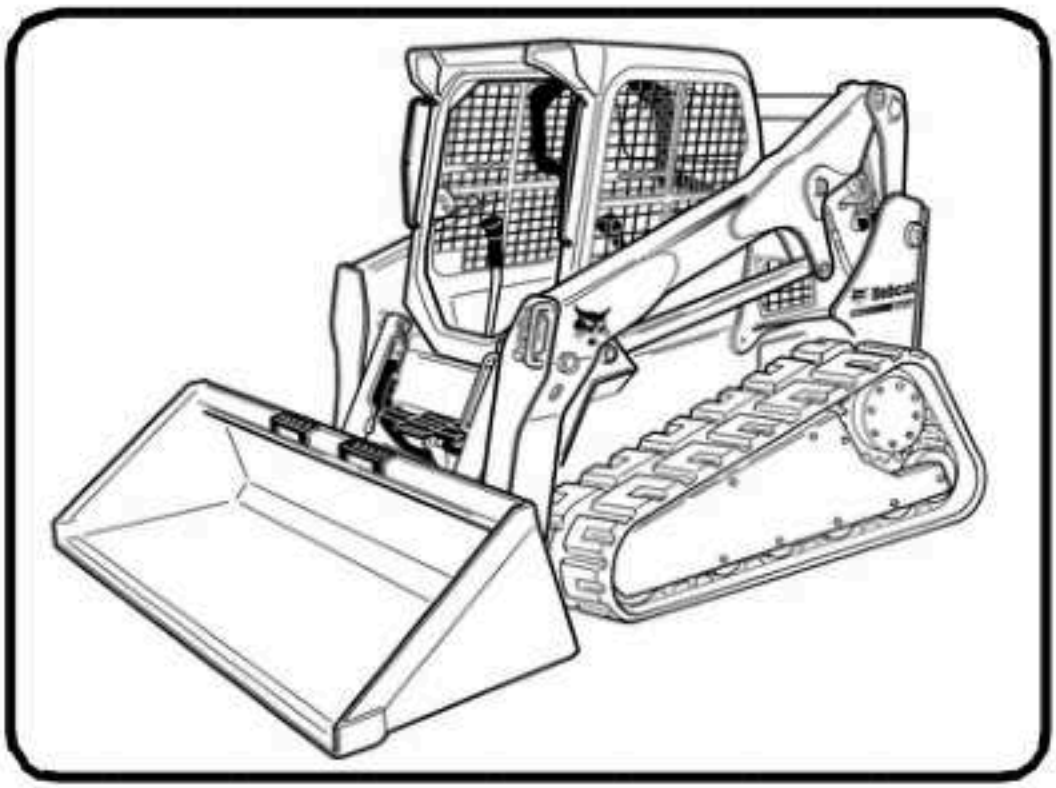
Bobcat®

Service Manual
T770 Compact Track Loader

S/N A3P811001 & Above
S/N A3P911001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6989476 (1-11)

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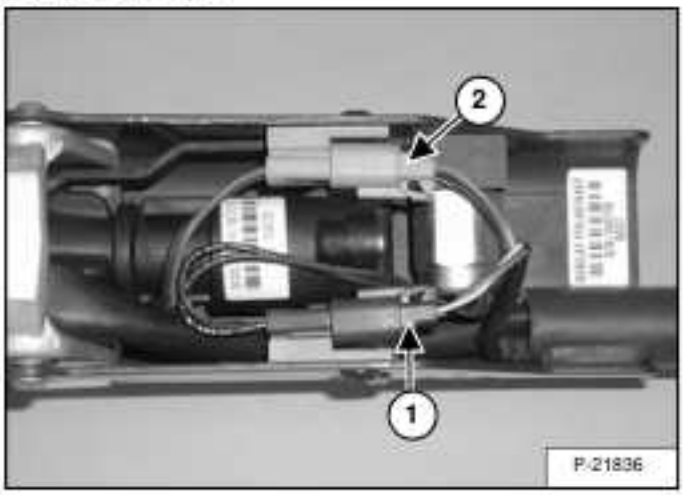
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Handle Lock Solenoid Removal And Installation

