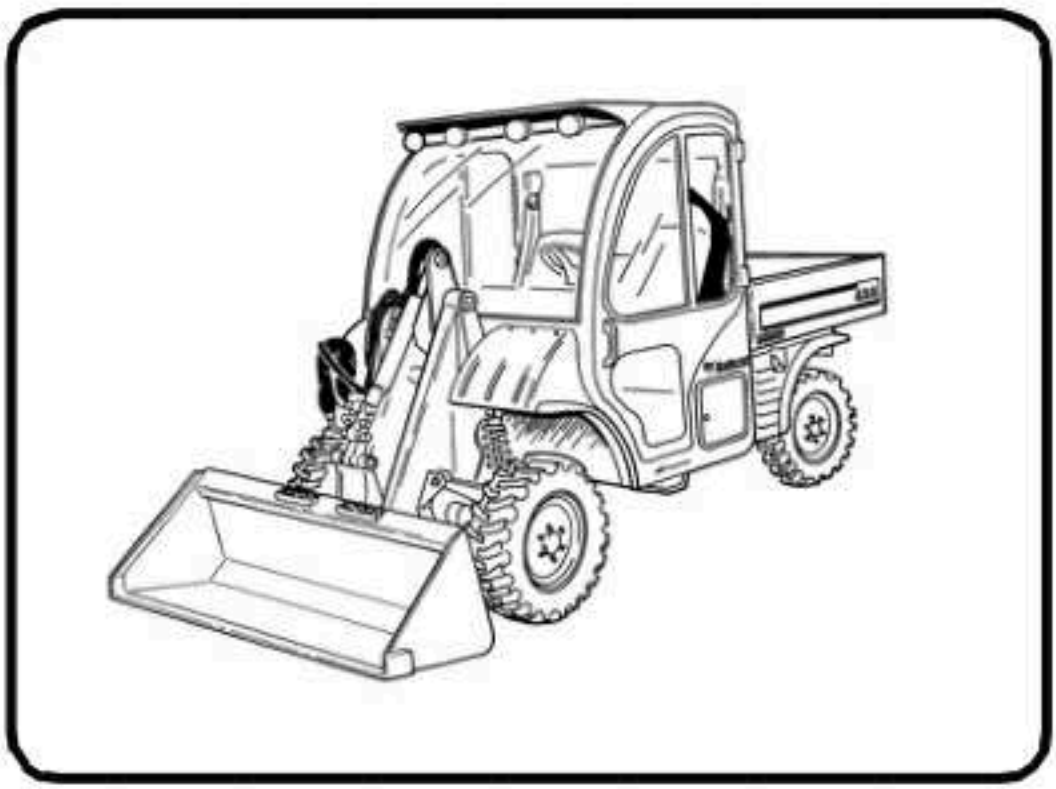
Bobcat®

Service Manual

Toolcat™ 5600 Utility Work Machine

S/N A94Y11001 & Above



EQUIPPED WITH TOOLCAT INTERLOCK CONTROL SYSTEM (TICS)

6990050 (3-11)

Printed in U.S.A.

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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, AIR CONDITIONING 80-01

SPECIFICATIONS SPEC-01

ALPHABETICAL INDEX INDEX-01

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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
- Utility Work Machine Serial Number 1-14
- Engine Serial Number 1-14

