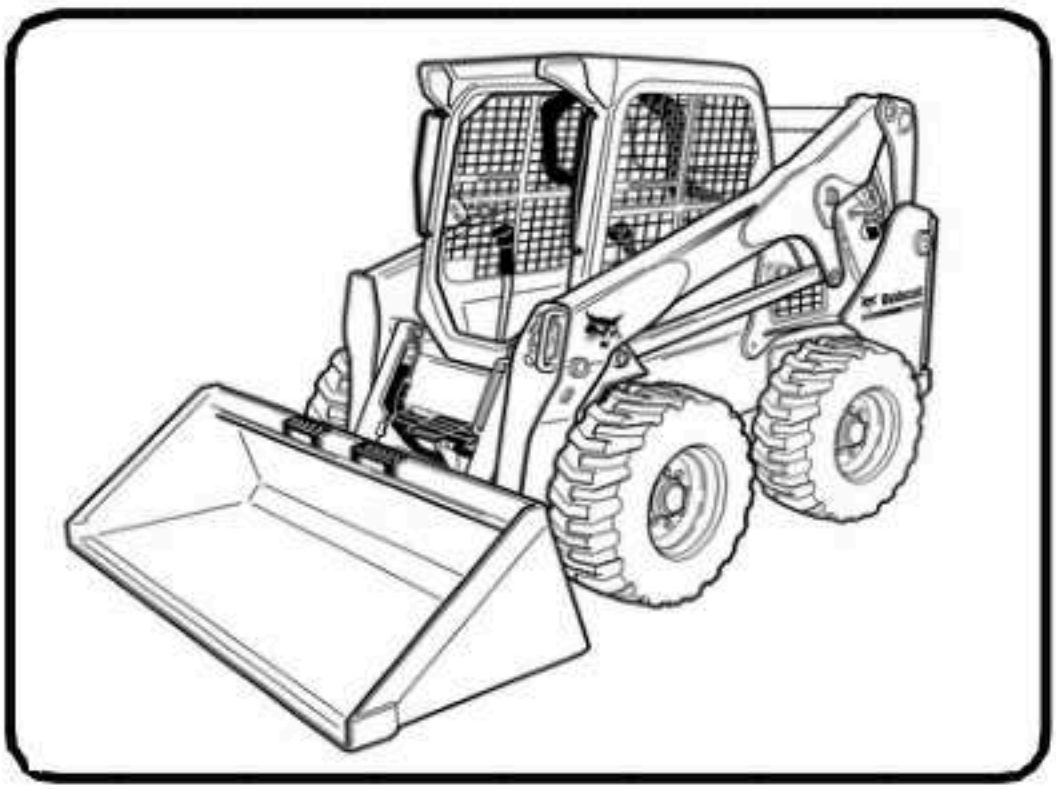
Bobcat®

Service Manual
S770 Skid-Steer Loader

S/N ASRV11001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6990111 (5-11)

Printed in U.S.A.

© Bobcat Company 2011

MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

CONTENTS

SAFETY & MAINTENANCE 10-01

HYDRAULIC SYSTEM 20-01

HYDROSTATIC SYSTEM 30-01

DRIVE SYSTEM 40-01

MAINFRAME 50-01

ELECTRICAL SYSTEM & ANALYSIS 60-01

ENGINE SERVICE 70-01

HEATING, VENTILATION AND AIR CONDITIONING (HVAC) 80-01

SPECIFICATIONS SPEC-01

ALPHABETICAL INDEX INDEX-01

MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

FOREWORD 1-7

SAFETY INSTRUCTIONS 1-10

FIRE PREVENTION 1-12
- Maintenance 1-12
- Operation 1-12
- Electrical 1-12
- Hydraulic System 1-12
- Fueling 1-12
- Starting 1-12
- Spark Arrestor Exhaust System 1-12
- Welding And Grinding 1-13
- Fire Extinguishers 1-13

SERIAL NUMBER LOCATIONS 1-14
- Loader Serial Number 1-14
- Engine Serial Number 1-14

