

The following tables of guidelines developed by the Remanufactured Devices Task Force contain examples of repaired/remanufactured devices and elements. The tables shown below replace the versions that appeared in NCWM Publication 16, “Committee Reports for the 87<sup>th</sup> Annual Meetings.” The tables are consistent with the original Task Force’s language and reflect concerns expressed at the 2002 Central and Northeastern Weights and Measures Associations Annual Meetings over changes to the Task Force’s original text. The Task Force’s guidelines are shown in **bold** text. Any text the Committee proposed to add to the examples is underlined. Any text the Committee recommended deleting from the examples is shown ~~crossed-out~~. Weighing and measuring activities were separated into two different activities. The Committee noted there were instances where an activity applied to both weighing and measuring devices, but the Task Force only listed the example once. Activities that apply to more than one activity now appear in both the weighing and measuring portion of each table.

<b>Section I</b>				
<b>Examples of Repaired Devices/Repaired Elements (no metrological change)</b>				
	<b>Remanufactured Device</b>	<b>Remanufactured Element</b>	<b>Still Traceable to NTEP CC</b>	<b>Marking Required</b>
<b>Weighing Activity</b>				
<b><del>I.A.</del> -1-W <u>Disassembly of A scale that is disassembled for the purpose of cleaning and repairing pivots and bearings <u>this activity covers cleaning and packing bearings.</u></u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b><del>I.C.</del> -2-W <u>Any device in which the electronic components have been changed on site using original manufacturer’s factory components parts or NTEP traceable replacement parts.</u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b><del>I.D.</del> -3-W <u>Any A weighing <del>or measuring</del> element that is replaced on site with original manufacturer’s factory parts or NTEP traceable replacement parts. <u>This does not prohibit repairs by other than the original manufacturer.</u></u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b><del>I.E.</del> -4-W <u>Section adjustment (mechanical or electronic) on A class III L scales <u>in which a section adjustment (mechanical or electronic) is made and <u>with</u> some disassembly is required.</u></u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b><del>I.F.</del> -5-W <u>Adjustment of a nose iron on A mechanical scales <u>in which a nose iron is adjusted and <u>with</u> some disassembly <u>is</u> required.</u></u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b><del>I.H.</del> -6-W <u>Replacement of Liquid Crystal Display (LCD) or non-metrological computer boards or chips.</u></b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>

<b>Section I</b>				
<b>Examples of Repaired Devices/Repaired Elements (no metrological change)</b>				
	<b>Remanufactured Device</b>	<b>Remanufactured Element</b>	<b>Still Traceable to NTEP CC</b>	<b>Marking Required</b>
<del>I-J</del> <b>-7-W</b> Replacement of pivots and bearings on mechanical scales. Note: Pivots and bearings would have to meet the original manufacturer's specifications for the scale to operate correctly.	No	No	Yes	No
<del>I-N</del> <b>-8-W</b> <del>A service agency replaces</del> Replacement of <del>2 of 8</del> <u>some or all</u> load cells with load cells identical (same manufacturer, make and model) to those removed.	No	No	Yes	No
<del>I-P</del> <b>-9-W</b> <del>Substitution</del> Replacement of some or all load cells with metrologically equivalent ( $n_{max}$ , $v_{min}$ , etc.) load cells from a different manufacturer, provided the load cells are of the same basic type <u>that have an NTEP CC</u> and can be replaced without modification to the basic design of the load cell mounting assembly.	No	No	Yes	No
<del>I-Q</del> <b>-10-W</b> Replacement of all <del>analog</del> load cells of a particular technology ( <u>analog, digital, and hydraulic</u> ) in a scale system with approved and compatible digital load cells <u>that have an NTEP CC</u> provided the cells can be replaced without any modification to the basic design of the load cell mounting assembly.	No	No	Yes	No
<u>Measuring Activity</u>				
<del>I-B</del> <b>-1-M</b> Disassembly of a motor fuel dispenser for the purpose of replacing a meter gasket.	No	No	Yes	No
<del>I-C</del> <b>-2-M</b> Any device in which the electronic components have been <del>changed</del> <u>replaced</u> on site using original manufacturer's factory components, parts or NTEP traceable replacement parts.	No	No	Yes	No
<del>I-D</del> <b>-3-M</b> Any <del>weighing or</del> measuring element that is replaced on site with original manufacturer's factory parts or NTEP traceable replacement. <u>This does not prohibit repairs by other than the original manufacturer.</u>	No	No	Yes	No
<del>I-G</del> <b>-4-M</b> Replacement of nozzles on gasoline dispensers.	No	No	Yes	No

