

PARTS & SERVICE NEWS

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| REF NO. | AT03081 |
| DATE | May. 7, 2003 |

SUBJECT: INSTALLATION PROCEDURE OF ENGINE STARTABILITY IMPROVEMENT KIT AT LOW AMBIENT TEMPERATURE

PURPOSE: To introduce installation procedure for the newly developed parts kit to improve the engine starting performance under low ambient temperature environments for use on GD555-3 thru GD675-3 motor graders

APPLICATION:

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|---|--|
| GD555-3A Motor Graders, Serial Nos 10001 and up | } Installation of this kit is for option in case of the machines equipped with the Tier 1 engines. |
| GD555-3C Motor Graders, Serial Nos 10001 and up | |
| GD655-3A Motor Graders, Serial Nos 10001 and up | |
| GD655-3C Motor Graders, Serial Nos 10001 and up | |
| GD675-3A Motor Graders, Serial Nos 10001 and up | |
| GD675-3C Motor Graders, Serial Nos 10001 and up | |

FAILURE CODE: D521NA

DESCRIPTION:

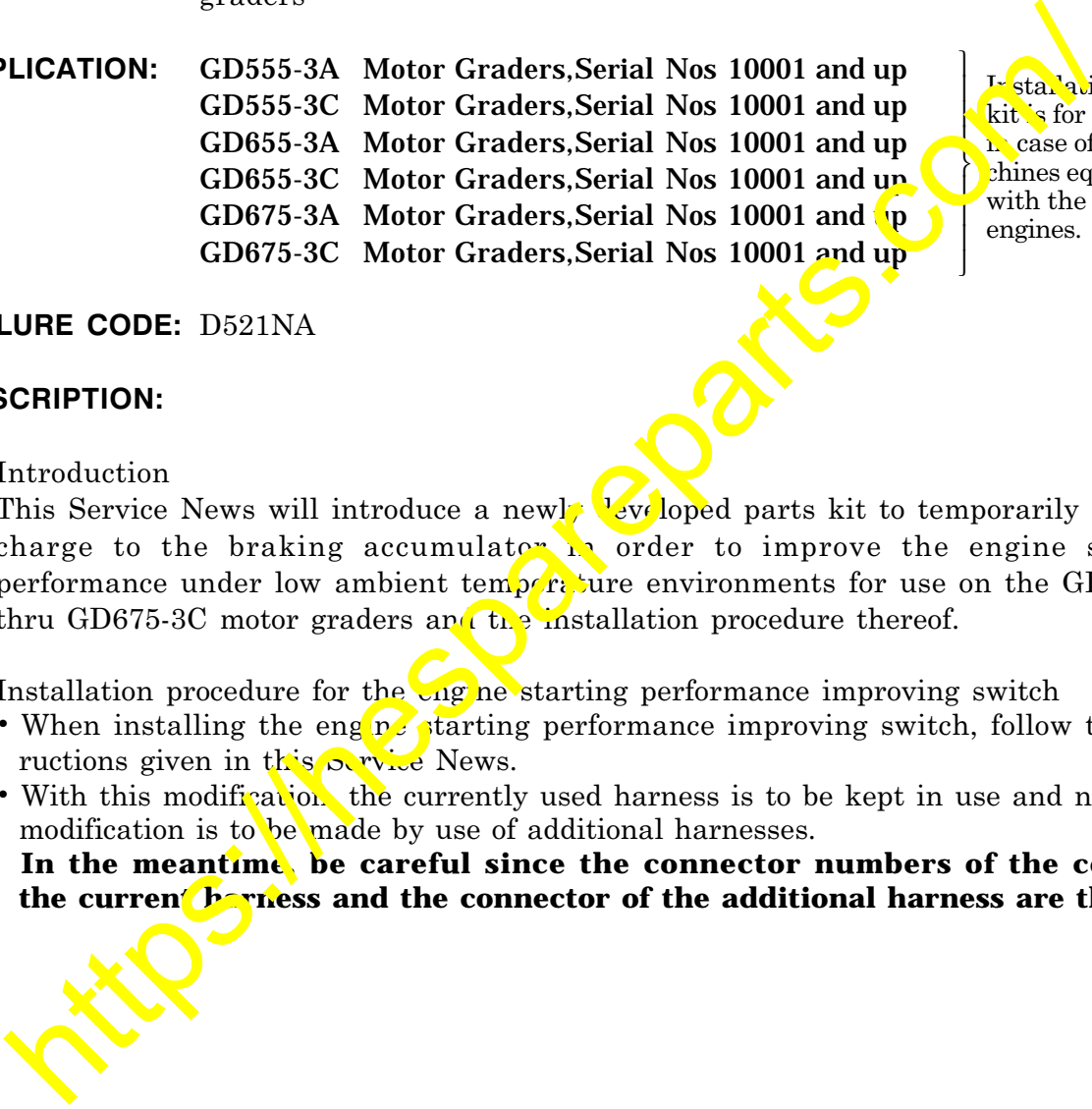
1. Introduction

This Service News will introduce a newly developed parts kit to temporarily stop the charge to the braking accumulator in order to improve the engine starting performance under low ambient temperature environments for use on the GD555-3A thru GD675-3C motor graders and the installation procedure thereof.

