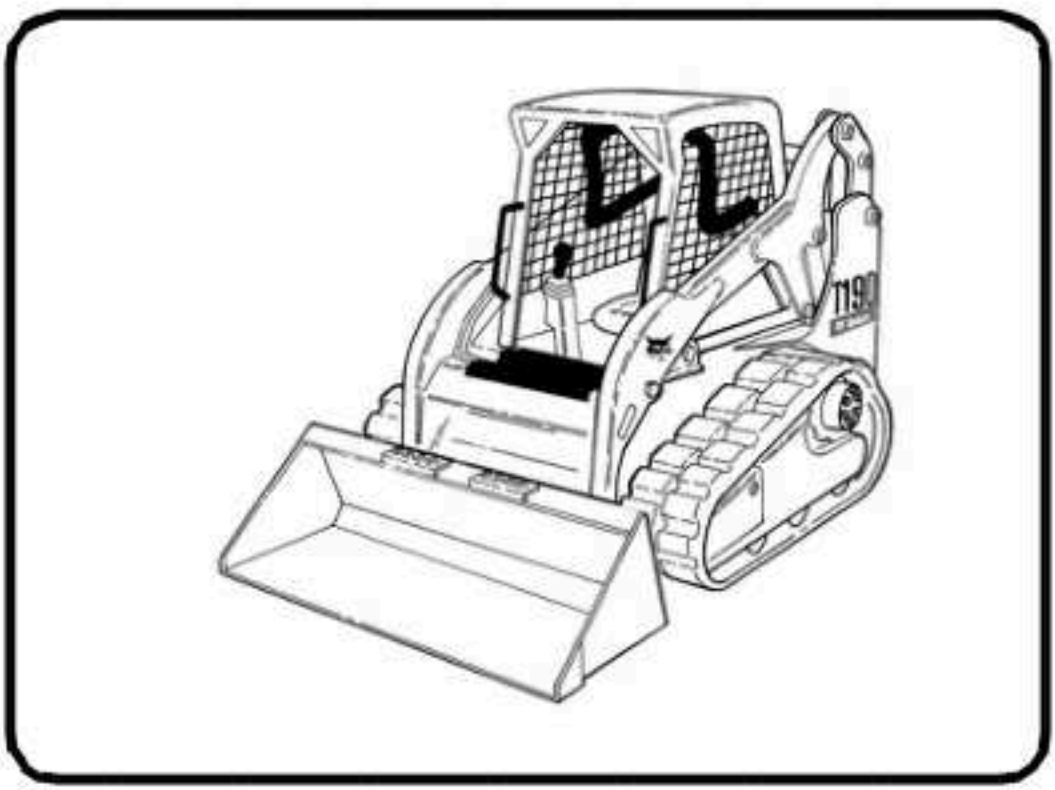
Bobcat®

Service Manual
T190 Compact Track Loader

S/N 531660001 & Above
S/N 531760001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6987043 (8-09)

Printed in U.S.A.