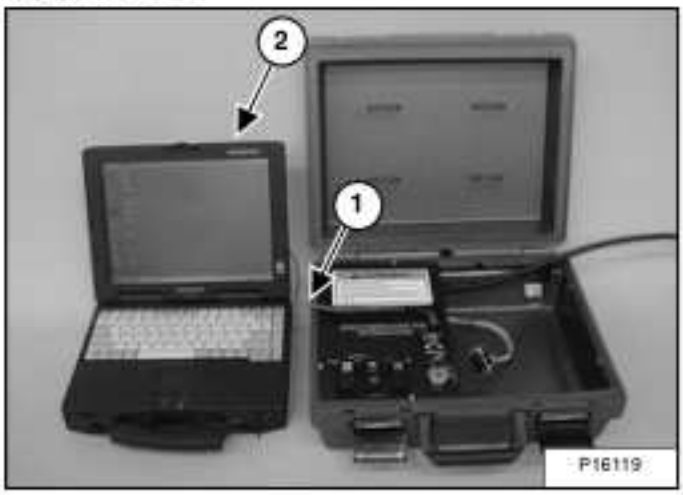
DELIVERY REPORT 1-15

LOADER IDENTIFICATION 1-16

MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

Service Tool Harness Communicator - MEL1566

Figure 10-60-6



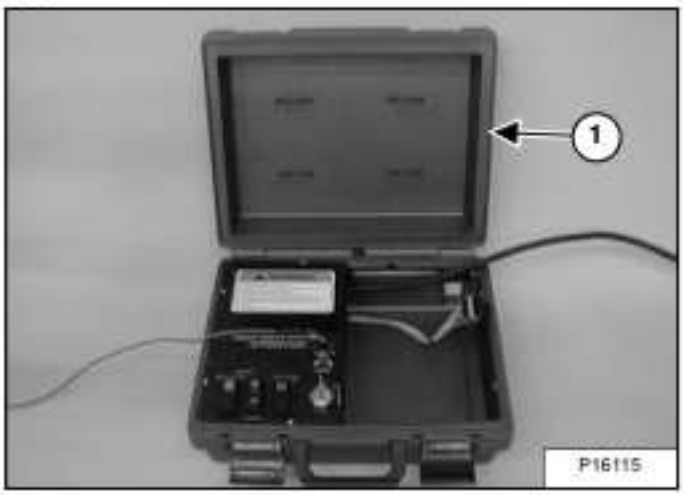
The service tool harness communicator (Item 1) is required to connect remote start tool to the Service PC (Item 2) **[Figure 10-60-6]**.

Remote Start Procedure

The tool listed will be needed to do the following procedure:

MEL1563: Remote Start Tool Kit

Figure 10-60-7



The remote start tool (Item 1) **[Figure 10-60-7]** is required when the operator cab is in the raised position for service and the service technician needs to turn the key switch on or start the engine. Example: adjusting the steering linkage.

Lift and block the loader.

Raise the lift arms (if required by the procedure) and install an approved lift arm support device.

Raise the operator cab (if required by the procedure).

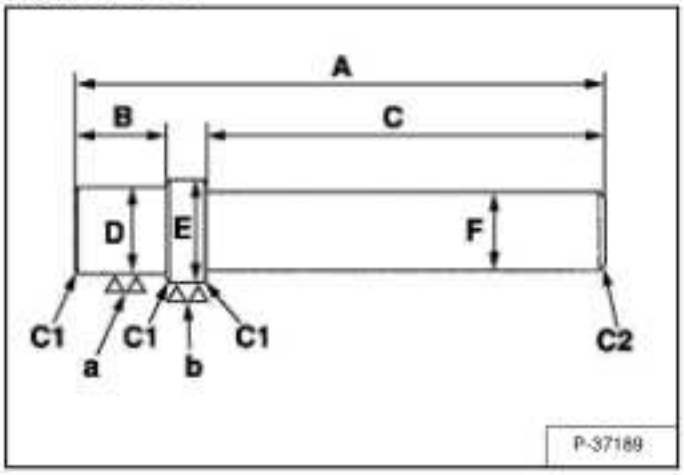
Open the rear door of the loader.

MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

Piston And Connecting Rod - Servicing

The Small End Bushing Replacing Tool can be made using the dimensions below. One set of dimensions is for the press out tool and one for press fit.

Figure 70-90-6



Small End Bushing Replacing Tool

Application: Use to press out and to press fit the small end bushing in the connection rod.