Installation procedure for the engine starting performance improving switch

- When installing the engine starting performance improving switch, follow the instructions given in this Service News.
- With this modification, the currently used harness is to be kept in use and necessary modification is to be made by use of additional harnesses.

In the meantime, be careful since the connector numbers of the connector of the current harness and the connector of the additional harness are the same.



2. List of parts

| Part No. | Part Name | Q'ty | Remarks |
|--------------------------------|------------------|----------|---------|
| 23B-06-41640 | Wiring harness | 1 | |
| 23B-06-41650 | Wiring harness | 1 | |
| 569-06-61970 (569-06-61960) | Relay (Relay) | 1 (1) | |
| 08192-28202 | Body | 1 | |
| 08191-00770 | Pulg | 8 | |
| 42C-06-11320 | Switch | 1 | |
| 08018-01426 | Sleeve | 1 | |
| 08033-11440 | Tube | 1 | |

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3. Modification procedure

1) Removing the steering wheel post cover (Refer to Fig. 1.)

Remove the cover for the steering wheel post on the operator's seat side.

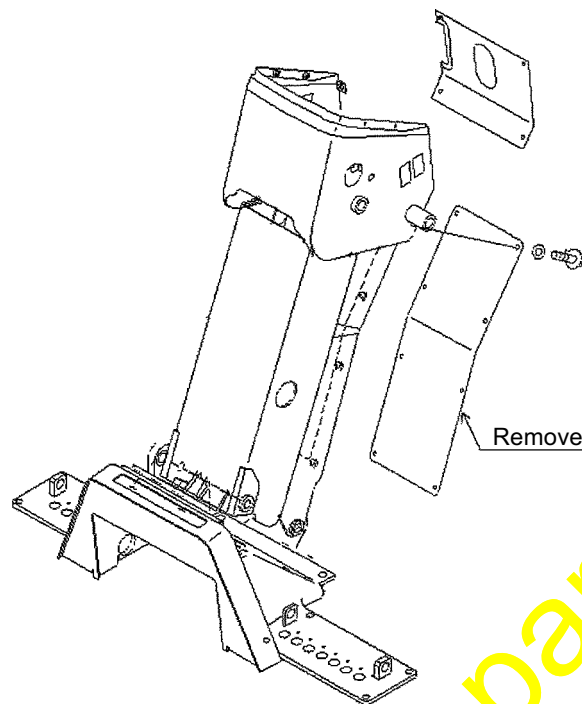


Fig. 1

2) Removing the RH console box cover (Refer to Fig. 2.)

Remove the transmission controller cover being installed to the RH console box.

Remove the transmission controller cover together with the controller itself.

