

BRASS PRESSURE CONTROL PILOT PART NUMBER SUMMARY

MODEL #	PILOT BODY	VALVE SIZE	CONTROL	PRESSURE	KIT 1/4"	KIT 3/8"	SEE PAGE
D2	LARGE	4, 6, 8"	Reducing	5-50psi	9529-001	9529-011	2.2
D3	LARGE	4, 6, 8"	Reducing	10-120psi	9529-002	9529-012	2.2
D4	LARGE	4, 6, 8"	Reducing	25-200psi	9529-003	9529-013	2.2
D5	LARGE	4, 6, 8"	Sustaining	25-200psi	9535-003	9535-013	2.4
D8	LARGE	4, 6, 8"	Sustaining	10-120psi	9535-002	9535-012	2.4
D9	LARGE	4, 6, 8"	Sustaining	5-50psi	9535-001	9535-011	2.4
D11	SMALL	2, 3"	Reducing	5-30psi	9691-003	-	2.3
D12	SMALL	2, 3"	Reducing	5-60psi	9691-001	-	2.3
D13	SMALL	2, 3"	Reducing	10-120psi	9691-002	-	2.3
D15	SMALL	2, 3"	Sustaining	5-60psi	9693-001	-	2.5
D16	SMALL	2, 3"	Sustaining	10-120psi	9693-002	-	2.5

PLASTIC PRESSURE CONTROL PILOT PART NUMBER SUMMARY

MODEL #	PILOT BODY	VALVE SIZE	CONTROL	PRESSURE	KIT 1/4"	KIT 3/8"	SEE PAGE
D21	Plastic Small	2"	Reducing	5-30psi	12340-024	-	2.3
D22	Plastic Small	2"	Reducing	5-60psi	12340-022	-	2.3
D23	Plastic Small	2"	Reducing	10-120psi	12340-023	-	2.3
D25	Plastic Small	2"	Sustaining	5-60psi	12340-016	-	2.5
D26	Plastic Small	2"	Sustaining	10-120psi	12340-017	-	2.5
D31	Plastic Small	3"	Reducing	5-30psi	12340-021	-	2.3
D32	Plastic Small	3"	Reducing	5-60psi	12340-019	-	2.3
D33	Plastic Small	3"	Reducing	10-120psi	12340-020	-	2.3
D35	Plastic Small	3"	Sustaining	5-60psi	12340-013	-	2.5
D36	Plastic Small	3"	Sustaining	10-120psi	12340-014	-	2.5

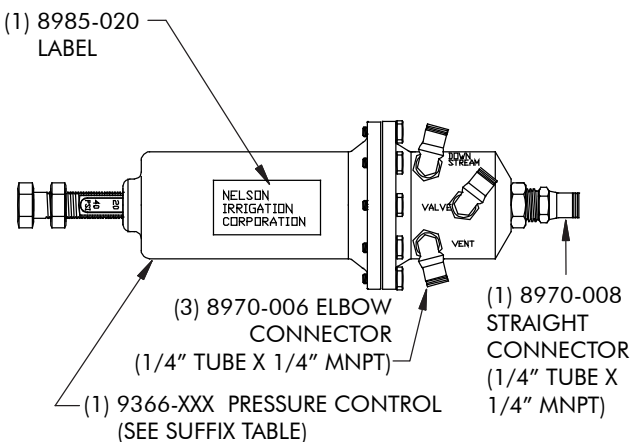
D18 RATE OF FLOW KITS

PIPE SIZE	FLOW (GPM)	INSTALL	KIT P/N
High-flow Models			
8"	900-3800	Remote	9778-001
8"	900-3800	In-valve	9778-002*
6"	500-2000	Remote	9778-003
6"	500-2000	In-valve	9778-004*
Low-flow Models			
8"	490-1530	Remote	9778-008
6"	330-1010	Remote	9778-007
4"	200-540	Remote	9778-006
3"	120-400	Remote	9778-005

*Contact Factory for availability.

PRESSURE REDUCING KITS, 1/4" TUBING — LARGE BODY PILOT
9529-00X FOR 4", 6", 8" VALVES

- (2) 8722 1/4-20 HEX HEAD BOLT
- (2) 6867 1/4 LOCK WASHER
- 30" 8970-005 PLASTIC TUBING
- (1) P/N 10645 RESTRICTOR ASSY

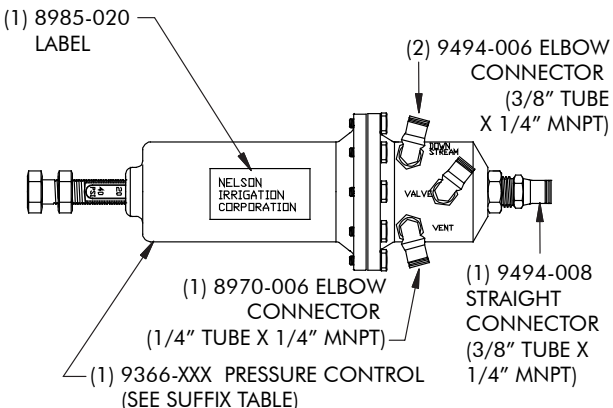


Model #	Kit	Pressure	Pilot
D2	9529-001	5-50 psi	9366-001
D3	9529-002	10-120 psi	9366-002
D4	9529-003	25-200 psi	9366-003

