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FORD

B SERIES PORTABLE HIGH PRESSURE WASHERS

Models
BTC 65B & 65BC
BTC 70B & 70BC
BTC 150B & 150BC
BTC 300B & 300BC

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FOREWORD

This manual contains service information for the Ford BTC High Pressure Washers, Models BTC 65B, BTC 65BC, BTC 70B, BTC 70BC, BTC 150B, BTC 150BC, BTC 300B, BTC 300BC. Detailed information is provided on description and operation, trouble shooting, tests and adjustments, and specifications.

Keep this manual, along with your other service literature, available for ready reference.

SAFETY PRECAUTIONS

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all tractors and equipment as well as the personal safety of the individual doing the work. This Shop Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing equipment, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in the Manual must first establish that he compromises neither his personal safety nor the equipment integrity by his choice of methods, tools or parts.

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TABLE OF CONTENTS

SAFETY WARNINGS AND PRECAUTIONS 4
SPECIFICATIONS 6
GENERAL INFORMATION 7
- Lubrication 7
- Tune-up 7
- Torque Valves 8
- Model Designation 8
- Design Use 8
- Chemicals 8
- Chemical Mixture 8

PRINCIPLES OF OPERATION 9
- Machine Cycles 10
- Waterbreak Valve 10
- Rinse Cycle BTC 150B, 300B, 150BC, 300 BC 11
- Soap Cycle 12
- Relief Cycle 12
- Off Cycle 13
- BTC 65B, 65BC, 70B, 70BC 14
- Rinse Cycle 14
- Soap Cycle 15
- Relief Cycle 15
- Off Position 15

PRIMING 16
STORAGE 17
SAFETY 17
DIAGNOSIS AND TESTING 18
- Incoming Water Pressure Regulator 18
- Diagnostic Procedure 18
- Equipment Recommended 19
- Testing For All 19
- Locating Air Leaks 19
- Testing Nozzle Pressure 19

TROUBLE SHOOTING 21
CASE TOP REMOVAL AND INSTALLATION 28
FLOW METER 28
WATER BREAK VALVE 28
PROPROTIONING SYSTEM — TRIMERE VALVE 30
ADJUSTABLE SOAP VALVE 32
BTC PUMP 33
BARON 10, BARON 20 PUMP 36
RELIEF VALVE — All But BTC 300B & BTC 300BC 40
RELIEF VALVE — BTC 300B, 300BC 41
CHECK VALVE 43
SAFE-T-KING GUN 44
WANDS 45
NOZZLES 45
ELECTRICAL 46
SPECIAL TOOLS 51

SAFETY WARNINGS & PRECAUTIONS

Numerous safety features have been built into this pressure washer. To help protect the operator of a high pressure washer against electric shock, the following recommendations must be adhered to:

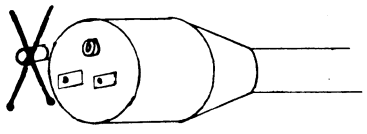
Before operating or repairing any Ford High Pressure Washer, you should be completely familiar with the following safety precautions.

Look for this symbol to point out important safety precautions. It means — ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

WARNINGS

A FATAL ELECTRIC SHOCK CAN RESULT FROM IGNORING THESE WARNINGS!

1. Read the Operator's Manual in its entirety before attempting the operation of Ford High Pressure Washer.
2. Always plug a pressure washer which has a three wire power cord into a properly grounded matching receptacle. If in doubt, have the grounding of the receptacle checked by a qualified electrician. If possible, use a receptacle protected by a ground fault circuit interrupter.
3. Never remove the ground prong from the plug of the washer's power cord (or from the plug of any extension cord connected to the power cord). Never bypass the ground prong by using a 2 prong adaptor plug. (See Figure No. 1.)
4. If at all possible, do not use an extension cord with a pressure washer. If an extension cord is used, use a heavy-duty 3-wire extension cord in good condition, and plug the extension cord into a properly grounded matching receptacle.
5. Keep all connections dry. For this purpose, position all connections (for example those between the washer's power cord and an extension cord, and those between extension cords) in a dry place away from puddles and as far away as possible from the item being washed. Prevent water run-off from contacting electrical connections.
6. Never touch any electrical connections if they are wet or your hands are wet.



NEVER remove the ground pins from electrical cords in order to insert it into a non-grounding outlet.

NEVER use an adaptor plug.

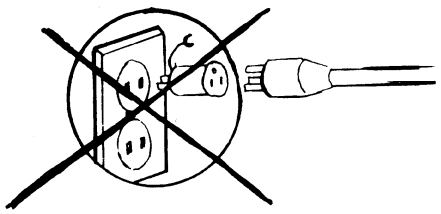


Figure No. 1

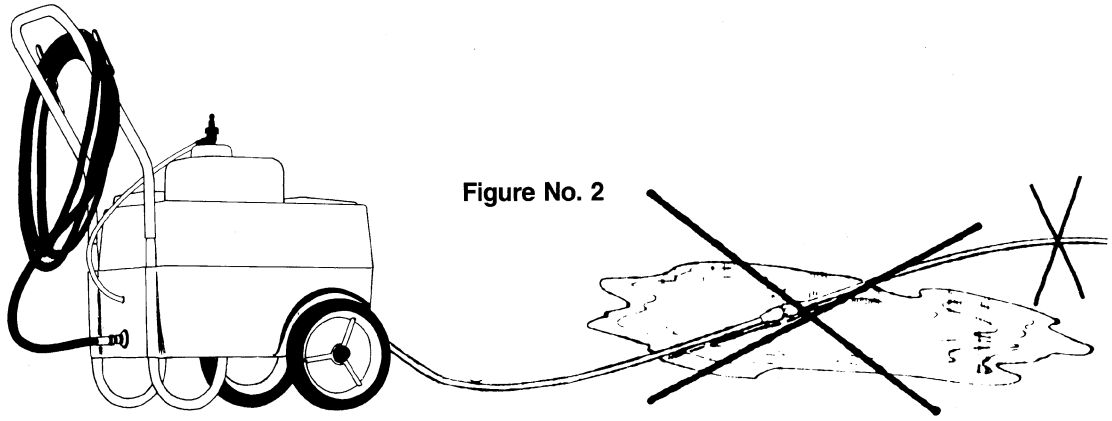


Figure No. 2

If at all possible, do not use an extension cord with a pressure washer. If an extension cord is used, use a heavy-duty 3-wire extension cord in good condition, and plug the extension cord into a properly grounded matching receptacle.

Keep all electrical connections dry. For this purpose, position all connections (for example, those between the washer's power cord and an extension cord, and those between extension cords) in a dry place away from puddles and as far away as possible from the item being washed. Prevent water run-off from contacting electrical connections.

7. Never cut or splice the electrical cords. Replace complete power cord assembly if plug or cord are not in good condition or have been modified.
8. Never operate the pressure washer after it has tripped a ground fault circuit interrupter or circuit breaker or blown a fuse, without first having it examined for electrical faults by a competent repair person.
9. Never use a pressure washer which has been modified or is malfunctioning until it has been properly repaired.
10. Never allow water to enter the machine case.
11. Always disconnect the power supply cord before removing the case top.
12. Never operate a pressure washer with the case top removed.

FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS COULD RESULT IN A SEVERE OR FATAL ELECTRICAL SHOCK!!!

PERSONAL CONSIDERATIONS

1. Read Operators Manual thoroughly before using.
2. Always wear all rubber foot-wear, for example, rubber boots or galoshes to help provide electrical insulation when operating the pressure washer.
3. Never allow children to operate a pressure washer. Keep children at a safe distance when an adult is using a pressure washer.
4. When servicing, use only original manufacturer's replacement parts.
5. Do not direct spray towards any part of the body.

SPECIFICATIONS

PRESSURE WASHERS	MODEL NO. BTC 65B BTC 65BC	BTC 70B BTC 70BC	BTC 150 BTC 150BC	BTC 300B BTC 300BC
Feature				
Nozzle	Single jet 40°	Single Jet 40°	Single Jet 40°	Single Jet 40°
Internal Waterbreak	Yes	Yes	Yes	Yes
Wheels	8"	8"	10"	10"
Electric Cord	16 Ga.	14 Ga.	14 Ga.	14 Ga.
Detergent Container	1-2½ Gal.	1-2½ Gal.	2-2½ Gal.	2-2½ Gal.
Handle	Aluminum	Aluminum	Steel	Steel
Hose Length	20'	24'	30'	50'
Guard On Hose	No	Yes	Yes	Yes
Gun Type	Safe-T-King Man.	Safe-T-King Man.	Safe-T-King Elec.	Safe-T-King Elec.
Pumps P.S.I. (Minimum)	500	600	700	1000
Pump Operating Hours (Avg.)	500	500	2000	2000
Front Support	2 legs	2 legs	1 caster	2 casters
Motor HP	¾	1	1.5	3
Flow Meter	No	No	Yes	Yes
Relief Valve Pop Off Setting	800-900	950-1050	1000-1100	1300-1450
Variable Soap Adjustment	Yes	Yes	Yes	Yes
Minimum Incoming Water Pressure	15 psi	15 psi	15 psi	25 psi
Maximum Incoming Water Pressure	125 psi	125 psi	125 psi	125 psi
Minimum Incoming Water Volume	2 gpm	2.5 gpm	3 gpm	4 gpm

GENERAL

SERIAL AND MODEL NUMBERS

The serial and model numbers are located on the bottom case at the rear of the machine. All B series models, are double isolated. This means all live electrical components are isolated from operator contact. The machines are also grounded.

LUBRICATION

Component	Capacity	Type of Lubricant
Pump - BTC 65B, BTC 65BC BTC 70B, BTC 70BC	Factory lubricated sealed double row ball bearing — no further lubrication neded.	
Pump Crankcase - BTC 150B, BTC 150BC BTC 300B, BTC 300BC	8 ounces	Use SAE 30 non-detergent engine oil.
Pump Grease Cup and Cap - BTC 150B, BTC 150BC BTC 300B, BTC 300BC	Keep filled (turn down 1/2 turn every 50 running hours).	Use an SAE multi-purpose type grease.