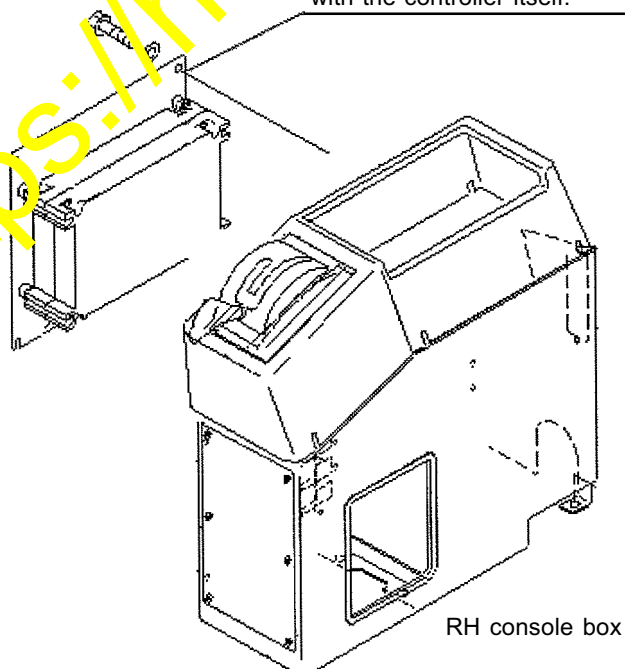


Fig. 2

3) Changing the neutral relay (Refer to Fig. 3.)

Disconnect the connector No. BR12 and replace the neutral relay with the new relay. (The relay to be replaced is the one to which the connector No. BR12 is being connected.)

Leave the disconnected connector as it is.

※ Part No. of the new relay to install : 569-06-61970

Replace the neutral relay with the new relay.
(Part No. 569-06-61970)
(Connector No. BR12)

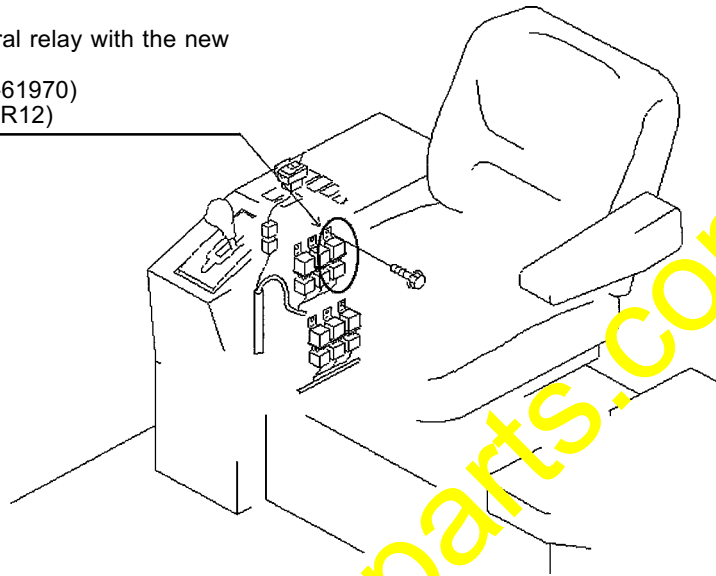


Fig. 3

4) Disconnecting the harness (Refer to Fig. 4.)

Disconnect the connectors No. B4 and No. BR11 being positioned as per the drawing below.

(The connector No. BR12 has already been disconnected as per the above section 3).

