VIBRATORY COMPACTOR CONTROLLER

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Appl. No.: 12/608,436
Filed: Oct. 29, 2009

Foreign Application Priority Data
Oct. 31, 2008 (EP) 08168108.2

ABSTRACT

An apparatus for actuating a vibratory mechanism in a vehicle comprising a sensor configured to produce an operational value signal indicative of an operational characteristic of the vehicle; a computing device operable to receive the operational value signal and determine actuation values based at least in part on the operational value signal and to produce a corresponding control signal for selectively actuating the vibratory mechanism; and an input device configured to modify the actuation values during operation of the vehicle. A method for controlling a vibratory mechanism in a vehicle comprising the steps of producing an operational value signal indicative of an operational characteristic of the vehicle; determining actuation values from the operational value signal; modifying actuation values during operation of the vehicle; and signaling the vibratory mechanism to actuate in response to actuation values.
START

ENTER ΔV / TIME PERIOD

READ ΔV / TIME PERIOD

READ RT VALUES

TRACK PEAK RT VALUE

SELECT MAX RT VALUE

COMPUTE DV

RT VALUE ≤ ΔV

YES

DEACTIVATE VIBRATOR

NO

COMPARE DV WITH RT VALUES

Fig. 7

GO TO ACTIVATION
VIBRATORY COMPACTOR CONTROLLER

TECHNICAL FIELD

[0001] This disclosure generally relates to the field of vibratory machines, specifically vibratory machines comprising for example a vibratory compactor. Particularly, the disclosure relates to an apparatus and a method for actuating a vibratory compactor.

BACKGROUND

[0002] Vibratory compactors may be generally used in road construction for compacting freshly-laid asphalt, soils and other materials. A compactor may generally comprise a drum mounted in a frame assembly. An eccentric mounting shaft arrangement may be located within the frame assembly, and may rotate relative to the drum. Such shaft arrangement may selectively vibrate the drum to provide the desired compaction of the material being worked.

[0003] Present vibratory compactors may be actuated by vibratory control systems, which are production released systems. Such control systems may use preset software parameters to activate or deactivate the vibratory compactors. An example of a software parameter may be the travel speed of the machine comprising the vibratory compactor.

[0004] To actuate the vibratory compactor, the control system may be first initiated and the vibratory mode may be selected. Thereafter, the control system may activate or deactivate the vibratory compactor upon reaching respective preset travel speeds. Generally, the activation speed may be higher than the deactivation speed.

[0005] In operation, travel speeds may change due to specific conditions at the construction site, for example to suit the type of materials used. A test strip may be constructed for working the vibratory compactor in order to choose an optimal travel speed for the machine which may comprise the vibratory compactor. The appropriate travel speed may be selected based on the impact spacing of the vibratory compactor. Proper impact spacing is 10-14 impacts per foot, i.e. 10-14 impact per 0.3048 m. Typically, a vibratory compactor may be operated at two frequencies, like a high frequency of 63 Hz or a low frequency of 42 Hz. At a higher frequency the machine may travel at a higher speed and maintain the desired impact spacing.

[0006] However, the control systems may not be directly controlled by the operator or otherwise adjusted during operation. The preset software parameters may only be changed by software technicians.

[0007] With current control systems, deactivation of the vibratory compactor may take too long as the machine would need to slow down to the preset travel speed in order for deactivation to occur. Hence, a time lag of approximately 2-3 seconds may exist between the deactivation of the vibratory compactor and cessation of vibration. A higher deactivation speed may be desired, for some construction sites, as it may reduce the overall time taken to stop the machine and hence may allow for a quick change in operating direction of the machine.

[0008] The present disclosure is directed, at least in part, to improving or overcoming one or more aspects of the prior art system.

SUMMARY

[0009] In a first aspect, the present disclosure describes an apparatus for actuating a vibratory mechanism in a vehicle comprising a sensor configured to produce an operational value signal indicative of an operational characteristic of the vehicle; a computing device operable to receive the operational value signal and determine actuation values based at least in part on the operational value signal and to produce a corresponding control signal for selectively actuating the vibratory mechanism; and an input device configured to modify the actuation values during operation of the vehicle.

[0010] In a second aspect, the present disclosure describes a method for controlling a vibratory mechanism in a vehicle comprising the steps of producing an operational value signal indicative of an operational characteristic of the vehicle; determining actuation values from the operational value signal; modifying actuation values during operation of the vehicle; and signaling the vibratory mechanism to actuate in response to actuation values.

