CRAWLER EXCAVATOR

SERVICE MANUAL

HX800AL

HYUNDAI

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Safety, Specification and Systems Operation

Track Excavator Maintenance Safety 1-4
- Safety Instructions 1-4
- Safety Messages 1-4
- General 1-4
- Long Term Storage 1-16
- Maintenance 1-17
- Environment and Circumstances 1-31

General Specifications 1-42
- General 1-42
- Component Locations 1-42
- Overall Dimensions 1-48
- Standard Specification 1-49
- Performance Tests 1-50
- Preparation for Performance Tests 1-51
- Operational Performance Standard Table 1-52
- Operational Performance Test 1-53

Engine Specifications 1-64
- Safety Instructions 1-64
- Engine Specification 1-64
- Engine Performance Curves 1-66
- Tightening Torques 1-66

Hydraulic Systems and Structure Specifications 1-71
- Safety Instructions 1-71
- Hydraulic System 1-71
- Swing Mechanism 1-76
- Travel System 1-77
- Under Carriage 1-78
- Structure 1-79

General Maintenance Instructions 1-80
- Safety Instructions 1-80
- Welding Precautions and Instructions 1-80
- Hydraulic System - General Precautions 1-81
- Maintenance Service and Repair Procedure 1-82
- Hydraulic System Cleanliness and Oil Leaks 1-82

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Cleaning and Inspection....1-84
Standard Torques....1-103
Safety Instructions....1-103
Torque Values for Standard Metric Fasteners....1-103
Torque Values for Standard U.S. Fasteners....1-104
Type 8 Phosphate Coated Hardware....1-106
Torque Values for Hose Clamps....1-106
ORFS Swivel Nut Recommended Torque....1-107
Torque Values for Split Flanges....1-107
Torque Wrench Extension Tools....1-108
Loctite Applications....1-109
Engine....1-114
Safety Instructions....1-114
General Information....1-114
Product Information Section....1-118
Operation Section....1-123
Features and Controls....1-125
Engine Diagnostics....1-140
Engine Starting....1-141
Engine Operation....1-146
Engine Stopping....1-150
Cold Weather Operation....1-152
Maintenance Recommendations....1-154
Fuel System....1-158
Intake and Exhaust System....1-162
Engine Control and Electrical System....1-182
After Treatment System....1-186
Systems Operation, Description and Inspection....1-209
Safety Instructions....1-209
General....1-209
Main Oil Circuit....1-210
Pilot Oil Circuit....1-210
Return and Drain Oil Circuit....1-211
Main system operation....1-212
Pilot System Operation....1-220
Components Operation, Description and Inspection....1-222

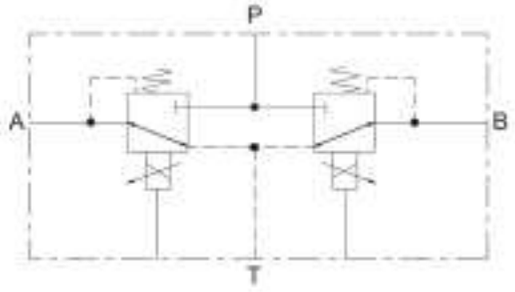
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Safety Instructions....1-222
Main Pump....1-222
Main Control Valve....1-244
Swing Device....1-249
Fan Pump....1-251
Fan Motor....1-252
Joystick Valve....1-253
Travel Control Valve....1-259
Solenoid Valve....1-263
EPPR Valve (One or Two Way)....1-275
Center Joint....1-276
Travel Device....1-278
Systems Operation and Description....1-287
Safety Instructions....1-287
General Schematics....1-287
Power Supply....1-288
Starting System....1-291
Charging System....1-305
AVM System....1-306
EPOS system....1-308
Air Conditioner System....1-321
Refrigerant System Repairs....1-337
Troubleshooting....1-344

