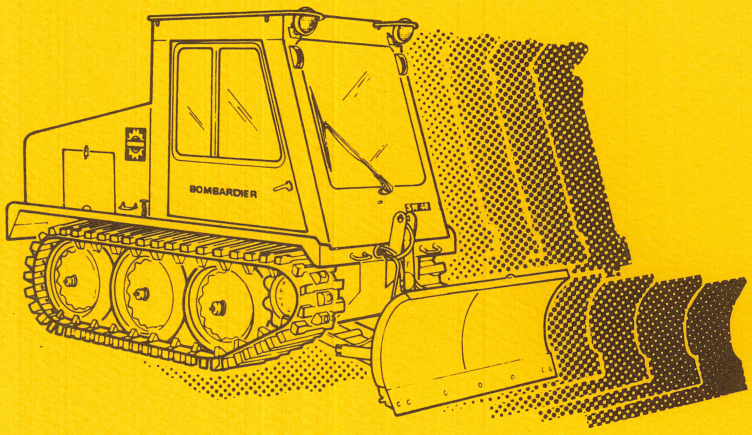
Manuel du conducteur
Operator's manual

SW 48 DA

SUPPLÉMENT

SUPPLEMENT



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Operator's manual

SW 48 DA

SUPPLÉMENT

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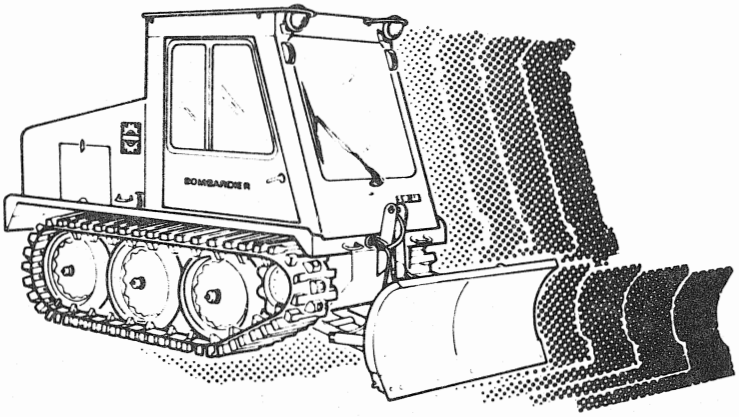

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Litho'd in Canada

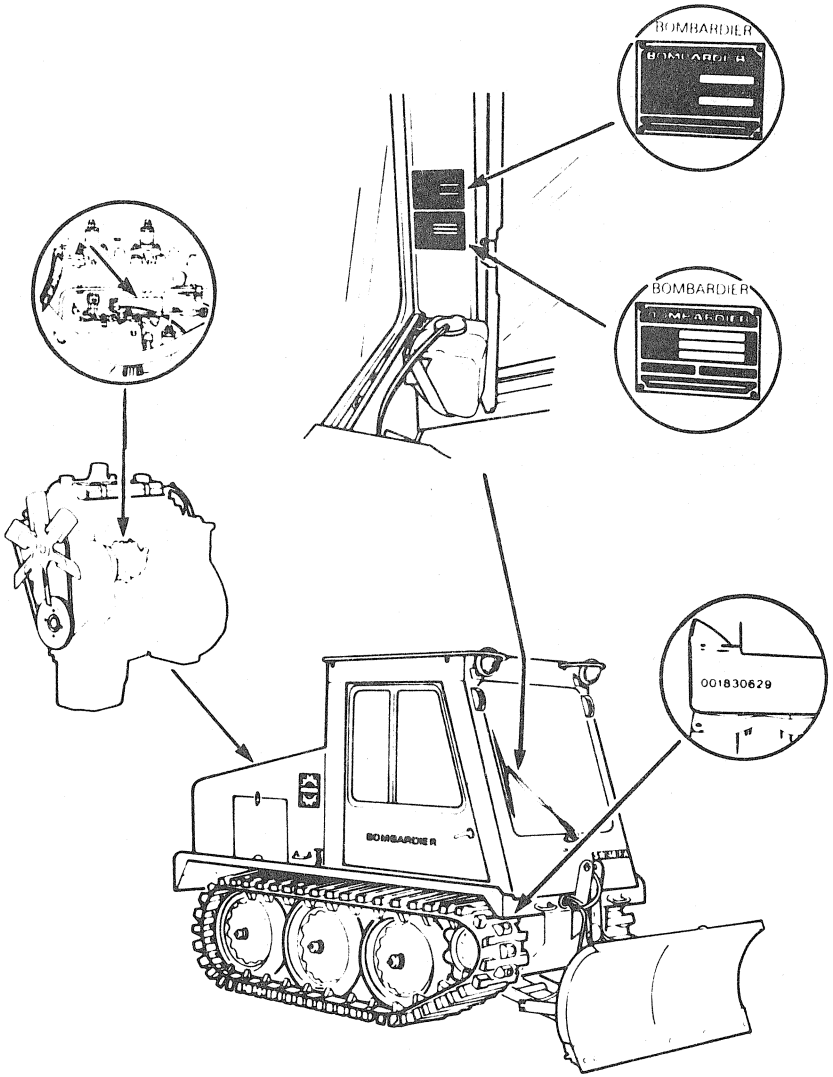
NOTE: All informations and instructions concerning the SW-48 FA and contained in the SW-48 FA 1984 Operator's manual also apply to SW-48 DA, excepted those contained in the present supplement.

