

INSTALLATION MANUAL

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(C)

Page 1 of 33

SUBJECT: INSTALLATION PROCEDURE OF LOAD METER

PURPOSE: To introduce installation procedures for the load meter

APPLICATION: WA500-3 Wheel Loaders, S/N 50001 and up
WA500-3L Wheel Loaders, S/N A70001 and up
WA500-3LK Wheel Loaders, S/N A71001 and up

FAILURE CODE: DPF050

DESCRIPTION:

We have newly registered the load meter for use on the above Wheel Loaders as a independently supplied optional kit similar to the load meter for "Dash 1" type vehicles.

When installing the load meter to the "Dash 3" type vehicles, follow the procedures as outlined in this **INSTALLATION MANUAL**.

This Installation Manual is not applicable to the vehicles equipped with the Control Monitor (incorporating the load meter functions).

This Installation Manual is accompanied by descriptions of the "Operation methods to jake measurements with higher accuracy" on Page 19, electric circuit diagram on Page 20 and Instruction manual on Pages 21 thru 33.

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CONTENTS

1. Lists of parts Pages 3 thru 4

2. Precautions when executing the installation works Page 5

3. Procedures to remove parts which need to be removed for
the installation work Pages 6 thru 7

4. Reworking procedures Pages 8 thru 11

5. Installation procedures Pages 12 thru 17

6. Adjustment procedures Pages 18 thru 19

7. Operation methods to make measurements with higher accuracy Page 19

8. Supplements
Electric circuit diagram of the load meter for WA500-3 Page 20
Instruction Manual Pages 21 thru 33

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1. List of parts

Part No.	Part Name	Q'ty	Remarks
425-U94-1630	Tube	1	
7861-91-1510	Sensor	1	Boom cylinder bottom pressure sensor
07002-51423	O-ring	1	
01571-01218	Seat	2	For reworking of the operator's cab
7822-04-1001	Control box	1	Load meter unit
01220-40616	Screw	6	
01643-30623	Washer	6	
207-06-31160	Buzzer	1	
01220-40412	Screw	2	
01580-60403	Nut	2	
01641-20405	Washer	4	
569-06-61960	Relay	2	
287-06-16420	Bracket	2	
01220-40616	Screw	2	
01580-10605	Nut	2	
01643-30623	Washer	4	
421-06-11561	Switch	1	
425-U94-2140	Wiring harness	1	Switch harness
421-U94-2541	Wiring harness	1	CAB harness for the load meter
08053-00012	Clip	1	} For connection of the CAB harness and floor harness for the load meter
425-U94-11310	Plate	1	
01435-01016	Bolt	2	
08034-20519	Band	5	
418-U94-2210	Box	1	Mounting fixtures for the load meter unit
01435-01220	Bolt	2	
421-U94-2520	Cover	1	
01435-00612	Bolt	4	
421-U94-2590	Plate	1	
425-U94-2121	Wiring harness	1	Frame harness for the load meter

Part No.	Part Name	Q'ty	Remarks
08052-41711	Clip	1	
04434-51010	Clip	3	
01435-01016	Bolt	4	
08034-20519	Band	10	
421-U94-2111	Lever ass'y bucket	1	
425-U94-2150	Wiring harness	1	Floor harness for the load meter
08034-20519	Band	12	
01571-01016	Seat	1	} For reworking of the front frame
425-46-11J80	Plate	1	
154-54-18510	Seat	1	
01573-22308	Seat	1	For reworking of the boom
421-U94-1230	Plate	1	
01435-01220	Bolt	2	
363-06-31121	Switch	1	Proximity switch
08053-01510	Clip	1	
01435-01016	Bolt	1	
04434-51010	Clip	1	
01435-01016	Bolt	1	
425-U94-1710	Plate	1	
01435-01220	Bolt	2	
07000-13045	O-ring	1	} Parts which need to be changed when replacing the tube
07000-13038	O-ring	2	

2. Precautions when executing the installation work

[When removing, installing, disassembling or reassembling units, parts or assemblies, fully observe the following general precautions.]

1. Precautions when executing removal or disconnection works

- Cover the open ends of disconnected hoses and tubes with blind plugs or the sort in order not to allow entry of foreign substance.
- When draining oil, prepare an oil pan with sufficient capacity.
- Check for the matchmarks representing the mating connections and, when deemed necessary, apply additional matchmarks to necessary sections to prevent occurrence of errors when making re-assemblies or re-installations.
- When disconnecting the harness connectors, always hold the connector section when pulling the connectors apart.
- When disconnecting harnesses and hoses, tag them individually in order not to make connection errors.
- When hoisting parts or assemblies, always use slings or any other hoisting accessories with sufficient strength.
- Clean the neighborhood before disconnecting or removing units, assemblies or parts and, after they have been removed, cover the openings to prevent entry of foreign substance.

2. Precautions when executing installation or connection works

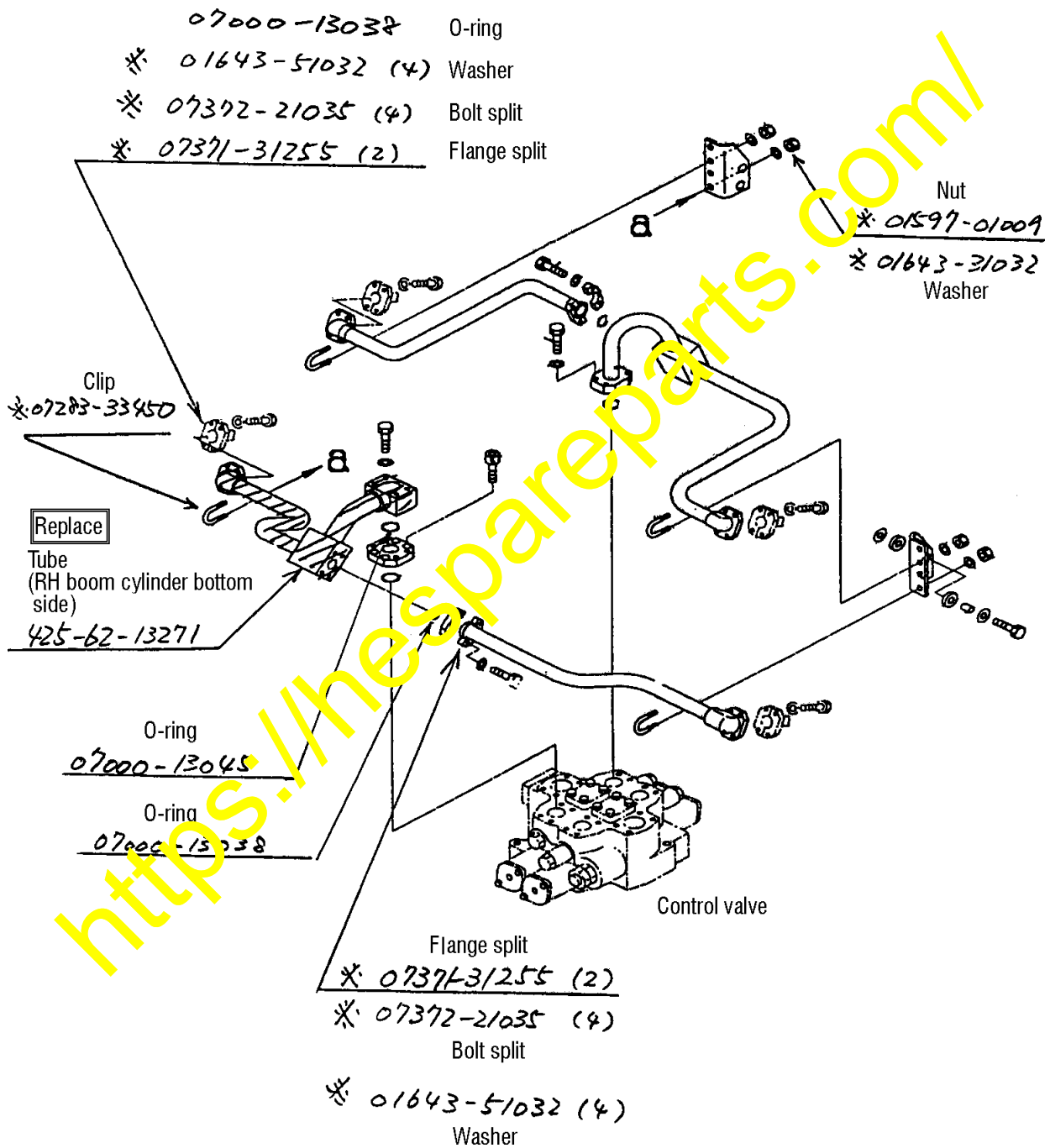
- Always tighten bolts and nuts (or sleeve nuts) to the specified (KES) torque.
- When connecting the hoses, be careful not to twist them nor cause interferences.
- Replace gaskets, O-rings, cotter pins and lock plates with new parts.
- When using cotter pins and lock plates, be sure to bend them securely.
- When applying adhesives, wash and degrease the parts and apply 2 to 3 drops over the threaded surfaces.
- Clean the removed parts and repair flaws, dents, burrs and rust before reusing them.
- When connecting harness connectors, clean the connectors to remove oil, dust and moisture before connecting them securely.

3. Procedures to remove parts which need to be removed for the installation work

- (1) Removing the hydraulic piping (boom cylinder bottom line) (The hatched  tube. P/N 425-62-13271)

Remove those parts of which the part numbers are being shown in the schematic diagram indicated below.

