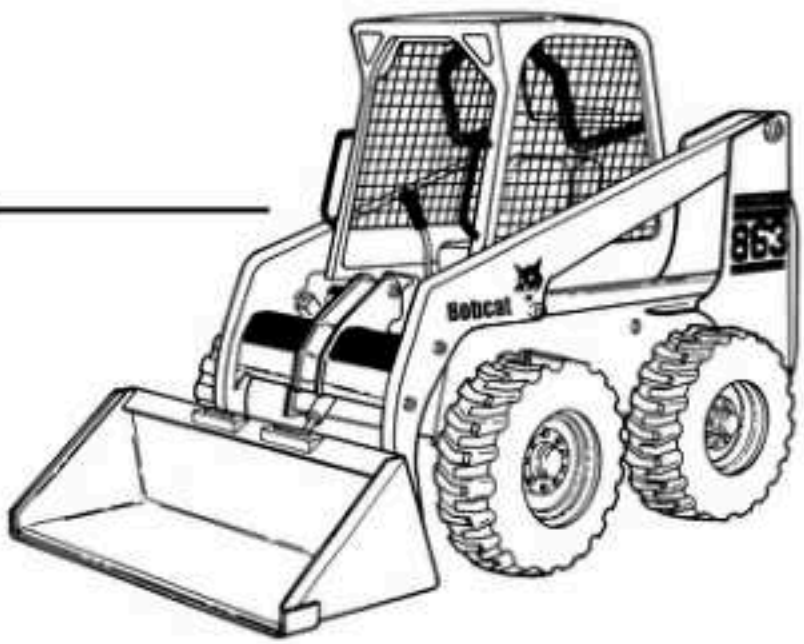
TURBO
863
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863
HIGH FLOW

Bobcat®

Service Manual

S/N 514440001 & Above
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EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

Ingersoll Rand

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ALPHABETICAL INDEX

ADVANCED CONTROL SYSTEM (ACS) ADVANCED HAND CONTROL 60-01
ADVANCED CONTROL SYSTEM (ACS) SELECTABLE HAND/FOOT CONTROL ... 60-01
ADVANCED CONTROL SYSTEM (AHC) 60-01
ADVANCED CONTROL SYSTEM (AHC) (W/PUSH BUTTON FLOAT) 60-01
AIR CLEANER 70-01
AIR CLEANER SERVICE 10-01
AIR CONDITIONG SERVICE 80-01
AIR CONDITIONING SYSTEM FLOW 80-01
ALTERNATOR (55 AMP) 60-01
ALTERNATOR (90 AMP) 60-01

BASIC TROUBLESHOOTING 80-01
BATTERY 60-01
BICS™ SYSTEM 60-01
BOBCAT CONTROLLER 60-01
BOBCAT INTERLOCK CONTROL SYSTEM (BICS™) 60-01
BOB-TACH 10-01, 50-01
BRAKE 40-01
BRAKE (TWO-SPEED) 40-01
BUCKET POSITITON VALVE 20-01

CHAINCASE 40-01
CHARGE PRESSURE 30-01
COOLING FAN 70-01
COMPONENTS 80-01
COMPRESSOR 80-01
CONDENSER 80-01
CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL 20-01
CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) 20-01
CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) (W/PUSH BUTTON FLOAT) 20-01
CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL ... 20-01
CONTROL PANEL 50-01
CONTROL PEDALS 50-01
CONTROL PEDALS (ACS) 50-01
CONVERSIONS SPEC-01
CYLINDER (LIFT) 20-01
CYLINDER (POWER BOB-TACH) 20-01
CYLINDER (TILT) 20-01

DELUXE INSTRUMENTATION SERVICE CODES 60-01
DRIVE BELT 30-01
DRIVE COMPONENTS 40-01

ELECTRICAL/HYD. CONTROLS REFERENCE 60-01
ELECTRICAL SYSTEM INFORMATION 60-01
ENGINE & ENGINE MOUNTS 70-01
ENGINE COMPONENTS AND TESTS 70-01
ENGINE COOLING SYSTEM 10-01
ENGINE LUBRICATION SYSTEM 10-01
ENGINE SPECIFACATIONS SPEC-01
ENGINE SPEED CONTROL 70-01
EVAPORATOR 80-01
EVAPORATOR/HEATER UNIT 80-01
EXPANSION VALVE 80-01