Section I Examples of Repaired Devices/Repaired Elements (no metrological change)				
	Remanufactured Device	Remanufactured Element	Still Traceable to NTEP CC	Marking Required
<b>I-H. -5-M</b> Replacement of LCD or non-metrological computer boards or chips.	<u>No</u>	No	Yes	No
<b>I-I. -6-M</b> Adjustment of ranger gears on meters (some disassembly required). <u>This activity applies to meters calibrated with a range of gears rather than an adjustor.</u>	No	No	Yes	No
<b><del>I-K.</del> -7-M</b> A service <del>firm</del> agency replaces a meter that cannot be brought into the proper calibration with a used meter (at the service station) of the same model and the meter is recalibrated.	No	No	Yes	No
<b><del>I-L.</del> -8-M</b> A used equipment dealer replaces a meter that cannot be brought into the proper calibration with a used meter (in their shop) of the same model taken from a used dispenser and the meter is recalibrated when installed and placed back in service.	No	No	Yes	No
<b>I-M. -9-M</b> A remanufacturer disassembles a dispenser to replace a meter that cannot be brought into the proper calibration with a used meter (in their plant) of the same model taken from a used dispenser and the meter is recalibrated when installed and placed back in service.	No	No	Yes	No
<b><del>I-O.</del> -10-M</b> A service agency partially disassembles a motor fuel dispenser, cleans the dispenser and replaces the meter with a meter identical (same manufacturer, make and model) to that removed.	No	No	Yes	No

Section II - Examples of Remanufactured Devices/Remanufactured Elements (no metrological change)				
	Remanufactured Device	Remanufactured Element	Still Traceable to NTEP CC	Marking Required
<u>Weighing Activity</u>				
<del>II.A.</del> <u>-1-W</u> Disassembly of a scale, checking for worn parts, cleaning the scale and replacing some or all of the device's scale's & load cells with remanufactured load cells <u>provided the load cells are (remanufactured by the original manufacturer or are remanufactured metrologically equivalent (<math>n_{max}</math>, <math>v_{min}</math>, etc.) load cells with an NTEP CC) and are identical to those removed.</u>	No	Yes – <u>Load Cells</u>  No – <u>Weighing Element</u>	Yes	Yes – ( <u>Load Cells</u> )  No – ( <u>Weighing Element</u> Original markings meet requirement)
<del>II.C.</del> <u>-2-W</u> A service firm agency replaces a digital indicating element of a floor scale with the same model indicator remanufactured by a firm other than the original manufacturer of the scale. Note: The remanufacturer made no design change <u>to the indicator.</u>	No	Yes – <u>Indicating Element</u>  No – <u>Weighing Element</u>	Yes	Yes ( <u>Indicating Element</u> only)
<del>II.D.</del> <u>-3-W</u> A company service agency completely disassembles a counter computing scale in their shop, checks for worn parts and replaces all worn <u>elements parts (without replacing the load cell(s))</u> with remanufactured <u>elements parts</u> (not original manufacturer but no design change), replaces other parts as needed, cleans and reassembles the scale for sale.	Yes	Yes	Yes	Yes
<del>II.I.</del> <u>-4-W</u> A <u>weight classifier scale device or element</u> is sent back to the original equipment manufacturer. The device is disassembled, checked for wear, parts are replaced or fixed as necessary, and the device is reassembled as <u>and</u> made to operate like a new scale of the same type.	Yes	No	Yes	No (Original markings meet requirement)