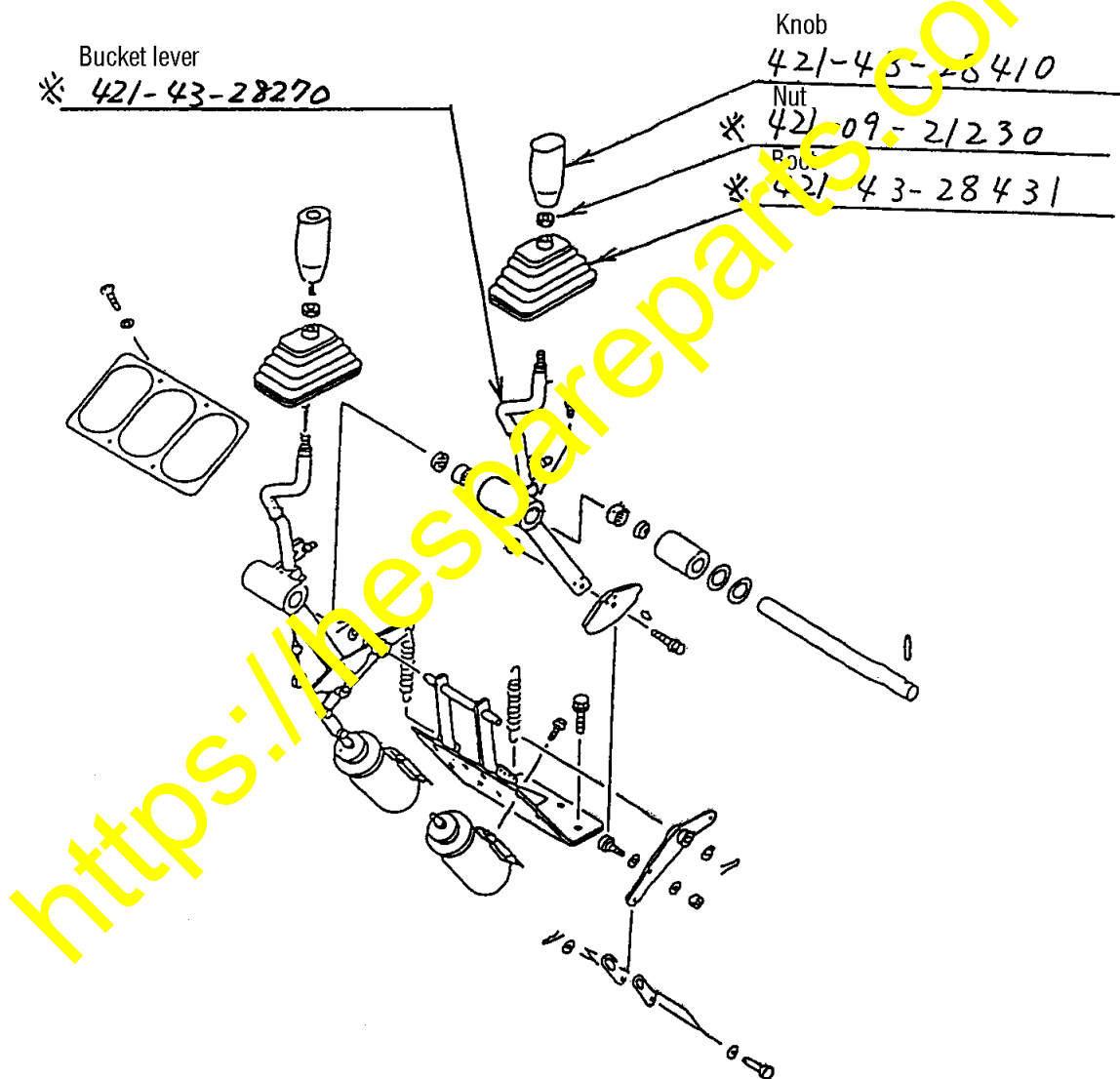
Parts marked ※ are being reused and do not dispose of them after removal.



(2) Removing the bucket control lever

Remove those parts of which the part numbers are being shown in the schematic diagram indicated below.

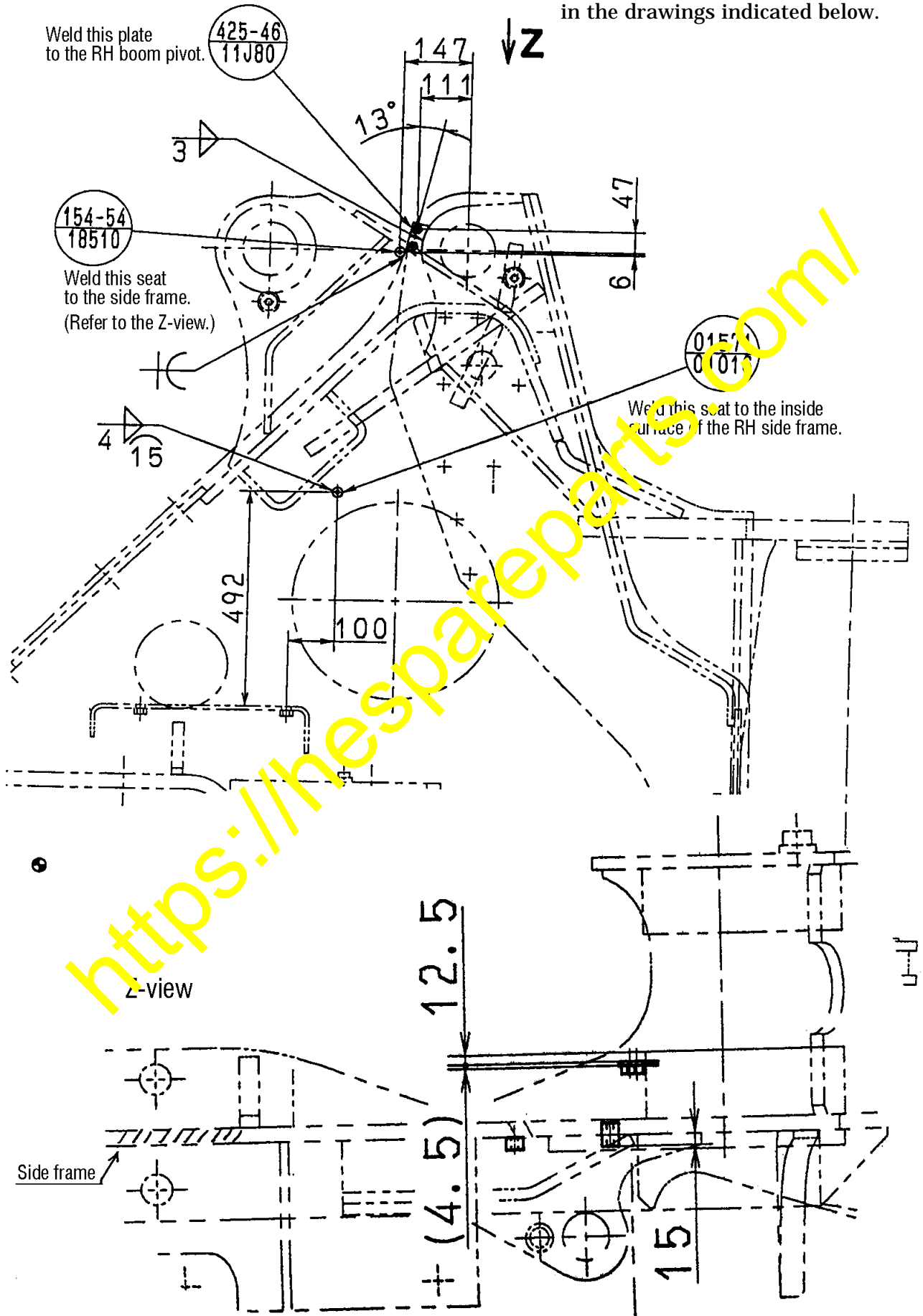
Parts marked ※ are being reused and do not dispose of them after removal.



4. Reworking procedures

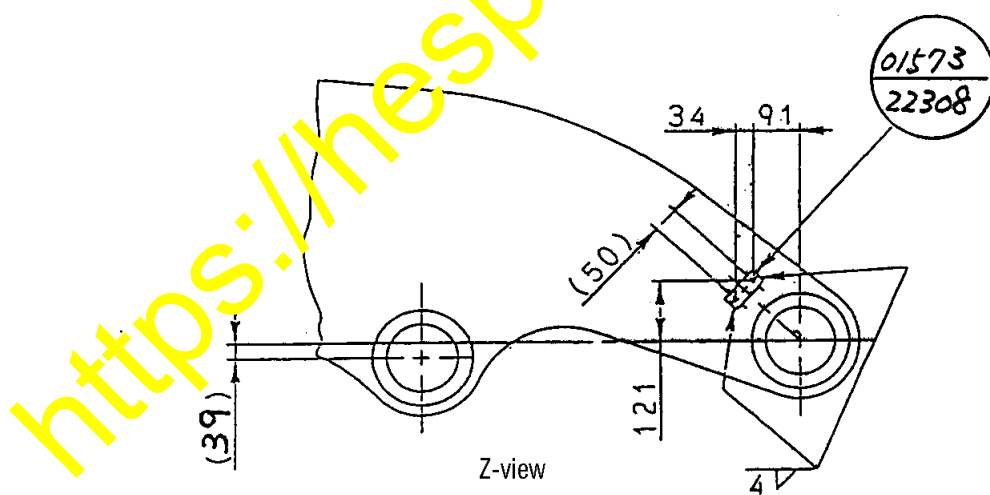
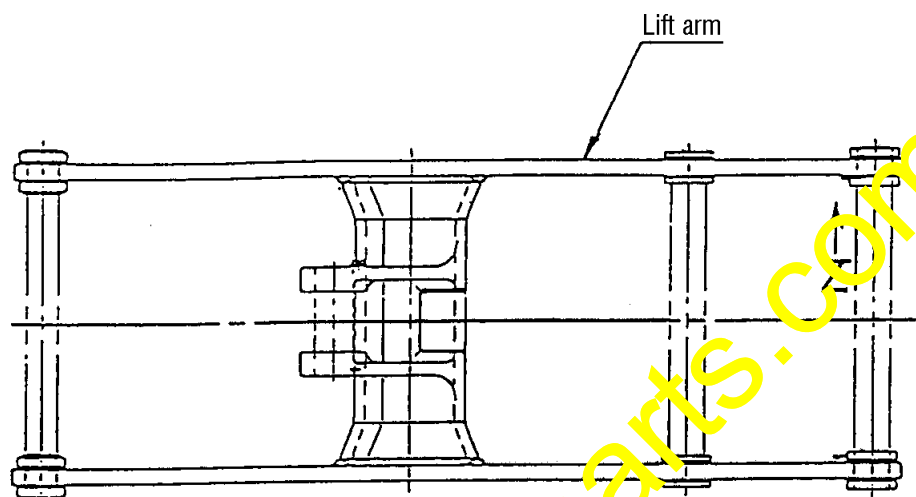
(1) Reworking with the front frame

Weld the prepared seat and plate according to the instructions given in the drawings indicated below.



(2) Reworking with the boom

Weld the prepared seat according to the instructions given in the drawings indicated below.