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Hydraulic Circuit

Figure 261

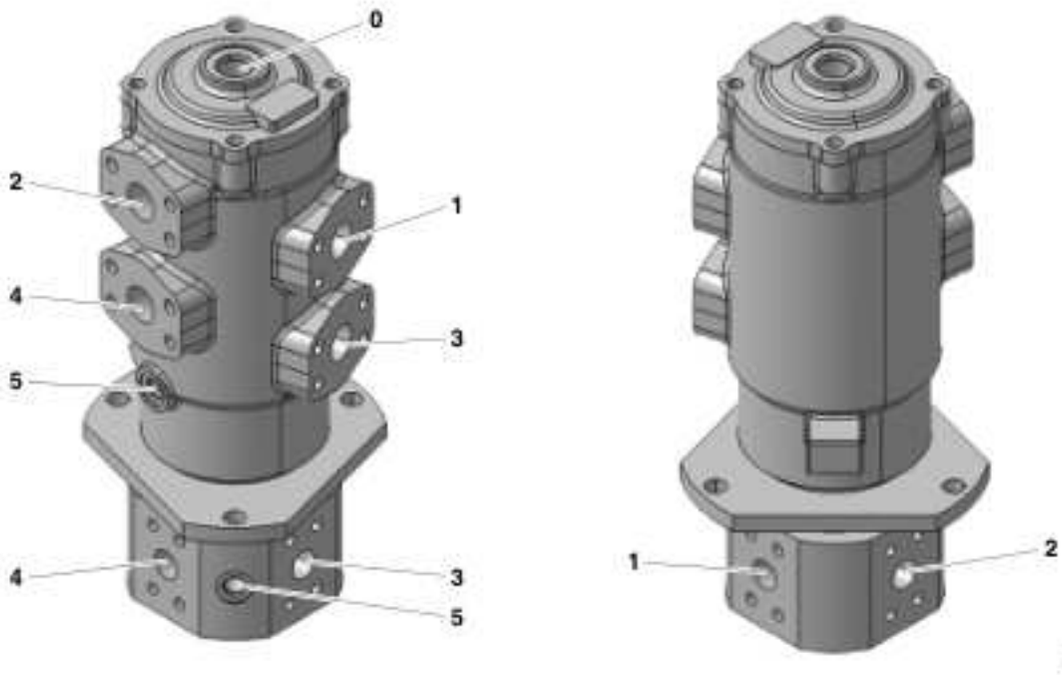


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Center Joint

Overview

Figure 262



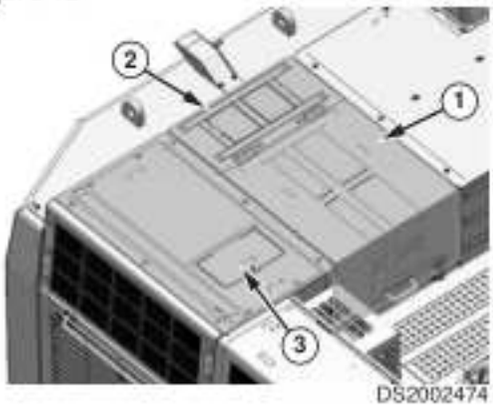
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Port	Name	Size	
		Body	Spindle
1, 2, 3, 4	Travel Motor	SAE 1 1/4"	SAE 1"
5	Pilot	PF 1/4" O-ring	
0	Drain	PF 3/4" O-ring	

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Engine Hood

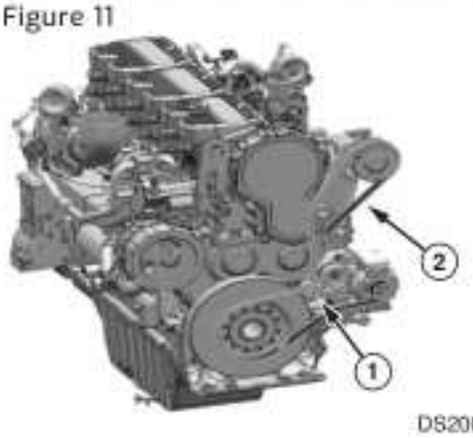
1. Open engine front hood.
   Figure 10



2. Remove stay pin.
3. Remove mounting nuts from gas spring.
4. Remove mounting bolts and engine front hood (1) from frame.
   - Tool: 19 mm ( )
   - Torque: 107.9 N.m (11 kg.m, 79.6 ft lb)
   - Weight: about 54 kg (119 lb)
5. Remove mounting bolts and engine rear hood (2) from frame.
   - Tool: 19 mm ( )
   - Torque: 107.9 N.m (11 kg.m, 79.6 ft lb)
   - Weight: about 17 kg (37.5 lb)
6. Remove mounting bolts and engine right hood (3) from frame.
   - Tool: 19 mm ( )
   - Torque: 107.9 N.m (11 kg.m, 79.6 ft lb)
   - Weight: about 41 kg (90.3 lb)

