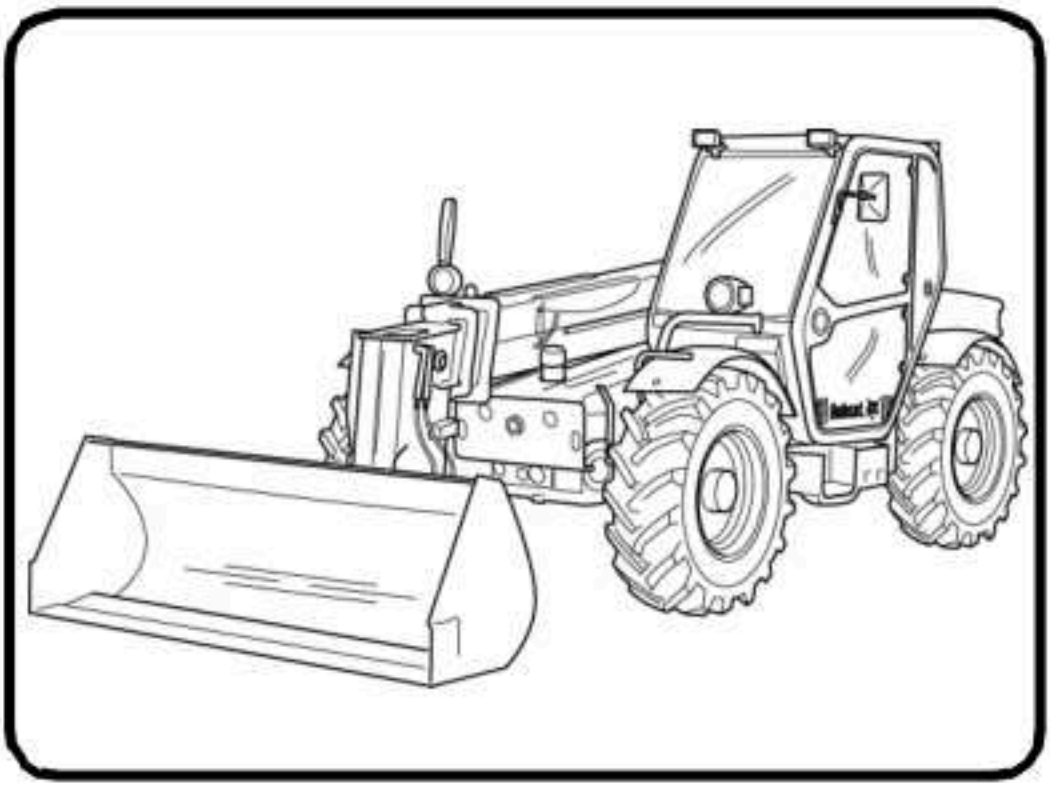
Bobcat®

Service Manual
T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telescopic Handler

T35100: S/N A8HD11001 & Above
T35100L: S/N A8GW11001 & Above
T35100SL: S/N A8GT11001 & Above
T35120L: S/N A8GV11001 & Above
T35120SL: S/N A8GJ11001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

6986766 (11-07) Revised (02-10)

Printed in Belgium

© Bobcat Company 2010

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX

ACCUMULATOR 20-210-1
AIR CLEANER 70-40-1
AIR CLEANER SERVICE 10-60-1
AIR CONDITIONING SERVICE 80-90-1
AIR CONDITIONING SYSTEM FLOW 80-10-1
AIR INTAKE COWLING 50-71-1
ALTERNATOR 60-30-1
APPROVED BOOM STOP (OPTIONAL) 10-160-1
ATTACHMENT FRAME 10-130-1
AXLE AND DIFFERENTIAL (FRONT) 40-20-1
AXLE AND DIFFERENTIAL (REAR) 40-21-1
AXLES (FRONT AND REAR) 10-110-1
AXLE TOE-IN 40-40-1

