

| | |
|-----------------|---------------|
| ZEXEL Ass'y No. | 104761-2005 |
| Bosch Ass'y No. | 9 460 611 637 |
| Bosch Typecode | |
| Engine Type | RD28-T |
| Manufacturer | NISSAN |
| Edition date | 28.02.03 (9) |

1 Adjustment conditions

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|--|--|-------------------|------|------|---------------|----|
| | Test oil | | ISO4113orSAEJ967d | | | | |
| | | 1404 Test oil | | | | | |
| P | Test oil temperature | degC | 45 | 45 | 50 | | |
| | Nozzle | | 105780-0060 | | | | |
| | Bosch type code | | NP-DN0SD1510 | | | | |
| | Nozzle holder | | 105780-2150 | | | | |
| P | Opening pressure | MPa | 13 | 13 | 13.3 | | |
| P | Opening pressure | kgf/cm2 | 133 | 133 | 136 | | |
| | Injection pipe | | 157805-7320 | | | | |
| P | Injection pipe | mm | 2-6-450 | | | | |
| | | Inside diameter - outside diameter - length (mm) | | | | | |
| | Joint assembly | | 157641-4720 | | | | |
| | Tube assembly | | 157641-4020 | | | | |
| P | Transfer pump pressure | kPa | 20 | 20 | 20 | | |
| P | Transfer pump pressure | kgf/cm2 | 0.2 | 0.2 | 0.2 | | |
| | Direction of rotation (viewed from drive side) | | R | | | | |
| | | Right | | | | | |

2 Adjustment specification**2.1 Full load delivery**

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| S | Average injection quantity | mm3/st. | 31.1 | 30.7 | 31.5 | | |
| S | Difference in delivery | mm3/st. | 2 | | 2 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | NA | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 16 | 14.7 | 17.3 | | |
| P | Boost pressure | kgf/cm2 | 0.16 | 0.146 | 0.174 | | |
| P | Boost pressure | mmHg | 120 | 110 | 130 | | |
| S | Average injection quantity | mm3/st. | 34.2 | 33.8 | 34.6 | | |
| S | Difference in delivery | mm3/st. | 2 | | 2 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | CBS | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 400 | 400 | 400 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 31.2 | 29.2 | 33.2 | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 500 | 500 | 500 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 31.1 | 29.1 | 33.1 | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 31.1 | 30.1 | 32.1 | | |
| C | Difference in delivery | mm3/st. | 2.5 | | 2.5 | | |

| | | | | | | | |
|------------|----------------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | NA | | | | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 8.7 | 7.4 | 10 | | |
| P | Boost pressure | kgf/cm2 | 0.09 | 0.076 | 0.104 | | |
| P | Boost pressure | mmHg | 65 | 55 | 75 | | |
| C | Average injection quantity | mm3/st. | 31.1 | 30.1 | 32.1 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 16 | 14.7 | 17.3 | | |
| P | Boost pressure | kgf/cm2 | 0.16 | 0.146 | 0.174 | | |
| P | Boost pressure | mmHg | 120 | 110 | 130 | | |
| C | Average injection quantity | mm3/st. | 34.2 | 33.2 | 35.2 | | |
| C | Difference in delivery | mm3/st. | 2.5 | | 2.5 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | CBS | | | | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 31.5 | 29.5 | 33.5 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 45.6 | 43.6 | 47.6 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 1000 | 1000 | 1000 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 46.4 | 44.4 | 48.4 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 1200 | 1200 | 1200 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 45.8 | 43.3 | 48.3 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 1800 | 1800 | 1800 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 46.6 | 43.6 | 49.6 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 2200 | 2200 | 2200 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 44.6 | 41.6 | 47.6 | | |
| P | Oil temperature | degC | 52 | 50 | 54 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 2300 | 2300 | 2300 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 44.5 | 41 | 48 | | |
| P | Oil temperature | degC | 52 | 50 | 54 | | |

2.2 Governing

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|-------------|------|-----------|------|------|---------------|----|
|-----|-------------|------|-----------|------|------|---------------|----|

S = Setting value, C = Check value)

