A22, A25 and A40 High-Pressure Washers

JOHN DEERE

OPERATORS MANUAL

A22, A25 and A40 High-Pressure Washers

OMTY3851 Issue B9 English

JDM Division
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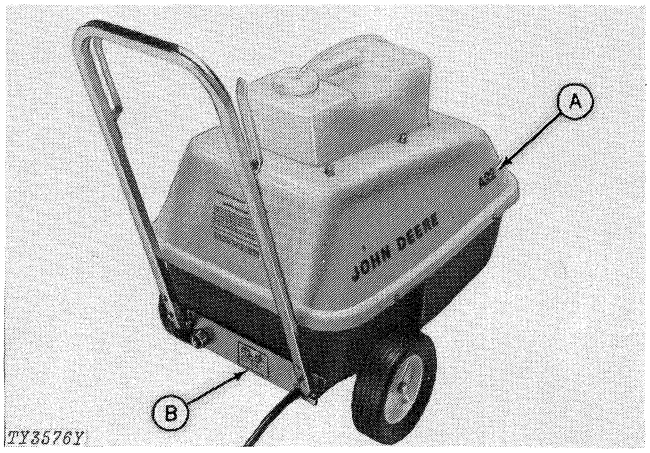
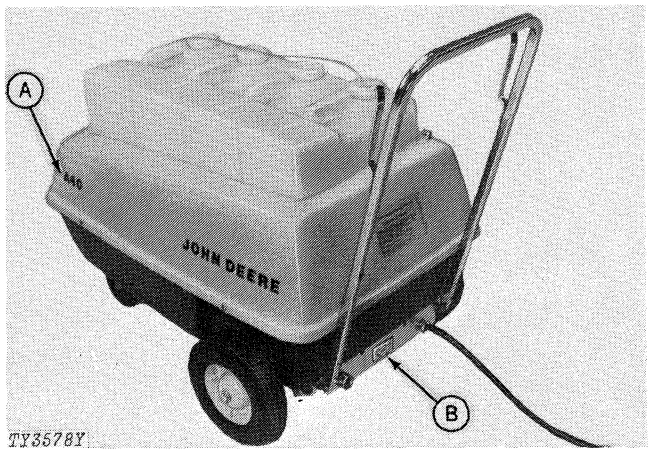
ENGLISH

To The Operator



A22 High-Pressure Washer

A25 High-Pressure Washer



A40 High-Pressure Washer

Record the model number, serial number and date of purchase in the space provided below.

John Deere High-Pressure Washer

Model No._____

Serial No._____

Date of Purchase_____

(To be filled in by purchaser.)

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Because John Deere sells its product world-wide, U.S. units of measure are shown with their respective metric equivalents throughout this operator's manual. These equivalents are the SI (International System) Units of Measure.

A - Model Number
B - Serial Number

This operator's manual is for A22, A25, and A40 High Pressure Washers (Serial No. 127,000-)

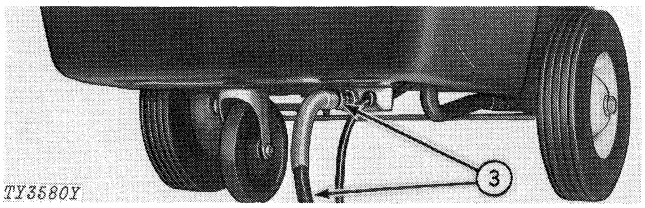
Assembly

Remove washer from carton and check to see that no transportation damages have occurred.

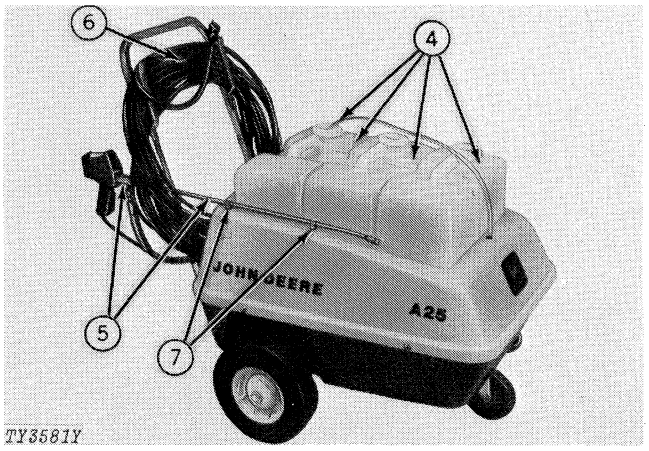
NOTE: Before assembling, check oil level in the pump crankcase (see page 16).

1. Inspect inlet water fitting to make certain cone end of screen points toward the faucet.
2. Install handle on stubs with four screws.

3. Attach discharge hose to fitting.



4. With reservoir installed (one - A22; three - A25; and four - A40), place reservoir pickup hose in reservoir.
5. Secure wand to gun with knurled nut (15 degree bend at nozzle end of wand should point down.)
6. Wrap hose and cord around handle.
7. Secure gun and wand assembly in storage clips.



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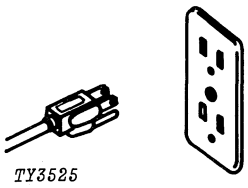
Contents

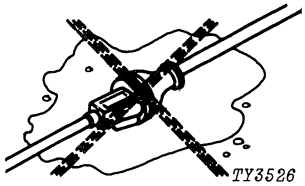
Safety

ELECTRICAL


TY3525

The plug end of the power cord is equipped with a third (ground) prong. Do not remove this prong. Be sure to plug washer into an outlet that is properly grounded and will accommodate a 3-prong plug.

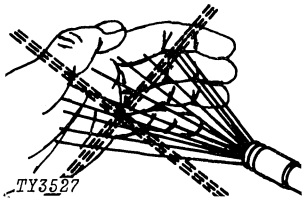
Disconnect the power cord from the electrical outlet before removing the case.


TY3526

If an extension cord is needed, use only a 12 gauge, 3-wire extension cord for a distance up to 50 feet (15 m). For a distance greater than 50 feet (15 m), use a 10-gauge, 3-wire extension. Do not use more than 100 feet (30 m) of extension cord.

Make certain the connection between the power cord and the extension cord is not exposed to water.

HYDRAULIC


TY3527

Be careful not to direct the spray (especially at close range) toward any part of the body. If injured by the spray, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

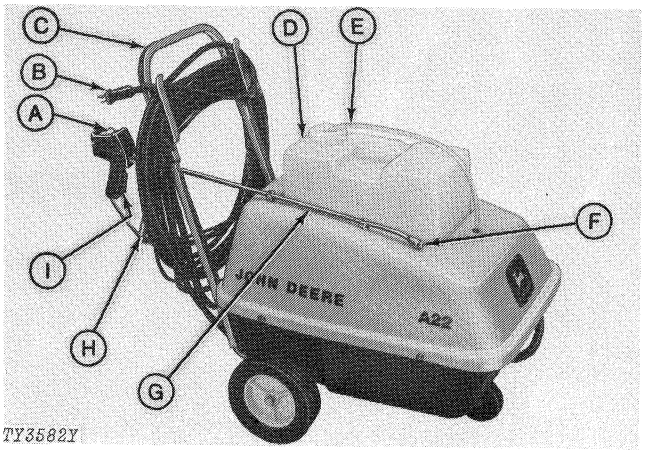
If the washer is equipped with the Dual-Jet Nozzle (accessory), be very careful when changing the nozzle from one setting to the other to keep fingertips from extending over the end of the nozzle where the spray pattern could penetrate the skin and cause personal injury. Be safe. Turn the washer off for this adjustment.

Turn washer off before repositioning wand (spray pattern) or replacing nozzle.

Do not use combustible liquids in the high-pressure washer.

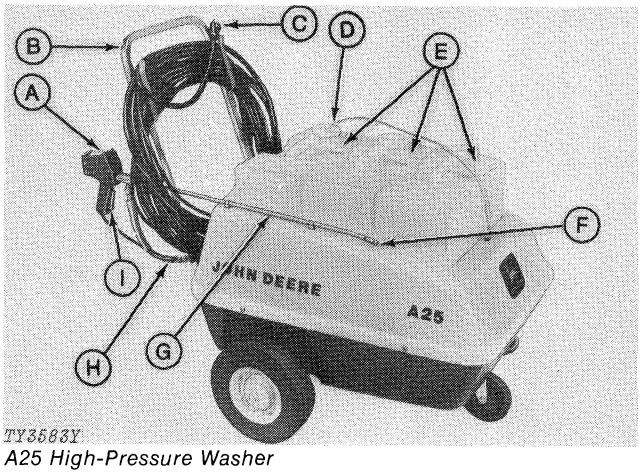
Do not use acids or other corrosive chemicals in the high-pressure washer unless you possess a thorough knowledge of the personal safety required in handling and using such chemicals.