BASIC TROUBLESHOOTING 80-50-1
BATTERY 60-20-1
BOOM TRAY 50-160-1
BRAKE LIGHT SWITCH 60-90-1
BRAKE VALVE 20-120-1
BUCKET POSITIONING CYLINDER 20-30-1

CHAIN CHECKING AND ADJUSTING PROCEDURE 10-180-1, 50-170-1
COMPONENTS 80-20-1
COMPRESSOR 80-110-1
CONDENSER (S/N A8HD12999 & BELOW, A8GW12999 & BELOW, A8GT12999 & BELOW, A8GV12999 & BELOW, A8GJ12999 & BELOW) 80-120-1
CONDENSER (S/N A8HD13000 & ABOVE, A8GW13000 & ABOVE, A8GT13000 & ABOVE, A8GV13000 & ABOVE, A8GJ13000 & ABOVE) 80-121-1
CONVERSIONS SPEC-70-1

DASH COVER / STEERING COLUMN COVER (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/NA8GV12999 & BELOW, S/N A8GJ12999 & BELOW) 50-130-1
DASH COVER / STEERING COLUMN COVER (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE) 50-131-1
DRIVE BOX 20-70-1
DRIVESHAFT 40-70-1

ELECTRICAL SYSTEM INFORMATION (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW) 60-10-1
ELECTRICAL SYSTEM INFORMATION (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE) 60-11-1
END BOOM 50-40-1
ENGINE AND ENGINE MOUNTS 70-60-1
ENGINE COMPONENTS AND TESTING 70-70-1
ENGINE COOLING SYSTEM 10-70-1
ENGINE COVER 10-170-1, 50-70-1
ENGINE / HYDROSTAT ASSEMBLY 70-80-1
ENGINE LUBRICATION SYSTEM 10-90-1
ENGINE SPECIFICATIONS SPEC-20-1
ENGINE SPEED CONTROL 70-20-1
ENGINE TIMING 70-71-1
EVAPORATOR/BLOWER UNIT (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW) 80-150-1
EVAPORATOR/BLOWER/HEATER UNIT (S/N A8HD13000 & ABOVE, A8GW13000 & ABOVE, A8GT13000 & ABOVE, A8GV13000 & ABOVE, A8GJ13000 & ABOVE) 80-151-1
EXPANSION VALVE (S/N A8HD12999 & BELOW, A8GW12999 & BELOW, A8GT12999 & BELOW, A8GV12999 & BELOW, A8GJ12999 & BELOW) 80-160-1
EXPANSION VALVE (S/N A8HD13000 & ABOVE, A8GW13000 & ABOVE, A8GT13000 & ABOVE, A8GV13000 & ABOVE, A8GJ13000 & ABOVE) 80-161-1
EXTENSION CYLINDER 20-40-1

FAN MOTOR 20-140-1
FENDER 50-110-1
FIXED BOOM 50-30-1
FLOW CONTROL VALVE 20-172-1
FLYWHEEL AND HOUSING 70-90-1
FRAME LEVELING CYLINDER 20-100-1
FRAME LEVEL SPEED SWITCH 60-160-1
FRONT AXLE 40-30-1
FRONT WIPER MOTOR 60-100-1
FUEL SYSTEM 10-80-1
FUEL TANK 50-80-1

GEAR PUMP 20-130-1
GENERAL AIR CONDITIONING SERVICE GUIDELINES 80-60-1

HEATER ASSEMBLY 80-170-1
HYDRAULIC CONNECTION SPECIFICATIONS SPEC-50-1
HYDRAULIC CONTROL VALVE 20-170-1
HYDRAULIC/HYDROSTATIC SYSTEM 10-100-1
HYDRAULIC RESERVOIR 20-150-1
HYDRAULIC SYSTEM INFORMATION 20-10-1
HYDROSTATIC DRIVE MOTOR 30-30-1
HYDROSTATIC PUMP 30-40-1
HYDROSTATIC SYSTEM INFORMATION 30-10-1