INDEX **PAGE**

HOW TO IDENTIFY YOUR VEHICLE

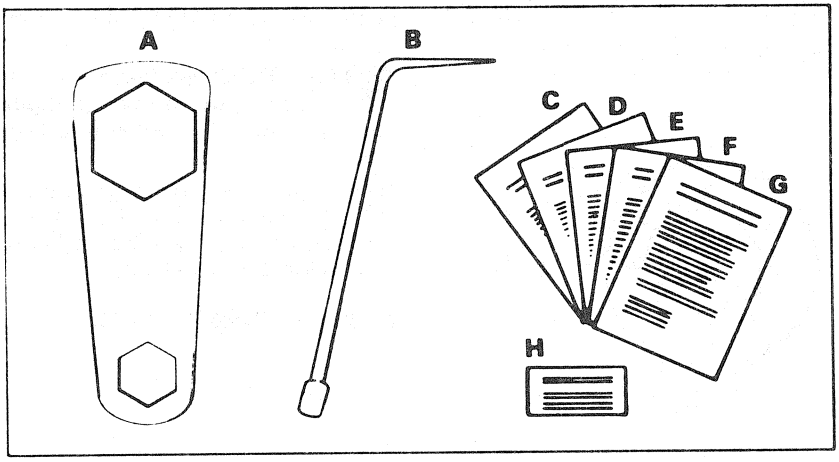
The main components of your vehicle (engine, body) are identified by different serial numbers. It may sometimes become necessary to locate these numbers for warranty purposes or to trace your vehicle in the event of loss or theft.

NOTE: We strongly recommended that you take note of all the serial numbers on your vehicle and supply them to your insurance company. It will surely help in case a vehicle is lost or stolen.



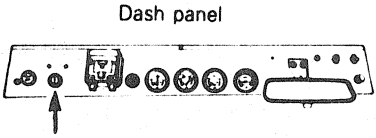
TOOLS AND LITERATURE

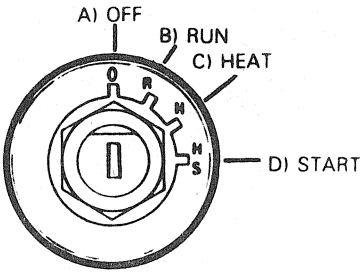
As standard equipment each new vehicle is supplied with basic tools kit and literature.



A) Hub cap wrench 38 mm - 68 mm (1 1/2'' - 2 11/16'')
B) Tensioner bleeder
C) Operator's manual
D) ''Perkins'' Owner's manual
E) ''Bombardier'' Parts catalog
F) ''Perkins'' Parts catalog
G) Safe driving guide
H) Bombardier warranty card

Starting Switch





A) "Off" position:

Cuts off power supply to vehicle.

