

**U. S. Coast Guard**

**Preventive Maintenance Manual**

**for Trailers**

**AUXILIARY**

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
United States Coast Guard  
Engineering Logistics Center

2401 Hawkins Point Road  
Baltimore, MD 21226-5000  
Mail Stop: 26 Code 017  
Phone: (410) 762-6062  
FAX: (410) 762-6085

9081  
15 March 2006

## MEMORANDUM

From: *Eric Linton*  
Eric Linton, 017 Maintenance Branch Chief

Reply to: ELC 017  
Attn of: Glenn Duncan, CWO4

To: Trailers

Subj: COAST GUARD AMENDMENT NO. 1 TO TRAILER PMS MANUAL

1. PURPOSE. To provide information on changes to Maintenance Procedure Cards (MPCs).
2. INFORMATION. The procedures in this update were revised due to Technical Feedback Reports (TFBRs). All of the PMS cards included this amendment have been posted in Portable Document Format (PDF) on the Engineering Logistics Center's website at <http://cgweb.elcbalt.uscg.mil/asp/017branch.asp>.
3. ACTION. Commanding Officers and Officers-in-Charge shall ensure that technicians are thoroughly briefed on PMS procedures and ensure that all maintenance requirements are completed as scheduled. Remove and insert pages as indicated in Enclosure 1.

#

Enclosures: (1) Remove and Insert Instruction



U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
United States Coast Guard  
Engineering Logistics Center

2401 Hawkins Point Road  
Baltimore, MD 21226-5000  
Mail Stop: 26 Code 017  
Phone: (410) 762-6162  
FAX: (410) 762-6085

9081  
11 May 2005

## MEMORANDUM

From: P.J. Roden, CAPT

A handwritten signature in black ink, appearing to read "P.J. Roden".

Reply To: ELC 017  
Attn of: LTjg Adam Cooley

To: All Affected CG Units

Subj: TRAILER PREVENTIVE MAINTENANCE SYSTEM (PMS) MANUAL

1. **PURPOSE.** This Preventive Maintenance Procedure manual provides Coast Guard personnel with the information needed to perform the preventive maintenance requirements on trailers.
2. **INFORMATION.** The procedures and policies described in this manual were developed by the Engineering Logistics Center (ELC) Reliability-Centered Maintenance (RCM) analyst as requested by G-45, Office on Naval Engineering, in response to trailer safety concerns in February 2005. For future development of new or the review of current maintenance procedures, ELC Maintenance (017) Branch utilizes a process known as Coast Guard Maintenance Effectiveness Reviews (CG MER). A CG MER is a proven engineered, repeatable and auditable process for conducting system-level engineering reviews of Coast Guard preventive maintenance requirements using a RCM-based process. The CG MER process is part of a larger ELC initiative called Maintenance Logistics 21 (ML 21), focused on improving readiness and optimizing maintenance requirements. In addition to better serving the fleet, all of the PMS cards included in this manual have been posted in Portable Document Format (PDF) on the Engineering Logistics Center's website at <http://cgweb.elcbalt.uscg.mil/asp/017branch.asp>.
3. **ACTION.** Use of this manual is mandatory. Commanding Officers and Officers-in-Charge shall ensure that technicians are thoroughly briefed on PMS procedures and ensure that all maintenance requirements are completed as scheduled.

#

## SYSTEM DESCRIPTION

This manual contains uniform maintenance procedure cards which comprise the Coast Guard Naval Engineering Preventive Maintenance System (PMS) for Trailer equipment. The complete PMS for each boat consists of one manual, which identifies the minimum maintenance requirements of each engineering division.

In establishing the level of required maintenance, consideration was given to requirements contained in the Coast Guard Naval Engineering Manual, the Naval Ships Technical Manuals, various Manufacturers' technical publications and Coast Guard service experience.

This system is intended to: (a) provide uniform procedures for the performance of each scheduled maintenance item, (b) correlate maintenance to work force resource levels, and (c) streamline work scheduling. This PMS is the governing document for the HM&E equipment maintenance requirements. Use of the system is mandatory. In most cases, the Maintenance Procedures Card (MPC) and requirements contained in Coast Guard directives or technical publications are identical. However, where differences exist, (including conflicts with the Coast Guard Naval Engineering Manual) the MPC is the governing document. This does not, however, preclude the Engineer Petty Officer from exercising individual judgment and accomplishing any MPC more frequently than required. Users who discover any conflicts are asked to contact ELC (01) by the most expeditious means.

