, continue to raise the jack. If the dolly wheel or skid plate still does not clear the ground, remove the extension pin and move the extension up into the jack until the dolly wheel or skid plate clears the ground. Reinsert the extension pin.
6. Reinsert the lower assembly pin to secure the dolly wheel / skid plate assembly.

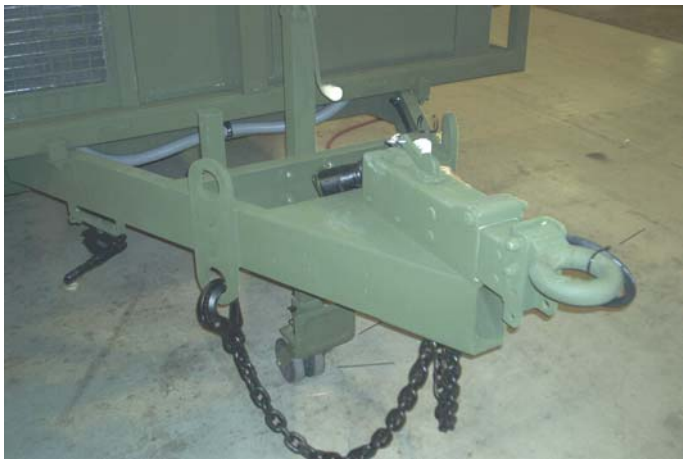

Figure 2-13 - Dolly wheel in Position for Manual Adjustments

7. Lower the tongue jack until the tongue is supported by the dolly wheel or skid plate.
8. Continue to lower the tongue jack, raising the tongue off the tow vehicle support.
9. Once clear of the tow vehicle, use the tongue jack to level the trailer as desired for shipping, storage or operation.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Storing the Trailer System

012.01 Before Storage

Before storing the trailer,

1. Verify that all circuit breakers and switches are in the OFF position.
2. Disconnect the batteries by disconnecting the negative (black) lead from one of the batteries.
3. Drain the fuel tank if the trailer will be in storage for three months or longer.
4. The trailer should be stored on relatively level ground. Check the bull's-eye circular level on the front left corner of the trailer deck. If the trailer is to be stored outdoors, pitch the trailer slightly so that rainwater can run off the tarp. Put on the trailer tarp and secure tarp tie downs.
5. Engage the trailer parking brakes (see Figure 2-1 and Figure 2-2, page 2-2).
6. The trailer can be secured using its four tie-down rings. The wheels on the trailer can be chocked if required.

013.01 During Storage

Once every 3 months, the Genset and ECU should be started and operated for 3 to 4 hours, at half load to full load. Refer to Chapter 3. Make sure the trailer exhaust is properly vented. When completed, drain the fuel tank unless an auxiliary fuel source was used. (The auxiliary fuel source system is independent from the fuel tank.)

Once every 12 months, drain and replace the lubrication oil and engine coolant. Check tire pressures, surge brake fluid level, and the engine. Refer to Chapter 4. Then run the Genset for 3 to 4 hours, at half load to full load. Refer to Chapter 3. Make sure the trailer exhaust is properly vented. When completed, drain the fuel tank unless an auxiliary fuel source was used. (The auxiliary fuel source system is independent from the fuel tank.)

The batteries should be charged once every 6 months.

NOTE

IN THE EVENT THE NEGATIVE BATTERY CONNECTION CANNOT BE DISCONNECTED DURING STORAGE, THE TRAILER IS EQUIPPED WITH A BATTERY CHARGING RECEPTACLE ON THE GENSET DISTRIBUTION PANEL.

014.01 To Trickle Charge the Batteries

1. Plug the battery charger cable (provided with the trailer) into the battery charging receptacle (J5) on the Generator Distribution Panel.
2. Connect the opposing end into a 120 VAC power source.
3. Check the indicator lamp and charge the batteries for 8 hours.
4. To check the Voltmeter, turn the engine selector switch to the run position. After 8 hours of trickle charging, the DC Voltmeter should read between 24 and 28 VDC. If not, then repeat the trickle charge for an additional 4 hours.

NOTE

TO AVOID OVERCHARGING THE BATTERIES, DO NOT CHARGE THEM FOR MORE THAN 24 HOURS AT ONE TIME. THIS WILL RESULT IN PREMATURE LOSS OF THE BATTERY LIFE CYCLE.

015.01 After Storage

Refer to Chapter 3.

END OF WORK PACKAGE

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Section 3

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3. OPERATING PROCEDURES

3.1 General Operating Information

This Section of the manual contains general information for operation of the J Shelter and trailer. Note that this manual is not intended to be a substitute for proper training. We strongly recommend that operators receive training directly from DHS.

The cautions and warnings point out known conditions that are potentially hazardous. However, no manual can cover every possible situation. If in doubt, contact DHS (phone: 800-977-3647, fax: 845-365-2114 or e-mail: drash@drash.com). Service and repairs beyond the scope of this manual should be performed only by authorized DHS technicians.

Before calling DHS for assistance, please identify the trailer by its DHS Vehicle Identification Number (VIN). The VIN is indicated on the trailer nameplate on the front of the trailer by the tow ring.

3.2 Shelter Description

DRASH is an acronym for DEPLOYABLE RAPID ASSEMBLY SHELTER. The DRASH J Shelter is a complete mobile shelter system designed for rapid deployment of medium soft shelters. A minimal of eight people can deploy the J shelter in less than one-hour. The team shall consist of 1 team leader, 1 person designated to operate the blower, and 6 people to erect the J Shelter. The system does not require any additional equipment for either erecting or striking. The J system can be used as a stand-alone unit or can be integrated with other DRASH equipment.

The interior dimensions of the J are approximately 35 feet long, 31 feet wide and 12 feet center span height. The exterior dimensions are approximately 35 feet long, 34 feet wide and 18 feet center span height. The interior usable area is 1,100 square feet.

The basic J Shelter is a frame with pre-attached interior liner and exterior cover. The frame consists of an arrangement of various sized Titanite™ struts. Struts are connected as pairs and articulate at the hubs. These hubs enable the struts to move freely. The unique frame design allows for relative ease during erect and strike. The interior liner and exterior cover are pre-attached to the frame using keepers. These covers are attached so that there is approximately a foot and a half of airspace between the two covers that acts as natural insulation. The covers are removable in case of any damage or change of venue.

The interior liner, exterior cover, end walls, side doors, floor and bladder are made from specially coated polyester fabrics. All fabrics are fire retardant, mildew resistant and water repellent. They have abrasion resistance and are UV resistant. The exterior fabrics includes blackout in the visual and near infrared spectrum.

The shelter features screen windows, electrical ports, supply and return duct ports, side entrance doors, velcro ties for cables, wind lines and staking brackets. It also has velcro connections to allow J shelters to attach end to end using an optional connector. They can be integrated with DRASH S and XB series shelters to provide additional space for specific operations and activities.

In additional to the standard equipment included with the J system, DHS also manufactures accessories to enhance mission capability and function. Accessories include door boots, plastic storm windows, lights sets, and plenums. An optional hard flooring system is also available.

3.3 Engine/Generator Description

The J Shelter and Trailer includes an onboard engine/generator to power an Air Blower which is used to inflate a Bladder that assists erecting the Shelter. The following Work Packages describe the Operating procedures for the engine/generator.

TERMINOLOGY NOTE:

All future reference in this Section to either the engine or the generator will be appear as the Genset.

Figure 3-1 - Engine and Generator Location

3.3.1 Genset Instrument Panel

The Genset Instrument Panel is located directly on the Generator Set itself. A hinged access door protects the Generator Set from the elements. A sliding tray allows the Generator Set to be pulled out and examined. Following are brief descriptions of the Generator Set Instrument Panel components identified in Figure 3-2.

1 –**Key** – Key hole for the engine key.

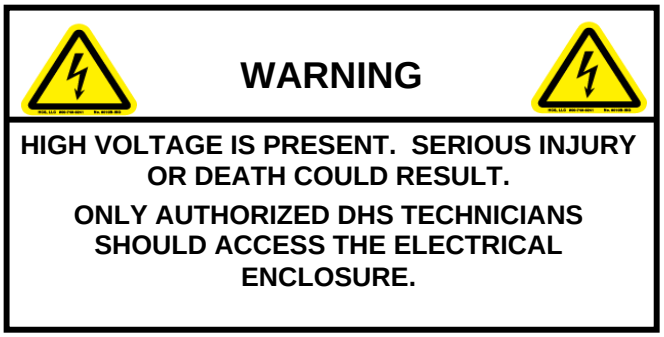
2 – **Low Oil Light** – Indicates a drop in oil pressure and/or low oil level.

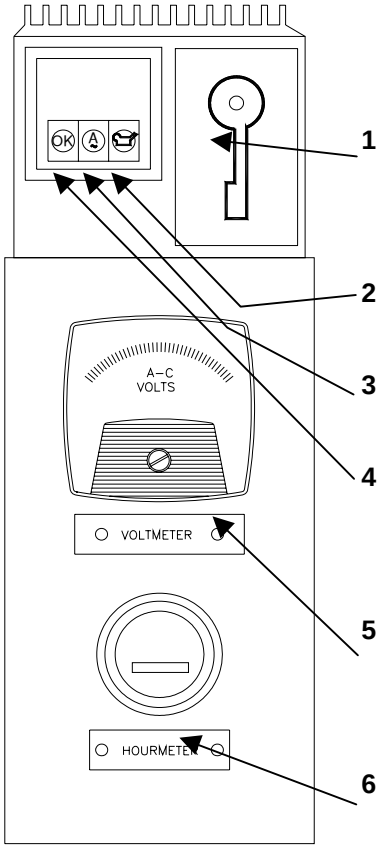
3 – **Alternator Warning Light** – Indicates a problem with the alternator.

4 – **OK Light** – Indicates that the engine is on and operating properly.

5 **– Voltage, AC, 0 – 150 VAC** – Indicates the operating voltage of the generator.

6 **– Hour Meter** – Indicates the operating hours of the engine. The Hour Meter is a guide for scheduling periodic maintenance.





Figur e 3-2 - Genset Instrument Panel

3.3.2 Generator Set Power Distribution Outlets

There is a pair of double outlet GFCI receptacles. Each receptacle provides 120 VAC, 1 phase power.

WP O --- . -- -95061-01 Genset Operation Procedures

016.01 Genset Pre-Start Procedure

1. Position the J Trailer for operation in an area that is;

2. as level as possible.

3. free of any obstructions that would interfere with the air intakes and exhausts of the trailer.

4. Remove the trailer tarp.

5. Engage both hand-operated parking brakes. Get graphic from section XX for handle positions.

6. Open the Genset access door.

7. Pull the Genset out for inspection.

8. Visually inspect the battery for cracks or breaks in the case, corrosion on terminal posts, damaged or frayed cables or loose connections.

9. Reconnect the battery as shown in Figure X-X if the trailer has been in storage. The Red lead is Positive (+) and the Black lead is Negative (-).

10. Check for any oil or fuel leaks. Tighten connections as required before starting the Genset. Contact DHS if you cannot fix the leak.

WARNING

DIRECT EXHAUST FUMES AWAY FROM THE SHELTER, THE TRAILER, AND PERSONNEL. INSTALLATION OF THE OPTIONAL EXHAUST EXTENSION IS ENCOURAGED

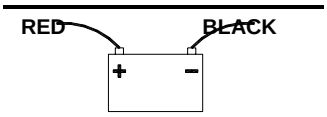


Figure 3-3 - Battery Wire Colors: Clarity

DANGER

NEVER OPERATE THE GENSET WITH A LEAKING FUEL TANK.

(a) Remove the fuel filler cap and examine the fuel level in the tank (see Figure 3-4).

(b) Add fuel if required.

NOTE

DIESEL FUEL IS RECOMMENDED. JP5 OR JP8 MAY BE USED. JP4 IS NOT ADVISED.

(c) Secure the fuel filler cap.

(d) Open the fuel shutoff valve (see Figure 3-4).

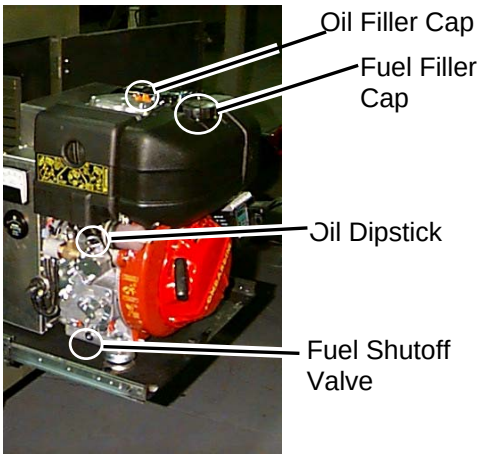


Figure 3-4 - Engine Component Locations

(e) Remove and wipe clean the oil dipstick (see Figure 3-4).

(f) Reinsert the dipstick and removed again. The oil on the dipstick should be between the two marks on the dipstick.

(g) Add oil if the level is at or below the lower mark. Add oil as necessary and re-check the oil level. Do not operate the engine with a low oil level.

NOTE

DO NOT REMOVE OIL DIPSTICK WITH THE ENGINE RUNNING.

NOTE

THE ENGINE IS SUPPLIED WITH BREAK-IN OIL. THIS OIL SHOULD BE DRAINED AND REPLACED WITH RECOMMENDED LUBRICATION OIL BETWEEN THE FIRST 90 AND 100 HOURS OF OPERATION (SEE CHAPTER 5).

017.01 Genset Start Procedure

There are two options for starting the Genset:

Electrical Start:

1. Place the throttle arm in the MIN position and lock in place with the wingnut.
2. Place the key into the control box.
3. Turn the key clockwise until the engine starts.
4. If the engine fails to start and the battery becomes drained, refer to the Mechanic Start procedure.
5. Release the key.
6. Run the engine for at least one minute (longer if cold outside).
7. Adjust the throttle (MIN/MAX) according to the load.

Mechanical Start:

1. Move the throttle halfway between the MIN and MAX positions and lock in place with the wingnut.
2. Place the key into the control box and turn clockwise.
3. Hold the handle on the recoil cord with both hands and pull strongly.
4. Allow the engine to run for at least one minute (longer if cold outside).
5. Adjust the throttle (MIN/MAX) per the load.
6. To stop, press the stop lever to the left.

IMPORTANT!
DO NOT OVER CRANK. ATTEMPTS TO START SHOULD BE LIMITED TO A MAXIMUM OF FIVE CONSECUTIVE STARTS FOR A MAXIMUM DURATION OF 30 SECONDS PER ATTEMPT. IF UNIT DOES NOT START, REFER TO THE TROUBLESHOOTING SECTION.

018.01 Genset Stop Procedure

1. To stop the Genset, turn the key counter clockwise and remove.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Shelter Deployment Procedures

N O T E

FOLLOW THESE PROCEDURES TO INSURE PROPER DEPLOYMENT OF THE SHELTER.
Failure to follow these procedures may result in damage to the shelter and/or personal injury.

019.01 Set-Up Procedure

1. A minimum of eight people are required to safely deploy and strike the J shelter, including a team leader to ensure a smooth and uniform deployment. Use BikeTrac™ (check reference usage) or an equivalent hard floor be used with the J Shelter for easier deployment and to act as a barrier from the elements.
2. Clear enough space to erect the shelter. Minimum space requirements for the J system as described herein (using 2' x 4" panels) is 36 feet by 50 feet. If utilizing a hard floor system, place enough flooring to cover the area for the J Shelter (162 panels) plus any additional auxiliary shelters that will be deployed (1XBT requires 25 panels). Refer to Floor Plan layout (see Figure 3-5).