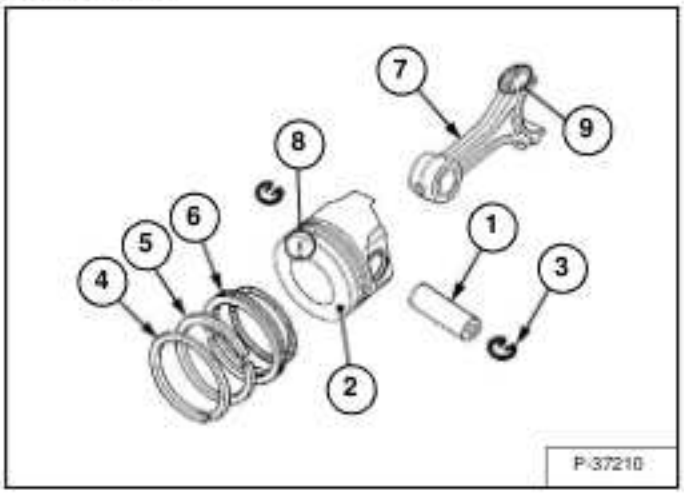
(Press out)

A	157 mm (6.18 in)
B	14,5 mm (0.571 in)
C	120 mm (4.72 in)
D	30 mm dia. (1.181 in dia.)
E	32,95 mm dia. (1.297 in dia.)
F	20 mm (0.79 in)
a	0,0000063 mm (0.00025 in)
b	0,0000063 mm (0.00025 in)
C1	Chamfer 1,0 mm (0.039 in)
C2	Chamfer 2,0 mm (0.079 in)

(Press fit)

A	157 mm (6.18 in)
B	14,5 mm (0.571 in)
C	120 mm (4.7244 in)
D	30 mm dia. (1.181 in dia.)
E	42,000 mm dia. (1.6535 in dia.)
F	20 mm (0.79 in)
a	0,0000063 mm (0.00025 in)
b	0,0000063 mm (0.00025 in)
C1	Chamfer 1,0 mm (0.039 in)
C2	Chamfer 2,0 mm (0.079 in)

Figure 70-90-7



1. Piston Pin
2. Piston
3. Piston Pin Snap Ring
4. Compression Ring 1
5. Compression Ring 2
6. Oil Ring
7. Connecting Rod
8. Mark (↑)
9. Numbering Mark

Remove the piston rings using a piston ring tool **[Figure 70-90-7]**.

Remove the piston pin (Item 1), and separate the connecting rod (Item 7) from the piston (Item 2) **[Figure 70-90-7]**.

Installation: When installing the piston pin, immerse the piston in 80°C (176 F) oil for 10 to 15 minutes and insert the piston pin to the piston.

Assemble the piston to the connecting rod with the ↑ mark (Item 8) and the connecting rod numbering mark (Item 9) **[Figure 70-90-7]** facing same side.

NOTE: Mark the same number on the connecting rod and the piston so as not to change the combination.

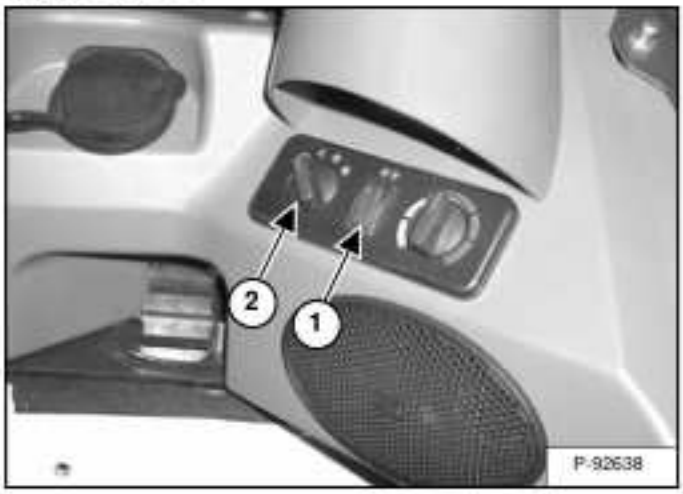
MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

Electrical System

Check to see if the compressor clutch is engaging.

With an operator in the loader seat and the cab door open, turn the loader key switch to RUN OR press the RUN Button, without starting the loader.