[0011] Other features and advantages of the present disclosure will be apparent from the following description of various embodiments, when read together with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a block diagram exemplifying a method and an apparatus for actuating a vibratory compactor according to the present disclosure;

[0013] FIG. 2 is a block diagram exemplifying a control system according to the method and apparatus for actuating a vibratory compactor of FIG. 1;

[0014] FIG. 3 is a flowchart exemplifying a method of actuating a vibratory compactor according to the present disclosure;

[0015] FIG. 4 is a flowchart exemplifying first and second embodiments for actuating a vibratory compactor according to the present disclosure;

[0016] FIG. 5 is a flowchart exemplifying first and second embodiments for actuating a vibratory compactor according to the present disclosure;

[0017] FIG. 6 is a run time value vs time graph plotting the run time value such as speed of a vehicle and actuation values based on first and second embodiments for actuating a vibratory compactor and first and second embodiments for deactivating the vibratory compactor;

[0018] FIG. 7 is a flowchart exemplifying third and fourth embodiments for deactivating a vibratory compactor according to the present disclosure;

[0019] FIG. 8 is a run time value vs time graph plotting the run time value such as speed of a vehicle and actuation values based on third and fourth embodiments for deactivating the vibratory compactor, wherein the maximum run time value may be selected over a period of time; and

[0020] FIG. 9 is a run time value vs time graph plotting the run time value such as speed of a vehicle and actuation values based third and fourth embodiments for deactivating the vibratory compactor, wherein the deactivation value may be computed progressively.

DETAILED DESCRIPTION

[0021] This disclosure generally relates to systems and methods for activating and deactivating a vibratory compactor comprised in a vibratory machine.

[0022] An exemplifying architecture of the actuating apparatus 10 according to the present disclosure is summarized in
the block diagram of FIG. 1. Actuating apparatus 10 may comprise a control system 11 which may be connected to a vibratory compactor 12.

[0023] The function of the control system 11 may be to determine that an activation or deactivation value is attained or surpassed and to thereafter activate or deactivate the vibratory compactor 12. In this disclosure, activation value and deactivation value may be hereinafter referred to collectively as actuation values. The control system 11 may operate on the basis of prevailing programmed software parameters and values which may be programmed prior to operation of a vehicle at an operation site, such as a road construction area, or parameters and operational characteristics of the vehicle, for instance the operational values which may be supplied during operation of a machine at the operation site.

[0024] The actuating apparatus 10 may further comprise an operator input device 13, a sensor device 14 and an override device 15. The devices may be connected independently and directly to the control system 11.

[0025] The operator input device 13 may serve as an interface for parameters and operational values to be supplied, during operation of a machine, to the control system 11. The operational values of a parameter, which may be the desired activation or deactivation values, may be entered by the operator into the operator input device. The control system 11 may use the entered values, instead of programmed software actuating values, as the appropriate actuating values to activate the vibratory compactor.

[0026] The entered operational values may also include delta values (ΔV) which may be used by the control system 11 to compute the actuation values to activate the vibratory compactor. Delta values may also be programmed software value. The delta value may be a specific value or a function such as a fraction or a percentage.

[0027] The operator may enter a single value selected from activation value, deactivation value or delta value or the operator may enter a combination of said values as required by the program of the control system 11.

[0028] The operator input device 13 may be a potentiometer or a speed control input, such as a keyboard and associated screen display. The skilled person would realize that the operator input device 13 may be any suitable device which may serve as an interface for entering values to the actuating apparatus 10.

[0029] The control system 11 may be connected to the sensor device 14 to receive operational values therefrom through an operational value signal. Actuation of the vibratory compactor 12 may be based on the operational values. The control system 11 may determine whether programmed or entered actuation values may be attained or surpassed by comparing the actuating values to the operational values derived from the sensor device 14. Suitable sensor devices 14 according to the disclosure may be for instance a tachometer, tachometer, coils of the propel pump, a propel handle, or combinations thereof.

[0030] Suitable parameters according to the disclosure may be the travel speed or the propel handle position which controls the travel speed of a machine. Travel speed may be measured directly or measured from coils of a propel pump wherein the current flow provides a proportional representation of the travel speed. Travel speed may also be obtained from motor control signals. Operational values received by the control system 11 may be the travel speed or the propel handle position. Travel speed, propel handle position or other operational values that may serve to evaluate the current speed of the vehicle may be collectively referred to as run time values in the text of this disclosure.