OT = Outside Tolerance (X is set)

| | | | | | | | |
|---|----------------------------|---------|------|-------|-------|--|--|
| P | Pump speed | r/min | 2500 | 2500 | 2500 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| S | Average injection quantity | mm3/st. | 20.5 | 19.5 | 21.5 | | |
| S | Difference in delivery | mm3/st. | 4.5 | | 4.5 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 55 | 52 | 58 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 2500 | 2500 | 2500 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 20.5 | 19 | 22 | | |
| C | Difference in delivery | mm3/st. | 5 | | 5 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 55 | 52 | 58 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 2800 | 2800 | 2800 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Average injection quantity | mm3/st. | 7.5 | | 7.5 | | |
| P | Oil temperature | degC | 55 | 52 | 58 | | |

2.3 Idle

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 375 | 375 | 375 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| S | Average injection quantity | mm3/st. | 10 | 9 | 11 | | |
| S | Difference in delivery | mm3/st. | 1.1 | | 1.1 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 375 | 375 | 375 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 10 | 8 | 12 | | |
| C | Difference in delivery | mm3/st. | 1.8 | | 1.8 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 800 | 800 | 800 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 5 | | 5 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |

2.4 Partial injection quantity

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|------------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 18.7 | 12.2 | 25.2 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| P | Lever angle (shim thickness) | mm | 8.7 | 8.65 | 8.75 | | |
| | About | | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|------------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 1200 | 1200 | 1200 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 12.4 | 5.4 | 19.4 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| P | Lever angle (shim thickness) | mm | 8.7 | 8.65 | 8.75 | | |
| | About | | | | | | |

2.5 Start

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------|-------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 100 | 100 | 100 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |

| | | | | | | | |
|---|----------------------------|---------|----|----|----|--|--|
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| S | Average injection quantity | mm3/st. | 40 | 40 | | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |
| | Remarks | | | | | | |
| | Full | | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 100 | 100 | 100 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 40 | 40 | | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |
| | Remarks | | | | | | |
| | Full | | | | | | |

2.6 Stop

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|-------------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 375 | 375 | 375 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 4 | | 4 | | |
| P | Oil temperature | degC | 48 | 46 | 50 | | |
| | Remarks | | | | | | |
| | Magnet OFF at idling position | | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------------------------|---------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 600 | 600 | 600 | | |
| P | Boost pressure | kPa | 0 | 0 | 0 | | |
| P | Boost pressure | kgf/cm2 | 0 | 0 | 0 | | |
| P | Boost pressure | mmHg | 0 | 0 | 0 | | |
| C | Average injection quantity | mm3/st. | 0 | 0 | 0 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | Magnet OFF at full-load position | | | | | | |

2.7 Overflow

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|--------------------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Overflow quantity with S/T OFF | cm3/min | 390 | 260 | 520 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |

2.8 Pump chamber pressure

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|-----------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| S | Pressure with S/T ON | kPa | 382 | 343 | 421 | | |
| S | Pressure with S/T ON | kgf/cm2 | 3.9 | 3.5 | 4.3 | | |
| S | Pressure with S/T OFF | kPa | 432 | 403 | 461 | | |
| S | Pressure with S/T OFF | kgf/cm2 | 4.4 | 4.1 | 4.7 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | OFF | | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|-----------------------|---------|-----------|-------|-------|---------------|----|
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Pressure with S/T ON | kPa | 382 | 333 | 431 | | |
| C | Pressure with S/T ON | kgf/cm2 | 3.9 | 3.4 | 4.4 | | |
| C | Pressure with S/T OFF | kPa | 432 | 393 | 471 | | |
| C | Pressure with S/T OFF | kgf/cm2 | 4.4 | 4 | 4.8 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | OFF | | | | | | |

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|----------------|-------|-----------|------|------|---------------|----|
| P | Pump speed | r/min | 1200 | 1200 | 1200 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |

| | | | | | | | |
|------------|-----------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Pressure with S/T OFF | kPa | 500 | 461 | 539 | | |
| C | Pressure with S/T OFF | kgf/cm2 | 5.1 | 4.7 | 5.5 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 2300 | 2300 | 2300 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Pressure with S/T OFF | kPa | 745 | 706 | 784 | | |
| C | Pressure with S/T OFF | kgf/cm2 | 7.6 | 7.2 | 8 | | |
| P | Oil temperature | degC | 52 | 50 | 54 | | |