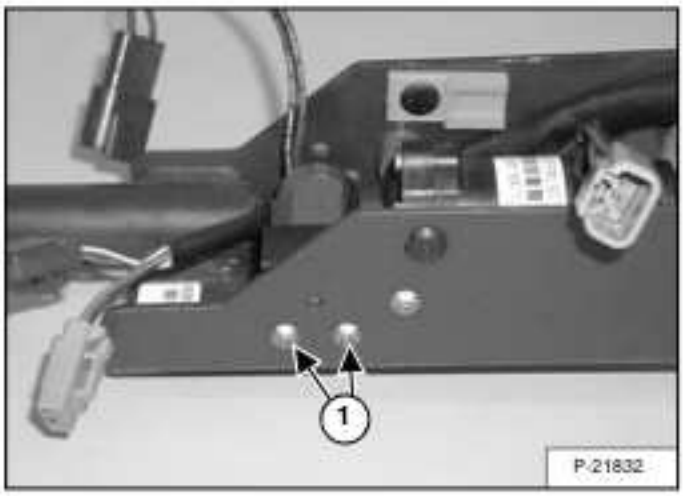
Figure 60-130-24



Disconnect the harness connector (Item 1) **[Figure 60-130-24]** from the handle sensor connector.

Disconnect the harness connector (Item 2) **[Figure 60-130-24]** from the handle lock solenoid connector.

Figure 60-130-25



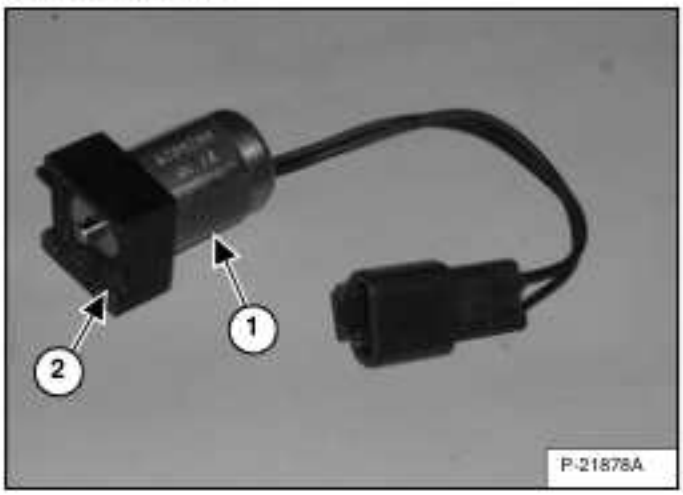
Remove the two screws (Item 1) **[Figure 60-130-25]** holding the handle lock solenoid to the handle.

Installation: Tighten the screws to 3,6 - 4,3 N•m (32 - 38 in-lb) torque.

Remove handle lock solenoid assembly from handle.

Handle Lock Solenoid Disassembly And Assembly

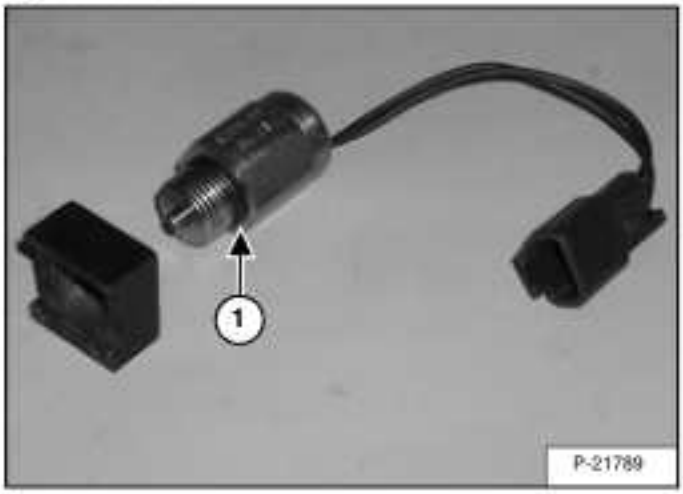
Figure 60-130-26



Remove solenoid (Item 1) from the solenoid mount (Item 2) **[Figure 60-130-26]**.

Installation: Apply a drop of oil to the solenoid threads and tighten solenoid to 47 - 54 N•m (35 - 40 ft-lb) torque.

Figure 60-130-27



Check the O-ring (Item 1) **[Figure 60-130-27]** for damage. Replace as necessary.

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Specifications (Cont'd)

All dimensions are given in millimeters. Respective imperial dimensions are given in inches enclosed by parentheses.