Identification



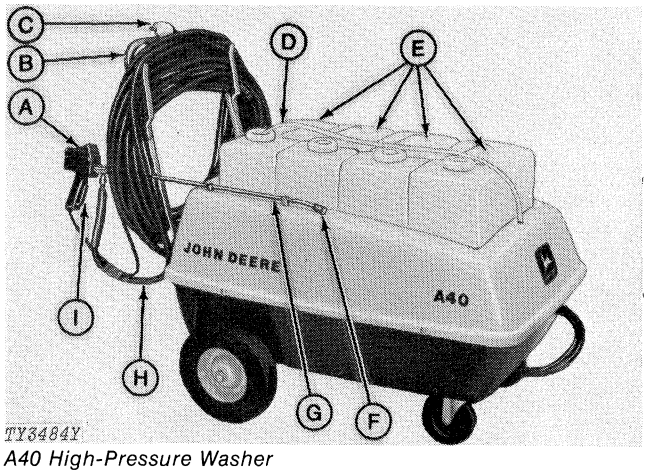
A22 High-Pressure Washer

- A - Control Switch
- B - Power Cord
- C - Handle
- D - Reservoir
- E - Reservoir Pickup Hose
- F - Nozzle
- G - Wand
- H - Discharge Hose
- I - Trigger



A25 High-Pressure Washer

- A - Control Switch
- B - Handle
- C - Power Cord
- D - Reservoir Pickup Hose
- E - Reservoirs
- F - Nozzle
- G - Wand
- H - Discharge Hose
- I - Trigger

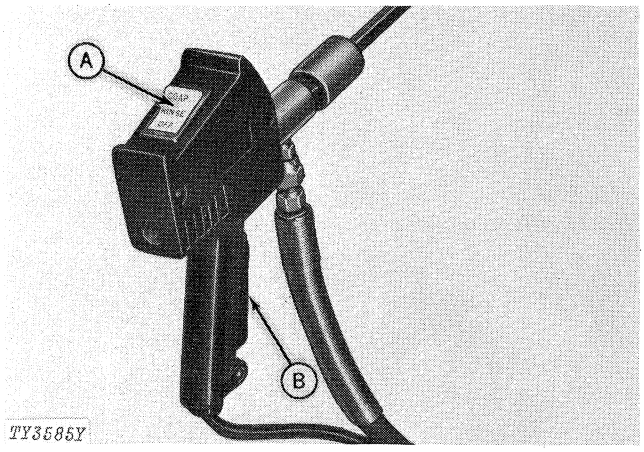


A40 High-Pressure Washer

- A - Control Switch
- B - Handle
- C - Power Cord
- D - Reservoir Pickup Hose
- E - Reservoirs
- F - Nozzle
- G - Wand
- H - Discharge Hose
- I - Trigger

Controls

CONTROL SWITCH AND GUN TRIGGER



A - Control Swtich B - Gun Trigger

A22 and A25 High-Pressure Washers

NOTE: Depress gun trigger before selecting control switch position.

Switch Position	Trigger Depressed	Trigger Released
"OFF"	Water turned on - motor shut off - water flows through washer and out the nozzle at source pressure.	Both water and motor shut off.
"RINSE"	Both water and motor turned on - pressurized clear water flows through washer and out the nozzle.	Motor on - pressurized water recirculating in system in relief cycle.
"SOAP"	Both water and motor turned on - proportioner energized to allow fluid withdrawal from reservoir - properly mixed pressurized fluid flows through the washer and out the nozzle.	Motor on - pressurized mixed fluid recirculating in system in relief cycle.

CAUTION: With the trigger depressed and the motor running, the washer generates a high-pressure spray and may cause the gun to "kick-back." This "kick-back" should be anticipated. Do not direct the high-pressure spray toward any part of the body.

IMPORTANT: Do not operate the washer more than five minutes with gun shut off (relief cycle) or pump damage may occur.

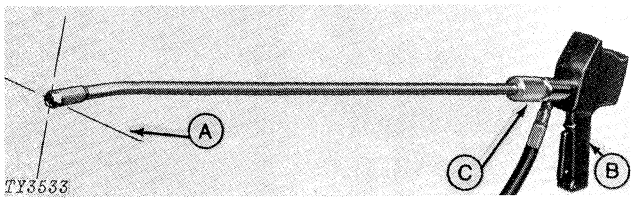
A40 High-Pressure Washer

Switch Position	Trigger Depressed	Trigger Released
"OFF"	Both water and motor shut off.	Both water and motor shut off.
"RINSE"	Both water and motor turned on - pressurized clear water flows through the washer and out the nozzle.	Both water and motor shut off.
"SOAP"	Both water and motor turned on - proportioner energized to allow fluid withdrawal from reservoir - properly mixed fluid flows through the washer and out the nozzle.	Both water and motor shut off.

CLEANING WAND AND NOZZLE

CAUTION: Turn washer off before repositioning wand (changing spray pattern).

The recommended installation of the nozzle locates the spray pattern (A) 90 degrees to the handgrip (B). To change this relationship, loosen the knurled nut (C) and rotate the wand and nozzle assembly to locate the spray pattern at the desired position.



A - Spray Pattern
B - Handgrip
C - Knurled Nut

Preparation

INCOMING WATER

For the washer to operate effectively, the incoming water volume must be:

A22 - 2.5 gallons-per-minute (9.5 L/m)
A25 - 3 gallons-per-minute (11.4 L/m)
A40 - 5 gallons-per-minute (18.9 L/m)

NOTE: If water is supplied from a static source, use a 5/8-inch (1.6 cm) minimum diameter garden hose and make certain that water source is level with or higher than pump.

Test for volume by filling the 2-1/2 gallon (9.5 L) reservoir from the intended water supply. The water should fill the reservoir in:

A22 - 60 seconds or less.
A25 - 50 seconds or less.
A40 - 30 seconds or less.

IMPORTANT: Do not use water heated to exceed a temperature of 150 degrees F (66 degrees C) or damage to the pump may result.

ELECTRICAL POWER SUPPLY

Voltage at motor terminals must be:

A22 - 108 to 132 volts
A25 - 108 to 132 volts
A40 - 216 to 264 volts

IMPORTANT: If an extension cord is needed, use only a 12-gauge, 3-wire extension cord for a distance up to 50 feet (15 m). For a distance greater than 50 feet (15 m), use a 10-gauge, 3-wire extension. Do not use more than 100 feet (30 m) of extension cord.

CAUTION: Make certain the connection between the power cord and the extension cord is not exposed to water.

PRIMING

1. (Not illustrated.) Plug power cord into a properly grounded outlet.
2. Connect hose securely to water supply. Run water until all air is purged from hose.

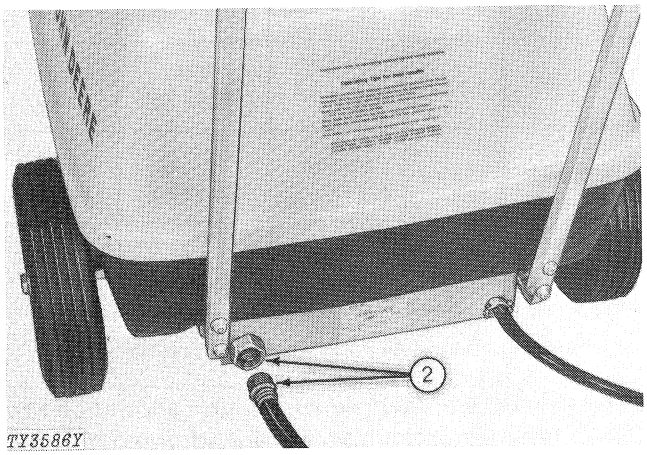
NOTE: This water can be used to fill the reservoir 1/2 to 2/3 full. Remove reservoir from washer while filling to prevent spillage from contacting electrical system, which could cause damage to motor or switch.

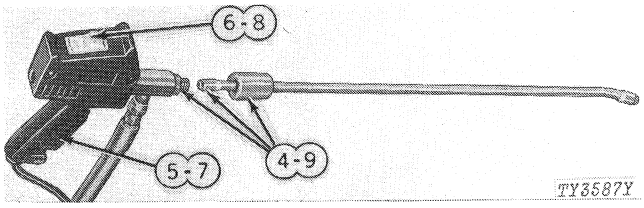
Turn off water supply and connect hose securely to washer.

IMPORTANT: Hose and water connections must be air-tight.

3. (Not illustrated.) Turn on water supply all the way. If water is supplied from a container at zero pressure, container must be level with or higher than pump.
4. Remove wand at knurled nut to prevent backpressure.
5. Depress the trigger.
6. Set control switch to "RINSE" position. Allow water to flow through the gun for approximately 30 seconds. Release the trigger for 2 to 3 seconds. Repeat this procedure 4 or 5 times until all air is purged from the system. When a steady stream is developed and pump is running smoothly, washer is primed on "RINSE" cycle.
7. Place reservoir into cavity on top of washer and insert pickup hose into reservoir. Depress the trigger.
8. Set control switch to "SOAP" position. Allow fluid to flow through the gun for approximately 30 seconds. Release the trigger for 2 to 3 seconds. Repeat this procedure 4 or 5 times until the reservoir pickup hose is full.
9. Secure wand to gun with knurled nut.

The washer is now ready to be operated in either the "RINSE" or "SOAP" cycle.

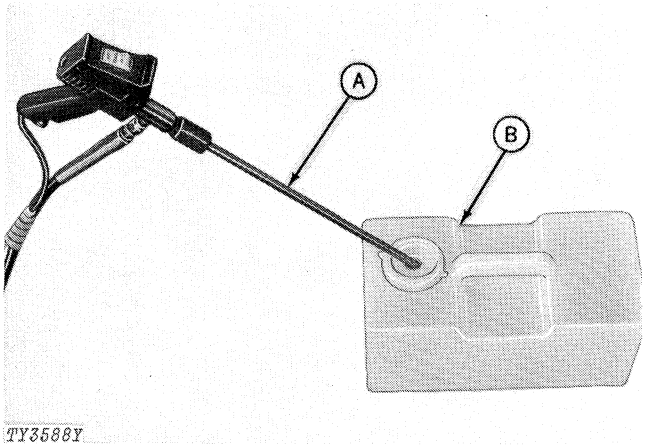




MIXING DETERGENT SOLUTION

DETERGENT-TO-WATER RATIO				
HARDNESS			DETERGENT	WATER AMOUNT
WATER TYPE	GRAINS	PARTS PER MILLION		
SOFT	0 to 5	0 to 85.5	1 lb. (0.45 kg)	2.5 gal. (9.5 L)
NORMAL	5 to 10	85.5 to 171	1.5 lb. (0.68 kg)	2.5 gal. (9.5 L)
HARD	20*	171 and Up	2 lb. (0.90 kg)	2.5 gal. (9.5 L)
Based on ratio of 40 parts water to 1 part detergent.				

**Water with over 20 grains hardness should be run through a water softener before adding detergent to insure satisfactory cleaning.*



A - Wand
B - Reservoir

Your high-pressure washer is factory-set to deliver forty parts water to one part concentrate (40:1).

