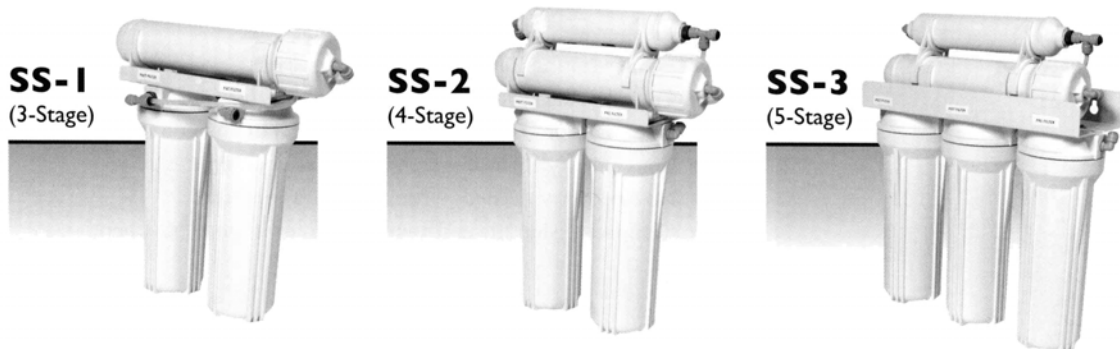


SS Series Reverse Osmosis System

Owner's Guide to Installation, Operation & Maintenance



SS Series – SS#1, SS#2, SS#3

Congratulations on your purchase of this **SS Series** Home Reverse Osmosis System! This system has been tested and validated for use in the home for the removal of most contaminants found in water. At a fraction of the retail cost of bottled water, your Reverse Osmosis System will produce quality water right at your sink, or connected to your refrigerator's icemaker. We hope you enjoy this product to its full potential, and see as we have the benefits of clean, clear, purified water!

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Model Design and Features

Your **SS Series™** Home Reverse Osmosis System is equipped with the following:

- Color-coded tubing for easy, no-nonsense installation
- Full sized 9 inch Pre and Post filter for sediment, taste, and odor removal
- Attractive countertop faucet
- Easy quick-connect plastic fittings for fast, simple, and reliable connections
- Self-piercing inlet saddle valve for quick access to raw water supply
- No energy required as the system operates using existing line water pressure
- Service and support offered from trained, competent personnel

Operating Parameters and Guidelines

- **Specifications and Parameters for Proper Operation**

Storage Tank Capacity	2.8 Gallons (with RO Mate 4)
Feed Water Pressure	40psi minimum to 80psi maximum
Feed Water Temperature	40°F / 4.4°C minimum to 80°F / 26.7°C maximum
Feed Water pH	4.0 – 11.0
R.O. Membrane	Cellulose Triacetate (CTA) – Chlorinated Water Thin Film Composite (TFC) – Non-Chlorinated Water
Total Dissolved Solids	CTA Systems 1,000 PPM TFC Systems 1,800 PPM
Percent Recovery	30 – 35%
Percent Rejection	65 – 70%
Pre-Filter Turbidity	1 Micron Nominal Spun Polypropylene
Post Filter	0.5 Micron Activated Carbon Block
Faucet Height	6.5” with 1.5” reach
Approximate Shipping Weight	25 lbs / 11.34 kg

- **Pre-Installation Guidelines**

Before beginning the installation procedure, be sure that the above specifications have been met where necessary. If any of these conditions have not been met, you will likely encounter difficulty producing maximum quality product water and/or maintaining the maximum efficiency of the system. Also, be sure that the installation to be performed complies with all local plumbing and sanitation codes. Most importantly, follow all instructions slowly and carefully before beginning, to prevent unneeded damage to the system and voiding of your warranty. **DO NOT** under ANY circumstances attempt to alter the system from its factory-shipped state, as doing so will **VOID** your warranty. See your warranty information for any further details.

Parts Checklist

Included with this manual should be the following parts:



Self-Piercing Inlet Saddle Assembly (1)



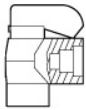
Drain Clamp Assembly (1)



Long Reach Faucet With Installation Hardware (1)



Female Faucet Adaptor (1)



Female Tank Adaptor (1)



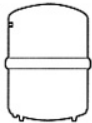
Small Nylon Insert (1)



Bracket Mounting Screw (2)



Filter Housing Spanner Wrench (1)



Storage Tank (1)

Once all parts have been accounted for, begin the section entitled **Step-By-Step Installation** located on the following page of this manual.