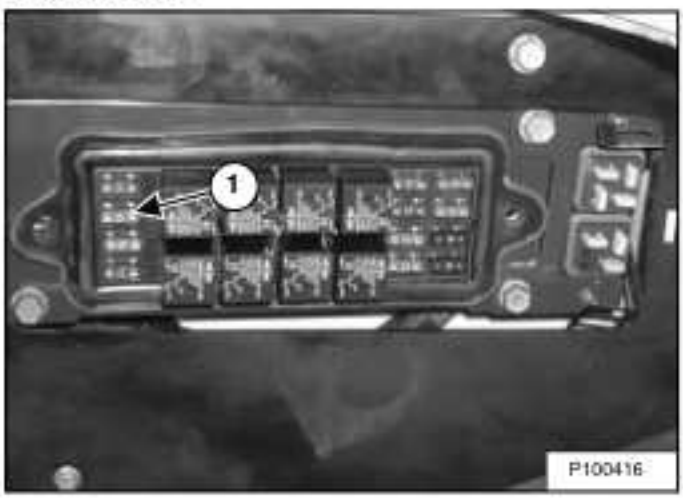
Figure 80-30-4



Push the A/C switch (Item 1) to the ON position. Turn the blower switch (Item 2) **[Figure 80-30-4]** to the first ON position.

The compressor clutch should make a click sound, which indicates the clutch is engaging.

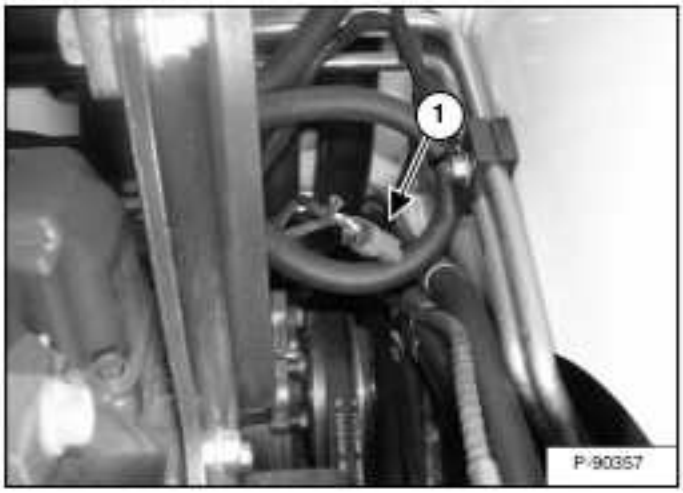
Figure 80-30-5



If the compressor clutch does not engage, check the HVAC fuse (Item 1) **[Figure 80-30-5]** located in the fuse panel.

Open the rear door (tailgate).

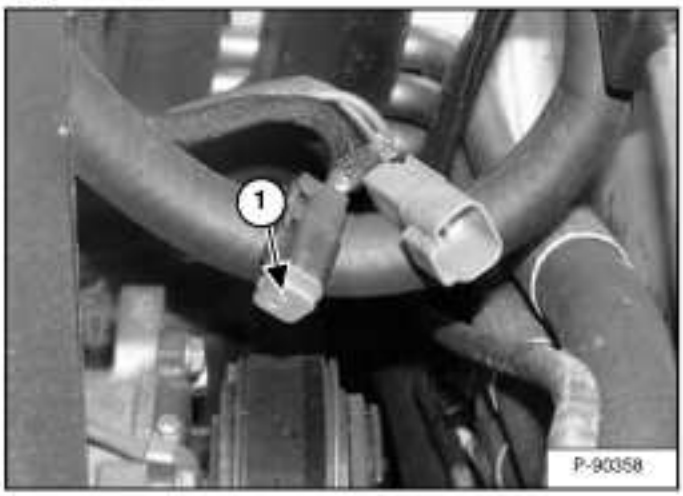
Figure 80-30-6



Locate the loader harness and the compressor clutch wire (Item 1) **[Figure 80-30-6]**.

Disconnect the loader harness (Item 1) **[Figure 80-30-6]** from the compressor clutch wire.

Figure 80-30-7



With a multi meter, check the resistance to the compressor clutch (Item 1) **[Figure 80-30-7]**.

If there is no resistance value, replace the compressor clutch.