TUNE-UP

Perform all the tune-up steps to put the high pressure washer to top operating condition if major disassembly and repair is not required.

Check Water Inlet Screen ..... See Operator's Manual

Check Reservoir Pickup Hose Screen ..... See Operator's Manual

Inspect Check Valve ..... Page 43

Check Reservoir Pickup Hose for Kinks .....

Check Reservoir Pickup Hose for Excessive Wear and Cracks .....

Check Solenoid and Coil ..... Page 32

Check Nozzle Pressure ..... Page 18

Check All Wiring for Loose Connections and Cracked Insulation .....

Check Hoses For Cracks and Excessive Wear .....

Change Oil in Crankcase ..... See Operator's Manual

Lubricate Pump ..... See Operator's Manual

Check Case for Cracks .....

Check Grease Cup and Cap for Adequate Grease ..... See Operator's Manual

TORQUE VALUES

MODEL NO.	BTC 65B BTC 65BC BTC 70B BTC 70BC	BTC 150B BTC 150BC	BTC 300B BTC 300BC
Cylinder head bolts	80 inch-lbs.	125 inch-lbs.	125 inch-lbs.
Pump connecting rod screws	DNA	105 inch-lbs.	105 inch-lbs.

MODEL DESIGNATION

MODEL NO.	GPM	PSI (Operating)
BTC 65B, BTC 65BC	1.8	500 min.
BTC 70B, BTC 70BC	2.1	600 min.
BTC 150B, BTC 150BC	2.6	700 min.
BTC 300B, BTC 300BC	4.2	1000 min.

DESIGN USE

MODEL NO.	OPERATION	USE
BTC 65B, BTC 65BC	Intermittent	Farm and home
BTC 70B, BTC 70BC	Intermittent	Light industrial
BTC 150B, BTC 150BC	Continuous	Industrial
BTC 300B, BTC 300BC	Continuous	Heavy industrial

FORD PRESSURE WASHERS MUST NOT BE OPERATED MORE THAN FIVE (5) MINUTES WITH FLOW SHUT OFF AT GUN OR PUMP DAMAGE MAY RESULT.

CHEMICALS

USE ONLY FORD OR FORD AUTHORIZED CHEMICALS TO INSURE PROPER OPERATON OR PROPORTIONER ASSEMBLY.

DO NOT RUN DEGREASER THROUGH MACHINE OR SEAL DAMAGE MAY RESULT.

CHEMICAL MIXTURE

WATER TYPE	HARDNESS	DETERGENT/WATER
Soft	0-5 grains of hardness	1 pound/2.5 gallons
Normal	5-10 grains of hardness	1-1.5 pounds/2.5 gallons
Hard	10 grains of hardness	1.5-2 pounds/2.5 gallons

NOTE: ADD DETERGENT TO WATER, NOT REVERSE.

USE CORRECT AMOUNT OF DETERGENT, INSUFFICIENT OR EXCESSIVE AMOUNTS OF DETERGENT WILL AFFECT OPERATION OF PRESSURE WASHER AND CLEANING EFFICIENCY.

PRINCIPLES OF OPERATION
FORD HIGH PRESSURE WASHERS
B-SERIES

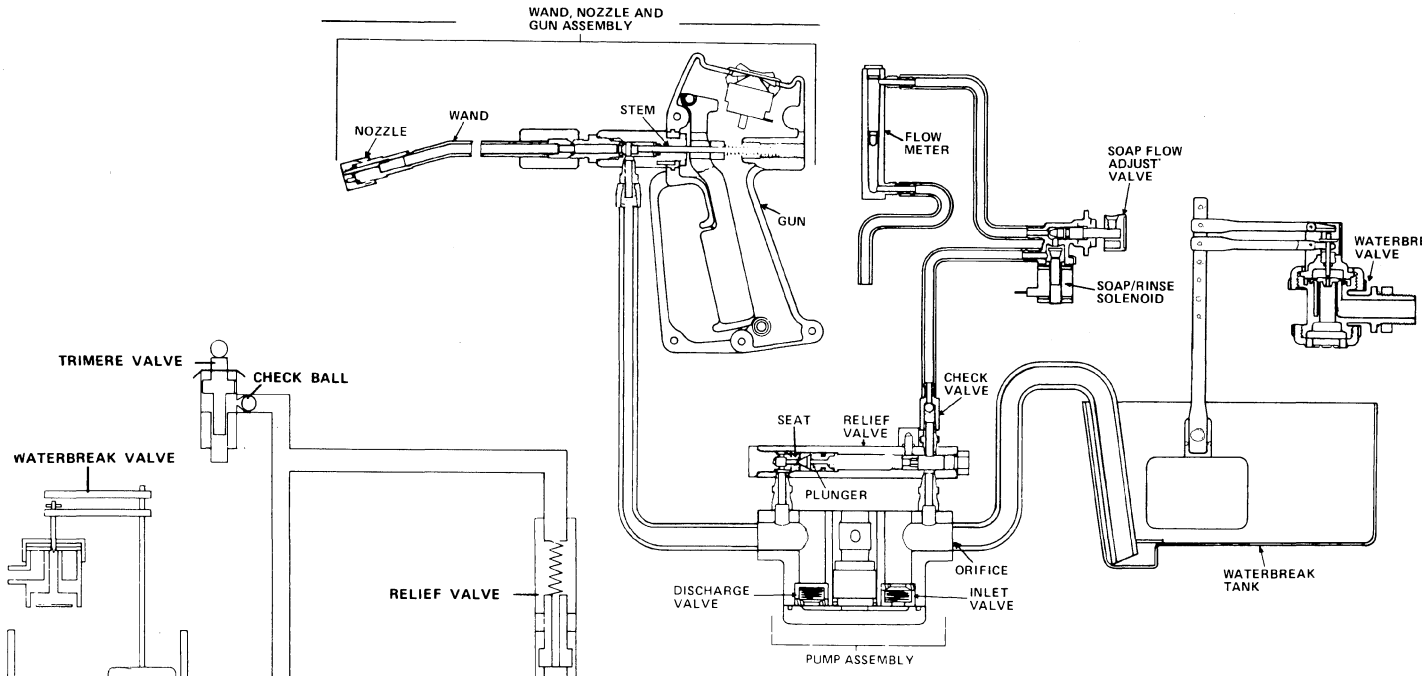


Figure 3 System Identification BTC 150B, 150BC, 300B, 300BC

Figure 4 System Identification BTC 65B, 65BC, 70B, 70BC

All B series Ford Pressure Washers, and up are equipped with an internally mounted waterbreak. The purpose of the waterbreak is to prevent the possibility of cleaning chemicals or unclean water being drawn from the high pressure washer into the water supply system and contaminating it.

B series Ford High Pressure Washers are similar to previous models in that they are made up of six basic sub-assemblies: the electrical system, proportioning system, the pumping system, the relief system, the gun and wand assembly, and the nozzle.

The electrical system consists of the motor, switches, and the wiring.

The purpose of the proportioning system is to meter chemical into the incoming water at a rate controlled by the operator or to stop the flow of chemicals completely when rinse water is desired. The controls are operated manually on the BTC 65B, 65BC, 70B and 70BC models. The soap/rinse controls operate electrically on the BTC 150B, 150BC, 300B and 300BC.

The purpose of the pump is to take incoming water and boost the pressure to a specific pressure at the nozzle. Nozzle pressure ranges from 500 psi to 1,000 psi, depending on the model of the machine and the model of pump used.

A relief valve is used on all B series Ford High Pressure Washers. The purpose of the relief valve is to relieve the excess pressure that builds up when the water flow is stopped at the nozzle, due to the nozzle becoming plugged or the control gun being closed. All models have a check valve. The purpose of the check valve is to prevent the back flow of water to the detergent container when the relief valve is open.

The wand and control gun provide a means of starting and stopping the flow of water at the nozzle. The wand also provides a means of directing the spray from the nozzle. This assembly is located at the discharge end of the hose.

The purpose of the nozzle is to provide a specific size orifice for the pump to force the liquid through. The nozzle is always located at the end of the wand. Each machine has its own specific nozzle orifice size.

MACHINE CYCLES

Ford High Pressure Washers with internal waterbreaks, operate on 4 cycles:

1. The rinse cycle.
2. The soap cycle.
3. The relief cycle
4. Off cycle.

To operate properly, these machines must be connected to an adequate water supply which provides more water than the machine volume rating at an incoming pressure of at least 15 psi (25 psi for BTC 300B, BTC 300BC). This will insure that the pump does not draw water from the waterbreak tank faster than water can enter through the waterbreak valve. As with previous Ford High Pressure Washers, a vacuum condition is created by restricting the amount of water available to the pump. It is this vacuum that pulls liquid from the detergent container and through the proportioner. This vacuum is created by a restricting orifice in the inlet hose that runs from the waterbreak tank to the pump.