Step-By-Step Installation Instructions

Faucet and/or Icemaker Installation:

On many sinks, a hole is already made for such use as an auxiliary sprayer or like apparatus. In other cases, this hole may be left idle. If this is the case, your faucet will work properly if installed into this hole. If you wish to conserve the use of the present sprayer or like apparatus, or if no pre-existing hole is present, it will be necessary to drill into your sink or countertop to support the faucet. Below are instructions for the proper drilling of three types of situations. If in any doubt about this or any other installation procedure, contact your dealer or a trained professional who is able to assist you. If a suitable pre-existing hole is available, skip this section to the next portion of the Installation Instructions.

Drilling in Stainless Steel Sinks:

- With a center punch, make a small indent in the desired location for the faucet
- Drill a 1/2" hole to accept the shank of a 3/4" Greenlee hole punch
- Insert the punch and tighten to enlarge the hole to 3/4" diameter
- File any metal chips or burrs
- Apply plumber's putty around the edges of the hole to assure leak-free operation

Drilling in Porcelain Enamel Sinks:

- Drill a 1/4" hole through porcelain layer only
- Change to a 3/4" carbide masonry bit to expand the hole (Note: Start with slower speed and use light pressure until penetrating the porcelain layer)
- Clean the area of any metal chips (to prevent porcelain staining)
- Apply plumber's putty around the edges of the hole to assure leak-free operation

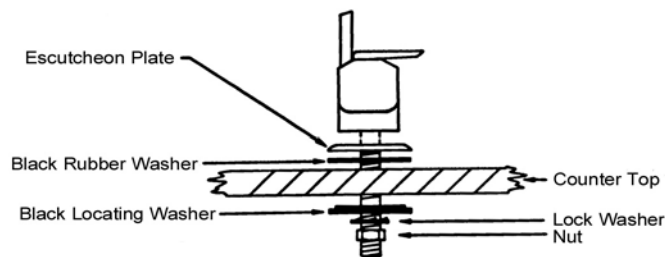
Drilling In Countertops:

- Drill with a high speed drill bit to make a 3/4" hole in the desired location for the faucet
- Apply plumber's putty around the edges of the hole to assure leak-free operation

Installing The Long Reach Faucet or Icemaker:

- Locate the Long Reach Faucet and Installation Hardware (refer to Parts Checklist)
- Look at the illustration below to determine the proper assembly of the faucet to the sink. Make sure the black handle of the faucet is in the OFF or down position after securing the faucet to the sink.
- Locate the Female Faucet Adaptor (refer to Parts Checklist)
- Apply Teflon® pipe tape to the end of the faucet shank and hand screw the adaptor snugly onto the end of the shank
- For icemaker connections, tee the BLACK colored tubing off to your refrigerator's icemaker

Faucet Installation Guide



Drain Clamp Assembly Installation:

Note that this procedure will utilize the drain pipe for your sink, and that the use of the sink before and during this procedure should be discontinued. Failure to do so will likely result in spillage from the sink.

- Locate the Drain Clamp Assembly (refer to Parts Checklist)
- Locate a position for the Drain Clamp Assembly along the drain pipe ABOVE the catch
- Drill ¼" hole in the desired location of the drain pipe
- Unscrew the elbow compression fitting attached to the Drain Clamp and set aside
- Apply the saddle to the drain pipe and loosely tighten the Clamp to the location of the hole
- Through the hole where the compression fitting on the Drain Clamp once was, line up the drilled hole with the hole in the Clamp
- Tighten the Clamp to the drain pipe, being careful not to over tighten
- Hand screw the compression fitting back into its previous location and to a desired connection angle in relation to the intended position of the Reverse Osmosis System

Self-Piercing Inlet Saddle Assembly Installation:

If your Reverse Osmosis System was shipped with the Self Piercing Inlet Saddle (refer to Parts Checklist), then proceed with these instructions. Also, be sure that the intended cold water supply line is of copper composition only. If not, this installation will require the use of a Murlock® or equivalent fitting. If the System is equipped with a Murlock® or equivalent fitting, skip ahead to the following section for further details.