Section II - Examples of Remanufactured Devices/Remanufactured Elements (no metrological change)				
	Remanufactured Device	Remanufactured Element	Still Traceable to NTEP CC	Marking Required
<p><del>II-J. 5-W</del> A <del>weight classifier scale</del> <u>device or element</u> is sent to a <del>scale</del> company (not the original manufacturer). The device is disassembled, checked for wear, parts are replaced with Original Equipment Manufacturer (OEM) parts or fixed as necessary, and the <u>scale device or element</u> is reassembled and made to operate like a new <u>scale device or element</u> of the same type.</p>	Yes	No	Yes	<u>Yes</u>
<u>Measuring Activity</u>				
<p><del>II-B. -1-M</del> Complete disassembly of a motor fuel dispenser, checking for worn parts, cleaning the dispenser and replacement of all badly worn parts with parts identical (same manufacturer, make, and model) to those removed.</p>	Yes	No	Yes	Yes
<p><del>II-F. -2-M</del> A service <del>firm</del> <u>agency</u> replaces a meter <u>on site</u> that cannot be brought into the proper calibration in a dispenser (<del>at the service station</del>) with the same model meter remanufactured by a firm other than the original manufacturer of the dispenser. Note: The remanufacturer made no design change.</p>	No	Yes	Yes	Yes (Element only)
<p><del>II-H. -3-M</del> A service <del>firm</del> <u>agency</u> replaces a meter <del>register</del> <u>mechanical indicating element</u> with the same model <del>register</del> <u>mechanical indicating element</u> remanufactured by a firm other than the original manufacturer of the <del>register</del> <u>mechanical indicating element</u>. Note: The remanufacturer made no design change.</p>	No	Yes	Yes	Yes (Element only)
<p><del>II-I. -4-M</del> A <del>weight classifier scale</del> <u>device</u> is sent back to the original equipment manufacturer. The device is disassembled, checked for wear, parts are replaced or fixed as necessary, the device is reassembled and made to operate like a new device or element of the same type.</p>	Yes	No	Yes	No (Original markings meet requirement)
<p><del>II-E. -5-M</del> A company completely disassembles a motor fuel dispenser in their shop, checks for worn parts and replaces all worn elements with remanufactured elements (not original manufacturer but no design change), cleans and reinstalls the dispenser.</p>	Yes	Yes	Yes	Yes

<b>Section II - Examples of Remanufactured Devices/Remanufactured Elements (no metrological change)</b>				
	<b>Remanufactured Device</b>	<b>Remanufactured Element</b>	<b>Still Traceable to NTEP CC</b>	<b>Marking Required</b>
<b>II.G. -6-M</b> A dispenser remanufacturer completely disassembles a motor fuel dispenser, replaces a meter that cannot be brought into the proper calibration with the same model meter remanufactured by another firm, fixes and/or replaces all other parts as needed, reassembles the dispenser for sale as a remanufactured dispenser.	<u>Yes</u>	Yes	<u>Yes</u>	<u>Yes</u>
<b>II.K. -7-M</b> A company brings a motor fuel dispenser in their shop, fixes any leaks, replaces any meter which cannot be calibrated with a remanufactured meter which can be calibrated (not original manufacturer but no design change). Replaces other non functioning parts with new, used, or repaired parts which <u>function, cleans, installs new graphics, and sends the dispenser out for installation.</u> Note: The remanufacturer made no design change.	No	Yes	Yes	Yes (Element only)
<b>II.J. -8-M</b> A <del>weight classifier</del> <u>seale device</u> is sent to a <u>seale</u> company (not the original manufacturer). The device is disassembled, checked for wear, parts are replaced with OEM parts or fixed as necessary, and the <u>seale device</u> is reassembled and made to operate like a new <u>seale device</u> of the same type.	Yes	No	Yes	Yes

<b>Section III</b>				
<b>Examples of Remanufacturing/Repairs/Modifications that Constitute a Metrological Design Change or a Violation of NTEP Policy</b>				
	<b>Remanufactured Device</b>	<b>Remanufactured Element</b>	<b><u>Still Traceable to NTEP CC</u></b>	<b><u>Marking Required</u></b>
<b>Weighing Activity</b>				
<b><u>III.A. -1-W</u></b> A company disassembles a scale, cleans the scale and checks for worn parts, then replaces hydraulic load cells with shear beam load cells. Note: Requires different mounting due to different type of cells.	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b><u>III.B. -2-W</u></b> A metrological change to <u>Original Equipment Manufacturer (OEM)</u> design of a weighing <del>or measuring piece of equipment</del> <u>device or element</u> .	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b><u>III.C. -3-W</u></b> Structural modifications to weighbridges. <u>Scale changes that do not comply with UR. 4.3. Scale Modification</u>	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b><u>III.D. -4-W</u></b> Replacing a lever system with load cells.	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b><u>III.E. -5-W</u></b> Substitution of a load cell or cells in a scale when the replacement cells were not repaired or remanufactured by the original manufacturer or authorized agent of the original manufacturer. The remanufactured load cell(s) does not have an NTEP CC. (NTEP Policy, see NCWM Pub. 14)	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b><u>III.H.D. -6-W</u></b> A company completely disassembles a counter computing scale in their shop, checks for worn parts and replaces all worn <del>elements</del> <u>parts</u> with remanufactured <del>elements</del> <u>parts</u> (not the original manufacturer but no design change) <u>and load cell without an NTEP CC</u> , replaces other parts as needed, cleans and reassembles the scale <del>for sale</del> .	<u>Yes-Not Applicable</u>	<u>Yes-Not Applicable</u>	<u>Yes-No</u>	<u>Yes*</u>

