

K 710

Pilot Valve Repair Kit

Consists of the following:

PART NO.	DESCRIPTION	QUANTITY
51347	Valve – four way	1
51363	Spring – four way valve	1
51456	Gasket – four way valve	1
62882	Insert – pilot valve	1
V1903-B	Bearing, needle thrust	1
V1903-R	Bearing, needle thrust	2
W 3704-2	O-ring, 1/4 x 3/8 in.	2
W 3706-2	O-ring, 3/8 x 1/2 in.	5
W 3712-3	O-ring, 3/4 x 15/16 in.	1
W 3719-4	O-ring, 1-3/16 x 1-7/16 in.	1
W 5404-10SS	Pin – groove, SS, 1/8 x 5/8 in.	1
W 5805-10SS	Pin – Spring, SS, 5/32 x 5/8 in.	1
W 5808-16SS	Pin – spring, SS, 1/4 x 1 in.	1
W33004-16SS	Pin – spirol, SS, 1/8 x 1 in.	1

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Removal of Pilot Valve and Four Way Valve Assembly From Pump Control Panel (See Figures 1 or 2, 3 and 4)

1. Turn regulator handle counterclockwise all the way to relieve spring compression. Remove strainer assembly. Disconnect hoses or tubes connecting pilot valve assembly to pump and relief valve and drain valve, if connected. Drive out pins and remove handles. Remove screws, nuts and lock washers attaching pilot valve assembly to pump control panel.

Disassembly, Repair and Reassembly of Pilot Valve (See Figures 3 and 4)

1. Remove two cap screws and lift off cover, adjusting nut, needle thrust bearing, bearing races and adjusting stem. Do not lose spring and detent ball, which will drop free as cover clears housing. Remove housing and spring. Lift out valve. Remove O-rings and discard them.

2. Clean pilot valve, and inspect for scratches, nicks or other defects. Polish out any defects.
3. Coat new O-rings with mineral oil or other light oil and install in grooves in pilot valve and body. Be sure to remove any twists. Insert valve in body, and push it in until it bottoms.
4. Clean and lubricate the needle thrust bearing and threads of adjusting stem. Turn adjusting nut onto stem almost as far as it will go. Install needle thrust bearing and its thrust washers on stem.
5. Insert outer end of stem in cover. Align ears of adjusting nut with side holes in cover, and install two cap screws. (Adjusting nut slides on these cap screws.) Invert cover and insert ball and spring through spring boss so ball contacts a flat on the stem. Hold spring depressed and install housing on shoulder of cover. Slide spring on stem. Position assembled cover and housing over body and tighten cap screws. (Make sure spring is seated on valve when tightening screws.)

Disassembly, Repair and Reassembly of Four Way Valve (See Figures 3, 4 and 5)

1. Remove assembled strainer, clean filter screen and orifice in end. Replace O-rings. Coat O-rings with mineral or other light oil.
2. Drive out roll pin and remove rod from stem.

Note: If desired, four way valve may be partially disassembled without removing rod from stem. Instead, just remove cover from body as directed below.

3. Remove screws and lift off cover. As cover is removed, tension of spring will push valve part way out. Discard gasket. Pull stem from cover, remove and discard O-ring. (Driving groove pin from stem is not necessary unless it is damaged.)
4. Discard valve, ceramic insert and four O-rings, used with ceramic insert.
5. Install new O-rings into grooves on new ceramic insert and place into corresponding slot in valve body, O-ring side first.
6. Coat new O-ring with mineral oil or other light weight oil and install in groove in valve stem. Make sure O-ring is free of twists. Slide valve stem into cover. Insert rod in stem and install roll pin. Make sure this pin extends between roll pins.
7. Slide spring on valve stem. Slide new valve on stem so its slot fits over roll pin and molded word TOP is upright. Coat gasket with a gasket compound such as Permatex Super 300, and place on body. Position assembled valve and cover against body and install screws. Tighten screws evenly.