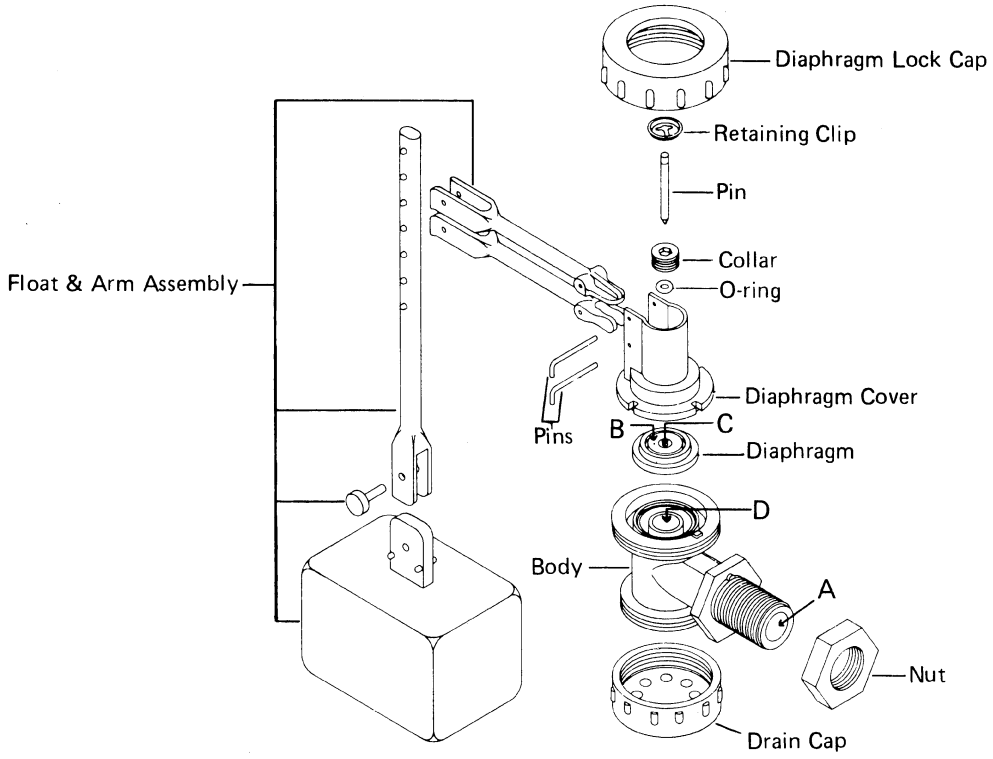


Figure 5 Waterbreak Valve

WATERBREAK VALVE

The waterbreak valve serves two purposes:

1. To maintain a constant supply of water in the waterbreak tank.
2. To prevent the back flow of liquid from the pressure washer into the water supply system.

These functions take place regardless of the machine cycle. The back flow of liquid from the pressure washer into the water supply line is prevented by the open air separation which exists between the surface of the water in the reservoir and the drain cap on the waterbreak valve.

The pump draws its water requirements from the waterbreak reservoir. As the water level in the reservoir drops, the float moves downward, opening the valve, and allowing more water to enter the reservoir through the waterbreak valve from the garden hose which is attached to a pressurized water source. When the gun is closed, with the pump and motor shut off, the water level in the reservoir rises to a pre-determined level. At that level, the float has risen to a point where it closes the valve and stops the flow of incoming water.

PRINCIPLE OF OPERATION - HYDRAULIC FLOW OF THE INTERNALLY MOUNTED WATERBREAK VALVE USED ON FORD HIGH PRESSURE WASHERS, S/N 225,000 AND UP

When the float and arm assembly are in the down position, water enters the valve at Point A. The lever action of the float and arm assembly against the pin, lifts the pin away from the diaphragm and opens port C in the diaphragm. The incoming water pressure against the bottom face of the diaphragm lifts the diaphragm off of its seat in the

body of the waterbreak valve. Some water does bleed through the small port B in the diaphragm into the area of the diaphragm cover. Because the larger port C is open, water can drain through the diaphragm and back into the main body. There is equal pressure on both sides of the diaphragm. Water flows through port D in the body down through the drain cap. The drain cap is designed so that it breaks up the flow of the water entering the waterbreak tank and prevents excessive turbulance in the tank. As the water level in the tank rises, the lever action of the float arm assembly pushes the pin down into the larger port C in the diaphragm and seals it. Incoming water, which is bleeding through port B, pushes the diaphragm down and seals it over port D.

As the water level in the tank drops, the lever action of the float arm assembly lifts the pin away from port C in the diaphragm. This allows the water on the top side of the diaphragm to drain through port C and port D and the incoming water pressure through port A pushes the diaphragm off seat, which opens the valve and allows water to flow through port D down through the drain cap and into the waterbreak tank.

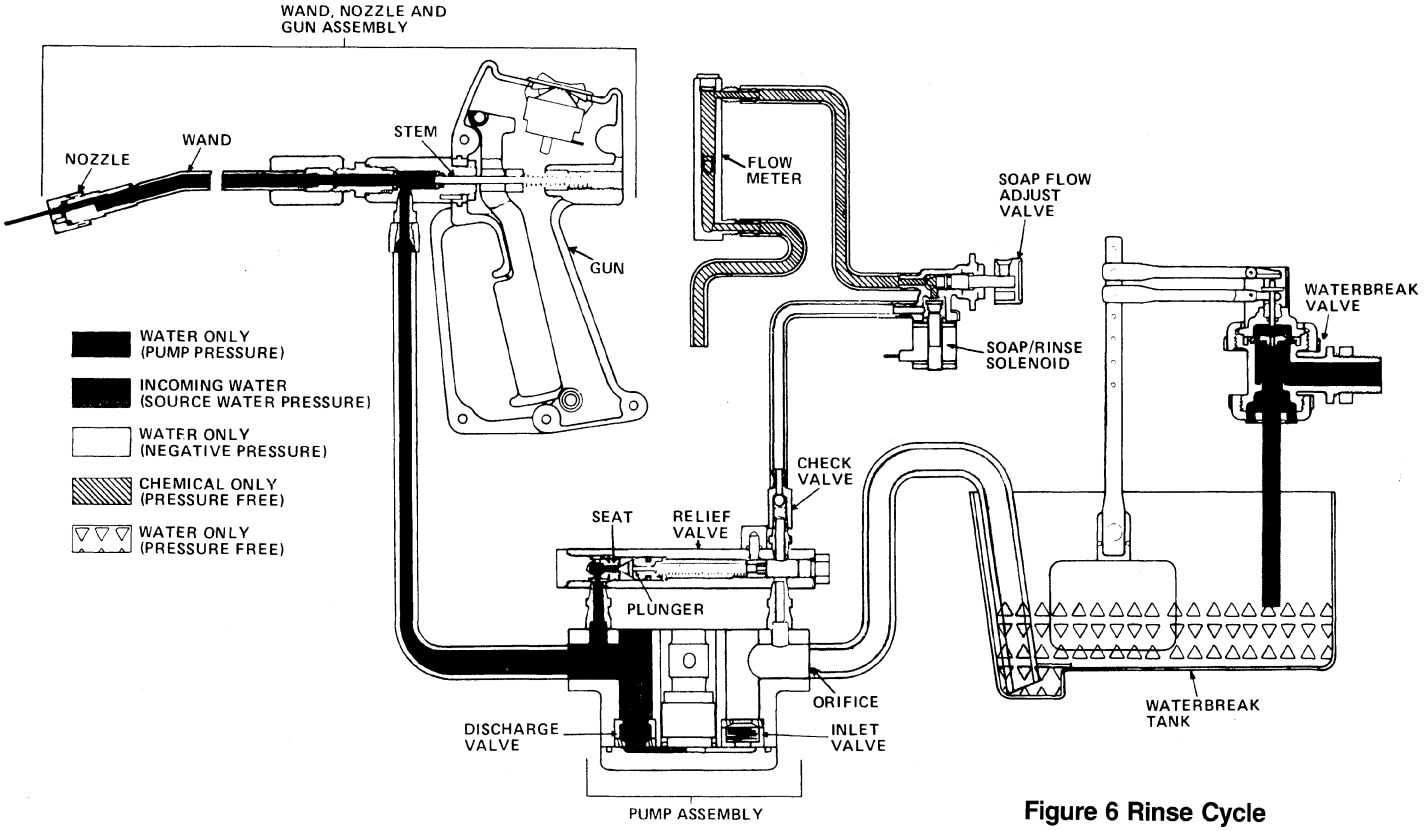


Figure 6 Rinse Cycle

THE RINSE CYCLE - BTC 150B, 150BC, 300B, 300BC

Pumps used on Ford High Pressure Washers are positive displacement pumps. In a positive displacement pump a constant amount of water fills the cylinder each time the piston or plunger moves back. Likewise, a constant amount of water is displaced from the cylinder each time the piston moves in. Thus, given a constant incoming water supply available to the pump and the pump turning at a constant speed, the amount of water displaced by the pump will be equal over equal lengths of time. If the amount of incoming water to the pump is restricted so that it is less than the amount that the pump displaces, a negative pressure or vacuum condition will be created on the inlet side of the pump. It is this negative pressure that draws detergent into the high pressure washer when the soap valve is open.

On Ford High Pressure Washers, when the pump starts, a vacuum is created. This vacuum is a result of a specially sized restricting orifice which is part of the inlet water screen. The size of this orifice varies from machine to machine.

In the rinse cycle, the soap valve is closed which prevents any soap from being drawn into the pump. The water is being drawn into the piston chamber of the pump through the inlet valve and is pushed out through the discharge valve. Pump pressure forces water through the high pressure hose to the open gun and out the nozzle at high pressure.

The amount of pressure the high pressure washer creates is determined by the volume of water which flows through the nozzle orifice. Because each model high pressure washer has a different water volume output, the nozzle orifice size must be matched to each machine's volume output.

In the rinse cycle, the relief valve is in the closed position. If the nozzle is plugged or the gun is shut off, the relief valve will open. If the relief valve is forced open, water from the pump passes through the relief valve plunger back to the inlet side of the pump and recirculates through the pump and relief valve assembly.