Panels required per extension of XBT: 10 panels

Left Side	J	Right Side	Total Panels
1XB – 25	162	1XB – 25	212
2XB – 35	162	2XB – 35	232
3XB – 49	162	3XB – 49	260
4XB – 63	162	4XB – 63	288
5XB – 77	162	5XB – 77	316
6XB – 91	162	6XB – 91	344

Table 3-1 - J Shelter Panel Requirements

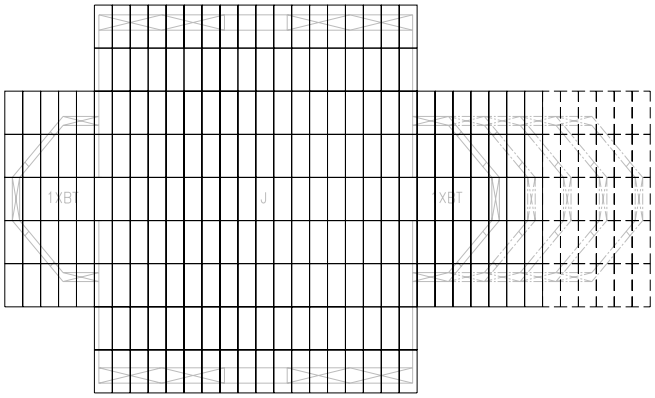


Figure 3-5 - J Shelter Floor Plan Layout

3. Remove the bladder on the trailer.
4. Center the Bladder over the long side of the flooring with the open neck of the bladder facing the J Trailer. Use the handles sewn into the Bladder to move the Bladder. Note that centering the bladder on the floor reduces or eliminates the need to adjust the shelter after erection.
5. Center the J Shelter onto the Bladder as shown in Figure 3-6. Use caution as not to snag the Bladder on the underside wheel assemblies when moving it. Position the J Shelter with the metal staking plates arranged down the long side of shelter as shown in Figure 3-7.

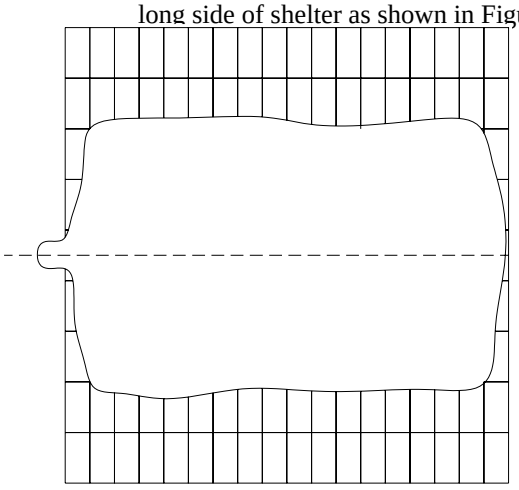


Figure 3-6 - Bladder Position on Floor Panels

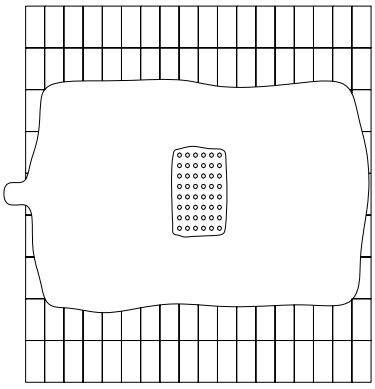


Figure 3-7 - Initial J Shelter Position on Bladder

020.01 Spread the Shelter

1. Remove the ratchet straps from the J Shelter. Store the ratchet straps in the trailer to prevent loss.
2. Position three people on each side with the metal staking plates.
3. Grasp a strut with two hands and walk in unison slowly outwards, spreading the Shelter evenly over the bladder. At maximum spread, The Shelter will resist any further expansion. The shelter **MUST** be at maximum spread for the shelter to erect properly.

N O T E

IF ANY RESISTANCE IS FELT OR ANY OBSTRUCTIONS ARE SEEN, IMMEDIATELY STOP, IDENTIFY THE PROBLEM, AND CORRECT BEFORE PROCEEDING.

021.01 Attach Ducts to Blower/Bladder

1. Locate the Blower, the extension cord(s) and the Duct on the trailer.
2. Secure one end of the Duct to the Blower with the cinch belt.
3. Secure the other end of the Duct to the Bladder with the strap.
4. Verify that the Bladder zippers are closed.
5. Secure the straps so they will not come off when using the Blower.
6. Verify that the Blower switch is in the OFF position.
7. Attach the extension cord between the Blower and the GFCI receptacle on the exterior of the trailer.

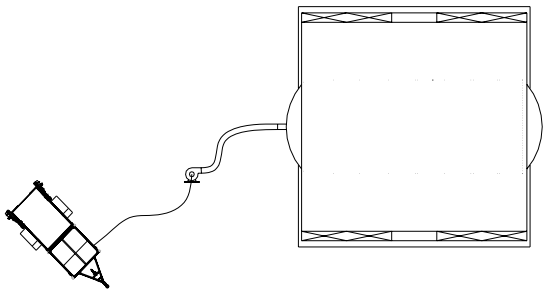


Figure 3-8 - Final position prior to inflating

022.01 Start the Genset

1. Start the Genset according to Procedure 017.01, page 3-4.
2. Allow the generator time to warm up and reach operating voltage (120VAC).

023.01 Attach Exterior Fabric End Walls

NOTE: Exterior fabric end walls are pre-attached at the factory. If removed due to mission requirements, the following steps will apply.

1. Locate the red tabs on the exterior fabric end wall.
2. Match the tabs with the two center exterior tabs on the Shelter.
3. Attach the end wall with the Velcro connectors beginning at the red tabs and working down the end wall until reaching the second to last hub on both sides.
4. Secure the underside of the Velcro first, then connect the top of the Velcro for a smooth, seamless connection.

024.01 Inflate the Bladder

Note: The Exterior fabric end walls have been removed for better clarity in the photographs used to support this Work Package.

1. Turn blower switch on and allow bladder to fully inflate. One person must remain with the blower during inflation of the bladder and securing of the shelter.

CAUTION

WHEN USING THE BLADDER TO RAISE THE SHELTER, DO NOT ALLOW PERSONNEL INSIDE THE SHELTER UNTIL IT IS STAKED IN PLACE. IF THE BLADDER FAILS OR THE DUCT COMES OFF, THE SHELTER WILL FALL TO THE GROUND.

Figure 3-9 - Inflating Bladder Lifts Shelter

2. Position personnel along the long sides of the Shelter to guide the side walls and to avoid snags. When the Bladder is fully inflated, the Shelter will be slightly off the ground, totally supported by the Bladder.
3. Minimal positioning adjustments can be made if the shelter is not in the desired location. While the shelter is off the ground, position one person on each corner of the shelter and move the shelter to the desired final location. If using the BikeTrac™ floor system, optimum positioning allows approximately one foot of hard flooring beyond the long side walls. The team leader should observe the movement and placement of the shelter and to help guide it into the proper position.

CAUTION

USE CAUTION WHEN STANDING NEAR PERIMETER OF THE SHELTER AS THE WALLS WILL MOVE AS THE SHELTER RISES.

025.01 Final Position & Staking

NOTE: THE SHELTER MUST BE STAKED DOWN BEFORE DEFLATING THE BLADDER.

1. Once shelter is in final position, turn blower off allowing bladder to deflate slightly until both exterior and interior hubs as well as the staking brackets are flush with the ground. **DO NOT** allow the Bladder to deflate any further until all stakes are secure. If necessary, re-inflate bladder slightly. Repeat as necessary.
2. Remove the stakes and mallet from the trailer.
3. Drive the long steel stakes through the 12 staking brackets along the long sides of shelter, starting with the center brackets on both sides.
4. Drive the stakes into the ground at an angle away from the shelter to insures that the stakes will not pull out during excessive winds.

Figure 3-10 - Shelter Supported by Bladder (w/exterior fabric walls removed for clarity)

Continued

5. Remove the wind lines from the trailer and attach the carrabina end to the eye bolts affixed to the long side of the Shelter at the 7 foot level.
6. Drive the 12 remaining long stakes approximately 5-7 feet away from the eye bolt location.
7. Hook the wind lines onto the stakes and adjust the tension until the wind lines are taut.
8. NOTE: Use all wind lines and staking brackets.
9. Once the Shelter is completely staked down, deflate the Bladder by opening the zippers on the side of the Bladder closest to the Duct connection.
10. Turn the Genset off.
11. Remove the Bladder, the Duct, and the Blower and return to the trailer.
12. Remove the four wheel assemblies attached to the side walls inside the Shelter. To remove a wheel assembly,
13. Release the pin holding the assembly to the Shelter wall.
14. Replace the pin into the wheel assembly and store it on the Trailer.
15. Complete attaching the exterior end wall on both ends of Shelter.

CAUTION

REMOVING THE WHEEL ASSEMBLIES FROM THE WALLS REQUIRES TWO PERSONNEL AS EACH WHEEL ASSEMBLY WEIGHS APPROXIMATELY 50 POUNDS.

026.01 Install the Fabric Floor

1. Move the fabric floor into the Shelter and orient it with the green side face-up.
2. Attach the four-inch Velcro straps affixed to the underside of the fabric floor to the base of the interior wall. Work around the base of the Shelter on the long sides.
3. Attach the edge of the floor to the skirt of the interior fabric end wall.

End of Work Package

WP O --- . -- -95061-01 Installing Shelter Supports

N O T E

THE J SHELTER IS PROVIDED WITH FOUR (4) COMPLETE UPRIGHT SUPPORT STRUCTURES. TWO OF THE UPRIGHT SUPPORT STRUCTURES, ONE AT EACH END, ARE ALWAYS REQUIRED FOR ANY INSTALLATION. THE REMAINING TWO UPRIGHT SUPPORT STRUCTURES ARE INTENDED TO PROVIDE STRENGTH TO THE SHELTER FRAME IN INSTANCES OF HEAVY SNOWFALLS OR FREEZING RAIN.

IF THERE IS THE POSSIBILITY OF ANY SUCH WEATHER INSTANCES OCCURRING AT THE INTENDED SHELTER SITE, DHS STRONGLY RECOMMENDS INSTALLING ALL FOUR OF THE UPRIGHT SUPPORT STRUCTURES.

Continued

027.01 Constructing the Uprights

Each end wall system consists of seven beams. The slide pins are located on the trailer in a canvas bag. Once the frame is assembled and put into position, two pins secure it to the shelter.

1. Layout the beams matching the numbers. To insure a proper setup, the numbers must match up.
2. Align the strut with the attached footing with the strut with the matching numbers, in this case, # 3 with # 3 and # 4 with # 4.
3. Insert four hitch pins through the brackets and the struts.
4. Repeat this procedure for the second upright.

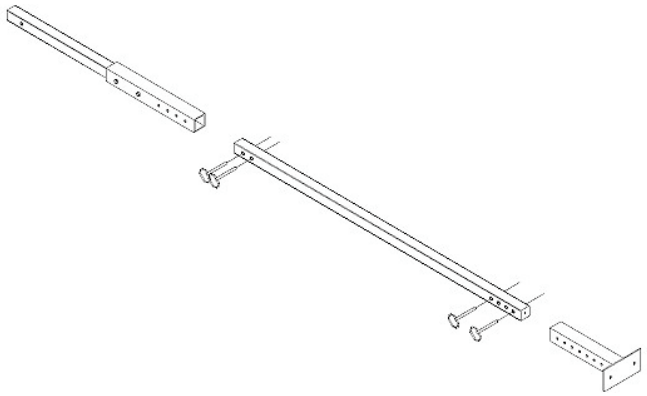


Figure 3-11 - Upright Strut and Footing Layout

028.01 Constructing the Header

1. Align the strut with the clevis bracket with one of the upright struts with the matching number in this case, # 2 with # 2 (see Fig. 4-13). Note the orientation of the upright with respect to the placement of the header strut.
2. Place the corner bracket over the connection and insert the hitch pin through the corner bracket and the struts.
3. Repeat this for the other upright.

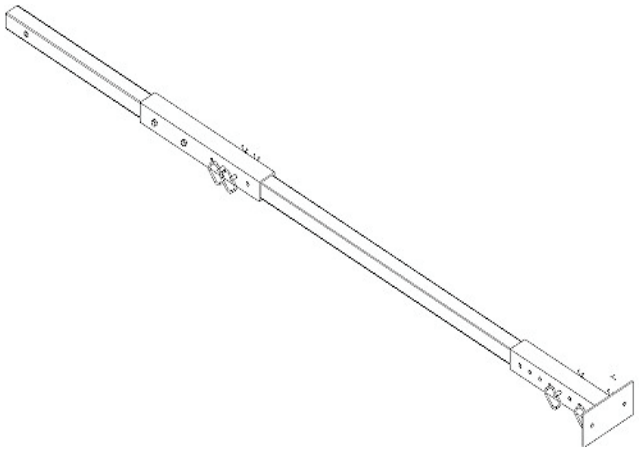


Figure 3-12 - Upright Strut and Footing Assembled with Hitch Pins

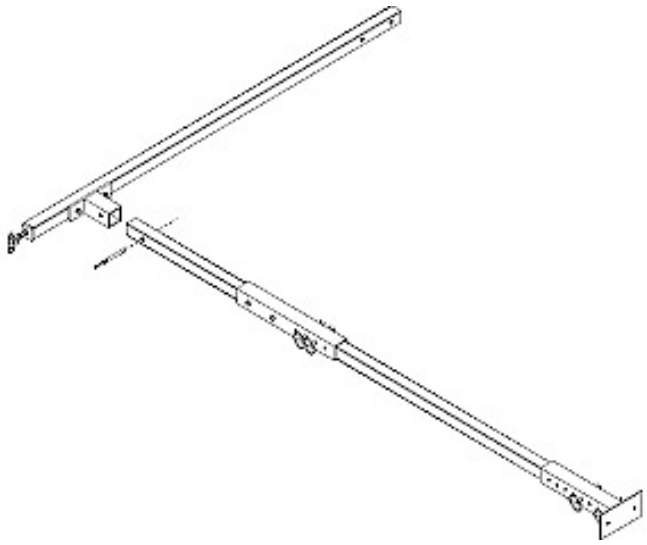


Figure 3-13 - Header and Upright strut layout

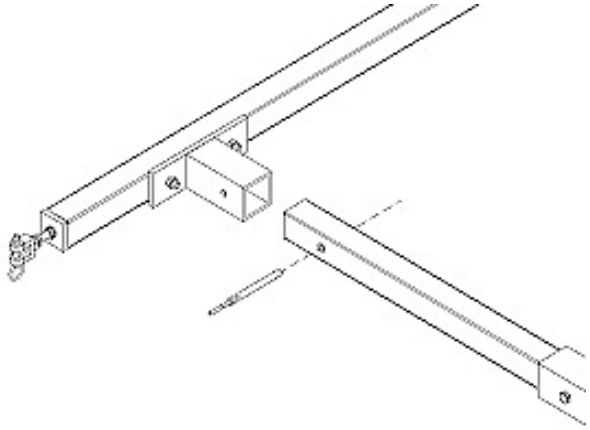


Figure 3-14 - Header and Upright strut and footing connected with a hitch pin.

4. Align the last strut to connect the uprights with the matching numbers in this case, # 1 with # 1. Note the orientation of the uprights with respect to the each other
5. Insert the upright assemblies into the center header.
6. Use four pins to join the upright assemblies to the center header.

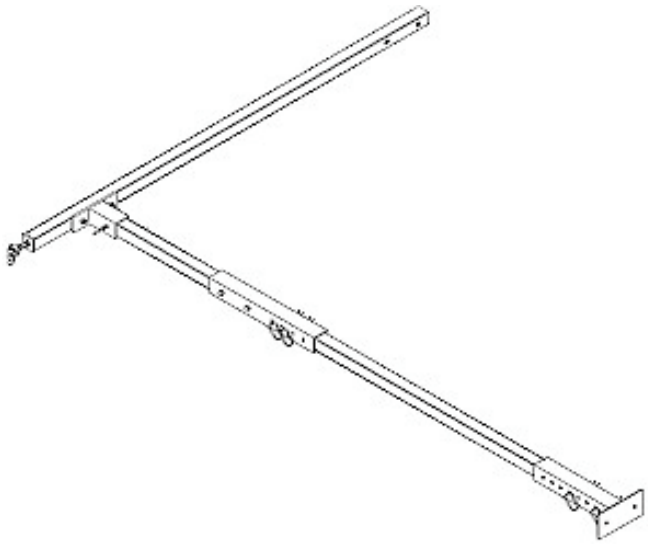


Figure 3-15 - Assembled Header and Upright strut

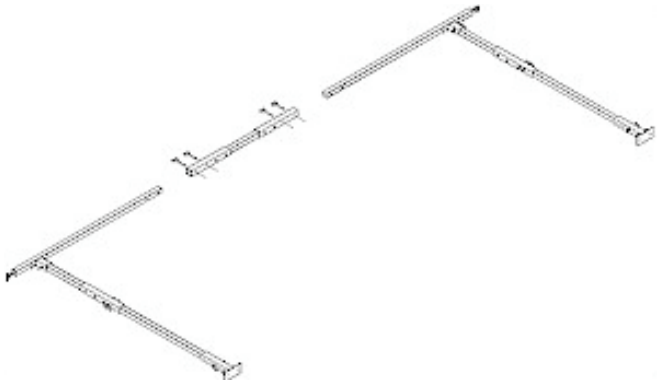


Figure 3-16 - Header Layout with Center Header and Both Uprights

7. The frame is lifted into position similar to raising a wall (see Figure 3-18, page 3-11).
8. The person on the ladder will grab the end of the frame and insert a pin to secure the frame to the shelter. One pin must be inserted on both sides of the frame.

