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program version: 20.130823

USER MANUAL
PPV-RG2 PROGRAMMABLE POWER VALVE CONTROLLER
(PROGRAMMABLE EXHAUST VALVE CONTROLLER)

PPV-RG2 is designed to work with original Suzuki RG500 PV servo motor.

TECHNICAL DATA

Limit values:
minimum supply voltage	8 Volts
maximum supply voltage	20 Volts
max. supply voltage for 1 minute	40 Volts

Circuit is protected against reverse supply voltage(wrong connection).

Features:
- acceleration compensation (earlier opening, while hard acceleration, to ensure opened valve at programmed revs)
- easy and fast programming on the field, via hand held programmer
- programming while machine running - you can immediately see effects
- instant monitoring of valve position, via LCD (handheld programmer)
- fast processing for high accuracy
- self test on power-up
- error detecting (position sensor failure, servo motor failure)
- short connection on servo motor output, can't damage controller

1.   HOW TO ENTER MENU

PPV unit must be connected to power supply. If machine running or not is not important.
Connect **PPV** to **handheld programmer** and wait few seconds for activation of **handheld
programmer** and then press ⎡enter⎤. With pressing ⎡+⎤ or ⎡-⎤ you can move through menu and
with pressing ⎡enter⎤ you can choose.
You can exit menu with choosing *Exit Settings.*

2.   MENU ORGANISATION

Open -> Close   - closing rev point
Close -> Open   - opening rev point
Compensation   - on/off acceleration compensation
PV open time   - PV open to close travel time
PV test   - valve position test
Power-up Test   - enable, or disable test cycle at power-up
Exit Settings

3.   Open -> Close

Enter menu and move to *Open -> Close* with pressing ⎡+⎤ or ⎡-⎤ and then press ⎡enter⎤ .
Now you can select revolutions for closing valve servo, with pressing ⎡+⎤ or ⎡-⎤ and then press
⎡enter⎤ .

4.   Close -> Open

Enter menu and move to *Close -> Open* with pressing ⎡+⎤ or ⎡-⎤ and then press ⎡enter⎤ .
Now you can select revolutions for opening valve servo, with pressing ⎡+⎤ or ⎡-⎤ and then
press ⎡enter⎤ .

5.   Compensation

Activated acceleration compensation enables automatic earlier PV closing, to compensate
travel time of PV servo. At hard acceleration PV start to close earlier to enable closed position
at programmed revs.
Enter menu and move to *Compensation* with pressing ⎡+⎤ or ⎡-⎤ and then press ⎡enter⎤ .
Now you can switch compensation 'on' or 'off' with pressing ⎡+⎤ or ⎡-⎤ and then press ⎡enter⎤ .

6.   PV open time

PV open time is open to close travel time of PV servo. Time is usually from 150ms to 170ms and depends on PV condition. Value is needed for accurate calculation of acceleration compensation.
Enter menu and move to *PV open time* with pressing ⊞ or ⊟ and then press ⏎ .
Now you can set time with pressing ⊞ or ⊟ and then press ⏎ .

7.   PV Test

Enter menu and move to *PV Test* with pressing ⊞ or ⊟ and then press ⏎ .
Now you can set valve position with pressing ⊞ or ⊟ and then press ⏎ .
PV test can be used for testing or measuring valve position. Valve can be moved to close or open position.

8.   POWER-UP Test

Enabling or disabling test cycle of PV servo at power-up.
Enter *Set PV* menu and move to *Power-up Test* with pressing ⊞ or ⊟ and then press ⏎ .
Now you can enable or disable power-up test with pressing ⊞ or ⊟ and then press ⏎ .

9.   MONITORING

Connect **PPV** unit to **handheld programmer** and wait few seconds for activation**.** Fist information displayed is software version.

With **handheld programmer** you can watch revs and valve position.

Information!
You can connect or disconnect **handheld programmer** from **PPV** unit any time you want, without any harm. It is not important, if motor running or not and if power supply is connected or not.

Important!
Do not use too much force when connecting or disconnecting!

10.   ERROR REPORTS

Four errors can be displayed:
Program Memory Error - when program memory is corrupted. With this error present, function of program could be faulty. *Service is needed!*
EEPROM Error - when eeprom memory is corrupted. All programmable data are stored in eeprom memory(curve...). With this error present, function of program could be faulty. *You must check all your settings and correct changed.*
error 1 – position sensor error or servo motor disconnected
error 2 – servo motor error (short connection)