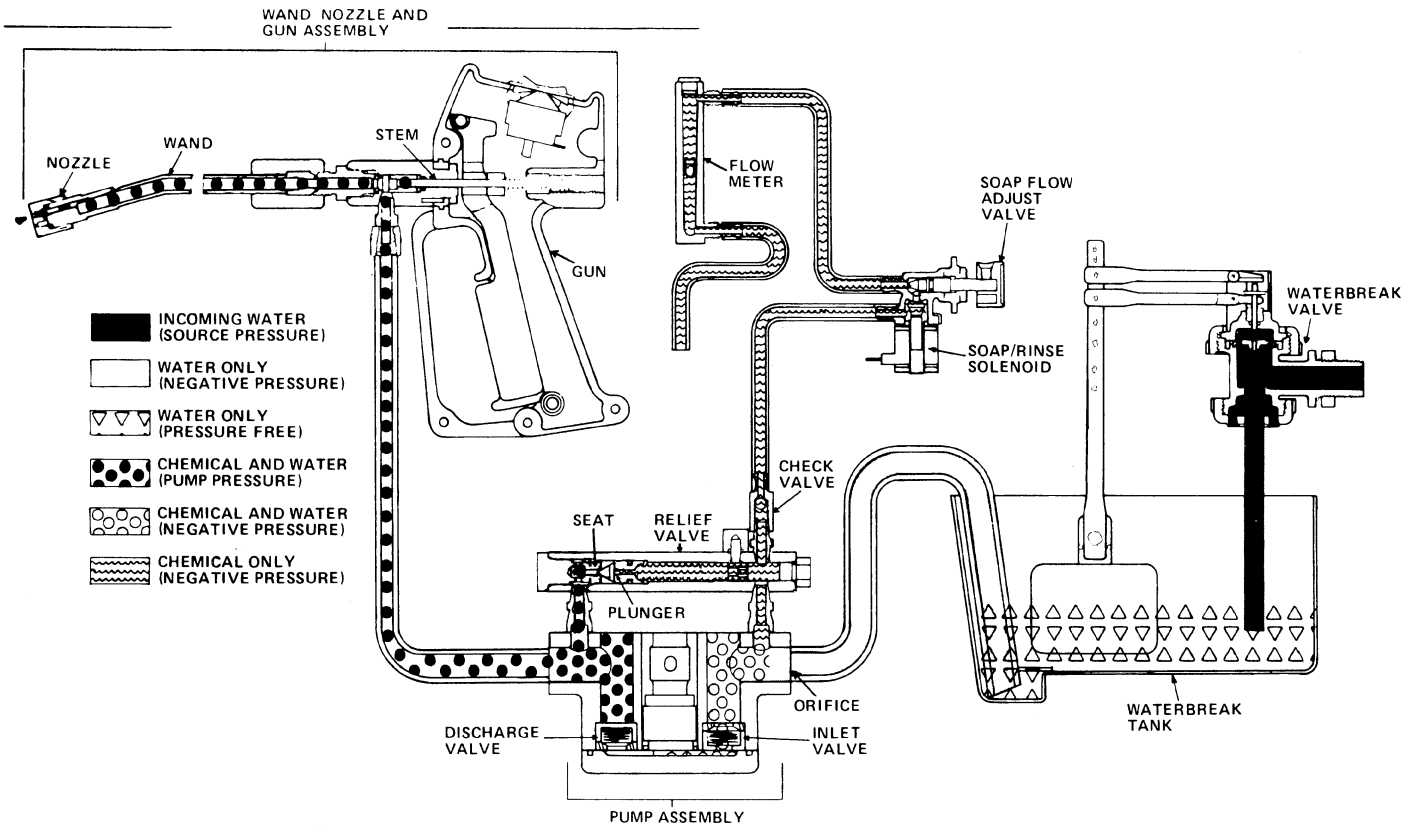


Figure 7 Soap Cycle

SOAP CYCLE

When the pump starts, it creates a vacuum. This vacuum draws water from the waterbreak tank through the specially sized orifice in the inlet hose and chemical through the soap valve simultaneously. The desired ratio of water to chemical is controlled by turning the soap adjust knob and observing the position of the float in the flow meter. Soap and water mixture is forced through the pump, out the high pressure hose, through the open gun and out the nozzle at high pressure.

The relief valve is in the closed position. If the nozzle should plug or the gun is shut off, the relief valve would open allowing all liquid to recirculate through the pump.

RELIEF CYCLE

In the relief cycle, the pump is running but no liquid is passing through the nozzle. This happens whenever the nozzle is plugged or the flow is shut off at the gun. The excess pressure built up by the pump forces the relief valve open allowing the liquid to recirculate through the pump and open relief valve. This prevents the motor from stalling or from damage occurring to the pump.

Normally, the relief valve is in the closed position. It is held closed by spring tension on the back side of the plunger. This tension is set at the factory so that it takes 300 to 350 psi above the nozzle pressure to open the relief valve. In the closed position, only the very tip of the relief valve protrudes through the valve seat exposing only a small portion of the total surface area of the plunger to this high pressure. The moment high pressure overcomes the spring tension and the relief valve begins to open, the entire surface of the plunger is exposed to pressure. Because pressure is pushing against a larger surface area, smaller amount of pressure is needed to hold the relief valve open than it took to open it initially. This means that the water recirculating through the pump in the relief position is doing so at low pressure. This unique design feature is patented.

The check valve assembly, which is attached to the relief valve, prevents the pump from pushing liquid back into the chemical reservoir during relief cycle.

The instant the flow of liquid through the nozzle resumes there is a drop in the pressure against the face of the relief valve plunger which allows the spring to push the plunger back into the relief valve seat. Because liquid can no longer recirculate through the relief valve, the pump forces all liquid through the nozzle where it instantenously develops normal nozzle pressure.

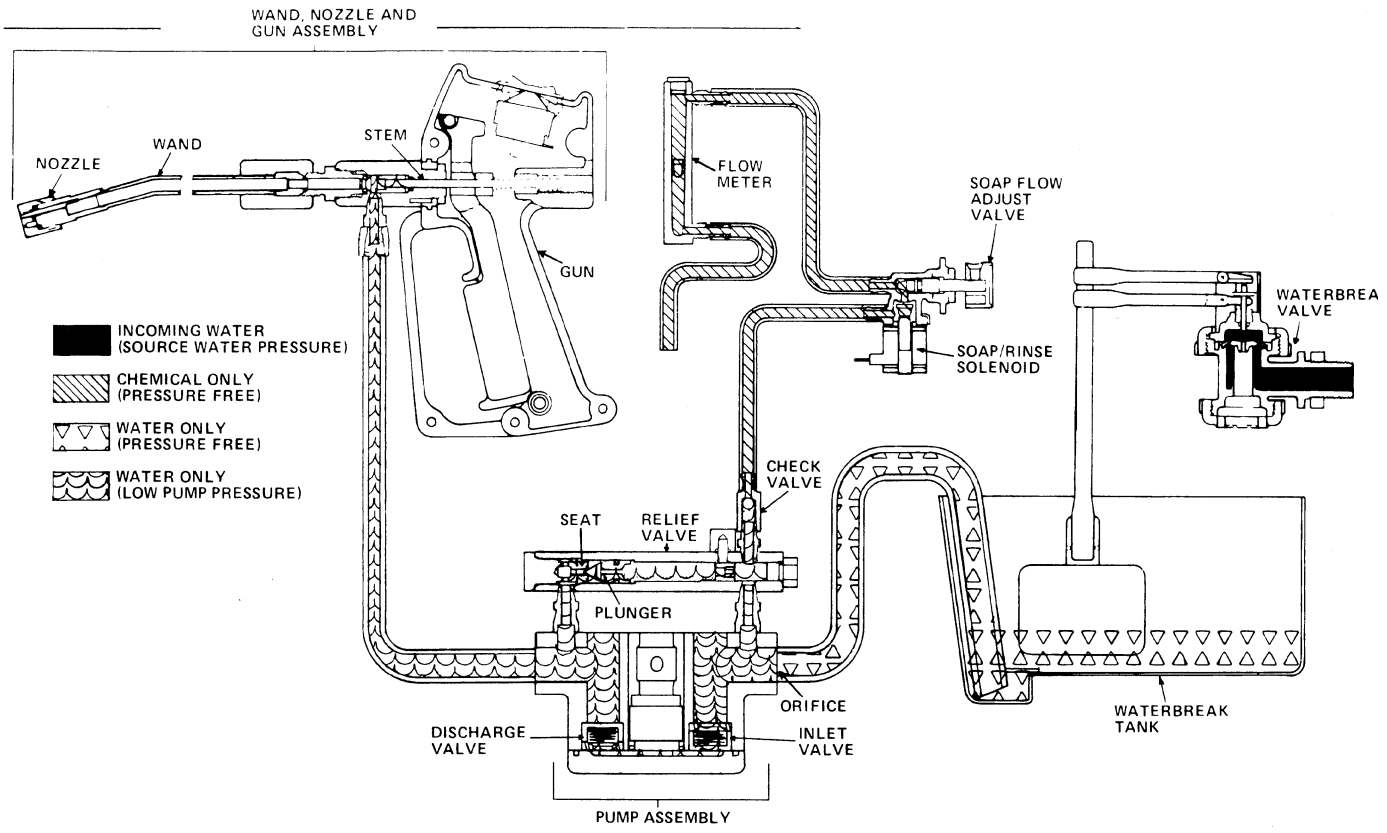


Figure 8 Relief Cycle

OFF POSITION

In the off position, the motor and pump are not oper
Water pressure from the water supply source extend
to the waterbreak valve. There is no water pressure pr
in the other parts of the machine.