INCHING SWITCH 60-140-1
INSTRUMENT PANEL 60-70-1
INTERMEDIATE BOOM 50-150-1

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

JOYSTICK 20-180-1
JOYSTICK PANEL (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW). 50-140-1
JOYSTICK PANEL (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE).. 50-141-1

LIFT CYLINDER 20-20-1
LIFTING AND BLOCKING THE TELESCOPIC HANDLER..... 10-10-1
LIGHTS..... 60-50-1
LUBRICATION 10-120-1

MACHINE TORQUE SPECIFICATIONS..... SPEC-30-1
MAIN RELIEF VALVE 20-80-1
MUFFLER..... 70-30-1

OIL COOLER 30-20-1
OIL COOLER / RADIATOR..... 70-50-1
OPERATOR CAB..... 10-20-1
OPERATOR CAB (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW). 50-10-1
OPERATOR CAB (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE).. 50-11-1
OPERATOR SEAT 50-20-1

PARKING BRAKE.....20-190-1, 40-50-1
PEDAL ASSEMBLY 60-130-1
PIVOT LINK 50-120-1
PORT RELIEF VALVES 20-171-1
PRESSURE REDUCING VALVE..... 20-200-1
PRESSURE SWITCH..... 80-140-1

QUICK TACH 50-90-1
QUICK TACH CYLINDER..... 20-90-1

RECONDITIONING THE ENGINE 70-100-1
REAR AXLE..... 40-90-1
REAR WEIGHTS 50-100-1
REAR WIPER MOTOR..... 60-120-1
RECEIVER / DRIER 80-130-1
REGULAR MAINTENANCE 80-40-1

SAFETY..... 80-30-1
SERVICE BRAKE 40-80-1
SERVICE SCHEDULE..... 10-50-1
SERVICE SOFTWARE..... 60-150-1
SPARK ARRESTER MUFFLER 10-150-1
STABILISER CONTROL VALVE (IF EQUIPPED) 20-260-1
STABILISER CYLINDER (IF EQUIPPED)..... 20-250-1
STABILISER FRAME (IF EQUIPPED) 50-180-1
STARTER 60-40-1
STEERING CYLINDER (FRONT) 20-60-1
STEERING ANGLE ADJUSTMENT..... 40-60-1
STEERING CYLINDER (REAR) 20-61-1
STEERING MODE VALVE BLOCK 20-110-1
STEERING VALVE 20-160-1
SWITCH PANEL (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW) .60-80-1
SWITCH PANEL (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE) ..60-81-1
SYSTEM CHARGING AND RECLAMATION 80-100-1
SYSTEM TROUBLESHOOTING CHART 80-70-1

TELESCOPIC HANDLER SPECIFICATIONS. SPEC-10-1
TEMPERATURE/PRESSURE.....80-80-1
TILT CYLINDER 20-50-1
TIRE MAINTENANCE 10-140-1
TOP WIPER MOTOR 60-110-1
TORQUE SPECIFICATIONS FOR BOLTS SPEC-40-1
TOWING THE TELESCOPIC HANDLER 10-40-1
TOW VALVE 20-220-1
TRANSPORTING THE TELESCOPIC HANDLER10-30-1
TRAVEL / SIGNAL LEVER (S/N A8HD12999 & BELOW, S/N A8GW12999 & BELOW, S/N A8GT12999 & BELOW, S/N A8GV12999 & BELOW, S/N A8GJ12999 & BELOW) 60-60-1
TRAVEL / SIGNAL LEVER (S/N A8HD13000 & ABOVE, S/N A8GW13000 & ABOVE, S/N A8GT13000 & ABOVE, S/N A8GV13000 & ABOVE, S/N A8GJ13000 & ABOVE) . 60-61-1
TROUBLESHOOTING 40-10-1,70-10-1