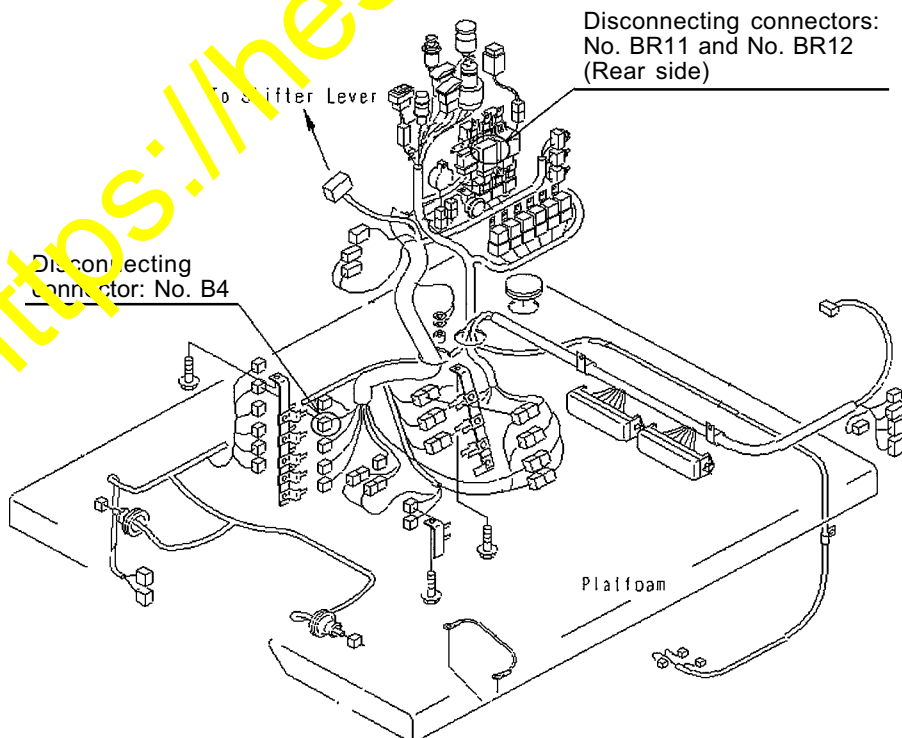


Fig. 4

5) Installing the additional harness (RH console box) (Refer to Fig. 5.)

First, pass the connectors No. BR12 and No. BR11 of the new harness into the RH console box through the lower side of the operator's stand.

Connect these connectors (BR12 and BR11) of this new harness to the relay from which these connectors have been disconnected as per the above section 4).

After that, connect the connector No. B4 of the new harness to the corresponding connector (B4) which has been disconnected as per the above section 4) before fastening to the connector bracket.

※ Part No. of the installing additional harness : 23B-06-41640 (hatched section)

※ Blind plug for the current connector No. B4

※ 08192-28202 BODY × 1 pc.

※ 08191-00770 PLUG × 8 pcs.