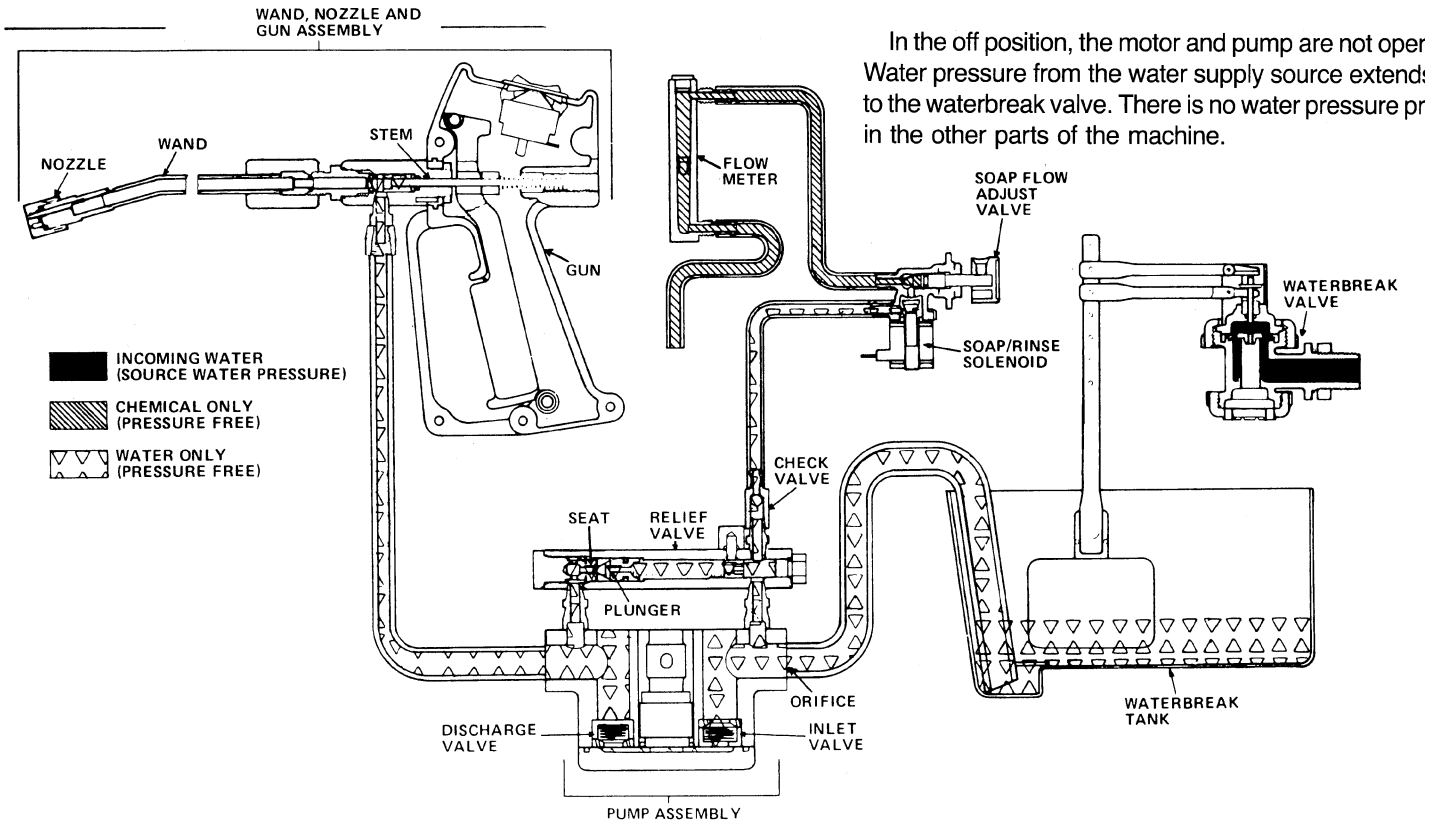


Figure 9 Off Cycle

IMPORTANT INFORMATION

PRODUCT IMPROVEMENT NOTICE

The following improvements have been made in BTC 65B, 65BC, 70B and 70BC High Pressure washers, effective:

S/N 264,400 and up. A filter screen was placed in the waterbreak tank to prevent foreign material from entering the pump. Special screws and metal clips were used to secure the case top to the case bottom resulting in a better fit.

S/N 278,100 and up. The removable wand became standard equipment to facilitate priming.

PRINCIPLES OF OPERATION BTC 65B, 65BC, 70B and 70BC

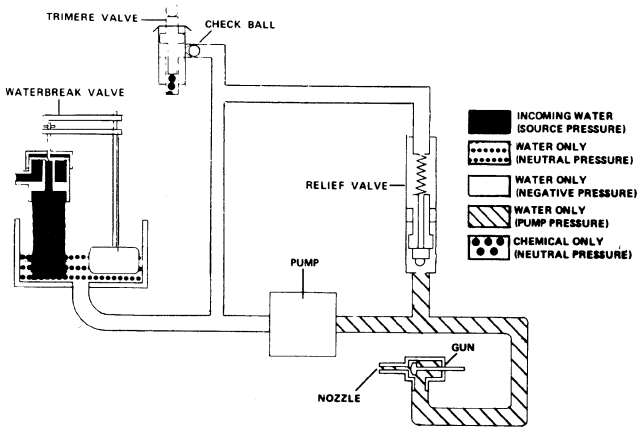
The operating principles of the BTC 65B, 65BC, 70B and 70BC are very similar to the operating principles of the BTC 150B, 150BC, 300B and 300BC. The only differences are in the way the proportioning system functions. Like other Ford High Pressure Washers, the BTC 65B, 65BC, 70B & 70BC can operate on 4 different cycles: 1) rinse, 2) soap, 3) relief, and 4) off.

The BTC 65B, 65BC, 70B and 70BC have the same type of internal waterbreak valve. For an explanation of its operation, see page 10. (See Fig. 5)

RINSE CYCLE

The rinse cycle of the BTC 65B, 65BC, 70B and 70BC are the same as the BTC 150B, 150BC, 300B and 300BC. See page 11 for a detailed explanation. (See Fig. 10)

Figure 10 Rinse Cycle



SOAP CYCLE

When the pump starts, it creates a vacuum. This vacuum draws water from the waterbreak tank through the specially sized orifice in the inlet hose and chemical through the soap valve simultaneously. The desired ratio of water to chemical is controlled by pulling up on the trimere valve knob and turning the cap counter-clockwise to increase the concentration of detergent and clockwise to reduce the concentration. The soap and water mixture is forced through the pump, out the high pressure hose, through the open gun and out the nozzle at high pressure.

The relief valve is in the closed position. If the nozzle should plug or the gun is shut off, the relief valve would open allowing all liquid to recirculate through the pump.

IMPORTANT: When machine is shut off, soap/rinse knob must be pushed in to prevent detergent from being siphoned out of detergent container. (See Fig. 11)

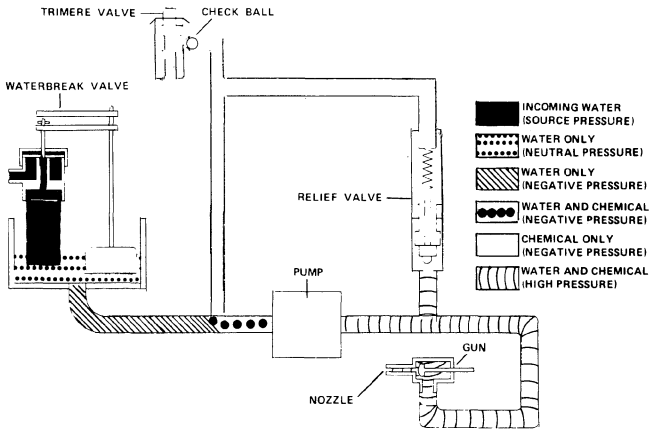


Figure 11 Soap Cycle

RELIEF CYCLE

Although the component parts design of the BTC 65B, 65BC, 70B and 70BC relief valve is different from relief valves used on previous models the operating procedures are the same as explained on p. 12.

The only differences between the BTC 65B, 65BC, 70B and 70BC in the relief cycle and the relief cycle on the BTC 300B and 300BC are; the 2 piece relief ball valve and plunger assembly and the location of the check valve.

The relief ball valve and plunger assembly function the same as the relief valve plunger on previous machines.

The check valve is part of the trimere valve. The plunger in the check valve prevents the backflow of liquid into the detergent container. See Page 12 for a detailed explanation of the relief cycle. (See Fig. 12)

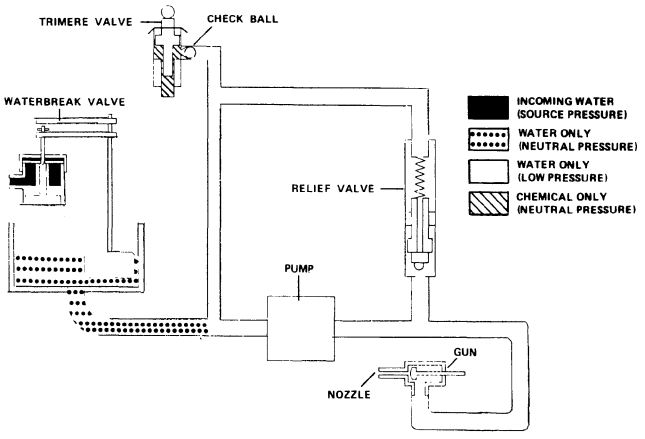


Figure 12 Relief Cycle

OFF POSITION

FIG. 9:

In the off position, the motor and pump are not operating. Water pressure from the water supply source extends only to the waterbreak valve. There is no water pressure present in the other parts of the machine.

IMPORTANT: Soap/rinse knob must be pushed in to prevent detergent from being siphoned out of detergent container. (See Fig. 13)

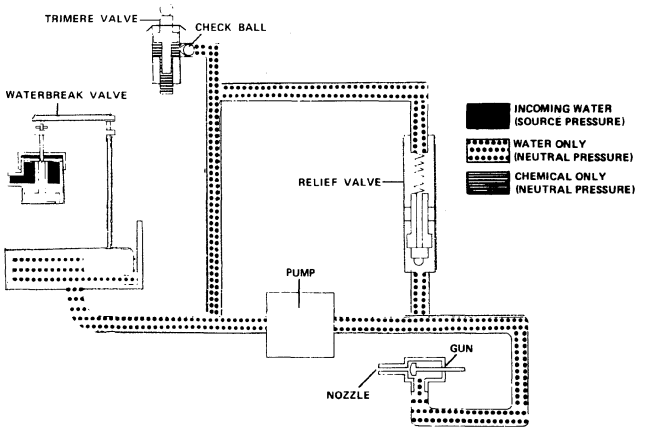


Figure 13 Off Cycle

PRIMING

Because a vacuum condition is necessary in Ford High Pressure Washers in order to have proper pressure and detergent flow, it is absolutely necessary that all air be removed from the system. Due to the free air space between the drain cap of the waterbreak valve and the water surface in the waterbreak tank, any air in the water supply system will escape at that point. However, any air that enters the system from the filter screen in the waterbreak tank to the inlet valves of the pump will prevent proper operation of the machine.