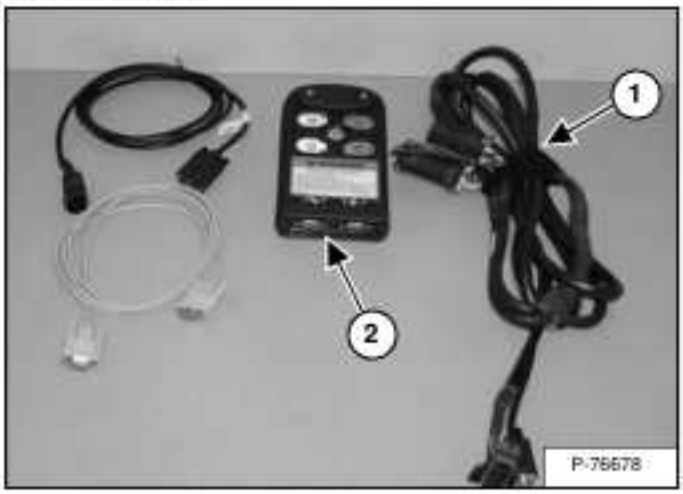
DELIVERY REPORT 1-15

UTILITY WORK MACHINE IDENTIFICATION 1-16

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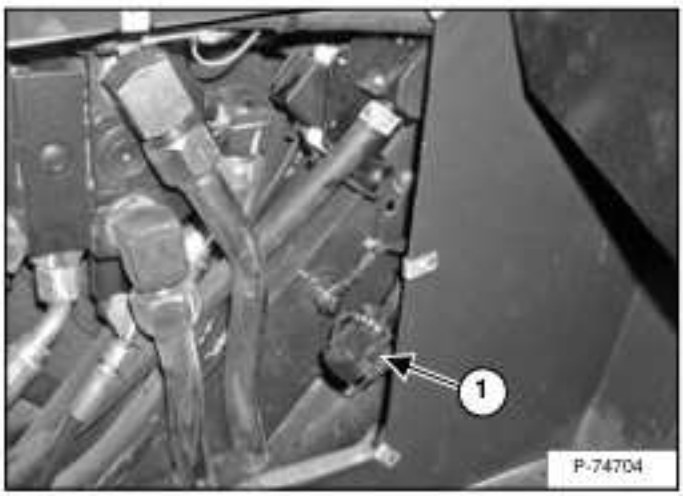
Service Tool Harness - 6689747

Figure 10-61-3



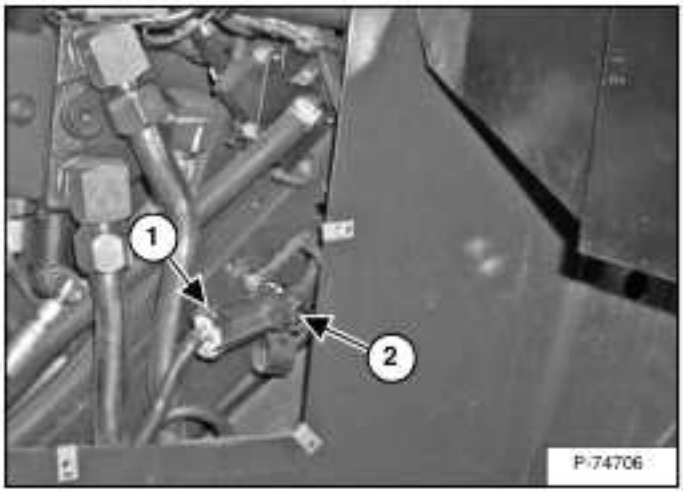
The service tool harness (Item 1) **[Figure 10-61-3]** is used to connect the remote start tool (service tool) (Item 2) **[Figure 10-61-3]** to the electrical system on the utility work machine.

Figure 10-61-4



Utility work machines without an attachment control harness, remove the harness cap (Item 1) **[Figure 10-61-4]** and connect the Service Tool Harness from the Remote Start Tool (Service Tool).

Figure 10-61-5



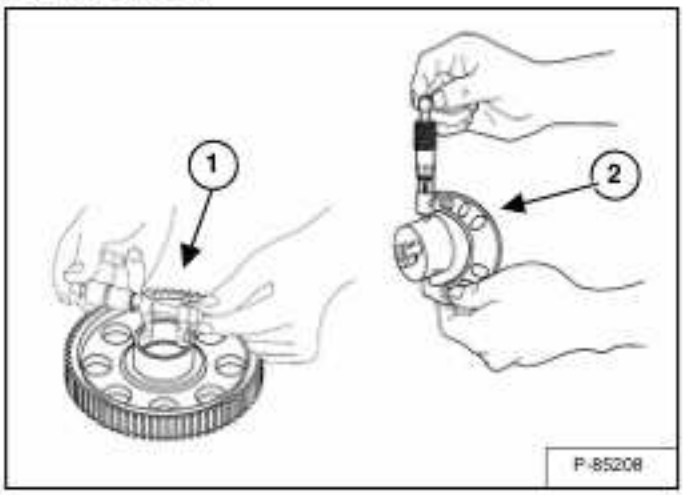
Utility work machines with an attachment control harness (7 pin or 14 pin), the attachment harness (Item 1) must be disconnected from the utility work machine harness (Item 2) **[Figure 10-61-5]**.