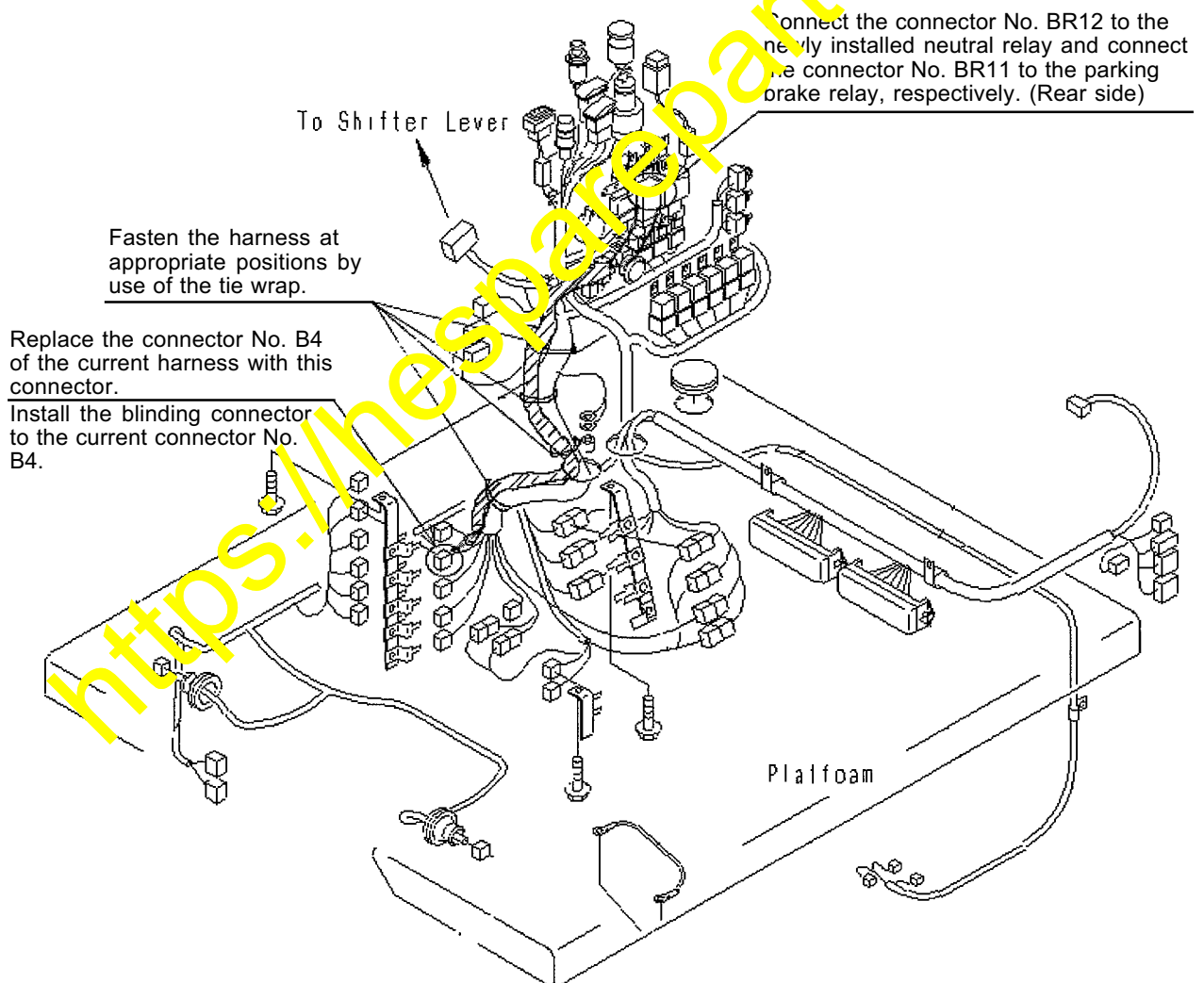


Fig. 5

- 6) Installation of the harness and the switch (inside the steering wheel post)
(Refer to Fig. 6.)

Removing the blinding cap, install the new switch.

(Although there are two mounting holes, use the steering wheel side hole.)

Installing the harness to the switch (by the connector No. FP19), fasten the harness along the currently installed harness using the tie wrap.

※ Part No. of the harness to install : 23B-06-41650 (hatched section)

Connect the harness to the connector No. FP20 of the harness which has been installed as per the above section 5).