WEAR PADS (FRONT)..... 50-50-1
WEAR PADS (REAR)..... 50-60-1

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

CONTENTS

FOREWORD III

SAFETY INSTRUCTIONS V

FIRE PREVENTION VII

SERIAL NUMBER LOCATION IX

DELIVERY REPORT X

BOBCAT TELESCOPIC HANDLER IDENTIFICATION XI

SAFETY AND MAINTENANCE 10-01

HYDRAULIC SYSTEM 20-01

HYDROSTATIC SYSTEM 30-01

DRIVE SYSTEM 40-01

MAIN FRAME 50-01

ELECTRICAL SYSTEM AND ANALYSIS 60-01

ENGINE SERVICE 70-01

HEATING, VENTILATION, AIR CONDITIONING 80-01

SPECIFICATIONS SPEC-01

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

FUEL SYSTEM

Fuel Specifications

Use only clean, high quality diesel fuel, Grade No. 2 or Grade No. 1.

The following is one suggested blending guideline which should prevent fuel gelling problems in cold temperatures:

TEMP. F° (C°)	NO. 2	NO. 1
+15° (-9°)	100%	0%
Down to -20° (-29°)	50%	50%
Below -20° (-29°)	0%	100%

Filling The Fuel Tank

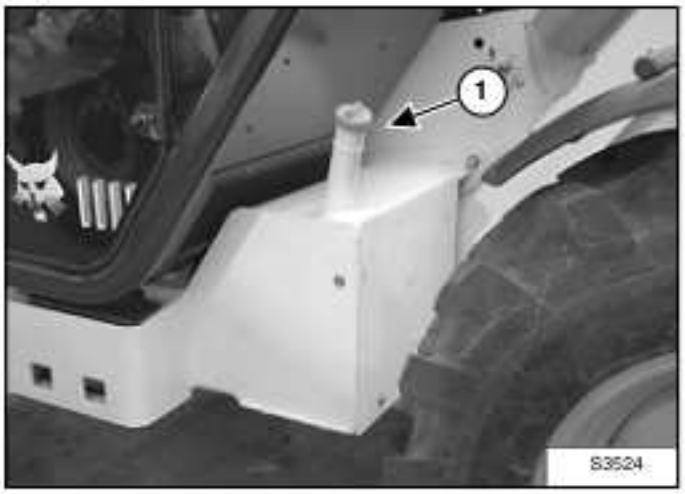
⚠ WARNING

AVOID INJURY OR DEATH

Stop and cool the engine before adding fuel. NO SMOKING! Failure to obey warnings can cause an explosion or fire.

W-2063-0807

Figure 10-80-1



Remove the fuel fill cap (Item 1) **[Figure 10-80-1]**.

Use a clean, approved safety container to add fuel of the correct specifications. Add fuel only in an area that has free movement of air and no open flames or sparks. **NO SMOKING!**

Install and tighten the fuel fill cap **[Figure 10-80-1]**.

Fuel Filter

Figure 10-80-2



See "SERVICE SCHEDULE" on page 10-50-1 for the service interval when to replace the fuel filter.

Remove the filter element (Item 1) **[Figure 10-80-2]**.

Clean the area around the filter housing.

Put oil on the seal of the new filter element.

Install the fuel filter, and hand tighten.