[0031] In one embodiment, the activation value may be entered through a dial potentiometer. The activation value may be entered as a percentage of a predetermined maximum speed setting of the vehicle. Within 0% to a threshold value, for instance 20%, of the dial setting, the actuating apparatus 10 may activate or deactivate manually. As the dial is actuated to setting greater than the threshold value, for instance greater than 20%, the actuating apparatus may be activated or deactivated automatically by the control system 11. Particularly, as the dial setting is set to greater percentages, the activation speed may increase. At the maximum dial setting the actuating apparatus 10 may be activated when the vehicle reaches the maximum set speed.

[0032] The control system 11 may compare programmed or entered actuation values to the run time values of travel speed or propel handle position, which are derived from the respective sensor devices. The control system 11 may activate the vibratory compactor 12 at a run time value equal to or greater than said activation value and the control system 11 may deactivate the vibratory compactor 12 at a run time value equal to or lesser than said deactivation value.

[0033] Override device 15 may function to nullify the signals of the control system 11. For instance, the run time values may be reduced to below the programmed or entered deactivation value without the control system 11 deactivating the vibratory compactor 12 by engaging the override device 15. The vibratory compactor may be activated only at run time values higher than the activation value by engaging the override device 15. The override device may be any suitable input device such as a switch.

[0034] In an alternative embodiment, the vibratory compactor may be deactivated at a neutral propel handle position thorough the override device 15.

[0035] With reference to FIG. 2, the control system 11 may comprise a computing device 16, for instance, a processor or a CPU and a control mechanism or controller 17. The computing device 16 may be connected to the control mechanism 17. The computing device 16 may process the actuation values and run time values to compute the actuation status of the vibratory compactor 12 and thereafter send control signals for the activation or deactivation of the vibratory compactor 12, for instance through the control mechanism 17. The control mechanism 17 may be connected to the vibratory compactor 12 and may thereby activate or deactivate the vibratory compactor 12 upon receipt of the specific control signal from the computing device 16.

[0036] The control system 11 may further comprise memory device 20 connected to the computing device 16. Memory device 20 may store variables entered by the operator through the operator input device 13 and may comprise a plurality of memory cells 21, 22, 23, for storing the values of activation value, the deactivation value and the delta value respectively. The values may be entered by the operator, read by the computing device 16 from programmed values or be computed by the computing device 16.

[0037] Memory device 20 may further comprise memory cells for storing variables derived from the sensor device 14. The memory cells 24, 25 may store run time values as derived from sensor device 14 and peak run time values reached during operation, respectively. Peak run time value may be constantly and instantaneously updated in memory cell 25 as
new peak run time values are attained. In an embodiment, peak run time values may be tracked from the activation of the vibratory compactor 12.

[0038] Memory device 20 may further comprise memory cell 26 for storing a maximum run time value which may be selected from the peak run time values. In an embodiment, a maximum run time value is attained over a preset variable. In an embodiment, the variable is time. The skilled person would realize that other variables may be used such as distance.

[0039] The variable for tracking peak run time values and recording the maximum run time value may be programmed or entered by the operator. The variable value may be stored in a further memory cell 27.

[0040] The general operation of the actuating apparatus 10 will now be described with reference to the flow chart of FIG. 3.

[0041] At step 31 the operator may optionally select a desired parameter used to actuate the vibrator. The parameter may be the travel speed or the prop handle position. If this step is omitted, the desired parameter may be selected by the operating software by default.

[0042] In step 32 the operator may select or may deselect manual input. Manual input may permit the operator to enter the required data.

[0043] If manual input is selected the operator may enter the activation value in step 33, for instance the travel speed or the prop handle position at which the vibrator may be started.

[0044] If manual input is not selected or deslected, the default activation value may be read by the computing device 16 in step 34.

[0045] In above steps 33, 34, the activation value may be an absolute or may be a relative activation value, for example a function such as a fraction or a percentage.

[0046] In step 35, the computing device 16 may register the activation value as entered by the operator, as read from memory or may compute the activation value from the maximum speed control setting on the basis of the entered or read relative activation value. The maximum speed control setting is a control setting which may limit the maximum speed of the machine.

[0047] In step 36, the operator may select or deseselect an adaptability attribute for deactivation.

[0048] If the adaptability feature is not selected or deslected, the operator may select or may deseselect manual input in step 37.

[0049] If manual input is selected the operator may enter the appropriate variable for the deactivation value or the delta value in step 38.

[0050] If manual input is not selected or deslected, the default variable for the deactivation value or the delta value may be read by the computing device 16 in step 39.