Too little detergent will not deliver proper cleaning action. Too much detergent is wasteful.

As a beginning, use one of the ratios shown in chart at left.

Experience will determine the best proportion for local water conditions.

Remove the reservoir from the washer and add detergent to the water in the reservoir.

IMPORTANT: Always add detergent to water instead of adding water to the detergent. This will insure a uniform mixture.

Insert wand (A) close to bottom of reservoir (B). Set control switch to "RINSE" position. Depress trigger and use the high water pressure to vigorously stir the mixture. When the detergent has dissolved into solution; A22 and A25, set control switch to "OFF" position, depress trigger, and continue to fill reservoir using source pressure. Continue stirring with the wand until reservoir is nearly full. Release trigger and remove wand from reservoir. A40, remove wand at knurled nut. Depress trigger and continue filling reservoir until it is nearly full. Release trigger and reinstall wand. Place reservoir into cavity on top of washer and insert reservoir pickup hose into reservoir.

Using The Washer

BEFORE OPERATING

Make sure that:

1. Water tap is turned on completely.
2. Intake hose is not kinked.
3. Hose connections are air-tight.
4. Reservoir has adequate fluid.
5. Washer is fully primed.

CLEANING

For best results use John Deere Spray Detergent #1 or its equivalent. (See pages 11 and 25.)

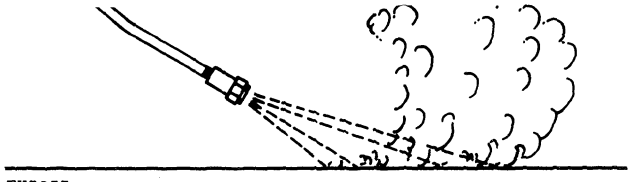
Cleaning Angle

Direct the spray at an angle to force the dirt ahead and away from the cleaned area as you would with a scraper. Use slow and overlapping strokes.

Do not direct the spray perpendicular to the surface to be cleaned because it will force some dirt and grime being removed back onto the cleaned area.

Cleaning Distance

Hold the nozzle about 8 to 10 inches (20 to 25 cm) from the surface you are cleaning. Hold the nozzle closer for tough spots that require more force.



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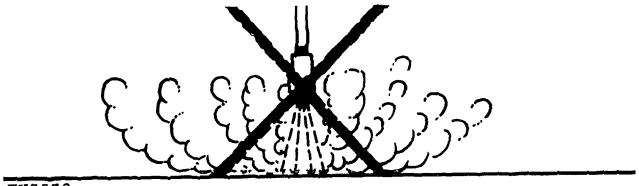

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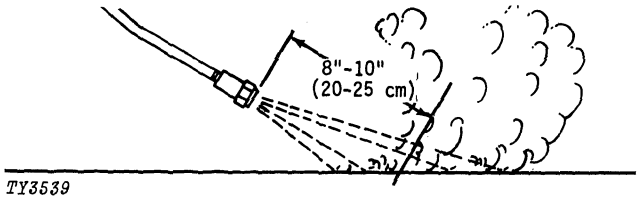

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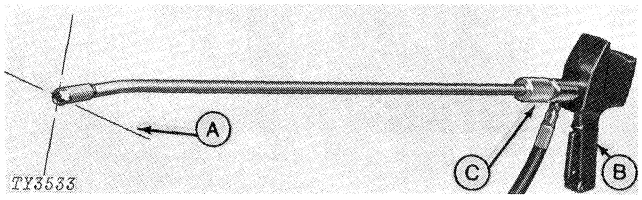


A - Spray Pattern
B - Handgrip
C - Knurled Nut

Spray Pattern Position

Loosen the knurled nut (C) and rotate the wand to locate the spray pattern (A) at the desired position in relation to handgrip (B). For example: When cleaning a floor, turn the wand 180-degrees and sweep ahead, from side-to-side, as with a broom.

Vertical Surfaces

Wash from the bottom up.

Rinse from the top down.

NOTE: When switching from "SOAP" to "RINSE", it takes approximately 15 seconds to purge detergent solution before clear water will flow from nozzle.

Road Film

It may be necessary with tough cleaning jobs to wipe with a sponge or wash mitt to break up the film.

Hard Water Spots

If hard water spots are objectionable, wipe surface dry with a chamois.

WAXING

For best results use John Deere Spray Wax or its equivalent. (See pages 11 and 26.)

An auxiliary reservoir is recommended for use with the wax solution.

Mix 2 ounces (0.059 L) of wax to 1 gallon (3.8 L) of water in an auxiliary reservoir. Prepare only the approximate amount required. Unused mixture will turn cloudy and not be useable if allowed to stand 6 to 8 hours.

Clean the surface to be waxed. Apply wax on "SOAP" cycle, working from top down.

NOTE: It is not necessary to rinse before waxing.

After wax is applied, switch to "RINSE" and thoroughly rinse to buff and set the wax.

Glass surfaces may be wiped clean with a dry cloth after the "RINSE" operation.

HIGH-PRESSURE WASHER USAGE

WASHING (General)	
Job	**Concentrate**
Automobiles Farm equipment Grocery stores Homes Industrial equipment Kennels Meat, poultry and dairy processing equipment Motorcycles Motor homes Pools Shops Trucks	John Deere Spray Detergent #1 8 ounces (0.23 kg) to 1 gallon (3.8 L) normal water. For heavy scum or hard water, double the detergent; in soft water use one-half the amount.

WASHING (Heavy Soil)	
Job	**Concentrate**
Automobiles Farm equipment Grocery stores Homes Industrial equipment Kennels Meat, poultry and dairy processing equipment Motorcycles Motor homes Pools Shops Trucks	Use same concentrate as for General Washing, to which add: John Deere Detergent Additive. 1/2 to 1 ounce (0.014 to 0.029 L) to 1 gallon (3.8 L) pre-mixed detergent. For extra tough jobs add: 1 to 2 ounces (0.029 L to 0.059 L) to 1 gallon (3.8 L) pre-mixed detergent.

DISINFECTING AND DEODORIZING	
Job	**Concentrate**
Contact surfaces Containment areas Farrowing houses Floors Food service areas and processing plants Hospitals Kennels Livestock and feed handling equipment Refrigeration cars Refrigerators Refuse containers Rest rooms Supermarkets Swimming pools	John Deere Germicidal Sanitizer. 20 ounces (0.59 L) to 1 gallon (3.8 L) water for general sanitizing of non-porous surfaces. 40 ounces (1.18 L) to 1 gallon (3.8 L) water for porous and heavily contaminated surfaces. NOTE: Rinse all food contact surfaces and utensils with potable water before reuse.

WAXING	
Job	**Concentrate**
Airplanes Automobiles Farm equipment Industrial equipment Lawn furniture Motorcycles Motor homes Trucks	John Deere Spray Wax 2 ounces (0.059 L) to 1 gallon (3.8 L) water.

OTHER USES	
Job	**Method**
Degreasing engines	Heavy build-up may require John Deere Degreasing Solvent. (Apply with a brush or a low pressure sprayer.) Then wash, using spray detergent, then rinse. *NOTE: Use a protective covering on air cleaner intake and distributor.*
Cleaning radiator fins	Direct spray from behind radiator. Spray straight into radiator to prevent fin bending. Clear water on "RINSE" cycle will probably suffice.
Preparing for repainting	Clean and remove blistered and peeling paint easily and quickly with high-pressure spray.
Lawn and garden equipment	Strip away grass deposits from under mower deck with knife-like spray. Protect air intake and electrical parts on gas engines — disconnect power cord on electric mowers.
Deep root watering	Approximately 2 to 3 feet (60 to 90 cm) from tree, using 0 degree nozzle, push down on wand. High-pressure spray will dig a hole the depth of the wand. Washer will quickly provide adequate moisture to tree roots.
Garden spraying	Mix insecticide and fertilizer solutions in separate reservoirs, remembering washer dilutes the solution at the rate of 40 parts water per 1 part solution. Using the "SOAP" cycle and a 40 degree nozzle, the mist can be easily and quickly applied. *NOTE: Do not spray when wind causes blowing and drifting of chemical mist.*

CHEMICAL USAGE GUIDE

GROUP I
Agricultural chemical formulation of herbicides, insecticides, or fungicides.
Cygon 2E Delnav - 15 and 30% Diazinon AG-500 Diazinon (Spectracide) Korlan Lindane Malathion Methoxychlor Ravap Toxaphene

GROUP II
Inorganic
A. Hydrochloric acid, or products containing same. B. Sulfuric acid concentrated or diluted. C. Slurrys or suspensions of abrasive matter (clays, etc.)
Organic
A. Aromatic solvents (toluene, xylene, etc.) B. Esters (ethyl acetate, butyl acetate, etc.) C. Ketones (acetone, methyl isobutyl ketone, etc.) D. Strong acetic acid.
Other
A. Insecticides, fungicides and disinfectants that contain abrasive matter such as clays, etc. B. Uninhibited acid cleaners.

This washer is designed to dispense John Deere approved detergents, wax, and germicidal sanitizers. Other chemicals can be dispensed with this washer; however, their use may result in added maintenance cost. The type of chemical used and its concentration may shorten the life of washer components.

CAUTION: Use of some of these chemicals may issue a toxic spray. Follow directions on chemical package label for application and for the safety of the operator, pets, livestock, plants, and others in the affected area. Special precautions may have to be taken to guard against eye damage, inhalation, skin contact, and other potential risks.

If chemicals other than John Deere approved detergent and wax are used in the washer, remove unused chemicals from reservoir and thoroughly wash reservoir. Fill reservoir with clear water and operate washer on "SOAP" cycle several minutes to thoroughly clean any chemical residue from the washer system.

Chemicals most often desired to be used are listed in two groups:

Group I Chemicals will cause less damage than Group II Chemicals. They primarily attack rubber parts.

Group II Chemicals will cause more rapid wear and attack both rubber and metal parts.

