

**MAINTENANCE  
MANUAL  
for  
MODEL 6290  
TANK GAUGING SYSTEM**

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## 1 INTRODUCTION

This "Maintenance Manual" describes the procedures involved in routine maintenance for the Model 6290 (M6290) Tank Gauging System. The general description of the system and operation instructions are contained in the "Operation" section of the manual. Procedures for corrective maintenance are found in the "Fault Finding/Correction" section.

This section of the manual contains basic periodic inspection information pertaining to the M6290 system. Because many of the system components are installed in remote locations that are subject to harsh environmental conditions, periodic inspection may identify possible problem areas before they actually produce equipment malfunction. While common sense procedures associated with mechanical and electronic equipment should be followed, the recommended maintenance schedule is based on specific information gained from experience in various installations.

Some procedures discussed refer to options and may not apply at each site.

The following tables provide recommended inspection schedules and preventative maintenance/calibration schedules.

## 2 RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE

ACTIVITY	MONTH	SEMI-ANNUAL	ANNUAL	REMARKS
<b>Zener Diode Safety Barriers</b>				Normally located in Control Unit, but may be in a separate location
1) Check that all terminal connections are secure			X	
2) Check that no foreign matter is evident around terminations			X	
<b>Computer Terminal</b>				Optional
1) Check that ribbon cable connectors and connections are fastened securely			X	
2) Check that each key operates freely			X	
3) Vacuum keyboard			X	
4) Clean keyboard housing with lint free cloth and commercial cleaner			X	Do not use solvents or abrasive cleaners
5) Download information from program and top scan cycles and remove files from hardware			X	File names do not specify year , so confusion will result if this is not done.
<b>Printer</b>				Optional
1) Check that ribbon cable connector at rear of printer is fastened securely			X	
2) Clean and vacuum			X	Do not use solvents or abrasive cleaners
3) Run test print			X	Action as necessary
<b>Control Unit</b>				
1) Check that terminals within control unit enclosure are free of foreign matter and are secure		X		Cover of enclosure is secured by socket bolts. Use 6mm wrench to remove. Apply grease to socket bolts and sealing surfaces to protect from corrosion.

**RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE continued**

ACTIVITY	MONTH	SEMI-ANNUAL	ANNUAL	REMARKS
2) Check voltages as specified in faultfinding manual		<b>X</b>		
3) Inspect for any sign of deteriorating components		<b>X</b>		
<b>Drive Mechanism</b>				
1) Check that no gas leaks are evident around cover joints	<b>X</b>			Tighten bolts if required, but <b>DO NOT OVER TIGHTEN</b> . Replace "O" ring if required.
2) Drive probe up to probe enclosure section. This must be done while operating the unit at the tank top to observe the physical location of the probe		<b>X</b>		While driving, listen for any mechanical problems i.e., cable rub.
3) Clean drive mechanism interior and remove any foreign matter		<b>X</b>		Refer to the fault finding/correction section for access procedures.
4) Inspect helical cable, drive wheel and back-up wheel for excessive wear		<b>X</b>		If any signs of abrasion are evident, carry out a full inspection over its entire length.
5) Check that all flexible conduit couplings are tightened securely		<b>X</b>		
6) Check that all reel feedback magnets (total of 24) are secure on flange of cable supply/take-up reel		<b>X</b>		If necessary, replace magnets.
7) Check that reel feedback switch is mounted securely and properly adjusted		<b>X</b>		Use ohmmeter to detect switch operation.
8) Remove cover from cable supply/take-up reel and check condition of: a) Maintaining amplifier b) Ribbon cable and socket assemblies		<b>X</b>		Check that connectors and terminal screws are tight and no corrosion is present.

**RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE continued**

ACTIVITY	MONTH	SEMI-ANNUAL	ANNUAL	REMARKS
9) Check that all support leg mounting hardware on base plate is secure		<b>X</b>		
10) Check drive couplings that there is no backlash in shafting between motor and drive mechanism		<b>X</b>		Temporarily remove boot to gain access to shafting. Rotate shaft by hand to check backlash.
11) Refit cover and check that no gas leaks are evident around cover joints		<b>X</b>		Tighten bolts if required, but <b>DO NOT OVERTIGHTEN</b> . Replace "O" ring if required.
<b>Probe Enclosure</b>				
1) Check for gas leaks around flange faces		<b>X</b>		
2) Check that the viewing window is not damaged		<b>X</b>		
<b>Pinch Valve</b>				
1) Check that internal pinch bars operate freely		<b>X</b>		Rotate hand-wheel 5 turns clockwise, then 5 turns counter-clockwise. If equipped with a grease fitting, lubricate with quality grease.

**FINAL CHECKS**

1. Turn unit on.
2. With pinch valve closed, check that probe drives up and down inside probe enclosure and that bottom reference switch closes when probe contacts pinch valve.
3. With pinch valve open, operate system in Manual mode.
4. Set system for full calibration cycle.
5. Conduct Profile Run (Print results).
6. Conduct Top Scan Run (Print results)
7. Issue a report to document findings/recommendation.