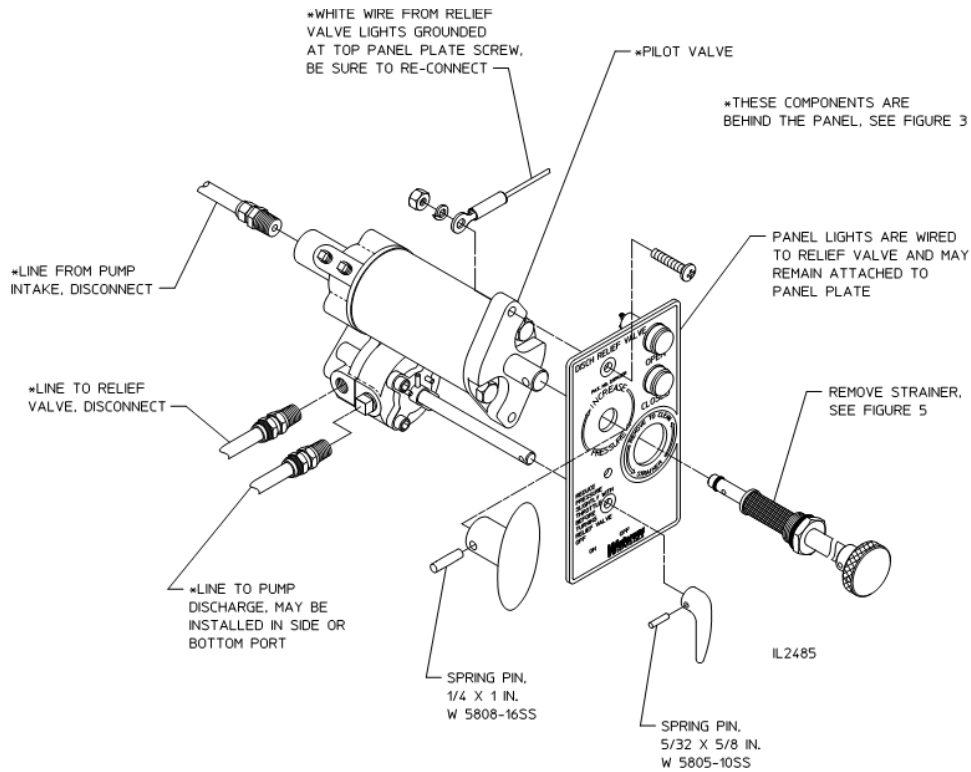
Reinstallation of Pilot Valve and Four Way Valve Assembly on Pump Control Panel (See Figures 1 or 2, 3 and 4)

1. Attach pilot valve assembly to control panel with two screws, nuts and lock washers. Connect hoses or tubes from pump, relief valve and drain valve (if connected) to original points on pilot valve assembly.

Note: If pilot valve was connected to main pump master drain valve, disconnect this line and install a separate drain valve for the pilot valve.

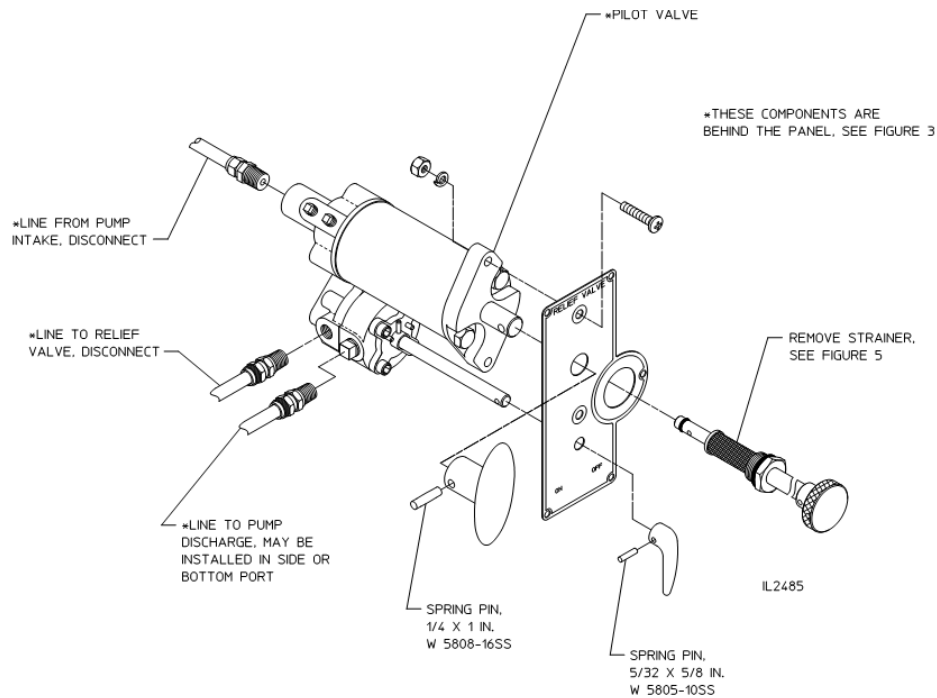
2. Attach handles to pilot valve assembly with pins. Install assembled strainer and tighten it enough to seat O-ring under hex part of strainer. High torque is not necessary, as with a cap screw.