MPCs contain ten blocks of information in addition to some identifying information found at the top of each page. This information is described below:

### **MPC Identifying Information**

DATE. The date which the MPC was released or revised.

MPC SERIAL NUMBER. This entry is alphanumeric and has three components. The first component identifies the type of machinery or equipment on which PMS is to be performed, and may be different from the division assigned responsibility for the performance of the maintenance procedure. There are four letters used for this component: A (auxiliary), E (electrical), M (main propulsion), and R (damage control). The second component of the MPC Number designates the frequency which the maintenance procedures must be performed: D (daily), M (monthly), Q (quarterly), S (semi-annually), A (annually), H (hourly), and C (conditional). The specific conditions for MPCs with frequency type C (conditional), will be explained in Block 1 of the MPC, Periodicity of Event. The third component is a numerical indexing identification number. This number is used to identify the MPC within the PMS master database. At times the sequence of numbers will appear to be out of order, or missing numbers in between, this is normal due to the fact that the database assigns numbers for tracking purposes only and uses each number only once. All MPC Serial Numbers should coincide with the

Procedure Index. The numerical indexing identification number should always be used when referencing an MPC.

**Block 1**

**WORK CENTER.** Personnel responsible for ensuring the accomplishment of the MPC. E.g. the Gaylord Range hood in the galley is an Auxiliary Division maintenance item, but the MPC for daily cleaning may be the responsibility of the Commissary Division. The work center responsible shall ensure the MPC is completed by whoever is assigned under the Personnel column. Work centers include EAUX (auxiliary), EDC (damage control), EEM (electrical), EMP (main propulsion).

**CLASS.** The cutter class that this MPC will be applicable to.

**FREQUENCY.** How often the MPC is performed, i.e. D (daily), M (monthly), Q (quarterly), S (semi-annually), A (annually), H (hourly), and C (conditional). This is repeated from the MPC number.

**SYSTEM.** The broad classification of the MPC subject as defined by the Ships Work Breakdown Structure (SWBS) (NAVSEA 0900-LP-039-9010).

**SUBSYSTEM.** The SWBS subsection or equipment group under which equipment is listed. For example, "Reduction Gear" is a subgroup of Main Propulsion Systems.

**PERIODICITY EVENT.** How often, or the condition under, which an MPC is to be performed. Used mainly for determining when C (conditional) MPCs are to be performed.

**COMPONENT.** The noun name of the equipment to be serviced, such as "Fixed CO<sub>2</sub> System".

**ESWBS.** The broad classification number of the MPC subject as defined by the Extended Ships Work Breakdown Structure (SWBS) (NAVSEA 0900-LP-039-9010).

**EQUIPMENT HOURS.** Only appears on MPCs with frequency of H (hourly). Used to determine when MPCs are to be performed based on equipment running time.

**PERSONNEL.** The number of rated and non-rated personnel recommended to accomplish the job. The assignment of rated personnel to perform tasks that could be performed by non-rated personnel or vice versa may be necessary. It is indicative of nothing but the best efforts of the supervisor to assign the best available resources to the task at hand.

TASK HOURS PER COMPONENT. The number of hours it should take for the number of personnel assigned to perform this MPC on one component from start to finish, including work preparation, parts and special tools gathering, tag outs, clean up and stowage. THIS IS NOT A TOTAL COUNT OF LABOR HOURS.

NUMBER OF COMPONENTS. The number of pieces of equipment the MPC is required to be performed on. Remember, TASK HOURS are only for performing the MPC on one piece of equipment in a possible multiple equipment situation. In some instances, the number of components can read as 1 if multiple pieces of equipment are all done at the same time so the number of components will read 1, meaning 1 job.

APL. The allowance parts list entry provides for the identification, component breakdown, and on board repair parts allowance for subsystem or component equipment.

PROCEDURE DESCRIPTION. Description of the maintenance action to be performed, i.e. change oil, clean and inspect, test, etc.

### **Block 2**

SAFETY PRECAUTIONS. Special safety precautions applicable to the maintenance procedure are noted here. Routine safety practices that should be observed in all engineering or maintenance applications are not repeated here. Nor is the phrase, "Observe standard safety practices" used since standard safety practices are, by their nature, always required.

### **Block 3**

REFERENCES. Applicable technical manuals, field changes, publications, etc. to assist in completion of the MPC.

### **Block 4**

TOOLS. This entry is intended to save time and effort for the person or persons performing the maintenance procedure by reminding them of any special tools and/or equipment required to accomplish the job.

### **Block 5**

CONSUMABLES. Rags, wire, miscellaneous hardware, cleaning supplies, etc., that are used when performing this MPC.