FAN GEARBOX 10-01
FINAL DRIVE TRANSMISSION (CHAINCASE) 10-01
FLYWHEEL AND HOUSING 70-01
FRONT AUXILIARY HYD. COUPLER BLOCK 20-01
FUEL SYSTEM 10-01
FUEL TANK 50-01

GENERAL AIR CONDITIONING SERVICE GUIDELINES 80-01

HEATER COIL 80-01
HEATER/AC FAN 80-01
HEATER VALVE 80-01
HYDRAULIC CONNECTION SPECS SPEC-01
HYDRAULIC CONTROL VALVE (ADVANCED CONTROL SYSTEM) (ACS) 20-01
HYDRAULIC CONTROL VALVE (FOOT CONTROL) 20-01
HYDRAULIC FLUID RESERVOIR 20-01
HYDRAULIC/HYDROSTATIC FILTER 20-01
HYDRAULIC FLUID SPECIFICATIONS SPEC-01
HYDRAULIC/HYDROSTATIC SYSTEM 10-01
HYDRAULIC PUMP 20-01
HYDRAULIC SYSTEM INFORMATION 20-01
HYDROSTATIC MOTOR 30-01
HYDROSTATIC MOTOR (TWO-SPEED) 30-01
HYDROSTATIC PUMP 30-01
HYDROSTATIC SYSTEM INFORMATION 30-01

INSTRUMENT PANEL 60-01

LIFT ARMS 50-01
LIFT ARM BY-PASS VALVE 20-01
LIFT ARM SUPPORT DEVICE 10-01
LIFTING AND BLOCKING THE LOADER 10-01
LIGHTS 60-01
LOADER SPECIFICATIONS SPEC-01
LOADER TORQUE SPEC-01
LUBRICATING THE LOADER 10-01

MAIN RELIEF VALVE (FOOT CONTROL) 20-01
MUFFLER 70-01

MidWestTech | Bobcat 863 Turbo, 863 Turbo High Flow Skid Steer Loader Service Manual |... Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX (CONT'D)

OIL COOLER.....30-01
OPERATOR CAB.....10-01, 50-01
OPERATOR SEAT.....50-01
OPERATOR SEAT (SUSPENSION).....50-01

POWER BOB-TACH (OPTION).....10-01, 50-01
POWER BOB-TACH BLOCK.....20-01
PRESSURE RELIEF VALVE.....80-01
PRESSURE SWITCH.....80-01

RADIATOR.....70-01
REAR AUXILIARY DIVERTER VALVE.....20-01
REAR DOOR.....50-01
REAR GRILL.....50-01
RECEIVER/DRIER.....80-01
RECOMMENDED SERVICE TOOLS.....80-01
RECONDITIONING THE ENGINE.....70-01
REMOTE START.....10-01
RPM SENSOR.....70-01

SAFETY.....80-01
SEAT BAR.....50-01
SEAT BAR SENSOR.....60-01
SELECT VALVE.....20-01
SERVICE SCHEDULE.....10-01
STARTER.....60-01
SYSTEM CHARGING AND RECLAMATION.....80-01
SYSTEM TROOUBLESHOOTING CHART.....80-01

TEMPERATURE/PRESSURE.....80-01
THERMOSTAT.....80-01
TIRE MAINTENANCE.....10-01
TORQUE SPECIFICATIONS FOR BOLTS.....SPEC-01
TOWING THE LOADER.....10-01
TRACTION LOCK.....60-01
TRANSPORTING THE LOADER.....10-01
TROUBLESHOOTING.....70-01

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CONTENTS

FOREWORD II

SAFETY INSTRUCTIONS V

SERIAL NUMBER LOCATIONS IX

DELIVERY REPORT X

BOBCAT LOADER 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 & ANALYSIS 60-01