Figure 1. Panel Connection prior to 4/21/2006



Panel Configuration With Integral Relief Valve Indicating Lights (Used prior to 4/21/2006)

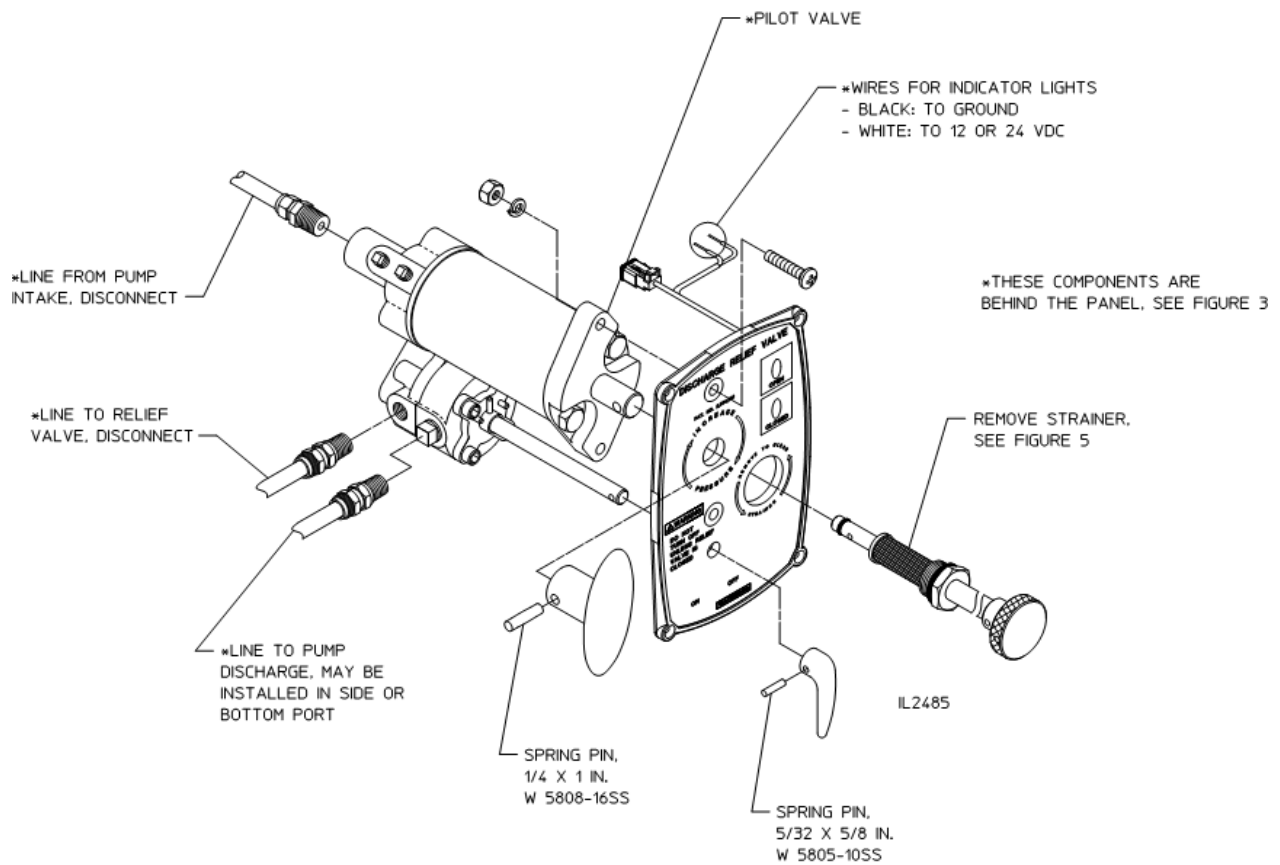
Note: If pilot valve is connected to the main pump master drain valve, disconnect and install a separate drain valve for the pilot valve.