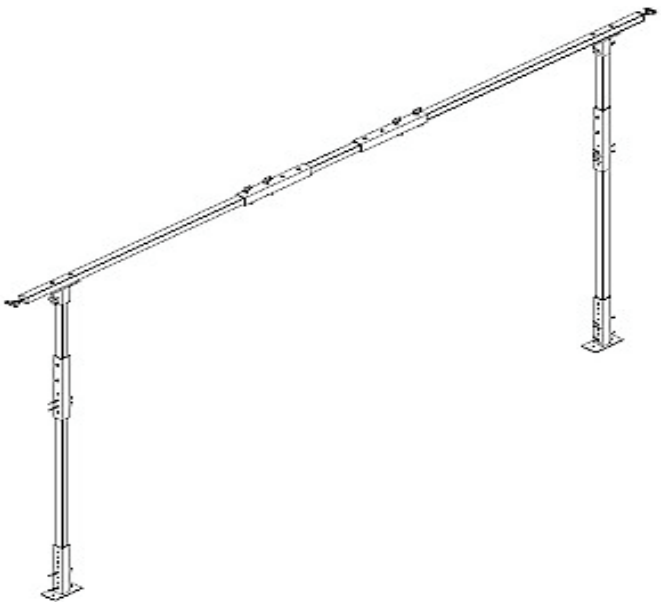


Figure 3-17 - End Wall Support Completed Assembly

continued

Figure 3-18 - Lifting the end wall into place

Figure 3-19 - Securing the end wall into place

NOTE: This procedure can be done on the inside of the shelter. The pictures above were done this way to show how to lift the end wall support.

9. The person on the ladder will grab the end of the frame and insert a pin to secure the frame to the shelter. A pin must be inserted on the other side of the frame (see Figure 3-20, below).

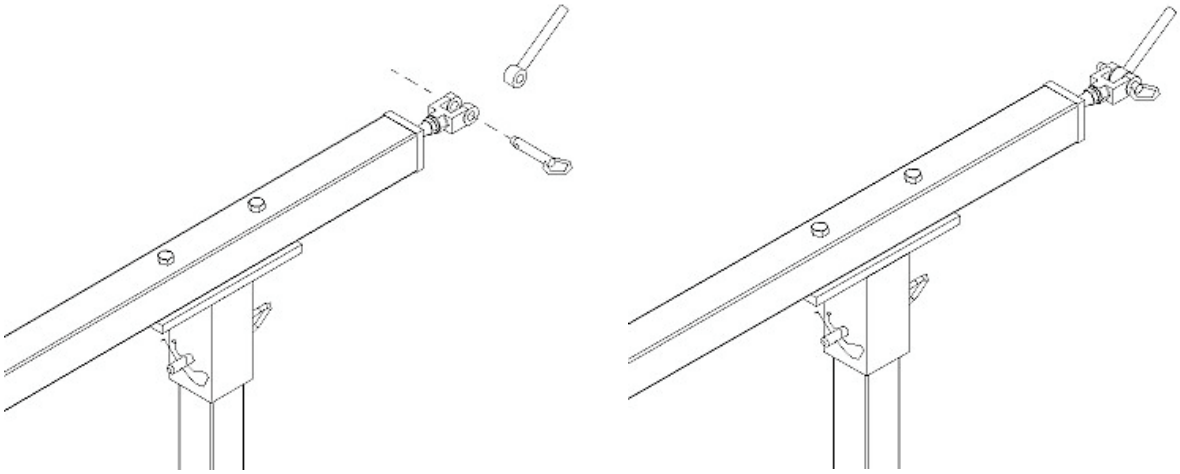


Figure 3-20 - RIGHT -Align End Wall w/Clevis. LEFT – End wall support secured with pin.

Figure 3-21 - Complete Installation with 2 End Walls (Left) and 4 End Walls (Right)

029.01 Install Fabric End Walls

1. Locate the red tabs on the interior fabric end wall.
2. Match the tabs with the two center interior hubs on the shelter.
3. Attach the end wall with the Velcro connectors beginning at the red tabs and working down the end wall until you reach the second to last hub on both sides. Secure the underside of the Velcro first, then connect the top of the Velcro for a smooth, seamless connection.

For End Shelters

1. Deploy the model 1XBT (or equivalent model) as instructed in the XB shelter operators' manual.
2. Use the ladder to attach the exterior and interior fabric end walls to the 1XBT.
3. The 1XBT may have to be adjusted to make a proper connection to the J. If so, use personnel to lift the 1XBT slightly and move back (or forward) as needed. Finished connection should be smooth and snug, not sagging.
4. Once the connection has been completed, stake the 1XBT and deploy all wind lines.
5. Install the floor in the 1XBT and secure to the edge of the J floor. Be sure to stake the floor to avoid tripping hazard.

030.01 Attach Side Door or Side Shelter

1. Locate the side doors and remove from transport bag.
2. Locate the red tab on the exterior door and match it to the connector strip on the exterior side of the shelter.
3. Attach the exterior door by the Velcro connector strip.
4. Repeat the same procedure for the interior door.
5. Connect the flap from the exterior door to the connector strip on the interior cover.
6. Once the door is secured, it can be rolled up using the Velcro ties.
7. Place the threshold ramps over the exposed struts in the doorway.

For Side Shelter

1. Locate and remove the XBT shelter from the transport bag.
2. Layout and stake the ground tarp in position.
3. Spread out the shelter as instructed in the XB Operators' manual.
4. Locate the J – T Boot. Remove the exterior boot, and attach it to the T end of the XBT shelter. Be sure to align the two red tabs on the connector and the shelter for proper fit.

NOTE: Do not attach the boot completely on the XBT shelter. Leave about 4 feet of unattached connection on both ends of the shelter to allow for proper function.

5. Erect the shelter as instructed in the XB Operators' manual.
6. Locate the red tab on the J-T Boot and the J shelter, and connect together.
7. Complete the connection along the XBT shelter.
8. Connect the interior between the J and the XBT shelter. Remember to align the red tabs.
9. Adjust the XBT shelter to make the connection tight. Then stake the shelter accordingly.
10. Place the threshold ramp over the exposed struts in the doorway.

031.01 J Shelter to J Shelter Connection

ASSEMBLY NOTE: Procedure assumes one J shelter is erect and the second is unloaded, waiting for erection.

1. Complete connecting the fabric end wall connector on the J shelter that is erected. Also install the interior fabric end wall.
2. Locate the XBI shelter, and deploy shelter as instructed in the XB shelter manual.
3. After XBI is deployed, connect one end of the XBI to the J shelter at the exterior fabric end wall. Match up the red tabs. Start from the center and work down the bottom to ensure a proper fit.
4. Then connect the interior fabric end wall, same as the exterior side.

5. Spread the bladder out, lining up the end of the bladder with the end of the other XBI shelter.(Ensure the J shelter won't interfere with the erect shelter)
6. Spread shelter over bladder evenly and begin to inflate bladder.
7. When shelter is fully erect, adjust and position as necessary. (If shelter needs to be adjusted, it must be moved in unison.)
8. When shelter is in position, stake shelter.
9. Using a ladder, connect the exterior J fabric end wall to the XBI connector ear. Line up the red tabs, start from the center and connect down to the ground. Then connect the interior J fabric end wall connection, same as the exterior side.
10. Complete the connection and installation of the fabric end walls and end wall supports.
11. Add end wall shelters and side doors or side shelters at this time.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Light Fixture Installation

The "J" shelter lighting fixture package consists of the following components and connecting electrical cords:

4- Ballast housings (2- Plain, and 2 w/ Restrike bulb extensions)
4- Aluminum dome reflectors
4- Polycarbonate lenses
5- 250 watt metal halide lamps including 1 spare
3- Quartz halogen restrike bulbs including 1 spare

Connecting electrical cords:

1-50' Trailer lead
1-30' power lead
1-Isobar 2 distribution box
1-25' Lighting fixture power lead
1-21' Lighting fixture connecting power lead
2-7' connecting fixture leads

032.01 Fixture Assembly

1. Remove all lighting fixture components from the cargo storage box on the trailer.
2. Position the aluminum dome reflector over the threaded posts so that the red paint on each part aligns with each other.
3. On the top of the dome reflector are (2) two springs, attach the springs to the hooks on the side of the ballast housing.

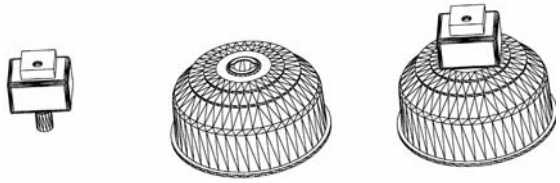


Figure 3-22 - Connect the Ballast to the Reflector

4. Screw the lamp securely into the socket, back it out one or two turns, then screw the lamp back in, making sure it is secure. This procedure properly seats the lamp in the socket.
5. Attach the lens to the reflector by joining the two halves of the hinge assembly together and closing the lens against the reflector making sure that the sealing gasket is properly (evenly) positioned.
6. Lock it in place with the three- (3) clips attached to lens.

Figure 3-23 - Connect the Lens to the Reflector

7. Repeat steps a through f for all of the remaining fixtures.

033.01 Fixture Installation

NOTE

THIS PROCEDURE REQUIRES THREE PERSONNEL.

1. On the interior of the shelter are four (4) green loop keepers located on the ceiling.
2. Position and secure the ladder (provided with the shelter) below one of the fixture locations.
3. Designate the following positions:
4. One person to climb the ladder.
5. One person to steady the ladder.
6. One person to lift the fixture(s).
7. Attach the hook on the ballast housing to the loop of the loop keeper.
8. Allowing the fixture to hang from the loop.
9. Attach the electrical cords as follows:
10. NOTE: The ends of the electrical cord See Figure 3-24.
11. Using one of the 7' connecting cords, to fixture #3.

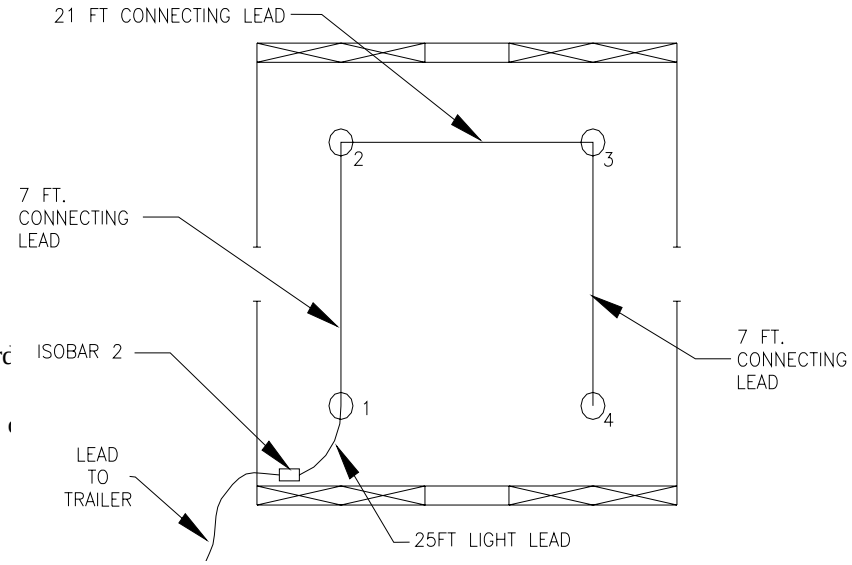


Figure 3-24 - Light Placement Inside Shelter

12. Connect the female end of the 21' connecting power lead to the male end on fixture #3, then the male end of the cord to fixture #2.
13. Connect the female end of the other 7' cord to fixture #2, then connect the male end of the cord to fixture #1.
14. Connect the female end of the 25' Light lead cord to fixture #1. Then connect the male end into the Isobar 2 power outlet.
15. Locate the 50' trailer lead and the 30' power lead.
16. Plug the 30' power lead into the Isobar 2 outlet box, and plug the other end into the trailer lead. Then plug the trailer lead into the outlet on the generator.

NOTE: The 50' Trailer lead can only be used with a DRASH Generator Trailer. The 30' Power lead can be plugged directly into a power source if there is no DRASH trailer available.

17. Turn the power "on". NOTE: This lighting package is designed to operate on 120 volts AC only.

WARNING

DO NOT CONNECT THE POWER LEADS TO THE POWER SOURCE UNTIL:
1. ALL CONNECTIONS ARE COMPLETE.
2. ALL PERSONNEL ARE OFF OF THE LADDER(S)
SERIOUS INJURY OR DEATH COULD RESULT.

NOTE

DO NOT UNPLUG OR INTERRUPT POWER TO THE LIGHTING FIXTURES IF AT ALL POSSIBLE.
AFTER POWER HAS BEEN INTERRUPTED TO THE LIGHTING FIXTURE, THE LAMPS HAVE TO RESTRIKE WHICH CAN TAKE 3 TO 5 MINUTES AFTER THE POWER IS RESTORED.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Striking the Shelter Procedures

034.01 Striking the Shelter

1. Remove all equipment from inside the shelter.
2. Strike all model XBT shelters as instructed in the XB shelter operators' manual.
3. Detach the exterior fabric end wall connections seven feet from the ground.
4. Completely remove the interior fabric end wall on both ends of the shelter.
5. Remove and dismantle the end supports and return to trailer.
6. Remove the fabric floor and return to the trailer.
7. Remove all side door or J-T Boots on side entrances.
8. Close all interior and exterior windows, duct, and electrical ports.
9. Locate and attach the wheel assemblies and lock into place.

NOTE

ONCE THE STRIKING PROCESS HAS STARTED, IT MUST BE COMPLETED – THE PROCEDURE CANNOT BE REVERSED IN MIDSTREAM.
NOT ADHERING TO THIS WARNING CAN RESULT IN EQUIPMENT DAMAGE AND OR PERSONAL INJURY.

035.01 Spread and Inflate the Bladder

1. Spread and position the bladder in the center of the J shelter as shown in Figure 3-25.
2. Locate blower, extension cord and duct on trailer.
3. Attach the end of the duct with the conch belt to the blower.
4. Attach the remaining end of the duct to the bladder with the strap.

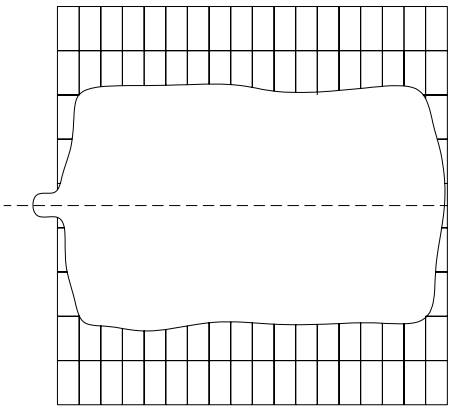


Figure 3-25 - Bladder Position on Floor Panels

5. Make sure the straps are secure so they will not come off when using the blower. Blower switch must be in OFF position. Attach extension cord to blower and connect to GFCI receptacle on exterior of trailer.

036.01 Start the Generator

1. Locate generator and perform pre-start procedure. Refer to Operations, Generator Set Start, 3.3.
2. Once started, allow generator to warm up and reach required voltage (120 VAC).