V-belt

1. Insert the tool into the auto tensioner service hole (1).
   Figure 11

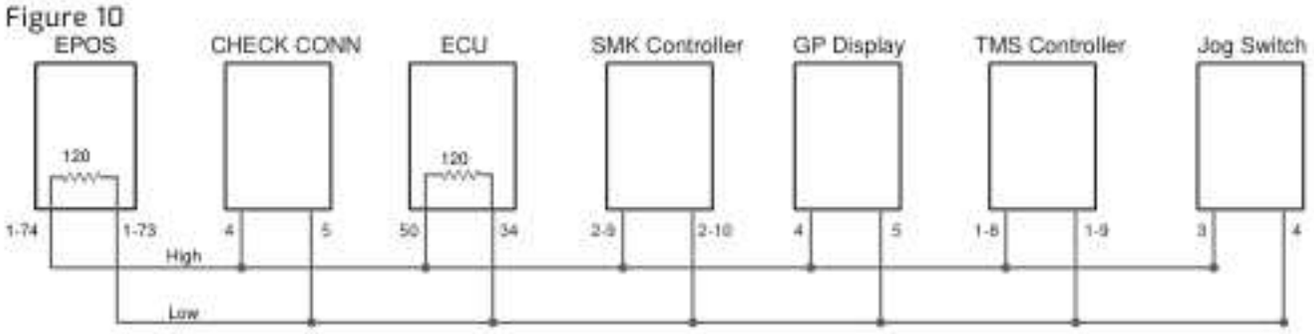


NOTE: *Before removing the belt, check the belt layout.*

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Block Diagram

Figure 10



DS2002070

3. VPV001 Pump Proportional Valve (A)

Action Level	Failure Code	Failure	Pump Proportional Valve (A)
Gauge Panel	VPV001		
Detail of Failure	FMI 5: Pump proportional value (A), current below normal (open circuit). FMI 6: Pump proportional value (A), current above normal (short circuit).		
Action of Machine Monitor or Controller	• If the pump proportional valve (A) is malfunctioning, the "Check the machine" pop-up and warning symbol will be displayed on the main screen of the gauge panel. • If the pump proportional valve is malfunctioning, the corresponding malfunction details can be checked in the "Real time failure information" menu on the gauge panel.		
Problem on Machine	• The speed of the boom up, arm in and arm out operations is decreased. • The bucket, option or travel (LH) operation cannot be performed. • The boom cannot be operated if the EPPR is not operating properly both drive (rear) and idle (front) pump. • The relief pressure up function is disabled. • The machine cannot be driven straight ahead during travel. (It moves in a diagonal direction unintentionally.) • The relief cut-off function cannot be performed. • The automatic travel speed control cannot be performed.		
Related Information	1. An error code is generated when the EPPR valve's connector is disconnected. 2. An error code can be generated if the auxiliary switch located in the rear left section of the cabin is in the "I" position. A. The auxiliary switch is designed for emergency operation in case of EPOS malfunction. It should be positioned in the "O" position in a normal condition. B. Normal outputs of pump valve. 1) Not in operation: 300±30 mA 2) Pilot operation: up to 750 ±30 mA 3) Relief pressure up operation: 800 ±30 mA		

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NOTE: *If the engine has not been run for several weeks, fuel may have drained. Air may have moved into the filter housing. Also, when fuel filters have been changed, some air will be left in the filter housing. Refer to the Operation and Maintenance Manual, "Fuel System - Prime" (Maintenance Section) for more information on priming the fuel system.*

Ether Injection System (If Equipped)

The ether injection system is controlled by the ECM. The ECM monitors the coolant temperature, intake air temperature, ambient air temperature, and barometric pressure to determine when ether injection is needed. At sea level, ether will be used if any of the temperatures fails to exceed 0°C (32°F). This temperature is subject to an increase as barometric pressure increases.

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Personal injury or property damage can result from alcohol or starting fluids.
Alcohol or starting fluids are highly flammable and toxic and if improperly stored could result in injury or property damage.

Follow the procedure in this Operation and Maintenance Manual, "Starting the Engine".