Removing air from the system is commonly referred to as priming.

PRIMING PROCEDURE

The priming procedure is the same for all models.

IMPORTANT: MACHINE MUST BE FULLY PRIMED FOR PROPER OPERATION!!!

1. Check the condition of the inlet water screen. If the screen is clogged or corroded, clean and replace as necessary.
2. Connect the hose securely to the water supply. (Use a minimum 5/8 inch 5 I.D. hose)
3. Use the garden hose to fill the detergent container two-thirds full.
4. Connect the hose securely to the inlet water fitting, making certain all the water connections are tight.
5. Turn the water supply on all the way. **IMPORTANT: BE CERTAIN THAT THE SUPPLY HOSE IS NOT KINKED OR PINCHED AND THAT FULL FLOW REACHES THE MACHINE.**
6. Plug power supply cord into a properly grounded outlet.

WARNING: TO AVOID AN ELECTRICAL SHOCK DO NOT REMOVE OR BYPASS THE GROUND PIN ON THE POWER SUPPLY CORD.

WARNING: TO AVOID AN ELECTRICAL SHOCK DO NOT USE AN EXTENSION CORD WITH FORD HIGH PRESSURE WASHERS. If it is essential that an extension cord be used, be certain that the connection between the power supply cord and the extension cord does not lie in water.

7. On the BTC 65B, 65BC, 70B, and 70BC models, push the soap-rinse knob down to the rinse position.
8. Remove the wand from the gun. All BTC 65B, 65BC, 70B and 70BC high pressure washers S/N 278,100 and up are equipped with a removable wand. Machines prior to S/N 278,100 the removable wand was optional.
9. With the trigger depressed, move the switch to start the motor. Grip the trigger for 2-3 seconds, then release the trigger for 2-3 seconds. Repeat this procedure 4 or 5 times until all air is expelled from the system on the rinse cycle. The washer is primed on the rinse cycle when a steady stream of water is developed and the pump runs smoothly. If this procedure does not prime washer on the rinse cycle, it may be necessary to start and stop the motor while holding the trigger depressed until primed. If the motor switch is used, allow the motor and pump to stop completely prior to restarting the motor.
10. Attach the wand to the gun.

IMPORTANT: DO NOT USE WASHER UNTIL IT HAS BEEN PRIMED ON THE SOAP CYCLE. WASHER MUST BE PRIMED ON SOAP CYCLE AS WELL AS RINSE CYCLE FOR PROPER OPERATION.

11. Remove the detergent container from the machine.
12. Add detergent to the water in the detergent container.
13. Place the wand in the detergent container, near but not touching the bottom.
14. Pull the trigger and use the pressure to mix the detergent. Continue mixing until the container is nearly full.
15. Place the container in the cavity in the machine case top.
16. Replace the detergent control valve on the detergent container and secure, or replace the detergent tube in the container.
17. On the BTC 65B, 65BC, 70B and 70BC models pull the soap rinse knob up to the soap position. If the knob will not pull up, turn the soap adjust ring 3 turns counter-clockwise and then pull the knob up.
18. Remove the wand from the gun.
19. With the machine running in the soap cycle, fully depress the gun trigger and hold for 2-3 seconds. Repeat this procedure 4 or 5 times until the detergent tube is completely full of detergent and all air is expelled through the gun.
20. Push the on/off switch to stop the motor. Attach the wand to the gun. The washer is now ready to operate in either the soap or rinse cycle.

NOTE: In order for the machine to operate properly, it must be connected to an adequate water supply. If the machine fails to prime, make sure that the water supply provides the proper pressure and volume as shown in the specifications on page 6. If a Model 65B, 65BC, 70B or 70BC prior to S/N 278,100 fails to prime easily replace fixed wand with removable wand.

STORAGE

If the washer is to be stored in areas where freezing is possible, the following procedure should be followed:

1. Mix a solution of 1/2 permanent anti-freeze and 1/2 water (approximately 1 qt. or 1 L total solution).

WARNING: IF THE WASHER IS TO BE USED IN AREAS WHERE FOOD IS PREPARED, CONSUMED OR STORED OR WHERE SANITATION IS REQUIRED, USE A NON-TOXIC ANTI-FREEZE, LABELED U. S. P. FOOD GRADE ANTI-FREEZE.

2. Leave the garden hose attached to both the water faucet and the inlet fitting on the machine. Be sure the water is turned on.
3. Place the detergent tube in the anti-freeze solution.
4. Grip the gun, depress the trigger, and operate the machine in the soap cycle until the anti-freeze solution is gone.
5. Turn the water faucet off and remove the hose from the inlet fitting.
6. Grip the gun, depress the trigger, and operate the machine on the rinse cycle until it loses pressure.
7. Release the trigger and turn the machine off.
8. Disconnect the electrical cord.
9. Remove the detergent container from the cavity in the case top.
10. Mix another 1 qt. (1 liter) solution of 1/2 permanent anti-freeze and 1/2 water.
11. Remove the case top and pour this mixture into the waterbreak tank.

WARNING: DISCONNECT SERVICE CORD PRIOR TO REMOVING THE CASE TOP.

12. Plug the electrical cord into an outlet.
13. Grip the gun, depress the trigger, and operate the machine in the rinse cycle. The machine will gradually build up pressure and then again lose pressure. When the pressure decreases, turn the machine off. The anti-freeze procedure must be repeated following each use whenever it may be exposed to freezing temperatures.

SAFETY

Before operating or repairing any Ford High Pressure Washer, you should be completely familiar with the following safety precautions:

Read the operator's manual in its entirety before attempting the operation of Ford High Pressure Washer.

The service cord is equipped with a grounding prong.

WARNING: TO AVOID AN ELECTRICAL SHOCK DO NOT REMOVE OR BYPASS THIS PRONG. BE SURE TO PLUG UNIT INTO AN OUTLET THAT IS PROPERLY GROUNDED AND WILL ACCOMMODATE A 3 PRONG MALE PLUG.

Do not use an extension cord with this machine.

Disconnect the service cord from the electrical outlet before removing the case top.

Do not direct the spray toward any part of the body or clothing.

Do not allow water to enter the machine case.

Do not run acids or aeromatic solvents through the machine.

Do not attempt to service the machine while the pump and motor are running.

When the washer is fully primed and running, activating the trigger will create a kickback on the gun. This kickback should be anticipated.

Do not operate this machine with the case top removed.

If it is essential that an extension cord be used, be certain that it is grounded. Do not allow the connection between the extension cord and the power supply cord to lie in or come in contact with water.

FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS COULD RESULT IN A SEVERE ELECTRICAL SHOCK.

ADDITIONAL SAFETY PRECAUTIONS CAN BE FOUND ON PAGES 3 and 4.

DIAGNOSIS AND TESTING

Three test tools can be used for diagnosing service problems with Ford High Pressure Washers.

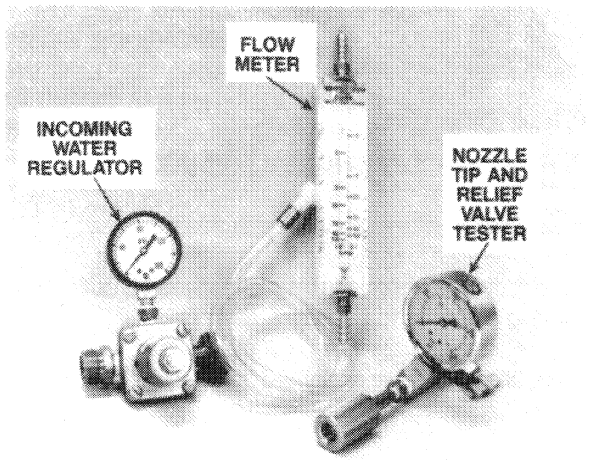


Figure 14 Test Tools

This two-in-one tester tells you exactly how much pressure is at the nozzle and what pressure the relief valve is popping off at. Just loosen the knurled nut on the wand, remove the wand, connect the tester to the gun assembly and replace the wand on the tester.

Using nozzle tip and relief valve tester to check nozzle pressure.

IMPORTANT: Machine must be primed to obtain accurate reading. The air in the system will give inaccurate or misleading readings.

1. Connect the nozzle tip and relief valve tester to the gun as described above.
2. Open the line valve completely and read the pressure gauge while the machine is operating on the rinse or soap cycle. Reading obtained is the pressure at the nozzle tip. **NOTE:** Pressure testers that do not have liquid filled gauges have an adjustable damper valve to steady the needle.

Using the nozzle tip and relief valve tester to test relief valve pop off pressure.

IMPORTANT: Machine must be primed to obtain an accurate reading. Air in the system will give inaccurate or misleading reading.

1. Remove wand.
2. Install tester on gun.
3. With machine operating, slowly close line valve which restricts the flow of water through the tester.
4. Observe the highest pressure reading before sudden pressure drop. The highest reading will be pop-off pressure where the relief valve opens.

IMPORTANT: Turning the restricting valve too slowly may affect the motor torque and give an inaccurate reading. Turning the restricting valve too fast may make it difficult to read the pop off pressure on the gauge.

INCOMING WATER PRESSURE REGULATOR

Incoming water pressure regulator is necessary to check the adequacy of the incoming water pressure necessary for the waterbreak valve to operate properly.

Using the incoming water pressure regulator

1. Connect the regulator between the inlet fitting on the machine and the pressurized water supply hose.
2. Start machine and prime it.
3. With the machine running and water flowing, loosen lock nut on regulator adjust screw and turn screw in (clockwise).
4. If gauge reads less than the minimum incoming water pressure for the machine shown in the specification section when the adjust screw is turned completely in, the incoming water pressure is inadequate for proper waterbreak valve operation.

IMPORTANT: Stop turning the adjust screw if gauge reading reaches maximum recommended incoming water pressure shown in the specification section. If this occurs incoming water pressure is too high for proper operation and a regulator must be installed on the incoming water line.

DIAGNOSTIC PROCEDURE

Before any repairs or adjustment is attempted, basic diagnosis should be made to determine which section of the machine is not working properly.