037.01 Inflate the Bladder

1. Turn the Blower on and allow the Bladder to fully inflate.

Figure 3-26 - Bladder being inflated

NOTES

DESIGNATE ONE PERSON TO REMAIN WITH THE BLOWER DURING THE INFLATION PROCESS.
THE BLADDER MUST BE IN CONTACT WITH THE INTERIOR CEILING TO SUPPORT THE WEIGHT OF THE SHELTER.

038.01 Remove the Stakes

1. Use the stake puller to remove all stakes from the staking brackets and windlines.

CAUTION

DO NOT REMOVE THE STAKES UNTIL THE BLADDER IS FULLY INFLATED.

Figure 3-27 - Using the Stake Puller to Remove Stakes

2. Detach all windlines and place them in their transport bag.
3. Position three personnel along the long side of the Shelter.
4. Continue inflating the Bladder until the exterior hubs are slightly off the ground.
5. Pull the exterior hubs up and out so that the Shelter is resting on the interior hubs.

Figure 3-28 - Pulling Out the Wall

039.01 Deflate the Bladder

1. Turn the Blower switch to OFF.
2. Release the zippers on the bladder to let the air out.
3. Detach the duct and remove the extension cord.
4. Turn the generator off.
5. Guide the end the walls up and out as the Shelter slowly co

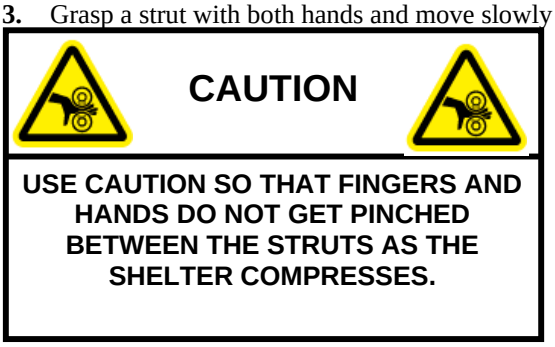
CAUTION

USE CAUTION WHEN STANDING NEAR THE SHELTER PERIMETER AS THE WALLS WILL MOVE AS THE SHELTER COLLAPSES.

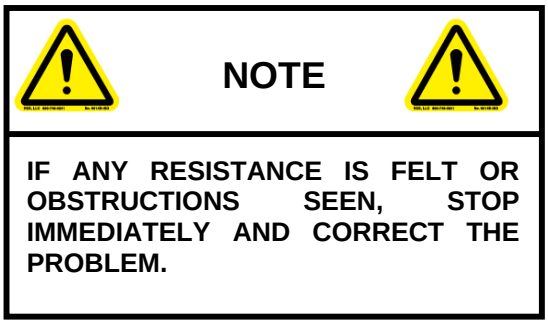
Figure 3-29 - Shelter Coming Down

040.01 Compress the Shelter

1. Allow the Bladder to continue to deflate even after the Shelter has fully collapsed.
2. After all air has been released from the Bladder, position three people on each long side of the shelter.
3. Grasp a strut with both hands and move slowly towards the center in unison to compress the Shelter.



4. Locate the Shelter ratchet straps and cinch the Shelter at the top and bottom. The Shelter will continue to compress via the ratchet mechanism on the straps.
5. Carefully roll the cinched Shelter off the Bladder.
6. Fold the Bladder and place on the Trailer.



041.01 Loading The Shelter

1. After the Shelter has been taken down and tightly cinched together, position the trailer close to the Shelter.
2. Lock the manual brakes on the trailer.
3. Remove shelter bed pins. Remove any debris or cargo on the shelter bed.
4. Lower the rear jacks until they are firmly pushing up on the rear of the trailer.
5. With one person on each extension handle, slide the end of the extension handle into the actuator. Follow the directions on the placard located by each handle. The shelter bed will rise to an upright position. Additional adjustment of the jack may be required so that the shelter bed can be properly positioned.
6. Once the shelter bed is upright, the shelter may be carefully rolled onto the ramp of the shelter bed. The shelter is tied to the bed by two cinch belts to keep the shelter stable during rotation.
7. After the Shelter is loaded, lower the Shelter bed back to the horizontal position by turning the extension handles.
8. Re-tighten the two cinch straps holding the Shelter to the bed. This will insure that the Shelter is securely attached to the bed.
9. Raise the rear jacks, and insert the Shelter bed pins.
10. Load end wall supports, fabric floor and bladder onto trailer. Refer to loading diagram in chapter 8.
11. Load all other equipment into the cargo boxes on the trailer. Re-tarp the trailer.
12. Connect to towing vehicle.

END OF WORK PACKAGE

WP O --- . -- -95061-01 Operating Checklist

SEQUENCE B = BEFORE OPERATION D = DURING OPERATION A = AFTER OPERATION

ITEM #	B	D	A	ITEM TO BE INSPECTED	DESCRIPTION	EQUIPMENT IS NOT READY/AVAILABLE IF:
1	•			Trailer	Trailer parking brakes must be in the engaged position. Adjust braking force if necessary by using knob at the end of parking brake lever.	Brakes are off.
2	•			Trailer	Remove trailer tarp.	Trailer tarp is in place.
3	•			Trailer	The access door should fit properly.	Access door not in place or does not fit properly.
4	•			Trailer	Visually inspect for fuel and oil leaks. Inspect inside the Generator Set enclosure.	Leakage is detected during inspection.
5	•			Trailer	Check that trailer is free of obstructions interfering with intakes and exhausts.	Intakes or exhausts are blocked.
6	•			Trailer	Check fire extinguisher.	Extinguisher is missing or under charged.
7	•			Generator Set	Check fuel tank.	Fuel level is low.
8	•			Generator Set	Check the engine oil level with the dipstick.	Oil level is low or high.
9	•			Generator Set	Visually inspect battery for damage cases, corrosion on terminal posts, damaged or frayed cables or loose connections.	Batteries are defective.
10		•		Generator Set	Check voltage; the meter should indicate 120 volts.	Voltage cannot be properly adjusted.
11		•		Generator Set, Alternator Warning Light	Check light. When lit, it indicates an engine shutdown due to a problem with the alternator.	Fault condition is not corrected.
12		•		Generator Set, Low Oil Light	Check light. When lit, it indicates an engine shutdown due to low oil pressure.	Fault condition is not corrected.
13			•	Trailer	Visually inspect the trailer for fuel and oil leaks.	Leakage is detected during inspection.
14			•	Trailer	Install and attach the trailer tarp.	Tarp is not installed and attached.

Table 3-2 - Operational Checklist

Section 4

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4. MAINTENANCE PROCEDURES

4.1 General Maintenance Information

The following chapter contains general information for operator-level qualified personnel. A qualified person is one who is familiar with this manual, the operation of the HP-J UST Trailer and the hazards involved in its operation and maintenance and who has been certified by the DHS Training program.

This chapter describes the procedures for daily maintenance as well as periodic maintenance for every 50-hour, 250-hour, 500-hour and 1000-hour interval.

Periodic maintenance for every 2000-hour, 6000-hour, and 12000-hour interval is not covered in this manual; maintenance at these intervals should be performed by authorized DHS technicians. Maintenance and service contracts can be arranged with DHS Logistics Co. Parts for maintenance and service can also be obtained from DHS Logistics Co.

DHS SYSTEMS LLC Contact Information

Phone: 800-977-3647
FAX: 845-365-2114
e-mail: drash@drash.com

This chapter covers each of the main trailer components (trailer chassis and engine/generator) separately. Please refer to the table at the end of the chapter for an overview of periodic maintenance for the entire Trailer System.

This manual is not intended to be a substitute for proper training. We strongly recommend that operators receive training directly from a DHS Product Support or Field Service Representative.

The cautions and warnings point out known conditions that are potentially hazardous. Note that no manual can cover every possible situation. If in doubt, contact DHS.

Before calling DHS for assistance, please identify the trailer by its DHS Vehicle Identification Number (VIN). The VIN is indicated on the trailer nameplate on the front of the trailer by the tow ring.

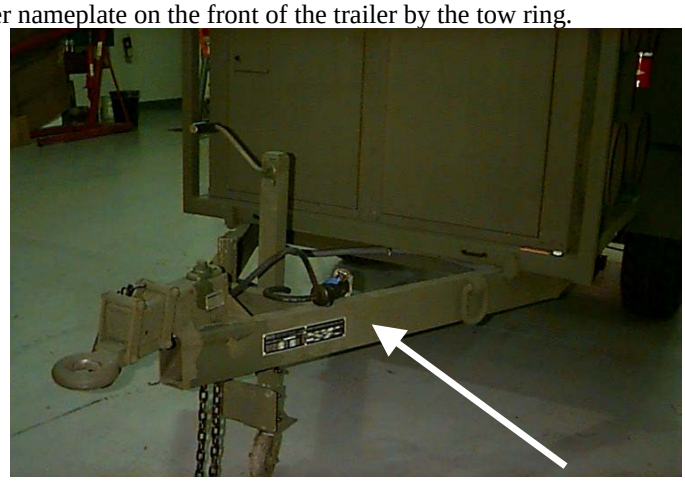

Figure 4-1 - Location of VIN Plate

VIN #

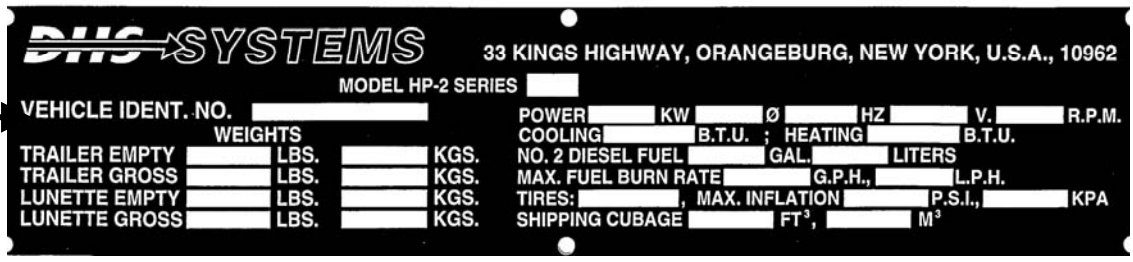

Figure 4-2 - Detail of Typical VIN Plate

The engine/generator and trailer chassis also have serial numbers. If a problem exists with a particular component, identifying its serial number along with the VIN will help DHS respond as quickly as possible. Only authorized DHS technicians should perform Service and repairs beyond the scope of this manual.

4.2 Chassis Characteristics

The trailer chassis is constructed from aluminum and steel components. A single axle with Torflex suspension is rated for 6000 lb. A dolly wheel / skid plate assembly supports the front of the trailer. There are two mechanical parking brakes, one for each wheel, and a surge brake system for use when towing.

WP M --- . -- -95061-01 Periodic Chassis Maintenance

042.01 Daily Maintenance

Perform a visual walk-around inspection of the following points;

1. Fix any fuel, coolant, oil or fluid leaks.
2. Make sure the Trailer is properly positioned and level.
3. Make sure the Trailer is free of debris, inside and outside the enclosures.
4. Check the fire extinguisher.
5. Check the tires for proper tire pressure.
6. Make sure all enclosure access doors close properly.

043.01 Every 250 Hours of Operation:

1. Check the surge brake fluid (see 045.01 – below).
2. Check the parking brakes.
3. Lubricate the tongue jack. Use standard lithium soap grease. Only a small amount is required.

Figure 4-3 - Grease Fitting on Tongue Jack

044.01 Every 500 Hours of Operation:

1. Check all nuts, bolts, fittings, and connections. Tighten as required.
2. Wash the trailer and the enclosures.

045.01 Checking the Surge Brake Fluid

Check the surge brake fluid level every 250 hours of operation and the condition of the fluid.

1. Using a 1-1/8” open end or adjustable wrench, unscrew the cap on top of the surge brake fluid reservoir.
2. If the brake fluid is dirty, cloudy, or watery or rust is evident inside the master cylinder reservoir, the fluid should be drained and replaced. Contact DHS.
3. The brake fluid should be level with the top of the reservoir (just below the cap threads). Fill as required with an approved motor vehicle brake fluid.
4. Screw the cap back on. Tighten with the wrench.

046.01 Checking the Parking Brakes

The mechanical parking brakes should be checked every 250 hours of operation. They may become loose over time. To correct this,

1. Release the parking brake to the OFF position. The hand knob can be rotated to increase the braking force applied to the wheel.
2. To test the adjustment, engage the brake to the ON position.
3. Repeat if needed. The cables may be lubricated with WD40 if necessary to prevent sticking.

047.01 Lubricating the Tongue Jack

A grease fitting is provided on the tongue jack to lubricate the gear mechanism.

1. Connect the grease gun to the fitting.
2. Apply a small amount of standard lithium soap grease.

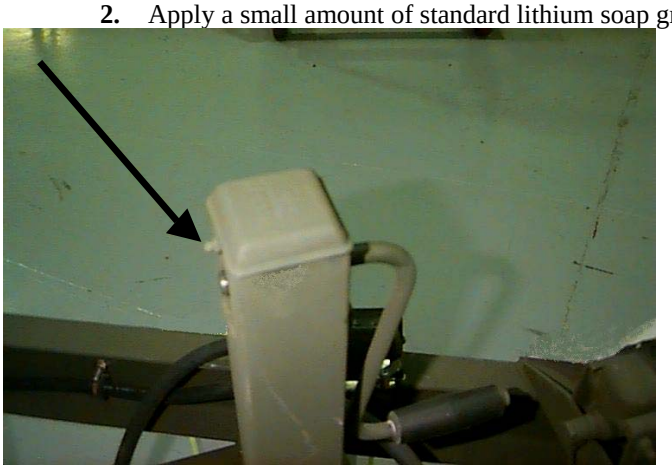

Figure 4-4 - Grease Fitting on the Tongue Jack

048.01 Lubricating the Mechanical Actuator

A grease fitting is provided on the mechanical actuator to lubricate the gear mechanism.

1. Connect the grease gun to the fitting.
2. Apply a small amount of standard lithium soap grease.
3. The actuator is located under the trailer in the center rear.

Figure 4-5 - Grease Fitting on the Mechanical Actuator

049.01 Lug Nut Tightening Procedure

It is extremely important to apply and maintain proper wheel mounting torque on your trailer's axle. Torque is a measure of the amount of tightening applied to a fastener (nut or bolt) and is expressed as length times force. For example, a force of 90 pounds applied at the end of a one-foot long wrench, will yield 90 lbs.-ft. of torque. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

Be sure to use only the fasteners matched to the cone angle of your wheel (usually 60o or 90o). The proper procedure for attaching your wheels is as follows:

1. Start all bolts or nuts by hand to prevent cross threading.
2. Tighten bolts or nuts in the sequence below.
3. The tightening of the fasteners should be done in stages shown.
4. Wheel Nuts / Bolts should be torqued before first road use and after each wheel removal. Check and re-torque after the first *10* miles, *25* miles, and again at *50* miles. Check periodically thereafter.

<u>1st Stage- 20 - 25 lbs.-ft.</u>
<u>2nd Stage- 50 - 60 lbs. - ft.</u>
<u>3rd Stage- 90 - 120 lbs. - ft.</u>

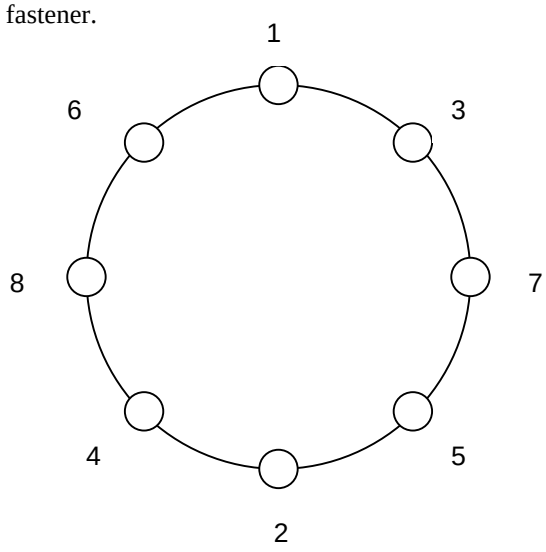

Figure 4-6 - Lug Nut Tightening Order

CAUTION: ***Wheel Nuts or Bolts must be tightened and maintained at the proper torque to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.***

END OF WORK PACKAGE

WP M --- . -- -95061-01 Engine Characteristics

Figure 4-7 shows the locations of the engine's major features that are mentioned in this Section of the manual.