### **Block 6**

PARTS. Parts required to perform the MPC only. This does not include corrective maintenance parts. Include part number, NSN/FSN, cage codes, etc., when available.

### **Block 7**

HAZMAT. Everything necessary for the completion of this MPC, which qualifies as Hazardous Material and poses a special threat to personnel and/or requires special handling or disposal procedures.

### **Block 8**

**RELATED MAINTENANCE.** Other MPCs that may be performed concurrently or that may affect the performance of the MPC. This block is intended to act as a scheduling aid.

### **Block 9**

**LOCATION.** Physical location of component; e.g., Engine Room.

### **Block 10**

**PROCEDURE.** Defines the scope of the maintenance procedure and guides the individual performing that procedure through a step-by-step sequence. All procedures should be completed as described. No reduction in the scope of a procedure is authorized. The scope of procedures and the required frequency will be revised as necessary on the basis of feedback. It is intended that the system remains simple and workable; therefore, it has been written for use by personnel trained to the level indicated in the MPC. Each MPC contains sufficient detail to permit the average Petty Officer to accomplish the task directly, or with minimal supervision and/or reference to technical manuals. For inexperienced personnel, the procedures are suitable pre-work training aids.

Maintenance scheduling is necessary to provide a clear understanding of the engineering department's maintenance status and can also be an effective tool for improving work force resource utilization. This manual contains a listing of MPCs by periodicity to assist Commands in developing PMS work schedules compatible with individual boat operating schedules. The estimated Task Hrs per Component in the MPC listing were derived from the collective knowledge of personnel experienced in operating and maintaining this class of boats. They are intended to represent the level of effort required to accomplish the MPC, given the necessary tools and parts are at hand.

When the need to calculate total yearly Labor Hours (man hours) arises, i.e., reports, manning studies, etc., the following formula is to be followed: Multiply the number of Personnel times the Task Hrs per Component, times the number of components, times the number of yearly occurrences (a quarterly PMS should be done 4 times a year, monthly 12, weekly 52 and so on). Example: MPC R-Q-030, Inventory Repair Locker, requires 2 personnel and the cutter concerned has 2 repair lockers and it takes 8 hours to inventory each. Multiply 2 personnel, times 2 repair lockers, time 8 hours times 4 occurrences per year, totaling 128 Labor Hours per year performing R-Q-030.

Maintenance procedures are developed and reviewed by qualified personnel with experience in performing the specific tasks described on the MPCs. Commandant (G-SEN) has designated a PMS Coordinator to keep the system current.

Input from the fleet is critical for improvements to the PMS to take place. Review your manuals closely and provide input to the PMS coordinator on which MPCs require adjustment.

Because of special one-of-a-kind installations and other differences that exist within a boat class, individual boats may find MPCs in the manual for equipment or machinery not installed on board. In order to keep the PMS intact and maintain uniformity these MPCs shall remain in the system. They should be marked N/A and retained in the manual until directed otherwise.

Success of PMS depends on the diligence of the station in executing the program and the cooperation of Group, MLC, and ELC personnel in improving maintenance procedures through prompt and timely feedback and MPC revision. As the Preventive Maintenance System advances, it becomes increasingly important that accurate data is captured. Actual hours spent on each task, parts used, and any problems encountered are all critical as these numbers will then drive other initiatives and studies that may affect manning, parts availability and other budgetary issues. For example, if an MPC lists 0.5 hours to complete a specific task, and it actually takes 1.5 hours, this information needs to be captured. If this is a trend throughout the fleet, the card will be updated to reflect the actual times. This will help to ensure that each unit has the appropriate number of personnel and parts to do the job. Recommended revision and/or upgrade of any MPC by an individual unit or cutter will benefit all users of the MPC.

Recommended changes to MPCs and/or recommendations for improving the system may be made by units at any time. Recommended changes shall be submitted by Technical Feedback Report (TFBR) via 017's website. The website is located on the CG Intranet at <http://cgweb.elcbalt.uscg.mil/RCMTigerTeam/PMS/PMS.htm>. Any questions regarding this process should be directed to the PMS Coordinator at 410-762-6628. The purpose of the TFBR process is to ensure proper technical review and tracking of requests prior to the change implementation.

Recommendations should include but are not limited to:

- (1) Elimination of an MPC.
- (2) Addition of new MPCs.
- (3) Change in time requirements.
- (4) Change in skill level requirements.
- (5) Change in number of personnel required.
- (6) Updating tool and material list.
- (7) Revision of the maintenance text.
- (8) Clarification of conflicting information.

