



Equipment Maintenance Checklist

FWD / HWD



FWD / HWD TOW VEHICLE
FWD / HWD TRAILER
ELECTRICAL SYSTEM
HYDRAULIC SYSTEM
MECHANICAL COMPONENTS
SYSTEM OPERATION



Checklist Form

Equipment Maintenance Checklist	
Date: _____	Technician: _____
Unit _____ FWD/HWD	
ELECTRICAL	
Check the following items:	
_____ 1 Electronics battery.	Voltage _____
_____ Check Water Level	Yes _____ No _____
Clean Terminals, Charge if Necessary	
_____ FWD 8D Battery	Voltage _____
_____ 2 Inspect and clean ground lugs on FWD trailer	
_____ 3 Inspect and clean fuse block if necessary	
_____ 4 Check all cables (Dim plugs at manual control box or CP15 Unit. (whichever is applicable.	
_____ 5 Remove and inspect Hydraulic motor brush sets and replace if necessary.	
_____ 6 Check proximity switches for cracks, chips, nicks.	
_____ 7 Wheel Encoder Proximity Switches	
HYDRAULIC	
Check the following items:	
_____ 8 Hydraulic Fluid Level (Note unit in transport mode.)	
_____ 9 Check Areas around hydraulic manifold for leaks. (Make repairs if needed.)	
_____ ...Fluid levels (Top if needed)	
_____ ...Bleed Hydraulic System of Air. (Note: refer to LTPP maint. Manual or Dynatest Manual.)	
_____ 10 Lubricate Upper Catch Assembly	
MECHANICAL	
Check the following items:	
_____ 11 Lubricate Guide Rollers.	
_____ 12 Grease Load Cell	
_____ 13 Lubricate Geophone foam guides	
_____ 14 Lubricate Raise Lever Bar pulleys	
_____ 15 Raise/Lower Bar Cable	
_____ 16 Clean Geophone Magnets with Scotch Brite pad	
_____ 17 Inspect Buffers of cracks, make sure buffer handles are tight	
_____ 18 Inspect Geophone holder contact tips and springs.	
SYSTEM OPERATION	
_____ 19 Equipment Set up # Drops, Drop heights, Load Levels Etc.	
_____ 20 Ensure Park Alarm is Functioning Correctly	
_____ 21 Conduct Buffer Warm Ups (2) Sets	
_____ 22 Verify Results	
_____ 23 Final System Shut Down	
_____ 24 Secure Equipment	
_____ 25 Prepare to Travel	



Checklist Form

Equipment Maintenance Checklist	
Date: _____	Technician: _____
Unit _____	TOW VEHICLE # _____
_____	TOW VEHICLE MILEAGE _____
TOW VEHICLE	
Check the following items:	
_____ 1	Vehicle fluid levels
_____ 2	Engine Drive Belt Condition
_____ 3	Tire Condition
_____	...Air pressure Good
_____	...PSI
_____ 4	Lights
_____	...Overhead Strobes
_____	...Turn Signals
_____	...Brake Lights
_____ 5	Battery Water Level (if applicable)
_____ 6	Battery Terminals (Clean if Needed)
_____ 7	Vehicle Charging System Output
_____	...Note: Volting _____
_____ 8	Trailer hitch Receiver
_____	...Proper ball size (Normally 2")
FWD/HWD Trailer Only	
Check the following items:	
_____ 9	Tire Condition
_____	...Air pressure Good
_____	...PSI
_____ 10	Lights
_____	...Beacon
_____	...Turn Signals
_____	...Brake Lights
_____ 11	Backup alarm
_____ 12	Surge Brake Fluid Reservoir
_____	...Full
_____ 13	Brake Hitch assembly
_____	...Working
_____	...Lubricated
_____ 14	Bolts
_____	...Boltes Tightened (Replace if Necessary)
_____ 15	Trailer Tire Lug Nuts
_____	...Good Condition
_____	...Torque
_____ 16	Brake Away Cable
_____	...Good Condition
_____ 17	Safety Chains
_____	...Good Condition
_____	Attached to Vehicle Hitch Correctly (chris/cross chains)



FWD / HWD TOW VEHICLE



FWD / HWD TOW VEHICLE

- Routine Vehicle Inspection
- Check All Fluid Levels
- Check Tire Condition – Air Pressure
- Check Lights
- Check Strobe Lights or Beacons
- Inspect Engine Drive Belt(s)
- Inspect Receiver Hitch for Loose or Missing Bolts
- Check Vehicle Charging System