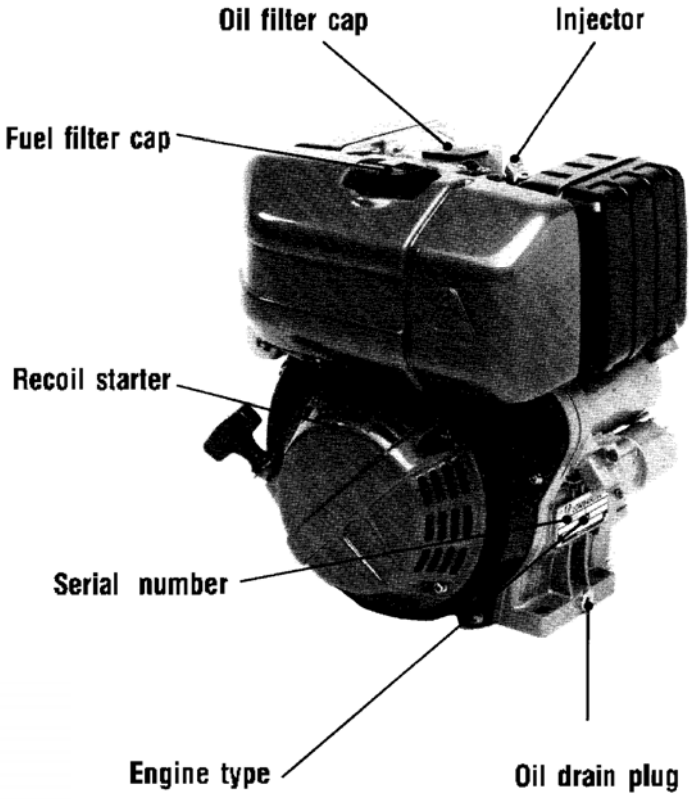

Figure 4-7 - Engine, Exterior Detail

Figure 4-8 shows an interior view of the engine and indicates the locations of the engine's major features that are mentioned in this Section of the manual.

The engine should only be removed from its service location by trained personnel or by DHS field service representatives.

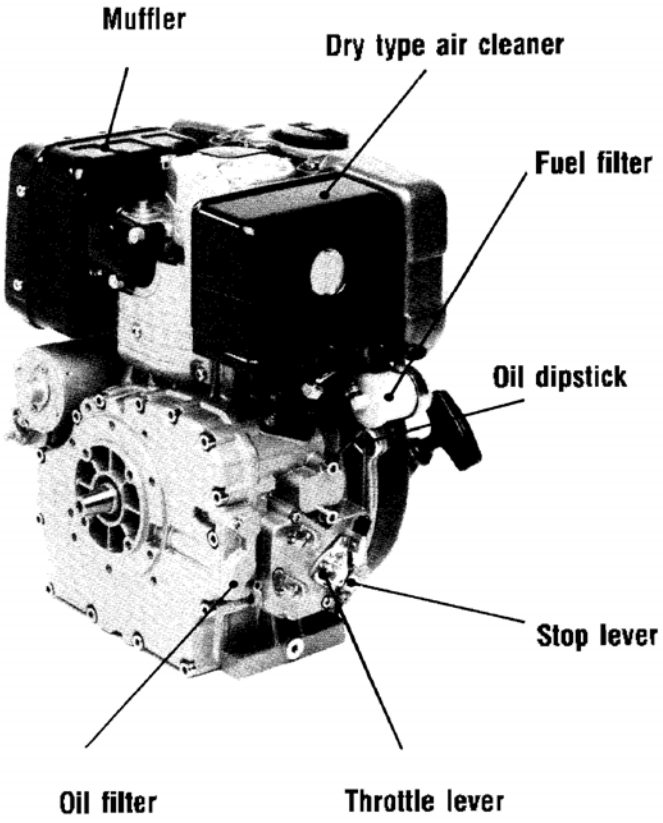

Figure 4-8 - Engine, Interior Detail

4.2.1 Engine Serial Number

The engine serial number is stamped on a nameplate attached to the engine block. Figure 4-9 shows the general location of the engine serial number plate and Figure 4-10 shows a detailed imag of the Serial Number Plate.

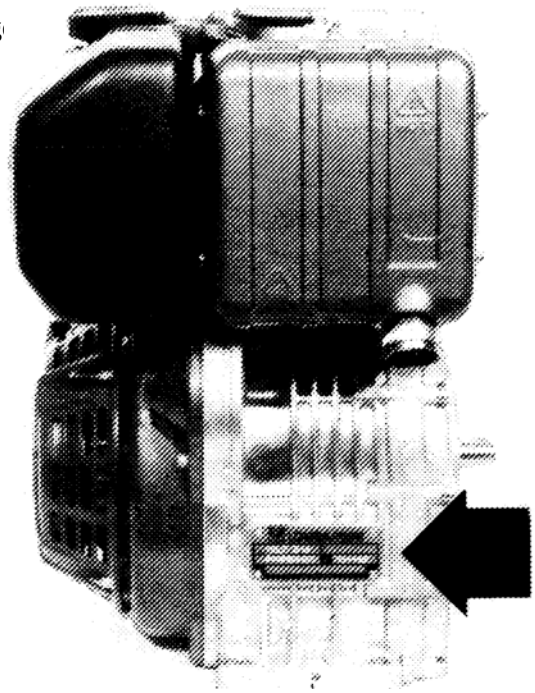

Figure 4-9 - Location of Engine Nameplate

4.3 Engine Characteristics

The engine is a single-cylinder, air cooled, direct injection, 3600 rpm, Diesel.

4.3.1 Ambient Temperature

The engine is rated at an ambient temperature of 25°C (77°F). Minimum ambient temperature for the engine is -32°C (-26°F); maximum ambient temperature is 60°C (140°F).

4.3.2 Fuel Standards

Only those fuels conforming to the following standards should be used:

ASTM D-975-77 (Grades No. 1-D and 2-D) Diesel

BS 2869: 1970 Class A1 or A2 Diesel

Military JP5 or JP8

Note that Diesel fuel is recommended over JP5 and JP8.

4.3.3 Alternate Fuels

Although the engine may operate on fuels outside the listed specifications, such operation may result in excessive wear and/or damage. Fuel oil must be a distillate, not a residual oil or blend.

JP-4 is not recommended but may be used in an emergency. Its lubricity is not as good as #1 or #2 Diesel. The engine should be derated by 10% to 15%. Continued use of JP4 will shorten the life of the injection equipment.

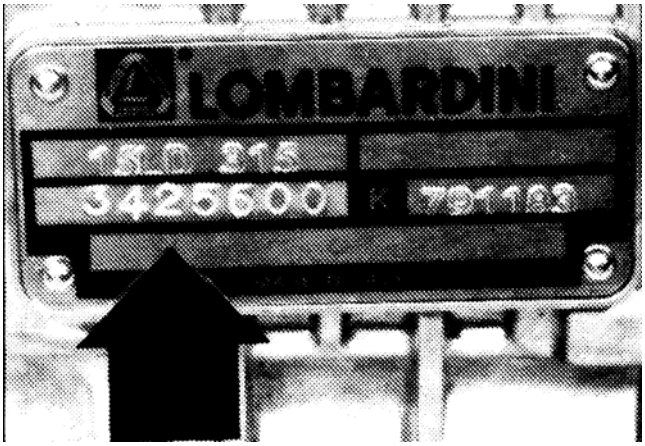

Figure 4-10 - Detail of Engine Nameplate

4.3.4 Lubricating Oil

The engine should be run using heavy duty lubricating oil meeting the requirements of MIL-L-2104C/D, AAPICD Series 3. AAPICC, AAPICE and AAPICF lubricating oils are not recommended. Straight mineral oils are not suitable. Capacity is 1.5 quarts. Do not overfill.

Ambient Temperature	Monograde	Multi-Grade
Below 5°F (–15°C)	5W	5W/20
Between 5°F (–15°C) and 50°F (10°C)	10W	10W/30
Between 40°F (5°C) and 85°F (30°C)	20/20W	10W/30 OR 15W/40
Above 85°F (30°C)	30W	15W/40 OR 20W/40

Table 4-1 - Oil Viscosity Recommendations

WP M --- . -- -95061-01 Periodic Engine Maintenance

Periodic maintenance of the engine is necessary and must be part of the routine of operating the J- Trailer. Maintenance activities should be performed at the following periodic intervals:

a) **Daily:** Perform a visual walk-around inspection. Follow the Operational Checklist provided at the end of Chapter 3. During the visual walk-around inspection:

- Fix any fuel, oil or fluid leaks.
- Make sure the J- Trailer is properly positioned and level.
- Make sure the engine exhaust is directed away from personnel and the trailer air intakes.
- Make sure the J- Trailer is free of debris, inside and outside the enclosures.
- Make sure airflow to and from the engine is not restricted.
- Check the lubricating oil.
- Check the fire extinguisher.
- Check the fuel supply.
- Check the air filter. Replace as required.

b) **After the** first **100 Hours and then every 250 Hours of Operation:**

- Change the lubricating oil and the oil filter.
- Replace the fuel filter.
- Clean the cooling fins.
- Check all nuts, bolts, fittings and connections. Tighten as required.

A chart describing Periodic Maintenance and Service can be found at the end of this chapter. Note that procedures for periodic maintenance for the 2000-hour, 6000-hour, and 12000-hour service intervals are not covered in this manual; maintenance at these intervals should be performed by authorized DHS technicians. Maintenance and service contracts can be arranged with DHS Logistics Co.

WP M --- . -- -95061-01 Engine Maintenance Procedures

The engine is accessed by opening the door on the side of the Generator Set enclosure as shown in Figure 4-11.

050.01 Checking the Lubricating Oil

1. The engine lubricating oil level should be checked daily, especially before and after operation. The engine dipstick is used to determine the lubricating oil level.
2. Turn the engine off.
3. Open the access door.
4. Remove the dipstick and wipe clean. Re-insert the dipstick fully and remove. The oil on the dipstick should be between the two marks on the dipstick.
5. Oil should be added if the level is at or below the lower mark. See Procedure 051.01, below.
6. Close the access door.

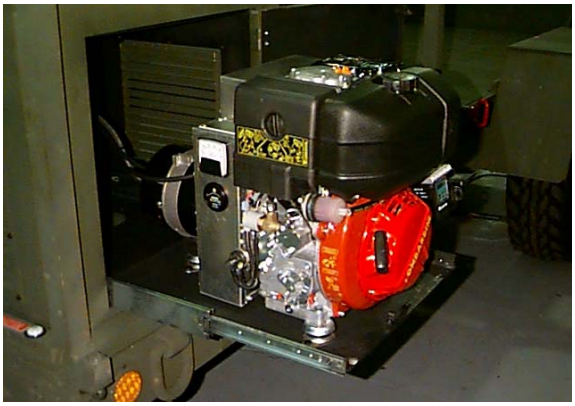

Figure 4-11 - Engine/Generator Pulled Out on Tray

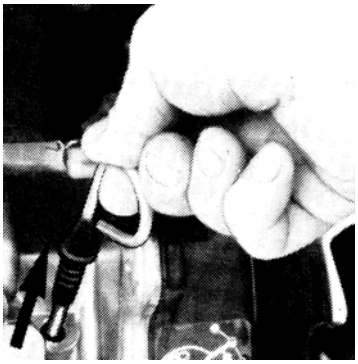

Figure 4-12 - Removing the Dipstick

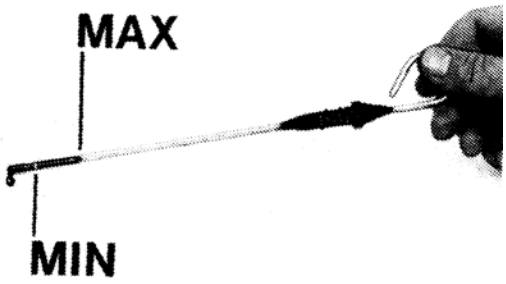

Figure 4-13 - Dipstick Levels

051.01 Adding Lubricating Oil

Lubricating oil can be added at the oil filler at the top of the engine. Oil should be added if the level is at or below the lower mark on the dipstick. See Section 4.3.4 of this chapter for recommended oil. Add lubricating oil as follows:

1. The engine must be turned off (to get an accurate oil level indication as well as for safety reasons). Open the access door.
2. Add oil at the oil filler and re-check the oil level. The oil on the dipstick should be between the two marks on the dipstick.
3. Re-insert the dipstick, secure the oil filler cap. Start the engine and allow the engine to run for a few minutes to circulate the oil. Stop the engine and allow a few minutes for the oil to settle, then re-check the level on the dipstick. Add oil if necessary. Then close the access door.
4. When the oil dipstick indicates a proper oil level, re-insert the dipstick and secure the oil filler cap.
5. Wipe off any oil that has spilled, then close the access door.

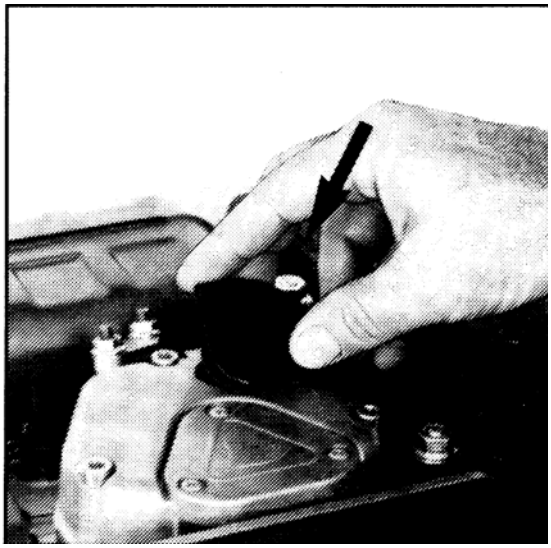

Figure 4-14 - Oil Filler Location

052.01 Changing the Lubricating Oil & Oil Filter

The oil filter is a cartridge-type located in the engine block The lubricating oil and oil filter should be replaced after the first 100 hours of operation and then at every 250-hour interval. Removal of the old lubrication oil and replacement of the oil filter is performed as follows:

IMPORTANT! DISPOSE OF LUBRICATING OIL AND OIL FILTERS IN ACCORDANCE WITH LOCAL REGULATIONS.

1. Open the access door of the Generator Set enclosure.
2. Shut off the engine.
3. Disconnect the battery by disconnecting the negative (black) lead.
4. Place an oil collection bucket or pan under the oil drain plug. The oil drain plug is located at the base of the engine.

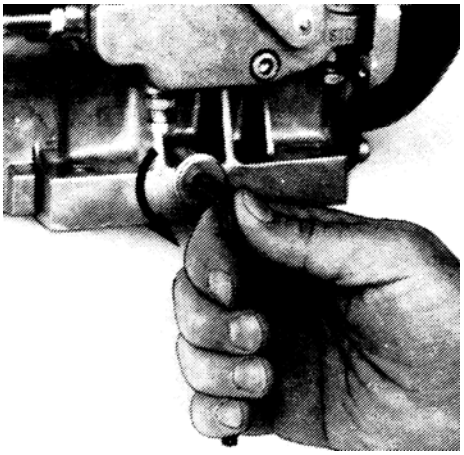

Figure 4-15 - Unscrew the Oil Plug

5. Unscrew the oil plug and allow the oil to drain.
6. Unscrew the cover plate and remove the oil filter. The cover plate may have an overload temperature device mounted to it.
7. Screw the oil drain plug back into the engine base.
8. Pull the old oil filter out of the engine and replace with a new filter.
9. Discard the old filter.