- (1) 8970-002 ELBOW CONNECTOR (1/4" TUBE X 1/8" MNPT)
- (1) 8970-007 TEE CONNECTOR (1/4" TUBE X 1/4" MNPT)
- (1) 8970-008 STRAIGHT CONNECTOR (1/4" TUBE X 1/4" MNPT)
- (1) 8970-009 MALE RUN TEE CONNECTOR (1/4" TUBE X 1/4" MNPT)

PRESSURE REDUCING KITS, 3/8" TUBING — LARGE BODY PILOT
9529-01X FOR 4", 6", 8" VALVES

- (2) 8722 1/4-20 HEX HEAD BOLT
- (2) 6867 1/4 LOCK WASHER
- 30" 9494-005 PLASTIC TUBING
- (1) P/N 10645 RESTRICTOR ASSY

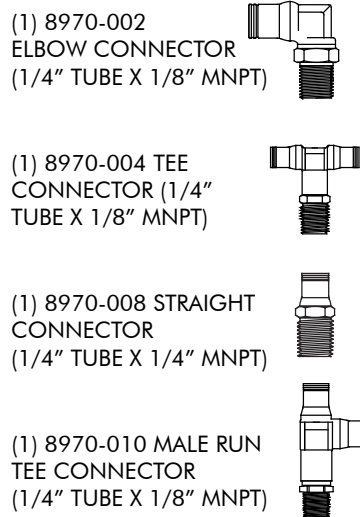
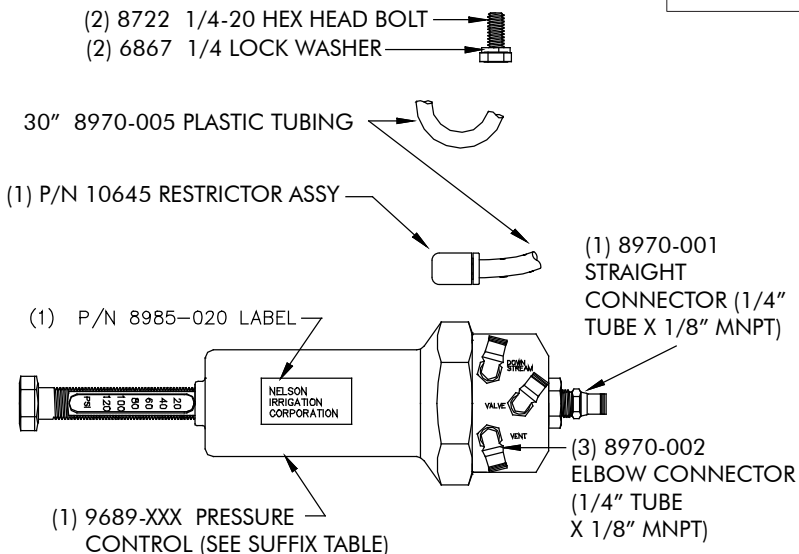


Model #	Kit	Pressure	Pilot
D2	9529-011	5-50 psi	9366-001
D3	9529-012	10-120 psi	9366-002
D4	9529-013	25-200 psi	9366-003

- (1) 8971-005 ADAPTER (1/4" FNPT X 1/8" MNPT)
- (1) 9494-006 ELBOW CONNECTOR (3/8" TUBE X 1/4" MNPT)
- (1) 9494-007 TEE CONNECTOR (3/8" TUBE X 1/4" MNPT)
- (1) 9494-008 STRAIGHT CONNECTOR (3/8" TUBE X 1/4" MNPT)
- (1) 9494-009 MALE RUN TEE CONNECTOR (3/8" TUBE X 1/4" MNPT)

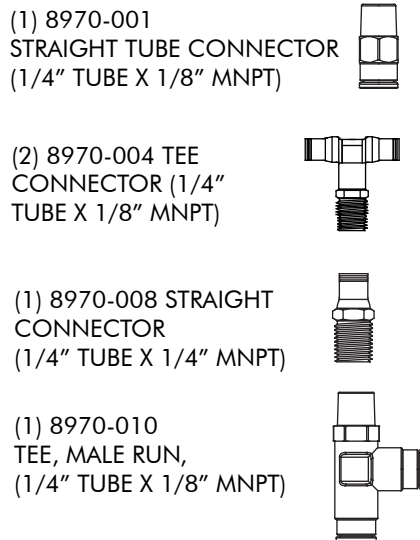
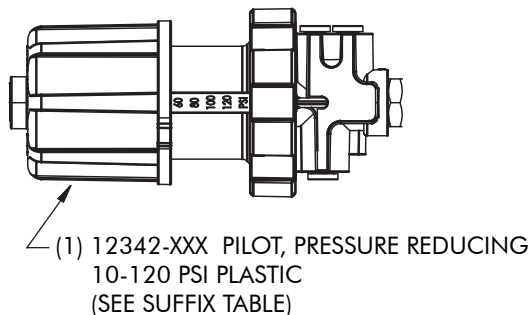
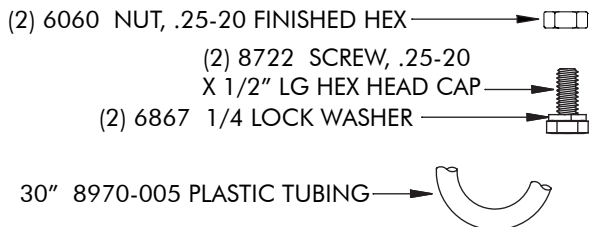
PRESSURE REDUCING KITS — SMALL BODY PILOT
9691-XXX FOR 2" & 3" VALVES