CAUTION: Never put nozzle or other parts that may contain a chemical residue to your lips to blow out trash.

To determine the amount of a chemical to add to the reservoir to obtain the chemical manufacturer's percentage of chemical to water for application, first determine the ratio at which the washer is operating.

NOTE: The washer ratio is factory set at 40:1. However, perform the following test to determine the washer's ratio in case the controls have been altered.

With washer properly supplied with electrical power, water, and primed ready for use, place the reservoir pickup hose into a container, graduated in pints (liters), filled with water.

Depress trigger and move control switch to "RINSE" position. Determine that washer is operating normally on "RINSE" cycle. Then, move control switch to "SOAP" position and record time to withdraw one pint (0.473 L) from graduated container.

Take several readings, average the time and from the charts at right, determine the ratio setting for the washer being tested. Use time (seconds) in chart nearest to average time established in tests.

With the washer's ratio determined, it is now possible to figure the amount of chemical to mix with water to obtain the desired chemical ratio. Depending on chemical manufacturer's directions, the amount of chemical can be figured three ways.

NOTE: The following examples are based on making 1 gallon (3.785 L) of chemical solution. This will be a very concentrated solution. However, the washer will be diluting it with water in accordance with the ratio at which it is operating.

EXAMPLE 1: Determining Fluid Ounces (cm³) to Add to Water to Make 1 Gallon (3.785 L) of Solution.

Directions state to add a specified number of fluid ounces (cm³). Three fluid ounces (88.7 cm³) will be used in the following example to make a gallon (3.785 L) of solution.

Multiply the specified fluid ounces (cm³) by the ratio at which the washer is operating.

3 fluid ounces (88.7 cm³) x 40 = 120 fluid ounces (3 548 cm³)

This figure should never be more than 128 fluid ounces (3 785 cm³) which is the number of fluid ounces (cm³) in a gallon (L). If the figure you arrive at is 128, it would represent a 100 percent concentration with no water being added.

EXAMPLE 2: Determining Percentage Solution to Add to Water to Make 1 Gallon (3.785 L) of Solution.

Directions call for a percentage solution, (2 percent will be used in the following example):

Convert this percentage to fluid ounces (cm³) of a gallon (3.785 L) and multiply by the ratio at which the washer is operating.

0.02 x 128 fluid ounces (3.785 L) = 2.5 fluid ounces (73.9 cm³)

2.5 fluid ounces (73.9 cm³) x 40 = 100 fluid ounces (2 957 cm³)

This figure should never be more than 128 fluid ounces (3 785 cm³) which is the number of fluid ounces (cm³) in a gallon (L). If the figure you arrive at is 128, it would represent a 100 percent concentration with no water being added. The difference between this figure and 128 fluid ounces (3 785 cm³) is the amount of water to which the chemical should be added.

A22 Washer

Time (seconds) to withdraw 1 Pint (0.473 L)	Ratio
71	20:1
89	25:1
107	30:1
125	35:1
143	**40:1**
161	45:1
179	50:1
196	55:1
214	60:1

A25 Washer

Time (seconds) to withdraw 1 Pint (0.473 L)	Ratio
58	20:1
72	25:1
86	30:1
101	35:1
115	**40:1**
130	45:1
144	50:1
158	55:1
173	60:1

A40 Washer

Time (seconds) to withdraw 1 Pint (0.473 L)	Ratio
36	20:1
44	25:1
50	30:1
62	35:1
71	**40:1**
80	45:1
89	50:1
98	55:1
107	60:1

EXAMPLE 3: Determining Mixing Ratio

Directions call for mixing chemical in a certain ratio with water. Use the chart below to obtain the amount of chemical in fluid ounces (cm^3) to mix with water to make a gallon (3.785 L) of solution. The difference between this figure and 128 fluid ounces (3 785 cm^3) is the amount of water to which the chemical should be added.

WASHER RATIO	RATIO SPECIFIED IN CHEMICAL INSTRUCTIONS																				
	20:1	25:1	30:1	35:1	40:1	45:1	50:1	55:1	60:1	65:1	70:1	75:1	80:1	85:1	90:1	95:1	100:1	105:1	110:1	115:1	120:1	125:1
20:1	128 (3 785)	102 (3 016)	85 (2 513)	73 (2 158)	64 (1 892)	57 (1 685)	51 (1 508)	47 (1 390)	43 (1 271)	39 (1 153)	37 (1 094)	34 (1 005)	32 (946)	30 (887)	28 (828)	27 (798)	26 (769)	24 (710)	23 (680)	22 (651)	21 (621)	20 (591)
25:1		128 (3 785)	107 (3 164)	91 (2 691)	80 (2 366)	71 (2 099)	64 (1 892)	58 (1 715)	53 (1 567)	49 (1 449)	46 (1 360)	43 (1 271)	40 (1 183)	38 (1 124)	36 (1 065)	34 (1 005)	32 (946)	30 (887)	29 (858)	28 (828)	27 (798)	26 (769)
30:1			128 (3 785)	110 (3 253)	96 (2 839)	85 (2 513)	77 (2 277)	70 (2 070)	64 (1 892)	59 (1 745)	55 (1 626)	51 (1 508)	48 (1 419)	45 (1 331)	43 (1 271)	40 (1 183)	38 (1 124)	37 (1 094)	35 (1 035)	33 (976)	32 (946)	31 (917)
35:1				128 (3 785)	112 (3 312)	100 (2 957)	90 (2 661)	81 (2 395)	75 (2 218)	69 (2 040)	64 (1 892)	60 (1 774)	56 (1 656)	53 (1 567)	50 (1 479)	47 (1 390)	45 (1 331)	43 (1 271)	41 (1 212)	39 (1 153)	37 (1 094)	36 (1 065)
40:1					128 (3 785)	114 (3 371)	102 (3 016)	93 (2 750)	85 (2 513)	79 (2 336)	73 (2 158)	68 (2 011)	64 (1 892)	60 (1 774)	57 (1 685)	54 (1 597)	51 (1 508)	49 (1 449)	47 (1 390)	45 (1 331)	43 (1 271)	41 (1 212)
45:1						128 (3 785)	115 (3 401)	105 (3 105)	96 (2 839)	89 (2 632)	82 (2 425)	77 (2 277)	72 (2 129)	68 (2 011)	64 (1 892)	61 (1 804)	58 (1 715)	55 (1 626)	52 (1 538)	50 (1 479)	48 (1 419)	46 (1 360)
50:1							128 (3 785)	116 (3 430)	107 (3 164)	98 (2 898)	91 (2 691)	85 (2 513)	80 (2 366)	75 (2 218)	71 (2 099)	67 (1 981)	64 (1 892)	61 (1 804)	58 (1 715)	55 (1 626)	53 (1 567)	51 (1 508)
55:1								128 (3 785)	117 (3 460)	108 (3 194)	101 (2 987)	94 (2 780)	88 (2 602)	83 (2 454)	78 (2 306)	74 (2 188)	70 (2 070)	67 (1 981)	64 (1 892)	61 (1 804)	59 (1 745)	56 (1 656)
60:1									128 (3 785)	118 (3 489)	110 (3 253)	102 (3 016)	96 (2 839)	90 (2 661)	85 (2 513)	81 (2 395)	77 (2 277)	73 (2 158)	70 (2 070)	67 (1 981)	64 (1 892)	61 (1 804)

The preceeding three examples are based on making 1 gallon (3.785 L) of chemical and water solution.

To prepare a quart (0.946 L) or pint (0.473 L) of solution, do the following:

For Example 1:

Quart – Use the same procedure. The figure you arrive at should never be more than 32 fluid ounces (0.946 L).

Pint – Use the same procedure. The figure you arrive at should never be more than 16 fluid ounces (0.473 L).

For Example 2:

Quart – Multiply the percentage times 32 fluid ounces (0.946 L). Then multiply that figure times the ratio at which the washer is operating. The final figure should never be more than 32 fluid ounces (0.946 L).

Pint – Multiply the percentage times 16 fluid ounces (0.473 L). Then multiply that figure times the ratio at which the washer is operating. The final figure should never be more than 16 fluid ounces (0.473 L).

For Example 3:

Quart – Use the same procedure. Then divide the number from the chart by 4. Subtract this number from 32 (946) to obtain the fluid ounces (cm^3) of water to which the chemical should be added.

Pint – Use the same procedure. Then divide the number from the chart by 8. Subtract this number from 16 (473) to obtain the fluid ounces (cm^3) of water to which the chemical should be added.

Storage

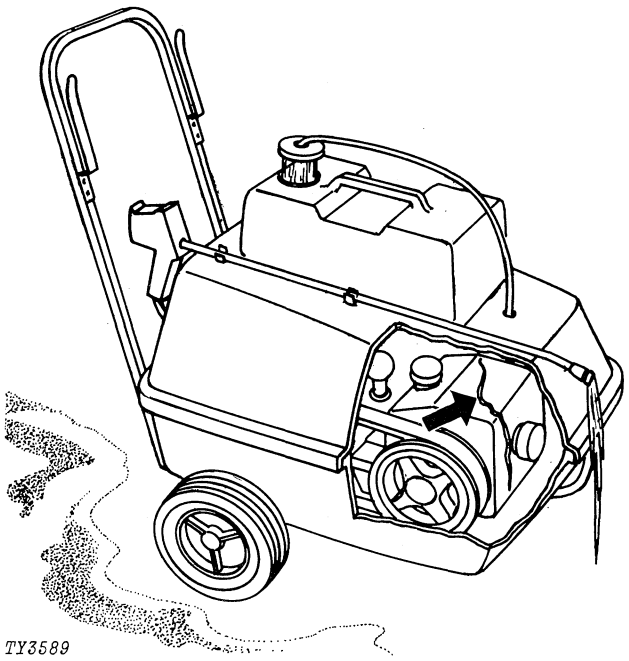
FREEZE PREVENTATIVE STORAGE

IMPORTANT: Unless protected, washer components will be severely damaged by freezing temperatures. Simple draining will not remove all the water. Follow these steps for anti-freeze protection.