[0051] In step 40, the computing device 16 may register the deactivation value entered by the operator or read by the computing device 16. If the delta value was entered by the operator or read by the computing device 16, the deactivation value may be computed on the basis of the delta value by the computing device 16.

[0052] If the adaptability feature is selected, the operator may select or deseselect manual input in step 41.

[0053] With the adaptability attribute selected, the computing device 16 may compute the deactivation value on the basis of the peak run time values, in an embodiment, or the selected maximum run time value, in another embodiment.

[0054] If manual input is selected, the operator may enter the appropriate variables for the delta value and the time period for tracking peak run time values, if maximum run time value is to be selected from peak run time values, in step 42.

[0055] If manual input is not selected or deslected, the default variables for the delta value and the time period for tracking peak run time values, if maximum run time value is to be selected from peak run time values, may be read by the computing device 16 in step 43.

[0056] In step 44, the computing device 16 may compute the deactivation value on the basis of the delta value and the highest peak run time value or the basis of the delta value and the maximum run time value selected from peak run time values.

[0057] In step 45, the computing device 16 may signal the vibratory compactor 12 to activate or deactivate, for instance through the control mechanism 17.

[0058] In step 46, the activation or deactivation signal may be overridden by the operator for instance by actuation of a switch. In an alternative embodiment, the vibratory compactor may be deactivated by positioning the prop handle to neutral.

[0059] A first embodiment and a second embodiment of the specific operation for activating the vibratory compactor will be described in more detail with reference to the flow chart of FIG. 4.

[0060] In the first embodiment, the operator may enter an absolute activation value or a relative activation value in step 51.

[0061] In the second embodiment, the computing device 16 may read an absolute activation value or a relative activation value in step 52.

[0062] The following steps of the first and second embodiments are identical and will be described as a single set of steps.

[0063] In step 53, the computing device may register the entered or read activation value variable or may compute the activation value from the maximum speed control setting on the basis of the enter or read the relative activation value, for instance, where the relative activation value is a function, by applying the function to the value of the maximum control setting.

[0064] The computing device 16 may read the run time value in step 54.

[0065] The computing device 16 may compare the run time value with the activation value in step 55.

[0066] The computing device 16 may then check if a run time value is equal or is greater than the activation value in step 56.

[0067] If a run time value is equal or is greater than the activation value the computing device 16 may signal the vibratory compactor 12 to activate, for instance through the control mechanism 17 in step 57.

[0068] The computing device 16 may then go to the deactivation program in step 58.

[0069] If a run time value remains less than the activation value, the computing device 16 may return to step 54 and may proceed through the sequential steps of the flowchart as described above.
A first embodiment and a second embodiment of the specific operation for deactivating the vibratory compactor will be described with reference to the flow chart of FIG. 5. In the first embodiment, the operator may enter the deactivation value or the delta value in step 61. In the second embodiment, the computing device 16 may read the default deactivation value or the default delta value in step 62. The following steps of the first and second embodiments are identical and will be described as a single set of steps.

In step 63, the computing device may register the entered or read deactivation value or may compute the deactivation value from the entered, read or computed activation value on the basis of the entered or read delta value. For instance, the delta value may be subtracted from activation value or the delta value may be a function that is applied to activation value.

The computing device 16 may read the run time value in step 64. The computing device 16 may compare the run time value with the deactivation value in step 65. The computing device 16 may check if a run time value is equal or is less than the deactivation value in step 66. If a run time value is equal or is less than the deactivation value the computing device 16 may signal the vibratory compactor 12 to deactivate, for instance through the control mechanism 17, in step 67. The skilled person would realize that the vibratory compactor may be activated at any juncture prior to step 66.

The computing device 16 may go to the activation program in step 68. If a run time value remains greater than the deactivation value, the computing device 16 may return to step 64 and may proceed through the sequential steps of the flowchart as described above.

FIG. 6 may illustrate the actuation of the vibratory compactor 12 on the first and second embodiments for activation and the first and second embodiments for deactivation. Activation values may not fluctuate as a function of time and may be hence denoted accordingly as straight horizontal lines. The curve may represent a run time value such as speed over time.

At the start of operation, run time values may increase with time and a run time value may equal or surpass the activation value at, which point the control system 11 may activate the vibratory compactor 12. The vibratory compactor 12 may continue vibrating until a run time value is equal or is below the deactivation value, at such point the control system 11 may deactivate the vibratory compactor 12.