MidWestTech | Bobcat S770 Skid Steer Loader Service Manual | Publication 6990111_5_11 Order the manual at mid-west-tech.com >

CONNECTOR ASSIGNMENTS

CONN	DESCRIPTION	NUM OF PINS	SHEET	CONN	DESCRIPTION	NUM OF PINS	SHEET	CONN	DESCRIPTION	NUM OF PINS	SHEET
C101	FUEL SHUTOFF SOLENOID	3	6	C446	HYDRAULIC FAN	2	7	FC1	FUSE CENTER 1	8	3
C103	TAILGATE	8	4,10,11,13	C449	LEFT JOYSTICK (CAB HARN)	4	5	FC2	FUSE CENTER 2	8	3
C104	ENGINE COOLANT SENSOR	2	6	C450	RIGHT JOYSTICK (CAB HARN)	4	5	FRC1	FUSE RELAY CENTER	64	3,6,7,11,12
C105	HYD CHARGE PRESSURE	3	7	C453	RIGHT QUAD A DRIVE	4	15				
C106	ENGINE SPEED SENSOR	2	6	C454	LEFT QUAD DRIVE	4	15	J1A	GATEWAY CONTROLLER	34	3,6-8,10-13
C107	ENGINE OIL PRESSURE	3	6	C467	LIFT PEDAL LOCK	3	14	J1B	GATEWAY CONTOLLER	26	3-10,13
C108	HYD TEMPERATURE SENDER	2	7	C468	TILT PEDAL LOCK	3	14	J2A	AUX CONTROLLER	34	7,10,13
C109	S/R ADAPTER HARNESS	2	6	C469	TILT HANDLE	3	14	J2B	AUX CONTROLLER	26	3-5,7,10,13
C110	ALTERNATOR	2	6	C470	TILT PEDAL	3	14				
C112	HYD OIL FILTER SWITCH	2	7	C471	LIFT PEDAL	3	14	J1-ACS	ACS CONTROLLER	8	14, 15
C126	HORN	2	13	C472	LIFT HANDLE	3	14	J2-ACS	ACS CONTROLLER	10	14, 15
C129	CAB ACCESSORY	3	9	C474	BRAKE LIGHT	1	15	J3-ACS	ACS CONTROLLER	10	14, 15
C209	DOME LIGHT	3	9	C479	LEFT PANEL(BLACK)	12	5,8	J5	DRIVE CONTROLLER	50	15
C212	POWER SOCKET	2	9	C480	LEFT PANEL(GRAY)	12	8				
C252	WASHER	2	9	C482	SEATBAR SENSOR	3	9	SW1	BRAKE SWITCH	6	8
C277	AIR RIDE SEAT	6	13	C483	TEMP CONTROL SWITCH	3	12	SW2	BEACON SWITCH	6	13
C278	RIGHT SPEAKER	2	13	C486	AC COMPRESSOR	2	12	SW3	HAZARD SWITCH	6	13
C279	LEFT SPEAKER	2	13	C489	MFR ACCESSORY	2	3,4	SW4	HAND/FOOT, H/ISO SWITCH	6	9
C308	BRAKE SOLENOID	2	7	C492	ACS/SJC/AWS-MFR HARN	8	3,5,9	SW5	POWER BOBTACH SWITCH	6	13
C350	AC EVAPORATOR SWITCH	2	12	C493	ACS/SJC/AWS-MFR HARN	4, 15	3,4	SW6	BUCKET POSITION SWITCH	6	13
C355	DLX or STD FUEL HARNESS	6	6,12,13	C497	SJC HORN/BLINKER	3	13	SW9	TRAVEL CONTROL SWITCH	6	8
C404	BU ALARM-MFR HARN	2	3,10	C499	PTOL	4	8	SW10	BLOWER SWITCH	5	12
C405	AIR FILTER SWITCH	2	6	C500	RH KEY SWITCH	6	8	SW11	AC SWITCH	3	12
C406	FUEL SENDER	2	6	C501	A22 PUMP HARNESS	8	15				
C408	CAB - MFR HARN CONNECTOR	48	3-5,8-9,11-13	C503	RH DLX PANEL	6	5,8	T1	BATT GROUND	1	4
C409	RIGHT HANDLE	10	10	C542	LEFT SWASHPLATE	3	15	T2	BUZZER GROUND	1	8
C410	LEFT HANDLE	10	10	C543	RIGHT SWASHPLATE	3	15	T3	FLASHER	2	13
C411	LEFT HANDLE 5 WAY (FLSHR)	5	13	C544	LEFT FORWARD DRIVE	2	15	T6	BATT GROUND	1	4
C412	LEFT HANDLE 2 WAY (HORN)	2	13	C545	LEFT REVERSE DRIVE	2	15	T8	BATT GROUND	1	4
C415	HIGH FLOW SOLENOID	2	13	C546	RIGHT FORWARD DRIVE	2	15	T13	BUZZER POWER	1	8
C418	FRONT ROD (MALE)	2	7	C547	RIGHT REVERSE DRIVE	2	15	T14	PRE HEATER	1	6
C419	FRONT BASE (FEMALE)	2	7					T15	RIGHT REAR WORK LIGHT(+)	1	11
C420	HYD LOCK	2	7					T16	RIGHT REAR WORK LIGHT(-)	1	11
C440	RF BASE	2	14	C602	LEFT REAR TAIL LIGHT	2	11	T17	LEFT REAR WORK LIGHT (+)	1	11
C422	TILT SPOOL LCOK	3	10	C603	RIGHT REAR TAIL LIGHT	2	11	T18	LEFT REAR WORK LIGHT (-)	1	11
C423	BUCKET POSITION	2	13	C606	POWER BOBTACH OPEN	2	13	T19	BACKUP ALARM	1	10
C425	BRAKE SOLENOID	3	7	C607	POWER BOBTACH CLOSE	2	13	T20	BACKUP ALARM (GND)	1	10
C426	CAN (Remote Start Tool, ACD)	7	5	C610	HVAC DUCT FAN	2	12				
C428	TILT ACTUATOR	8	14, 15	C611	BLOWER MOTOR	4	12				
C429	LIFT ACTUATOR	8	14,15	C630	THERMOSTAT	3	12				
C434-1	LEFT WORKLIGHT 1	2	11	C635	HEATER VALVE	6	12				
C434-2	LEFT WORKLIGHT 2	2	11	C667	DOOR	6	9				
C435-1	RIGHT WORKLIGHT 1	2	11	C670	EXTERIOR BEACON	6	13				
C435-2	RIGHT WORKLIGHT 2	2	11	C676	RADIO	6	13				
C437	TWO SPEED MAKEUP	2	13								
C441	TWO SPEED	2	13	C707	OBW STOP BRAKE LIGHT	3	15				

