PART NO. TO25W-E-00

HITACHI

Technical Manual

Operational Principle

SCX900HD-2

Crawler Crane

HITACHI SUMITOMO

MidWestTech | Hitachi SCX900HD-2 Crawler Crane Operational Principle Technical Service Manual | Publication TO25W-E-00

Order the manual at mid-west-tech.com >

SECTION 1
GENERAL

—CONTENTS—

Group 1 Specifications

Crane Specifications T1-1-1
Clamshell Specifications T1-1-2

Group 2 Component Layout

Main Component Layout T1-2-1
Electrical Component Layout T1-2-5
Engine T1-2-15
Pump Mechanism T1-2-17
Front/Rear Control Valves T1-2-18
Slewing Control Valve T1-2-19
Gantry Raise/Lower Hydraulic
Source Selection Valve T1-2-19
Lower Control Valve T1-2-19
4-Spool Solenoid Valve Unit T1-2-20
Pilot Shut-Off Solenoid Valve T1-2-20
Primary Pilot Pressure Sensor T1-2-20
Slewing Remote Control
Pressure Sensor T1-2-20

Group 3 Component Specifications

Engine T1-3-1
Engine Accessories T1-3-4
Hydraulic Equipment T1-3-5
Filter T1-3-9

MidWestTech | Hitachi SCX900HD-2 Crawler Crane Operational Principle Technical Se... Order the manual at mid-west-tech.com >

Oil Cooler Fan Motor

Type	Constant Displacement Axial Plunger Motor
Model	MSF-18-16
Theoretical Displacement	16.4 cm^3/rev

Oil Cooler Bypass Check Valve

Model	VA1C007A001A
Cracking Pressure	343±49 kPa(3.5±0.5 kgf/cm^2)/40 L/min

Accumulator

Type	Bladder Type
Delivery Flow Rate	700 cm3
Maximum Set-Pressure	3.9 MPa (40 kgf/cm2)

FILTER

	Filtration	Remarks
Return Filter	10 μm	(Yamashin Y-467500)
Pilot Filter	10 μm	(Yamashin GT04L-30-10)
Suction Filter	177 μm (80 mesh)	(Yamashin SFB32S-177-1220)
Drain Filter	10 μm	(Yamashin SP10-10-10)

MidWestTech | Hitachi SCX900HD-2 Crawler Crane Operational Principle Technical Se... Order the manual at mid-west-tech.com >

External Moment Limiter Warning Light Control

Purpose: This turns the external moment limiter warning light ON and OFF according to IDU information and the release key switch signal.

Operation:

1. MC2/B sends the signal of auto stop release key switch to IDU.
2. IDU turns the external moment limiter warning light ON and OFF according to these signals from MC2/B and in IDU.

Release Key Switch	IDU Data (CAN Communication Data)				External Moment Limiter Warning Light
	Digging Mode	Overload	Pre-Indication	Assembly and Disassembly	
Release	-	-	-	-	Red
No Release	-	-	-	Assembly and Disassembly	Red
No Release	Crane	Overload	-	-	Red
No Release	Crane	No Overload	Pre-Indication	-	Yellow
No Release	Crane	No Overload	No Pre-Indication	No Assembly and Disassembly	Green
No Release	Digging	-	-	No Assembly and Disassembly	OFF

MidWestTech | Hitachi SCX900HD-2 Crawler Crane Operational Principle Technical Se... Order the manual at mid-west-tech.com >

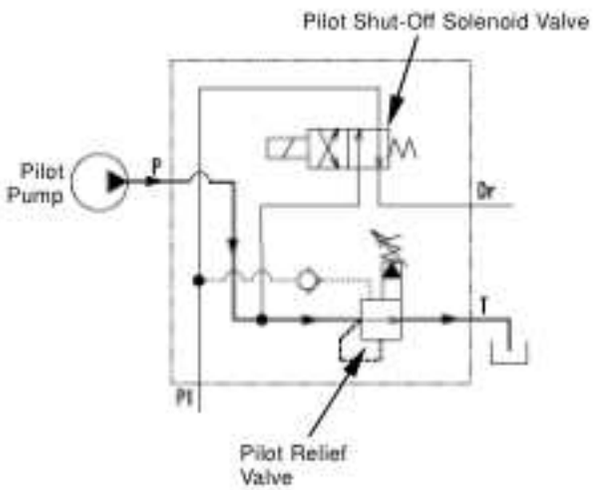
Pilot Shut-Off Solenoid Valve

The pilot shut-off solenoid valve is operated by the pilot shut-off lever and controls pressure oil to the pilot circuit from the pilot pump.