A third embodiment and a fourth embodiment of the operation for deactivating the vibratory compactor will be described with reference to the flow chart of FIG. 7. In the third embodiment, the operator may enter the delta value in step 71. A variable such as a time period for tracking peak run time values may be entered in addition to the delta value in step 71, if the deactivation value is to be computed from the maximum run time value selected from peak run time values. Alternatively, the distance traveled may be read instead of the time period.

In the fourth embodiment, the computing device 16 may read the default delta value in step 72. A variable such as a default time period for tracking peak run time values may be read in addition to the default value in step 72, if the deactivation value is to be computed from the maximum run time value selected from peak run time values. Alternatively, the distance traveled may be read instead of the time period.

The following steps of the third and fourth embodiments are substantially identical and will be described as a single set of steps.

The computing device 16 may read the run time value in step 73. The computing device 16 may track the peak run time values in step 74. The peak run time values may be tracked over the entered or read time period, if the deactivation value is to be computed from the maximum run time value selected from peak run time values. Alternatively, the peak run time values may be tracked over the entered or read distance traveled.

Step 75 is an optional step wherein the computing device 16 may select the maximum run time value from the peak run time values if the deactivation value is to be computed from the maximum run time value. In an embodiment, the maximum run time value may be selected at the end of the entered or read time period; alternatively, the maximum run time value may be selected at the end of the entered or read distance traveled.

The computing device 16 may compute a deactivation value on the basis of a peak run time value and the delta value or a selected maximum run time value and the delta value in step 76. In an embodiment, the deactivation value may be computed by subtracting the delta value from a peak run time value or from a selected maximum run time value.

The computing device 16 may compare a run time value with the deactivation value and may check if a run time value is equal or is less than the deactivation value in step 78.

If a run time value is equal or is less than the deactivation value the computing device 16 may signal the vibratory compactor 12 to deactivate, for instance through the control mechanism 17, in step 79.

The computing device 16 may go to the activation program in step 80. If a run time value remains greater than the deactivation value the computing device 16 may go to step 77, wherein the computing device 16 may compare a run time value with the deactivation value, or alternatively to step 73, and may proceed through the sequential steps of the flowchart as described above.

FIG. 8 may illustrate the actuation of the vibratory compactor 12 on the first and second embodiments for activation and the third and fourth embodiments for deactivation wherein the maximum run time value is selected over a period of time. Activation value may be constant and may be denoted by the horizontal line. The curve may represent a run time value such as speed over time.

At the start of operation, run time values may increase with time and upon equaling or surpassing the activation value, the control system 11 may activate the vibratory compactor 12 and initiate tracking of peak run time values, at time $T_1$. Peak run time values $P_1$, $P_2$, and $P_3$ are tracked over the duration of the entered or read time period ($T_1$,$T_2$). At the end of the time period ($T_2$) the maximum run time value is selected ($P_3$) from the peak run time values and used to compute the deactivation value ($P_3 - \delta$). The vibratory compactor 12 may continue vibrating until the run time value may equal or decrease below the computed deactivation value, at such point the control system 11 may deactivate the vibratory compactor 12.
FIG. 9 may illustrate the actuation of the vibratory compactor 12 based on the first and second embodiments for actuation and the third and fourth embodiments for deactivation wherein the deactivation value is computed progressively. Activation value may be constant and may be denoted by a horizontal line. The curve may represent a run time value such as speed over time.

At the start of operation, run time values may increase with time and upon equaling or surpassing the activation value, the control system 11 may activate the vibratory compactor 12 and initiate tracking of peak run time values. Peak run time values (P₁, P₂, and P₃) are tracked. For each successive peak run time value the control system 11 computes the corresponding deactivation value (DV₁, DV₂ and DV₃). The vibratory compactor 12 may continue vibrating until the run time value equals or decreases below the computed deactivation value having the highest value (DV₃), at such point the control system 11 may deactivate the vibratory compactor 12.

The skilled person would realize that the components of the actuating apparatus 10 may be placed in any suitable positions on the machine and that the various components may be suitably and/or appropriately connected.

The skilled person would also realize that the steps of the above flow chart may be modified or changed to obtain the same outcome and that actuation of the vibratory compactor 11 may be achieved by any of the combinations of the above described embodiments.

INDUSTRIAL APPLICABILITY

This disclosure describes a device and method for actuating a vibratory compactor 12. The device and method may permit the operator of a machine comprising the vibratory compactor 12 to modify, change actuation values or settings, or to input said values and settings during operation. Delta values may also be entered. The device and method, hence, permits the operator to control the activation and deactivation of the vibratory compactor 12 during operation to suit the conditions at, for instance, a road construction site.