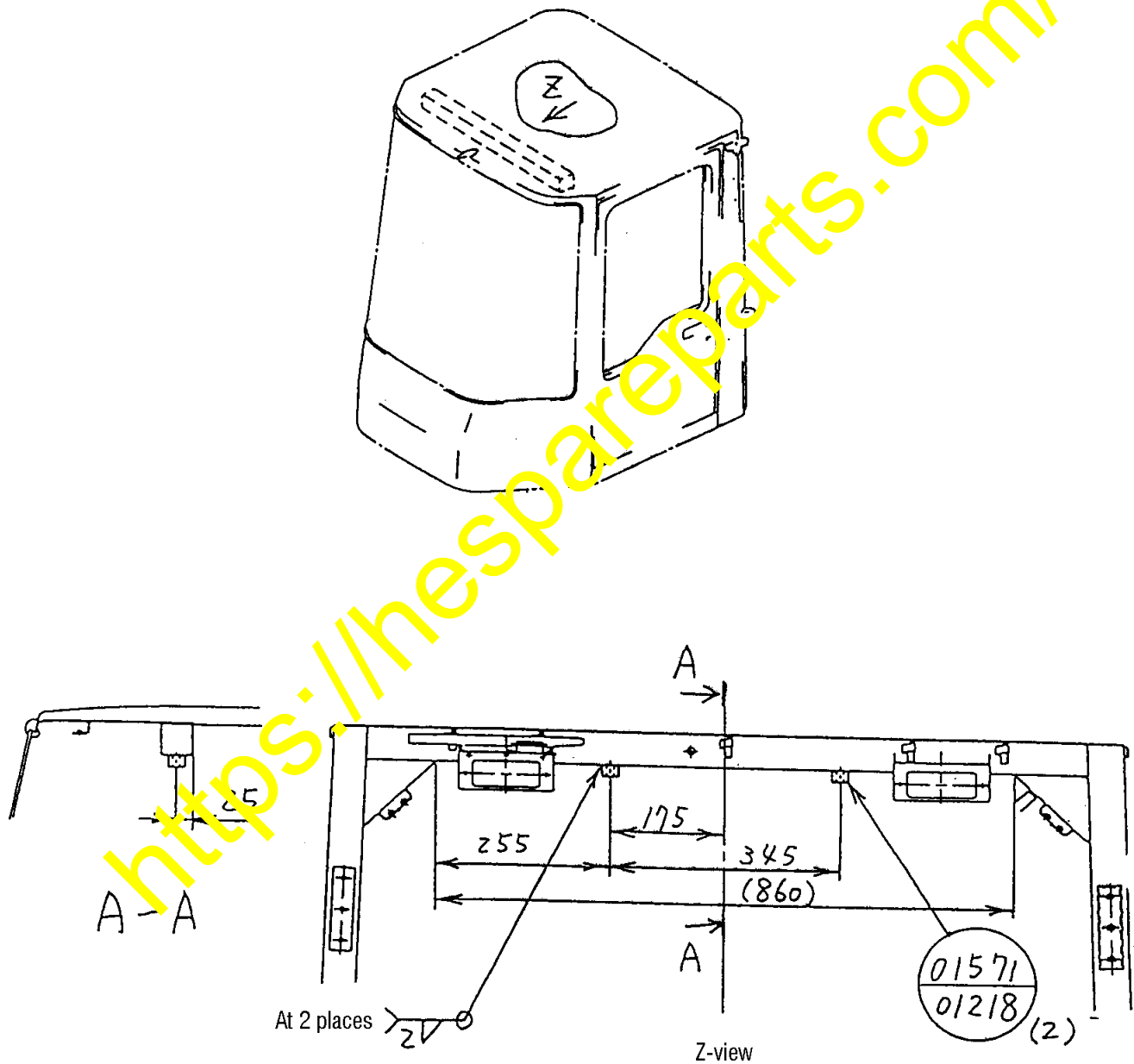
Weld the seat to the inside surface
on the RH side of the boom.

(3) Reworking with the operator's cab

Weld the prepared seats according to the instructions given in the drawings indicated below.

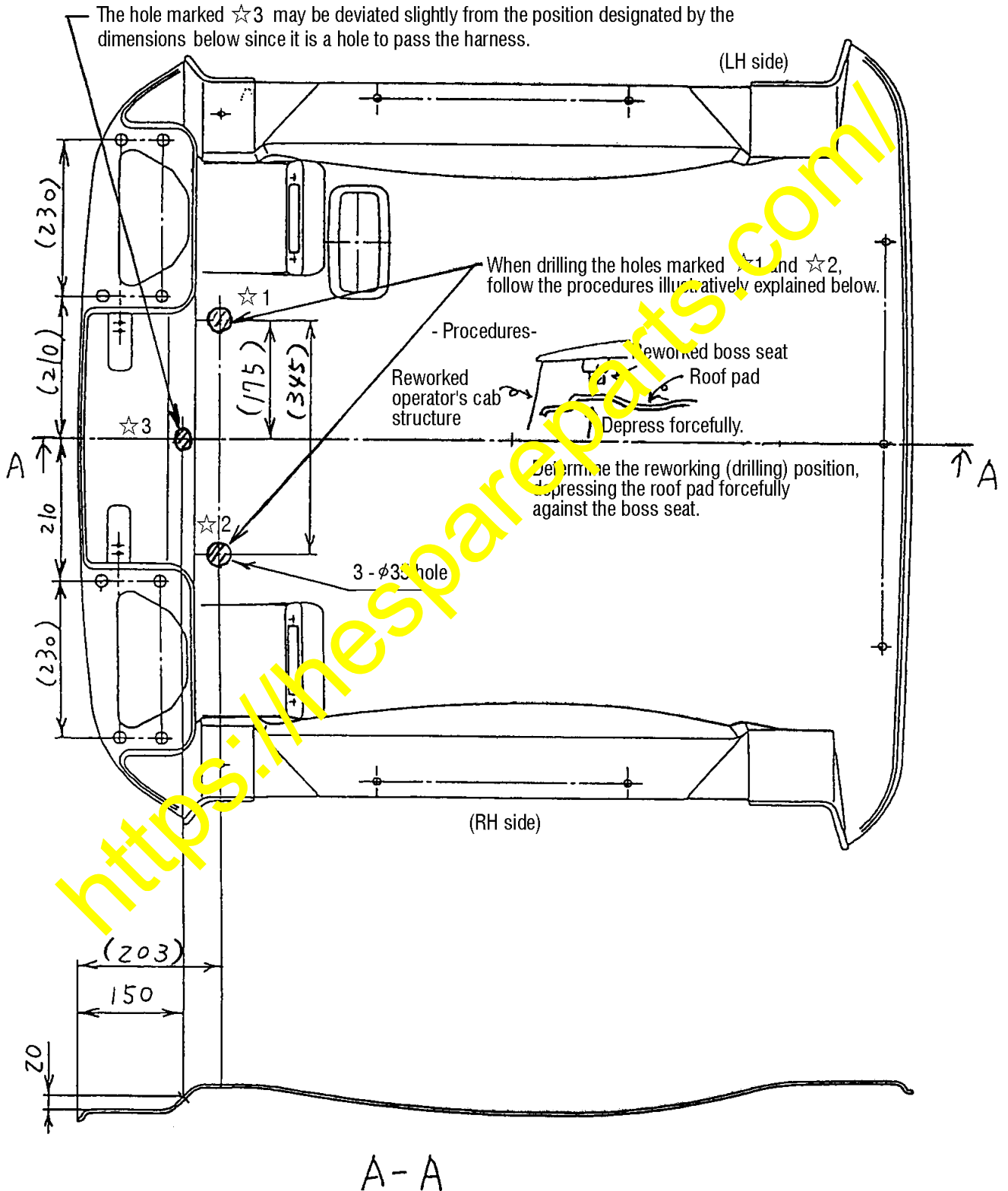
(Remove the roof pad in advance.)

Note) Cover the surrounding sections by protection sheets or the sort to protect the inside walls of the operator's cab from adhesion of welding spatters before starting this reworking.



(4) Reworking with the roof pad

Drill $\phi 35$ holes in the roof pad at 3 places (marked ☆) according to the instructions given in the drawing indicated below.

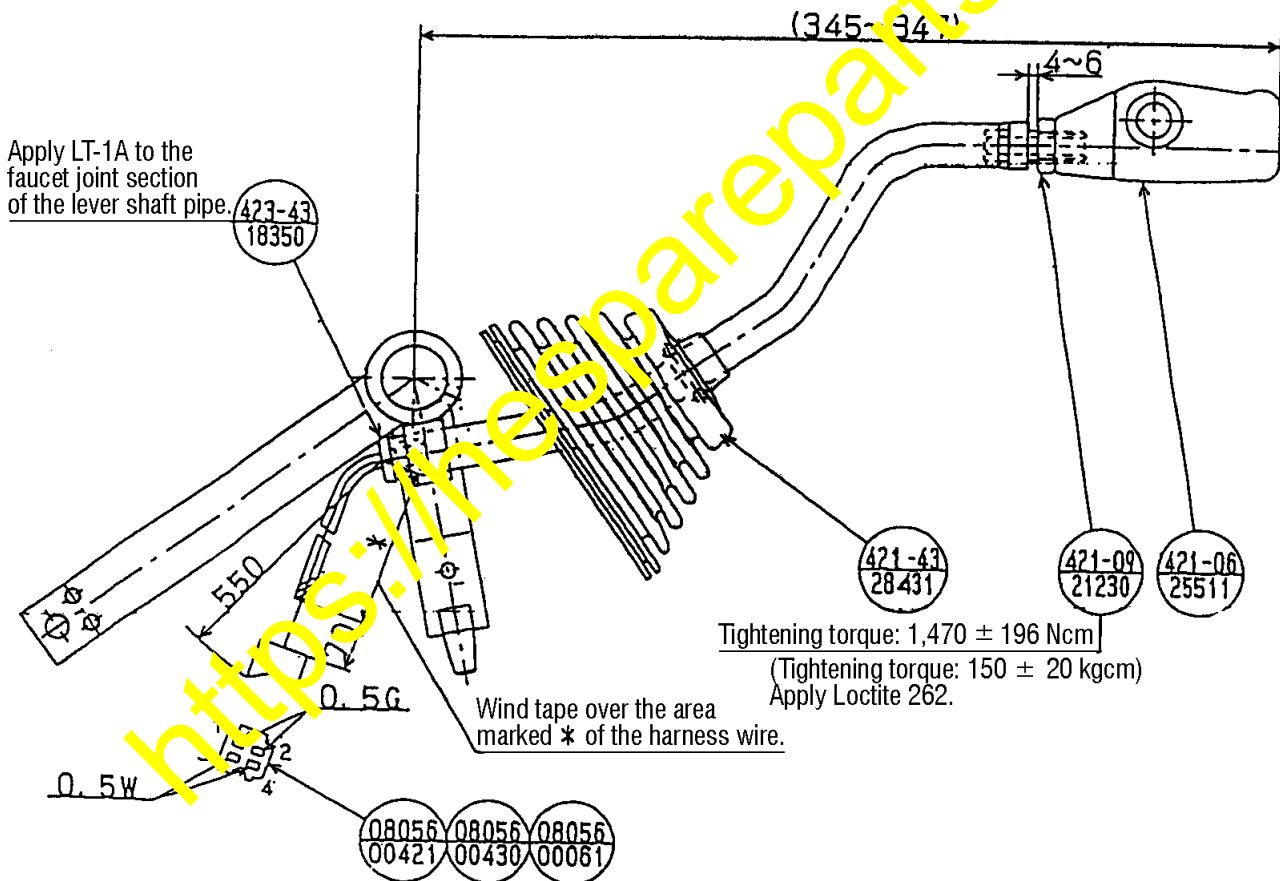


5. Installation procedures

- (1) Assembly procedures for the control lever
 (Assembling the control lever assembly 421-U94-2111)