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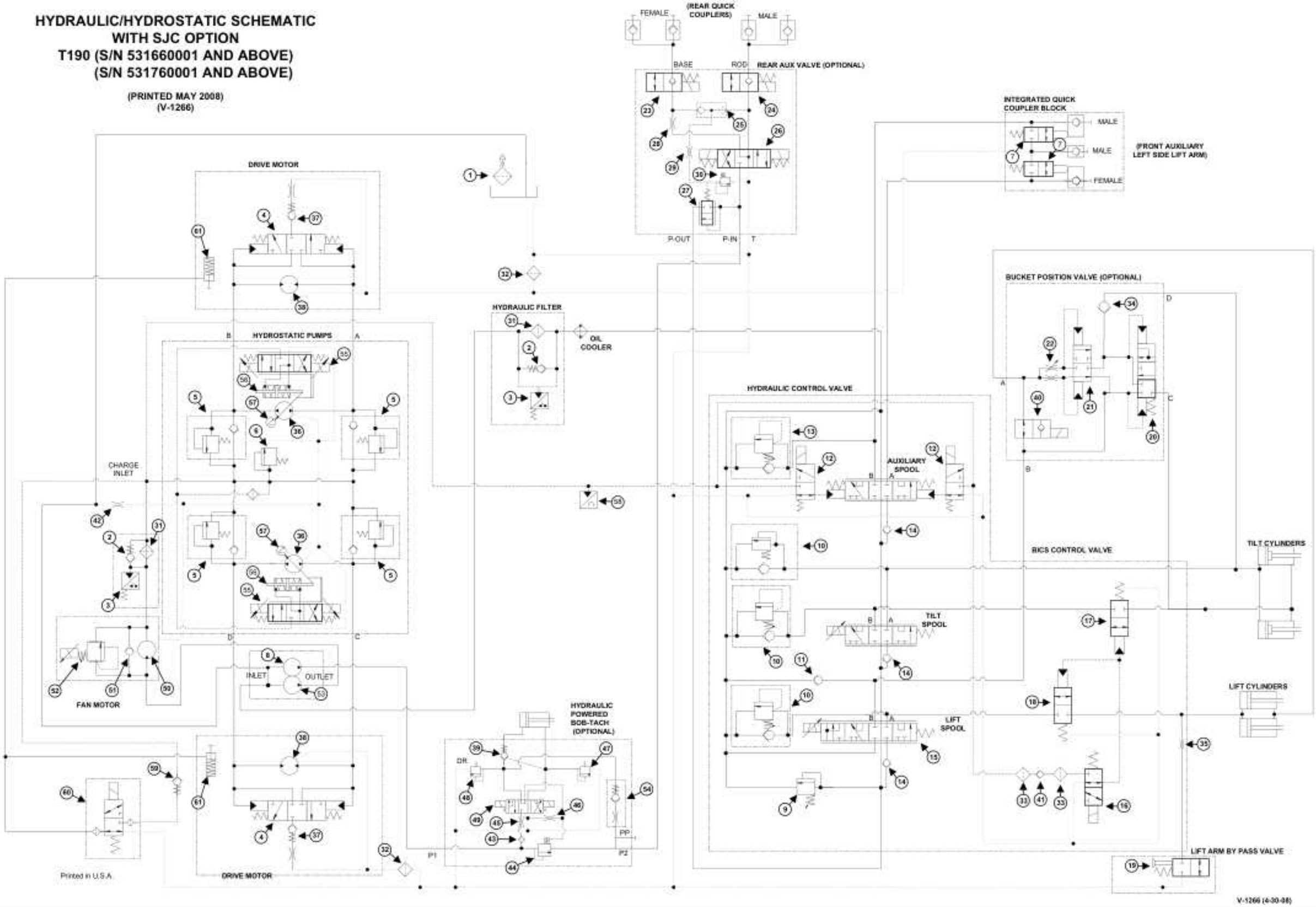
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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH SJC OPTION
T190 (S/N 531660001 AND ABOVE)
(S/N 531760001 AND ABOVE)

(PRINTED MAY 2008)
(V-1266)



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Engine Specifications (Cont'd)

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

Valve Springs

Free Length	1.6417 - 1.6614 (41,7 - 42,2)
Allowable Limit	1.622 (41,2)
Fitted Length	1.378 (35,0)
Compress to Fitted Length	26.4 lb. (117,6 N)
Allowable Limit	22.5 lb. (100,0 N)
Tilt Allowable Limit	0.039 (1,0)

Valve Timing

Intake Valve (Open)	9 degrees B.T.D.C.
(Close)	45 degrees A.B.D.C.
Exhaust Valve (Open)	50 degrees B.B.D.C.
(Close)	12 degrees A.T.D.C.