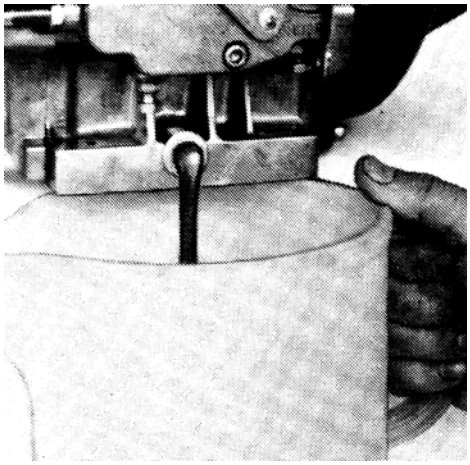

Figure 4-16 - Draining the Oil

continued

10. Replace the backing plate and tighten the screws.

11. Add new lubricating oil (approximately 1.5 quarts). See Section 4.3.4. The oil can be added through the filler location.

12. Replace the filler cap when done.

13. Wipe off any oil that has spilled.

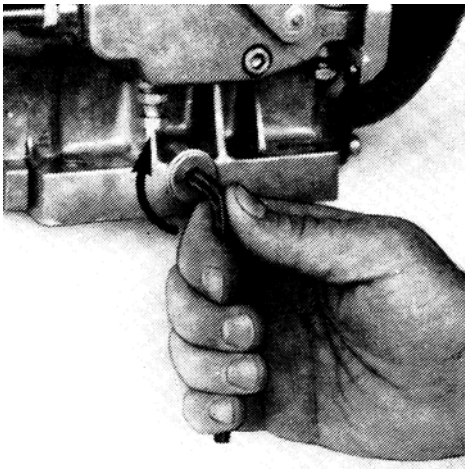

Figure 4-17 - Tightening the Oil Plug

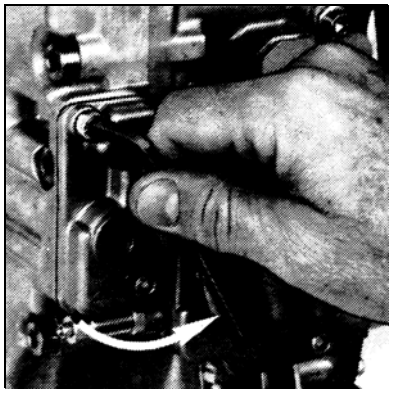

Figure 4-18 - Loosening the Cover Plate Screws

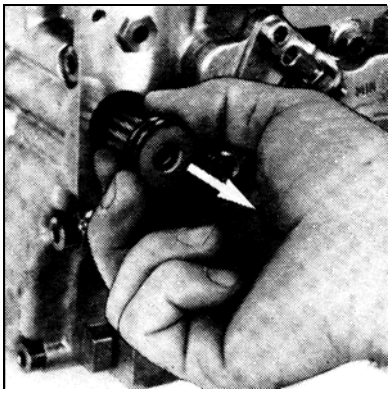

Figure 4-19 - Remove the Old Oil Filter

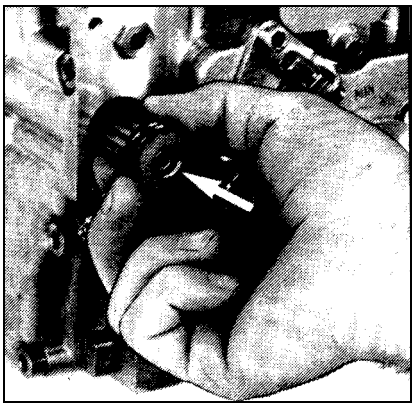

Figure 4-20 - Inserting the New Oil Filter

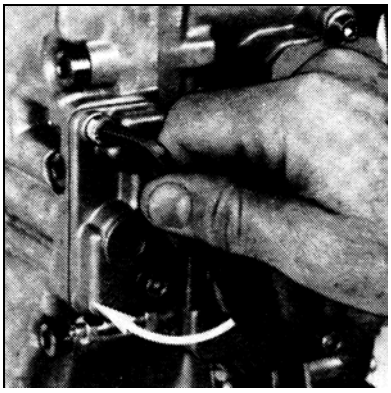

Figure 4-21 - Replace the Cover Plate

053.01 Reconnect the battery lead.

1. Start the engine and allow the engine to run for a few
2. Minutes to circulate the oil. Check for any leaks. Keep clear of all moving parts.
3. Stop the engine and allow a few minutes for the oil to settle and re-check the level on the dipstick. Add more oil if necessary.
4. Close the enclosure access door.

054.01 Checking & Replacing the Air Filter Element

The engine is fitted with a replaceable air filter. The air filter should be checked periodically and replaced as required. In extremely dusty conditions, the air filter should be checked daily.

1. Open the access door. Shut off the engine. Disconnect the battery by disconnecting the negative (black) lead.
2. Rotate the knob counter clockwise to remove the air filter cover. Then pull the air filter out.
3. Wipe any foreign matter from the air filter housing and cover. Shake and tap the air filter to dislodge any dirt and dust; examine it for excessive dirt.
4. Use pressurized air to assist in clean the filter. Replace if necessary.
5. Replace the air filter and air filter cover, then tighten the knob.
6. Reconnect the battery lead and close the access door.

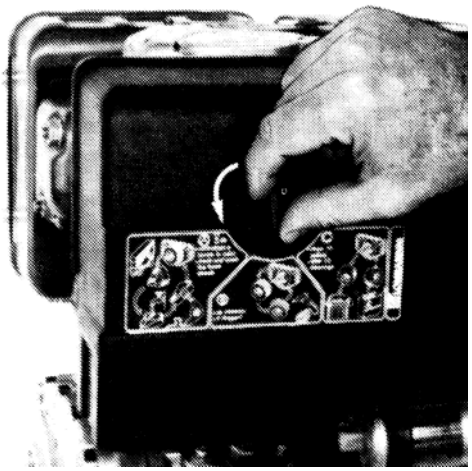

Figure 4-22 - Air Filter Cover

IMPORTANT! DISPOSE OF THE AIR FILTER IN ACCORDANCE WITH LOCAL REGULATIONS.

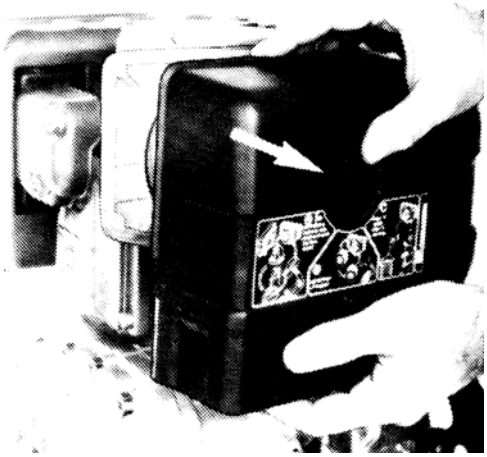

Figure 4-23 - Removing the Air Filter Cover

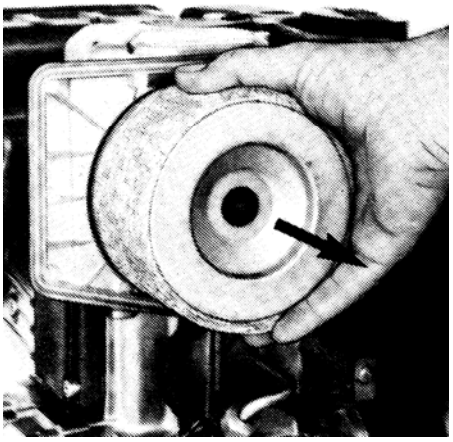

Figure 4-24 - Removing the Air Filter

055.01 Replacing the Fuel Filter

The fuel filter should be replaced at every 250-hour interval as follows:

1. Open the access door.
2. Shut off the engine.
3. Disconnect the battery by disconnecting the negative (black) lead on one of the batteries.
4. Remove the air filter cover and the dipstick to access the fuel filter.

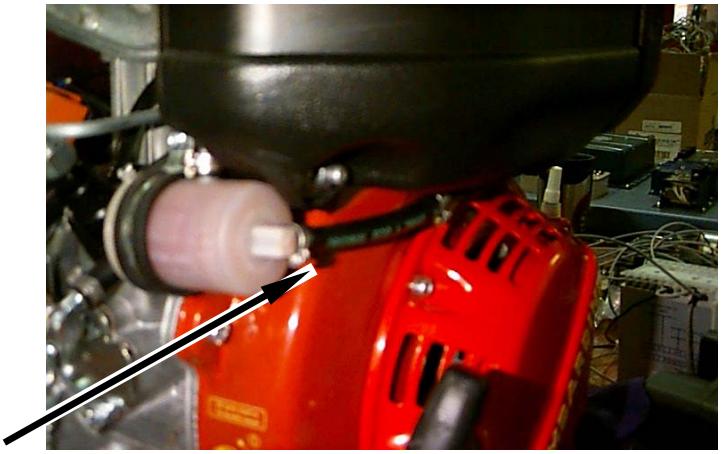

Figure 4-25 - Fuel filter & Hose From Fuel Tank

5. Place a suitable container under the fuel filter to collect fuel from the tank.
6. Remove the clamp on the hose leading from the tank to the fuel filter.
7. Remove the hose from the filter and allow the fuel tank to drain.

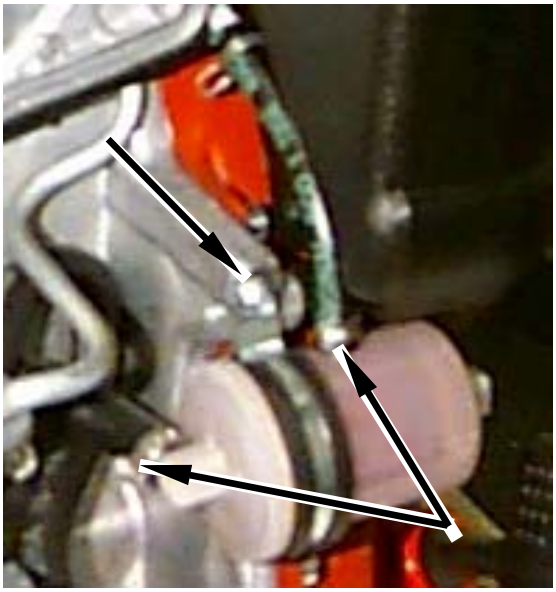

Figure 4-26 - Fuel filter w/Hose & Filter Clamps

8. Remove the two remaining hose clamps and the hoses.
9. Remove the clamp holding the fuel filter.
10. Replace the filter and tighten all the clamps.
11. Replace the dipstick and the air filter cover.
12. Reconnect the battery lead and close the access door.
13. Start the engine and check for fuel leaks.

IMPORTANT! DISPOSE OF THE FUEL FILTER IN ACCORDANCE WITH LOCAL REGULATIONS.

END OF WORK PACKAGE

4.4 Servicing the Generator & Electrical System

For identification purposes, the generator serial number is stamped on a nameplate attached to the generator.

4.5 Periodic Generator & Electrical System Maintenance

Periodic maintenance of the generator is necessary and must be part of the routine of operating the J- Trailer. Maintenance activities should be performed at the following periodic intervals:

4.5.1 Daily Maintenance

Perform visual walk-around inspection. Follow the Operation Checklist Chart provided at the end of Chapter 4. During the visual walk-around inspection:

- Make sure the J- Trailer is properly positioned and level.
- Make sure the J- Trailer is free of debris, inside and outside the enclosures.
- Make sure the generator intake and exhaust air screens are free of debris.
- Check the ground connection.
- Check the fire extinguisher.
- Make sure the enclosure access door closes properly.

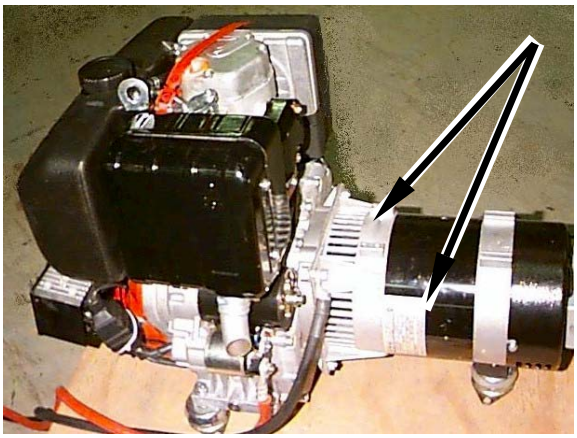

Figure 4-27 - Generator w/Air Screen & Nameplate

Every 50 Hours of Operation

- Check wires and wire connections.
- Check the battery.

Every 250 Hours of Operation

- Clean the generator screens.

Every 500 Hours of Operation

- Check all nuts, bolts, fittings and connections. Tighten as required.

A detailed chart listing Periodic Maintenance and Service is provided at the end of this Section. Procedures for periodic maintenance for the daily, monthly, and annual service intervals are not covered in this manual; maintenance at these intervals should be performed by authorized DHS technicians. Refer to the box at right for DHS System's contact information.

DHS SYSTEMS LLC Contact Information

Phone: 800-977-3647
FAX: 845-365-2114
e-mail: drash@drash.com

WP M --- . -- -95061-01 Generator & Electrical System Maintenance Procedures

The generator is accessed by opening the door on the side of the Generator Set enclosure.

056.01 Checking Wires & Wire Connections

Check inside the Generator Set enclosure every 50 hours for broken or frayed wires and loose, discolored, or corroded wire connections.

1. Open the access door of the Generator Set enclosure.
2. Shut off the engine.
3. Disconnect the battery by disconnecting the negative (black) lead.
4. Inspect all visible connections.
5. Replace any broken or frayed wires.
6. Tighten any loose connections.

7. Replace any discolored or corroded connections.
8. Reconnect the battery lead and close the enclosure access door.

057.01 Cleaning the Generator Air Screen

The generator air screen should be checked daily and cleaned every 250-hour interval.

1. Remove any debris found at the generator intake and exhaust air screens.
2. Clean the air screens with a vacuum. Clogged screens will increase operating temperatures and reduce the generator's life. **Do not use water.**

058.01 Checking the Battery

The battery should be checked every 50-hour interval.

Check the battery for;

1. cracked or broken cases,
2. corrosion on the terminal posts,
3. damaged or frayed cables,
4. loose connections,
5. or any other physical damage.
6. Tighten connections and replace battery or cables as required.

END OF WORK PACKAGE

WP M --- . -- -95061-01 Periodic Maintenance Table

Item	Maintenance Interval				
	Daily	Monthly	Quarterly	Annual*	Bi-Annual*
Perform visual walk-around inspection.	•	•	•	•	•
Fix any fuel, oil or fluid leaks.	•	•	•	•	•
Make sure the J- Trailer is properly positioned and level.	•	•	•	•	•
Make sure the engine exhaust is directed away from personnel.	•	•	•	•	•
Make sure the J- Trailer is free of debris, inside and outside the enclosure.	•	•	•	•	•
Make sure airflow to and from the engine is not restricted.	•	•	•	•	•
Make sure the generator intake and exhaust air screens are free of debris.	•	•	•	•	•
Check the ground connection.	•	•	•	•	•
Check the lubricating oil.	•	•	•	•	•
Check the tires for proper tire pressure.	•	•	•	•	•
Check the fuel supply.	•	•	•	•	•
Make sure the enclosure access doors close properly.	•	•	•	•	•
Check the engine air filter. Clean or replace if required.**		•	•	•	•
Check for broken or frayed wires. Check for loose, discolored, or corroded connections.		•	•	•	•
Check the battery.		•	•	•	•
Change the lubricating oil and the oil filter.***			•	•	•
Check the surge brake fluid.			•	•	•
Check the parking brakes.			•	•	•
Lubricate the tongue jack.			•	•	•
Change the fuel filter and the air filter element.				•	•
Check all nuts, bolts, fittings and connections. Tighten as required.			•	•	•
Wash the trailer and the enclosure.				•	•
Repack the wheel bearings.				•	•
Check the brake shoes. Replace if required.					•

Notes
* Whichever comes first.
** Check the engine air filter element daily if operating in very dusty conditions.
*** Change the oil for the first time after every 100 hours of operation.

Table 4-2 - HP-J Periodic Maintenance

END OF WORK PACKAGE

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Section 5

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5. TROUBLESHOOTING PROCEDURES

5.1 General Troubleshooting Information

The following chapter contains general information for troubleshooting by operator-level qualified personnel. A qualified person is one who is familiar with this manual, the operation of the Model HP-J UST Trailer and the hazards involved in its operation and maintenance and who has been certified by the DHS Training program.