Panel Configuration Without Relief Valve Indicating Lights (Lights are on a Separate Panel Plate)

Note: If pilot valve is connected to the main pump master drain valve, disconnect and install a separate drain valve for the pilot valve.

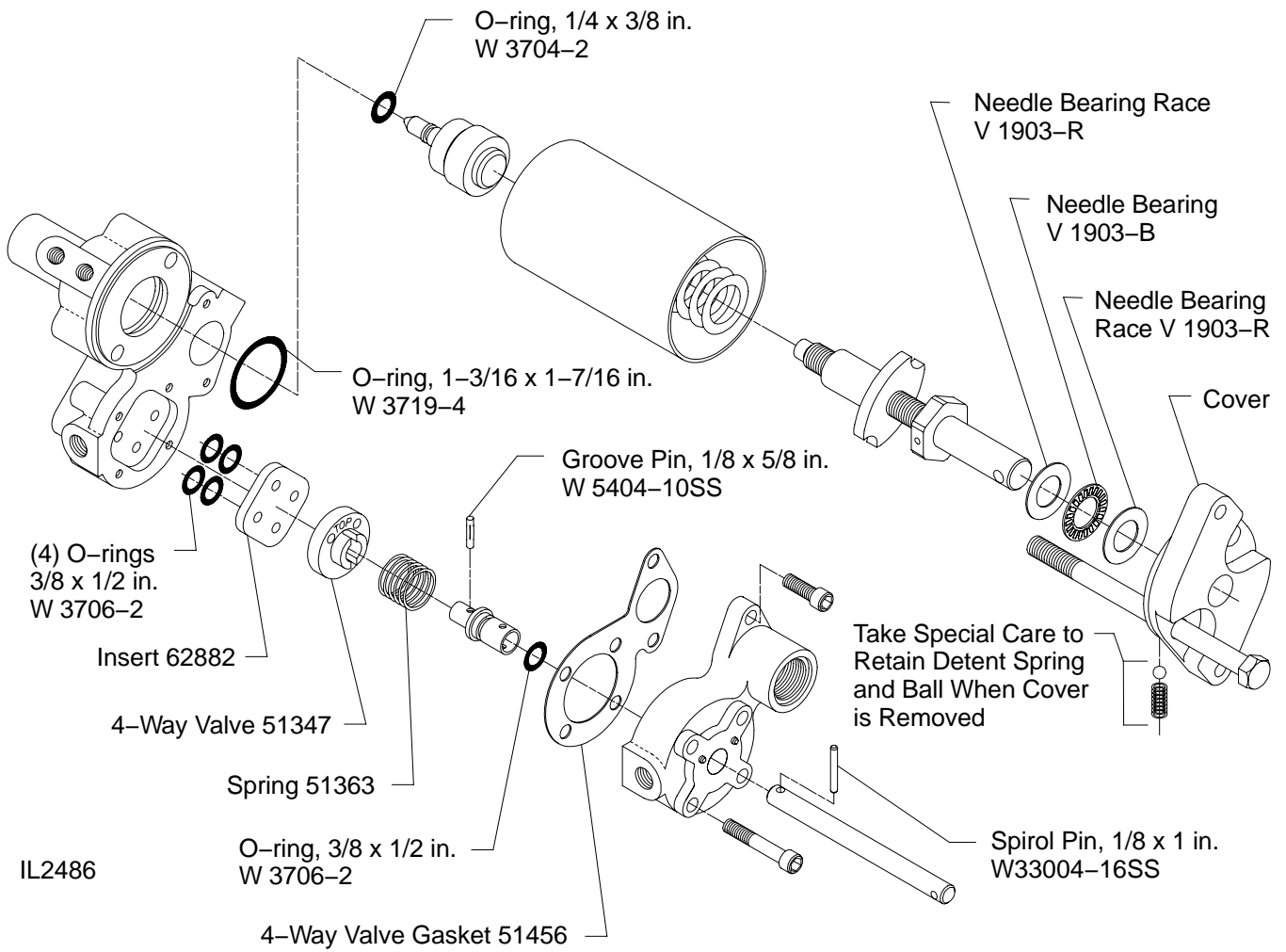
Figure 2. Panel Connection after 4/21/2006



Panel Configuration With Integral Relief Valve Indicating Lights (Used after 4/21/2006)

Note: If pilot valve is connected to the main pump master drain valve, disconnect and install a separate drain valve for the pilot valve.