1. Empty reservoir; then, mix a 50-50 solution of permanent anti-freeze and water (approximately 1 quart [0.95 L]) in reservoir.

   CAUTION: If the washer will be used where food is prepared, stored, or consumed, or where sanitation is required, use a non-toxic anti-freeze.

2. Make certain washer is primed. Turn off water supply. Leave the supply hose connected to washer.
3. Place reservoir pickup hose in anti-freeze solution.
4. Run washer on "SOAP" cycle, depressing and releasing trigger several times, until all anti-freeze solution is drawn from reservoir. The anti-freeze solution will be drawn into the flow control valve, relief valve, and pump. If washer does not draw on "SOAP" cycle, washer is not primed.
5. Disconnect water inlet supply hose at rear of washer. Run washer on "RINSE" cycle until air instead of anti-freeze solution starts coming out of wand. Shut off washer immediately. Any fluid remaining in the washer will be the anti-freeze solution which will protect the washer from freezing.



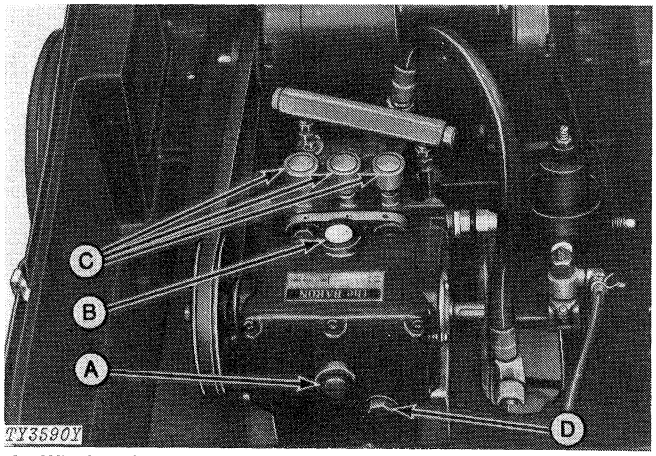
TY3589

REMOVING FROM STORAGE

Purge washer of anti-freeze solution before using. Follow steps under "Priming" on page 7.

Lubrication

PUMP



A - Window Gauge
B - Oil Filler Cap
C - Grease Cups
D - Drain Plug

A25 High-Pressure Washer Illustrated

To inspect: Observe oil level in window gauge through round opening at front of case bottom.

To lubricate: Remove case (see page 17.)

Grease Cup

Every 50 hours of operation, turn the grease cup(s) (C) down (clockwise) until a slight resistance is felt. This forces grease onto the plunger seals.

Keep the grease cup(s) and cap(s) filled with John Deere Multi-Purpose lubricant or an equivalent SAE multi-purpose-type grease.

Crankcase

Periodically, check the oil level in the window gauge (A). If the oil level is below the center, remove the oil filler cap (B) and add a good grade of NON-DETERGENT SAE 30 Engine Oil until the level is at the center of the window gauge.

NOTE: John Deere Chain Saw Oil (PT551) may be used in the pump crankcase.

Use the following schedule for changing oil.

1. First oil change after 10 to 15 hours of operation.
2. Second oil change after 30 to 60 hours of operation.
3. Change oil every 150 hours of operation thereafter.

Drain oil by removing drain plug (D).

Service

REMOVING AND INSTALLING CASE

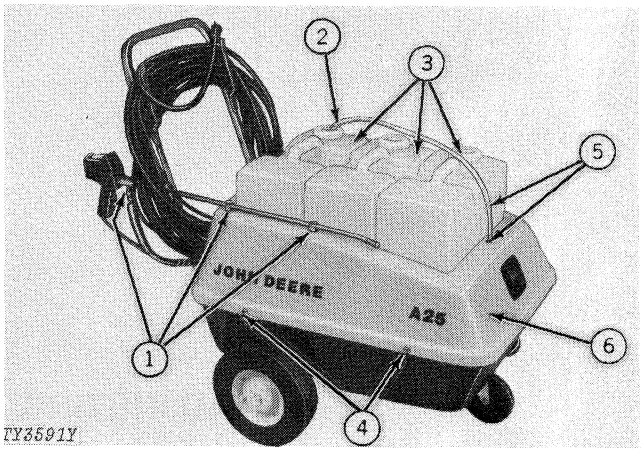
⚠ CAUTION: Disconnect service cord from electrical outlet before removing case.

To remove case:

1. Remove gun and wand assembly from clips.
2. Remove reservoir pickup hose from reservoir.
3. Remove reservoir(s).
4. Remove two screws from each side of case.
5. Remove grommet from case and screen from end of pickup hose.
6. Lift off case making certain the pickup hose slides freely through hole in case.

To install case:

Install case in reverse order.



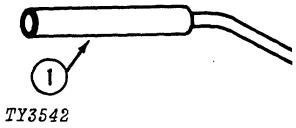
TESTING FOR AIR IN SYSTEM

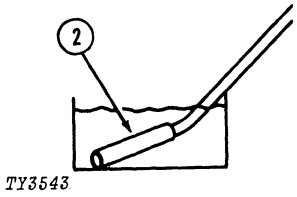
After washer is primed, if flow from reservoir decreases or pump surges, air may be entering the pump.

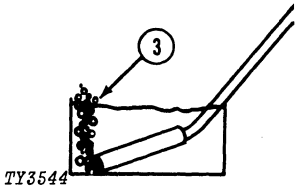
To test for air in system:

1. Place short piece of hose, 10 to 12-inches (25.4 to 30.5 cm) long, over nozzle to dissipate pressure.
2. Immerse nozzle with hose in a 5 gallon (18.9 L) pail of water.
3. Operate washer in "RINSE" cycle. If bubbles appear, there is air in the system.

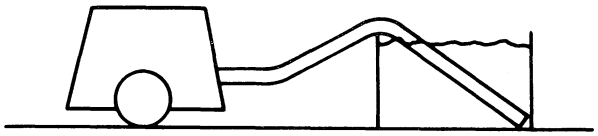
If air is entering the system, determine if it is entering the water supply hose or the washer system as follows:







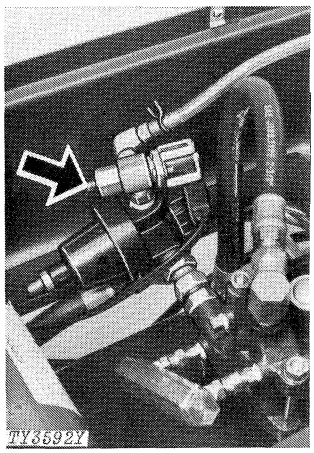
TESTING FOR AIR IN SYSTEM - Continued



TY3545

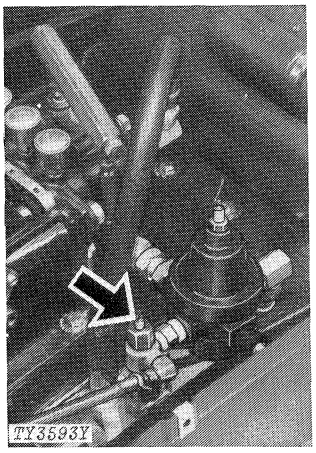
1. Fill a supply hose with water to eliminate as much air as possible. Attach hose securely to washer. Place opposite end of hose in a 5 gallon (18.9 L) pail of water. Make certain hose does not have a leak to admit air and the water level in the pail is level with or higher than pump.
2. Operate washer, drawing water from pail. Depress and release trigger a few times to purge air from system.
   A. If air is present, leak is within washer. Check all connections in inlet water circuit ahead of pump. Check for loose, cross-threaded or damaged fittings.
   B. If air is eliminated by drawing water from pail, trouble is in supply hose fitting, faucet hardware or water supply.

ADJUSTING PROPORTIONER



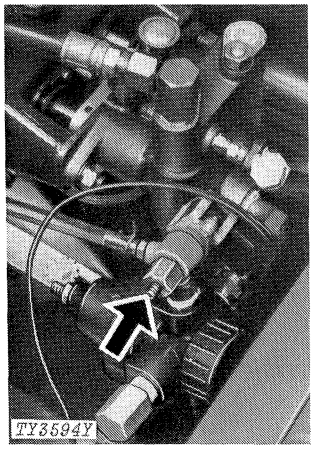
TY3592Y

A22 Washer



TY3593Y

A25 Washer



TY3594Y

A40 Washer

For maximum efficiency and economy of operation, the washer is pre-set to draw 1 cup or 8 ounces (0.24 L) of fluid from the reservoir in:

A22 - 70 seconds
A25 - 60 seconds
A40 - 40 seconds

Do not change proportioner adjustment unless there is a special requirement for increasing or decreasing the fluid draw from the reservoir.

To change the adjustment:

1. Remove case, page 17.

CAUTION: This adjustment is made with cover off and washer operating. Protect against electrical shock.

2. Connect service cord to electrical outlet.
3. Make certain washer is primed.
4. Place reservoir pickup hose in a container full of water. Container must be calibrated in ounces or cups (liters).
5. Operate washer on "SOAP" cycle. Turn adjusting screw clockwise (in) to decrease rate of draw or counterclockwise (out) to increase rate of draw. Turn screw approximately 1/4 turn for each test until desired rate is obtained. If turning the adjustment screw does not change rate of draw, the flow control valve is out of adjustment. See your John Deere dealer.

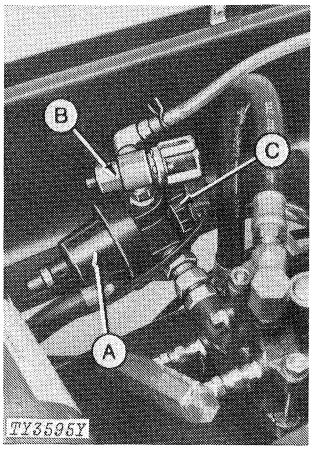
FLOW CONTROL VALVE

The flow control valve (A) is pre-set. If the adjustment has been tampered with, have your John Deere dealer adjust it and the proportioner valve (B) for maximum efficiency, economy of operation or special operating requirements.