- Locate the Self-Piercing Inlet Saddle Assembly (refer to Parts Checklist)
- Turn the valve stem outward or OPEN to the point such that the piercing pin is not protruding through the rubber gasket
- Locate the cold water pipe to your sink and mount the Saddle Assembly to the pipe in a desirable connection angle in relation to the intended position of the Reverse Osmosis System (NOTE: be sure that this pipe is the cold water supply. Do not attempt to condition hot water.)
- With a screwdriver, tighten the Saddle snugly to the pipe
- Leave the valve stem in its outward position until all other parts of this installation procedure are completed

Murlock® or Equivalent Fitting Installation:

Perform this procedure only if the System is equipped with a Murlock® or equivalent fitting. There is no need for this fitting if the Inlet Saddle Assembly described above has been installed. The inside dimension of the Murlock® or equivalent fitting for your System should match the outside dimension of the intended cold water supply line. Before attempting to install this fitting to the cold water supply line, be sure that the previous condition has been met. Also, be sure to discontinue flow to the intended cold water supply line, as it will be necessary to sever the line temporarily to properly install the fitting.

- Be sure to discontinue flow to the intended cold water supply line before resuming
- Make two marks on the intended cold water supply line with a pencil 1½" apart in a desirable location in relation to the intended position of the Reverse Osmosis System
- Using a hacksaw, make two complete cuts on the pipe at each mark and file off any metal chips or burrs
- Loosen both nuts on the Murlock® or equivalent fitting, being careful not to completely dismember the nuts from the fitting
- Firmly slide one end of the fitting of the fitting onto one exposed end of the pipe
- Slide the other exposed end of the pipe into the other side of the fitting
- Tighten both of the nuts securely, and be sure that the valve stem is in the OFF position before resuming flow to the cold water supply line.
- Leave the valve stem in the OFF position until all other parts of this installation procedure are completed

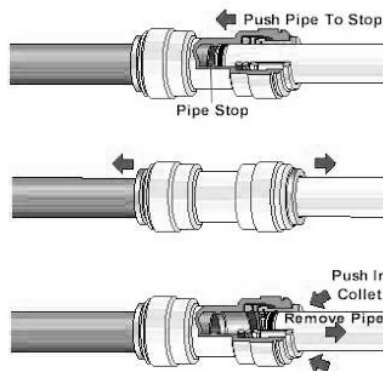
Female Tank Adaptor Installation:

- Locate both the Storage Tank and Female Tank Adaptor (refer to Parts Checklist)
- Remove from the top or side of the Storage Tank any plastic cap or other obstruction to reveal a threaded ¼" male nipple
- Hand-screw the Female Tank Adaptor fitting onto the Storage Tank, being careful not to over tighten

System Mounting and Line Connections:

- Select a suitable location for the Reverse Osmosis Unit
- Locate the Bracket Mounting Screws (refer to Parts Checklist)
- Using the Screws or other suitable mounting devices, mount the System in a vertical position
- Place the Storage Tank on a level surface capable of supporting the weight of the Tank when full (Approximately 20-25 lbs / 9-11 kg)
- Tubing Colors and Destinations are as Follows:
 - YELLOW - Female Tank Adaptor
 - RED - Drain Clamp Assembly
 - BLACK - Long Reach Faucet Female Adaptor
 - BLUE - Self-Piercing Inlet Saddle Assembly
- Locate the Large Nylon Insert and insert firmly into the end of the BLACK colored tubing
- Locate the Small Nylon Insert and insert firmly into the end of the CLEAR colored tubing
- Insert the end of the YELLOW colored tubing firmly into the Female Tank Adaptor as shown in the Quick Connect Installation and Removal Diagram below
- Insert the end of the BLACK colored tubing into the Female Faucet Adaptor firmly; check for connection by tugging lightly on the Black tubing below the Adaptor
- Insert the end of the RED colored tubing firmly into the compression fitting of the Drain Clamp Assembly and hand tighten the compression nut securely into place
- Insert the brass or nylon insert included with the Self-Piercing Saddle Assembly into the end of the BLUE colored tubing
- Slide the brass nut followed by the brass or nylon ferrule included with the Self-Piercing Saddle Assembly over the BLUE colored tubing
- Insert the end of the BLUE colored tubing firmly into the Assembly
- Using a crescent wrench, tighten the brass nut securely to the Assembly
- Reference the System Start-Up Procedure section in this manual to complete installation