Figure 3. Pilot Valve



Note: See Figure 4 for Cross-Sectional View

Figure 4. Pilot Valve Cross-Section View

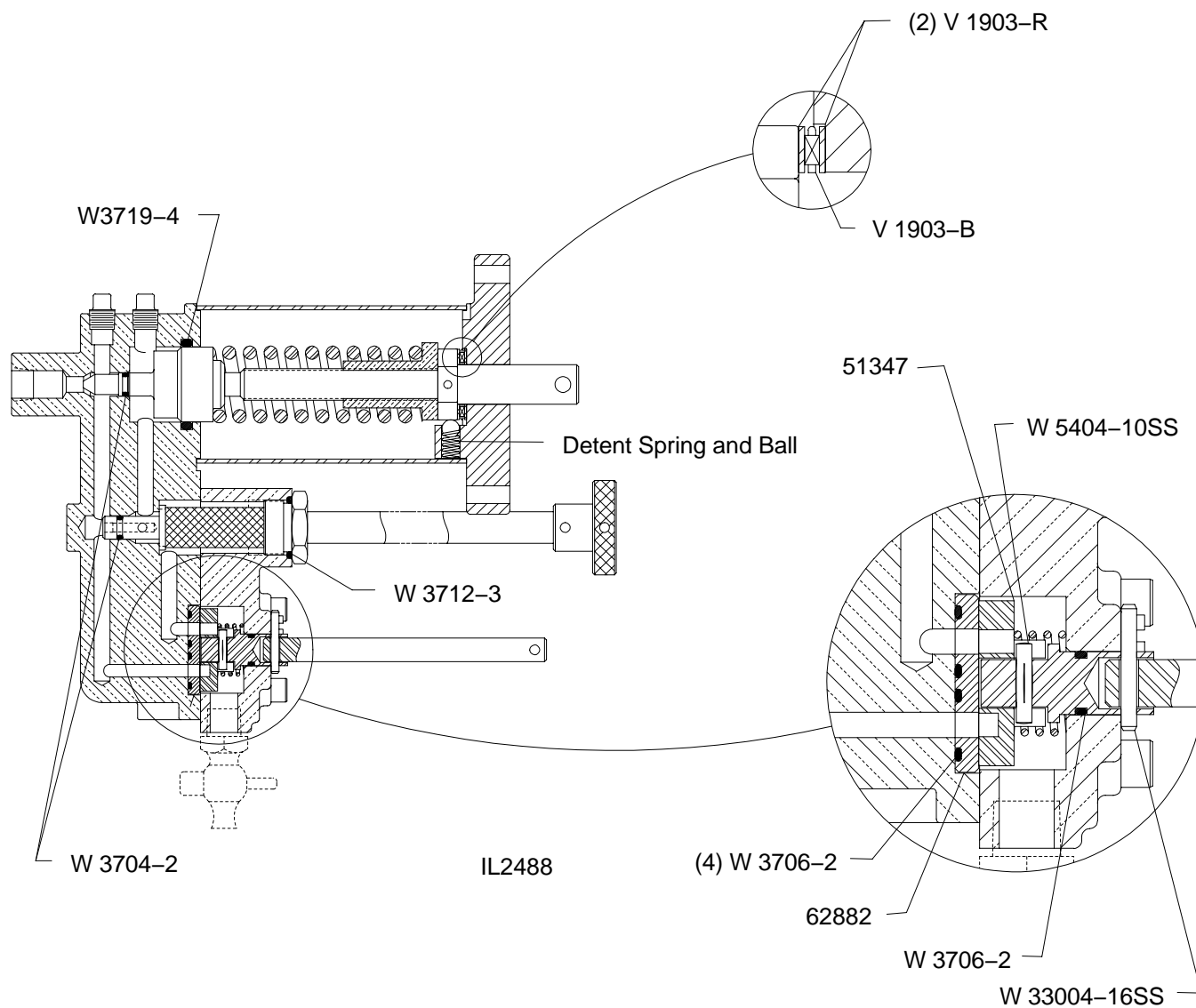


Figure 5. Strainer

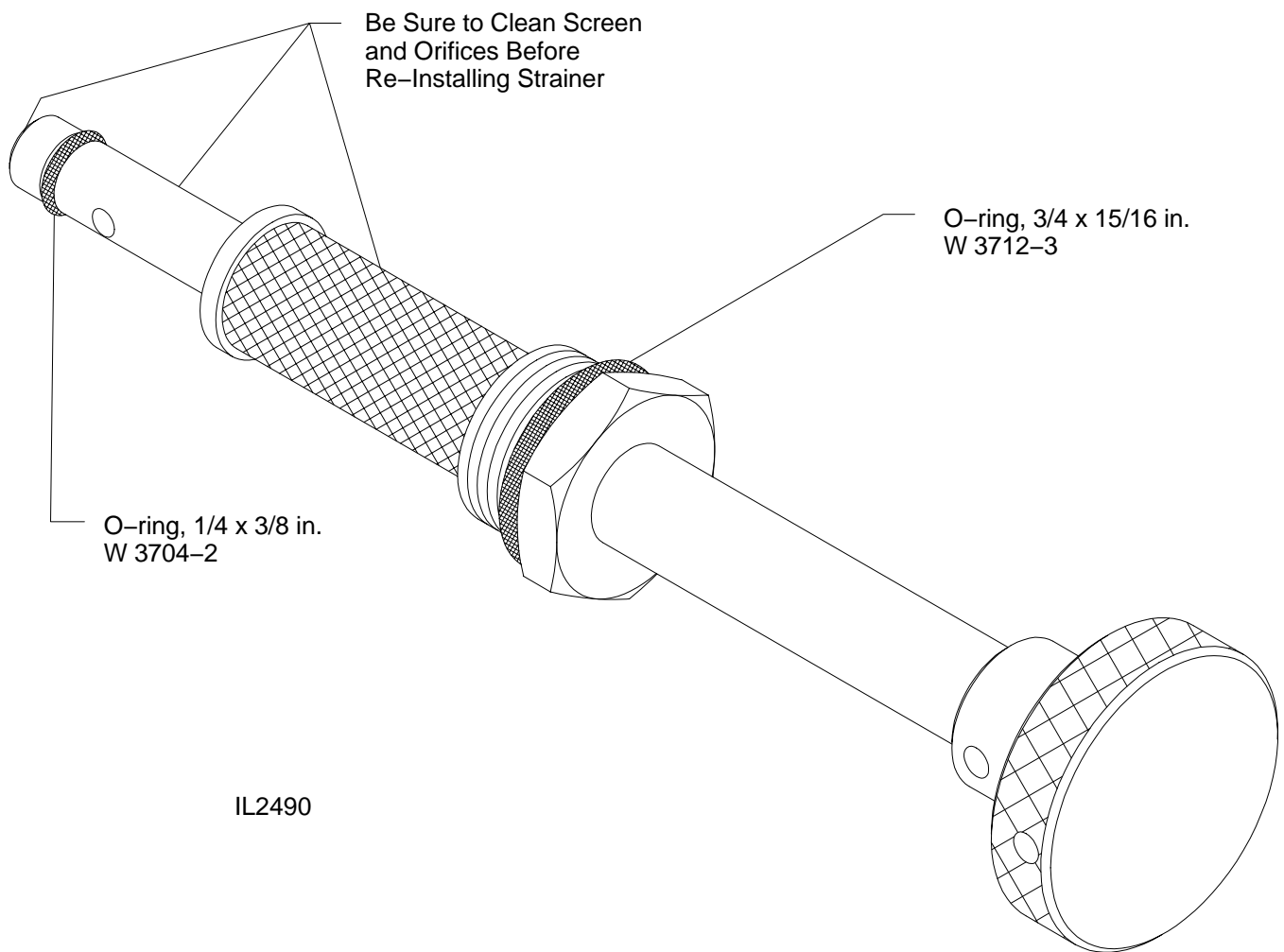


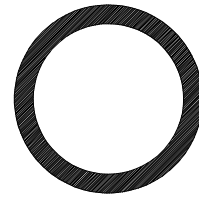
Figure 6. O-Ring Template



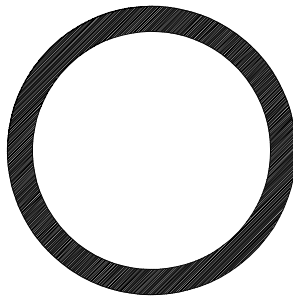
W 3704-2
1/4 x 3/8 in.



W 3706-2
3/8 x 1/2 in.



W 3712-3
3/4 x 15/16 in.



W 3719-4
1-3/16 x 1-7/16 in.

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