Model #	Kit	Pressure	Pilot
D11	9691-003	5-30 psi	9689-003
D12	9691-001	5-60 psi	9689-001
D13	9691-002	10-120 psi	9689-002



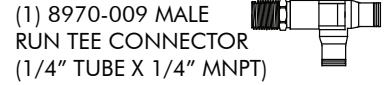
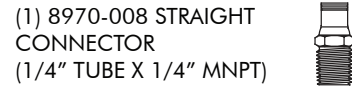
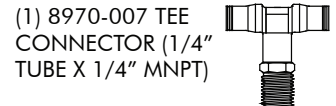
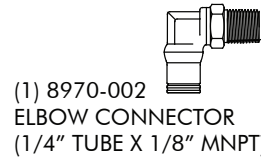
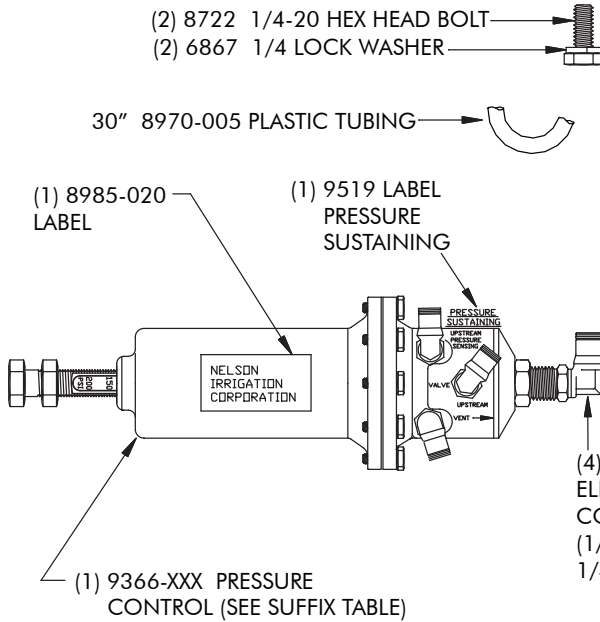
PRESSURE REDUCING KITS, 1/4" TUBING
SMALL PLASTIC PILOT
12340-XXX FOR 2" & 3" VALVES

Valve	Kit	Pressure	Pilot
3"	12340-019	5-60 psi	12342-001
	12340-020	10-120 psi	12342-002
	12340-021	5-30 psi	12342-003
2"	12340-022	5-60 psi (1 hole)	12342-007
	12340-023	10-120 psi (1 hole)	12342-008
	12340-024	5-30 psi (1 hole)	12342-009



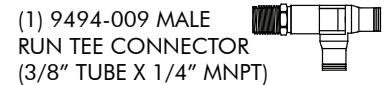
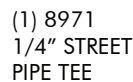
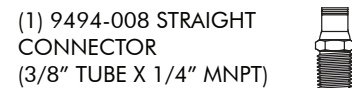
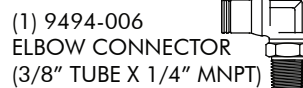
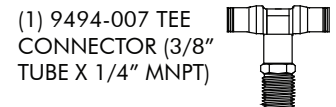
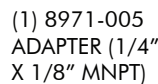
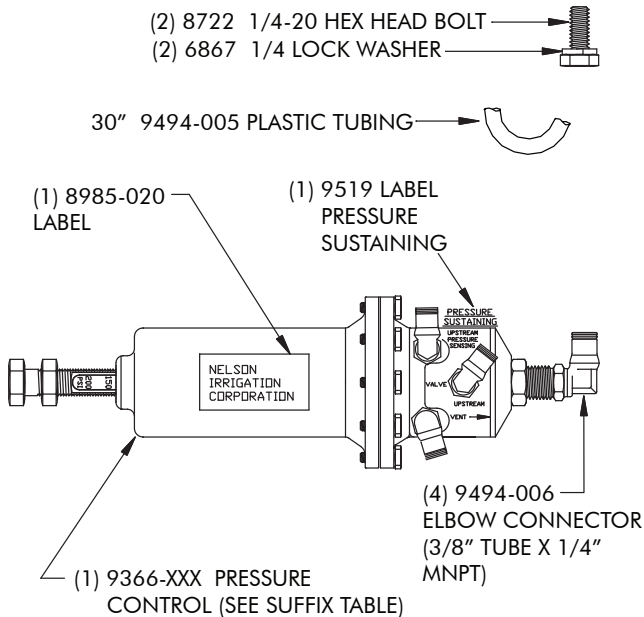
PRESSURE SUSTAINING KITS, 1/4" TUBING - LARGE BODY PILOT
9535-00X FOR 4", 6", 8" VALVES

Model #	Kit	Pressure	Pilot
D5	9535-003	25-200 psi	9366-003
D8	9535-002	10-120 psi	9366-002
D9	9535-001	5-50 psi	9366-001