⚠ WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

LIGHTS

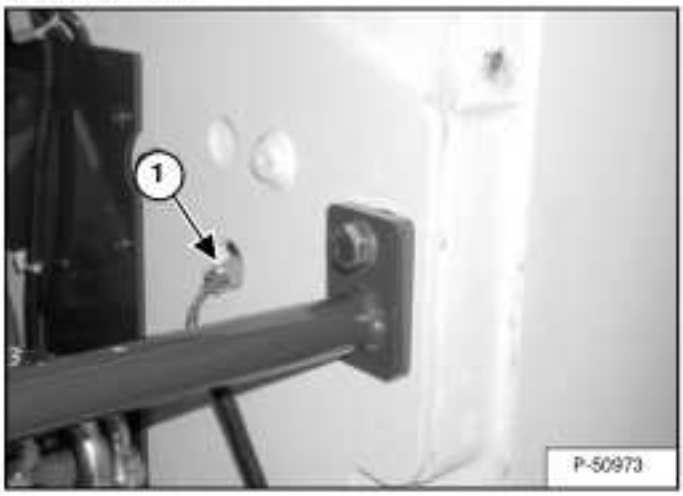
Rear Light Removal And Installation

Figure 60-50-1



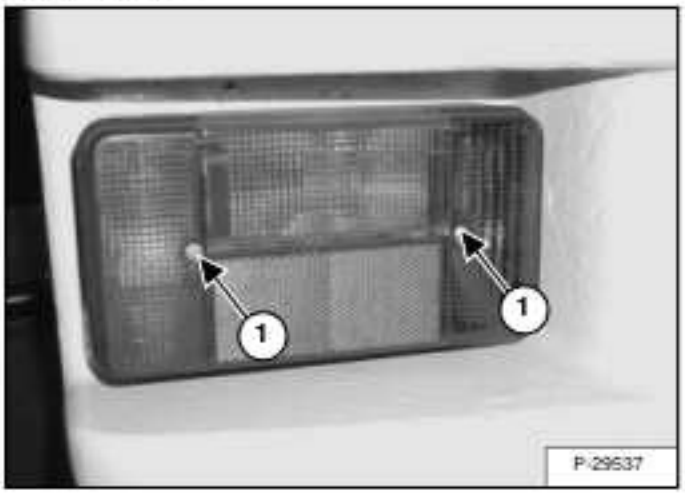
Remove the two rear cover mounting bolts (Item 1) **[Figure 60-50-1]**. Remove the cover.

Figure 60-50-2



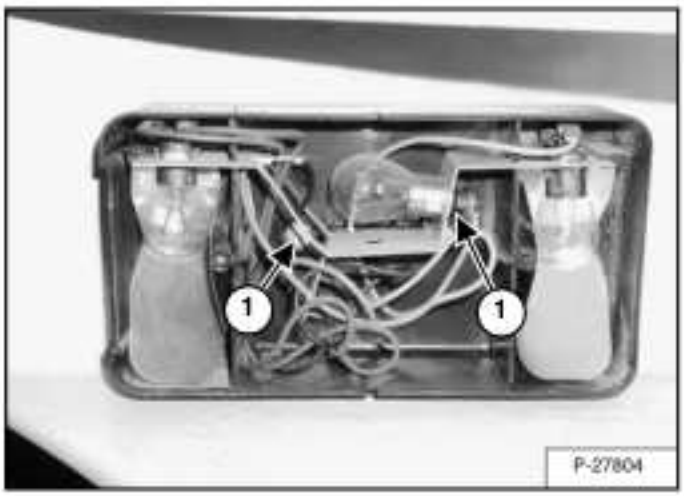
Unplug the light harness connector (Item 1) **[Figure 60-50-2]** from the main harness.

Figure 60-50-3



Remove the two lens retainer screws (Item 1) **[Figure 60-50-3]**.

Figure 60-50-4



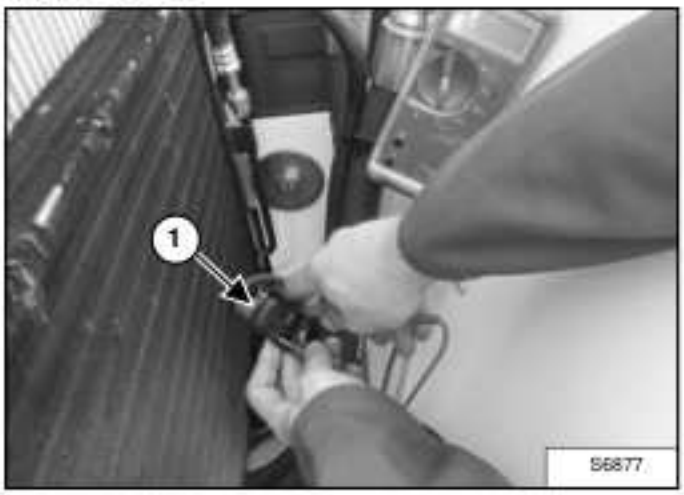
Remove the two light mounting bolts (Item 1) **[Figure 60-50-4]**.