<u>Measuring Activity</u>				
<b>III.B. -1- M</b> A metrological change to the <u>Original Equipment Manufacturer (OEM) design of a weighing or measuring piece of equipment device or element.</u>	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>
<b>III.F. -2-M</b> A dispenser remanufacturer adds temperature compensation to a dispenser, which was never approved for temperature compensation.	<u>Not Applicable</u>	<u>Not Applicable</u>	<u>No</u>	<u>Yes*</u>

\*The Committee agreed that devices in Section III should be marked. The Task Force indicated that remanufactured marking requirements do not apply to Section III activities. The Committee noted that devices in Section III require the following:

- must be reevaluated
- must be marked with new manufacturer's identity
- must be marked with new NTEP CC number
- must meet paragraph G-S.1. Identification

The Committee agreed that it was historically important to include in the report the following NTEP Policies that are the basis for placing examples in Section III (activities that represent a metrological change or violation of current NTEP Policy).

**III-1-W** The 2000 edition of NCWM Publication 14 Weighing Devices Checklist for Load Cells Section A Program Description 5. Substitution of Metrologically Equivalent Load Cells in Scales states that metrologically equivalent load cells from the same or a different manufacturer may be substituted into a scale provided that the substituted load cells can be placed in the scale without any modification to the design of the load cell mounting assembly.

**III-2-W** The 2001 edition of NCWM Publication 14 Administrative Policy Section M. Policy on Remanufactured and Repaired Devices specifies that a device is no longer covered by an NTEP Certificate of Conformance if a company or individual makes changes to a device to the extent that the metrological characteristics are changed.

**III-3-W** Devices that fall under this activity are not covered by a CC unless the device complies NIST Handbook 44 paragraph UR.4.3. Scale Modification. Devices that meet UR.4.3. require approval by the weights and measures authority having jurisdiction over the device.

**III-4-W** The 2000 edition of NCWM Publication 14 Checklist for Digital Electronic Scales Section E. Modification of Type 1. Replacing the Lever System with Load Cells specifies that changing a scale from a lever system scale to a full electronic scale is considered a modification of type. The total replacement of any levers in a mechanical scale is a modification of type that is not covered by the original CC without additional testing.

**III-5-W** The 2000 edition of NCWM Publication 14 Weighing Devices Checklist for Load Cells Section A. Program Description 4. Repaired or Remanufactured Load Cells specifies that the original Certificate of Conformance (CC) no longer applies to a repaired load cell if that load cell is repaired by other than the original manufacturer or its authorized agent.



**III-6-W** The 2000 edition of NCWM Publication 14 Weighing Devices Checklist for Load Cells Section A. Program Description 5. Substitution of Metrologically Equivalent Load Cells in a Scale states that load cells from the same or a different manufacturer may be substituted into a scale provided that the load cells to be substituted have been evaluated separately and have a CC.

**III-1-M** NIST Handbook 130, Uniform National Type Evaluation Regulation Section 4. Prohibited Acts and Exemptions (9) Repaired Device and (10) Remanufactured Device and the 2001 edition of NCWM Publication 14 Administrative Policy Section M and the Checklist for Liquid-Measuring Devices Section K. Policy on Remanufactured and Repaired Devices specify that if a company or individual repairs or remanufactures a device, they are obligated to repair or remanufacture the device consistent with the manufacturer's original design. Otherwise, that specific device is no longer traceable to the NTEP CC.

**III-2-M** Handbook 130, Uniform National Type Evaluation Regulation Section 4. Prohibited Acts and Exemptions (9) Repaired Device and (10) Remanufactured Device and the 2001 edition of Publication 14 Administrative Policy Section J.2 Re-evaluation to Expand an Existing Certificate of Conformance. A type with a valid CC may be re-evaluated in order to encompass additional features such as expanding the kinds of commodities that may be measured. See also Publication 14 Administrative Policy Section M. Policy on Remanufactured and Repaired Devices, and Section K. Evaluation of New Technology.