ENGINE SERVICE 70-01

HEATING, VENTILATION, AIR CONDITIONING 80-01

SPECIFICATIONS SPEC-01

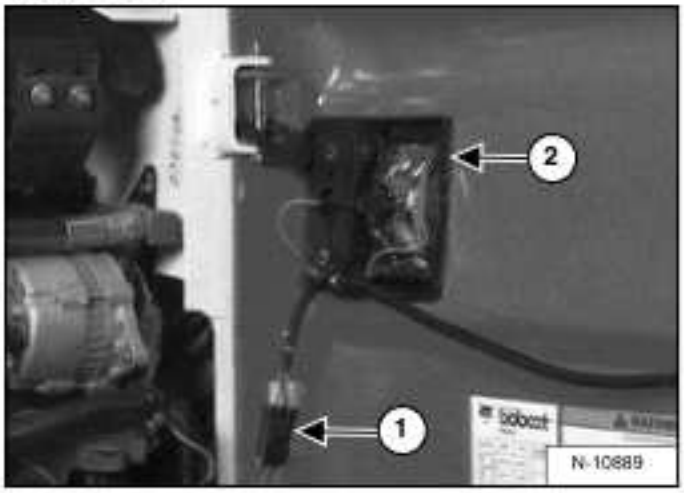
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REAR DOOR

Removal And Installation (S/N 514449208 & Below)

Open the rear door.

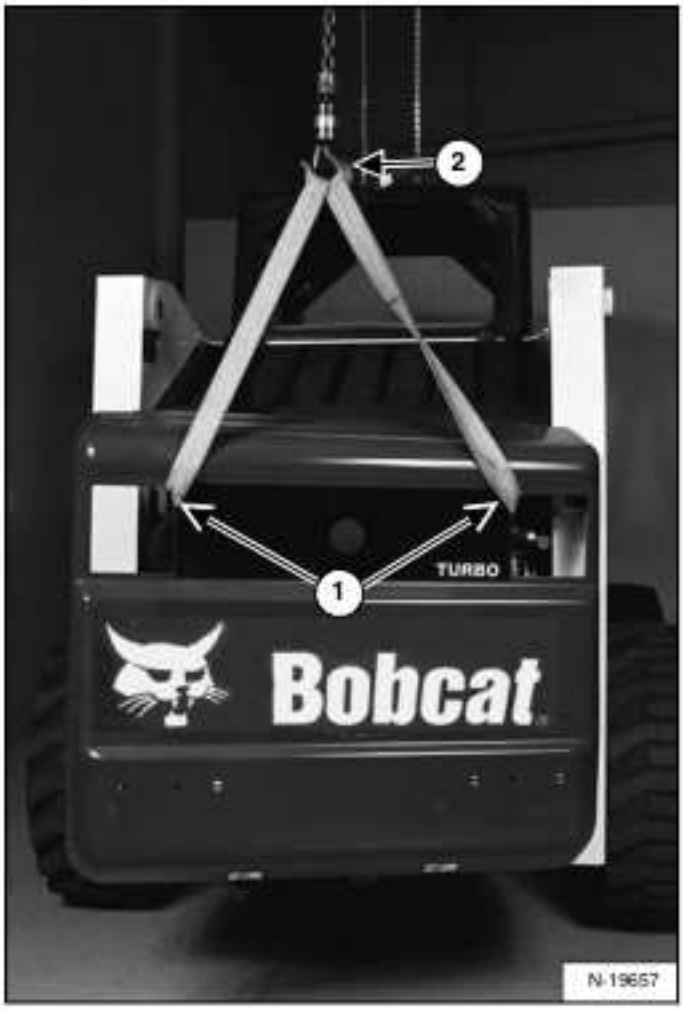
Figure 50-70-1



Disconnect the light harness connector (Item 1) **[Figure 50-70-1]** from the engine harness.

Remove the light bulbs from the light housing and remove the light housing (Item 2) **[Figure 50-70-1]** from the rear door (both sides).

Figure 50-70-2



Install a nylon sling (Item 1) **[Figure 50-70-2]** through the holes for the light housings.

Connect a chain hoist (Item 2) **[Figure 50-70-2]** to the nylon sling.