There are four basic types of pressure involved in pressure washer operation:

Low Pressure — This is normally the incoming water pressure. It involves water faucets, faucet hardware, garden hose and garden hose fittings, inlet water fittings and all hoses and connections from the inlet fitting of the machine through the waterbreak valve.

Static Pressure — (0 Pressure) — There is no pressure present in the waterbreak tank or detergent container.

Negative Pressure — (Vacuum) — Vacuum is created in the area between the waterbreak tank outlet and the inlet valves of the pump. This includes the soap valve, detergent tubes, and check valves. The inside of the relief valve, between the relief valve plunger and pump inlet, is also subject to vacuum conditions.

High Pressure — Normally referred to as pump or nozzle pressure. All fittings, connections, hoses, etc. between the

pump discharge valve and the nozzle tip are subject to high pressure. The area between the point of the relief valve plunger and pump discharge head is also subject to high pressure. If air is present in the static pressure, negative pressure, or high pressure areas of the machine, the whole operation of the high pressure washer can be affected.

EQUIPMENT RECOMMENDED FOR DIAGNOSTIC AND TESTING PROCEDURES

1. Water regulator and gauge with garden hose fittings.
2. Nozzle tip and relief valve tester.
3. Garden hose. Good grade, heavy duty water tight 5/8" minimum I. D. long enough to reach from the faucet to the test area.
4. Scrap hose 12" long which will fit securely over the nozzle of the machine being tested.

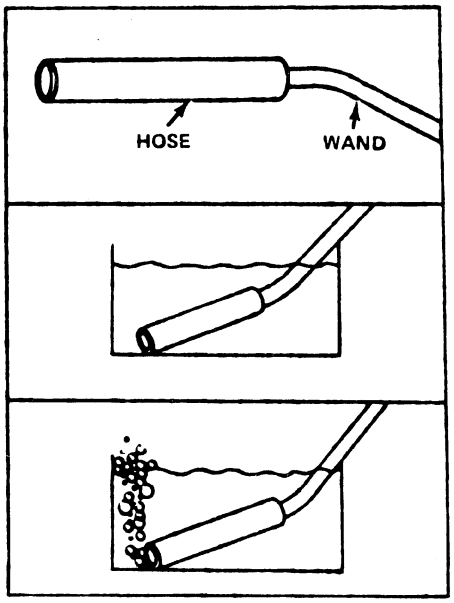


Figure 15 Testing For Air

TESTING FOR AIR (See Fig. 15).

1. Prime the machine.
2. Slip the 12" piece of scrap hose over the end of the nozzle.
3. Emerse the nozzle and hose completely in a bucket of water.
4. Operate the washer on the rinse and soap cycle. Look for air bubbles coming from the hose on the end of the nozzle.
5. If air bubbles are present, it indicates air is entering the system somewhere between the outlet of the waterbreak tank and the inlet valves of the pump.

LOCATING AIR LEAKS

1. If no air bubbles were present on the rinse cycle but were present in the soap cycle, it would indicate air entering the system in the soap valve section. Remove the case top and check the soap valve for loose connections, cross threading, external cracks, and damaged o-rings, holes in the plastic soap tube or leaks around fittings.
2. If air bubbles were present in both the soap and the rinse cycles, this would indicate air entering the system somewhere between the outlet of the waterbreak tank and the inlet valve of the pump. Remove the case top. Inspect the inside of the case for evidence of water leaks. Pay special attention to water that may be leaking through worn or loose seals in the pump, or water leaking from cracked or cross threaded fittings.
3. If no leaks can be found by inspecting the inside of the machine, turn the machine on in the soap position.

WARNING: Use extreme caution when operating the machine with the cover off. DO NOT ALLOW WATER TO COME IN CONTACT WITH INTERNAL PARTS OF THE MACHINE. KEEP HANDS AND CLOTHING CLEAR OF MOVING PARTS.

Observe the action of the float valve in the waterbreak tank. Make sure that air is not entering the system as a result of insufficient water flow from the float valve into the waterbreak tank. Also, look for leaks that may occur when water is flowing through the system.

TESTING NOZZLE PRESSURE

Nozzle pressure is determined by the amount of water being forced through the nozzle orifice. Before testing nozzle pressure, be sure the following conditions are met:

1. An adequate supply of water for the washer.
2. Washer is properly primed.
3. Adequate electrical current available at the machine. Plus or minus 10% of 120 volts or plus or minus 10% of 230 volts depending on machine model.
4. No leakage between pump and nozzle.
5. No belt slippage.

PRESSURE TEST AND EVALUATION

Perform the nozzle pressure test as outlined previously in this section.

PRESSURE GAUGE READINGS FOR NORMAL SATISFACTORY OPERATION

BTC 65B BTC 65BC	BTC 70B BTC 70BC	BTC 150B BTC 150BC	BTC 300B BTC 300BC
500-550 PSI	650-700 PSI	700-750 PSI	1000-1100 PSI

Pressure readings higher than normal but lower than relief valve pop off pressure would indicate:
Partially plugged nozzle.
Incorrect sized nozzle.

INDICATES WORN NOZZLE

BTC 65B BTC 65BC	BTC 70B BTC 70BC	BTC 150B BTC 150BC	BTC 300B BTC 300BC
400-450 PSI	500-650 PSI	600-650 PSI	850-950 PSI

If the pressure is between the following approximate range, it would indicate the nozzle is worn. Replace the nozzle and recheck the pressure.

LOW WATER VOLUME

BTC 65B BTC 65BC	BTC 70B BTC 70BC	BTC 150B BTC 150BC	BTC 300B BTC 300BC
250-375 PSI	250-450 PSI	250-500 PSI	250-750 PSI

Approximate pressure readings in the following range could indicate water passing through the relief valve or low pump displacement.