Feedback information should include a listing of the MPC number and comments on reasons for the change.



## **TRAILER Class PMS Procedures Index**

<b>MPC #</b>	<b>Equipment</b>	<b>Task Description</b>	<b>Personnel</b>	<b>Number of Components</b>	<b>Job Hrs Per Component</b>
<b>Trailer</b>					
<b>Monthly</b>					
T-M-8871	Trailer	Tire Pressure and Trailer Fluids Inspection	1 MK3	1	0.3
T-M-8878	Trailer	Trickle Charge Battery	1 MK3	1	0.3
<b>SemiAnnual</b>					
T-S-8872	Trailer	Semi-Annual Trailer Maintenance	1 MK3	1	0.1
<b>Annual</b>					
T-A-8869	Trailer	Annual Trailer Inspection	1 MK3	1	0.3
T-A-8870	Trailer	Trailer Hub and Brake Inspection	1 MK3	2	1
T-A-8873	Trailer	Trailer Lubrication	1 MK3	1	1
T-A-8877	Trailer	Hydraulic Brake Fluid Replacement	1 FN 1 MK3	1	1
<b>Conditional</b>					
T-C-8874	Trailer	Underway Checklist	1 FNMK	1	0.1
T-C-8875	Trailer	Pre-Travel Check List	1 E-1 1 MK3	1	0.3
T-C-8876	Trailer	Fresh Water Brake Flush (Boat Trailers Only)	1 MK3	1	0.3



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-M-8871

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Monthly
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 1
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 0.3	<b>APL:</b> 2-909600007
		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Tire Pressure and Trailer Fluids Inspection

**[2] - SAFETY PRECAUTIONS**

1. Avoid direct skin contact with grease and brake fluid, use protective gloves.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Hand Tools

**[5] - CONSUMABLES**

Quantity	Item Name	Stock Number	CAGE	Part Number
1	Rags, Wiping, Cotton Jean	7920 006342408	80244	CCC-C-444 CL1
1	Brake Fluid	9150 001900932	0	DOT-3

**[6] - PARTS**

**[7] - HAZMAT**

Quantity	Item Name
1	Brake Fluid



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-M-8871

**[8] - RELATED MAINTENANCE**

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

1. Check tire pressure using pressure gauge. Inflate tire as necessary IAW tire sidewall (include spare).
2. Inspect all brake line connections and hoses for signs of leaks, kinks, corrosion, cracking etc. Replace hoses as necessary.
3. Inspect brake reservoir level.
4. Low level indicates possible leak in system. Inspect brake system and fix as necessary.
5. If reservoir is low add brake fluid IAW reference from new, un-opened container.
  - a. Clean area around brake cylinder fill to keep dirt and debris out of container.
  - b. Add brake fluid to max mark on reservoir.
  - c. Bleed brakes IAW Reference. Starting at the furthest brake from the primary cylinder.

**NOTE:** Make sure brake fluid does not fall below min mark while bleeding brakes. If fluid does fall below min mark re-bleed all brakes.

6. Return trailer to previous operational condition.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-M-8878

**[1]**

**Work Center:**

**System:** Transportation & Handling

**Component:** Trailer

**Personnel:** 1 MK3

**Class:** Trailer

**Subsystem:** Special Handling Equip

**ESWBS:** 5833

**Task Hrs/Component:** 0.3

**Frequency:** Monthly

**Periodicity Event:**

**Number of Components:** 1

**APL:** 2-909600007

72290740A1

95192070A1

950MYL00A1

950MYL00A2

950MYL00A3

893EE990A1

**Procedure Description:** Trickle Charge Battery

**[2] - SAFETY PRECAUTIONS**

1. Do not allow sparks or open flame near Battery.
2. Battery acid is corrosive, wear face shield and rubber apron.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Trickle Charger
1	Battery Brush
1	Hand Tools
1	Face shield
1	Rubber Apron

**[5] - CONSUMABLES**

**[6] - PARTS**



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-M-8878

**[7] - HAZMAT**

**[8] - RELATED MAINTENANCE**

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** Battery Acid is corrosive. Wear face shield and rubber apron to shield against acid.

**NOTE:** Batteries emit hydrogen gas while charging. Hydrogen gas is HIGHLY flammable. Do not allow sparks, open flame or smoking near battery.