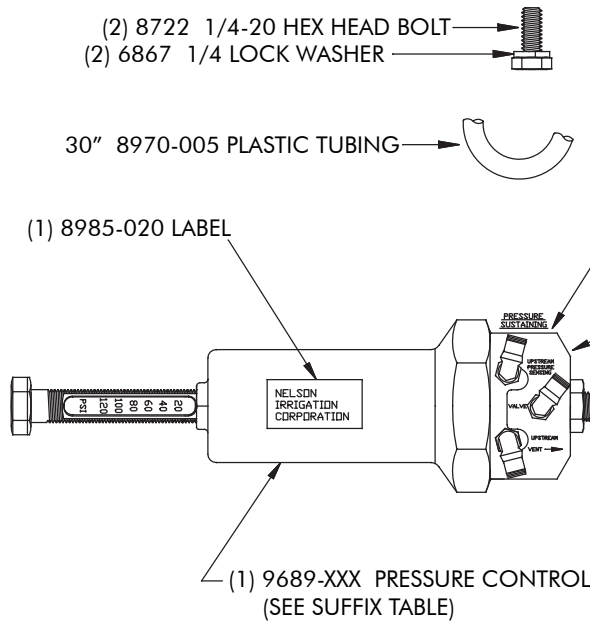
PRESSURE SUSTAINING KITS, 3/8" TUBING - LARGE BODY PILOT
9535-01X FOR 4", 6", 8" VALVES

Model #	Kit	Pressure	Pilot
D5	9535-013	25-200 psi	9366-003
D8	9535-012	10-120 psi	9366-002
D9	9535-011	5-50 psi	9366-001

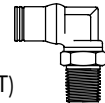


PRESSURE SUSTAINING KITS, 1/4" TUBING - SMALL BODY PILOT
9693-XXX FOR 2" & 3" VALVES

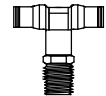
Model #	Kit	Pressure	Pilot
D15	9693-001	5-60 psi	9689-001
D16	9693-002	10-120 psi	9689-002



(1) 8970-002
ELBOW CONNECTOR
(1/4" TUBE X 1/8" MNPT)



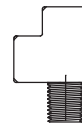
(2) 8970-004 TEE
CONNECTOR (1/4"
TUBE X 1/8" MNPT)



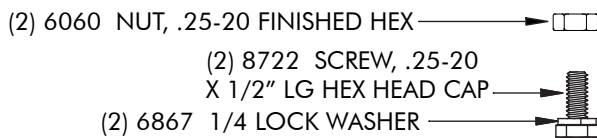
(1W) 8970-008 STRAIGHT
CONNECTOR
(1/4" TUBE X 1/4" MNPT)



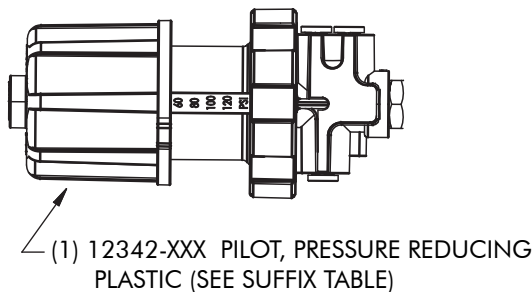
(1) 8971
1/4" STREET PIPE
TEE


PRESSURE SUSTAINING KITS, 1/4" TUBING
SMALL PLASTIC PILOT
12340-XXX FOR 2" & 3" VALVES

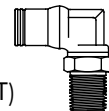
Valve	Kit	Pressure	Pilot
3"	12340-013	5-60 psi	12342-004
	12340-014	10-120 psi	12342-005
	12340-015	5-30 psi	12342-006
2"	12340-016	5-60 psi (1 hole)	12342-010
	12340-017	10-120 psi (1 hole)	12342-011
	12340-018	5-30 psi (1 hole)	12342-012



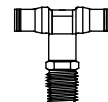
30" 8970-005 1/4" TUBING →



(1) 8970-002
ELBOW CONNECTOR
(1/4" TUBE X 1/8" MNPT)



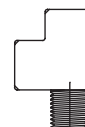
(1) 8970-004 TEE
CONNECTOR (1/4"
TUBE X 1/8" MNPT)



(1) 8970-008 STRAIGHT
CONNECTOR
(1/4" TUBE X 1/4" MNPT)