Remove the light assembly.

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

Checking The Electrical System (Cont'd)

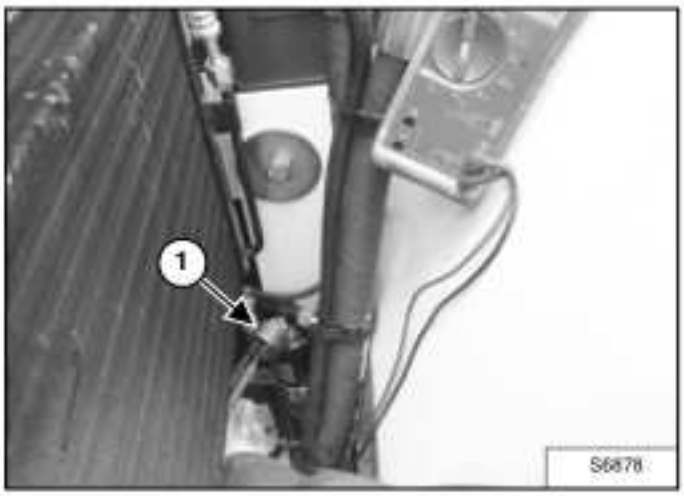
Figure 80-50-13



With the key switch to the run position (engine off) and the blower fan switch on the first position. Use a multimeter to check the main harness (Item 1) **[Figure 80-50-13]** for voltage.

There should be 12 volts. If there is no voltage, check the harness for broken wires.

Figure 80-50-14



If there is voltage at the harness, check the resistance at the pressure switch (Item 1) **[Figure 80-50-14]**.

If there is no resistance value, check for a low refrigerant level. (See SYSTEM CHARGING AND RECLAMATION on Page 80-100-1.)

If good resistance value is observed, the pressure switch is good.

Reconnect the main harness to the pressure switch.

Figure 80-50-15

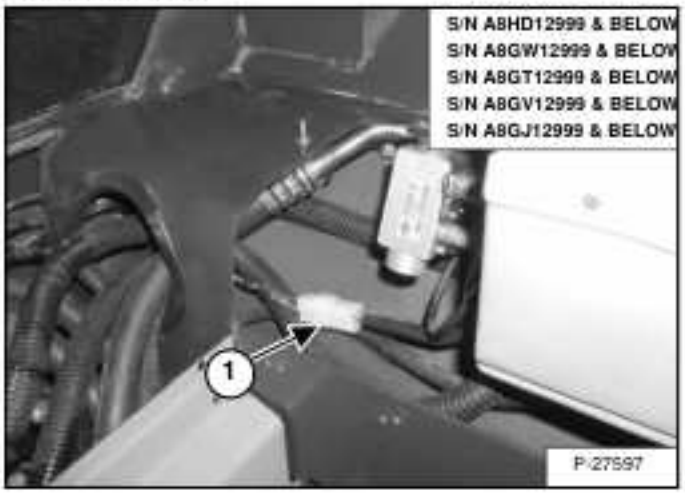
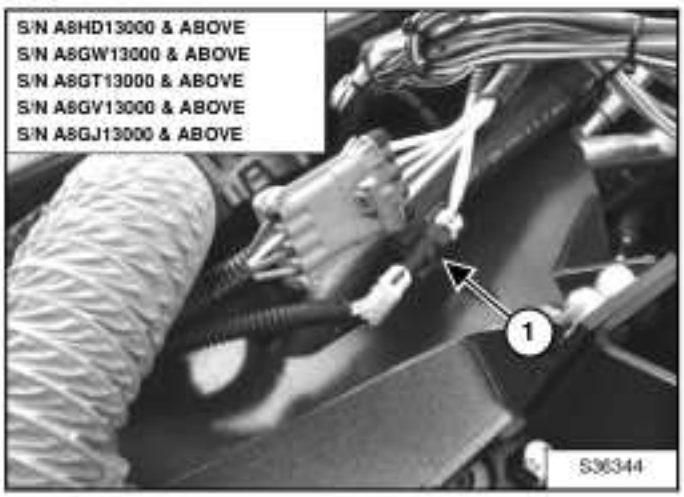