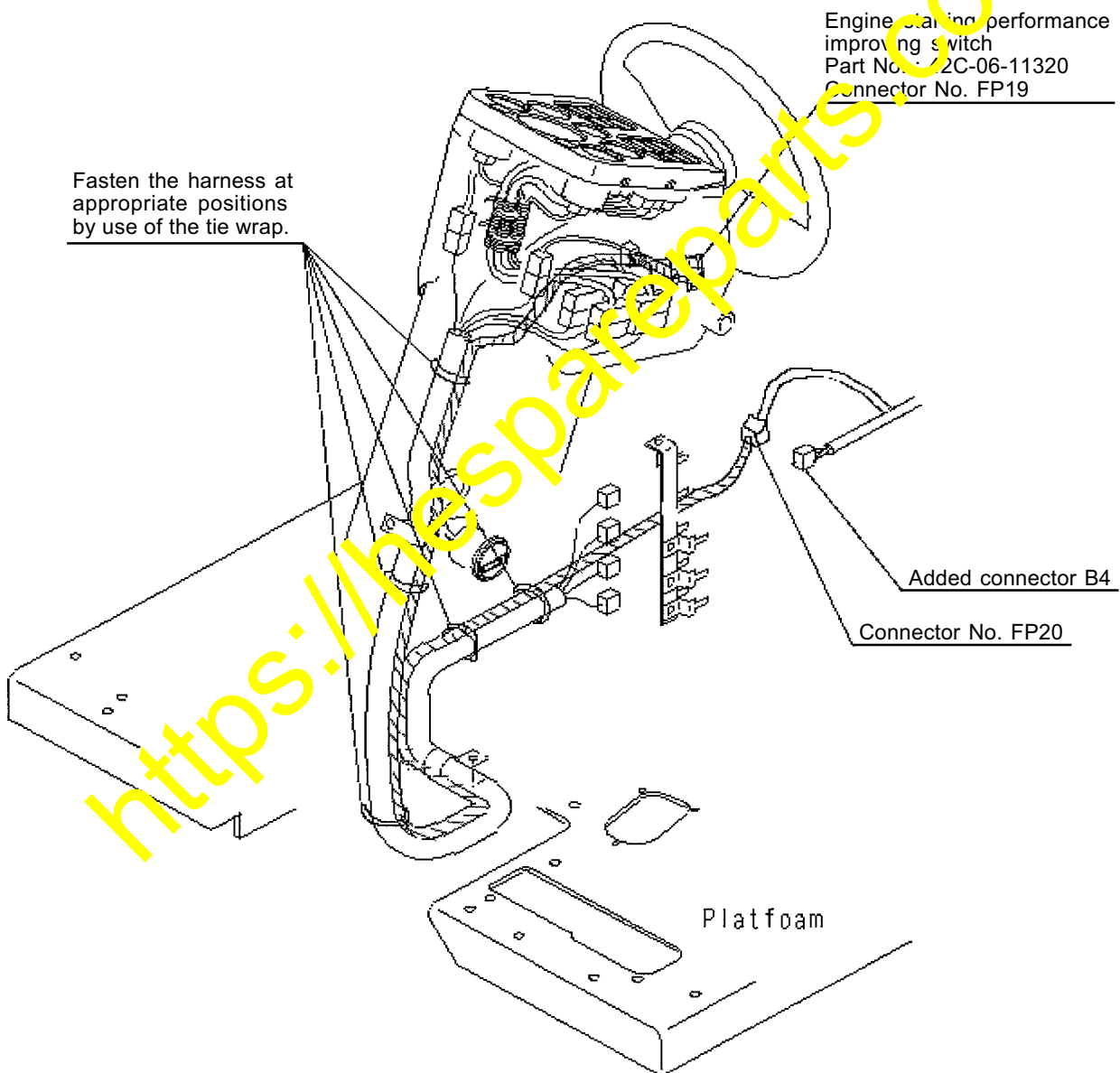


Fig. 6

- 7) Connecting the power supply to the neutral relay (Refer to Fig. 7.)
 Connect the single lead (red/white) harness coming out from the new harness (23B-06-41640) to the No. 2 terminal of the connector No. T11 (red/white).
 (The connecting position can be optional.)
 Regarding the connecting method, adopt either soldering or caulking by use of crimp sleeve. (Regarding the using method of the crimp sleeve, refer to the Attached Sheet 1.)

