

**DRAFT RECLAMATION MANUAL RELEASE**  
**Comments on this draft release must be submitted to Talmadge Oxford**  
**([toxford@usbr.gov](mailto:toxford@usbr.gov)) by October 2, 2012.**

The FIST 4-7, “Sagging Transmission Line Conductors” is being retired because it is out of date and no longer viable for use in the Reclamation Operations and Maintenance Program. In accordance with Reclamation Manual procedures this FIST will be posted for a minimum of 30 days.

See the following pages for the FIST 4-7, “Sagging Transmission Line Conductors”.

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BUREAU OF RECLAMATION  
FACILITIES INSTRUCTIONS, STANDARDS, & TECHNIQUES

**Volume 4 - 7**

**SAGGING TRANSMISSION LINE  
CONDUCTORS**

August 1992

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**Sagging Transmission Line Conductors**

From time to time, O&M field personnel request sag and tension information from the Denver Office when modifying spans or restoring lines to service following storm damage.

The attached data sheet describes the **UNISAGWATCH** which provides a convenient means of measuring sag. This method may be more convenient for O&M use than the former tension method requiring conversion of sag to tension for specific conductors.

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**SAGLINE INCORPORATED**

P. O. Box 396  
Suffern, N. Y. 10901

Specialists In Wire Sagging  
914 - 357 - 3047

**Universal Sag Indicator- Measures Wire Sag Directly**

The Evans Sagwatch, as described in the current edition of the "Lineman's Handbook" has now been modified to extend its range, while reading closer than 1% accuracy.

This high quality instrument, the UNISAGWATCH, specially calibrated, is applicable to any wire size regardless of span, tension, temperature, or composition, size or weight of conductor; -- and is now ready for immediate delivery.

The UNISAGWATCH carries logarithmic scales calibrated in feet and decimals for both 3rd and 5th returns of a mechanical wave, providing direct reading of sags up to 100 feet. Sagging with this instrument eliminates the need for conversion tables and setting and sighting targets.

For special use, the UNISAGWATCH also contains an inner scale to read time to the tenth of a second. By use of the table in the instruction book accompanying each UNISAGWATCH, the time for any number of returns may be converted to sag in feet.

The UNISAGWATCH has a 7 jewel Swiss movement, in a stainless steel case. It is water resistant, dust protected, shock resistant, anti-magnetic, and self-compensating with an unbreakable mainspring.

The principle of sagging by wave-timing has long been recognized. The use of the UNISAG-WATCH to determine sag simply, rapidly, and accurately can save many valuable manhours by eliminating the setting and sighting of targets. The UNISAGWATCH is also particularly suitable for use in poor visibility, due either to weather or, in these ecology-minded days, to a selectively cleared Right-of-Way. Checking sag in a 'hot' wire by an observer on the ground may also be readily accomplished by use of the UNISAGWATCH.



**Model E Specifications**

<b>Scale</b>	<b>Capacity</b>	<b>Graduation</b>
3rd return	Sag to 36 feet	feet & decimals
5th return	Sag to 100 feet	feet & decimals
Seconds	Seconds to 30	tenth of a second

Case -- Stainless Steel.

Movement -- 7 jewel, shockresistant, dust protected, water resistant, antimagnetic, and self compensating with unbreakable mainspring. Fully Guaranteed.

Price:	1 to 3 each	\$95.00
	4 to 6 each	85.50
	7 or more	76.00

Add \$1.50 shipping charges for order of any number, or postage prepaid if check or money order accompanies order.

The UNISAGWATCH, Model M, graduated in metric units is also available upon special order at the same quantity prices.