1. Gain visual access to battery terminals.
2. Check battery posts for signs of corrosion.
3. Ensure batteries are properly secured in protective boxes and that boxes are free of excessive damage.
4. Fully charge battery using trickle charger.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-S-8872

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Semi-Annually
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 1
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 0.1	<b>APL:</b> 2-909600007
		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Semi-Annual Trailer Maintenance

**[2] - SAFETY PRECAUTIONS**

1. Avoid direct skin contact with grease and brake fluid, use protective gloves.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Tire Depth Gauge

**[5] - CONSUMABLES**

Quantity	Item Name	Stock Number	CAGE	Part Number
1	Rags, Wiping, Cotton Jean	7920 006342408	80244	CCC-C-444 CL1

**[6] - PARTS**

**[7] - HAZMAT**

**[8] - RELATED MAINTENANCE**



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-S-8872

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** This procedure applies to all tires including the spare.

1. Check tire tread depth using tread depth gauge or wear bars on tire where applicable. Replace tire when tread depth reaches 3/32" or less.
2. Inspect tread for abnormal tread wear: cupping, edge wear, center wear, flat spots etc.
3. Clean and Inspect brake hose for cracking, wear, leaks, etc.
4. Ensure brake hose is properly supported and protected from possible damage.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-A-8869

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Annually
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 1
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 0.3	<b>APL:</b> 2-909600007
		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Annual Trailer Inspection

**[2] - SAFETY PRECAUTIONS**

1. Beware of barbs & fish hooks on cables or safety straps, wear leather gloves.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Hand Tools
2	Wheel Chocks
2	Jack Stand

**[5] - CONSUMABLES**

**[6] - PARTS**

**[7] - HAZMAT**

**[8] - RELATED MAINTENANCE**



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-A-8869

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** This procedure is best performed while the trailer is empty (no cargo).

1. Support tongue of trailer and chock wheels on both sides of trailer to prevent movement.
2. Inspect frame of trailer for: cracked welds, corrosion, and broken or loose bolts.
3. Inspect frame members for bends or other deformation.
4. Inspect frame for loss of protective coating. Renew as needed.
5. Inspect wire rope on winch and hook (where fitted) for broken strands, rust, kinks, deformation, or other signs of damage. Replace wire rope and hook if any signs of damage exist.
6. Inspect tie down attachment locations for signs of damage, cracks.
7. Inspect safety chains (cables) for corrosion, cracking, wear, etc. Replace as necessary.
8. Return trailer to previous operational condition.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 3

MPC SERIAL NUMBER

T-A-8870

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Annually
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 2
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 1	<b>APL:</b> 2-909600007
		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Trailer Hub and Brake Inspection

**[2] - SAFETY PRECAUTIONS**

1. Avoid direct skin contact with grease and brake fluid, use protective gloves.
2. Jacking should be done on a hard, level surface
3. Use jack stands to support elevated trailer.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Grease Gun
1	Hydraulic Jack
1	Hand Tools
2	Wheel Chocks
2	Jack Stand
1	Gloves, Rubber Protective
1	Wrench, Torque
1	Dial Indicator

**[5] - CONSUMABLES**



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 3

MPC SERIAL NUMBER

T-A-8870

Quantity	Item Name	Stock Number	CAGE	Part Number
1	Grease, Lithium-base High Melt	0 0	0	Penzoil 705 or equivalent
1	Rags, Wiping, Cotton Jean	7920 006342408	80244	CCC-C-444 CL1

**[6] - PARTS**

**[7] - HAZMAT**

Quantity	Item Name
1	Grease

**[8] - RELATED MAINTENANCE**

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** If possible perform this maintenance with the trailer empty.

1. Chock wheels on the opposite side being worked on; wheels should be chocked front and back preventing movement.
2. Position jack behind the rear axle, and raise wheels until clear of the ground.
3. Position jack stands on the frame ahead of and behind the raised wheels. Release jack so that frame is resting on jack stands.
4. Spin wheel and listen for any unusual noise, feel the wheel for roughness, binding or uneven movement.  
If any of these conditions exist the bearing will have to be taken apart for further inspection and possible renewal.  
A quiet and smooth rotation indicates that bearings are in good condition.
5. Check wheel-bearing adjustment by gripping the edges of the wheel to see if it rocks or moves. If wheel moves at all, make adjustments to spindle nut IAW reference

**NOTE:** DO NOT ROTATE THE HUB during this procedure.

**NOTE:** Over tightening the spindle nut will cause premature bearing wear.

- a. Torque spindle nut to 50 ft-lbs to pull the bearing together.
- b. Loosen the spindle nut to remove the torque.
- c. Hand tighten spindle nut.
- d. Repeat steps 4 & 5. If hub can not be properly adjusted it should be taken apart for further inspection and possible renewal.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 3 of 3