B) "Run" position:

Supplies power to the whole vehicle.

C) "Heat" position:

Supplies power to a heating device located in the engine intake manifold.

While heating, this device opens way to fuel which will be injected and burned in the intake manifold upon starting.

CAUTION: This position should be used only when the engine is cold (approx. 0°C (30°F) or less.

D) "Start position":

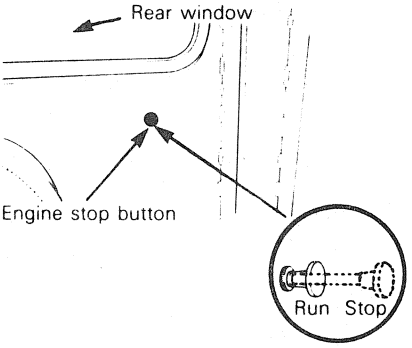
When the engine is to be started, turn the key three (3) steps clockwise from "off" position and hold. Return the key to "run" position immediately when engine has started.

NOTE: Only if "heat" position has been used, a controlled quantity of fuel will be injected and burned inside the intake manifold in order to heat air, and thus facilitate engine starting under cold temperatures.

CAUTION: Holding the key to "start" position when engine has started will damage starter mechanism.

CAUTION: Do not operate the starter for more than fifteen (15) seconds at a time to avoid overheating the starter.

Engine Stop Button



To stop the engine, pull stop button to "stop" position. This will cut off fuel supply to the engine.

NOTE: When starting the engine, push stop button to "run" position.

BREAK-IN

Break-in Period

A break-in period is recommended before using a motor vehicle at full load. Recommended break-in period is twenty-five (25) operating hours. During this period, do not operate the engine at high no load speeds and/or under overloads. To facilitate break-in, avoid prolonged periods of engine idling. Also pay particular attention to the instruments located on the instrument panel.

If coolant temperature rises above specifications (see ''Controls/Instruments'' section), reduce engine load or stop the engine. Also, if the oil pressure indicator lamp is on (see ''Controls/Instruments'' section), stop the engine.

Find out what causes the problem and remedy if before starting the engine.

25-Hour Inspection

As with any piece of mechanical equipment, we suggest that after the first twenty-five (25) hours of operation, the vehicle be checked by a trained mechanic.

The inspection is at the expense of the vehicle owner.

The inspection is at the expense of this vehicule.

PRE-OPERATION INSPECTION

Care should always be taken to make sure that the vehicle is in good mechanical condition before operating it. Regular preventive maintenance and pre-operation inspection each working shift will extend vehicle life and save on costly down-time. Special attention should be given to the following items.

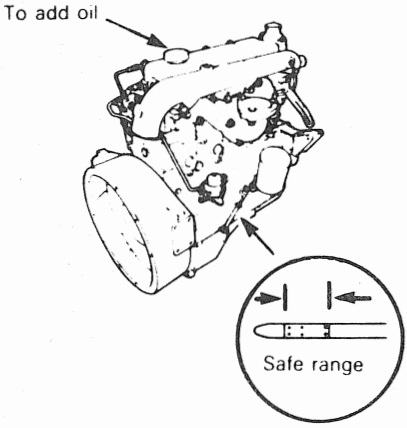
Before Starting the Engine

Engine oil level

Open hood to gain access to the dipstick.

Check engine oil level with the engine cold and the vehicle on a feat surface.

The oil level should be within the safe range on the dipstick.

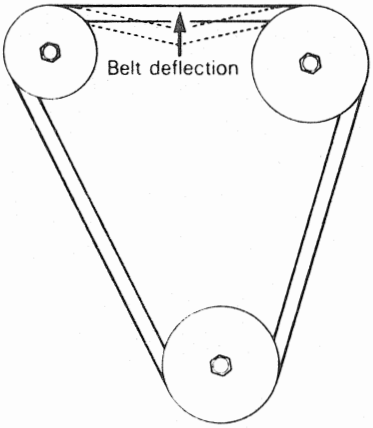


CAUTION: Using an inferior or an incorrect oil type will handicap the engine. Use only specified quality oil (see "Maintenance" section).