Quick Connect Installation and Removal Diagram



System Start-Up Procedure

- Be sure all tubing connections are securely in place and that all installation and/or filter change procedures have been completed before attempting to start-up your Reverse Osmosis System (reference sections entitled Step-By-Step Installation Instructions and/or Filter Change Instructions in this manual)
- Be sure the black handle on the Long Reach Faucet is in the OFF or down position to allow pressure to build in the Storage Tank
- Open the Female Tank Adaptor valve such that it runs parallel to the incoming yellow line
- Turn the Self Piercing Inlet Saddle valve stem completely inward or CLOSED to initially pierce the copper tubing. Turn the Self Piercing Inlet Saddle valve stem outward or OPEN to allow water into the system
- Let the system fill for at least four hours, or overnight
- Lift the black handle on the Long Reach Faucet to the ON or up position to allow any trapped air as well as the first tank full of water out of the system
- Repeat this procedure to void the unit of the second tank full of water (NOTE: dispose of all ice cubes during this period if your System is connected to an icemaker or like device) Failure to complete this procedure may result in membrane protectant chemicals, carbon fines, or other contaminants being ingested, resulting in gastrointestinal problems such as diarrhea, stomach discomfort, or vomiting – should this occur, consult a physician or local poison control office IMMEDIATELY!
- Congratulations! Your system is ready for service. To properly maintain your System, refer to the section entitled Maintenance Information in this manual. Enjoy your System and the benefits of ultra-pure water!

Maintenance Information

This **SS Series** Reverse Osmosis System requires very minimal maintenance, however the pointers listed below will greatly improve its overall effectiveness and longevity. It is recommended that the Pre-Filter and Post-Filter be changed at least every six (6) months. If this System is equipped with a horizontal Polishing Filter (SS#2, and SS#3 models), it is recommended that it be changed at least every nine (9) months to one year. The Membrane Element should be changed every three (3) to five (5) years depending on supply water conditions, and proper filter maintenance. Contact your dealer for further information about the suggested replacement parts listed below.

Replacement Filters

For SS#1 Models:

1 – Model SSP-16 (Pre-Filter)
1 – Model SSP-22 (Post-Filter)

For SS#2 Models:

1 – Model SSP-16 (Pre-Filter)
1 – Model SSP-22 (Post-Filter)
1 – Model SSP-12 (Polishing Filter)

For SS#3 Models:

1 – Model SSP-16 (Pre-Filter)
2 – Model SSP-22 (Post-Filter)
1 – Model SSP-12 (Polishing Filter)

Replacement Membrane Elements

Replacement membrane elements listed below are universal for all Systems. For chlorinated or most city water Systems, the proper replacement is a CTA membrane. For those non-chlorinated or most well water Systems, the proper replacement is a TFC membrane. Below are listed membranes of these two types. The number immediately afterwards suggests the maximum output, in gallons per day, of each membrane. Although the below are current specifications, manufacturers change their specifications from time to time. For up-to-date information on any replacement membrane element, please contact your dealer for further details.

TFC-24
TFC-36
TFC-100
CTA-16

Parts Reordering Information

For proper replacement of any System part, it is suggested that you contact your dealer with your concern. Determine the part that may need replacement before contact to receive more efficient service. Any other questions or concerns regarding part replacement or addition should be directed to your dealer so as to preserve both your warranty and the continued quality of your System.

Filter Change Instructions

Before You Begin:

- Be sure that you have the proper replacements handy to speed the filter change process
- Identify the filter locations to be replaced on the system
- Have a dry cloth, towel, or drip pan handy to absorb any spillage which may occur
- Locate and place near the System, the Filter Housing Spanner Wrench (refer to Parts Checklist)

Shut the System Down:

- Turn the Self Piercing Inlet Saddle valve stem completely inward or CLOSED to discontinue supply water into the System
- Close the Female Tank Adaptor valve such that it runs perpendicular to the incoming yellow line in order to discontinue Storage Tank supply into the System
- Lift the black handle on the Long Reach Faucet to the ON or up position to relieve any pressure in the System

Replacing the Vertical Pre and Post Filters:

- Lift the black handle on the Long Reach Faucet to the OFF or down position to prevent any water in the System from draining
- Slide the Filter Housing Spanner Wrench over the desired vertical Filter Housing (refer to Flow Diagram) and remove the bottom section by turning the handle in a CLOCKWISE direction (NOTE: previous system pressure may have tightly affixed the bottom section to the top of the Housing; a normal occurrence which may require some extra effort to remove the section at first)
- Once the bottom section is free from the System, remove the old filter and water from inside the section and replace with its respective replacement
- Hand screw the bottom section back to its initial position in a COUNTERCLOCKWISE direction, tightening it slightly with the Filter Housing Spanner Wrench
- Repeat this procedure as necessary until all vertical filters have been changed

Replacing the Horizontal Polishing Filter (SS#2 and SS#3 Models Only):

- Locate and remove the used Polishing Filter (refer to Flow Diagram)
- Removing the plastic elbow fitting from each side of the Filter and set aside for re-use
- Apply Teflon® pipe tape to the threaded portion of each plastic elbow, and hand screw them securely into the replacement Polishing Filter
- Reattach the Polishing Filter to the system using the Quick Connect Installation and Removal Diagram in the Step-By-Step Installation Instructions in this manual, being careful not to stretch or kink any tubing when reattaching the Filter

Replacing the Membrane Element:

- Encapsulated Membrane Elements:
Simply remove the tubing from the used Membrane Element plastic elbow fittings using the Quick Connect Installation and Removal Diagram in the Step-By-Step Installation Instructions in this manual. Replace with the new Element, being careful not to confuse the three lines and stretch or kink any tubing when reattaching.
- Non-Encapsulated Membrane Elements:
Locate and disconnect the tubing from the end of the Membrane Housing with one line attached to it using the Quick Connect Installation and Removal Diagram in the Step-By-Step Installation Instructions in this manual. Unscrew the cap and remove the used Membrane Element inside the housing. Replace with the new Membrane Element, being careful to avoid touching the Element itself. Rescrew the cap onto the Housing by hand and tighten securely. Reattach the tubing to the cap, being careful not to stretch or kink any tubing when reattaching.

Sanitizing Procedure for R.O. Systems

The following procedure is recommended for preventative maintenance BEFORE the replacement of Filters or Membrane Elements. It is not intended to be entirely effective in sanitizing highly contaminated systems that have been exposed to excessive amounts of bacteria, or Systems which have developed foul-smelling Filters or Membrane Elements. Such Systems require more extensive cleaning, sanitizing, and/or replacement.

- Remove Membrane Element from its Housing (if non-encapsulated), and remove the bottoms of all Filter Housings
- Clean the Filter and Membrane Housings with hot detergent water
- If necessary, add ½ oz. of sanitizer such as bleach to each Housing and replace to the system WITHOUT Filters or Membrane Element
- Start-Up the System using the System Start-Up Procedure section included in this manual
- Repeat this procedure if the System continues to emanate foul odors
- Replace the Membrane Element and Filters AFTER the completion of this procedure using the section entitled Filter Change Instructions included in this manual
- Start-Up the System using the System Start-Up Procedure section included in this manual
- Any other questions or concerns should be directed to your dealer for further details regarding sanitizing your Reverse Osmosis System