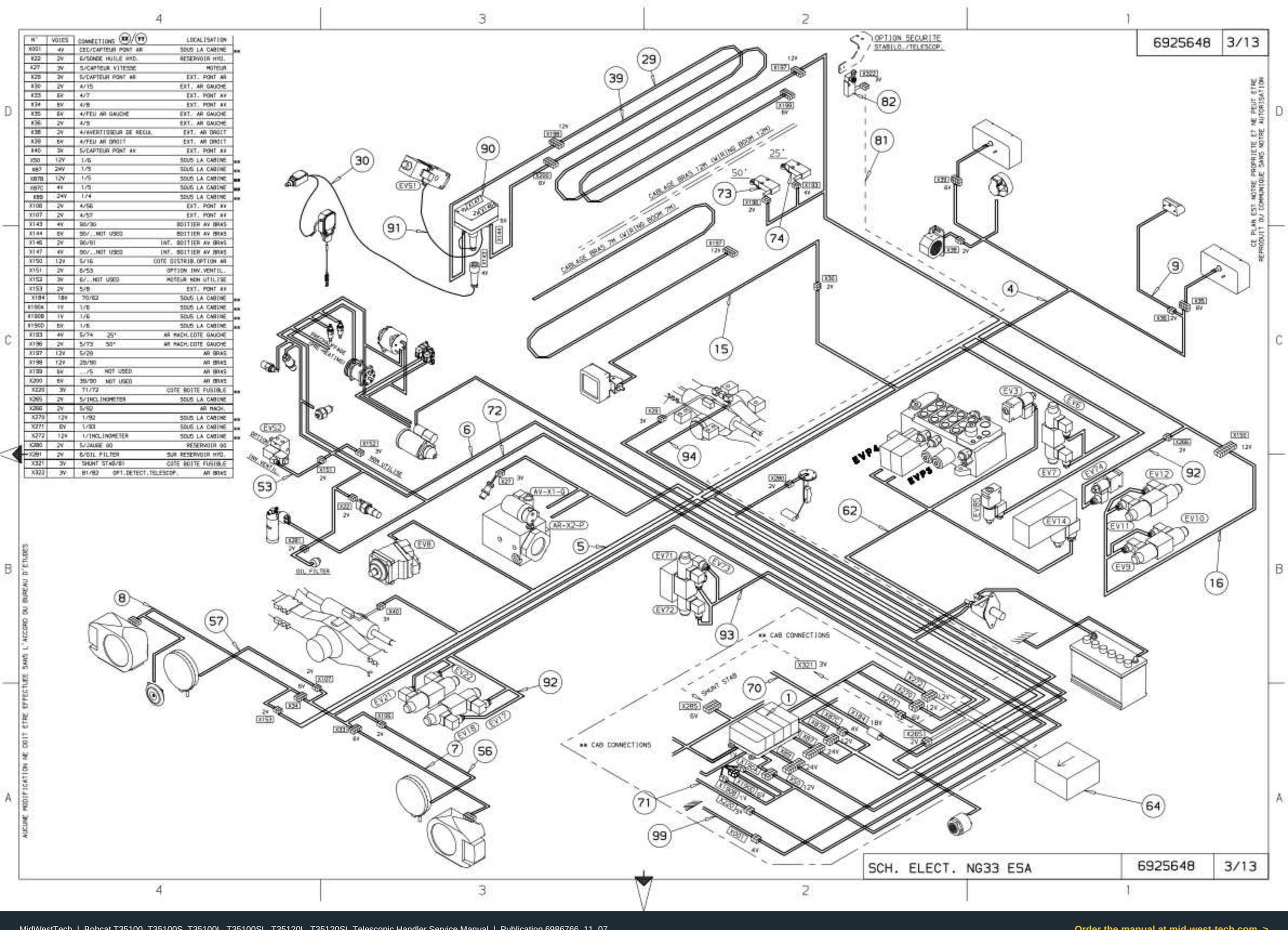
Figure 80-50-16



Disconnect the thermostat wiring connector (Item 1) **[Figure 80-50-15]** and **[Figure 80-50-16]** from the main harness.