Fan and alternator "V" belt

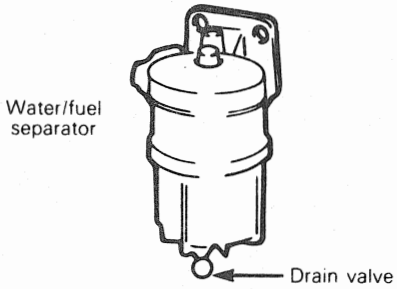
To gain access to the "V" belt, tilt the engine hood.

Belt deflection must be 6.4 mm (1/4") under a force of 11.3 kg (25 lb) applied midway between the alternator and fan pulleys.



Water/fuel separator

The water/fuel separator is located under the engine hood.

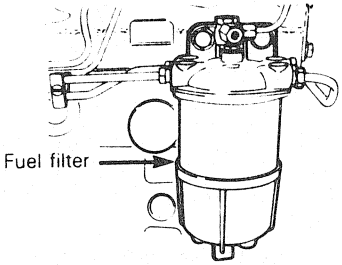


To drain water accumulated in the separator, slowly open the drain valve and let the water flow. As soon as fuel starts flowing, close the drain valve.

CAUTION: Water accumulated in the separator must be drained at the end of each shift. Water should be drained in an appropriate container.

Fuel filter

The fuel filter is located under the engine hood.



After Starting the Engine

NOTE: To start the engine, refer to "Starting and stopping procedure".

Engine idle and maximum R.P.M.

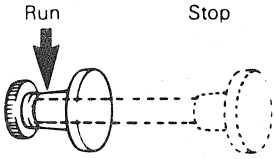
Idle: 600 R.P.M. (no load)
Max. R.P.M.: 2500 R.P.M. (no load)

STARTING AND STOPPING PROCEDURE

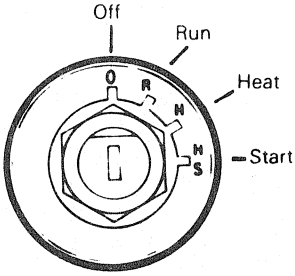
Starting the Engine

WARNING: Make sure that the parking brake is on that the throttle pedal is free. Also make sure that steering control levers are free.

Place transmission lever at "N" or "P". Under very cold temperatures (-29°C/-20°F), use preferably position "N".



Make sure that engine stop button is at "run" position, and apply maximum pressure on throttle pedal.



Turn key to "start" position.

As soon as the engine has started, let the key come back to "run" position and release the throttle pedal.

CAUTION: Holding key in "start" position when engine has started will damage starter mechanism.

CAUTION: Do not operate the starter for more than fifteen (15) seconds at a time. To do so may overheat the starter. If the engine does not start the first time, wait at least fifteen (15) seconds before trying again. If it does not start after four (4) attempts, consult a mechanic.

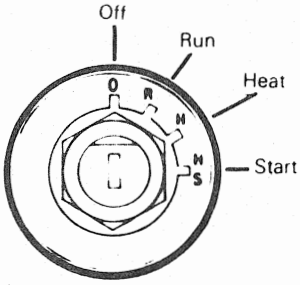
WARNING: All internal combustion engines give off various fumes and gases while running. Do not start or run the engine in a closed or poorly ventilated building where the exhaust gases can accumulate.

NOTE: See pre-operation inspection section, "After engine has started".

CAUTION: Before riding the vehicle, allow the engine to reach a minimum temperature of 60°C (140°F).

Starting Aid ("Thermostat")

Under cold temperatures, when the engine refuses to start using the normal procedure, use the starting aid.