Cylinder Bore

Cylinder Bore I.D.	100,000 - 100,022 (3.93701 - 3.93787)
Allowable Limit	100,150 (3.9429)
Oversized Cylinder Bore I.D.	100,500 - 100,522 (3.95670 - 3.95755)
Allowable Limit	100,650 (3.96260)

Piston Rings

Ring Gap (Top Ring)	0,30 - 0,45 (0.012 - 0.017)
Allowable Limit	1,25 (0.0492)
Ring Gap (2nd Ring)	0,30 - 0,45 (0.012 - 0.017)
Allowable Limit	1,25 (0.0492)
Ring Gap (Oil Ring)	0,25 - 0,45 (0.0099 - 0.017)
Allowable Limit	1,25 (0.0492)
Side Clearance of Ring Groove:	
Top Ring	0,05 - 0,09 (0.002 - 0.003)
Allowable Limit	0,15 (0.0059)
Second Ring	0,0930 - 0,120 (0.00367 - 0.00472)
Allowable Limit	0,0079 (0.20)
Oil Ring	0,020 - 0,060 (0.00079 - 0.0023)
Allowable Limit	0,15 (0.0059)

Pistons

Piston Pin Bore	30,000 - 30,013 (1.1811 - 1.1816)
Allowable Limit	30,05 (0.183)

Connecting Rod

Piston Pin O.D.	30,006 - 30,011 (1.1814- 1.1815)
Small End Bushing I.D.	30,031 - 30,046 (1.1824 - 1.1829)
Oil Clearance Between Piston Pin And Small End Bushing	0,020 - 0,040 (0.00079 - 0.0015)
Allowable Limit	0,15 (0.0059)
Connecting Rod Alignment Allowable Limit	0,05 (0.002)

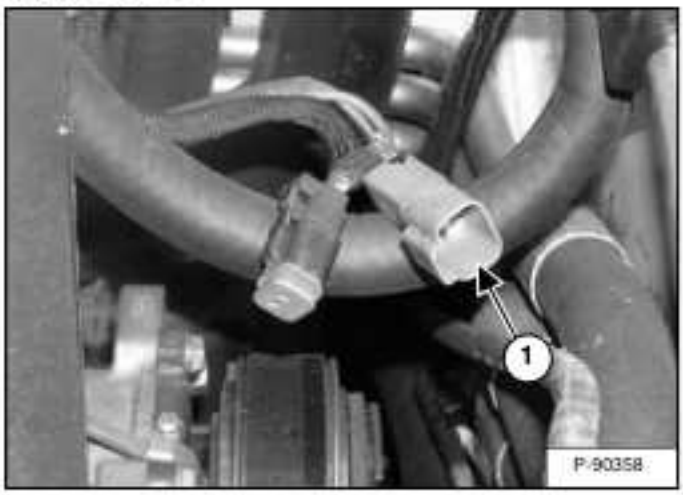
Oil Pump

Oil Pressure Rated RPM	199,9 - 386,1 kPa (1,9 - 3,9 bar) (29 - 56 psi)
Allowable Limit	144,8 kPa (1,4 bar) (21 psi)
Idle Speed Allowable Limit	48,3 kPa (0,48 bar) (7 psi)
Clearance Between Inner Rotor And Outer Rotor	0,040 - 0,16 (0.0016 - 0.0062)
Clearance Between Outer Rotor And Pump Body	0,100 - 0,184 (0.00394 - 0.00724)
End Clearance Between Inner Rotor And Cover	0,025 - 0,075 (0.00099 - 0.0029)

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Electrical System (Cont'd)

Figure 80-30-8



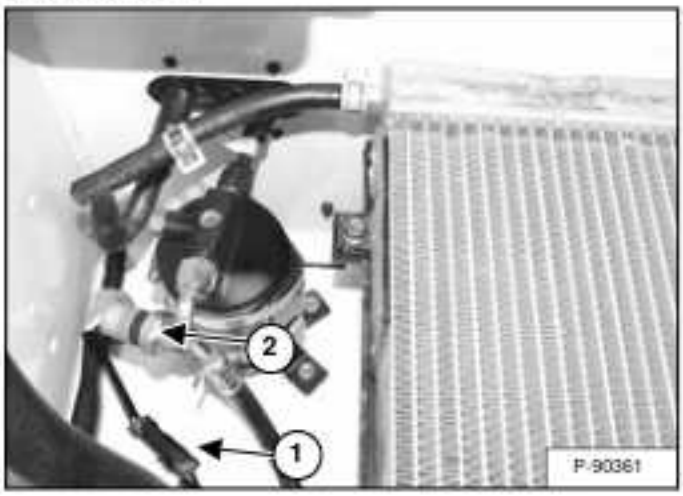
With a multi meter, check the voltage to the compressor clutch at the loader harness (Item 1) **[Figure 80-30-8]**.

The voltage reading should be around 12 volts.

If there is no power at the clutch, check the wiring harness for broken wires.