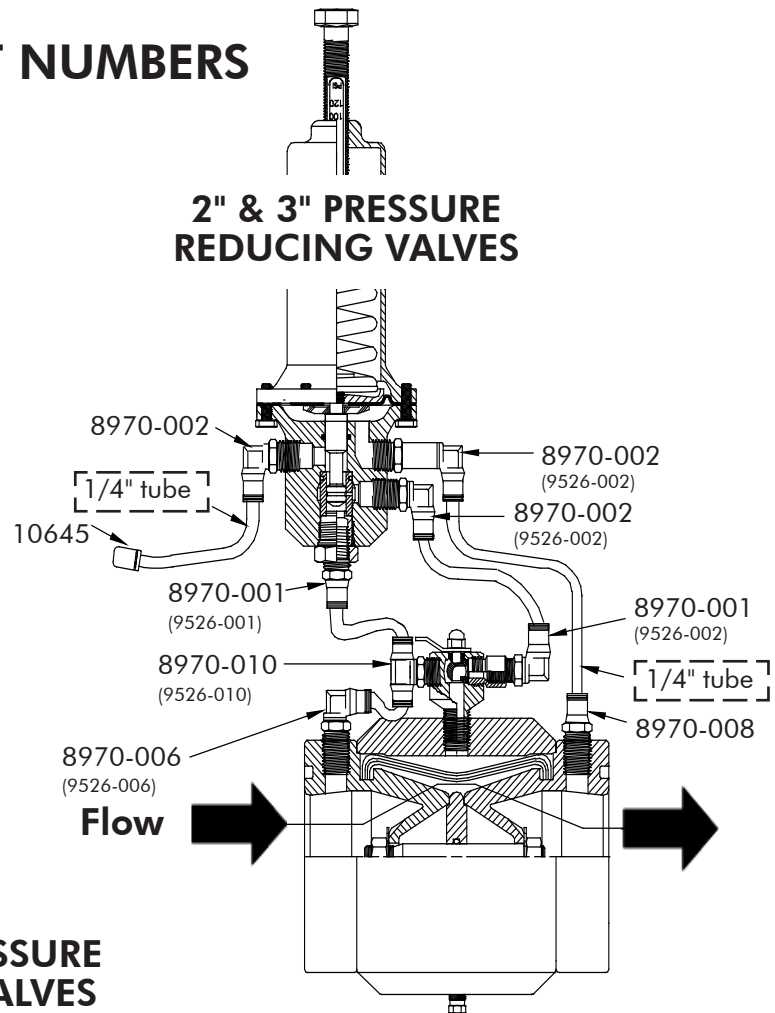
(1) 8971
1/4" STREET PIPE
TEE



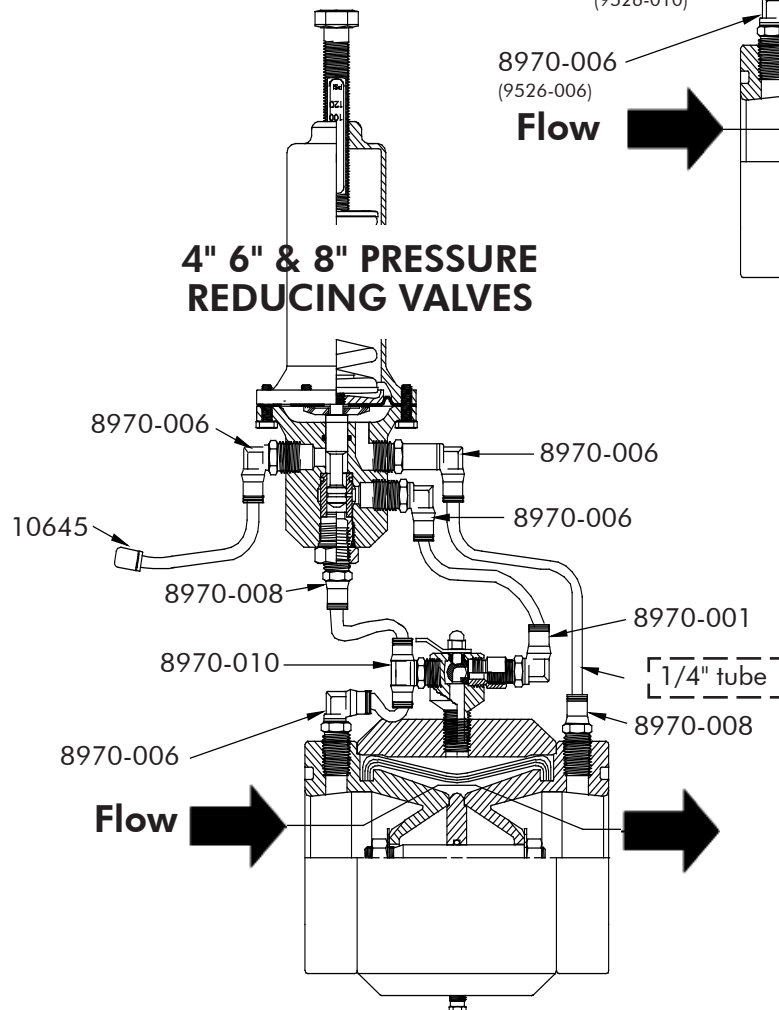
VALVE FITTING PART NUMBERS

ALL TUBE IS 1/4"
NOTE: Before January of 1999 all tube was 5/32", except for 1/4" on downstream and vent as shown in dashed box. Part numbers for pre-99 are shown in parentheses.

