

## SECTION 1 GENERAL

|                              |     |
|------------------------------|-----|
| Group 1 Safety Hints .....   | 1-1 |
| Group 2 Specifications ..... | 1-9 |

## SECTION 2 STRUCTURE AND FUNCTION

|                                         |      |
|-----------------------------------------|------|
| Group 1 Pump Device .....               | 2-1  |
| Group 2 Main Control Valve .....        | 2-20 |
| Group 3 Swing Device .....              | 2-47 |
| Group 4 Travel Motor .....              | 2-58 |
| Group 5 RCV Lever .....                 | 2-64 |
| Group 6 Accelerator Pedal .....         | 2-71 |
| Group 7 Brake Pedal (Valve) .....       | 2-72 |
| Group 8 Transmission .....              | 2-74 |
| Group 9 Travel Control Valve .....      | 2-81 |
| Group 10 Steering Valve .....           | 2-83 |
| Group 11 Front Axle and Rear Axle ..... | 2-85 |

## SECTION 3 HYDRAULIC SYSTEM

|                                  |      |
|----------------------------------|------|
| Group 1 Hydraulic Circuit .....  | 3-1  |
| Group 2 Main Circuit .....       | 3-3  |
| Group 3 Pilot Circuit .....      | 3-6  |
| Group 4 Single Operation .....   | 3-17 |
| Group 5 Combined Operation ..... | 3-32 |

## SECTION 4 ELECTRICAL SYSTEM

|                                                  |      |
|--------------------------------------------------|------|
| Group 1 Component Location .....                 | 4-1  |
| Group 2 Electrical Circuit .....                 | 4-3  |
| Group 3 Electrical Component Specification ..... | 4-25 |
| Group 4 Connectors .....                         | 4-37 |

## SECTION 5 MECHATRONICS SYSTEM

|                                     |     |
|-------------------------------------|-----|
| Group 1 Outline .....               | 5-1 |
| Group 2 Mode selection System ..... | 5-3 |

|                                                   |       |
|---------------------------------------------------|-------|
| Group 3 Automatic Deceleration System .....       | 5-6   |
| Group 4 Power Boost System .....                  | 5-7   |
| Group 5 Travel Speed Control System .....         | 5-8   |
| Group 6 Automatic Warming Up Function .....       | 5-9   |
| Group 7 Engine Overheat Prevention Function ..... | 5-10  |
| Group 8 Variable Power Control System .....       | 5-11  |
| Group 9 Attachment Flow Control System .....      | 5-12  |
| Group 10 Boom Floating Control System .....       | 5-13  |
| Group 11 Intelligent Power Control System .....   | 5-14  |
| Group 12 Anti-Restart System .....                | 5-16  |
| Group 13 Self-Diagnostic System .....             | 5-17  |
| Group 14 Engine Control System .....              | 5-54  |
| Group 15 EPPR Valve .....                         | 5-55  |
| Group 16 Monitoring System .....                  | 5-60  |
| Group 17 Fuel Warmer System .....                 | 5-100 |

## SECTION 6 TROUBLESHOOTING

|                                                 |         |
|-------------------------------------------------|---------|
| Group 1 Before Troubleshooting .....            | 6-1     |
| Group 2 Hydraulic and Mechanical System .....   | 6-4     |
| Group 3 Electrical System .....                 | 6-25    |
| Group 4 Mechatronics System .....               | 6-41    |
| Group 5 Air conditioner and Heater System ..... | 6-80-41 |

## SECTION 7 MAINTENANCE STANDARD

|                                            |      |
|--------------------------------------------|------|
| Group 1 Operational Performance Test ..... | 7-1  |
| Group 2 Major Components .....             | 7-19 |
| Group 3 Track and Work Equipment .....     | 7-28 |

## SECTION 8 DISASSEMBLY AND ASSEMBLY

|                                  |       |
|----------------------------------|-------|
| Group 1 Precaution .....         | 8-1   |
| Group 2 Tightening Torque .....  | 8-4   |
| Group 3 Pump Device .....        | 8-7   |
| Group 4 Main Control Valve ..... | 8-30  |
| Group 5 Swing Device .....       | 8-44  |
| Group 6 Travel Motor .....       | 8-77  |
| Group 7 Transmission .....       | 8-101 |

|                                                                 |       |
|-----------------------------------------------------------------|-------|
| Group 8 Steering Valve .....                                    | 8-155 |
| Group 9 Front Axle .....                                        | 8-180 |
| Group 10 Rear Axle .....                                        | 8-251 |
| Group 11 RCV Lever .....                                        | 8-293 |
| Group 12 Turning Joint .....                                    | 8-307 |
| Group 13 Boom, Arm, Bucket, Dozer and Outrigger Cylinders ..... | 8-313 |
| Group 14 Work Equipment .....                                   | 8-335 |

## SECTION 9 COMPONENT MOUNTING TORQUE

|                                  |      |
|----------------------------------|------|
| Group 1 Introduction Guide ..... | 9-1  |
| Group 2 Engine System .....      | 9-2  |
| Group 3 Electric System .....    | 9-4  |
| Group 4 Hydraulic System .....   | 9-6  |
| Group 5 Power train System ..... | 9-9  |
| Group 6 Structure .....          | 9-11 |
| Group 7 Work Equipment .....     | 9-15 |