Starting with Jump Start Cables (Do Not Use This Procedure in Hazardous Locations that have Explosive Atmospheres)

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

The connection of battery cables to a battery and the disconnection of battery cables from a battery may cause an explosion which may result in injury or death. The connection and the disconnection of other electrical equipment may also cause an explosion which may result in injury or death. The procedures for the connection and the disconnection of battery cables and other electrical equipment should only be performed in a nonexplosive atmosphere.

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Improper jump start cable connections can cause an explosion resulting in personal injury.
Prevent sparks near the batteries. Sparks could cause vapors to explode. Do not allow jump start cable ends to contact each other or the engine.

NOTE: *If possible, first diagnose the reason for the starting failure. Refer to Troubleshooting, "Engine Will Not Crank and Engine Cranks But Will Not Start" for further information. Make any necessary repairs. If the engine will not start only due to the condition of the battery, either charge the battery, or start the engine by using another battery with jump-start cables. The condition of the battery can be rechecked after the engine has been switched OFF.*

NOTICE

Using a battery source with the same voltage as the electric starting motor. Use ONLY equal voltage for jump starting. The use of higher voltage will damage the electrical system.
Do not reverse the battery cables. The alternator can be damaged. Attach ground cable last and remove first.
Turn all electrical accessories OFF before attaching the jump start cables.
Ensure that the main power switch is in the OFF position before attaching the jump start cables to the engine being started.

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General Maintenance Instructions

Safety Instructions

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Instructions are necessary before operating or servicingmachine. Read and understand the Operation & Maintenance Manual and signs (decals) on machine. Followwarnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correctfunction after adjustments repairs or service. Untrainedoperators and failure to follow instructions can cause deathor serious injury.

Welding Precautions and Instructions

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

To avoid accidents, personal injury and the possibility of causing damage to the machine or to components, welding must only be performed by properly trained and qualified personnel, who possess the correct certification (when required) for the specific welding fabrication or specialized repair being performed.

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Structural elements of the machine may be built from a variety of steels. These could contain unique alloys or may have been heat-treated to obtain particular strength characteristics. It is extremely important that welding repairs on these types of steel are performed with the proper procedures and equipment. If repairs are performed incorrectly, structural weakening or other damage to the machine (that is not always readily visible) could result. Always consult After Sales Service before welding on integral components (loader arm, frames, car body, track frames, upper structure, attachment, etc.) of the machine. It is possible that some types of structurally critical repairs may require Magnetic Particle or Liquid Penetration testing, to make sure there are no hidden cracks or damage, before the machine can be returned to service.