2" & 3" PRESSURE REDUCING VALVES

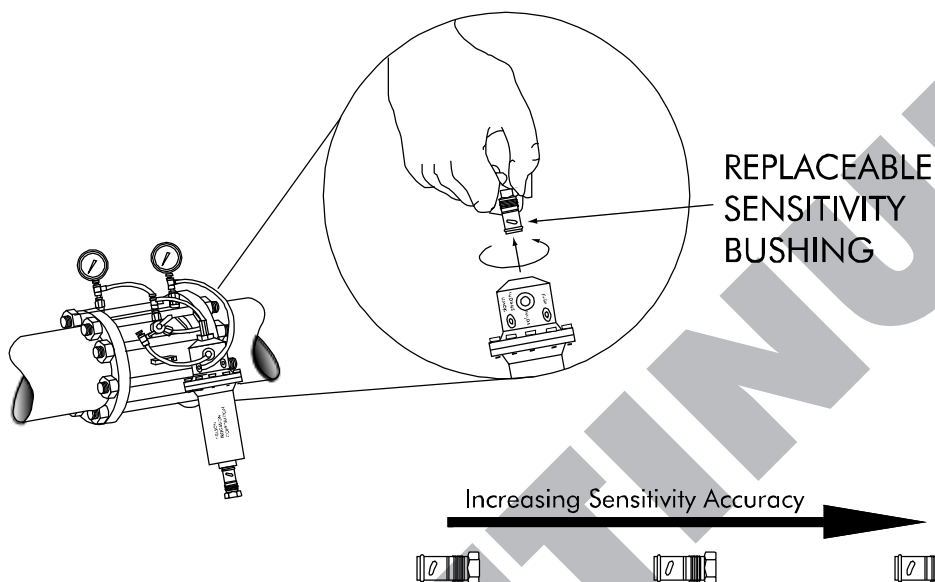


4" 6" & 8" PRESSURE REDUCING VALVES



PRESSURE CONTROL REPLACEABLE SENSITIVITY BUSHING

DISCONTINUED. Beginning 1/1/2014 the sensitivity bushing has been redesigned, eliminating the need for three replaceable bushings that have different pressure response and accuracy. The new bushing design improves both sensitivity and accuracy under a wide variety of applications. Pre-2014 pilots should be rebuilt using the corresponding upgrade kit.



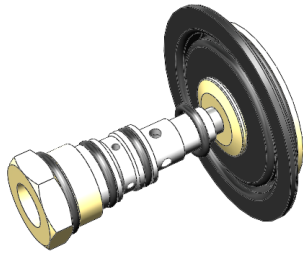
PRESSURE CONTROL OPTION	BLACK least accurate, dampens oscillations	BLUE standard accuracy, good all around	RED maintains the most accurate pressure (use if fastest response is desired)
5 - 50 PSI (0.3 - 3.4 BAR)	± 2 PSI (± 0.13 BAR)	± 1.5 PSI (± 0.10 BAR)	± 1 PSI (± 0.07 BAR)
10 - 120 PSI (0.7 - 8.3 BAR)	± 6 PSI (± 0.41 BAR)	± 4.5 PSI (± 0.31 BAR)	± 3 PSI (± 0.21 BAR)
25 - 200 PSI (1.7 - 13.8 BAR)	± 9 PSI (±0.62 BAR)	± 7 PSI (±0.48 BAR)	± 4 PSI (±0.28 BAR)

EXAMPLE 1: A drip irrigation system requiring 10 PSI: the upstream pressure does not change dramatically with changes in flow rate. The valve is close to the drip tape. Choose the 5-50 PSI pressure control because it will maintain 10 PSI more accurately than the higher pressure controls. Choose the red sensitivity insert to further increase the accuracy of downstream pressure.

EXAMPLE 2: A deep well turbine feeding some wheel lines and a pivot: the upstream pressure varies significantly with changing flow rate and long mainlines are used. Choose the 25-200 PSI pressure control because it will not try and make small changes to this very dynamic system. Use the black sensitivity insert to further dampen the pressure controls response. This system is like a long freight train ... it is not always constructive to micro manage the pressure.

PRESSURE CONTROL PARTS

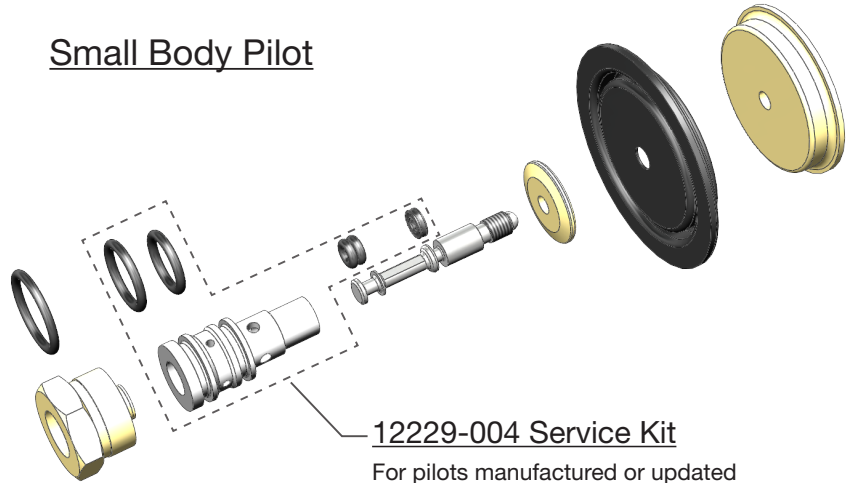
Note: Beginning 1/1/2014, the internal parts of the pressure control pilots have been updated to enhance performance. Pre-2014 pilots should be rebuilt using the corresponding upgrade kit. Service kits are only available for pilots manufactured or upgraded after 1/1/2014.



12229-001 Upgrade Kit

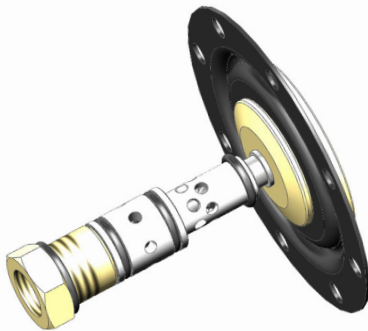
For pilots manufactured prior to 1/1/2014. Updates performance with a new spool/diaphragm assembly.