When the remote start procedure is completed, replace the utility work machine connector cap (Item 1) **[Figure 10-61-4]** or reconnect the attachment control harness to the utility work machine harness **[Figure 10-61-5]**.

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Idler Gear And Shaft - Servicing (Cont'd)

Figure 70-100-17

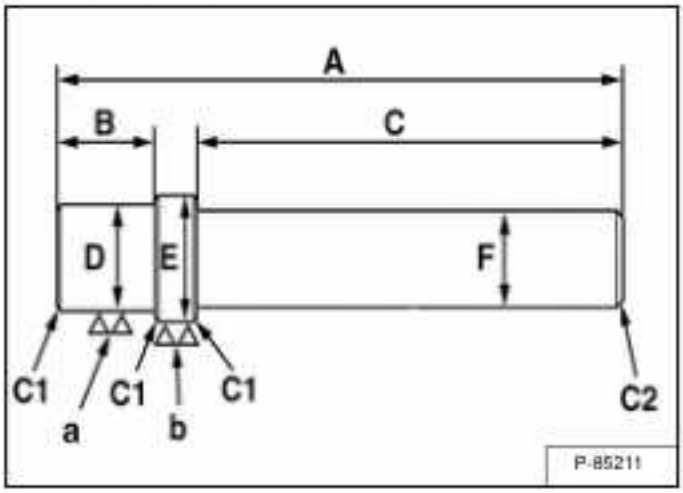


Measure idle gear bushing ID (Item 1) and idle gear shaft OD (Item 2) **[Figure 70-100-17]**.

Idler Gear Shaft O.D.	34,959 - 34,975 mm (1.3764 - 1.3769 in)
Idler Gear Bushing I.D.	35,000 - 35,055 mm (1.3780 - 1.3801 in)
Oil Clearance Between Idler Shaft & Gear Bushing	0,25 - 0,096 mm (0.00099 - 0.0037 in)
Allowable Limit	0,10 mm (0.0039 in)

Installation: If the oil clearance exceeds the allowable limit, replace the idle gear bushing.

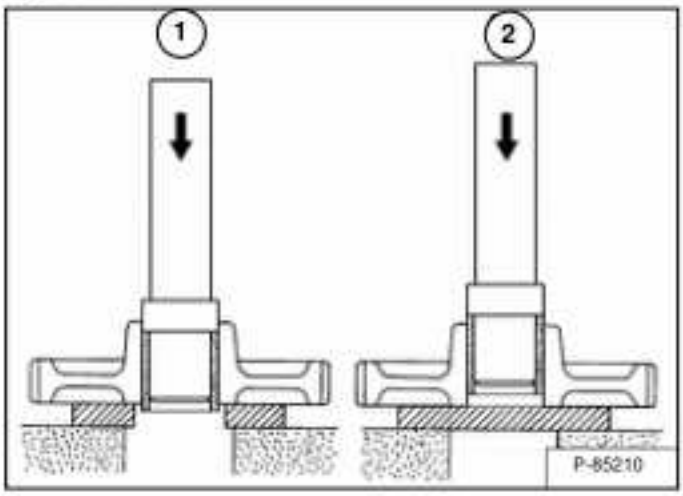
Figure 70-100-18



Make this idle gear bushing replacing tool as shown above **[Figure 70-100-18]**.