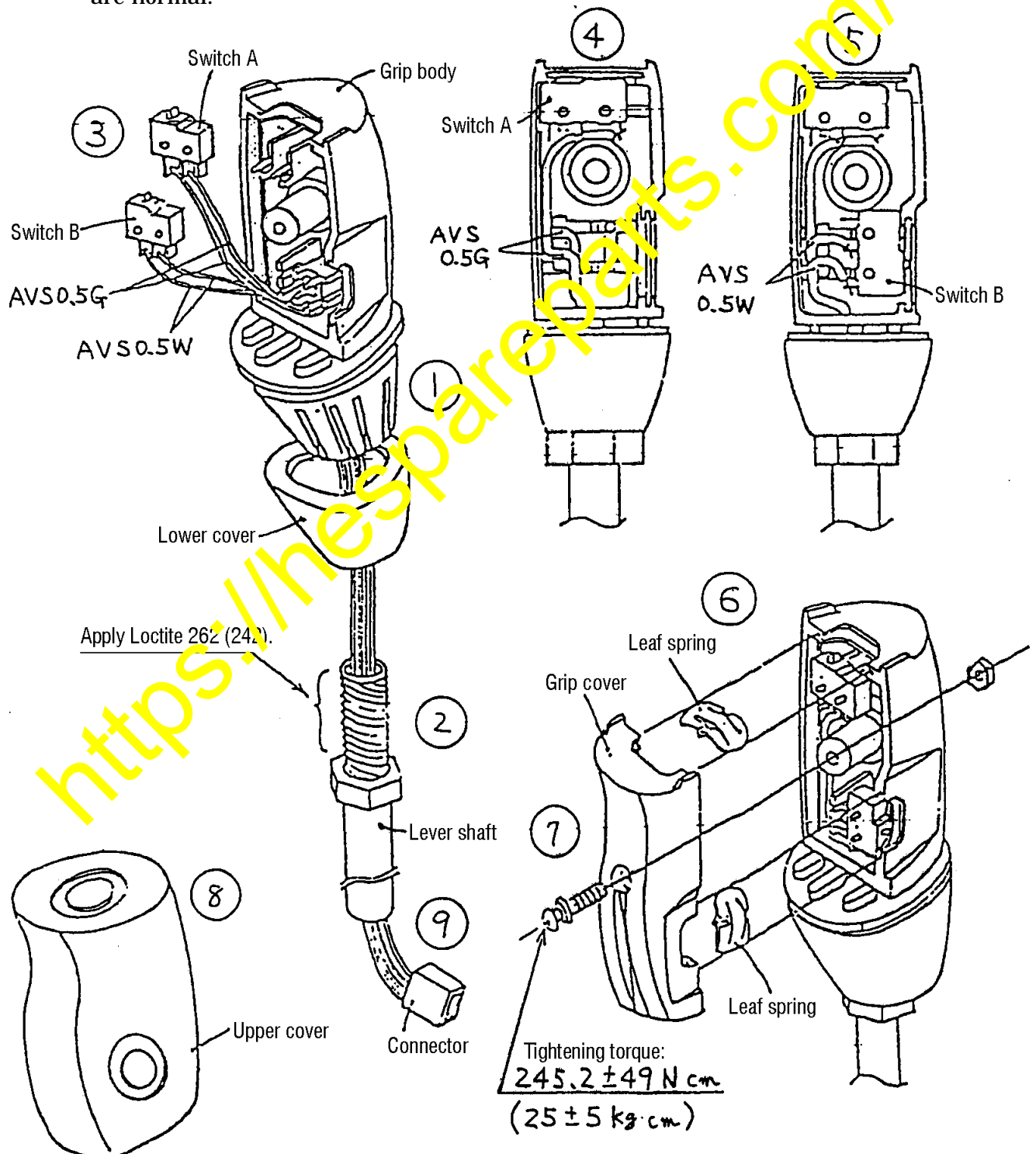
Assemble the lever switches according to the instructions given in the schematic diagram indicated below.


- (a) Refer to page 13 for the detailed assembly procedures for the knob equipped with the switches.
 (b) Screw-in the grip body over the lever shaft and tighten the lock nut 421-09-21230.
 (c) Pass the knob switch harness through the lever shaft pipe and pulling it out by 550 mm from the root of the lever shaft pipe, connect the terminal (08056-00061)
 (d) Install the inner switches into the grip body and make due connections.
 (e) After completing installation of the switches, depress the switch to confirm conduction. (Pin Nos. 1 & 2: Top switch (switch A) and Pin Nos. 3 & 4: Side switch (switch B))

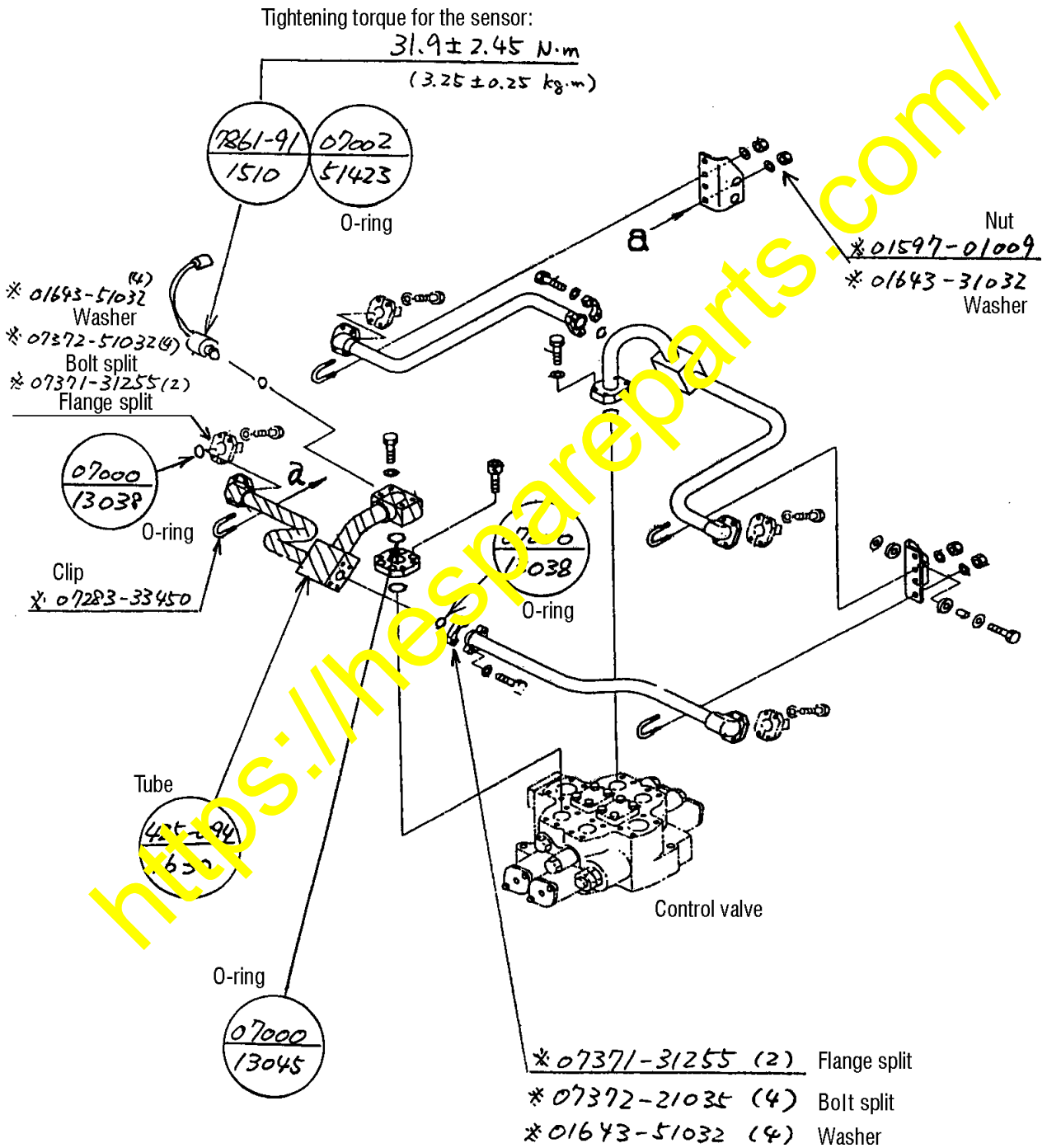


(2) Detailed assembly procedures for the knob equipped with switches

- ① Sub-assemble the grip body and the lower cover.
- ② Fasten the grip body sub-assembly to the lever shaft.
- ③ Pass the leads of the Switch A and Switch B through the grip body into the lever shaft pipe.
- ④ Insert the Switch A to the pin and clamp its leads.
- ⑤ Insert the Switch B to the pin and clamp its leads.
- ⑥ Insert the leaf springs into the sections near the Switch A and Switch B, respectively, of the grip body.
- ⑦ Set the grip cover and fasten it using the setscrew and nut.
- ⑧ Install the upper cover.
- ⑨ Connect the connector to the leads.
- ⑩ After completing the assembly work, press the switches to check that conduction is normal.

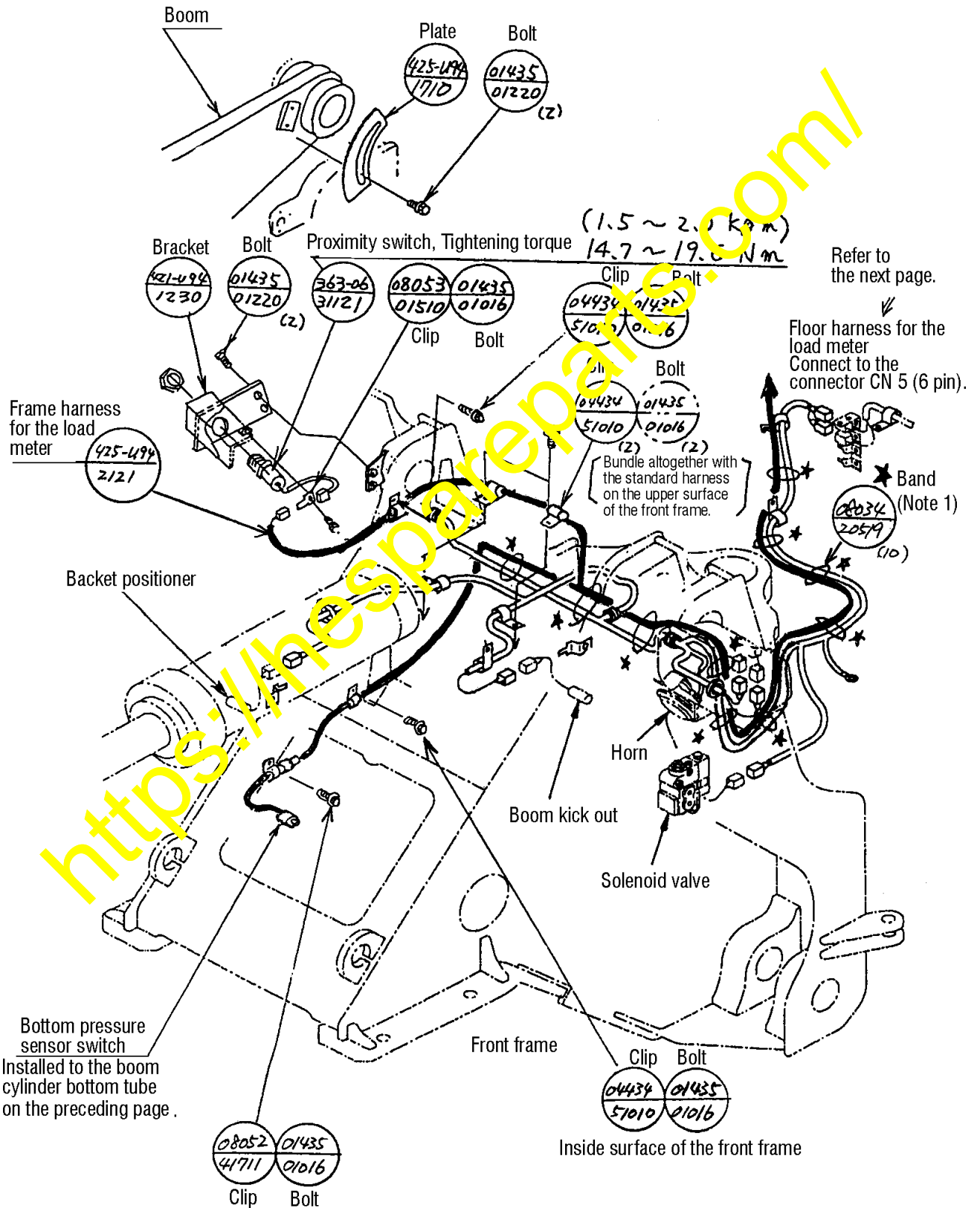


- (3) Installation procedures for the hydraulic piping (boom cylinder bottom line)
 (The hatched  tube. P/N 425-U94-1630)
 Install the hydraulic piping and bottom pressure sensor according to the instructions given in the schematic diagram indicated below.