Rocker Arms

O.D. of Rocker Arm Shaft	0.5501 - 0.5506 (13,973 - 13,984)
I.D. of Rocker Arm Bushings	0.5512 - 0.5519 (14,0 - 14,018)
Clearance Between Rocker Arm & Bushing	0.0006 - 0.0018 (0,016 - 0,045)
Allowable Limit	0.0039 (0,1)

Camshaft

Journal O.D.	1.5722 - 1.5728 (39.934 - 39,95)
Bearing I.D.	1.5748 - 1.5758 (40,0 - 40,025)
Oil Clearance	0.002 - 0.0036 (0,05 - 0,091)
Allowable Limit	0.0059 (0,15)
Alignment Allowable Limit	0.0004 (0,01)
Cam Lobe Height (Intake)	1.3346 (33,90)
Allowable Limit (Intake)	1.3327 (33,85)
Cam Lobe Height (Exhaust)	1.3346 (33,90)
Allowable Limit (Exhaust)	1.3327 (33,85)
Side Clearance	0.0028 - 0.0087 (0,07 - 0,22)
Allowable Limit	0.0118 (0,3)

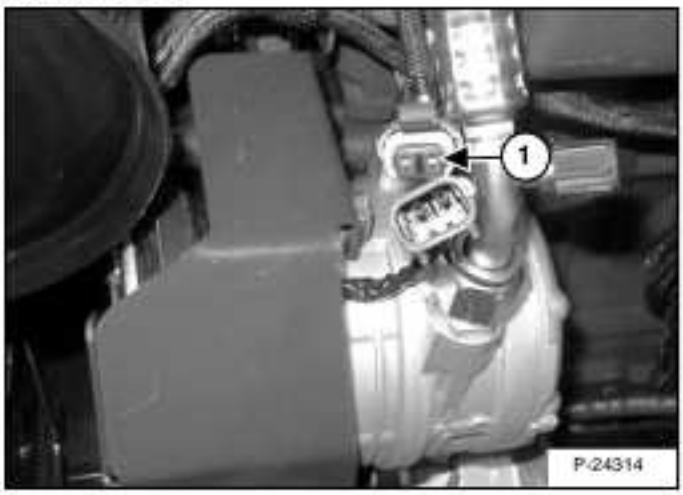
Tappet

Clearance Between Tappet & Guide	0.0008 - 0.0024 (0,02 - 0,062)
Allowable Limit	0.0028 (0,07)
Tappet O.D.	0.9433 - 0.9441 (23,959 - 23,98)
Tappet Guide I.D.	0.9449 - 0.9457 (24,0 - 24,021)

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Electrical System (Cont'd)

Figure 80-30-8



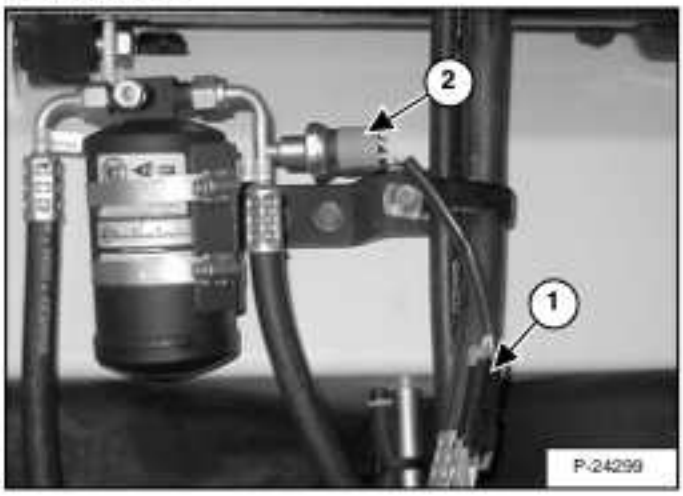
With a multi meter, check the voltage to the compressor clutch at the loader harness (Item 1) **[Figure 80-30-8]**

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 Refrigerant Identification on Page 80-40-1.)