Small Body Pilot



12229-004 Service Kit

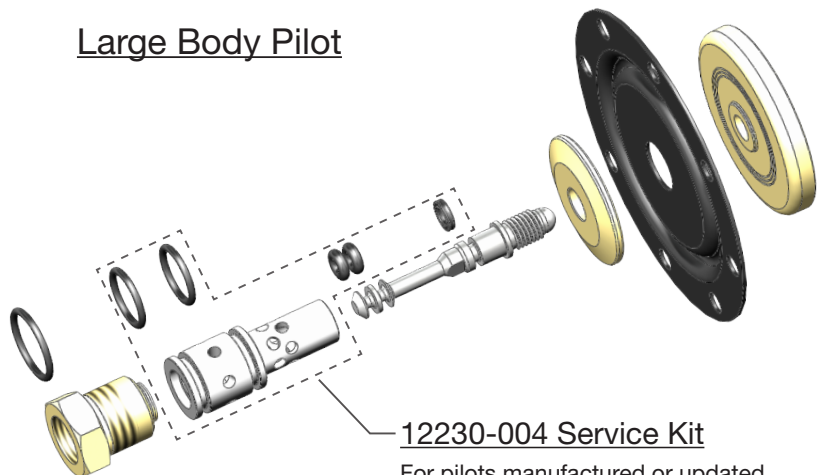
For pilots manufactured or updated after 1/1/2014. Replaces bushing and critical seals.



12230-001 Upgrade Kit

For pilots manufactured prior to 1/1/2014. Updates performance with a new spool/diaphragm assembly.

Large Body Pilot



12230-004 Service Kit

For pilots manufactured or updated after 1/1/2014. Replaces bushing and critical seals.

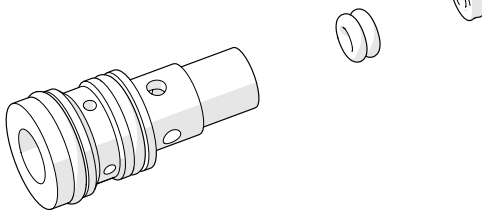
PRESSURE CONTROL PILOT — SERVICE KIT INSTALLATION

Service Kits

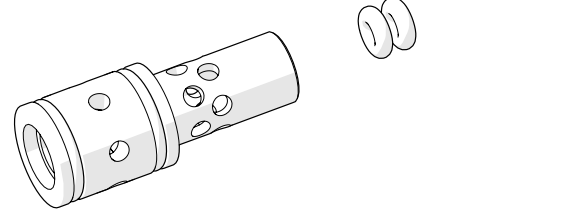
Part #	Description
12229-004	Small Body Pilot Service Kit
12230-004	Large Body Pilot Service Kit

New internal parts of the pressure control pilots were put into production beginning 1/1/2014. The internal parts in pre-2014 pilots cannot be serviced without first being rebuilt using the corresponding upgrade kit. Service kits are available to rebuild pilots manufactured or upgraded after 1/1/2014.

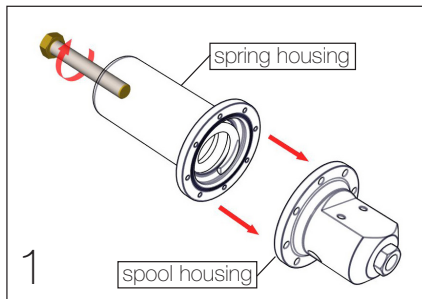
Small Body Pilot Service Kit
for 2" & 3" valves



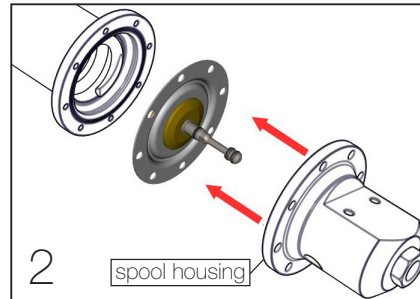
Large Body Pilot Service Kit
for 4", 6" and 8" valves



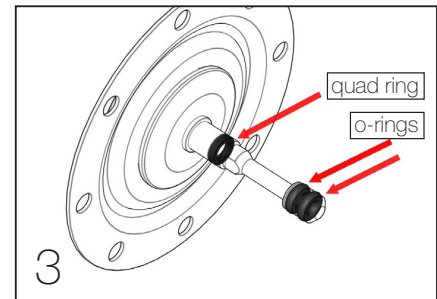
Service Kit Installation Instructions



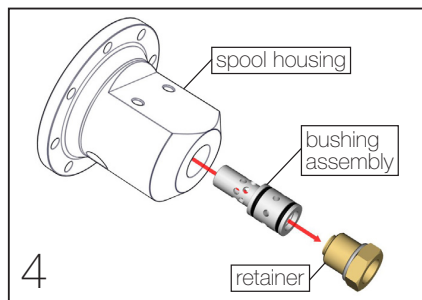
1 Back-off adjustment screw to remove pressure from the spring. Separate spring housing from spool housing.



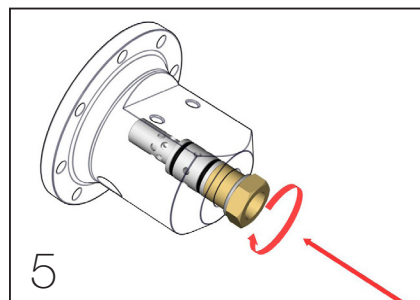
2 Remove spool assembly from spool housing.