TROUBLE SHOOTING

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
MOTOR WON'T START	1. Not plugged in.	plug in	All
	2. Electrical supply fuse blown or breaker switch tripped.**	replace fuse reset breaker	All
	3. Switch defective or has loose connection.	p. 46	All
	4. Defective service cord.	p. 46	All
	5. Motor defective.	p. 46	All
	6. Loose electrical connections in machine.	p. 46	All
	7. Motor overheated. Allow motor to cool and automatic thermal overload protector to reset. *IMPORTANT: Repeated trippings of automatic thermal overload may indicate other electrical or mechanical problems such as low line voltage, use of inadequate extension cord, bearing binding in motor or pump, or obstructed nozzle. Perform the nozzle pressure test to locate problem.*	p. 46	All
	8. Pump piston not clearing cylinder head.	p. 33	BTC 65B, 65BC, 70B, 70BC
	9. 3 amp fuse blown.	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	10. Transformer burned out (high voltage)	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	11. Relay not working (points burned).	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	12. Defective 5-conductor wire.	p. 46	All ex. BTC 65B, 65BC, 70B, 70BC
MOTOR STOPS RUNNING FOR NO APPARENT REASON	1. Overheated due to overload on circuit. Low voltage. Using too light of an extension cord. Partially plugged nozzle causing excess load on motor.	p. 46	All
	2. Damaged service cord.	p. 46	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
	3. Breaker switch tripped** fuse blown.	replace or reset	All
	4. Electrical connections vibrated loose in machine.	p. 46	All
	5. Switch failed.	p.46	All
	6. Service cord pulled out of plug.		All
	7. 3 amp fuse burned out in electrical container.	p. 46	All ex. BTC 65B, 65BC, 70B, 70BC
	8. Transformer burned out.	p. 46	All ex. BTC 65B, 65BC, 70B, 70BC
	9. 3 amp fuse blown.	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	10. Transformer burned out (high voltage)	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	11. Relay not working (points burned).	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	12. Defective 5-conductor wire.	p. 46	All ex. BTC 65B, 65BC, 70B, 70BC
MOTOR CONTINUES TO RUN WHEN SWITCHED OFF	1. Switch malfunction.	p. 46	All
	2. Relay contacts stuck closed		BTC150B, 150BC, 300B, 300BC
	****WARNING: REPEATED BLOWING OF FUSES OR TRIPPING OF CIRCUIT BREAKERS MAY INDICATE A HAZARDOUS CONDITION. HAVE WASHER AND ELECTRICAL SUPPLY SYSTEM INSPECTED BY A QUALIFIED ELECTRICIAN.**		
MOTOR STALLS WHEN WATER IS SHUT OFF AT THE GUN	1. Relief valve plunger stuck.	p. 40-41	All
	2. Relief pop off pressure set too high.	p. 40-41	All
	3. Low voltage.	p. 46	All
GUN WILL NOT OPEN WHEN TRIGGER IS PULLED	1. Collar on stem assembly is loose or too far away from trigger.	p. 44	All
	2. Safety lock on.	p. 44	All
TRIGGER MOVES WHEN SAFETY LOCK IS ON	1. Trigger worn.	p. 44	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
	2. Safety lock worn.	p. 25	All
CAN NOT GET MACHINE PRIMED	1. Inadequate water supply.	p. 16	All
	2. Loose, damaged or cross threaded connections in machine.	Tighten or replace	All
	3. Hole in soap tube.	replace	All
	4. Soap tube not submerged in liquid.	p. 16	All
	5. Not activating the relief valve by stopping and starting the flow at the gun several times.	p. 16	All
	6. Waterbreak valve not allowing enough water into waterbreak tank.	p. 28	All
	7. Air lock in pump.	p. 16	All
	8. Grease cup empty	p. 36	All
WILL NOT DRAW SOAP ON "SOAP" CYCLE.	1. Not completely primed.	p. 16	All
	2. Ball stuck closed in check valve.	p. 30 or p. 43	All
	3. Soap adjust turned in too far.	p. 16	All
	4. Screen on soap tube plugged.	p. 16	All
	5. Soap tube pinched or kinked.	p. 16	All
	6. Orifice in soap valve plugged.	p. 30 or p. 43	All
	7. Tube out of container or end of soap tube not submerged in liquid.	p. 16	All
	8. Defective switch	p. 46	All except BTC 65B, 65BC, 70B, 70BC
	9. Solenoid coil not working	p. 46	All except BTC 65B, 65BC, 70B, 70BC
DOES NOT DRAW ENOUGH SOAP	1. Screen on soap tube partially plugged.	p. 16	All
	2. Soap tube pinched or kinked.	p. 16	All
	3. Soap valve out of adjustment	p. 16	All
DRAWS TOO MUCH SOAP	1. Soap valve out of adjustment.	p. 16	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
	2. Internal crack in soap valve body.	p. 30, p. 32	All
DRAWS SOAP ON RINSE CYCLE	1. Internal crack in valve body.	p. 30, p. 32	All
	2. Foreign material lodged between seat and plunger in soap valve.	p. 30, p. 32	All
	3. Control knob on proportioner not positioned properly.	p. 30, p. 32	All
	4. Stem not seating in soap valve when turned to rinse.	p. 30	BTC 65B, 65BC, 70B, 70BC
	5. Proportioner solenoid valve Snot seating properly.	p. 32	All except BTC 65B, 65BC, 70B, 70BC
	6. Shorted wire activating proportioner solenoid valve.	p. 32	All except BTC 65A, 65BC 70B, 70BC
WATER FLOWS INTO SOAP TANK	1. Check valve stuck open	p. 30, p. 43	All
	2. Debris in check valve.	p. 30, p. 43	All
LOW NOZZLE PRESSURE	1. Air in system.	p. 16	All
	2. Unit not completely primed.	p. 16	All
	3. Worn nozzle orifice.	p. 19	All
	4. Insufficient water to pump from waterbreak tank.	p. 28	All
	5. Low pump displacement.	p. 33, p. 36	All
	6. Incorrect nozzle.	p. 45	All
	7. Water recirculating through relief valve.	p. 40, 41	All
	8. Leak between pump and nozzle.	locate leak	All
	9. Pump cavitation, caused by the use of too hot of water.	use water less than 140° F	All
PRESSURE HIGHER THAN NORMAL	1. Partially restricted orifice in nozzle.	p. 45	All
	2. Incorrect nozzle size.	p. 45	All
RELIEF VALVE GALLOPS OPEN AND SHUT WHEN GUN IS OPEN	1. Air in system.	p. 16	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
	2. Relief valve plunger not seating.	p. 40, 41	All
	3. Not enough tension on relief valve spring.	p. 40, 41	All
	4. Partially plugged nozzle raising pressure near relief valve pop-off pressure.	p. 45	All
	5. Incorrect nozzle size.	p. 45	All
	6. Pump developing excess vacuum as it tries to pull liquid through the inlet hose due to blockage in inlet hose.	remove blockage	All
RELIEF VALVE GALLOPS OPEN AND SHUT WHEN GUN IS SHUT OFF	1. Air in system.	p. 16	All
	2. Spring tension in relief valve too great.	p. 40, 41	All
RELIEF VALVE DOES NOT OPEN WHEN GUN IS CLOSED	1. Plunger in relief valve stuck.	p. 40, 41	All
	2. Spring tension in relief valve too great.	p. 40, 41	All
	3. Orifice in relief valve seat corroded shut.	p. 40, 41	All
	4. Low voltage.	p. 46	All
RELIEF VALVE WILL NOT CLOSE WHEN GUN IS OPENED	1. Plunger stuck.	p. 40, 41	All
	2. Spring tension in relief valve too low.	p. 40, 41	All
WATERBREAK RUNS EMPTY WHILE MACHINE IS OPERATING	1. Insufficient flow from garden hose (not enough pressure and/or volume).	p. 28	All
	2. Water faucet not completely open.	open faucet	All
	3. Inlet water screen partially plugged.	clean	All
	4. Garden hose ruptured.	replace hose	All
	5. Garden hose kinked.	straighten hose	All
RESERVOIR WON'T FILL TO DESIRED LEVEL	1. Float positioned too low on float arms.	p. 28	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
MACHINE WON'T DRAW FROM RESERVOIR	1. Outlet of reservoir clogged.	clean filter screen	All
	2. Inlet hose plugged.	clean	All
	3. Inlet valves on pump restricted.	p. 33, p. 36	All
WATER WON'T FLOW INTO RESERVOIR	1. Water faucet not turned on.	open faucet	All
	2. Garden hose kinked.	straighten hose	All
	3. Inlet water screen plugged.	clean	All
	4. Center port in diaphragm plugged.	p. 28	All
	5. Float positioned too low in reservoir.	p. 28	All
	6. Bleed port in diaphragm plugged.	p. 28	All
RESERVOIR OVERFLOWS	1. Diaphragm not seating properly.	p. 28	All
	2. Hole in diaphragm.	p. 28	All
	3. Valve seat damaged or cracked.	p. 28	All
	4. Float stuck in down position.	p. 28	All
	5. Float off valve arm.	p. 28	All
	6. Float positioned too high in reservoir.	p. 28	All
	7. Water pressure too high.	Regulate to 125 psi or less.	All
PUMPS PUMP FLUCTUATES OR PULSATES	1. Valves not seating.	p. 33, p. 36	All
	2. Air in system.	p. 16	All
	3. Insufficient water to pump.	p. 16	All
	4. Using too hot of water (causes cavitation).	Use water less than 140°F	All
	5. Waterbreak valve not keeping up with demand of pump.	p. 28	All
	6. Grease cup empty		All except BTC 65B, 65BC, 70B, 70BC
PUMP BODY CRACKED	1. Exposed to freezing temperatures.	p. 33, p. 36	All

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
WATER LEAKING FROM CENTER CAVITY OF PUMP	1. Cups worn	p. 33	65, 70
	2. O-ring seals damaged.	p. 33	65, 70
	3. Pump body cracked due to freezing indicated by hair line cracks.	p. 33	65, 70
PREMATURE WEAR ON PISTON CUPS	1. Abrasives in water.	Change water source	65, 70
	2. Running pump over 5 minutes in relief cycle.	Do not allow machine to run in relief cycle more than 5 minutes	65, 70
	3. Running pump dry.	Do not run pump dry	65, 70
	4. Use of water above 140° F.	Use with water less than 140° F	65, 70
PULLS GREASE OUT OF GREASE CUP.	1. Packing gland loose or v-packing worn.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
PUSHES WATER OUT THROUGH GREASE CUPS.	1. Use of water in excess of 170 degrees F.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
LEAKS WATER AROUND PLUNGER.	1. Scored plungers.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
	2. Worn V-packings	p. 36	All except BTC 65B, 65BC, 70B, 70BC
OIL LEAKS FROM CRANKCASE.	1. Plunger oil seals worn or damaged.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
	2. Drain plug oil seal worn or damaged.	p. 36	All except BTC 65B, 65BC
	3. Crankshaft oil seals worn or damaged.	p. 36	All except BTC 65B, 65BC
PUMP RUNS TOO HOT.	1. Normal during break-in period.	p. 36	All except BTC 65B, 65BC
	2. Low on oil.	p. 36	All except BTC 65B, 65BC
	3. Connecting rod caps reinstalled too tight causing excessive drag on crankshaft.	p. 36	

Product: New Holland Ford B Series Portable High Pressure Washers Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-ford-b-series-portable-high-pressure-washers-manual/

TROUBLE	POSSIBLE CAUSE	REMEDY	MODELS
PREMATURE WEAR ON V-PACKING SEALS.	1. Abrasives in water.	p. 36	All except BTC 65B, 65BC, 70B, 70BC.
	2. Excessive greasing accumulates grit & grime.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
	3. Abrasive material blowing into plunger area of pump.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
	4. Running pump over 5 minutes in relief cycle.	p. 36	All except BTC 65B, 65BC, 70B, 70BC
	5. Running pump dry.	p. 36	All except BTC 65B, 65BC, 70B, 70BC

CASE TOP REMOVAL AND INSTALLATION

WARNING: Unplug the machine before starting disassembly.

1. Remove detergent container(s).
2. Remove screws from each side of case.
3. Remove case top.

To install case top, reverse removal procedure.

FLOW METER

REMOVAL AND REPLACEMENT

(See Fig. 16)

1. Spread clamps and remove inlet and discharge hoses.
2. Remove wing nuts and separate flow meter assembly from case top. To reinstall flow meter assembly insert hose barbs through holes in case top. Plug should be positioned at the top.
3. Thread wing nuts on hose barbs.
4. **IMPORTANT: Install discharge hose on top hose barb. Inlet hose on lower hose barb.**

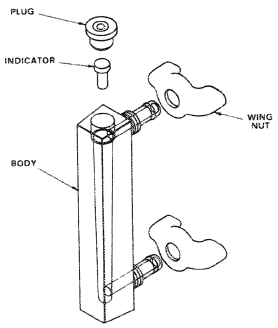


Figure 16 Exploded View, Flow Meter

WATERBREAK VALVE

REMOVAL AND DISASSEMBLY

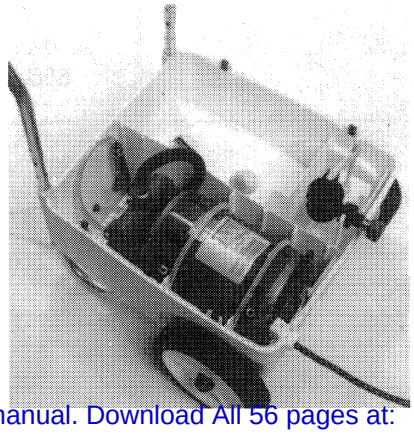


Figure 17 Waterbreak Location

1. Remove float assembly from float arms by spreading tabs on float arms off of pins on float stem.
2. Loosen lock nut.
3. Hold elbow and lock nut with one hand while turning valve assembly out of elbow with the other hand.
4. Turn discharge cap off of waterbreak body.
5. Loosen diaphragm lock cap and lift diaphragm cover off of body.

NOTE: Unless water has been observed leaking from diaphragm around the pin no further disassembly is necessary. You may proceed to inspect the diaphragm and body.

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