- (4) Installation procedures for the harnesses along the chassis
 Install the harnesses according to the instructions given in the schematic diagram indicated below.

Note 1: Lead the load meter harnesses along the standard harness and bundle them together at positions marked ★ using bands.
 (At intervals of 200 mm or less)



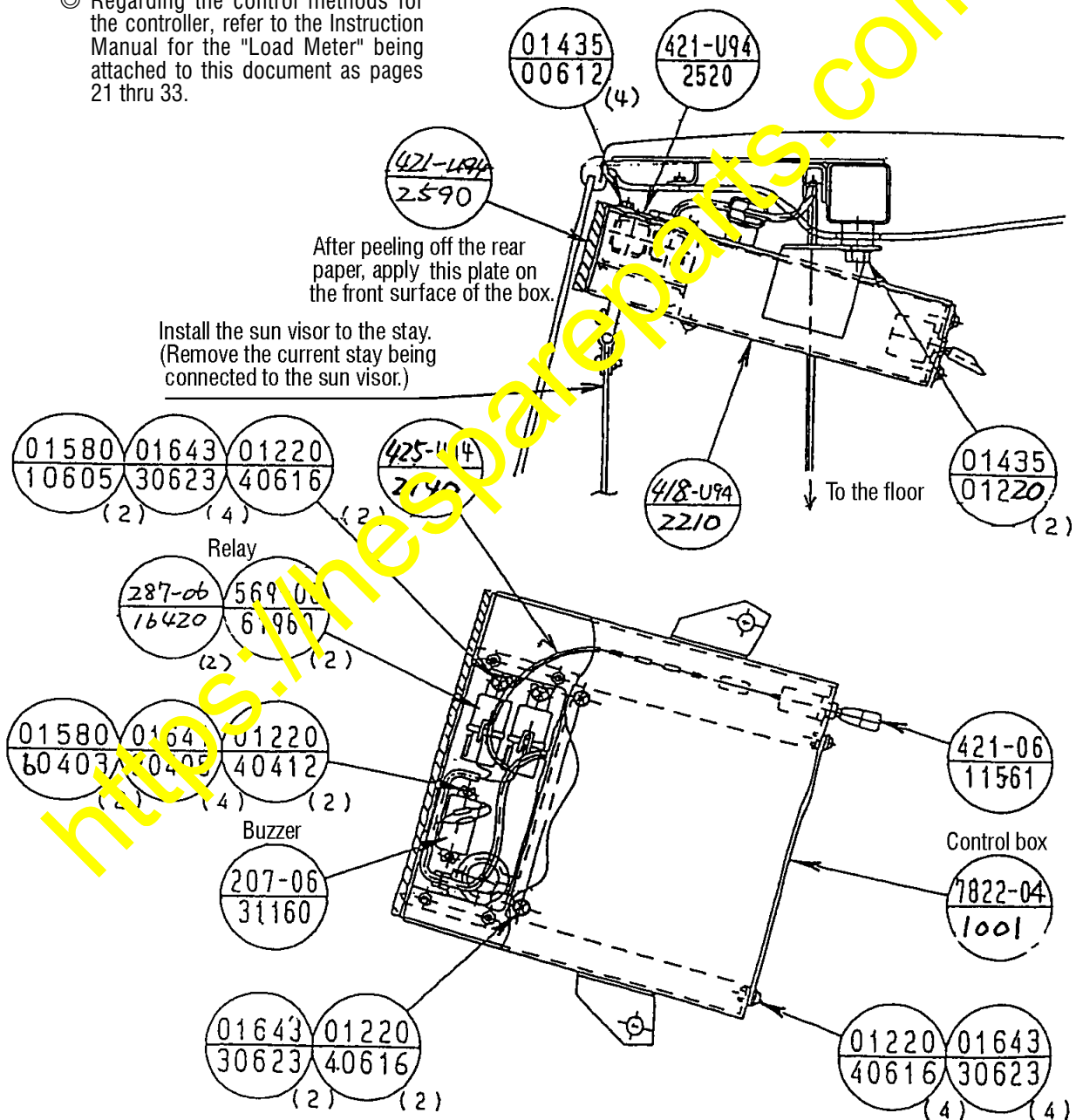
(6) Installation procedures for the control box

Install the control box according to the instructions given in the schematic diagrams indicated below.

Lead the load meter harnesses along the standard harness and bundle them together at appropriate intervals using the bands (08034-20519) before leading down onto the floor in the RH side section inside the operator's cab.

※ Tightening torque M6 bolts: 8.8 – 14.7 Nm (0.9 – 1.5 kgm)
 M12 bolts: 53.9 – 122.5 Nm (5.5 – 12.5 kgm)

© Regarding the control methods for the controller, refer to the Instruction Manual for the "Load Meter" being attached to this document as pages 21 thru 33.



6. Adjustment procedures

- (1) Adjusting the position of the proximity switch plate

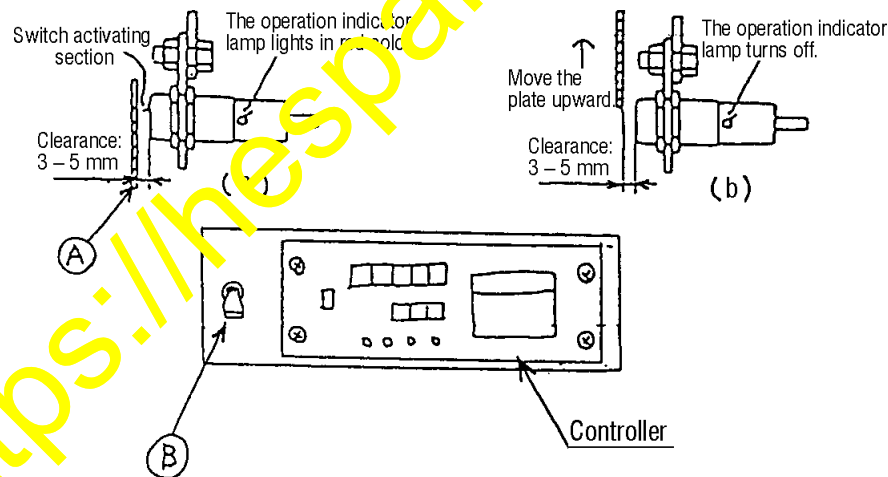
Precautions

- ※ **Before starting adjustments according to Chapter 6 "Adjustment procedures", be sure to bleed air from the hydraulic circuits.**
- ※ **Bleed air from the hydraulic circuits referring to the Section "Working Precautions" in the Chapter "Disassembly and Assembly" in the Shop Manual.**

[Adjustment procedures for the installing position of the plate ①]

Parking the machine on a level surface and completing connections of all the harnesses, turn the starting switch to the "ON" position and turn "ON" the Switch ② before starting this adjustment work.

- 1) With the empty bucket tilted back fully, maintain the boom at the horizontal position.
- 2) Installing the plate ① temporarily, check and make sure that the indicator lamp is lit under the state according to diagram (a) indicated below.
- 3) Then, move the plate ① upward to check if the indicator lamp having been lit turns off while the plate ① is being moved upward (the state according to diagram (b) indicated below). Fasten the plate ① at the point where the indicator lamp having been lit turns off. Meanwhile the above turning point varies depending on the dimensions of the clearance (3 – 5 mm), maintain constant clearance (clearance when the plate was initially installed temporarily) when making this positional adjustment of the plate ①.



- ※ Regarding the control methods for the controller, refer to the Instruction Manual for the "Load Meter". (Refer to pages 21 thru 33.)
- ※ Regarding the aforementioned adjustment work -----
 - 1) Since the sensor (363-06-31120) is designed to detect the horizontal positioning of the boom.
 - 2) Since the controller is so programmed to calculate the load of the cargo at the moment when the boom comes to the horizontal position while it is in the rising processes.
 - 3) If the positional adjustment between the sensor and the plate ① is imperfect, the controller will calculate the load of the cargo at the moment when the boom is in some other position than the horizontal position and the outputted data will become erroneous. For the aforesaid reasons, it becomes necessary to make the aforementioned positional adjustment so that the sensor can accurately detect the horizontal boom position by detecting the position of the plate ①.

(2) Calibration

Make necessary calibrations referring to the Instruction Manual for the "Load Meter" being attached to this document as pages 21 thru 33 and to the "Operation methods to make measurements with higher accuracy" being described below.

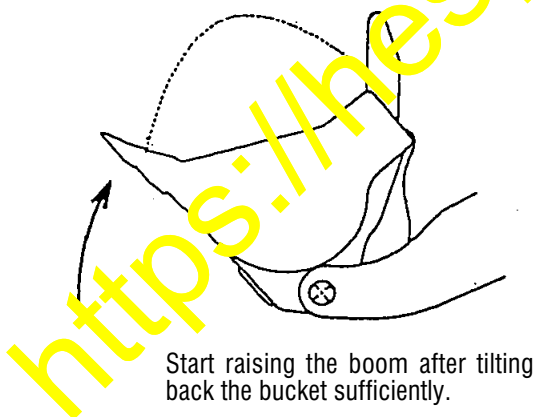
7. Operation methods to make measurements with higher accuracy

(1) Regarding the calibrations (The adjustment work to make "0" point (ton) correction for the load when the bucket is empty) under empty state

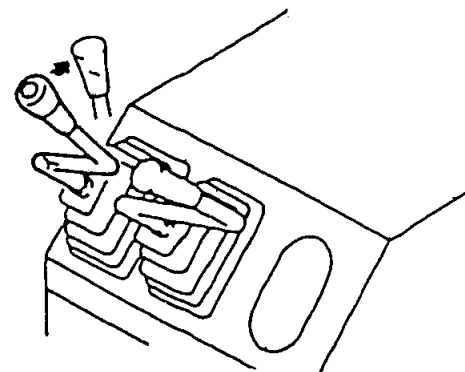
- ① Make calibrations once in a while (around once each week or once each month).
- ② When making calibrations, maintain the hydraulic oil temperature and engine revolution under the same conditions as when carrying out the actual operations whenever possible. Regarding the hydraulic oil temperature, for example, make calibrations after making sufficient warming up of the engine or immediately after finishing a day's work, rather than first in the morning. Also, as for the engine revolution, make the calibration at the revolution rate being used when raising the boom under actual operation.
- ③ Raise the boom with the bucket tilted back fully.