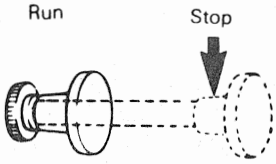
The procedure is basically the same as under a normal temperature, excepted that the ignition key must be turned to "heat" position twenty (20) seconds before starting the engine.

If the engine does not start after fifteen (15) seconds, bring back the key to "heat" position for ten (10) seconds and try again.

CAUTION: If engine refuses to start after the third attempt, consult a mechanic.

CAUTION: This starting aid should be used only when the engine is cold (approx. 0°C (32°F) or less).

Stopping the Engine



To stop the engine, pull the stop button until the engine stops from lack of fuel. Turn the ignition key to "off" position.

CAUTION: Before shutting off the engine, run at idle for at least five minutes to allow for gradual and uniform cooling. Engine and lubricant life will be shortened if the engine is not properly cooled before it si shut off.

MAINTENANCE

Service and Maintenance Chart/Vehicle Accumulated Hours

The following maintenance charts indicate regular servicing schedules to be performed by a mechanic. If these services are performed as suggested, the SW-48 will give you many years of low-cost use.

◆ **WARNING: It is strongly recommended that service maintenance be performed by specialized mechanics. Engine should be turned "off" for all lubrification and maintenance procedures.**

LUBRICATION SCHEDULE

Lubrication point	Service interval	Capacity	Specification of recommended lubricants
Engine including filter	100 hours	5.7 liters 5 Imp. qts. 6 U.S. qts.	SAE 10W40, SAE 20W50, SAE 30 or SAE 40 above 0°C (32°F) and SAE 10W40 or SAE 5W20 below 0°C (32°F), (M1L-L-46152 or M1L-L-2104C, service API CC/SE)

Maintenance Schedule

C—Check
R—Replace

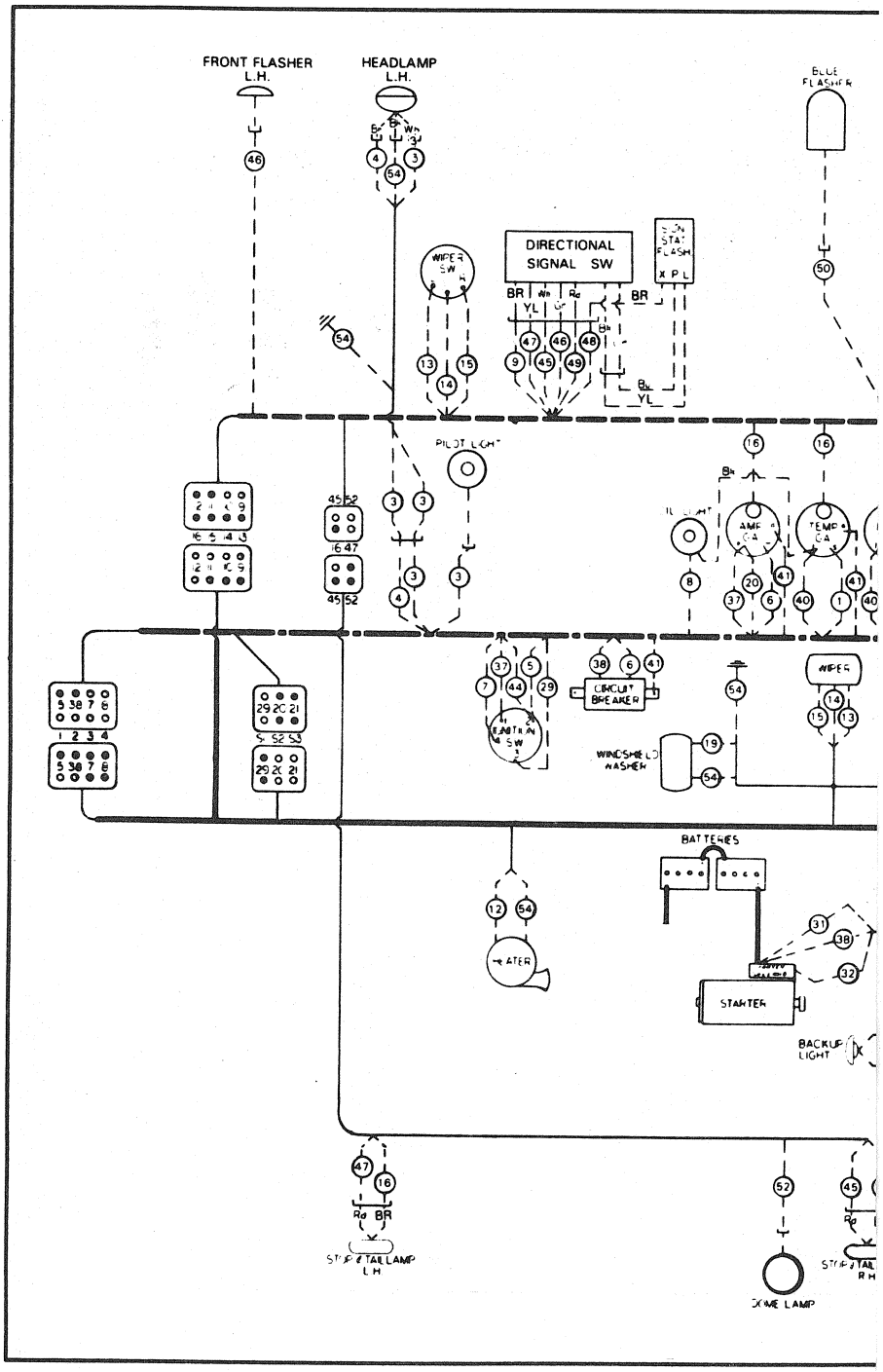
Item	10 hours or daily	50 hrs	100 hrs	500 hrs
Oil and engine filter	C		R	
Fuel filter				R
Fuel/water separator	C			
Air filter		C		R