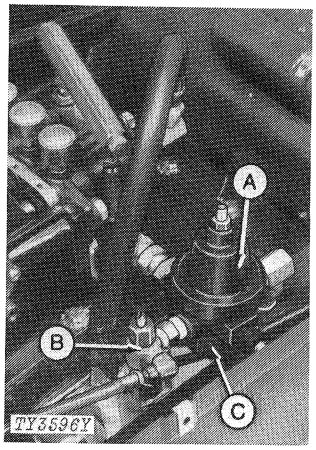
If fluid withdrawal from the reservoir becomes erratic, remove hard water scale from the valve as follows:

NOTE: Before removing cap (C), scribe a mark on cap and body, so cap can be reinstalled to same tightness eliminating need of having valve adjusted.

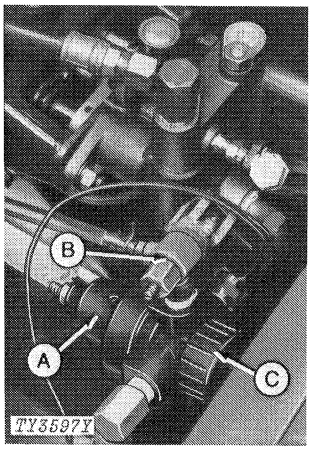
1. It may be necessary to reposition flow control valve (A) to gain clearance for removing cap (C).
2. Remove spring (D) and valve (E). Clean scale from valve.
3. Clean scale from inside cap (C) where valve fits.
4. Clean scale from body where valve fits.
5. Reassemble valve by installing spring (D) over center of cap (C) and valve (E) on top of spring.
6. Install cap with spring and valve, and tighten to match scribe marks.
7. If flow control valve position was disturbed (to remove cap), return valve to original position.



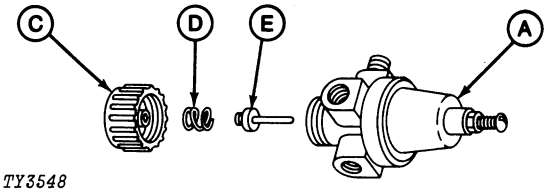
A22 Washer



A25 Washer



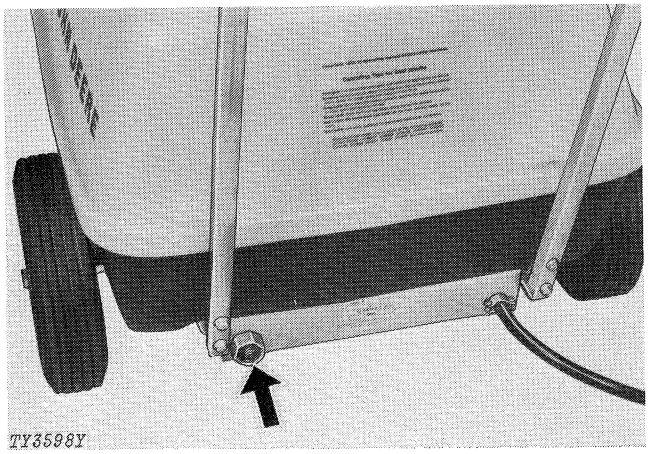
A40 Washer



TY3548

A - Flow Control Valve
B - Proportioner Valve
C - Cap
D - Spring
E - Valve

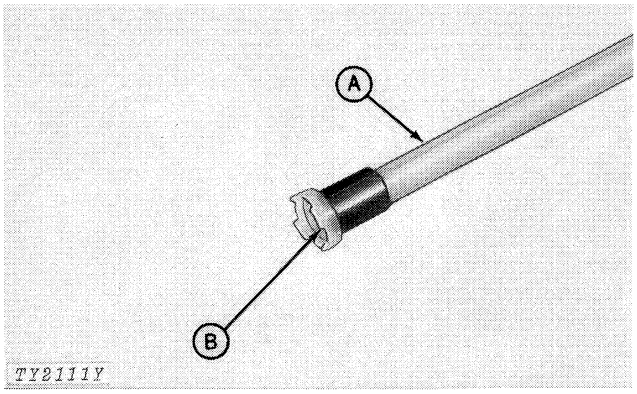
WATER INLET SCREEN



Inspect the cone-shaped screen in the water inlet fitting periodically for build-up of scale, grit, etc., and clean if necessary.

Replace screen with cone-end pointing out.

RESERVOIR PICKUP HOSE SCREEN



Periodically, remove the pickup hose (A) from the reservoir. Inspect the screen (B). If plugged, remove the holder with screen, and back-flush screen with water. If the screen is corroded or broken, replace it.

A - Reservoir Pickup Hose
B - Screen

PUMP PLUNGER SEALS

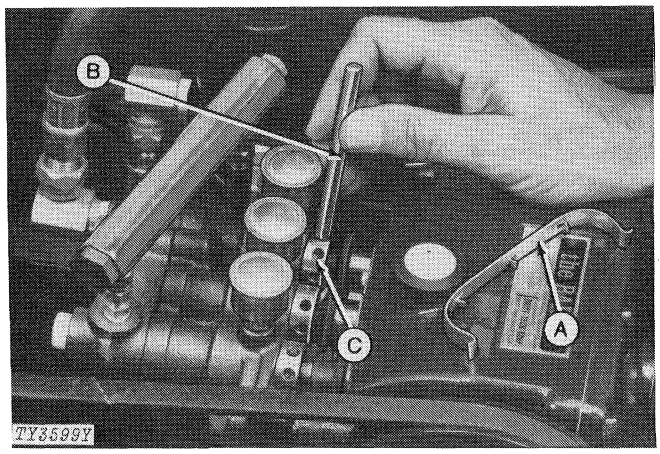
The pump plunger seals have to be tightened if the pump is fluctuating, pulsating, or leaking badly.

To tighten seals:

1. Remove gland retainer (A).
2. Tighten seals, using the special wrench (B) provided. Each packing gland (C) is to be tightened by working the gland back and forth – gradually tightening gland until it is snug.

NOTE: A slight seepage around the plungers will allow water to lubricate the back side of the seals resulting in longer seal life.

3. Replace gland retainer.



A - Gland Retainer **C - Packing Gland**
B - Special Wrench

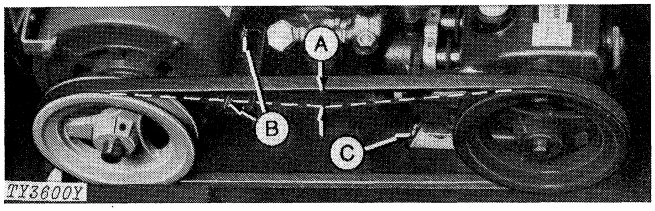
A25 High-Pressure Washer Illustrated

DRIVE BELT TENSION ADJUSTMENT

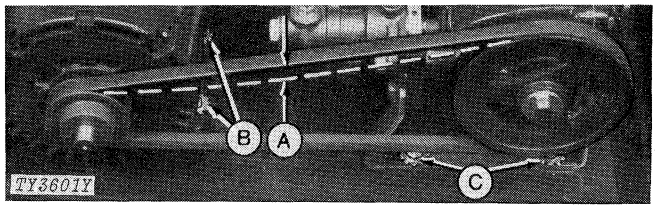
Periodically check the tension on the pump drive belt. When properly tensioned, the belt should flex 1/2 inch (12.7 mm) when a force of 25 pounds (111 N) is applied midway (A) between the drive and driven sheaves.

To adjust belt tension:

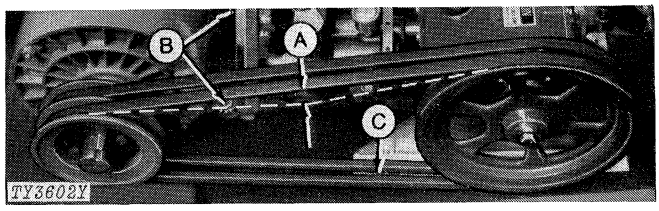
1. Loosen motor mounting bolts (B) and slide motor evenly toward rear of washer to increase belt tension.
2. Tighten motor mounting bolts (B) securely.
3. If additional tensioning is required, use the adjustment provided with pump mounting bolts (C).



A22 High-Pressure Washer



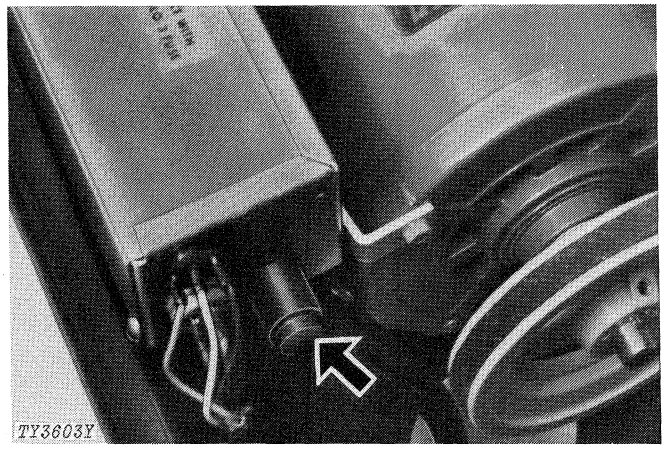
A25 High-Pressure Washer



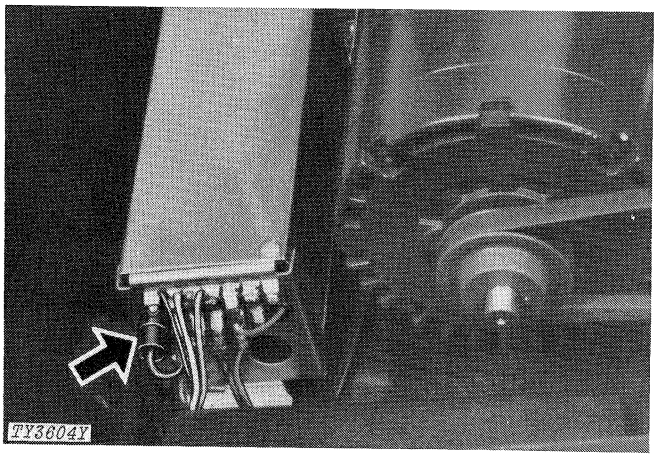
A40 High Pressure Washer

A - Measure Belt Deflection Here
B - Motor Mounting Bolts
C - Pump Mounting Bolts