2.9 Timer

| | | | | | | | |
|------------|---------------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| S | Timer stroke with S/T ON | mm | 2 | 1.7 | 2.3 | | |
| S | Timer stroke with S/T OFF | mm | 3.4 | 3.2 | 3.6 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | OFF | | | | | |

| | | | | | | | |
|------------|---------------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 900 | 900 | 900 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Timer stroke with S/T ON | mm | 2 | 1.6 | 2.4 | | |
| C | Timer stroke with S/T OFF | mm | 3.4 | 3.1 | 3.7 | | |
| P | Basic | | * | | | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |
| | Remarks | | | | | | |
| | | OFF | | | | | |

| | | | | | | | |
|------------|---------------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 1200 | 1200 | 1200 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Timer stroke with S/T OFF | mm | 5.1 | 4.7 | 5.5 | | |
| P | Oil temperature | degC | 50 | 48 | 52 | | |

| | | | | | | | |
|------------|---------------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| P | Pump speed | r/min | 2300 | 2300 | 2300 | | |
| P | Boost pressure | kPa | 66.7 | 65.4 | 68 | | |
| P | Boost pressure | kgf/cm2 | 0.68 | 0.666 | 0.694 | | |
| P | Boost pressure | mmHg | 500 | 490 | 510 | | |
| C | Timer stroke with S/T OFF | mm | 9.8 | 9.3 | 10.2 | | |
| P | Oil temperature | degC | 52 | 50 | 54 | | |

2.10 Magnet

| | | | | | | | |
|------------|----------------------|-------------|------------------|-------------|-------------|----------------------|-----------|
| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
| C | Max. applied voltage | V | 8 | 8 | 8 | | |
| P | Test voltage | V | 13 | 12 | 14 | | |

2.11 Additional device adjustment

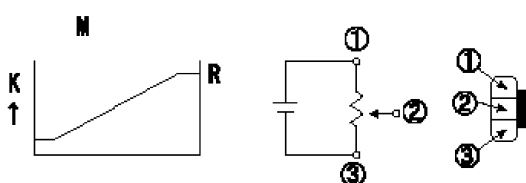
2.11.1 Additional device 1

| Name | POTENTIOMETER ADJUSTMENT |
|------|--------------------------|
|------|--------------------------|

N1=600r/min
 V1=3.2+-0.03V
 V2=1.03+-0.65V
 V3=8.03+-1.12V
 Q1=16.9+-1.0mm3/st
 a=0deg
 b=42deg
 P=0kPa(0mmHg)
 Vi=10V