Vehicle Checks





FWD / HWD ELECTRICAL SYSTEM



FWD / HWD Electrical

- Electronics Battery
Check

- Voltage
- Water Level
- Clean Terminals
 - Charge if necessary
- FWD 8D Battery
- Voltage
- Water Level
- Clean Terminals
 - Charge if necessary





FWD / HWD Electrical

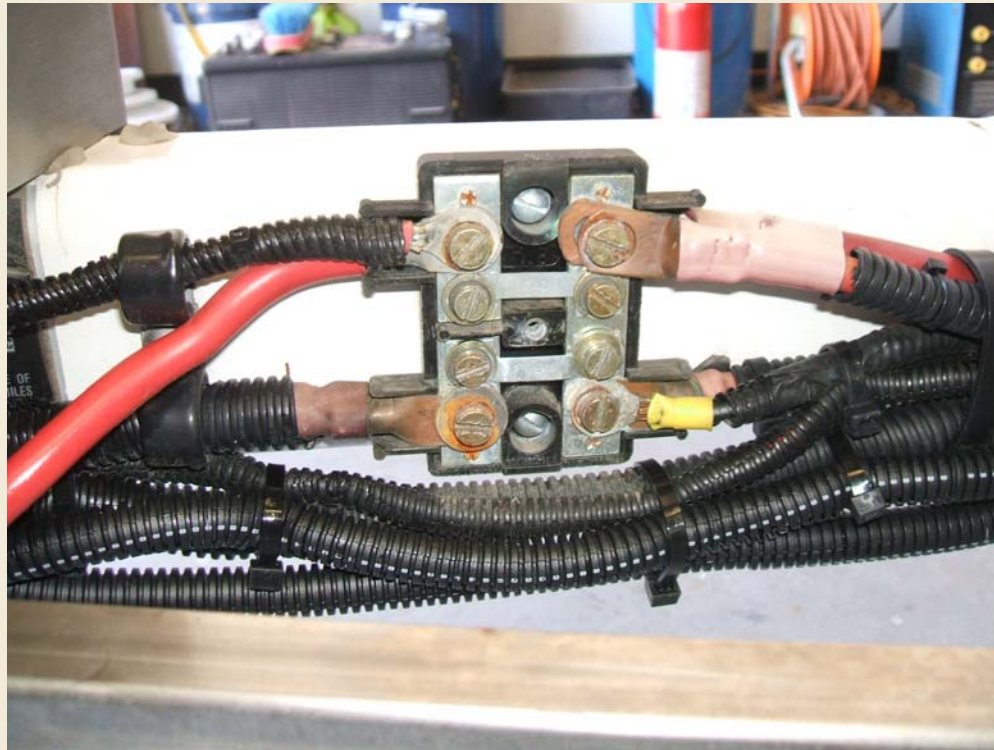
- Ground Lugs
 - Inspect and Clean





FWD / HWD Electrical

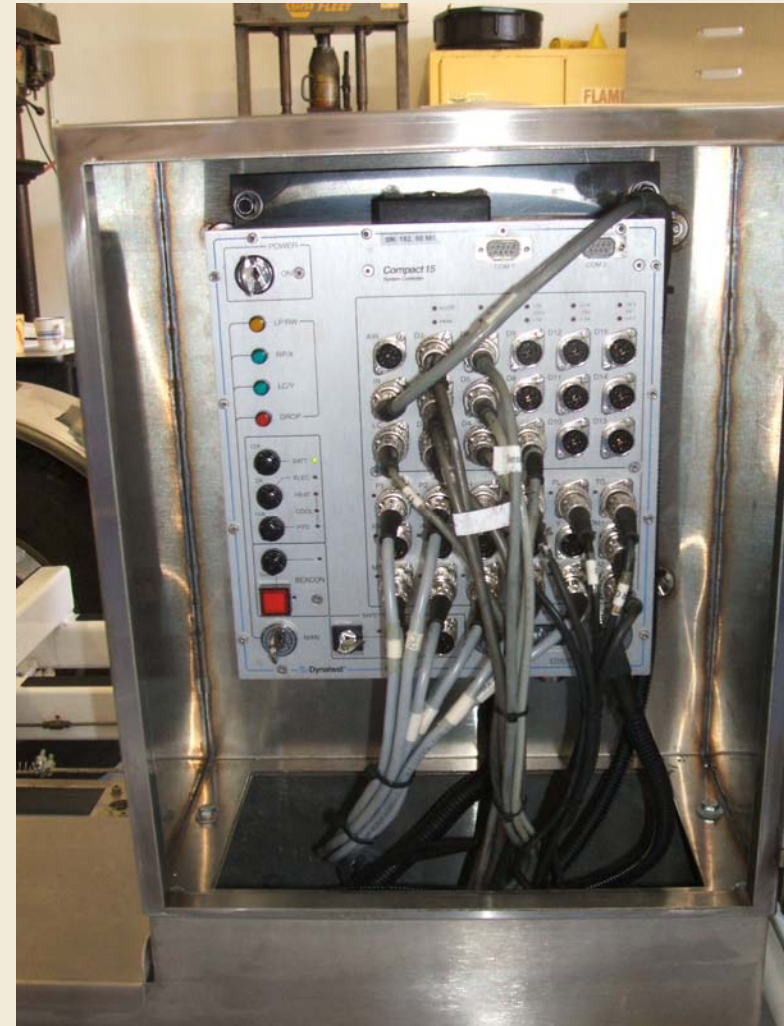
- Fuse Box
 - Inspect and Clean if Necessary





FWD / HWD Electrical

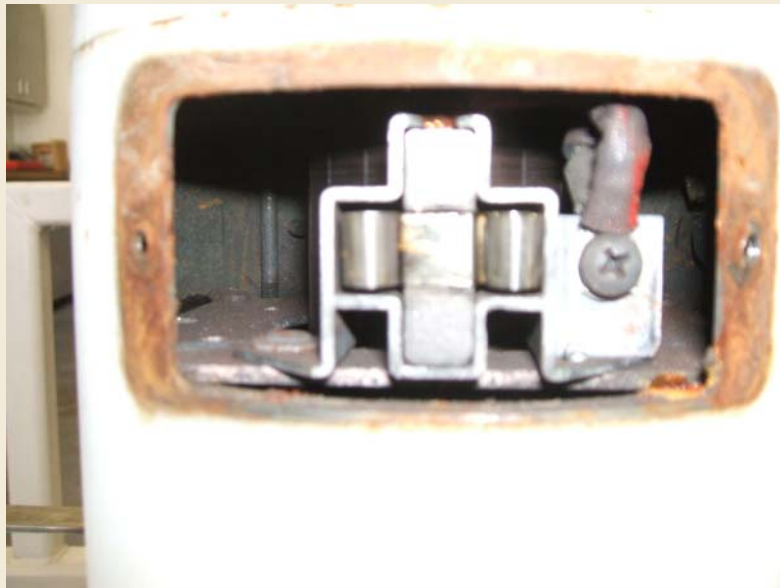
- Cables
 - Dim Plugs at Manual Control Box or CP15 Unit (Whichever is Applicable.)





FWD / HWD Electrical

- Hydraulic Motor Brush Sets
 - Inspect
 - Replace if Necessary





FWD / HWD Electrical

- Proximity Switches
 - Check for
 - Cracks
 - Chips
 - Nicks





FWD / HWD Electric

Distance Measuring

- Wheel Encoder Proximity Switches
(If Equipped)
 - Check for
 - Cracks
 - Chips
 - Nicks





FWD / HWD Electric

Check Voltage Output at Alternator (Self Powdered Units)





FWD / HWD HYDRAULIC SYSTEM



FWD / HWD Hydraulic

- Hydraulic Fluid Level
 - Note: Check with FWD in Transport Position





FWD / HWD Hydraulic

- Hydraulic Manifold
 - Check Hydraulic Manifold Assembly for Leaks
 - Make Repairs if Needed
 - Check Fluid and Top Off if Needed
 - Bleed Hydraulic System if Needed
 - Monitor Pressure Gage Reading During Buffer Warm Ups
 - General Visual Inspection of Center Cylinder and Side Cylinders
 - Inspect for Leaks, repair accordingly

Refer to LTPP Maintenance Manual or Dynatest Manual for Bleeding Instructions.