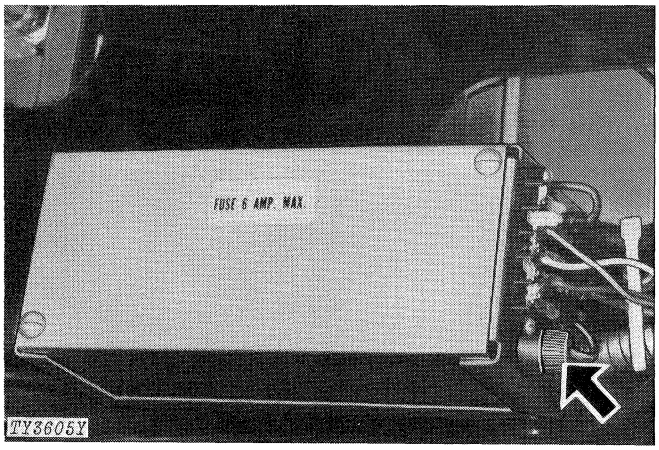
FUSE REPLACEMENT



A22 High-Pressure Washer



A25 High Pressure Washer



A40 High-Pressure Washer

The electrical components are protected by fuses.

A22 - 3-Amp.
A25 - 6-Amp.
A40 - 6-Amp.

To replace fuse:

1. Turn fuse and remove fuse holder cap.
2. Replace with new fuse and cap assembly.

Trouble Shooting

Symptom	Problem	Correction	Page
No pressure or fluid at nozzle.	Plugged inlet screen.	Clean or replace screen.	20
	Reservoir dry.	Fill reservoir and prime washer.	7
	Water tap not on.	Supply washer with adequate water volume and prime.	7
	Plugged nozzle.	Remove nozzle and clean it by blowing air back through nozzle.	–
	Relief valve fouled or out of adjustment.	See your John Deere dealer	–
	Pump drive belt(s) slipping.	Adjust drive belt tension.	21
Low nozzle pressure.	Worn nozzle.	Replace nozzle.	–
	Low pump displacement.	See your John Deere dealer.	–
	Relief valve recirculating.	See your John Deere dealer.	–
	Washer not primed.	Prime washer.	7
	Foreign material in pump valves.	See your John Deere dealer.	–
	Pump drive belt(s) slipping.	Adjust drive belt tension.	21
Erratic fluid withdrawal from reservoir.	Hard water scale build-up on flow control valve.	Clean scale from flow control valve and seats.	19
Pump fluctuates or pulsates.	Air entering system.	Test for air in system. Fix leaks and prime.	17-7
	Washer not primed.	Prime washer.	7
	Pump valves not seating.	See your John Deere dealer.	–
	Pump grease cup empty.	Fill cup and tighten.	16
	Pump plunger seals loose.	Tighten packing gland.	21
Draws reservoir fluid on "RINSE" cycle.	Proportioner solenoid valve not seating properly or proportioner internally cracked.	See your John Deere dealer.	–
Draws too much reservoir fluid on "SOAP" cycle.	Proportioner out of adjustment.	Adjust proportioner.	18
Does not draw enough or will not draw any reservoir fluid on "SOAP" cycle.	Reservoir pickup hose out of reservoir.	Place pickup hose in reservoir.	–
	Reservoir pickup hose pinched.	Realign hose.	–
	Reservoir empty.	Fill reservoir and prime washer.	7
	Proportioner out of adjustment.	Adjust proportioner.	18
	Reservoir pickup hose screen clogged.	Clean or replace screen.	20
	Proportioner coil burned out.	See your John Deere dealer.	–
	Pump worn (low displacement).	See your John Deere dealer.	–
	Flow control valve out of adjustment.	See your John Deere dealer.	–

Symptom	Problem	Correction	Page
Motor will not start but water will flow through nozzle.	Loose electrical connection.	See your John Deere dealer.	–
	Switch malfunction.	See your John Deere dealer.	–
	Relay malfunction.	See your John Deere dealer.	–
Motor cuts off.	Thermal overload tripped out.	Make certain washer has adequate ventilation	–
	Excessive discharge pressure caused by clogged nozzle.	Inspect, clean or replace nozzle.	–
	Blown fuse.	Check and replace fuse.	22
	Using wrong extension cord.	Use only correct extension cord.	6
	Low voltage.	Have line voltage checked.	6

Accessories

SPRAY DETERGENT #1

TY3551Y

Spray Detergent #1 is a top-quality spray cleaner for general washing. It provides excellent results in removing heavy agricultural and industrial dirt and grime. It will not harm paint or stainless steel and leaves a sparkling finish.

Use caution on unprotected aluminum or other reactive metals, since it may cause staining or dulling of the finish if not rinsed promptly after cleaning. If in doubt, test it on a hidden area.

NOTE: Do not use the detergent in an area where it will run into a septic tank.

Detergent is available in the following packaging:

TY8197 Spray Detergent, 10 1-pound (0.45 kg) bags
TY8198 Spray Detergent, 50-pound (22.7 kg) drum
TY8199 Spray Detergent, 100-pound (45.4 kg) drum

DETERGENT ADDITIVE

TY3552Y

The Detergent Additive contains a wetting agent that aids cleaning powder by making grime more soluble and gives an extra boost to the detergent to help remove oil film, scum, industrial smoke and carbonaceous deposits.

Order from your John Deere dealer:

TY8200 Detergent Additive, 1 quart (0.95 L)

GERMICIDAL SANITIZER

The Germicidal Sanitizer contains a surface-active agent that retards bacteria fungi. It does an effective job in lowering the bacteria count in livestock and feed handling equipment, farrowing houses, refuse containers, kennels, swimming pools, refrigeration cars, rest rooms, hospitals, supermarkets, food service areas, food processing plants, and in other areas requiring deodorizing and sanitizing.

Order from your John Deere dealer:

TY8201 Germicidal Sanitizer, 1 gallon (3.8 L)

TY3553Y

SPRAY WAX

John Deere Spray Wax is a liquid wax especially developed for use in high-pressure washers. It gives a tough, long-lasting finish to any painted metal finish.

The spray wax is available in the following packaging:

PT565 Spray Wax, 1 gallon (3.8 L)
PT591 Spray Wax, 1 quart (0.95 L)

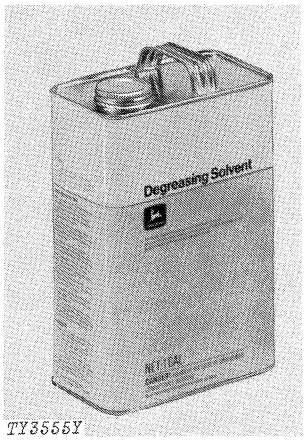
TY3554Y

DEGREASING SOLVENT

John Deere Degreasing Solvent is an emulsifiable solvent used for loosening grease, tar, creosote, asphalt and other petroleum-derived soils.

NOTE: Degreasing solvent cannot be economically applied through high-pressure washers. Excessive loss will occur due to spray blow-off caused by high-pressure. Apply it with a brush or a separate low-pressure sprayer.

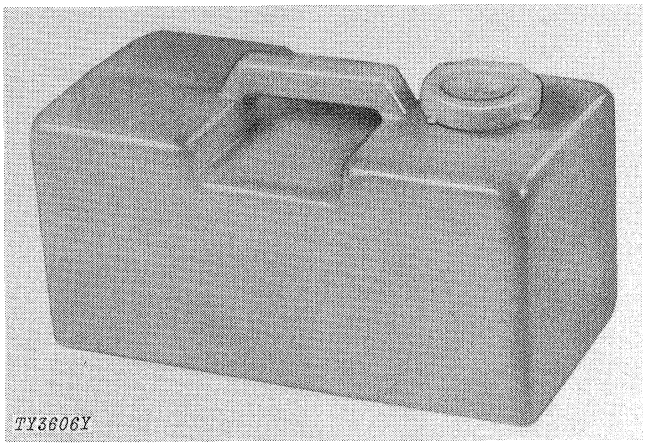
The degreasing solvent is available by ordering PT563 1 gallon (3.8 L) container.



TY3555Y

AUXILIARY RESERVOIR

Order an auxiliary reservoir (TY8145) for use when switching from one chemical to another.



DISCHARGE HOSE EXTENSIONS

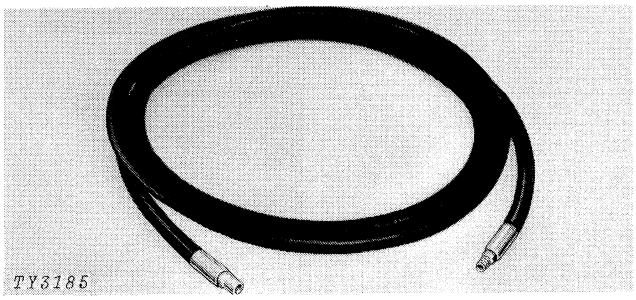
Available extensions are:

A22 - TY7565 30-Foot (9.1 m)

A25 - TY7565 30-Foot (9.1 m)

A40 - TY7563 50-Foot (15.2 m)

NOTE: Wire from electrical container to gun must also be extended.



WAND EXTENSIONS

The standard cleaning wand (TY7708) is 2-feet (61 cm) long. An optional 4-foot (1.2 m) wand (TY8033) is available.