| N | Q | V | C/L | |
|----|----|----|-----|--|
| N1 | Q1 | V1 | | |
| I | | V2 | a | |
| F | | V3 | b | |

P Vi



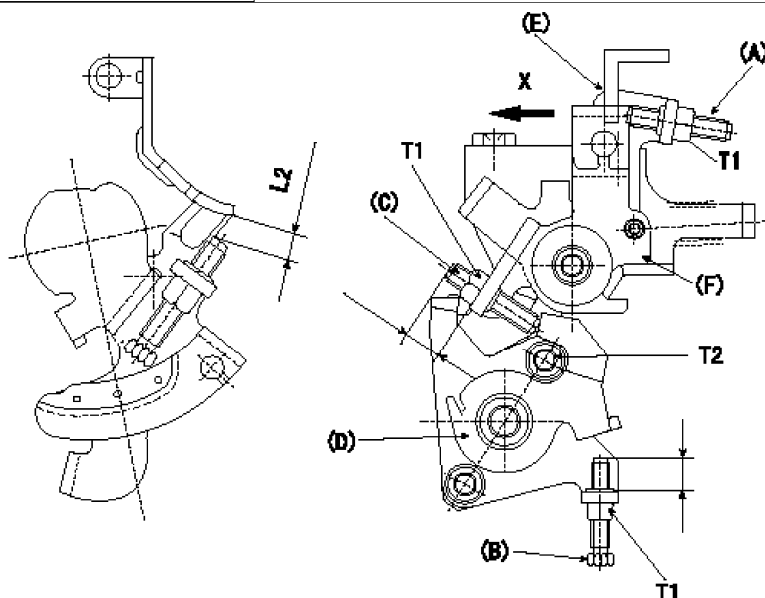
V1=3.2+-0.03V
 Vi=10V

Adjustment of the potentiometer
 Adjusting method (dummy bolt method)
 1. Position the control lever at the adjusting points in the table, hold the dummy bolt against the lever and fix.
 2. In the fixed position, install the potentiometer so that the output voltage is V1 (supply voltage Vi).
 3. After completing potentiometer installation, remove the dummy bolt.
 N: Pump speed
 P: Boost pressure
 Q: Injection quantity
 V: Output voltage
 C/L: control lever angle
 I: Idle position
 F: Full speed position
 M: Connecting diagram for the potentiometer
 K: Output
 R: Output when (2) and (3) connected.

2.11.2 Additional device 2

| | |
|------|------------------|
| Name | M-CSD ADJUSTMENT |
|------|------------------|

T1=6~9N-m(0.6~0.9kgf-m)
 T2=5~7N-m(0.5~0.7kgf-m)
 L2=6+-0.05mm



a=3deg
 b=0deg
 L1=2.5mm
 L2=6+-0.05mm
 L3=(1.7mm)

M-CSD adjustment**1. CSD adjustment**

Turn the lever (D) clockwise and adjust screw (B) so that the timer piston advance angle is a (L1). Then fix using the nut.

2. With intermediate lever screw (C)'s fixing lever (D) positioned as in 1., pull the intermediate lever in direction X. After confirming that it contacts the stop position, adjust so that screw (C) contacts lever (D) and then fix using the nut.

(Intermediate lever status in 2.: full speed, indicates timer's a advance.

Confirm that the timer piston advances to b deg when the intermediate lever is returned.

3. Fast idle adjustment

Pull the intermediate lever in direction x to contact the stopper and adjust the screw (A) so that the gap between the idle set bracket and the idle screw is L2. Fix using the nut.

The gap between the control lever at the idle position and the screw (A) must be L3.

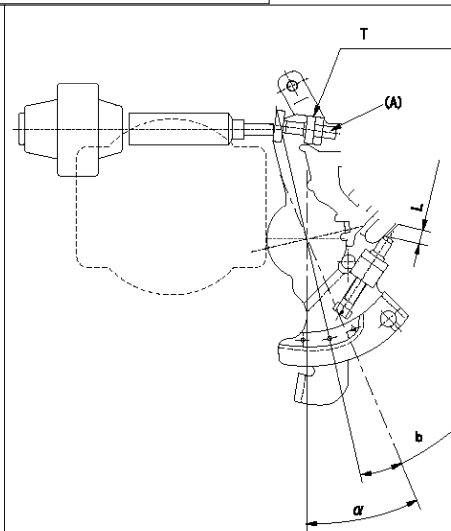
(E) control lever

(F) intermediate lever

2.11.3 Additional device 3

| | |
|------|--------------------|
| Name | DASHPOT ADJUSTMENT |
|------|--------------------|

T=5~7N-m(0.5~0.7kgf-m)
 b=7.4deg
 L=3.8+-0.05mm



L=3.8+-0.05mm
 t=1.8+-0.5sec

Adjustment of the dash pot

1. Insert a block gauge L (thickness gauge) between the idle set bracket and the idle screw.

2. In the above condition, adjust so that the dashpot adjusting screw (A) contacts the pushrod. Then, fix using the nut.

Record the dashpot return time t.

a = alpha

3 Assembly dimension

| CAT | Designation | Unit | Set value | min. | max. | Actual values | OT |
|-----|---------------------------|------|-----------|------|------|---------------|----|
| S | K dimension | mm | 3.3 | 3.2 | 3.4 | | |
| S | KF dimension | mm | 7.22 | 7.12 | 7.32 | | |
| S | MS dimension | mm | 1.8 | 1.7 | 1.9 | | |
| S | BCS stroke | mm | 2.9 | 2.8 | 3 | | |
| S | Control lever angle alpha | deg. | 23 | 19 | 27 | | |
| S | Control lever angle beta | deg. | 42 | 37 | 47 | | |