(2) Regarding actual operations

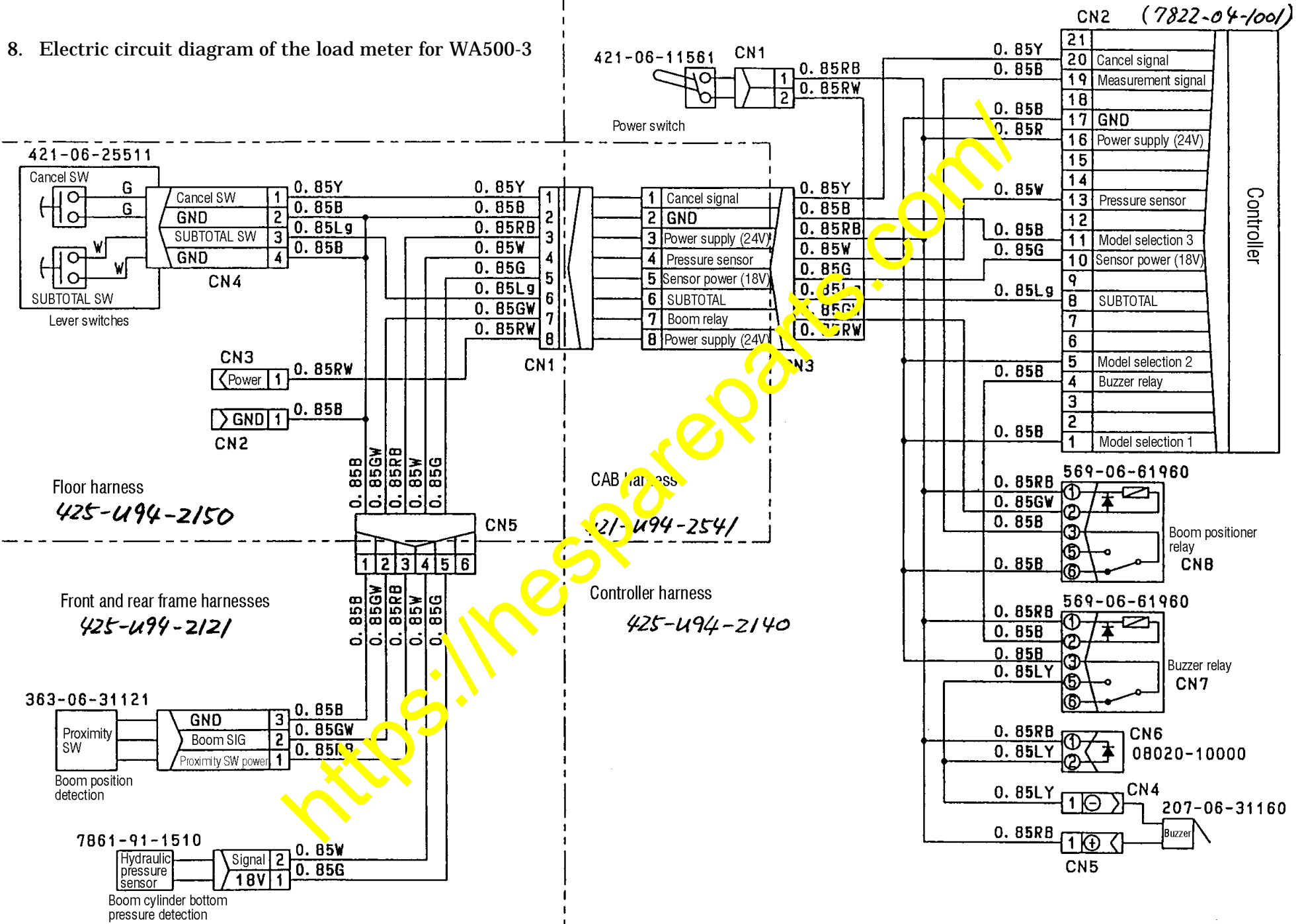
- ① Start raising the boom after tilting back the bucket sufficiently and dump the load out of the bucket after hearing the buzzer sound to notify completion of measurement by the load meter.
- ② When operating the boom control lever, always raise the boom at full stroke, not narrowing the stroke, until the buzzer sounds to notify completion of measurement.



Always raise the boom at full stroke until the buzzer sounds.
(The use of Up Detent is also acceptable.)



8. Electric circuit diagram of the load meter for WA500-3



Introduction

This Instruction Manual describes the handling methods for the load meter which works to find out the loading quantities and work quantities and to help check loading work for a prescribed load quantity.

Read this Instruction Manual together with the Operation and Maintenance Manual for the standard spec. machines.

- ★ This system works to convert the hydraulic pressure in the lift cylinder into weight to indicate the weight data and it is meant only for internal control purposes on the part of our customers. Consequently, do not use this system as a legal measurement instrument applicable to business transactions.
- ★ For the WA300-3 thru WA500-3 wheel loaders, a separate control monitor (incorporating the load meter functions) is available. Regarding handling methods for this control monitor, refer to the Chapter "Optional Parts and Attachments" in the Operation and Maintenance Manual for the standard spec. machines of these model names
- ★ Do not modify the bucket. If the loading position of cargo (the center of gravity) is changed, the accuracy of the load meter will be deteriorated.

Contents

Introduction 21

Contents 21

Names of respective function parts 21

Adjusting the load measuring point 22

Calibration (Zero point adjustment) 23

Measurement 25

Setting the target work quantity under the remaining quantity indication mode 28

Data print 29

Deleting the data being stored in the memory 30

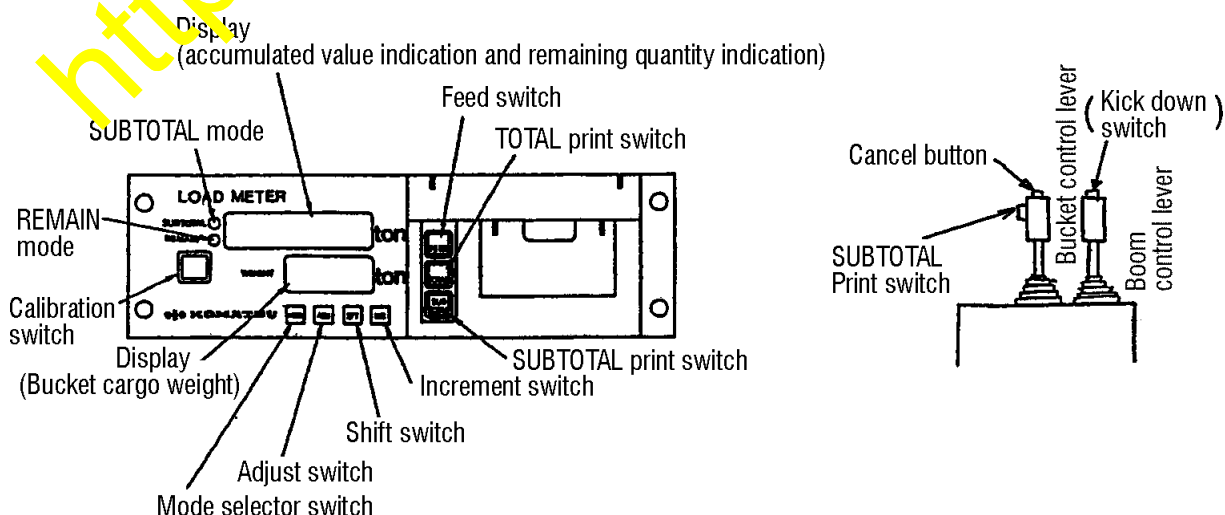
Adjusting the clock 31

Changing the printing paper for the printer 32

Trouble shooting functions 33

Spare parts 33

NAMES OF RESPECTIVE FUNCTION PARTS

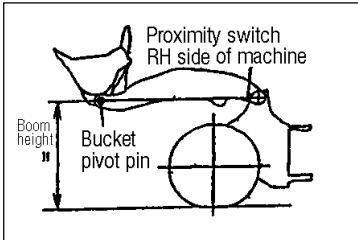


Adjusting the load measuring point

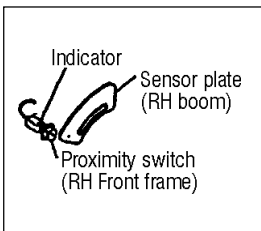
■ Adjusting the load measuring point

To improve the measurement accuracy, make the following adjustments

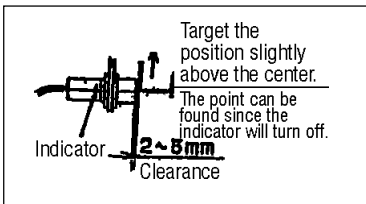
Adjusting the boom height



1. With the bucket tilted back totally, raise the boom until the boom comes to the horizontal position (Boom height "H").



2. Watching the indicator of the proximity switch for the RH boom, adjust the sensor plate as follows:
 - 1) When the bucket is touching the ground:
The indicator lights.
 - 2) When the boom comes to the horizontal position (The boom height "H"):
The indicator turns off.



Supplement:

Adjust the proximity switch and the sensor plate referring to the schematic diagram indicated at left.

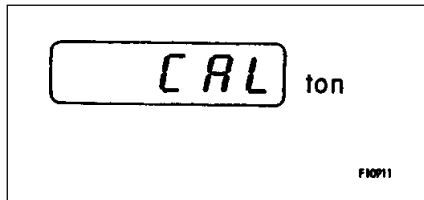
3. After finishing the calibration, load a known weight of cargo onto the bucket and have the system measure the weight.
When the measurement result is found in short, set the boom height at a higher point and when the measurement result is found in excess, set the boom height at a lower point before repeating the calibration once again.

Calibration (Zero point adjustment)

■ Calibration

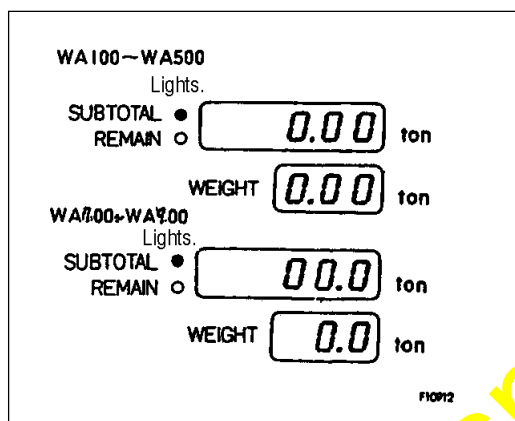
To improve the measurement accuracy, be sure to make calibration (zero point adjustment) before starting actual use of the system.

■ Check point before starting the calibration work



Before starting the calibration work, check and make sure that "CAL" is flickering on the upper display. When any other indications are appearing, take the following steps.

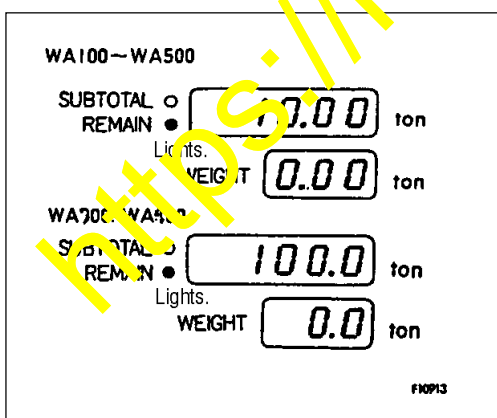
- Under the accumulated value indication mode (When green LED's are lighting)



When "0.00 (0.0) ton" is appearing on both of the upper and lower displays, press the CAL switch and the indication will become "CAL".

★ Calibration cannot be made when the displays are showing the accumulated value or the bucket load weight. Be sure to press the CAL switch after the indication has become 0.00 (0.) ton to delete the accumulated value.