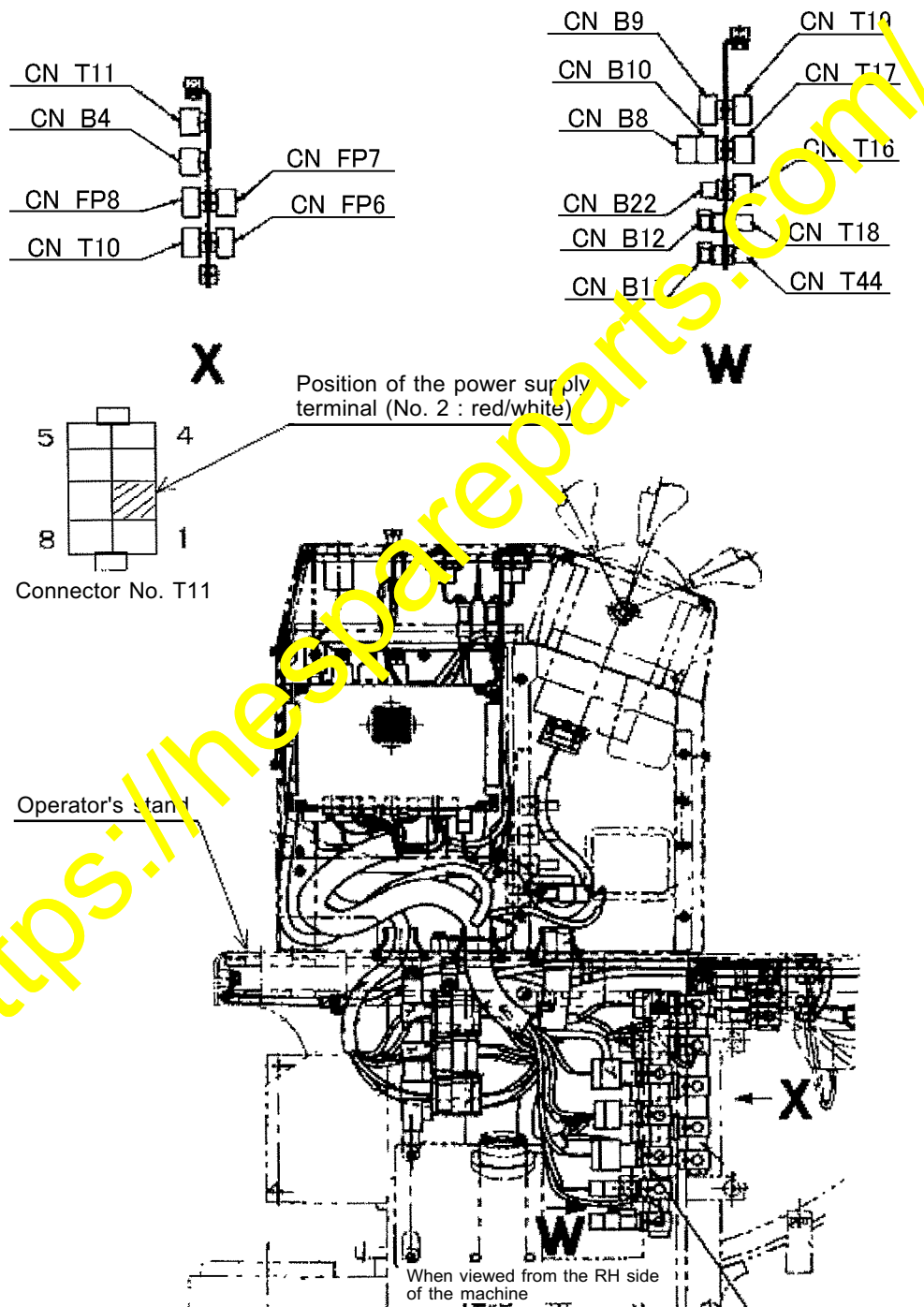


Fig. 7

- 8) Connecting the solenoid valve (Refer to Fig. 8.)
Install the new harness as it connects both ends of the existing connector (B20) at the solenoid valve and the existing harness side.

