

**MITSUBISHI**

Controller: Zapi C1 Combi 48V 350A+350A  
 Program version: C1S RO1.13  
 Zapi's serial number from: 9190 1067

Rev. 1  
 Date 7.12.2001

|                          | TRUCK TYPES:                     |                 |               |  |      |  |  |  |    |            |  | NOTE          |
|--------------------------|----------------------------------|-----------------|---------------|--|------|--|--|--|----|------------|--|---------------|
|                          | RB16C/RB16/RB20H/RB20/RB25/RB25H | RB14 HYDR.BRAKE | RB14 NO BRAKE |  | TB12 |  |  |  |    | SLOW SPEED |  |               |
| <b>MAIN MENU/</b>        |                                  |                 |               |  |      |  |  |  |    |            |  |               |
| <b>PARAMETER CHANGE:</b> |                                  |                 |               |  |      |  |  |  |    |            |  |               |
| ACCELERATION             | 8                                | 8               | 8             |  | 8    |  |  |  |    |            |  |               |
| CUTBACK SPEED 1          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| CUTBACK SPEED 2          | 0                                | 0               | 0             |  | 0    |  |  |  | 1  |            |  |               |
| BRAKE CUTBACK            | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| TRACTION IMAX            | 9                                | 9               | 9             |  | 9    |  |  |  |    |            |  | do not change |
| INVERS. BRAKING          | 4                                | 4               | 7             |  | 6    |  |  |  |    |            |  |               |
| RELEASE BRAKING          | 5                                | 4               | 4             |  | 6    |  |  |  |    |            |  |               |
| PEDAL BRAKING            | 4                                | 4               | 9             |  | 9    |  |  |  |    |            |  |               |
| HYDRO TIME               | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| WEAK DROPOUT             | 5                                | 5               | 5             |  | 5    |  |  |  |    |            |  |               |
| CREEP SPEED              | 1                                | 0               | 0             |  | 1    |  |  |  |    |            |  |               |
| PLUG CURRENT             | 5                                | 5               | 5             |  | 5    |  |  |  |    |            |  |               |
| BRAKING MODUL            | 4                                | 4               | 4             |  | 4    |  |  |  |    |            |  |               |
| COMPENSATION             | 5                                | 5               | 5             |  | 5    |  |  |  |    |            |  | not used      |
| PUMP ACCELER. DELAY      | 3                                | 3               | 3             |  | 3    |  |  |  |    |            |  |               |
| PUMP DECELER. DELAY      | 3                                | 3               | 3             |  | 3    |  |  |  |    |            |  |               |
| PUMP IMAX                | 9                                | 9               | 9             |  | 9    |  |  |  |    |            |  | do not change |
| SLOW LIFT SPEED          | 9                                | 9               | 9             |  | 5    |  |  |  |    |            |  |               |
| HYD. SPEED COARSE        | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| HYD. SPEED FINE          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| HYDRO COMPENS.           | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 4TH SPEED COARSE         | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 4TH SPEED FINE           | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 4TH SPEED COMP.          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 3RD SPEED COARSE         | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 3RD SPEED FINE           | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 3RD SPEED COMP.          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 2ND SPEED COARSE         | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 2ND SPEED FINE           | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 2ND SPEED COMP.          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 1ST SPEED COARSE         | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 1ST SPEED FINE           | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| 1ST SPEED COMP.          | 0                                | 0               | 0             |  | 0    |  |  |  |    |            |  |               |
| <b>CONFIG MENU/</b>      |                                  |                 |               |  |      |  |  |  |    |            |  |               |
| <b>SET OPTIONS:</b>      |                                  |                 |               |  |      |  |  |  |    |            |  |               |
| HOOR COUNTER             | RUN                              | RUN             | RUN           |  | RUN  |  |  |  |    |            |  | do not change |
| BATTERY CHECK            | ON                               | ON              | ON            |  | ON   |  |  |  |    |            |  | do not change |
| RELEASE BRAKING          | ON                               | ON              | ON            |  | ON   |  |  |  |    |            |  | do not change |
| ANTI ROLLBACK            | ON                               | ON              | ON            |  | ON   |  |  |  |    |            |  | do not change |
| MAIN CONTACTOR           | PRE                              | PRE             | PRE           |  | PRE  |  |  |  |    |            |  | do not change |
| CUTBACK INPUT #1         | OFF                              | OFF             | OFF           |  | ON   |  |  |  |    |            |  | do not change |
| SLOW LIFT INPUT          | ON                               | ON              | ON            |  | OFF  |  |  |  |    |            |  | do not change |
| CUTBACK INPUT #2         | OFF                              | OFF             | OFF           |  | OFF  |  |  |  | ON |            |  | do not change |
| HYDRO INPUT              | OFF                              | OFF             | OFF           |  | OFF  |  |  |  |    |            |  | do not change |
| PUMP MODE                | STA                              | STA             | STA           |  | STA  |  |  |  |    |            |  | do not change |
| <b>ADJUSTMENTS:</b>      |                                  |                 |               |  |      |  |  |  |    |            |  |               |
| SET LIFT MIN./ MAX.      | 0/5V                             | 0/5V            | 0/5V          |  | 0/5V |  |  |  |    |            |  | volts         |
| BATTERY VOLTAGE          | Ubat                             | Ubat            | Ubat          |  | Ubat |  |  |  |    |            |  | do not change |