A	196 mm (7.72 in)
B	25,00 mm (0.984 in)
C	150 mm (5.91 in)
D	34,5 mm dia. (1.36 in dia.)
E	38,075 - 38,100 mm dia. (1.4991 - 1.5000 in dia.)
F	20 mm dia. (0.79 in dia.)
a	0,0063 mm (0.000248 in)
b	0,0063 mm (0.000248 in)
C1	Chamfer 1,0 mm (0.039 in)
C2	Chamfer 1,0 mm (0.039 in)

Figure 70-100-19



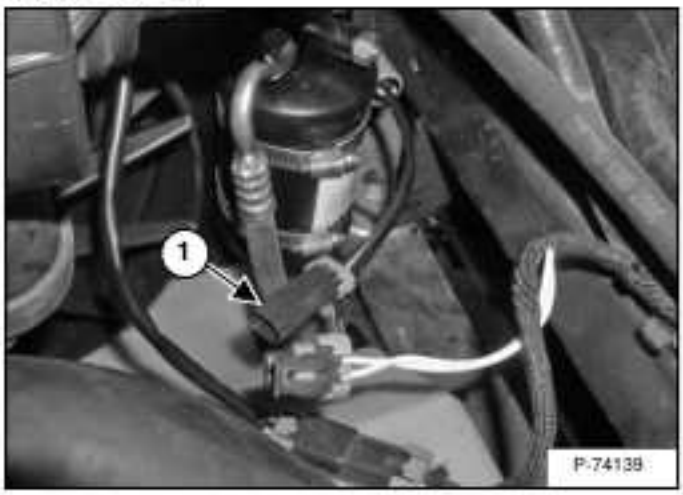
When removing idle gear bushing, press out bushing as shown above (item 1) **[Figure 70-100-19]**.

When replacing idle gear bushing, press in bushing as shown above (item 2) **[Figure 70-100-19]**.

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Electrical System (Cont'd)

Figure 80-30-11



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

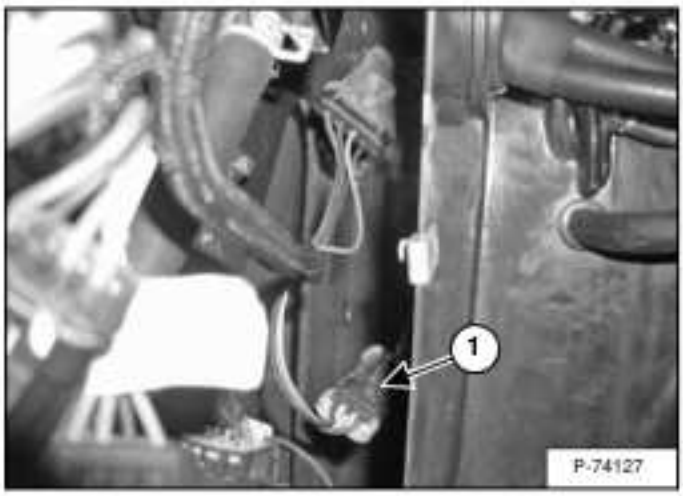
If there is no resistance value, check for low refrigerant level. (See Refrigerant Identification on Page 80-40-1.)

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

Reconnect the utility work machine harness to the pressure switch.

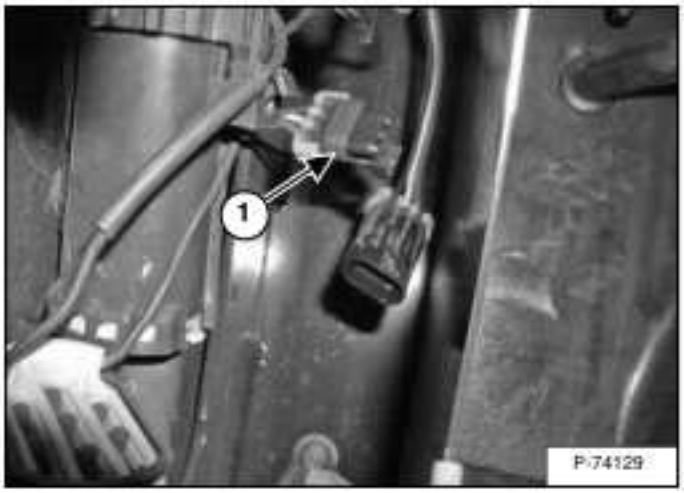
Remove the floor console side access cover. (See Access Cover Removal And Installation (Side) on Page 50-130-1.)