FWD / HWD Hydraulic

- Lubricate Upper Catch Assembly





FWD / HWD MECHANICAL COMPONENTS



FWD / HWD Mechanical

- Lubricate Guide Rollers





FWD / HWD Mechanical

- Check Load Cell Attaching Brackets





FWD / HWD Mechanical

- Inspect Ribbed Sheet, Replace if Necessary





FWD / HWD Mechanical

- Lubricate Center Cylinder





FWD / HWD Mechanical

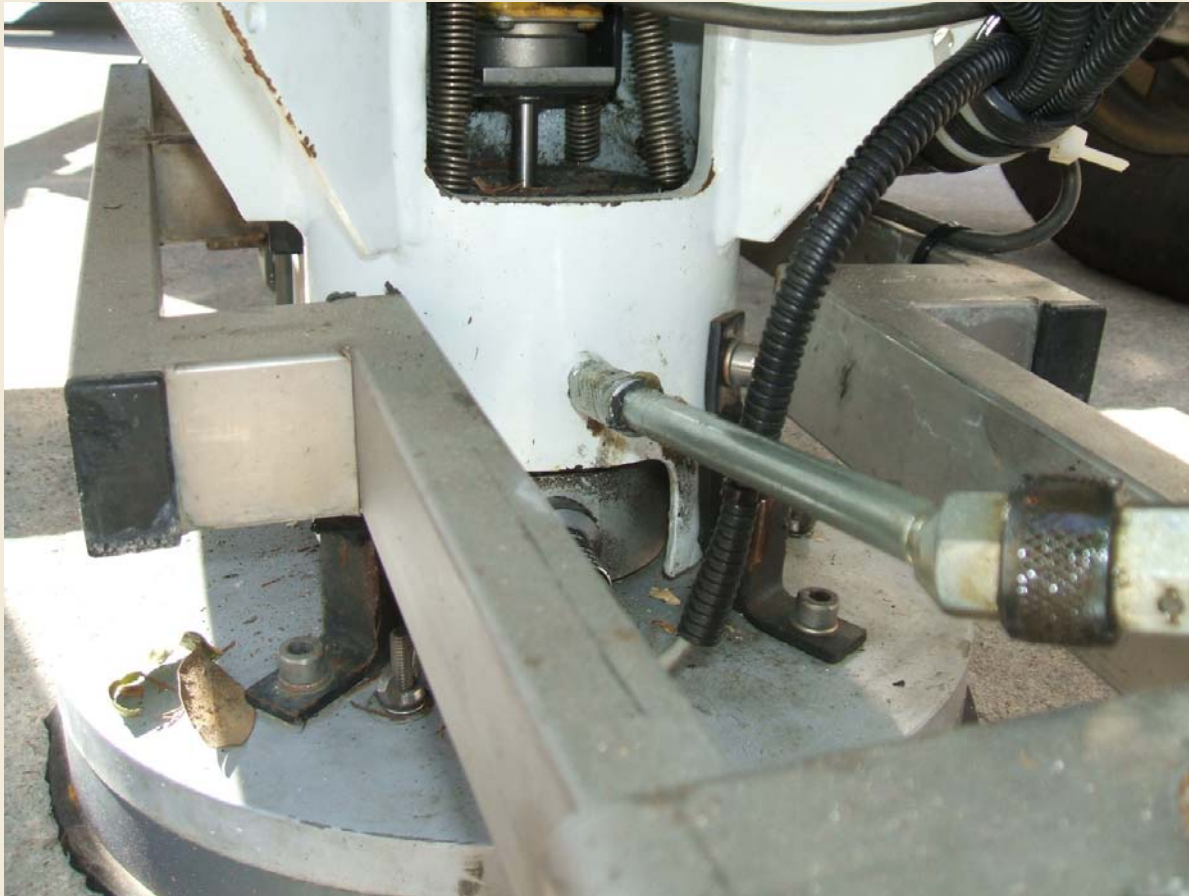
- Check Oil Level on Generator
(Self Powered Units)