We strongly recommend that operators receive training directly from a DHS Product Support or Field Service Representative.

This chapter provides a systematic approach to locating and correcting malfunctions of the utility trailer. Each section is arranged according to the symptoms of a problem.

The action items have been arranged in order of complexity, with simpler actions listed first. Note that troubleshooting causes and actions beyond the scope of operator-level qualified personnel are not included in this manual. If a course of action does not present itself, call DHS.

The most important step of troubleshooting is to gather as much first-hand information as possible from the personnel who were present when the problem or failure occurred. Information as to how long the unit had been operating, what loads were on-line, what the weather conditions were, whether any protective equipment or device functioned, etc., can also help isolate a problem.

Note that many of the procedures listed in the Action column below require entering the Genset or ECU enclosure. A number of these procedures are described in Section 4. Do not forget to turn off all switches and circuit breakers and disconnect the batteries when required.

NOTES

TOOLS, EQUIPMENT, CLOTHING AND YOUR BODY MUST BE KEPT CLEAR OF ROTATING PARTS AND ELECTRICAL CONNECTIONS.

SPECIAL CAUTION MUST BE TAKEN DURING TROUBLESHOOTING SINCE PROTECTIVE COVERS AND SAFETY DEVICES MAY BE REMOVED OR DISABLED TO GAIN ACCESS AND MAKE TESTS.

BE CAREFUL! SERIOUS PERSONAL INJURY OR DEATH CAN RESULT FROM THE HAZARDS INVOLVED IN THE OPERATION AND MAINTENANCE OF THE TRAILER. CONSULT DHS WITH ANY QUESTIONS BEFORE TAKING ACTION.

If in any doubt about how to proceed, contact DHS before taking action (phone: 800-977-3647, fax: 845-365-2114 or e-mail: drash@drash.com). Please have available the Vehicle Identification Number (VIN) of the trailer in question.

DHS SYSTEMS LLC Contact Information

Phone: 800-977-3647
FAX: 845-365-2114
e-mail: drash@drash.com

WP T --- . -- -95061-01 Trailer Chassis Troubleshooting Procedures

Symptom	Cause	Action
001.01 Drips Or Leaks	Loose connection	Tighten connection.
	Broken hose, tubing or line	Call DHS.
002.01 Mechanical Parking Brake Does Not Work	Incorrect tension adjustment	Reset tension with hand knob.
	Broken brake cable	Call DHS.
003.01 Surge Brake Does Not Work	Breakaway lever has snapped over leaf spring (see Chapter 3, Figure 3-10)	Set the breakaway lever to the fully-released position.
	Dirty, cloudy or watery brake fluid	Drain and replace brake fluid. Call DHS.
	Broken hydraulic tubing	Call DHS.
	Improperly adjusted or worn brake shoes	Call DHS.
004.01 Tail Light Does Not Work	Bad bulb	Replace bulb.
	Improper connection to tow vehicle or to tail light assembly	Disconnect, then reconnect. Replace connection if necessary.
	Broken wire	Repair.

END OF WORK PACKAGE

WP T --- . -- -95061-01 Engine Troubleshooting Procedures

Symptom	Cause	Action
005.01 Engine Does Not Crank	Low battery voltage or dead battery	Check battery connections. Check battery voltage. Recharge battery or replace if required.
006.01 Engine Cranks But Does Not Start	No fuel	Check fuel tank and fuel selector switch.
	Air in fuel line	Bleed fuel line.
	Clogged fuel filter.	Drain any water from the fuel filter/agglomerator. Inspect filter. Replace fuel filter if required..
	Improper type of fuel.	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill with proper fuel and bleed fuel line.
	Water, dirt or air in fuel system.	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill with proper fuel and bleed fuel line.
	Fuel actuator fails to move to full fuel position	Check battery voltage. Examine wiring back to the battery. Jiggle the actuator. Replace actuator if required. Call DHS.
007.01 Engine Cranks But Does Not Start Below 32°F	Improper type of fuel.	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill with proper fuel and bleed fuel line.
	High engine oil viscosity.	Change oil and oil filter. Use proper oil.
	Low battery voltage	Recharge battery.
008.01 Engine Stops	No fuel	Check fuel tank and fuel selector switch.
	Overspeed condition	Check fuel level and fuel type.

Symptom	Cause	Action
	High coolant temperature	See “ENGINE OVERHEATS” below.
	Low lubricating oil pressure.	Use proper lubricating oil or add oil to proper level.
	Overloaded engine	Reduce load.
	Water, dirt and/or air in fuel system.	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill with proper fuel and bleed fuel line.
	Clogged air filter element or fuel filter.	Check air filter element and fuel filter. Replace if required.
009.01 Engine Overheats	Overloaded engine	Reduce load.
	Re-circulated exhaust gas or engine air	Re-position trailer. Add exhaust extension. Re-position exhaust extension.
	Obstructed air inlets or exhausts	Clear inlets and exhausts, especially the radiator fan inlet.
	Improper engine fan belt tension.	Adjust engine fan belt tension.
	Worn engine fan belt	Replace engine fan belt.
	Low lubricating oil level	Add lubricating oil.
	Low coolant level	Add coolant.
	Old or contaminated coolant	Drain, flush and replace coolant.
	Water in fuel	Drain fuel filter/agglomerator.
	Blocked radiator cooling fins	Clean radiator fins.
	Contaminated fuel	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill with proper fuel and bleed fuel line.
010.01 Engine Emits Excessive White Smoke	Water in combustion chamber	Call DHS.
011.01 Engine Emits Faint Blue Smoke	Under-loaded engine	Turn on ECU heating or cooling. Increasing the load reduces the possibility of wetstacking. See Symptom 014.01 below.
	Incorrect injection timing or defective injectors.	Call DHS.
012.01 Engine Emits Heavy Blue Smoke	Overfill of lubrication oil	Check oil level. Drain to proper level.
	High lubricating oil viscosity	Change oil and oil filter. Use proper oil.
	Stuck, worn or broken piston rings	Call DHS.
	Worn cylinder bore	Call DHS.
013.01 Engine Emits Black Smoke	Overloaded engine	Reduce load.
	Clogged air filter	Check air filter. Replace air filter element if required.
	Water in fuel	Drain fuel filter/agglomerator.
	Improper or contaminated fuel	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill and bleed.
	Defective injectors	Call DHS.

Symptom	Cause	Action
014.01 Excessive Carbon Deposits Form On The Exhaust Tail Pipe	Blocked or obstructed exhaust system	Clear exhaust system.
	Clogged air filter element	Check air filter element. Replace if required.
	Improper fuel	Drain fuel tank and purge fuel lines. Replace fuel filter. Fill and bleed.
	Improper lubrication oil	Change oil and oil filter. Use proper oil.
	Wet stacking – the build up of unburned diesel fuel and carbon residues in the engine and exhaust system of diesel engines, evidenced by increased vibration and carbon deposits on the tail pipe.	Load generator to over 50% of full load for 4 hours.

END OF WORK PACKAGE

WP T --- . -- -95061-01 Generator & Electrical System Troubleshooting Procedures

WARNING

THE GENERATOR AND ELECTRICAL SYSTEM SHOULD BE EXAMINED, DIAGNOSED AND REPAIRED BY DHS AUTHORIZED TECHNICIANS ONLY.

OPERATOR-LEVEL QUALIFIED PERSONNEL SHOULD NOT GO BEYOND THE ACTION ITEMS SUGGESTED HERE; THEY MUST NOT ATTEMPT TO REMEDY AN ELECTRICAL PROBLEM WITHOUT FIRST GETTING INSTRUCTION FROM A DHS AUTHORIZED TECHNICIAN.

FAILURE TO HEED THIS WARNING MAY VOID THE WARRANTY.

SERIOUS INJURY AND DEATH MAY OCCUR.

IF IN ANY DOUBT ABOUT HOW TO PROCEED, CALL DHS.

Symptom	Cause	Action
015.01 Generator Produces No Voltage	Switched-off circuit breaker CB5	Switch circuit breaker to the ON position.
	Switched-off Ammeter Voltmeter Selector Switch	Check to be sure selector switch is not in the OFF position.
	Blown fuse; incorrect electrical connections; inoperative voltmeter, voltage regulator or generator	Contact DHS.
016.01 Generator Produces Low Voltage Under No Load	Underspeed operation; incorrect electrical connections; inoperative voltmeter, voltage regulator or generator	Contact DHS.
017.01 Generator Produces Low Voltage When Load Is Applied	Overload	Check watt meter and verify that the load does not exceed 20kW.
	Unbalanced load.	Balance loads and verify using the Ammeter Voltmeter Selector Switch (current for any leg should not exceed 60 amps).
	Inoperative watt meter, ammeter, voltage regulator or main rotor	Contact DHS.
018.01 Generator Produces High Voltage Under No Load	Incorrect operating speed, incorrect electrical connections, inoperative voltmeter or inoperative voltage regulator	Contact DHS.
019.01 Generator Produces High Voltage When Load Is Applied	Unbalanced load.	Balance loads and verify balance using the Ammeter Voltmeter Selector Switch (current for any leg should not exceed 60 amps).
	Inoperative voltage regulator	Contact DHS.

END OF WORK PACKAGE

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Section 6

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6. HP-J SYSTEM PARTS LISTS

WP R ---.-- -95061-01 Master Packing List for J Shelter System

The following table lists the standard components and parts that are shipped with each new J Shelter System. This list can be used to verify the purchasers receipt of order.

ITEM	PART DESCRIPTION	PART NUMBER	UNIT	QTY. REQ'D.
1	"J" SHELTER	200100G	EA	1
2	1XBT SHELTER	20010TG	EA	2
3	BAG FOR "T" PLATE (EXTERIOR)	JA201060	EA	2
4	FACEPLATE (INTERIOR)	JA200160	EA	2
5	"JT" BOOTS (INTERIOR & EXTERIOR)	JA200280	SET	2
6	SIDE DOORS (INTERIOR & EXTERIOR)	JA200300	SET	2
7	WINDLINES (12 Black & 8 Green)	JA200540	SET	1
8	BLADDER w/ WRAP	230000	EA	1
9	FABRIC FLOOR w/ WRAP	202150	EA	1
10	REPAIR KIT (Refer to tag for contents)	JA200560	KIT	1
11	18" RED PIN STAKES (Qty. 25 w/ 1 MALLETS)	JA201320	SET	2
12	30" REBAR STAKES	JA200820	EA	30
13	SLEDGE HAMMER 10 lb.	JA201020	EA	2
14	STAKE PULLER	JA201040	EA	1
15	BLOWER DUCT (15')	T2-30050	EA	1
16	BLOWER (50' cord packed w/ floodlight)	T2-30051	EA	1
17	LADDER	JA201620	EA	1
18	FLOODLIGHT (w/ 2 - 50' EXT. CORDS)		SET	1
19	ALUMINUM END WALL	JA200520	SET	2
20	PINS FOR END WALL (QTY. 15 / Bag)	JA201300	SET	2
21	YELLOW CRANK FOR TILT BED		EA	2
22	ELECTRICAL SET (FOR "J" 20Kw TRAILER)		SET	1
23	"J" MANUAL & VIDEO		EA	1
24	"XB" SHELTER MANUAL		EA	2
25	TRAILER TARP		EA	1
26	"J" PLENUM	293060	EA	1
27	"J" WINDOW SET (4 Vinyl Windows)	293055	SET	1
28	"J" DRASHLITE PACKAGE (3 Sets of 2 Lights)	H300036	SET	3

WP R ---.-- -95061-01 Possible Spare Parts for Trailer Chassis

Item	Part Description	DHS P/N	Quantity		
			Ass'y	Depot	Field
1	Tail Light, Military	T20001C	2	1	1

Item	Part Description	DHS P/N	Quantity Ass'y	Depot	Field
2	Complete Brake Assembly, Right Side, incl. Backing Plate Ass'y, Brake & Shoe Lining, Brake Cylinder, Retractor Spring, Parking Brake Bracket and associated hardware	T20002CR	1	1	-
3	Complete Brake Assembly, Left Side, incl. Backing Plate Ass'y, Brake & Shoe Lining, Brake Cylinder, Retractor Spring, Parking Brake Bracket and associated hardware	T20002CL	1	1	-
4	Dolly Wheel	T20003C	1	-	-
5	Cotter Pin	T20004C	2	2	-
6	Grease Cap	T20005C	2	1	-
7	Grease Seal	T20006C	2	1	-
8	Hose Hydraulic Kit	T20007C	-	1	-
9	Bearing Cone, Inner	T20008C	2	-	-
10	Bearing Cone, Outer	T20009C	2	-	-
11	Bearing Cap, Inner	T20010C	2	-	-
12	Bearing Cap, Outer	T20011C	2	-	-
13	Brake & Shoe Lining Kit, LH	T20012C	1	-	-
14	Brake & Shoe Lining Kit, RH	T20013C	1	-	-
15	Cylinder Brake, LH	T20014C	1	-	-
16	Cylinder Brake, RH	T20015C	1	-	-
17	Spindle Nut	T20016C	2	-	-
18	Spindle Washer	T20017C	2	-	-
19	Lug Nut	T20018C	16	2	2
20	Retractor Spring	T20019C	2	-	-
21	Reflector, Red *	T20020C	4	1	1
22	Reflector, Amber *	T20021C	2	1	1
23	Gear Assembly Repair Kit, Tongue Jack	T20023C	-	1	1
24	Extension Pin, Tongue Jack, Rear Jacks	T20024C	5	1	1
25	24V Large Light Bulb for Tail Light	T20025C	2	2	2
26	24V Small Light Bulb for Tail Light	T20026C	2	2	2
27	Coupler Surge Brake	PCHA0120	1	-	-
28	Master Cylinder, Surge Brake	PCHA0121	1	1	-
29	Link, Surge Brake *	PCHA0122	2	-	-
30	Shaft, Surge Brake	PCHA0123	2	-	-
31	Nylon Bushing, Surge Brake	PCHA0124	4	-	-
32	Self-Locking Nut, Surge Brake *	PCHA0125	4	-	-
33	Shock Absorber, Surge Brake	PCHA0126	1	-	-
34	Brake Line Kit	PCHA0127	1	-	-
35	Brake Line Adapter	PCHA0128	1	-	-
36	Tongue Jack Assembly *	PCHA0130	1	1	-

Item	Part Description	DHS P/N	Quantity Ass'y	Depot	Field
37	Dolly Wheel / Skid Plate Assembly *	PCHA0131	1	-	-
38	Axle Assembly	PCHA0140	1	-	-
39	Wheel	PCHA0141	2	-	-
40	Axle Mount Kit	PCHA0142	1	-	-
41	Tire, 36 x 12.5 x 16.5 LRC	PCHA0143	2	-	-
42	Hand Brake	PCHA0150	2	-	-
43	Safety Chain Assembly (chain, hook & pin)	PCHA0160	2	1	-
44	D Ring	PCHA0161	4	-	-
45	Safety Chain, 3.5 ft	PCHA0162	2	-	-
46	Hook Clip w/ Latch, for Safety Chain	PCHA0163	2	-	-
47	Clamp, Insulated	PCHA0164	6	-	-
48	Wire Harness	PCHA0165	1	-	-
49	Pin, Linch, for Safety Chain	PCHA0171	2	-	-
50	Clip Spring (Plug Holder)	PCHA0180	1	-	-

Table 6-1 - Trailer Chassis Parts

* Specify color (green, tan or white) by adding g, t or w as a suffix to the part number.