WIRE CATEGORIES FOR COLORS AND NUMBER RANGE

GROUP DESCRIPTION	GROUP NUMBER RANGE	WIRE COLOR	COLOR CODE
BATT FEED, GENERAL	1000 THROUGH 1499	RED	RED
BATT FEED, FUSED	1000 THROUGH 1499	RED/WHITE	RED/WHT
BATT FEED, SWITCHED	1500 THROUGH 1999	ORANGE/WHITE	RNG/WHT
BATTERY GROUND	2000 THROUGH 2999	BLACK	BLK
move	2000 THROUGH 2999	BROWN	BRN
MONITORING	3000 THROUGH 3999	LIGHT BLUE	LBL
HYDRAULIC	4000 THROUGH 4999	LIGHT GREEN	LGN
CONTROLLER SUPPLY	5000 THROUGH 5999	YELLOW	YEL
LIGHTS	6000 THROUGH 6999	PINK	PNK
OTHER FUNCTIONS	7000 THROUGH 7999	WHITE	WHT
ENGINE	8000 THROUGH 8999	TAN	TAN
COMMUNICATION	9000 THROUGH 9999	PURPLE	PUR
COMMUNICATION	9000 THROUGH 9999	PURPLE/WHITE	PUR/WHT

SCHEMATIC INDEX

OVERVIEW	PAGE 1,2
POWER	PAGE 3
GROUND	PAGE 4
CAN BUS	PAGE 5
ENGINE	PAGE 6
HYDRAULICS	PAGE 7
CAB DISPLAY	PAGE 8
CAB	PAGE 9
MANUAL CONTROLS	PAGE 10
LIGHTS	PAGE 11
HVAC	PAGE 12
OPTIONS	PAGE 13
ACS	PAGE 14
SJC	PAGE 15

WIRING SCHEMATIC
(ACS / SJC MACHINE)
S770 (S/N ASRV11001 AND ABOVE)

Sheet 1 of 15

(PRINTED APRIL 2011)

7197682

Printed In U.S.A.

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