- 17) **PUMP IMAX (p)** = defines the maximum current of the pump controller. All the adjustment of the pump are defined in percentage of this value. The adjustment range is from 50% (level 0) to 100% (level 9).
- 18) **SLOW LIFT SPEED (p)** = pump speed reduction set by the potentiometer, the speed is put on scale for the programmed coefficient. The function is activated only when the option SLOW LIFT OPTION is selected ON.
- 19) **HYD SPEED COARSE (p)** = coarse power steering speed (from 0% to 100% Vbatt on the motor). The parameter is activated if the option PUMP MODE is programmed STANDARD PUMP.
- 20) **HYD SPEED FINE (p)** = fine power steering speed (it is added a value from 0% to 10% Vbatt to the coarse speed). The parameter is activated if the option PUMP MODE is programmed STANDARD PUMP.
- 21) **HYDRO COMPENS (p)** = compensation for power steering. The parameter is activated if the option PUMP MODE is programmed STANDARD PUMP.
- 22) **4TH SPEED COARSE (p)** = n° 4 pump speed coarse regulation. The parameter is activated if the option CUTBACK INPUT #1 is programmed OFF.
- 23) **4TH SPEED FINE (p)** = n° 4 pump speed fine regulation. The parameter is activated if the option CUTBACK INPUT #1 is programmed OFF.
- 24) **4TH SPEED COMP. (p)** = n° 4 pump speed compensation. The parameter is activated if the option CUTBACK INPUT #1 is programmed OFF.
- 25) **3RD SPEED COARSE (p)** = n° 3 pump speed coarse regulation. The parameter is activated if the option CUTBACK INPUT #2 is programmed OFF.
- 26) **3RD SPEED FINE (p)** = n° 3 pump speed fine regulation. The parameter is activated if the option CUTBACK INPUT #2 is programmed OFF.
- 27) **3RD SPEED COMP. (p)** = n° 3 pump speed compensation. The parameter is activated if the option CUTBACK INPUT #2 is programmed OFF.
- 28) **2ND SPEED COARSE (p)** = n° 2 pump speed coarse regulation.
- 29) **2ND SPEED FINE (p)** = n° 2 pump speed fine regulation.
- 30) **2ND SPEED COMP. (p)** = n° 2 pump speed compensation.
- 31) **1ST SPEED COARSE (p)** = n° 1 pump speed coarse regulation.
- 32) **1ST SPEED FINE (p)** = n° 1 pump speed fine regulation.
- 33) **1ST SPEED COMP. (p)** = n° 1 pump speed compensation.