MPC SERIAL NUMBER

T-A-8870

6. Brake inspection. Perform either the disc brake or drum brake procedure as installed on trailer.  
DISK BRAKE INSPECTION (As applicable):
  - a. Check brake pads for wear, IAW reference.
  - b. Inspect rotor for: gouges, cracks, pitting or other abnormal wear.
  - c. Measure run-out of brake disc using dial indicator. Run-out should be less than 0.004"
  - d. Inspect brake mechanism for corrosion, cracks, pitting or other damage.  
DRUM BRAKE INSPECTION (As applicable):
  - a. Remove tire and wheel assembly.
  - b. Remove hub and drum assembly and inspect for abnormal wear.
  - c. Test operation of free backing mechanism, if fitted.
  - d. Inspect brake shoes and cluster for excessive corrosion and wear.
  - e. Measure Run-out of brake drum using dial indicator. Run-out should be less than 0.0066.
  - f. Reinstall hub and drum assembly.
  - g. Adjust brake shoes IAW reference.
  - h. Reinstall tire and wheel assembly
7. Grease hub carefully IAW reference, monitor grease exiting spindle to ensure that grease is free of water or other contaminants. If the grease is contaminated the bearing will have to be taken apart for further inspection and possible renewal.
8. Torque wheel lug nuts IAW Reference.
9. Inspect surge brake mechanism, primary cylinder, (if fitted) for corrosion, cracks, pitting, sticking or other damage, etc.
10. Test operate surge brake mechanism.
11. Return to prior operational condition.
12. Complete procedures 1 through 9 on remaining wheels.
13. Inspect brake hydraulic lines for leaks, corrosion, kinks, wear, abrasion, etc. Brake lines must be replaced if any of these conditions are found.
14. Return trailer to operational condition.
15. Verify operation of brakes by test operating brakes in controlled environment (parking lot) while towing at slow speed.
16. Return trailer to previous operational condition.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-A-8873

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Annually
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 1
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 1	<b>APL:</b> 2-909600007
		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Trailer Lubrication

**[2] - SAFETY PRECAUTIONS**

1. Avoid direct skin contact with grease and brake fluid, use protective gloves.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Grease Gun

**[5] - CONSUMABLES**

Quantity	Item Name	Stock Number	CAGE	Part Number
1	Grease, General Purpose	9150 001491592	0	MIL-G-24508
1	Rags, Wiping, Cotton Jean	7920 006342408	80244	CCC-C-444 CL1

**[6] - PARTS**

**[7] - HAZMAT**

Quantity	Item Name
1	Grease



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-A-8873

**[8] - RELATED MAINTENANCE**

A-A-8870 Trailer Hub and Brake Inspection

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** This procedure does not address hub lubrication See related maintenance.

1. Support tongue of trailer and chock wheels on both sides of trailer to prevent movement.
2. Lubricate coupler and surge brake mechanism where applicable.
3. Lubricate winch if fitted and applicable.
4. Lubricate and fully cycle jack(s).
5. Lubricate hinges where applicable.
6. Lubricate all other bearings where applicable.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 3

MPC SERIAL NUMBER

T-A-8877

**[1]**

<b>Work Center:</b>	<b>Class:</b> Trailer	<b>Frequency:</b> Annually
<b>System:</b> Transportation & Handling	<b>Subsystem:</b> Special Handling Equip	<b>Periodicity Event:</b>
<b>Component:</b> Trailer	<b>ESWBS:</b> 5833	<b>Number of Components:</b> 1
<b>Personnel:</b> 1 MK3	<b>Task Hrs/Component:</b> 1	<b>APL:</b> 2-909600007
1 FN		72290740A1
		95192070A1
		950MYL00A1
		950MYL00A2
		950MYL00A3
		893EE990A1

**Procedure Description:** Hydraulic Brake Fluid Replacement

**[2] - SAFETY PRECAUTIONS**

1. Avoid direct contact with brake fluid. Use protective gloves and safety glasses.

**[3] - REFERENCES**

1. Manufacturer's Technical Manual

**[4] - TOOLS**

Quantity	Item Name
1	Hand Tools
1	Hose 5/16" ID approx 2' long
1	Container, clear, 1 qt. or larger

**[5] - CONSUMABLES**

Quantity	Item Name	Stock Number	CAGE	Part Number
1	Brake Fluid	9150 001900932	0	DOT-3