FWD / HWD Mechanical

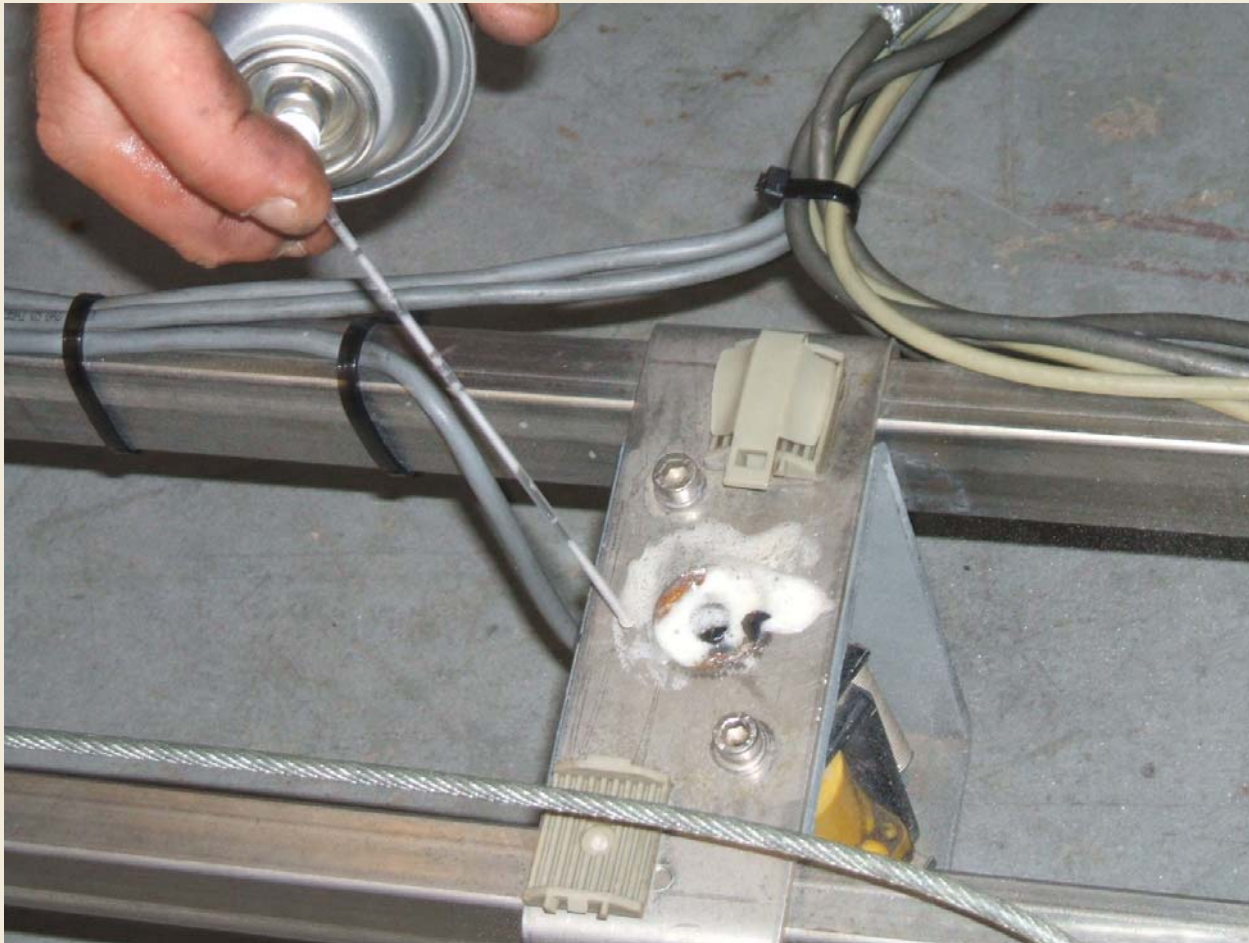
- Grease Load Cell





FWD / HWD Mechanical

- Lubricate Geophone Foam Guides





FWD / HWD Mechanical

- Lubricate Raise Lower Bar Pulleys





FWD / HWD Mechanical

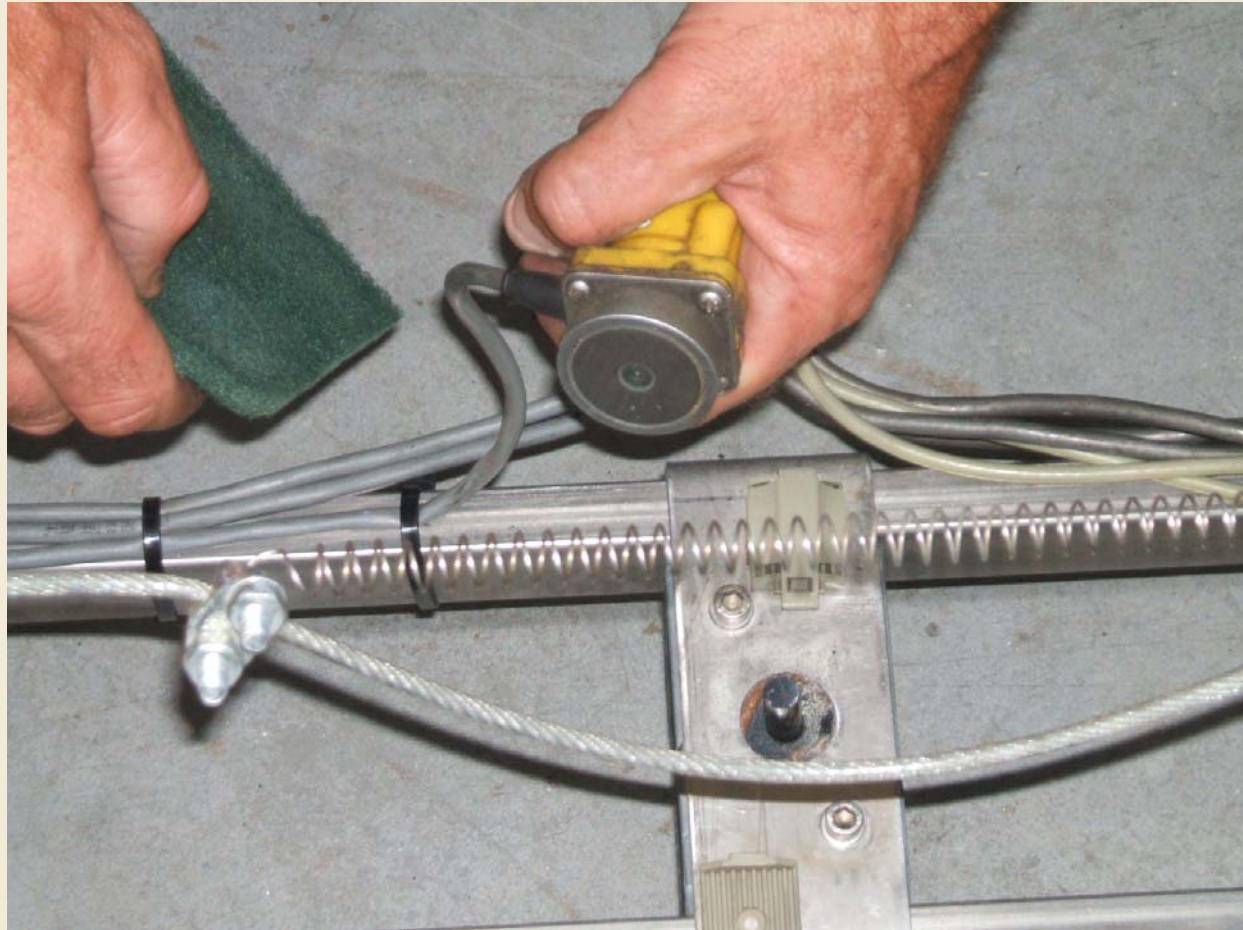
- Inspect Raise Lower Bar Cable





FWD / HWD Mechanical

- Geophone Magnets
 - Clean with Scotch Brite Pad





FWD / HWD Mechanical

- Buffers
 - Insure Buffer Handles are Tight
 - Inspect Buffers for Cracks
 - Make Sure Buffers Are Correctly Seated

INCORRECT



CORRECT





FWD / HWD Mechanical

- Geophone Holder
 - Inspect Contact Tips & Springs
 - Inspect and Clean Holder Clamping Disk with Scotch Brite Pad if Needed





FWD / HWD TRAILER



FWD / HWD Trailer Only

- Safety Chains
 - Good Condition
 - Correctly Attached with Chains Cris-Crossed

INCORRECT



CORRECT





FWD / HWD Trailer Only

- Trailer Brake Hitch Assembly
 - Inspect for Loose, Broken or Missing Bolts.
 - Lubricate Hitch Assembly
 - Make Sure Breakaway Cable is in Good Condition and Properly Attached
 - Check Correct Trailer Height (Could Effect R/L Bar Contact with Ground)