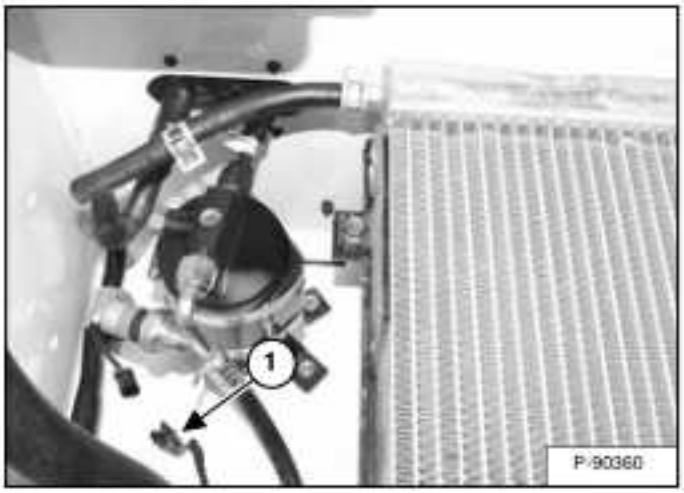
If there is power at the clutch, reconnect the wiring harness to the compressor clutch.

Figure 80-30-9



Disconnect the loader harness (Item 1) from the pressure switch (Item 2) **[Figure 80-30-9]**.

Figure 80-30-10

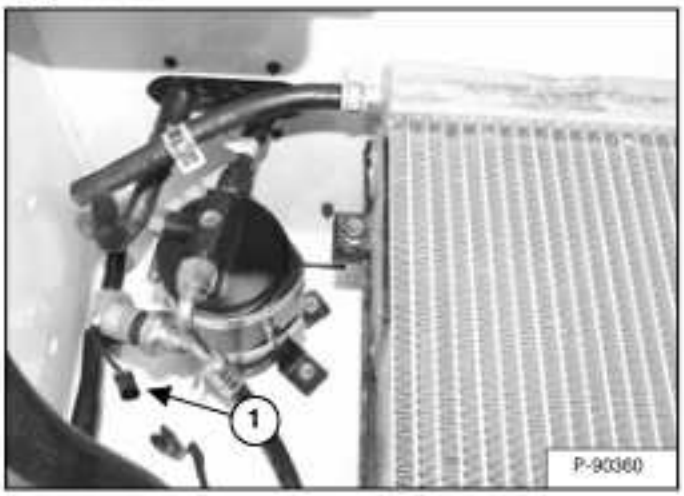


Using a multi meter check the loader wiring harness (Item 1) **[Figure 80-30-10]** for voltage.

The voltage should be around 12 volts.

If there is no voltage at the wiring harness, check the harness for broken wires.

Figure 80-30-11



If there is voltage at the harness, check the resistance at the pressure switch (Item 1) **[Figure 80-30-11]**.

If there is no resistance value, check for low refrigerant level. (See Reclamation And Charging With Recovery / Charging Unit on Page 80-40-2.)

If a resistance value is seen, the pressure switch is good.

Reconnect the loader harness to the pressure switch.

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Safety Alert Symbol

This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0903

IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284

DANGER

The signal word DANGER on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107

WARNING

The signal word WARNING on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

The following publications provide information on the safe use and maintenance of the Bobcat machine and attachments:

- The Delivery Report is used to assure that complete instructions have been given to the new owner and that the machine is in safe operating condition.
- The Operation & Maintenance Manual delivered with the machine or attachment contains operating information as well as routine maintenance and service procedures. It is a part of the machine and can be stored in a container provided on the machine. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat dealer.
- Machine signs (decals) instruct on the safe operation and care of your Bobcat machine or attachment. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat dealer.
- An Operator's Handbook fastened to the operator cab. It's brief instructions are convenient to the operator. The handbook is available from your dealer in an English edition or one of many other languages. See your Bobcat dealer for more information on translated versions.
- The AEM Safety Manual delivered with the machine gives general safety information.
- The Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work.
- The Skid-Steer Loader Operator Training Course is available through your local dealer or at **www.training.bobcat.com** or **www.bobcat.com**. This course is intended to provide rules and practices of correct operation of the Skid-Steer Loader. The course is available in English and Spanish versions.
- Service Safety Training Courses are available from your Bobcat dealer or at **www.training.bobcat.com** or **www.bobcat.com**. They provide information for safe and correct service procedures.
- The Skid-Steer Loader Safety Video is available from your Bobcat dealer or at **www.training.bobcat.com** or **www.bobcat.com**.

SI SSL-1008 SM

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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

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WIRING SCHEMATIC
(ACS / SJC MACHINE)
T770 (S/N A3P811001 AND ABOVE)
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