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

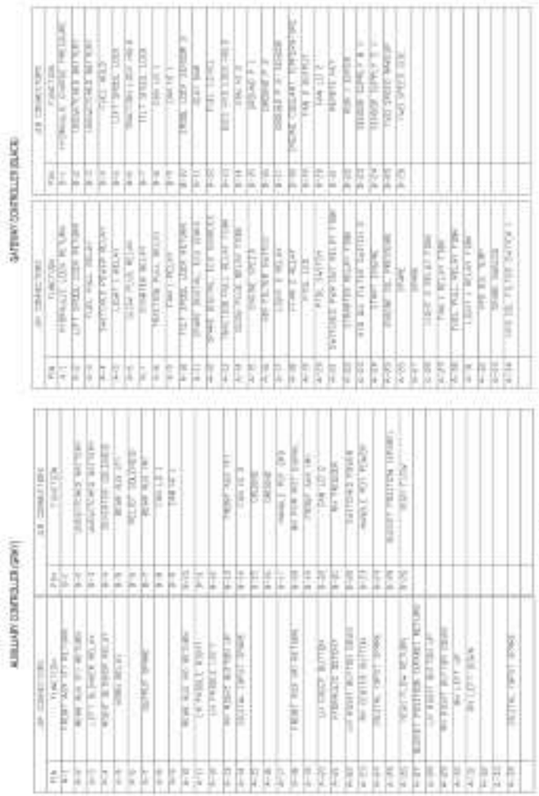
Reconnect the loader harness to the pressure switch.

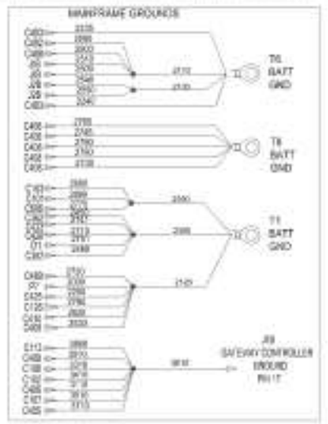
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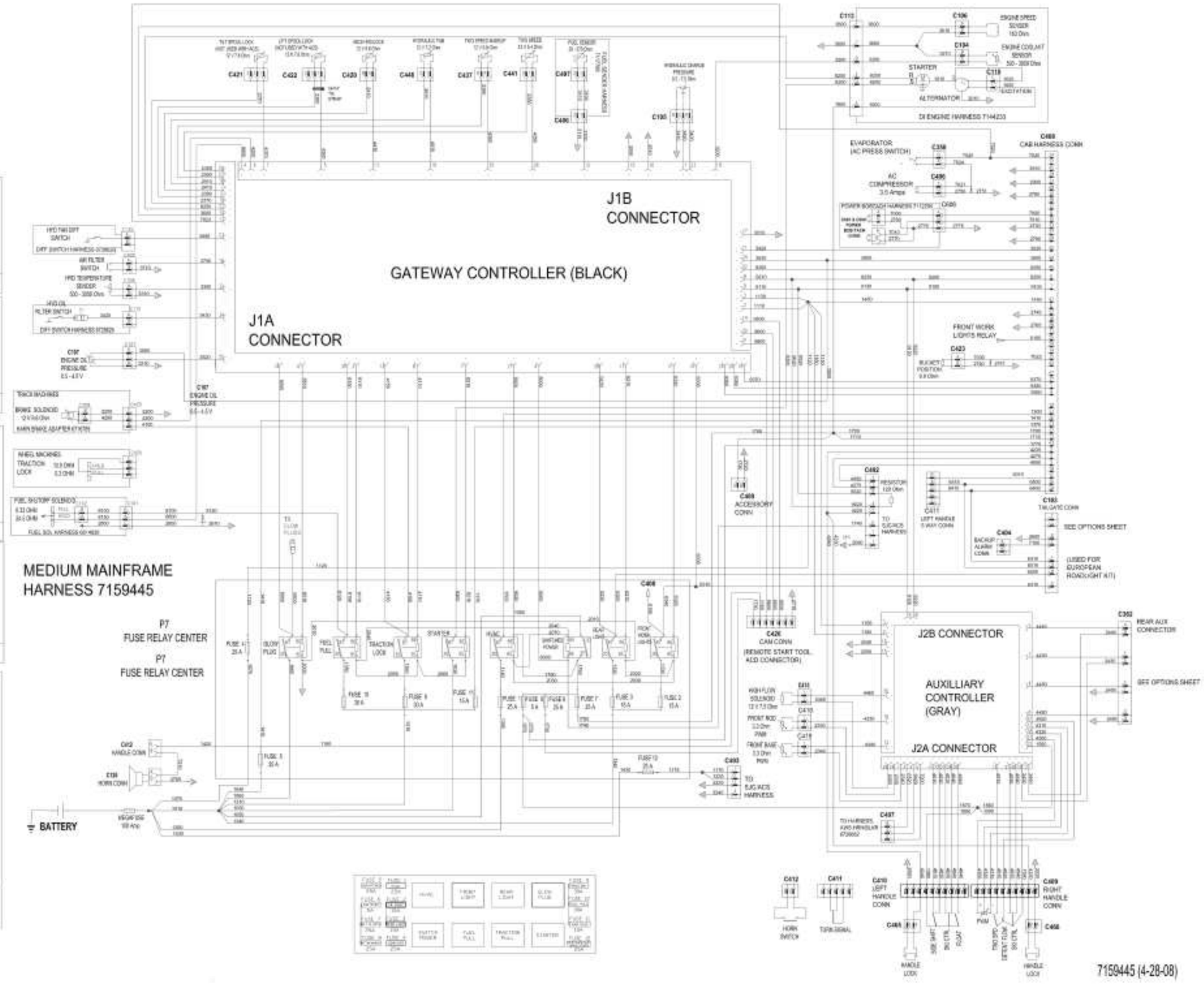
WIRING SCHEMATIC
MAINFRAME
T190 (S/N 531660001 AND ABOVE)
(S/N 531760001 AND ABOVE)