**[6] - PARTS**

**[7] - HAZMAT**

Quantity	Item Name
1	Brake Fluid



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 3

MPC SERIAL NUMBER

T-A-8877

**[8] - RELATED MAINTENANCE**

**[9] - LOCATION**

Unit Designated

**[10] - PROCEDURE**

**NOTE:** Brake fluid is toxic. Dispose of properly.

1. Drain Brake Fluid.
  - a. Drain procedure.
2. Bleed Brake System.
  - a. Fill the brake coupler master cylinder reservoir with new unused brake fluid.
  - b. Next go to the brake cluster wheel cylinder farthest from the master cylinder in the tubing sequence.
  - c. Push the 5/16" piece of hose onto the bleed valve barb. Open the barbed bleed valve on that wheel cylinder one turn, with a 3/8" open end wrench.
  - d. Insert free end of tubing into fluid receiving container. Set the fluid receiving container on top of the trailer fender or at some point above the wheel cylinder.

**NOTE:** The fluid receiving container must be above the wheel cylinder so that any bubbles trapped in the bleed hose will flow up away from the wheel cylinder, not back towards it.

- e. Going back to the brake coupler, insert a large screwdriver into the 1/2" dia hole in the coupler under the nut on the pushrod which extends out the front of the brake coupler housing. With your screw driver in place in this hole, you can use a back and forth motion to apply levered pressure directly to the master cylinder pushrod, by passing the coupler and shock damper mechanism.
- f. Remove the cap on the master cylinder reservoir and using small 1/2" forward and backward strokes on the screwdriver, you will begin purging air from the piston portion of the master cylinder assembly. Bubbles will rise from a small hole in the bottom of the reservoir. As you continue with the 1/2" back and forth motion, bubbles will continue to rise until the piston portion of the cylinder is full of brake fluid. Only when you have No more bubbles rising in the master cylinder reservoir should you begin long strokes on the screwdriver to pump fluid toward the wheel cylinders.

**NOTE:** Once you have the piston portion of the master cylinder full of brake fluid and no more bubbles are rising in the reservoir, USE CAUTION. Do not look directly down into the reservoir while pumping the push rod. The brake fluid will squirt up with considerable force during the first part of each pump stroke. Don't let it hit you in the face. Set the filler cap on top to control this



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 3 of 3

MPC SERIAL NUMBER

T-A-8877

squirt.

- g. Now as you pump brake fluid into the system, you will begin to see it arrive at the fluid receiving container. (CAUTION - Never let the reservoir fall below 1/2 full during the bleeding process) If the fluid gets too low and sucks air down into the piston of the master cylinder, you must start over and the new air just sucked in and all brake fluid already in the system will need to be purged out. As you pump fluid thru the system, the bubbles you have been seeing in the fluid receiving container will cease. This indicates that you have completely filled the system with brake fluid.
  - h. Now, with the bleed hose still on the bleed valve barb, close and tighten the bleed valve. Remove the hose and go to the wheel cylinder on the other side of the trailer and repeat the process. After completion of the bleeding process, refill the master cylinder reservoir and reinstall the reservoir fill cap and tighten.
  - i. Next, apply pressure to the push rod and hold hard pressure on the screwdriver for five or ten seconds. This will develop maximum hydraulic pressure on the system, and make it easy for you to see fluid if you have any leaks. After totally checking the system for leaks, you are now ready to adjust the brakes.
3. Adjust Brakes (Drum Brakes Only).
- a. Remove the plug from the brake adjusting slot and insert a brake adjusting tool or screw driver in the slot and back off on the star nut on the brake adjusting screw inside the brake cluster.
  - b. As you back off on the brake adjusting screw, rotate the wheel and tire slowly forward. Continue to back off the star nut and rotate the wheel until you cannot turn the tire and rim by hand.
  - c. At this point reverse your tool and tighten back in about eight to ten clicks on the star adjusting nut. This will have your brakes adjusted to their optimum set point. As you turn the wheel now you should hear a slight dragging of the shoes the drum.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-C-8874

[1]

**Work Center:**

**System:** Transportation & Handling

**Component:** Trailer

**Personnel:** 1 FNMK

**Class:** Trailer

**Subsystem:** Special Handling Equip

**ESWBS:** 5833

**Task Hrs/Component:** 0.1

**Frequency:** Conditional

**Periodicity Event:** Every Fuel Stop

**Number of Components:** 1

**APL:** 2-909600007

72290740A1

95192070A1

950MYL00A1

950MYL00A2

950MYL00A3

893EE990A1

**Procedure Description:** Underway Checklist

[2] - SAFETY PRECAUTIONS

1. Use caution while feeling for heat build up. Hot components could cause serious burns.

[3] - REFERENCES

[4] - TOOLS

[5] - CONSUMABLES

[6] - PARTS

[7] - HAZMAT

[8] - RELATED MAINTENANCE

[9] - LOCATION

Trailer

[10] - PROCEDURE



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-C-8874

**NOTE:** Procedure should be performed during every fuel stop (approx. 3-4 hours while towing).

**NOTE:** Perform the following procedure as soon after stopping as possible.

1. Feel Tires for excessive heat build up as soon as possible after stopping.
2. Visually inspect all tires for signs of under / over inflation.
3. If hubs do NOT have brakes. Feel hub fore excessive heat build.
4. Inspect cargo tie downs for damage and correct tightness