END OF WORK PACKAGE

WP R ---.-- -95061-01 Engine Parts List

Item	Part Description	DHS P/N	Quantity		
			Ass'y	Depot	Field
1	Oil Filter	T12104P	1	1	4
2	Oil Dipstick	PENG2164	1	1	-
3	Crankshaft	PENG2132	1	-	-
4	Thrust Washer Kit	PENG2110	1	1	-
5	Main Bearing, Flywheel End	PENG2109	1	1	-
6	Oil Seal, Flywheel End	PENG2115	1	1	-
7	Air Filter Housing	PENG2183	1	-	-
8	Air Filter	T12101P	1	1	2
9	Piston Ring Set	PENG2107	3	3	-
10	Oversize 0.25mm Piston Ring Set	PENG2133	-	3	-
11	Connecting Rod Bolt	PENG2119	6	6	-
12	Connecting Rod Bearing (Big End)	PENG2113	3	3	-
13	Fuel Hose	PENG2205	1	-	-
14	Fuel Filter	T12103P	1	1	2
15	Fuel Inlet and Outlet Pipe Connections	PENG2204	2	2	-
16	Fuel Injection Pump	PENG2142	1	1	-
17	Fuel Injector	T12106P	1	1	-
18	Injector Seal	PENG2152	1	1	
19	Hose, Injectors to Return	PENG2206	1	-	-
20	Exhaust Manifold	PENG2175	1	-	-
21	Gasket, Exhaust Manifold	PENG2148	1	-	-
22	Exhaust Silencer	PENG2186	1	1	-
23	Clamp, Exhaust Silencer	PENG2208	1	-	-
24	Gear Ring	PENG2197	1	-	-
25	Starter Motor	PENG2154	1	1	-
26	Alternator	PENG2155	1	1	-
27	Decarbonizing Gasket Set	PENG2106	-	1	-
28	Overhaul Gasket Set	PENG2124	-	1	-
29	Fuel Tank	PENG2125	1	-	-
30	Oil Pressure Switch	PENG2165	1	1	-
31	Oil Pressure Light	PENG2166	1	1	-
32	Recoil Starter	PENG2170	1	-	-
33	Fuel Filler Cap	PENG2126	1	-	-

Table 6-2 - Engine Parts

END OF WORK PACKAGE

WP R ---.-- -95061-01 Generator Parts List

Item	Part Description	DHS P/N	Quantity		
			Ass'y	Depot	Field
1	Voltage Regulator	T12115P	1	1	-
2	Rectifier Assembly	T12108P	1	1	-
3	Diode	PGEN2108	1	1	-
4	Reverse Diode	PGEN2109	1	1	-
5	Adapter	PGEN2117	1	-	-
6	Main Stator	PGEN2119	1	-	-
7	Main Rotor	PGEN2120	1	-	-
8	Mounting Base	PGEN2122	1	-	-

Table 6-3 - Generator Parts

END OF WORK PACKAGE

WP R ---.-- -95061-01 Field Kit for HP-J Trailer System

The J Trailer System Field Kit is available as an accessory. DHS recommends having one of these kits on each trailer. Parts for these kits should be replenished as needed. The filters and belts provided in the kit are used in periodic maintenance for one UST Trailer for 1000 hours, or approximately one year, of operation.

Field Kit for DRASH UST HP-J Trailer			
Item	Part Description	DHS P/N	Quantity
1	Engine Air Filter	T12101P	2
2	Engine Fuel Filter	T12103P	2
3	Engine Oil Filter	T12104P	4
4	Military Tail Light	T20001C	1
5	24V Large Light Bulb for Tail Light	T20025C	2
6	24V Small Light Bulb for Tail Light	T20026C	2
7	Red Reflector	T20020C	1
8	Amber Reflector	T20021C	1
9	Gear Assembly Repair Kit for Tongue Jack	T20023C	1
10	Assembly / Extension Pin for Tongue Jack	T20024C	1
11	Ratchet Multi-Head Screwdriver	F319750	1
12	Lug Nut	T20018C	2
13	Ground Stud Wing Nut	T270570	2
14	Canvas Bag	09987	1

Table 6-4 - J Trailer System Field Kit Parts

END OF WORK PACKAGE

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Section 7

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7. HP J TRAILER DRAWINGS

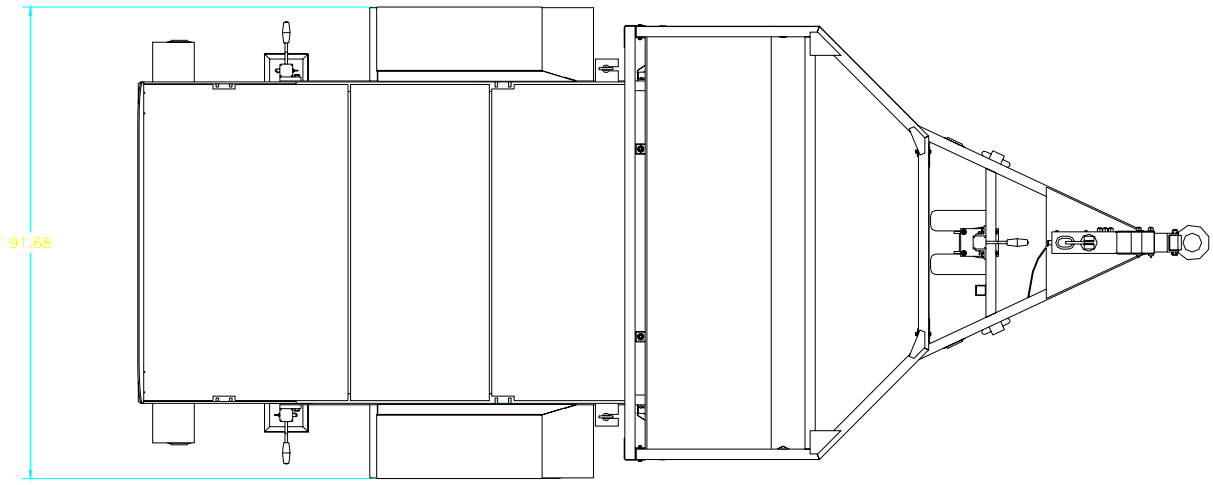

Figure 7-1 Trailer top view

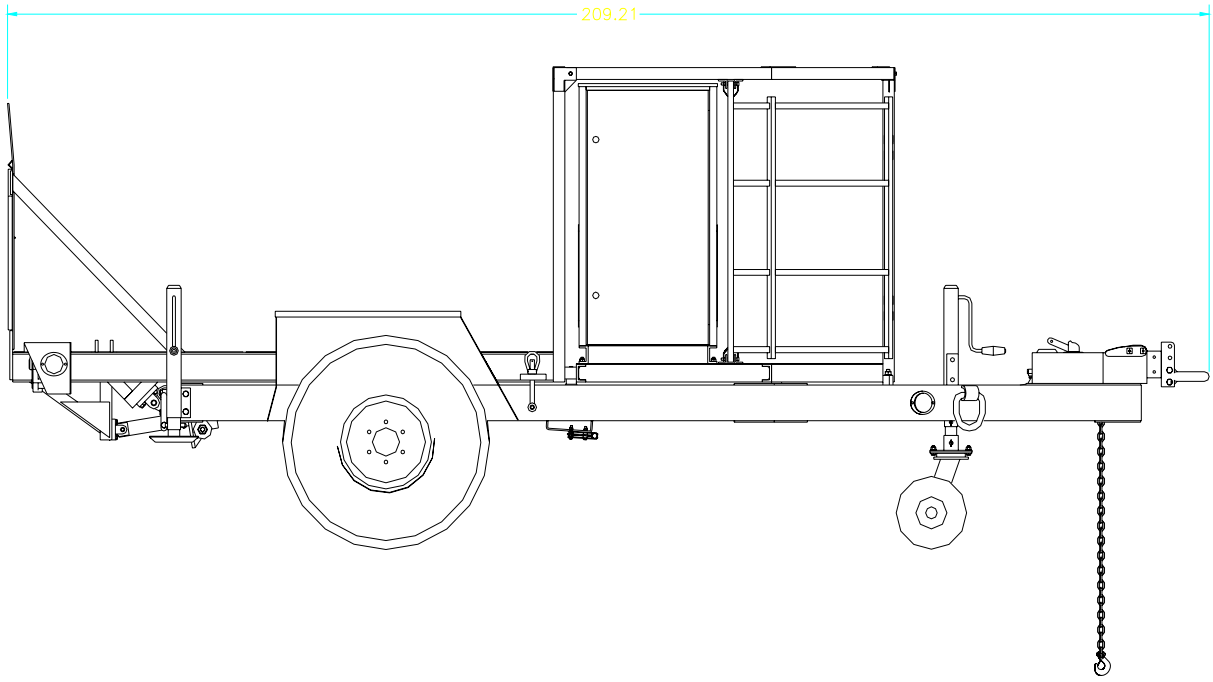

Figure 7-2 Trailer side view

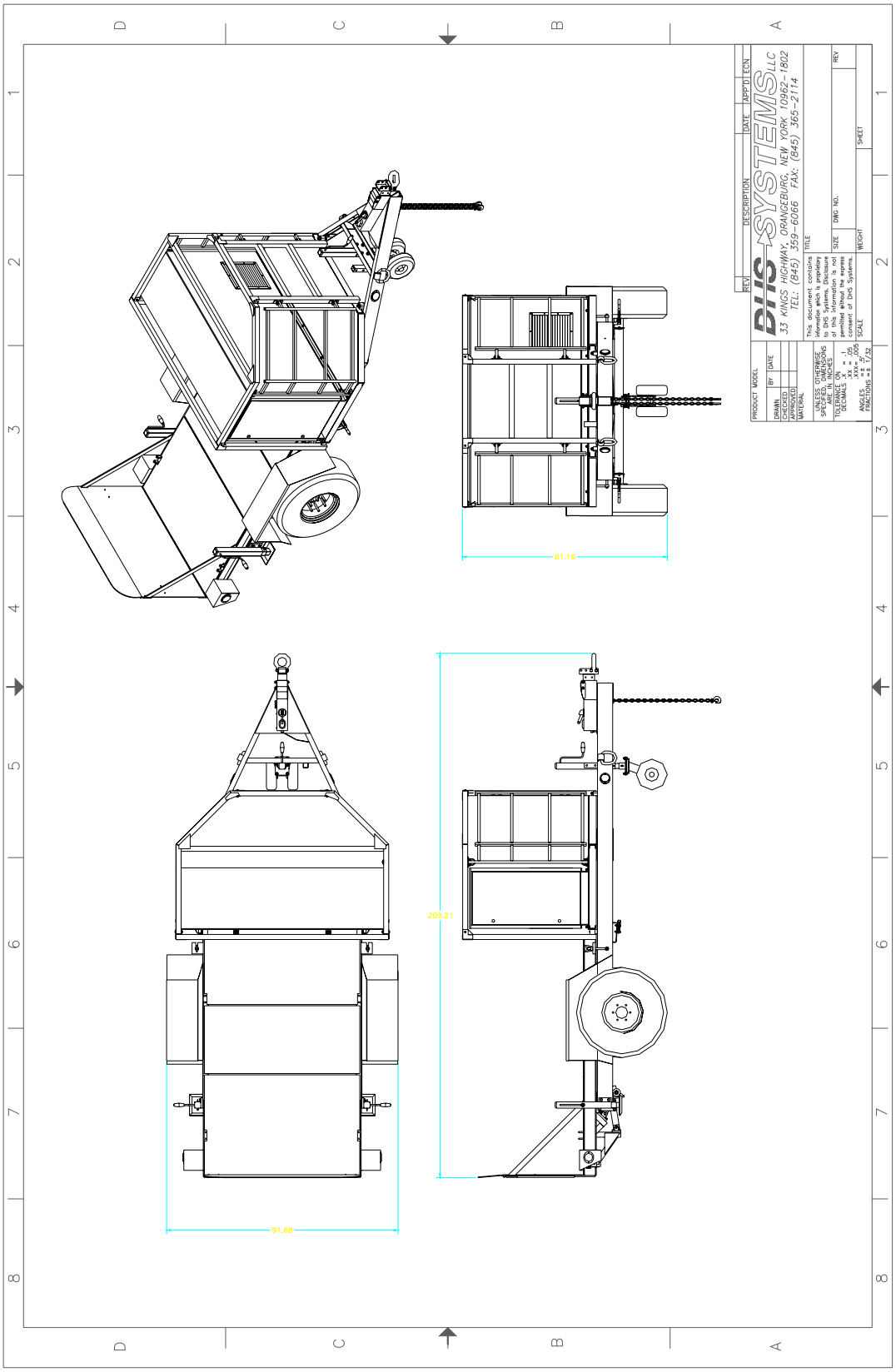

Figure 7-3 Various Trailer Views

END OF WORK PACKAGE

Section 8

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8. WARRANTY

8.1 LIMITED WARRANTY

DHS Systems LLC warrants that all DRASH® (Deployable Rapid Assembly SHelter) products purchased hereunder will be free from defects in materials and workmanship. This warranty shall extend to the ultimate user as well as original equipment purchasers and shall be valid for the elapsed time beginning with the date of shipment according to the following schedule:

WARRANTY SCHEDULE

DRASH Shelters and Shelter Accessories: 60 Months

DRASH UST Trailers and Trailer Accessories: 12 Months

DRASH Heaters and Heater Accessories: 12 Months

DRASH Power Distribution Unit (PDU): 12 Months

The liability of DHS Systems LLC under this warranty is limited to the repair or replacement of any defective part or component due to a material defect or substandard workmanship. Damage due to excessive wear and tear, improper use or carelessness is not covered under this limited warranty.

Furthermore, it should be understood that this warranty does not constitute a guarantee that the products under warranty identified in the Schedule above will function without following instructions, including reading of the Operators Manual, and following proper maintenance procedures as well as using reasonable care for the periods stated in the above Schedule. On-site repair without prior discussion and approval from DHS Systems may void the warranty.

Warranty claims must contain a detailed explanation of the defect and be supported by summary extracts of pertinent service and maintenance records if applicable. DHS Systems LLC shall have the right to examine the alleged defect and may require the claimant, at the claimant's expense, to return the product for such an examination. If DHS Systems' personnel are required to visit the claimant's site to confirm any alleged defect, all expenses for travel and accommodations may be charged to the claimant.

Any warranty claims must be filed with DHS Systems LLC within 90 days after the alleged defect has been identified. All claims must be mailed or faxed to the following:

DHS SYSTEMS LLC
33 Kings Highway
Orangeburg, NY 10962-1802
Attn: Customer Service, Dept. C

Phone: 845-359-6066 Fax: 845-365-2114 email: drash@drash.com

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8.2 Warranty Registration Form

The product warranty is included with the shipping of your product(s). Additional copies of this manual on CD-ROM may be purchased for the price of $25.00. Please contact us for further information.

DHS SYSTEMS LLC
33 Kings Highway
Orangeburg, NY 10962-1802
Attn: Customer Service, Dept. C
Phone: 845-359-6066 Fax: 845-365-2114 email: drash@drash.com

To validate the Limited Warranty, you must register the equipment with DHS SYSTEMS LLC. Please fill in the information bellow, make a copy and mail to the above address or fax to (845) 365-2114. If you have multiple units you may list their VIN#, SSN# and HSN# below.

Warranty Registration

Date:	Primary POC Rank:
Company/Unit Name:	Secondary POC Rank:
Address:	VIN# (Vehicle Identification Number)
Address:	SSN# (Shelter Serial Number)
City State: Zip Code:	HSN# (Heater Serial Number)
Country:	DHS use only
Phone: Fax:	
Email:	

VIN# (Vehicle Identification Number)	SSN# (Shelter Serial Number)	HSN# (Heater Serial Number)

(fold)

Return Address:

Place
Stamp
Here

DHS Logistics
33 Kings Highway
Orangeburg, NY 10962

(fold)

8.3 Equipment and/or Documentation Feedback Form

RECOMMENDED CHANGE(S) TO OPERATIONS & MAINTENANCE MANUAL

FROM: (PRINT YOUR UNIT'S CORRECT ADDRESS)		**DATE SUBMITTED:**
PUBLICATION TITLE **OPERATIONS AND MAINTENANCE MANUAL FOR THE UST HP-J TRAILER SYSTEM**		PUBLICATION DATE **August 26, 2004**
UST Trailer System HP-J P/N: **80620**	MANUAL P/N: **T2-95061-01**	

BE EXACT PIN-POINT WHERE IT IS				**USE THIS SPACE DESCRIBE TO WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:**
PAGE NO	PARAGRAPH	FIGURE NO	TABLE NO	

PRINTED NAME, GRADE OR TITLE, PHONE NUMBER, AND EMAIL ADDRESS	SIGN HERE

(fold)

Return Address:

Place
Stamp
Here

DHS Logistics
33 Kings Highway
Orangeburg, NY 10962

(fold)