(PRINTED MAY 2008)

7159445






J1B CONNECTOR
GATEWAY CONTROLLER (BLACK)
J1A CONNECTOR
MEDIUM MAINFRAME HARNESS 7159445
P7 FUSE RELAY CENTER
P7 FUSE RELAY CENTER
J2B CONNECTOR
AUXILLIARY CONTROLLER (GRAY)
J2A CONNECTOR
BATTERY
C110
C106
C104
C118
STARTER
ALTERNATOR
ENGINE SPEED SENSOR 160 Ohm
ENGINE COOLANT SENSOR 500 - 3000 Ohm
DI ENGINE HARNESS T144233
C488
CAB HARNESS CONN
EVAPORATOR (AC PRESS SWITCH)
C358
AC COMPRESSOR 3.0 Amps
C496
C490
POWER BOOSTER HARNESS T112590
C490
C423
FRONT WORK LIGHTS RELAY
BUCKET POSITION 9.8 Ohm
C492
RESISTOR 120 Ohm
C411
LEFT HANDLE 5 WAY CONN
C404
BACKUP ALARM CONN
C193
TIM GATE CONN
SEE OPTIONS SHEET
(USED FOR EUROPEAN ROAD LIGHT KIT)
C489
ACCESSORY CONN
C426
CAN CONN (REMOTE START TOOL AED CONNECTOR)
C493
TO BJG HCS HARNESS
C431
HIGH FLOW SOLENOID 12 ± 1.5 Ohm
C410
FRONT ROD 3.3 Ohm PWM
C419
FRONT BASE 3.3 Ohm PWM
C393
REAR AUX CONNECTOR
SEE OPTIONS SHEET
C437
TO HARNESS KVD HANDLER 6738652
C412
HORN SWITCH
C411
TURN SIGNAL
C410
LEFT HANDLE CONN
C409
RIGHT HANDLE CONN
C408
HANDLE LOCK
HANDLE LOCK
C421
C422
C423
C448
C427
C441
C497
C490
C193
C107
ENGINE OIL PRESSURE 0.5 - 4.5 V
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C431
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