## 2.12 OPERATION ENVIRONMENT

### Temperature:

|                 |               |
|-----------------|---------------|
| Operation ..... | -35°C - +55°C |
| Storage .....   | -40°C - +70°C |

|                |                                              |
|----------------|----------------------------------------------|
| Humidity ..... | 100% condensing according to IEC 68-2-30, Db |
|----------------|----------------------------------------------|

## 2.13 COOLING

**External cooling** ..... Contact cooling to metal plate or frame

**Isolation** ..... 500VAC according to prEN 1175-1

## 2.14 EMC

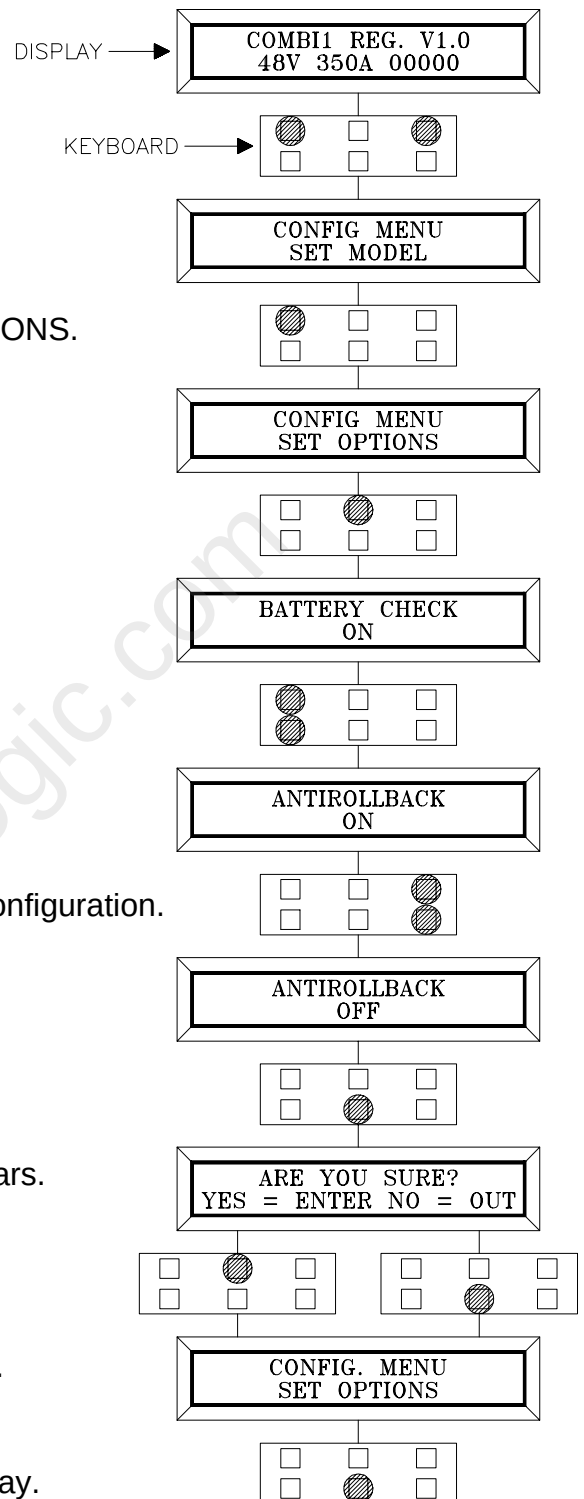
**Immunity:** According to prEN50081-2

**Emmission:** According to prEN50082-2



Programming "options", using the console:

- 1) Opening Display
- 2) Press ROLL UP + SET UP to simultaneously enter the menu SET.
- 3) Headline of the menu SEL MODEL.
- 4) Press ROLL UP to select the menu SET OPTIONS.
- 5) Headline of the menu SEL OPTIONS.
- 6) Press ENTER to entering in the menu.
- 7) The first item of the menu appears.
- 8) Press ROLL UP or ROLL DOWN to scroll the different items.
- 9) A new item appears.
- 10) Press SET UP or SET DOWN to modify the configuration.
- 11) The new configuration appears.
- 12) Press OUT to come out of the menu.
- 13) Confirmation of the modification request appears.
- 14) Press ENTER to confirm the modifications or press OUT to cancel.
- 15) Headline of the menu SEL OPTIONS appears.
- 16) Press OUT to return back to the opening display.



## Full Version Available

### Mitsubishi RB20H Reach Truck Service Manual (WHSM0062)

Mitsubishi RB20H Reach Truck service manual, covers mast, hydraulics, drive, and wiring diagnostics in searchable PDF. Instant PDF download.

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