Particularly, the deactivation of a vibratory compactor may be coupled to a changing variable. This adaptability attribute permits the deactivation point to be based on the maximum recorded variable.

It is noted that the term "operation" hereby indicates use of the machine by an operator, including times before or after the vehicle has been started or stopped.

The industrial applicability of the actuating apparatus and control systems as described herein will have been readily appreciated from the foregoing discussion.

Accordingly, this disclosure includes all modifications and equivalents of the subject matter recited in the claims appended hereto as permitted by applicable law. Moreover, any combination of the above-described elements in all possible variations thereof is encompassed by the disclosure unless otherwise indicated herein.

Where technical features mentioned in any claim are followed by references signs, the reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, neither the reference signs nor their absence have any limiting effect on the technical features as described above or on the scope of any claim elements.

One skilled in the art will realize the disclosure may be embodied in other specific forms without departing from the disclosure or essential characteristics thereof. The foregoing embodiments are therefore to be considered in all respects illustrative rather than limiting of the disclosure described herein. Scope of the invention is thus indicated by the appended claims, rather than the foregoing description, and all changes that come within the meaning and range of equivalence of the claims are therefore intended to be embraced therein.

What is claimed is:

1. An apparatus for actuating a vibratory mechanism in a vehicle comprising:

   a sensor configured to produce an operational value signal indicative of an operational characteristic of the vehicle;

   a computing device operable to receive the operational value signal and determine an actuation value based at least in part on the operational value signal and to produce a corresponding control signal for selectively actuating the vibratory mechanism; and

an input device configured to modify the actuation value during operation of the vehicle.

2. The apparatus of claim 1, wherein the computing device is operable to track a plurality of peak operational characteristics.

3. The apparatus of claim 2, wherein the computing device is operable to produce a deactivation value based at least in part on the plurality of peak operational characteristics.

4. The apparatus of claim 2, wherein the computing device is operable to track the plurality of peak operational characteristics over a time period or distance traveled and to determine a maximum operational characteristic from the plurality of peak operational characteristics.

5. The apparatus of claim 4, wherein the computing device is operable to produce a deactivation value based at least in part on the selected maximum operational characteristic.

6. The apparatus of claim 1, wherein the operational characteristic is derived from the speed of the vehicle.

7. A method for controlling a vibratory mechanism in a vehicle comprising the steps of:

   producing an operational value signal indicative of an operational characteristic of the vehicle;

   determining an actuation value from the operational value signal;

   modifying the actuation value during operation of the vehicle; and

   signaling the vibratory mechanism to actuate in response to the actuation value.

8. The method of claim 7, wherein the step of producing the operational value signal comprises tracking peak operational characteristics from activation of the vibratory mechanism.

9. The method of claim 8, wherein the step of determining an actuation value comprises producing a deactivation value based at least in part on the peak operational characteristics.

10. The method of claim 8, wherein the tracking of the peak operational characteristic is over a time period or distance traveled and a maximum operational characteristic is selected from the peak operational characteristics.

11. The method of claim 10, wherein the step of determining actuation values comprises producing a deactivation value based at least in part on the maximum selected operational characteristic.
12. The method of claim 7, wherein the operational characteristic is derived from the speed of the vehicle.

13. A vibratory compactor comprising:
   a vibratory mechanism;
   a sensor configured to produce an operational value signal indicative of an operational characteristic of the vibratory compactor;
   a computing device operable to receive the operational value signal and determine an actuation value based at least in part on the operational value signal and to produce a corresponding control signal for selectively actuating the vibratory mechanism; and
   an input device configured to modify the actuation value during operation of the vibratory compactor.

14. The vibratory compactor of claim 13, wherein the computing device is operable to track a plurality of peak operational characteristics.

15. The vibratory compactor of claim 14, wherein the computing device is operable to produce a deactivation value based at least in part on the plurality of peak operational characteristics.

16. The vibratory compactor of claim 14, wherein the computing device is operable to track the plurality of peak operational characteristics over a time period or distance traveled and to determine a maximum operational characteristic from the plurality of peak operational characteristics.

17. The vibratory compactor of claim 16, wherein the computing device is operable to produce a deactivation value based at least in part on the selected maximum operational characteristic.

18. The vibratory compactor of claim 13, wherein the operational characteristic is derived from the speed of the vibratory compactor.

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