Troubleshooting Guide

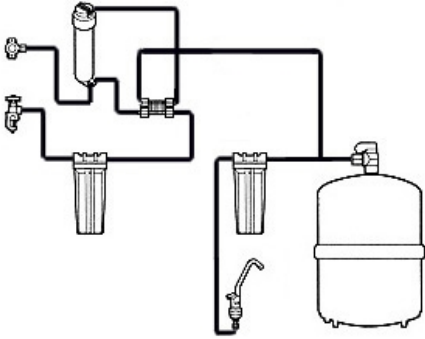
Problem:	Probable Cause:	Solution:
High Product Water T.D.S. (Total Dissolved Solids)	<p>Feed water pressure is too low</p> <p>The new Post-Filter may not be sufficiently flushed</p> <p>Increase in inlet water supply T.D.S.</p>	<p>Feed water must be at least 50psi; a booster pump may be necessary</p> <p>Flush the Post-Filter by allowing the System to produce at least two tanks full of water</p> <p>Proper pre-treatment of inlet water supply may be necessary to maximize the effectiveness of the System. Consult your dealer for advice</p>
Bad Taste in Product Water	<p>Increase in product water T.D.S.</p> <p>Post-Filter exhausted</p> <p>Storage Tank and System contaminated</p> <p>Storage Tank diaphragm slippage</p> <p>The new Post-Filter may not be sufficiently flushed</p>	<p>See “High Product Water T.D.S.”</p> <p>Replace Post-Filter</p> <p>See Sanitizing Procedure for R.O. Systems included in this manual and replace all Filters and Membrane Element</p> <p>Replace Storage Tank and Post-Filter</p> <p>Flush the Post-Filter by allowing the System to produce at least two tanks full of water</p>
Cloudy Water	<p>Dissolved air in the inlet water supply gets concentrated in the product water from the system</p>	<p>Letting water stand for a few minutes will allow the air to exit the water naturally; proper pre-treatment of inlet water supply may be necessary to maximize the effectiveness of the System. Consult your dealer for advice</p>
Cloudy Ice Cubes	<p>Increase in product water T.D.S.</p> <p>Dissolved air in inlet water supply</p> <p>Shape of ice cube</p>	<p>See “High Product Water T.D.S.”</p> <p>See “Cloudy Water”</p> <p>Squared ice cubes allow for better dispersion of the air; round shapes tend to hold it in. If possible, allow the water to stand for a few minutes before freezing to allow air to exit</p>

No Water or Not Enough Water	Little or no inlet water supply	Be sure inlet water supply is getting to the system and that the Inlet Saddle Assembly is clear
	Low inlet water supply pressure	Feed water must be at least 50psi; a booster pump may be necessary
	Pre-Filter clogged	Replace Pre-Filter
	Membrane Element fouled	Replace the Membrane Element
	Product Water Check Valve stuck	Replace the Product Water Check Valve; consult your dealer for assistance
	Storage Tank over or under pressurized	Be sure that the Storage Tank is set between 7-10psi when empty. Relieve or add air as necessary via the spigot near the bottom of the tank
	Over-use	Allow the System to produce more water, or replace the Membrane Element with one of higher daily capacity
Female Tank Adaptor valve is in the OFF position	Open the Female Tank Adaptor valve such that it runs parallel to the incoming YELLOW tubing	

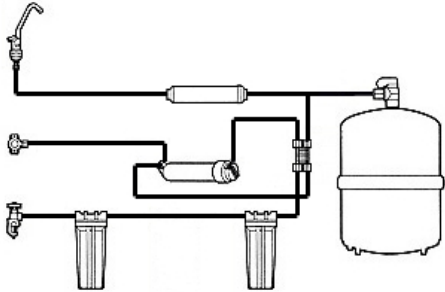
Low Flow From Long Reach Faucet or Icemaker	Low water production	See "No Water or Not Enough Water"
	Storage Tank has lost air pre-charge	Be sure that the Storage Tank is set between 7-10psi when empty. Relieve or add air as necessary via the spigot near the bottom of the tank
	Storage Tank diaphragm slippage	Replace Storage Tank and Post-Filter
	Post-Filter and/or Polishing Filter clogged	Replace Post-Filter and/or Polishing Filter
Female Tank Adaptor partially off	Open the Female Tank Adaptor valve such that it runs parallel to the incoming YELLOW tubing	

Membrane Element Product Water is Bad	Exhausted Membrane Element	Replace Membrane Element
	Bacteria attacks the Membrane Element	See Sanitizing Procedure for R.O. Systems included in this manual and replace all Filters and Membrane Element
Pre or Post-Filter Leaks	Filter Housing not tight	Hand screw the bottom section back to its initial position in a COUNTERCLOCKWISE direction, tightening it slightly with the Filter Housing Spanner Wrench
	O-ring not properly seated or is broken	Replace the O-ring; consult your dealer for assistance. Be sure that the o-ring is properly seated in the Filter Housing before tightening to the System
Faucet Leaks Through Spout	Valve seat is defective	
Faucet Handle Breaks Off	Fatigue	Replace Long Reach Faucet (consult separate warranty card for information on your faucet included with the System)
Faucet Spout Breaks Off	Fatigue	
Faucet Leaks at its Base	O-ring seals are broken in valve assembly	

SS#1 Flow Diagram



SS#2 Flow Diagram



SS#3 Flow Diagram

