BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Test sheet : MB 3,0 W
Edition : 26.11.91
Replaces : 06.04.88
Test oil : ISO-4113

Combination no. : 0 400 076 994

Injection pump
Pump designation : PES6M55C320RS156
EP type number : 0 410 056 995
Governor
Governor design. : RSF315/2300M59-3
Governer no. : 0 420 021 040

Customer-spec. information
Customer : DB

Engine : OM603-3.0

1st version kW : 80.0

TEST BENCH REQUIREMENTS

Test oil
inlet temp. °C : 38...42

Overflow valve
: 1 469 990 351

Inlet press., bar : 1.00

Test nozzle holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test lines : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY
Test pressure, bar: 30...32

Prestroke mm : 2.00...2.10
: (1.95...2.15)
Rack travel in mm : 20.00...22.00
Firing order : 1- 5- 3- 6- 2- 4

Phasing : 0-60-120-180-240-300

Tolerance + - ° : 0.00 (1.00)

Time to cyl. no. : 1

BASIC SETTING

1st speed rpm : 1000

Rack travel in mm : 11.30...11.40

Del.quantity cm3/ : 3.1...3.2

100 s: (3.0...3.3)

Spread cm3 : 0.2

100 s: (0.3)

2nd speed rpm : 290.0
Rack travel in mm : 5.4...5.6
Del.quantity cm3/ : 0.5...0.6
100 s: (0.5...0.9)
Spread cm3 : 0.1
100 s: (0.1)

FULL LOAD DELIV. AT FULL LOAD STOP

1st version
Speed rpm : 1000
Del.quantity : 31.5...32.5
1000 : (30.5...33.5)
Spread cm3 : 2.50
1000 : (3.00)

RATED SPEED

1st version
Control lever
position degrees: 50...0
3rd rack travel in: 7,80...8,20
Speed rpm : 2500
4th rack travel in: 2950
Speed rpm : 0.00...1.00

SET IDLE CONTROL LEVER
POSITION

Speed rpm : 1000
Rack travel in mm : 0,9...1,0

LOW IDLE 1
Control lever
position degrees: 13...17
Setting point w/out bumper spring
Speed rpm : 290

Rack travel in mm : 5.5

Testing:
Speed rpm : 220
Minimum rack trave: 7.00
Speed rpm : 290
Rack travel in mm : 5.40...5.60
Rack travel in mm : 1.50
Speed rpm : 620...720
Speed rpm : 1000
Maximum rack trave: 1.00

SET IDLE AUXILIARY SPRING
Speed rpm : 360
Rack travel in mm : 4,20...4,40
: (4,10...4,50)

TORQUE CONTROL
Torque control curve - 1st version
1st speed rpm : 1000
Rack travel in m: 11.30...11.40
2nd speed rpm : 1800
Rack travel in m: 10.90...11.10
3rd speed rpm : 2200
Rack travel in m: 10.60...10.80

FUEL DELIVERY CHARACTERISTICS

1st version
Speed rpm : 1800
Del.quantity cm3/ : 34.0...35.5
1000 s: (33.0...36.5)
Spread cm3 : 2.50
1000 s: (3.00)
Speed rpm : 2200
Del.quantity cm3/ : 33.5...35.5
1000 s: (32.5...36.5)
Spread cm3 : 2.50
1000 s: (3.00)

STARTING FUEL DELIVERY

Speed rpm : 100
Del.quantity cm3/ : 55.0...0.0
1000 s: (55.0...0.0)
Rack travel in mm : 20.10...0.00

HIGH IDLE

1st version
Speed rpm : 2500
Rack travel in mm : 7.80...8.20
Del.quantity cm3/ : 22.0...26.0
1000 s: (21.0...27.0)
Spread cm3 : 2.50
1000 s: (3.00)

LOW IDLE

Speed rpm : 290
Rack travel in mm : 5.40...5.60
Del.quantity cm3/ : 5.5...6.5
1000 s: (5.0...9.5)
Spread cm3 : 1.00
1000 s: (1.50)

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

Control lever at idle stop
Speed rpm : 315
Rack travel in mm : (12,6...14,0)
Del.quantity cm3/ : -
1000 s: 32,0...40,0)
Current A : 1,8

Control lever at full-load stop
Speed rpm : 2950
Rack travel in mm : 0,0...1,0
Current
short-duration A : 3,0
Starting test
Speed rpm : 100
Del.quantity cm3/ : -
min. 1000 s: 55,0

Remarks:
:

Start-of-delivery sensor system:
adjustment and blocking with device KDEP 1077 = 19.3°...19.7° (19.2...19.8°) angular displacement of cam following start of delivery of cylinder no. 1.
Difference in start of delivery between max. and min. value = max. 1° angular displacement of cam

CHECKING THE PNEUMATIC SHUTOFF BOX
-Control lever up against idle stop.
At n = 290 1/min and pu = 450 mbar control rod must move briskly to control-rod travel = 0 mm

CHECKING THE IDLE-SPEED AUXILIARY SPRING CUTOFF
-Control-lever position 49°, max. 0.2 mm control-rod travel deduction allowable after switchover point (of starting cam) up to 1000 1/min.
Control-lever position 46.5°, control-rod travel deduction must be

greater than 0.2 mm after switchover point (of starting cam).