MidWestTech | Bobcat T35100, T35100S, T35100L, T35100SL, T35120L, T35120SL Telesc... Order the manual at mid-west-tech.com >

N°	VOIES	CONNECTIONS (XX)/(YY)	LOCALISATION	
X001	4V	CEC/CAPTEUR POINT AR	SOUS LA CABINE	**
X22	2V	6/SONDE HUILE HYD.	RESERVOIR HYD.	
X27	3V	5/CAPTEUR VITESSE	MOTEUR	
X29	3V	5/CAPTEUR PONT AR	EXT. PONT AR	
X30	2V	4/15	EXT. AR GAUCHE	
X33	6V	4/7	EXT. PONT AV	
X34	6V	4/8	EXT. PONT AV	
X35	6V	4/FEU AR GAUCHE	EXT. AR GAUCHE	
X36	2V	4/9	EXT. AR GAUCHE	
X38	2V	4/AVERTISSEUR DE RECUL.	EXT. AR DROIT	
X39	6V	4/FEU AR DROIT	EXT. AR DROIT	
X40	3V	5/CAPTEUR PONT AV	EXT. PONT AV	
X50	12V	1/6	SOUS LA CABINE	**
X63	24V	1/5	SOUS LA CABINE	**
X87B	12V	1/5	SOUS LA CABINE	**
X87C	4V	1/5	SOUS LA CABINE	**
X88	24V	1/4	SOUS LA CABINE	**
X106	2V	4/56	EXT. PONT AV	
X107	2V	4/57	EXT. PONT AV	
X143	4V	90/30	BOITIER AV BRAS	
X144	6V	90/..NOT USED	BOITIER AV BRAS	
X145	2V	90/91	INT. BOITIER AV BRAS	
X147	4V	90/..NOT USED	INT. BOITIER AV BRAS	
X150	12V	6/16	COTE DISTRIB.OPTION AR	
X151	2V	6/53	OPTION INV.VENTIL.	
X152	3V	6/..NOT USED	MOTEUR NON UTILISE	
X153	2V	5/8	EXT. PONT AV	
X184	18V	70/62	SOUS LA CABINE	**
X190A	1V	1/8	SOUS LA CABINE	**
X190B	1V	1/6	SOUS LA CABINE	**
X190D	5V	1/6	SOUS LA CABINE	**
X193	4V	5/74 25°	AR MACH.COTE GAUCHE	
X196	2V	5/73 50°	AR MACH.COTE GAUCHE	
X197	12V	5/28	AR BRAS	
X198	12V	25/90	AR BRAS	
X199	6V	.../5 NOT USED	AR BRAS	
X200	6V	35/90 NOT USED	AR BRAS	
X220	3V	71/72	COTE BOITE FUSIBLE	**
X265	2V	5/INCLINOMETER	SOUS LA CABINE	
X266	2V	5/62	AR MACH.	
X270	12V	1/92	SOUS LA CABINE	**
X271	6V	1/93	SOUS LA CABINE	**
X272	12V	1/INCLINOMETER	SOUS LA CABINE	**
X280	2V	5/JAUGE 60	RESERVOIR 60	
X281	2V	6/OIL FILTER	SUR RESERVOIR HYD.	
X321	3V	SHUNT STAB/BI	COTE BOITE FUSIBLE	
X322	3V	81/82 OPT.DETECT.TELESCOP.	AR BRAS	



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