- Under the remaining quantity indication mode (When red LED's are lighting)



When the target work quantity is appearing on the upper display (the display for indication of the remaining quantity) and when "0.00 (0.0) ton" is appearing on the lower display, press the CAL switch and the indication will become "CAL".

★ Calibration cannot be made when the displays are showing any other indications than what are appearing on the above schematic diagram. Be sure to press the CAL switch to call the target work quantity on the display for indication of the remaining quantity.

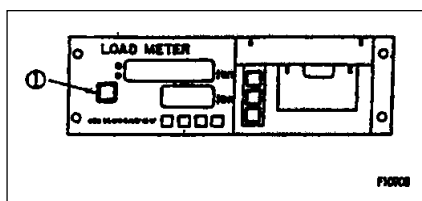
Calibration (Zero point adjustment)

■ Adjustment

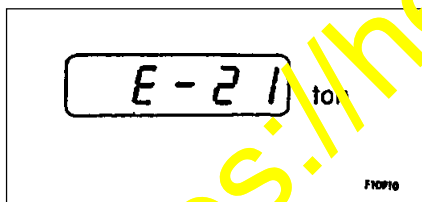
- ① Thoroughly warm up the engine and empty the bucket before tilting back the bucket sufficiently.
 - ② Maintaining the engine revolution at the rate when raising the boom during actual operation or at the rated revolution rate, always raise the boom with the lift control lever at full stroke until the buzzer sounds.
 - ③ Calibration is completed when the buzzer sounds.
- ★ Make the above adjustment under the state where "CAL" is flickering on the display.

■ Calibration checks

Determine if calibration (zero point adjustment) is necessary or not by the following procedures.



- ① Press the CAL switch ① twice to have "SCHEC" flicker on the display.
- ② Same as when making the calibration, thoroughly warm up the engine and empty the bucket before tilting back the bucket sufficiently.



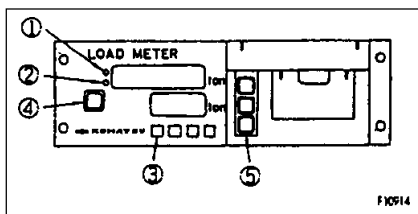
- ③ When "E-21" appears on the upper display, press the CAL switch ① once to delete the error code before starting the calibration work.
- ★ When the display indication returns to what was appearing before starting the calibration check, it is not necessary to make calibration further more.
- ★ Perform calibration check at an interval of once in a week or once in a month.

Measurement

The following two measurement methods are available with this load meter and select either one fitting the need.

- **Accumulated value indicating measurement:**
By this measurement method, loading quantity onto a dump truck, feeding quantity into a hopper, work quantity for a half day, etc. can be found out and data for upto 500 bucketful of loads can be accumulated.
- **Remaining quantity indicating measurement:**
Certain total loading quantity (to prevent overloading, to make proper raw material mixing, etc.) can be freely preset upto 500.00 tons (5,000.00 tons with the WA700 thru WA900).

■ Accumulated value indicating measurement



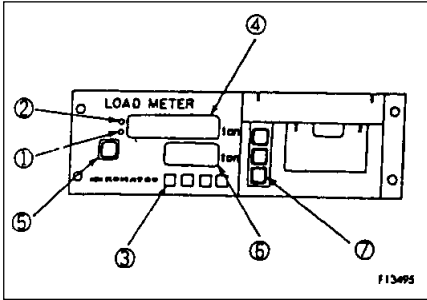
- 1 Check and make sure that the accumulated value indication (SUBTOTAL) LED ① (green) is lit.
- ★ When the remaining quantity indication (REMAIN) LED ② (red) is lit, press and hold the MODE switch ③ for about 3 seconds and the LED ① (green) will turn on.
- 2 The accumulated value indicating display indication can be deleted by pressing the CAL switch ④.
- ★ Be careful since the data being stored in the memory of the load meter will also be deleted when the CAL switch ④ is pressed.
- 3 Load the work object onto the bucket and tilt back the bucket sufficiently before raising the boom.
- 4 At the same time as the buzzer sounds, the weight being loaded into the bucket currently will be indicated on the lower display (WEIGHT) and, simultaneously, the accumulated value will be indicated on the upper display (the accumulated value indicating display).
- 5 In case it is not necessary to store the measured data, press the data cancel button being installed on the work equipment control lever. Then, the measured data will be cancelled and the display indication will return to the previous indication before making the preceding measurement.
- ★ The aforesaid cancellation can only be made during the period when the current bucket load quantity is being indicated on the lower display (for about 15 seconds).
- ★ As for the accumulated value, data for upto 500 bucketful of loads can be accumulated and indicated.
- 6 To reset the indication on the upper display (the accumulated value indicating display) to "0.00(0.0) ton", press the SUBTOTAL switch ⑤ to print out the work quantity of this time or press the CAL switch ④ to delete the data from the memory.

Supplement

- To improve the measurement accuracy, always raise the boom with the lift control lever at full stroke until the buzzer sounds.
- Always empty (dump the cargo) the bucket after the buzzer sounds notifying completion of measurement.

Measurement

■ Remaining quantity indicating measurement



① Check and make sure that the remaining quantity indication (REMAIN) LED ① (red) is lit.

★ When the accumulated value indication (SUBTOTAL) LED ② (green) is lit, press and hold the MODE switch ③ for about 3 seconds and the LED ① (red) will turn on.

② When returning the remaining quantity indication (on the upper display) ④ to the target work quantity, press the CAL switch ⑤.

★ When changing the target work quantity, refer to the Section "Setting the target work quantity under the remaining quantity indication mode".

③ Load the work object onto the bucket and tilt back the bucket sufficiently before raising the boom.

④ At the same time as the buzzer sounds, the weight being loaded into the bucket currently will be indicated on the lower display (WEIGHT) ⑥ and, simultaneously, the balance after deducting the current bucket load weight from the preceding remaining quantity will appear on the upper display ④ as the remaining quantity for the prescribed work quantity.

⑤ In case it is not necessary to store the measured data, press the data cancel button being installed on the work equipment control lever. Then, the measured data will be cancelled and the display indication will return to the previous indication before making the preceding measurement.

★ The aforesaid cancellation can only be made during the period when the current bucket load quantity is being indicated on the lower display ⑥ (for about 15 seconds).

⑥ In case the target work quantity will be exceeded if the measured weight of the cargo is totally loaded onto the dump truck, the remaining quantity indication display ④ reading will become a minus figure but, after 3 seconds, the indication will return to the preceding reading and the indication starts flickering. Also, the lower display ⑥ which usually returns to "0" ton indication 15 seconds after the measurement has been finished (after the buzzer sounds), indication of the current bucket load weight will be maintained in this case. Therefore, evaluate what fraction of the load in the bucket is to be loaded to the dump truck to reach the target work quantity by watching the remaining quantity up to the target work quantity appearing on this remaining quantity indication display ④ and the current bucket load weight appearing on the lower display ⑥.

⑦ When emptying all the bucket load onto the dump truck such as when the indication on the remaining quantity indication display ④ and the indication on the lower display ⑥ are close by, load the cargo onto the dump truck and press the SUBTOTAL switch ⑦ to print out the loading quantity to the dump truck. When data storage and printing out of the data are not necessary, press the CAL switch ⑤.

Then, the target work quantity will appear on the remaining quantity indication display ④, ready to start loading to the next dump truck.

⑧ When loading a fraction of the load in the bucket onto a dump truck, etc. while adjusting the amount being loaded by watching the indications on the remaining quantity display ④ and lower display ⑥, do so before tilting back the bucket to lower the boom sufficiently below the horizontal position (down to a midpoint to the ground), then raise the boom running the engine at an intermediate speed until measurement completion buzzer sounds. Through the above procedure, the weight of the load remaining in the bucket will be duly deducted and the remaining quantity up to the target work quantity will be indicated.

Measurement

The aforementioned procedures may be repealed to load the target work quantity onto a dump truck precisely.

When the indication on the remaining quantity indication display ④ becomes "0" ton or near by, loading of the target work quantity has been finished and press the SUBTOTAL switch ⑦ to print out the loaded quantity data onto the dump truck.

⑨ In case the target work quantity has been exceeded in spite of the loading amount adjustment made during loading, the remaining quantity indication display ④ will indicate a minus figure and the buzzer sounds intermittently while indicating the excess part of the load in weight. Loading beyond this point, when made, will not be measured. Therefore, press the SUBTOTAL switch ⑦ to print out the loading quantity data onto the subject dump truck.

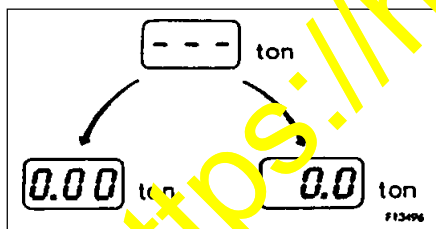
⑩ If any portion of the load is remaining in the bucket after pressing the SUBTOTAL switch ⑦ in Paragraphs ⑧ and ⑨, the remaining portion can be loaded onto the next dump truck as is.

The remaining quantity indication display ④ will indicate the balance after deducting the weight of the remaining cargo in the bucket from the target work quantity and the lower display ⑥ will indicate the portion remaining in the bucket for 15 seconds, and this portion will be memorized as the 1st bucket for the next dump truck, and you can load the next dump truck with that portion.

Consequently, unless the target work quantity is changed, the following work becomes possible.

[e.g.] Continuous operation of loading the 1st dump truck with two bucketfuls plus half a bucketful and loading the next dump truck with the remaining half a bucketful and two more bucketfuls and repeating this cycle.

Meanwhile, when the remaining portion of the load in the bucket becomes unnecessary after pressing the SUBTOTAL switch ⑦ in Paragraphs ⑧ and ⑨ and dumping the remaining portion on the ground, press the cancel button located at the tip end of the grip of the work equipment control lever. Then, the indication on the remaining quantity indication display ④ will go back to the original target work quantity. Nonetheless, this cancellation procedure is valid for 15 seconds only, while the weight of the remaining portion of the load in the bucket is being indicated on the lower display.



⑪ If the work object is loaded into the bucket without pressing the SUBTOTAL switch ⑦ in Paragraphs ⑧ or ⑨ and it the boom is then raised, the load meter deems such operation as an error to flicker "---" on the lower display ⑥ and the buzzer will sound intermittently.

Since measurement will not be conducted under this state, press the CAL switch ⑤ once to have the remaining quantity indication display ④ indicate the target work quantity and to have the lower display ⑥ indicate "0" ton.

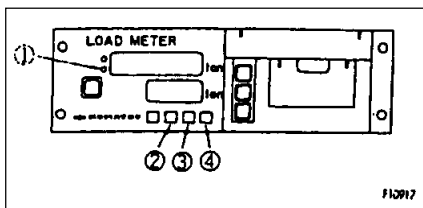
Raise the boom once grain under this state.

Supplement

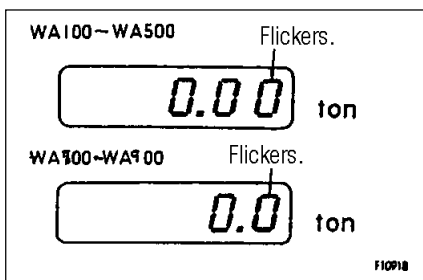
- To improve the measurement accuracy, always raise the boom with the lift control lever at full stroke until the buzzer sounds.
- Always empty (dump the cargo) the bucket after the buzzer sounds notifying completion of measurement.