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

08 Dec 2005

Page 1 of 2

MPC SERIAL NUMBER

T-C-8875

[1]

**WorkCenter:**

**Class:** Trail

**Frequency:** Conditional

**System:** Transportation & Handling

**Subsystem:** Special Handling Equip

**Periodicity Event:** See MPC Note

**Component:** Trailer

**ESWBS:** 5833

**Number of Components:** 1

**Personnel:** 1 MK3

**Task Hrs/Component:** 0.3

**APL:** 2-909600007

1 E-1

72290740A1

95192070A1

950MYL00A1

950MYL00A2

950MYL00A3

893EE990A1

**Procedure Description:** Pre-Travel Check List

[2] - SAFETY PRECAUTIONS

[3] - REFERENCES

1. Manufacturer's Technical Manual

[4] - TOOLS

[5] - CONSUMABLES

[6] - PARTS

[7] - HAZMAT

[8] - RELATED MAINTENANCE

[9] - LOCATION

Trailer



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

08 Dec 2005

Page 2 of 2

MPC SERIAL NUMBER

T-C-8875

**[10] - PROCEDURE**

**NOTE:** This procedure is to be performed before the start of every trip.

**NOTE:** Perform brake tests in a controlled environment (parking lot) at a safe speed.

1. Check tire pressure using pressure gauge. Inflate tire as necessary IAW tire sidewall (include spare).
2. Verify that the tow vehicle is rated to tow the trailer (Towing Capacity vs GVW of trailer).
3. Test operate emergency (brake away) brake operation.
4. Clean all corrosion from plug and inspect plug and wire for frays and other damage.
5. Verify the coupler and hitch is of compatible size and design.
6. Attach Trailer to tow vehicle.
7. Inspect coupling, safety chains for proper operation.
8. Plug trailer into tow vehicle and test operation of running, park, left turn and right turn lamps.
9. Inspect trailer, including signs of leaking brake fluid, damage to trailer and tire condition (include spare).
10. Inspect cargo tie-downs for damage and proper tension.
11. Attach emergency breakaway actuator to tow vehicle where fitted.
12. Inspect emergency brake actuator for damage where fitted.
13. Test operation of brakes by stopping 2 to 3 times at progressively higher speeds until proper brake operation is verified.
14. Test operation of reversing brake lock out by driving in reverse for a short distance.



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 1 of 2

MPC SERIAL NUMBER

T-C-8876

[1]

**Work Center:**

**System:** Transportation & Handling

**Component:** Trailer

**Personnel:** 1 MK3

**Class:** Trailer

**Subsystem:** Special Handling Equip

**ESWBS:** 5833

**Task Hrs/Component:** 0.3

**Frequency:** Conditional

**Periodicity Event:** See MPC Note

**Number of Components:** 1

**APL:** 2-909600007

72290740A1

95192070A1

950MYL00A1

950MYL00A2

950MYL00A3

893EE990A1

**Procedure Description:** Fresh Water Brake Flush (Boat Trailers Only)

[2] - SAFETY PRECAUTIONS

[3] - REFERENCES

1. Manufacturer's Technical Manual

[4] - TOOLS

Quantity	Item Name
1	Hose

[5] - CONSUMABLES

[6] - PARTS

[7] - HAZMAT

[8] - RELATED MAINTENANCE

[9] - LOCATION

Unit Designated



**MAINTENANCE PROCEDURE  
CARD (MPC)**

DATE

19 Apr 2005

Page 2 of 2

MPC SERIAL NUMBER

T-C-8876

**[10] - PROCEDURE**

**NOTE:** This procedure is for trailer boat trailers after being immersed in salt water.

**NOTE:** This procedure is to be preformed after every wet salt water launch / recovery.

1. Rinse brakes using fresh water.

**NOTE:** Use fresh water flush attachment if fitted.

2. Rinse rest of trailer and boat with fresh water to remove salt.