Figure 80-30-12



Disconnect the thermostat wiring connector (Item 1) **[Figure 80-30-12]** from the utility work machine wiring harness.

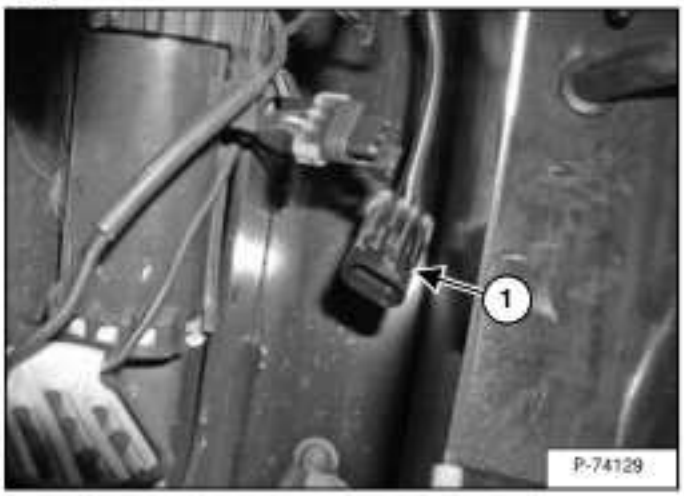
Figure 80-30-13



Check the utility work machine harness (Item 1) **[Figure 80-30-13]** for voltage. The voltage should be 12 volts.

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

Figure 80-30-14



If there is voltage at the wiring harness, check the thermostat (Item 1) **[Figure 80-30-14]** for resistance.

The resistance value of the thermostat should be 10 ohm at 20°C (68°F).

If there is no resistance value, replace the thermostat. (See Removal And Installation on Page 80-90-1.)

If there is a resistance value, check the blower fan.

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HYDRAULIC/HYDROSTATIC SCHEMATIC
5600 UTILITY WORK MACHINE
WITH HIGH FLOW OPTION
S/N A94Y11001 AND ABOVE

(PRINTED DECEMBER 2010)
V-1414legend

LEGEND

(1) HYDRAULIC RESERVOIR:
Reservoir Capacity . . . .14.0 L (14.8 qt)
@ center of sight glass
System Capacity. . . . . 42.0 Qt. (39.7 L)

(2) FILTER - CASE DRAIN (25 Micron)

(3) SPRING LOADED FILTER BYPASS VALVE: 150 kPa (1,5 bar) (20 psi)

(4) FILTER - HYDRAULIC (CANISTER)

(5) SPRING LOADED FILTER BYPASS VALVE: 310-380 kPa (3,1-3,8 bar) (45-55 psi)

(6) DIFFERENTIAL PRESSURE SWITCH:

(7) NOT USED FOR THIS MODEL

(8) HYDRAULIC PUMP . . . . . Gear Type
22,9 L/min (6.05 U.S. gpm) at High Engine Idle

(9) HYDRAULIC PUMP . . . . . Gear Type
34,4 L/min (9.08 U.S. gpm) at High Engine Idle

(10) HYDRAULIC PUMP . . . . . Gear Type
71,5 L/min (18.9 U.S. gpm) at High Engine Idle

(11) CHARGE PUMP
48,1 L/min (12.7 U.S. gpm) at High Engine Idle

(12) RELIEF VALVE - CHARGE:
2500 kPa (25 bar) (365 psi) at High Engine Idle
60 degrees C (140 degrees F) Fluid

(13) RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 32100 kPa (321 bar) (4650 psi)

(14) VARIABLE CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC PUMP

(15) SOLENOID VALVE - FORWARD/REVERSE

(16) SERVO PISTON - Swash Plate

(17) SHUTTLE VALVE - Motor Flushing

(18) RELIEF VALVE - Motor Flushing

(19) VALVE - 2 Speed

(20) SERVO PISTON - Swash Plate - 2 Speed

(21) FLOATING ORIFICE

(22) RESTRICTOR ..... 0,25 mm (0.009 in)