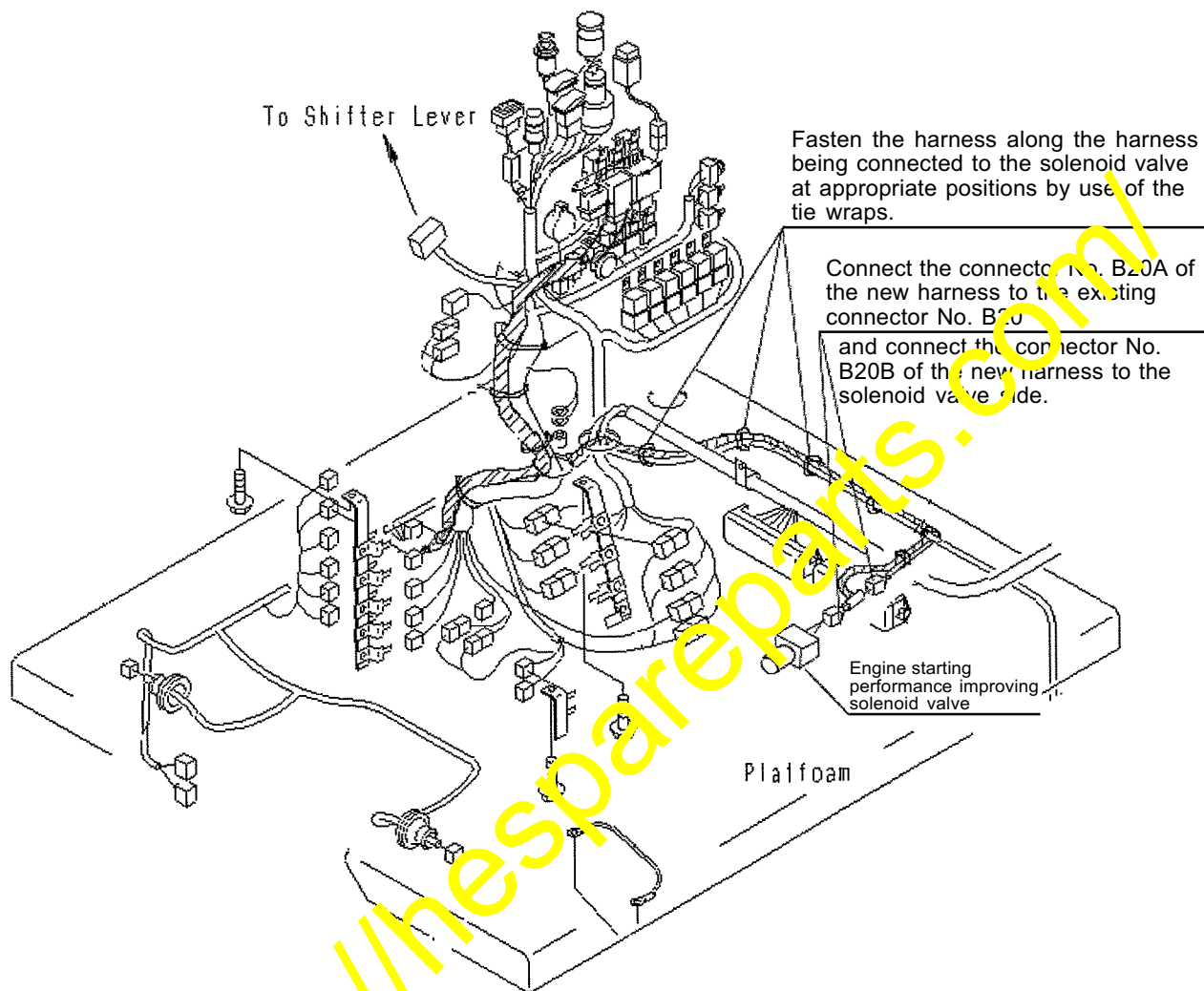


Fig. 8

- 9) Restoration of removed covers
Restore the removed covers to their original positions in the reversed procedure to the procedure per Section 1) and Section 2).

4. Operation checks

- 1) Check that the speed shift lever is being set to the parking position.
- 2) Turn the starting switch key to the ON position and press the engine starting performance improving switch.
- 3) Check that the engine starting performance improving solenoid valve located at the LH side of the bottom of the operator's stand operates when the engine starting performance improving switch is pressed.

※ For safety, the engine starting performance improving solenoid valve does not operate when the speed shift lever is being set to any other positions than the parking position.

5. Operation method

- 1) Check that the speed shift lever is being set to the parking position.
- 2) Set the fuel flow adjust lever to the half-open position.
- 3) While pressing the engine starting performance improving switch, turn the starting switch key to the "START" position to start the engine.
- 4) When the engine revolution rises to a degree of a half revolution rate, depress the accelerator pedal for several times.
At this time if the engine revolution follows the movement of the accelerator pedal, move your hand off the engine starting performance improving switch.
The switch will return to the "OFF" position automatically.
- 5) After carrying out warming up operation for about 5 minutes, set the fuel flow adjust lever to the "Lo-Idling" position.

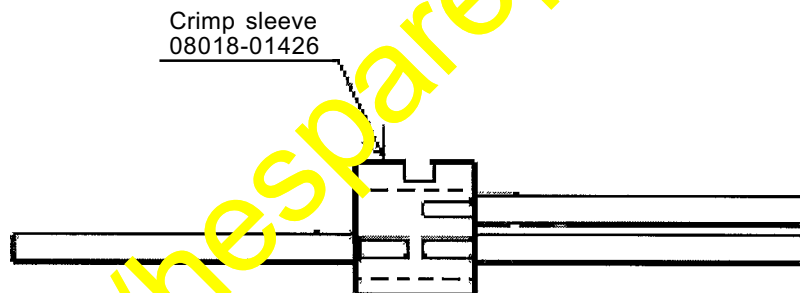
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Attached Sheet 1: Using method of the crimp sleeve

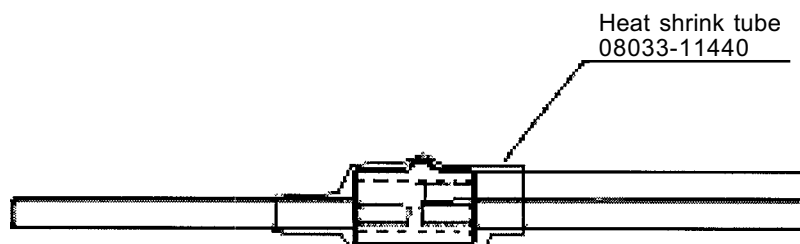
- ① Peel off the insulation cover of the wire with care not to damage the internal lead. (For about 10 mm per side)
At the same time, cut the wire into two pieces.



- ② Peel off the insulation cover of the connecting wire and, aligning the uninsulated section of the lead and the uninsulated section of the lead of the wire as per the above Section ①, set the crimp sleeve as shown below.



- ③ After swaging the crimp sleeve by use of the swaging tool, cover the crimped crimp sleeve by the heat shrink tube and heat the tube to let it shrink as the water proofing treatment.



Circuit diagram