SPECIFICATIONS

ENGINE	
Make	"Perkins"
Model	4.236
Type	In-line Diesel
No. of cylinders	4
Output @ R.P.M. (without fan)	58 kw (78 H.P.) @ 2500 R.P.M.
Torque @ R.P.M. (without fan)	260 N•m (192 lbf•ft) @ 1300 R.P.M.
Maximum R.P.M.	2500 R.P.M. (no load)
Oil filter type	Full flow filter
Starter	Electrical (12 volts)
Fuel	A.S.T.M./D. 975-66T grade 1D or 2D
Exhaust type	"Bombardier"
CARBURATION	
Supply type	Direct injection
Injection pump make	"C.A.V."
Firing order	1-3-4-2
Idling R.P.M.	600 R.P.M. (no load)
COOLING SYSTEM	
Thermostat	
- opening at	79-83°C (175-182°F)
- complete opening	94°C (202°F)
ELECTRICAL SYSTEM	
Generator	
- type	Alternator
- output	61 amp./12 volts
Batteries	
- type/quantity	Acid (6 volts)/2
- output	630 amp. (cold starting at -18°C (0°F))
- Reserve capacity	120 minutes (for starting at 27°C (80°F))
HYDRAULIC SYSTEM	
Hydraulic pump	
- make	"Vickers"
- model	V10F - 1P2P12A4F - 11
- capacity	15 l (3.3 Imp. gal., 4 U.S. gal.)/min. at 1200 R.P.M.
- Drive	Gear drive
LIQUID CAPACITIES	
Engine cooling system	20 l (4.4 Imp. gal., 5.3 U.S. gal.)
Engine oil with filter	5.7 l (5 Imp. qts., 6 U.S. qts.)
PERFORMANCE	
Maximum speed	31 km/h (19 MPH)
TORQUES SPECIFICATIONS	
Engine support - engine/frame	81 - 108 N•m (60 - 80 lbf•ft)

Bombardier Inc. reserves the right to make changes in design and specifications and/or to make additions to, or improvements in its product without imposing any obligation upon itself to install them on its products previously manufactured.

ELECTRIC WIRING DIAGRAM



WARNING: Ensure all terminals are properly crimped on the wires and all connector housings are properly fastened.