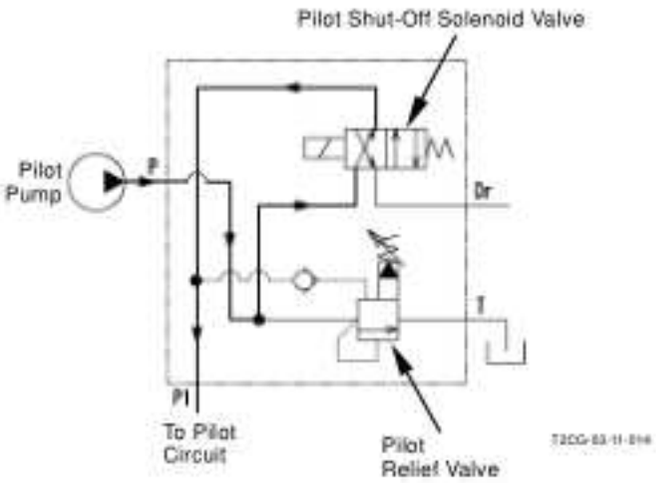
When the pilot shut-off lever is at the Lock position, the spool in the pilot shut-off solenoid valve is at the Close position.
Pressure oil from the pilot pump acts on the pilot relief valve and the relief valve is opened. Consequently, all pressure oil from the pilot pump flows to the hydraulic oil tank through the relief valve. Therefore, as pilot pressure is not supplied to the pilot circuit, the operation system is not operated.

When the pilot shut-off lever is turned to the Release position, the pilot shut-off solenoid valve is operated and the spool in the solenoid valve is shifted to the Open position.
Consequently, pressure oil from the pilot pump flows to the pilot circuit through the spool in the pilot shut-off solenoid valve. Therefore, as pilot pressure is supplied to the pilot circuit, the operation system can be operated.

Pilot Shut-Off: Locked



Pilot Shut-Off: Released



MidWestTech | Hitachi SCX900HD-2 Crawler Crane Operational Principle Technical Se... Order the manual at mid-west-tech.com >

SECTION AND GROUP CONTENTS

SECTION 1 GENERAL

Group 1 Specifications	[redacted]
Group 2 Component Layout	[redacted]
Group 3 Component Specifications	[redacted]

SECTION 2 SYSTEM

Group 1 Control System	[redacted]
Group 2 Hydraulic System	[redacted]
Group 3 Electrical System	[redacted]

TECHNICAL MANUAL

(Operational Principle)

SECTION 3 COMPONENT OPERATION

Group 1 Pump Mechanism	[redacted]
Group 2 Front and Rear Control Valves	[redacted]
Group 3 Slewing Control Valve	[redacted]
Group 4 Lower Control Valve	[redacted]
Group 5 Gantry Raise/Lower Hydraulic Source Selection Control Valve	[redacted]
Group 6 Remote Control Valve	[redacted]
Group 7 Slewing Mechanism	[redacted]
Group 8 Hoisting Mechanism	[redacted]
Group 9 Boom Derricking Mechanism	[redacted]
Group 10 Travel Mechanism	[redacted]
Group 11 Others (Slewing Upperstructure)	[redacted]
Group 12 Others (Base Carrier)	[redacted]

All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

COPYRIGHT(C)2009
Hitachi Sumitomo Heavy Industries
Construction Crane Co., Ltd.
Tokyo, Japan
All rights reserved

Order the manual at mid-west-tech.com >