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SYSTEM TROUBLESHOOTING CHART (CONT'D)

Gauge Pressure Related Troubleshooting

Normal compressor suction (low side) and discharge (high side) pressure at ambient temperatures of 86-96 degrees F (30-38 degrees C) and compressor speed of approximately 2000 RPM are:

High pressure side pressure: 210-265 PSI

Low pressure side pressure: 15-33 PSI

As a rule of thumb the high side pressure will be around eight times greater then the low side pressure.

Possible Cause	Inspection	Solution
Low pressure side Too high.	The low pressure side pressure normally becomes too high when the high pressure side pressure is too high. As this is explained below, the following inspection is only used when the low pressure side is too high.	
1. Expansion valve opens too far.	Frost is present on the suction hose.	Replace expansion valve.
2. Dective compressor.	The high and low pressure side gauge pressures equalize when the magnetic clutch is engaged.	Replace compressor.
Low pressure side Too low.		
1. Low refrigerant charge.	The high side pressure will be low and bubbles may be present in sight glass on receive drier.	Repair any leaks and recharge the refrigerant to the correct level.
2. Clogged or closed expansion valve.	The expansion valve's inlet side is frosted. Moisture or other Contaminants can be the cause.	Clean or replace the expansion Valve.
3. Restriction between drier and expansion valve.	Frost on the line between drier and expansion valve. A Negative low pressure reading may be shown.	Flush system or replace hose.
4. Thermostat malfunction.	The evaportator is frozen.	Adjust themostat's temperature setting or probe placement or replace thermostat.
5. Restriction in reciever drier.	Excessive frost on reciever drier.	Replace reciever drier.
High pressure side Too high.		
1. Poor condenser performance.	Dirty or clogged condenser fins. Condenser fans not Operating.	Clean fins, and/or repair the fan.
2. Excessive refrigerant.	The high pressure side pressure will be high.	Use refrigerant recovery equipment to capture excess refrigerant. Charge to the correct refrigerant level.
3. Excessive oil charge.	The high pressure side will be high.	Evacuate system. Remove oil from condenser and compressor. Measure oil from compressor and add correct oil charge back into compressor. Flush system with nitrogen. Replace drier.
4. Air in system.	Pressure is high on both high and low sides.	Evacuate and recharge with Refrigerant.
5. Restriction in drier, condenser or high pressure line.	High pressure side will be high, and low pressure side will be low.	Evacuate and flush system replacing defective parts.

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LOADER SPECIFICATIONS (CONT'D)

Performance

	863	863H
Rated Operating Capacity (SAE)	1900 lbs. (862 kg)	
Tipping Load (SAE Rating)	3800 lbs. (1724 kg)	
Operating Weight	7045 lbs. (3196 kg)	7090 lbs. (3216 kg)
SAE Breakout Force-Lift	3700 lbs. (16458 N)	
-Tilt	3800 lbs. (16902 N)	
Axle Torque	6100 ft.-lbs (8272 Nm)	
Travel Speed (Low Range)	0-6.6 MPH (10,6 km/hr.)	
(High Range)	0-12.5 MPH (20,1 km/hr.)	

Controls

Vehicle Steering	Direction and speed controlled by two hand levers.
Loader Hydraulics Lift and Tilt	Controlled by separate foot pedals or optional hand controls.
Front Auxiliary (Option)	Proportional Controls Controlled by electrical switch on RH steering lever.
Rear Auxiliary (Option)	Controlled by electrical switch on LH steering lever.
Engine	Hand lever throttle: Key-type starter switch and shutdown.
Starting Aid	Glow Plugs – Automatically activated by Standard Or Deluxe Instrumentation.
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers
Secondary Brake	One of the hydrostatic transmissions
Parking Brake	Mechanical Disc, foot operated pedal.