Also available is an 8-foot (2.4 m) wand assembly (TY7721). It consists of:

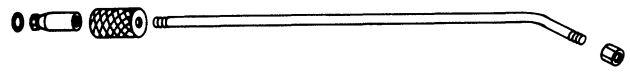
A - one 4-foot (1.2 m) straight section with knurled nut.

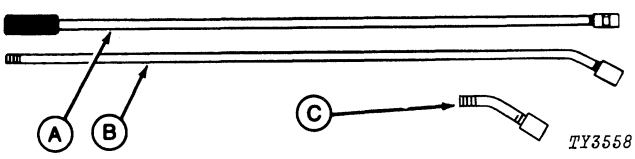
B - one 4-foot (1.2 m) extension with 15-degree bend.

C - one 15-degree adapter.

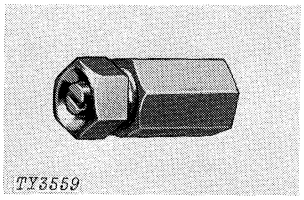
The 8-foot (2.4 m) wand assembly can be converted to use a 4-foot (1.2 m) straight wand by inserting the 15-degree adapter (C) into the end of the straight wand.

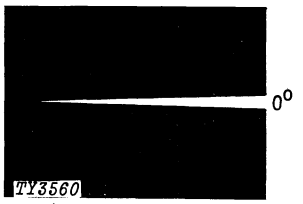
For an 8-foot (2.4 m) reach, remove the 15-degree adapter (C) and install the 4-foot (1.2 m) wand extension (with the 15-degree bend) (B) into the coupling on the straight 4-foot (1.2 m) wand (A).

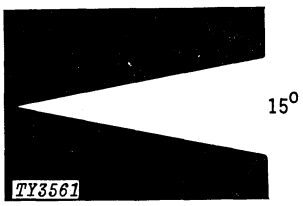


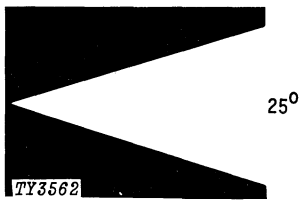


SINGLE-JET NOZZLES









The standard nozzle is a 40-degree spray which acts much like a brush, but with medium action.

Additional single jet nozzles available are:

0-degree, actually "drills" away dirt and grime on engines and air conditioning coils. Order from your John Deere dealer.

A22 - TY8158
A25 - TY8186
A40 - TY7719

15-degree, use for stripping or cutting through heavy grease and mud on transmission housings, farm equipment, etc. Order from your John Deere dealer:

A22 - TY7715
A25 - TY7851
A40 - TY7852

25-degree, acts much like a stiff bristle brush on soiled areas and removes greases, fats, and other material tough to loosen. Order from your John Deere dealer:

A22 - TY7716
A25 - TY7853
A40 - TY7854

The nozzles are stamped with the degree and code number.

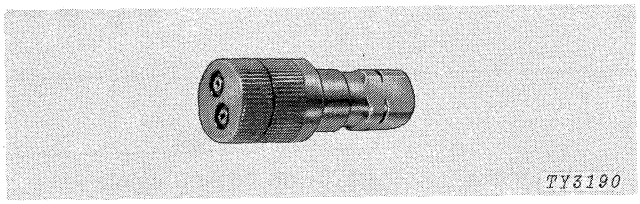
Use the appropriate chart (below) for your washer to identify nozzle part number.

A22 NOZZLE IDENTIFICATION	
Degree and Code No.	Part No.
0°-.60	TY8158
15°-.55	TY7715
25°-.55	TY7716
40°-.55	TY7640

A25 NOZZLE IDENTIFICATION	
Degree and Code No.	Part No.
0°-.65	TY8186
15°-.60	TY7851
25°-.60	TY7853
40°-.60	TY7855

A40 NOZZLE IDENTIFICATION	
Degree and Code No.	Part No.
0°-.80	TY7719
15°-.75	TY7852
25°-.75	TY7854
40°-.75	TY7856

DUAL-JET NOZZLE



In conditions where a 0-degree spray nozzle is desirable for frequent use, order a Dual-Jet Nozzle which enables you to switch quickly between 40 and 0-degree sprays.

A22 - TY8208
A25 - TY8209
A40 - TY8210

NOTE: Internal stops may be damaged if tools are used when switching from one setting to the other.

CAUTION: Turn off washer before changing Dual-Jet Nozzle from one setting to the other. This will protect fingertips from possible exposure to high-pressure spray.

Specifications

	A22	A25	A40
Electric Motor	120-volt, 15 amp, single-phase, 60 Hertz, 1-horse-power, (746 W), 1725 rpm	120-volt, 15-amp, single-phase, 60 Hertz, 1-1/2 horse-power, (1119 W), 1725 rpm	240-volt, 18-amp, single-phase, 60 Hertz, 3-horse-power (2238 W), 1725 rpm
Electrical Power Supply	Voltage at motor terminals must be 108 to 132-volts.	Voltage at motor terminals must be 108 to 132-volts.	Voltage at motor terminals must be 216 to 264-volts.
Pump	2.1 gpm (7.9 L/m), 2-plunger, positive displacement, belt-driven, 600 to 625 psi (4136 to 4309 kPa).	2.6 gpm (9.8 L/m, 3-plunger, positive displacement, belt-driven, 700 to 750 psi (4826 to 5151 kPa).	4.2 gpm (15.9 L/m), 3-plunger, positive displacement, belt-driven, 1000 to 1100 psi (6895 to 7584 kPa).
Proportioner Ratio	40:1	40:1	40:1
Water Pressure	Does not require any given pressure. Will operate on gravity flow if water source is level with or higher than pump.		
Water Volume	2.5 gpm (9.5 L/m)	3 gpm (11.4 L/m)	5 gpm (18.9 L/m)
Discharge Hose	30-foot (9.1 m) (std.), 50-foot (15.2 m) (opt.), 4000 psi (27 597 kPa) burst pressure	30-foot (9.1 m) (std.), 50-foot (15.2 m) (opt.), 4000 psi (27 597 kPa) burst pressure.	50-foot (15.2 m) (std.), 50-foot (15.2 m) (opt.), 4200 psi (28 958 kPa) burst pressure.
Cleaning Wands	2-foot (61 cm) length (std.), 4-foot (1.2 m) length (opt.); also 8-foot (2.4 m) assembly consisting of: 4-foot (1.2 m) straight wand, 4-foot (1.2 m) extension with 15-degree bend, and 15-degree adapter.		
Spray nozzles	40-degree (std.), also 0, 15, and 25-degree nozzles, and Dual-Jet, 0 and 40 degree (opt.)		
Case	A.B.S. (Acrylonitrile Butadiene Styrene) (same plastic used in football helmets.)		
Reservoir	2-1/2 gal. (9.5 L) poly-ethylene (one)	2-1/2 gal. (9.5 L) poly-ethylene (three)	2-1/2 gal. (9.5 L) poly-ethylene (four)
Wheels	8-in. (20.3 cm) semi-pneumatic heavy-duty, and heavy-duty 4-in. (10.2 cm) caster.	10-in. (25.4 cm) semi-pneumatic heavy-duty, and heavy-duty 5-in. (12.7 cm) casters.	10-in. (25.4 cm) semi-pneumatic heavy-duty, and heavy-duty 5-in. (12.7 cm) casters.
Weight	89 pounds (40 kg) approx.	126 pounds (57.1 kg) approx.	181 pounds (82.1 kg) approx.

(Specifications and design are subject to change without notice.)

MEMORANDA

MEMORANDA

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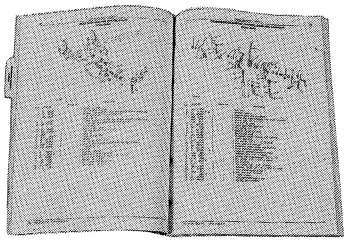
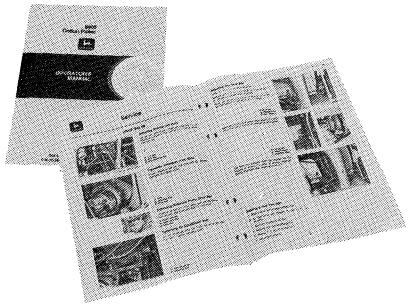
PARTS CATALOG



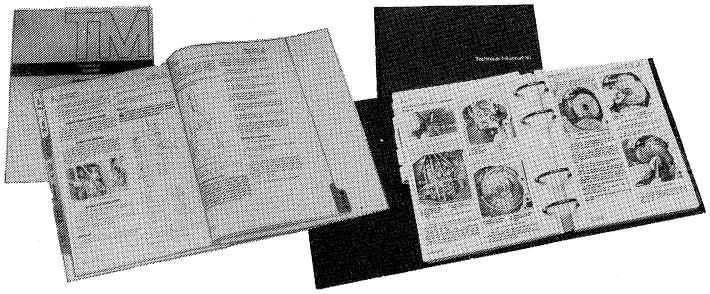
A parts catalog containing exploded view illustrations and lists of all parts is useful when purchasing service parts. Helps identify the correct parts. Useful in assembling and disassembling.

OPERATOR'S MANUAL



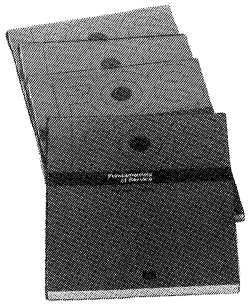
An extra copy of the operator's manual may be important if the copy furnished with your machine is misplaced.

TECHNICAL MANUAL



The technical manual is a service guide for your machine. Included in the manual are specifications, diagnosis and adjustments, illustrations of special assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

FMO AND FOS MANUALS



These are basic manuals covering most all types and makes of agricultural machinery. FMO manuals tell you how to *operate* machines; FOS manuals tell you how to *service* machines. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the"whys" and "hows" of adjustments and repairs are covered in this reference library.

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