(23) SHUTTLE VALVE - 2 Speed

(24) BIDIRECTIONAL HYDROSTATIC MOTOR - 2 Speed

(25) BRAKE VALVE: 2200 kPa (22 bar) (319 psi)

(26) FIXED DISPLACEMENT FAN MOTOR

(27) RELIEF VALVE/ANTI-CAVITATION VALVE 14000 kPa (140 bar) (2030 psi)

(28) RELIEF VALVE – MAIN: 21500 – 20500 kPa (215 - 205 bar) (3117 - 2973 psi)

(29) RELIEF VALVE - MAIN: 21500 – 20500 kPa (215 - 205 bar) (3117 - 2973 psi)

(30) RELIEF VALVE - Port - With Anti-Cavitation (Lift Base): 24000 – 22500 kPa (240 - 225 bar) (3480 - 3263 psi)

(31) RELIEF VALVE - Port - With Anti-Cavitation (Lift Rod): 24000 – 22500 kPa (240 - 225 bar) (3480 - 3263 psi)

(32) RELIEF VALVE - Port - With Anti-Cavitation (Tilt Base): 24000 – 22500 kPa (240 - 225 bar) (3480 - 3263 psi)

(33) RELIEF VALVE - Port - With Anti-Cavitation (Tilt Rod): 29000 – 27500 kPa (290 - 275 bar) (4205 - 3988 psi)

(34) LOAD CHECK VALVE

(35) DIAGNOSTIC COUPLER

(36) SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - Solenoid A (See Note 2)

(37) SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - Solenoid C (See Note 2)

(38) SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - Solenoid B - (See Note 2)

(39) RELIEF VALVE - Load Sense: 10000 kPa (100 bar) (1450 psi)

(40) FLOW DIVIDER

(41) ORIFICE . . . . . 0,75 mm (0.030 in)

(42) ORIFICE . . . . . 0,6 mm (0.023 in)

(43) ORIFICE . . . . . 1,3 mm (0.051 in)

(44) FILTER

(45) CHECK VALVE

(46) FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE

(47) CHECK VALVE

(48) FILTER.....(400 Micron)

(49) FILTER.....(125 Micron)

(50) RELIEF VALVE - Port - With Anti-Cavitation (Aux. Coupler – OPTIONAL – Use with Combo Buckets and Grapples) 24000 – 22500 kPa (240 - 225 bar) (3480 - 3263 psi)

(51) LOAD CHECK VALVE: 790 kPa (7,9 bar) (115 psi)

(52) FILTER - BOB-TACH

(53) ORIFICE . . . . . 2,26 mm (0.089 in)

(54) ORIFICE . . . . . 0,64 mm (0.025 in)

(55) PILOT ACTIVATED DIRECTIONAL CONTROL VALVE – HYDRAULIC POWERED BOB-TACH

(56) RELIEF VALVE: 12400 kPa (124 bar) (1800 psi)

(57) RELIEF VALVE: 6900 kPa (69 bar) (1000 psi)

(58) CHECK VALVE - With 550 kPa (5,5 bar) (80 psi) Spring

(59) CHECK VALVE - With 2070 kPa (20,7 bar) (300 psi) Spring and 0,40 mm (0.016 in) orifice

(60) SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)

(61) SOLENOID / PILOT ACTIVATED DIRECTIONAL CONTROL VALVE WITH PRESSURE SWITCH – Rear Auxiliary (OPTION)

(62) FILTER - BOB-TACH

(63) FILTER - BOB-TACH

(64) ORIFICE . . . . . 1,3 mm (0.051 in)

(65) SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - High Flow

(66) CHECK VALVE

NOTE 1: Unless otherwise specified, springs have NO significant pressure value.

NOTE 2: In Front Steer Mode, Solenoids A & B are closed and Solenoid C is open. In 4 Wheel Steer Mode, Solenoids A & B are open and Solenoid C is closed.

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