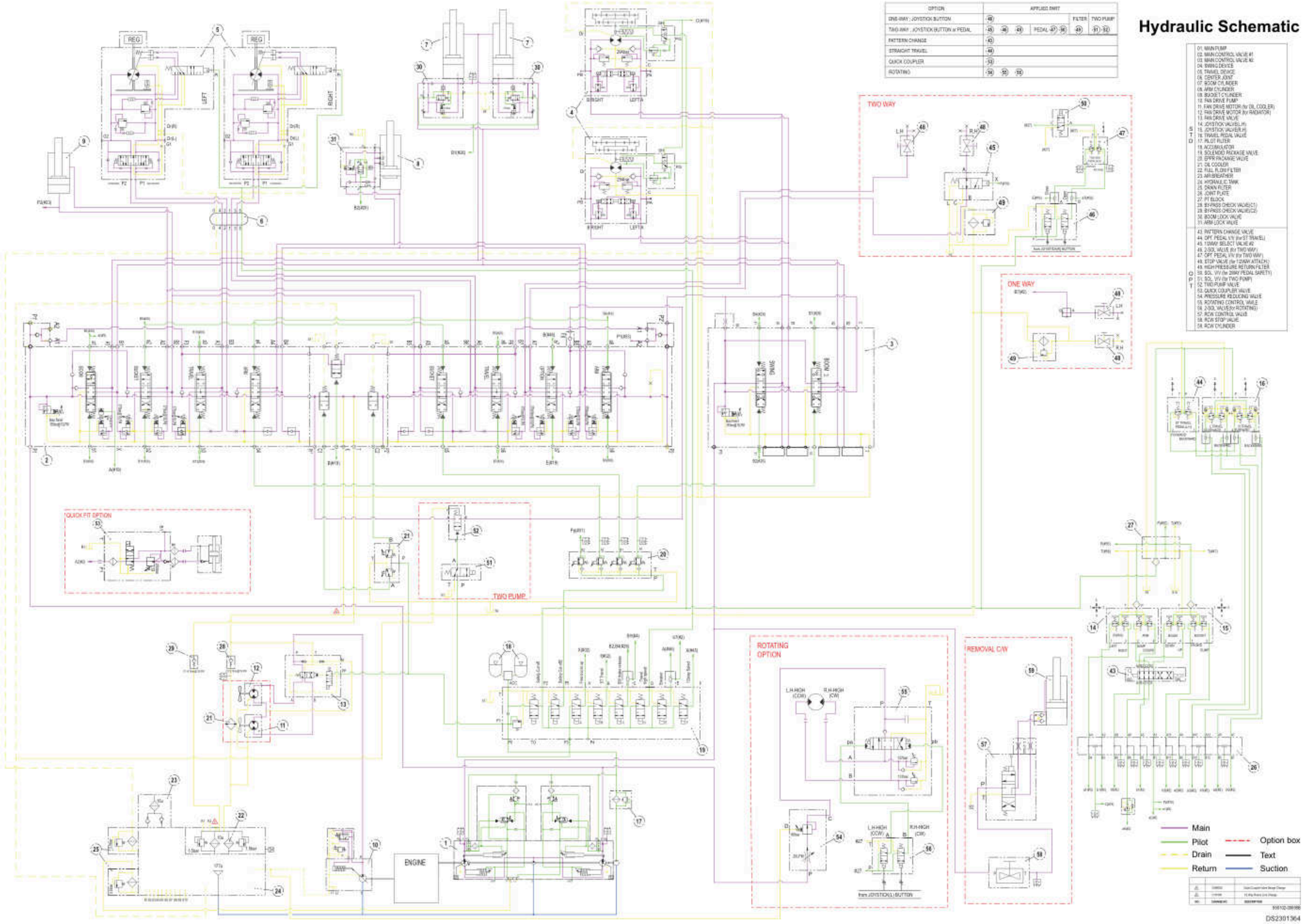
⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Always perform welding procedures with proper safety equipment and adequate ventilation in a dry work area. Keep a fire extinguisher near and wear personal protective equipment.

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Hydraulic Schematic



Hydraulic Schematic

S T D

01. MAIN PUMP
02. MAIN CONTROL VALVE #1
03. MAIN CONTROL VALVE #2
04. SWING DEVICE
05. TRAVEL DEVICE
06. CENTER JOINT
07. BOOM CYLINDER
08. ARM CYLINDER
09. BUCKET CYLINDER
10. FAN DRIVE PUMP
11. FAN DRIVE MOTOR (for OIL COOLER)
12. FAN DRIVE MOTOR (for RADIATOR)
13. FAN DRIVE VALVE
14. JOYSTICK VALVE(L.H)
15. JOYSTICK VALVE(R.H)
16. TRAVEL PEDAL VALVE
17. PILOT FILTER
18. ACCUMULATOR
19. SOLENOID PACKAGE VALVE
20. EPPR PACKAGE VALVE
21. OIL COOLER
22. FULL FLOW FILTER
23. AIR BREATHER
24. HYDRAULIC TANK
25. SWAN FILTER
26. JOINT PLATE
27. PT BLOCK
28. BY-PASS CHECK VALVE(C1)
29. BY-PASS CHECK VALVE(C2)
30. BOOM LOCK VALVE
31. ARM LOCK VALVE

O P T

43. PATTERN CHANGE VALVE
44. OPT. PEDAL V/V (for ST TRAVEL)
45. 1/2WAY SELECT VALVE #2
46. 2-SOL. VALVE (for TWO WAY)
47. OPT. PEDAL V/V (for TWO WAY)
48. STOP VALVE (for 1/2WAY ATTACH)
49. HIGH PRESSURE RETURN FILTER
50. SOL. V/V (for 2WAY PEDAL SAFETY)
51. SOL. V/V (for TWO PUMP)
52. TWO PUMP VALVE
53. QUICK COUPLER VALVE
54. PRESSURE REDUCING VALVE
55. ROTATING CONTROL VALE
56. 2-SOL. VALVE(for ROTATING)
57. RCW CONTROL VALVE
58. RCW STOP VALVE
59. RCW CYLINDER

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