Setting the target work quantity under the remaining quantity indication mode

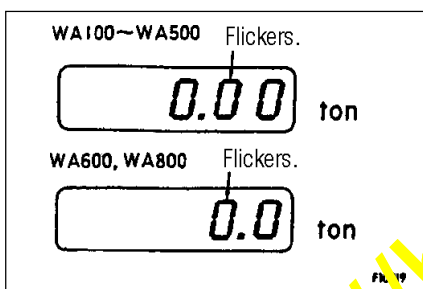
Make setting of the target work quantity under the remaining quantity indication mode following the procedures described below.



- 1 Check and make sure that the remaining quantity indication (REMAIN) LED ① (red) is lit.



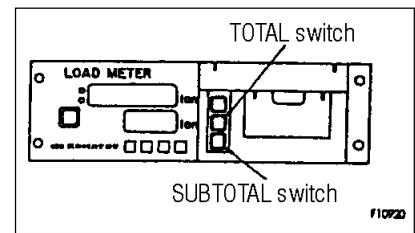
- 2 Press the ADJ switch ② and the last digit starts flickering.



- 3 Press the SFT switch ③ and the flickering digit shifts leftward.
 - 4 Press the INC switch ④ and the figure of the flickering digit will increment one by one.
 - 5 When the prescribed work quantity has been equaled by the above procedures, press the ADJ switch ② and flickering will stop, thus concluding the presetting work.
- ★ The maximum value of the target work quantity is 500.00 tons (5,000.00 tons with the WA700 thru WA900).

Data print

It is possible to print out two types of data prints namely, SUBTOTAL prints (the accumulated value print) and TOTAL prints (the total value print). Nonetheless, data printing cannot be effected when the bucket load weight is being indicated.



■ SUBTOTAL print (Accumulated value print)

The data will be printed out when the SUBTOTAL switch is pressed. The switch is installed to the load meter unit proper and to the work equipment lever grip. The indication content is as follows:

SUBTOTAL	*SUBTOTAL*
'86-11-17	'86-09-12
T.13:21	T.:6:54
NO.001 2.33	NO.001 19.1
NO.002 2.59	NO.002 10.4
NO.003 2.73	-----
NO.004 2.81	29.1
NO.005 2.81	WA700~900

11.4	
WA100~WA500	

- Under the accumulated value indication mode
 - Year/month/day at time of printout effected
 - Time when printout is effected
 - Loading weight per loading
 - Accumulated value
- ★ After SUBTOTAL print has been finished, although the accumulated value indication will become "0.00(0.0) ton", the same data can be printed out repetitively unless the next measurement is executed.
- Under the remaining quantity indication mode
 - Year/month/day at time of printout effected
 - Time when printout is effected
 - Target work quantity
 - Loading weight per loading
 - Accumulated value

■ TOTAL print (Total value print)

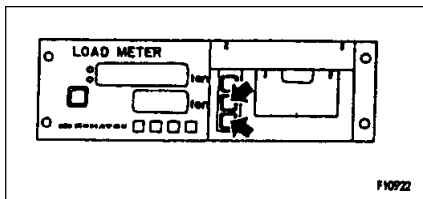
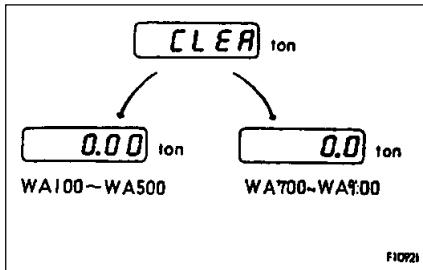
When the TOTAL switch is pressed, the total weight of all the measured loads will be printed out after deleting all the data being stored in the data memory of the load meter.

TOTAL	*TOTAL*
'86-11-17	'86-09-26
T.13:23	T.09:44
262.77TON	197.4 TON
WA100~WA500	WA700~WA900

- ★ Regarding data deletion, refer to the Section "Deleting the data in the memory".
- ★ The TOTAL value keeps increasing while adding up the measured data regardless of the SUBTOTAL prints.
 - Addition can be made upto 16,772.15 ton (167,721.5 ton with WA700 thru WA900).
- ★ Deleting the data in the morning before starting work and performing TOTAL print when the day's work is complete will enable the total work quantity per day to be printed out and such use would be appropriate.

Deleting the data being stored in the memory

The data memory incorporated in this load meter will preserve the stored data even after the power supply is turned off. When deleting the stored data, follow the procedures described below.

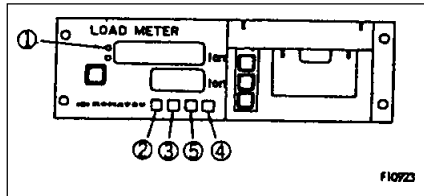


Press both of the TOTAL switch and SUBTOTAL switch at the same time and "CLEA" will appear and flicker on the upper display. Keep pressing these switches and the indication changes to "0.00(0.0)" and the data stored in the memory will be deleted.

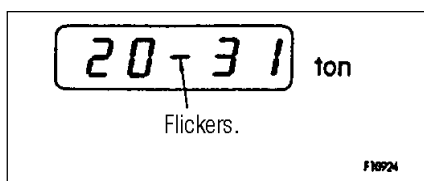
<https://hespareparts.com/>

Adjusting the clock

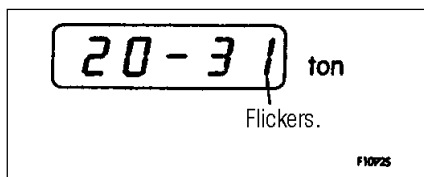
This load meter carries a built-in clock and year/month/day and time are printed out using the function of this clock when data printings are made. When adjusting the clock, follow the procedures described below.



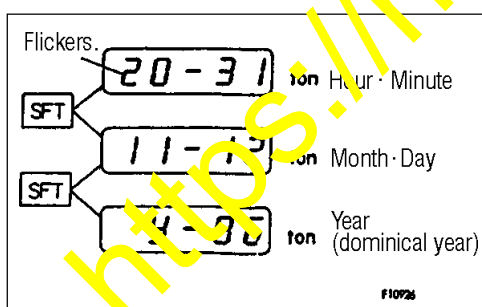
- 1 Check and make sure that the accumulated value indication (SUBTOTAL) LED ① (green) is lit.



- 2 Press and hold the MODE switch ② and the ADJ switch ③ simultaneously for 3 seconds to call the clock mode.



- 3 Press the ADJ switch ③ to call the adjustment mode and the single digit of the minute indication will start flickering.
- 4 Press the INC switch ④ to increment the figure of the flickering digit one by one.

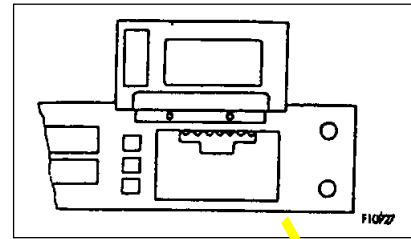


- 5 Press the SFT switch ⑤ to shift the flickering digit leftward by one digit. Press the SFT switch ⑤ while the digit of tens of the time indication is flickering to call month/day indication and press the SFT switch ⑤ while the digit of tens of the month indication is flickering to call year indication. Repeat the same procedure to return to the time indication once again.
- 6 When the clock adjustment has been finished, press the ADJ switch ③ to call the time indication mode.
- 7 Press the MODE switch ② to return to the accumulated value indication mode.

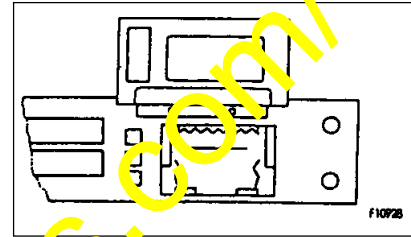
Changing the printing paper for the printer

When the printing paper has been used up, refill the printing paper following the procedures described below.

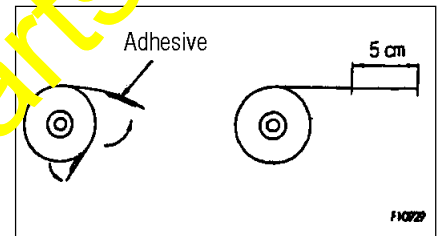
- 1 Lift the molded acrylic dust cover.



- 2 Pull the paper cover toward you to open it.

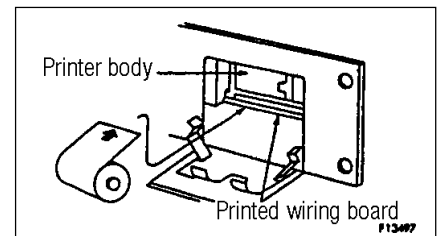


- 3 Peel off the adhered section of the paper before cutting a 5 cm width of the tip end of the rolled paper using a pair of scissors.

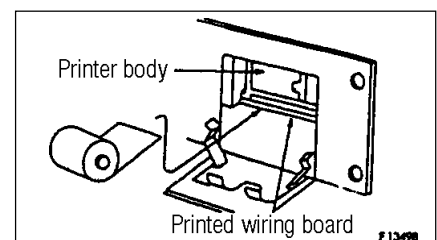


- 4 Insert the paper as shown below.

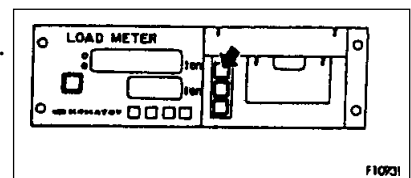
- Part number of the print paper: 7818-27-2910
As illustrated at right, insert the paper roll softly into the printer directing the arrow mark (red colored) upward.



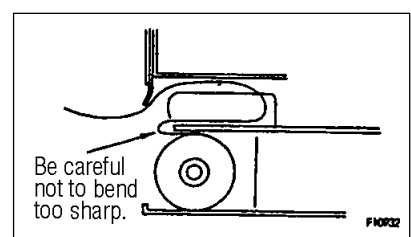
- Part number of the print paper: 7818-19-3410
As illustrated at right, insert the paper roll softly into the printer directing the surface side of the paper roll downward.



- 5 Press the FEED switch and the printer starts feeding paper.



- 6 When storing the paper roll, be careful not to bend paper too sharp.



Trouble shooting functions

This load meter is equipped with trouble shooting functions.

When the following codes appear on the display, press the CAL switch once to cancel the error code indication. When the error code indication still appears even after the CAL switch is pressed, inform the content of the error code to our office or our service shop.

Error codes	Estimated locations of failures
E-8	Load meter proper
E-01	Sensor failure or open circuitry in the harness
E-11	Sensor failure or the harness is in contact with the sensor power leads.
E-31	Sensor power circuit shorting
E-33	Voltage drop of the internal battery
PAPE	Caught printer paper

Spare parts

For the printer paper and for the internal battery, always use the following KOMATSU genuine parts.

Articles	Part numbers	Part names
Printer paper	7818-19-3410	Paper
	7818-27-2910	
Internal battery	7818-27-2860	Battery

Order our office or our sales or service shops when changing the internal battery.