FWD / HWD Trailer Only

- Lights
 - Beacon
 - Turn Signals
 - Brake Lights
- Tire Condition
 - Air Pressure – Refer to Manufacturer rating on Tire Side Wall
 - PSI – Check Tires for Wear
- Backup Alarm

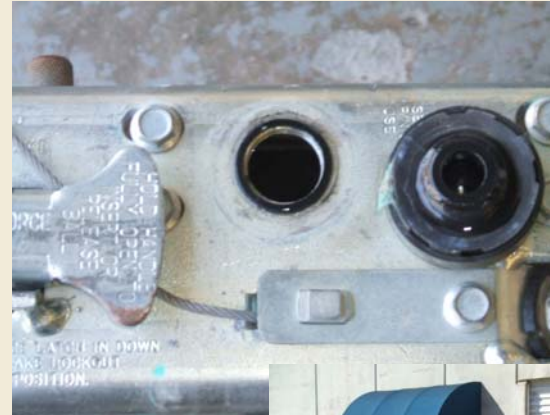




FWD / HWD Trailer Only

TRAILER

- Master Cylinder for Surge Brakes
Fluid Reservoir Level
Check for Leaks
Add Fluid if Necessary
- General Inspection for Loose or Missing Bolts and Nuts on Trailer and Subassembly Unit
- Tire Lug Nuts
 - Lug Nuts Torqued / Checked
 - (As Per Manufacturers Recommendations)





FWD / HWD SYSTEM PRE TRIP OPERATION



FWD / HWD System Operation

FWD Project Equipment Configuration Sheet		Date: _____
Unit #: _____		Operator: _____
Project #: _____	Task #: _____	Project Manager: _____
Contact Name: _____	Phone #: _____	
<small>(client)</small>		
Sensor Setup		
___ SHRP	1 - 0 in. 2 - 8 in. 3 - 12 in. 4 - 18 in. 5 - 24 in. 6 - 36 in. 7 - 60 in.	
___ TxDOT	1 - 0 in. 2 - 12 in. 3 - 24 in. 4 - 36 in. 5 - 48 in. 6 - 60 in. 7 - 72 in.	
___ Load Transfer	1 - 0 in. 2 - (-12) in. 3 - 12 in. 4 - 18 in. 5 - 24 in. 6 - 36 in. 7 - 60 in.	
___ Other	1 - ____ 2 - ____ 3 - ____ 4 - ____ 5 - ____ 6 - ____ 7 - ____ 8 - ____ 9 - ____	
Sensors Setup by _____ (Operator) Sensors Checked by _____ (Proj. Engr./Field Ops Mngr.)		
<small>Initials Date Initials Date</small>		
Verify header setup on project data collection file.		
Load Package		Other Test Parameters
<u># Drops</u>	<u>Load (kips)</u>	Approx. # of Test Points _____
_____	_____	Test Spacing _____
_____	_____	Collect Load Transfer _____
_____	_____	Collect Time History _____
_____	_____	Other _____
Attach List of Roads to be Tested as Necessary		
Each of the following MUST be collected in addition to Deflection data:		
Functionality Checks	By	Verified
1. GPS Coordinates	_____	_____
2. Surface Temperature	_____	_____
3. Air Temperature	_____	_____
4a. Internal Pavement Temperature (Asphalt Pavements only)	_____	_____
4b. Depth of measurement of internal pavement temperature (pack drill)	_____	_____
5. DMI	_____	_____
Special Instructions		

If maps are not provided prior to testing, draw sketch of testing on additional sheets. Include north arrow, direction of all test files, start/stop of each file. Use as many sheets as necessary. Include landmarks such as buildings, interchanges, edge of pavement, etc. Please sketch test patterns, etc. on provided maps.

Office use only	Record No. _____
	Entered By _____
	Date _____

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FWD / HWD System Operation

- Equipment Set up # Drops, Drop heights, Load Levels Etc.
- Ensure Park Alarm is Functioning Correctly
- Conduct Buffer Warm Ups (2) Sets
- Verify Results
- Finally System Shut Down
- Secure Equipment
- Prepare to Travel

(Estimated time to conduct maintenance checks, approximately 2.5 hours)