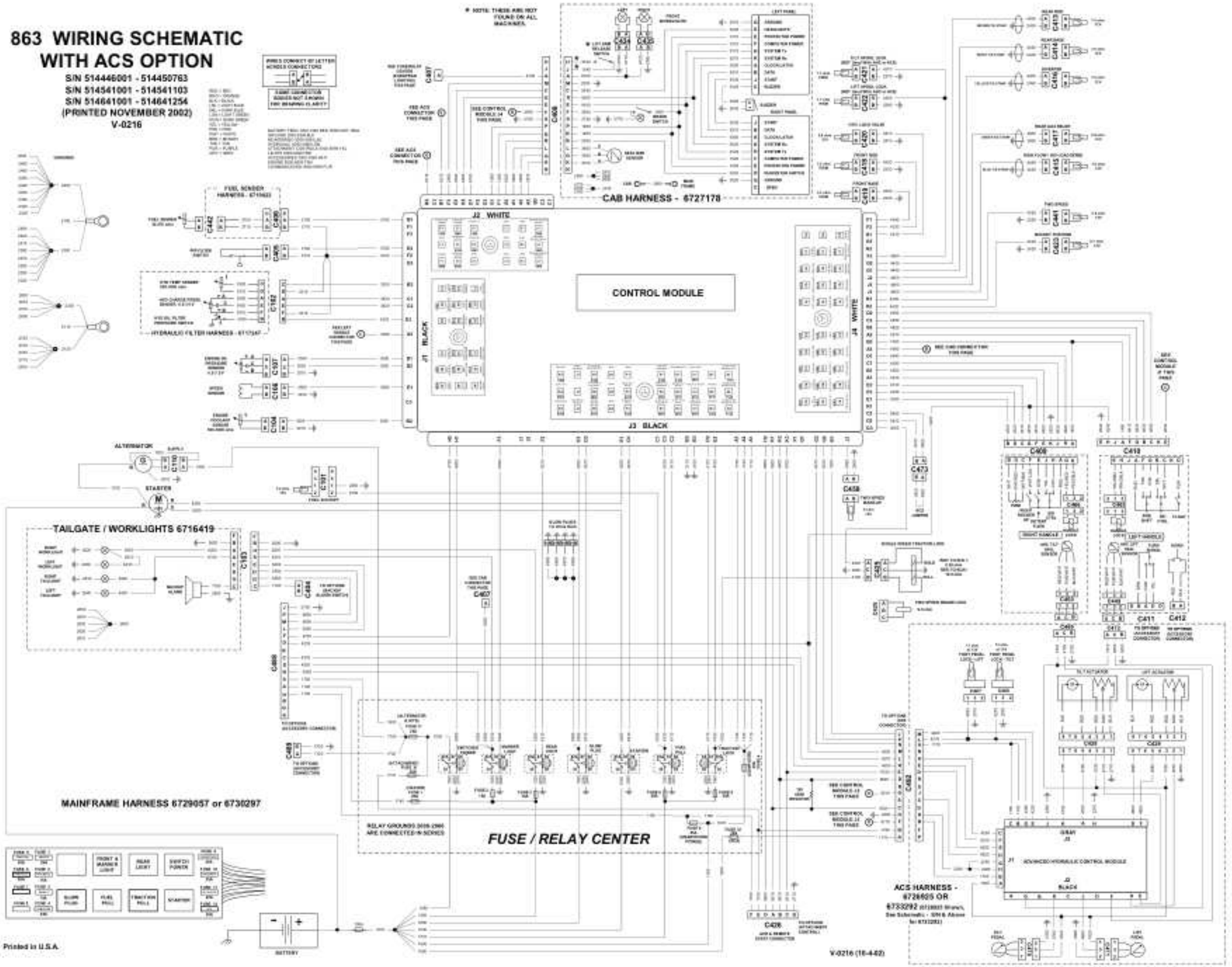
Engine

Make/Model	Deutz/BF4M1011F Turbo-Charged
Fuel/Cooling	Diesel/Oil
Horsepower (SAE Net)	73.0 HP (54 kW)
Maximum Governed RPM	2350 RPM
Torque @ 1800 RPM (SAE Net)	178 ft.–lbs. (239 Nm)
Number of Cylinders	Four
Displacement	177.7 cu. in. (2,92 L)
Bore/Stroke	3.58/4.41 (91/112)
Lubrication	Pressure System W/Filter
Crankcase Ventilation	Closed
Air Cleaner	Dry replaceable cartridge w/safety element
Ignition	Diesel-Compression
Low Idle	1125-1175 RPM
High Idle	2530-2690 RPM

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863 WIRING SCHEMATIC WITH ACS OPTION

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