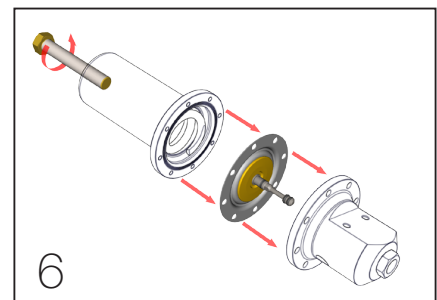
3 Replace o-rings and quad ring on spool.



4 Remove existing bushing assembly. Separate the retainer from the bushing assembly.



5 Install the new bushing assembly in the spool housing. Thread-in the retainer.



6 Install the spool assembly in spool housing. Re-assemble the spool housing and the spring housing. Set the adjustment screw to the desired pressure set point.

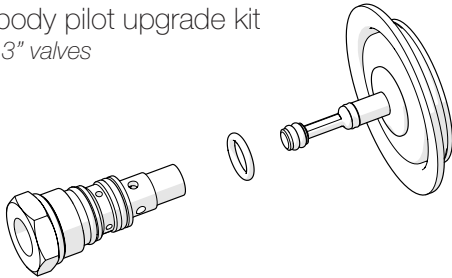
PRESSURE CONTROL PILOT — UPGRADE KIT INSTALLATION

Upgrade Kits

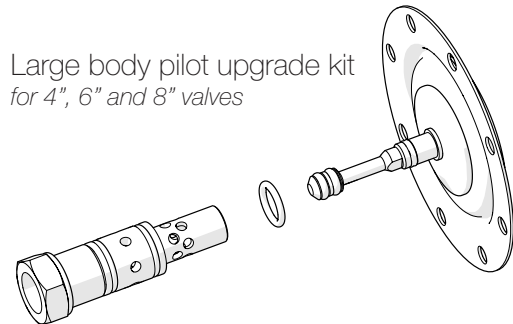
Part #	Description
12229-001	Upgrade kit, small body pilot
12230-001	Upgrade kit, large body pilot

New internal parts of the pressure control pilots were put into production beginning 1/1/2014. The internal parts in pre-2014 pilots cannot be serviced without first being rebuilt using the corresponding upgrade kit. Service kits are available to rebuild pilots manufactured or upgraded after 1/1/2014.

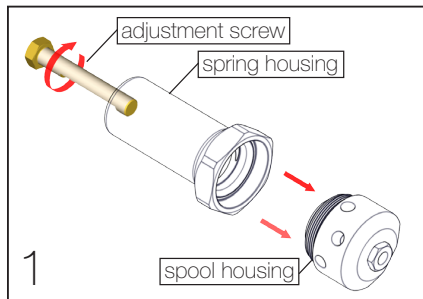
Small body pilot upgrade kit
for 2" & 3" valves



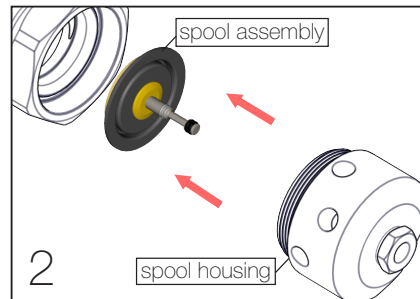
Large body pilot upgrade kit
for 4", 6" and 8" valves



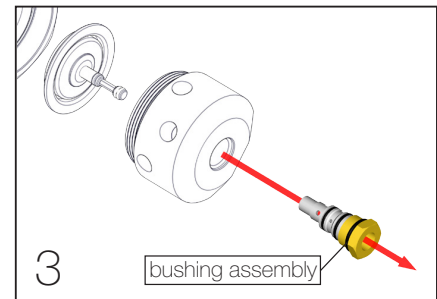
Upgrade Kit Installation Instructions



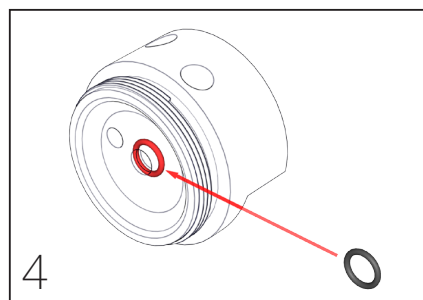
1 Back-off adjustment screw to remove pressure from the spring. Separate spring housing from spool housing.



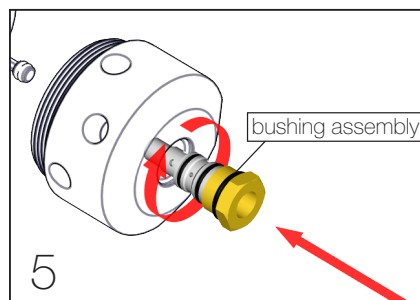
2 Remove spool assembly from spool housing.



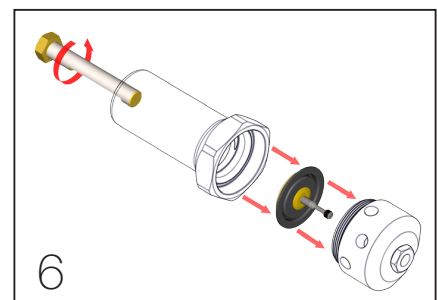
3 Remove existing bushing assembly from spool housing.



4 Replace o-ring in spool housing. Careful not to damage o-ring, making sure it is properly seated in the groove.



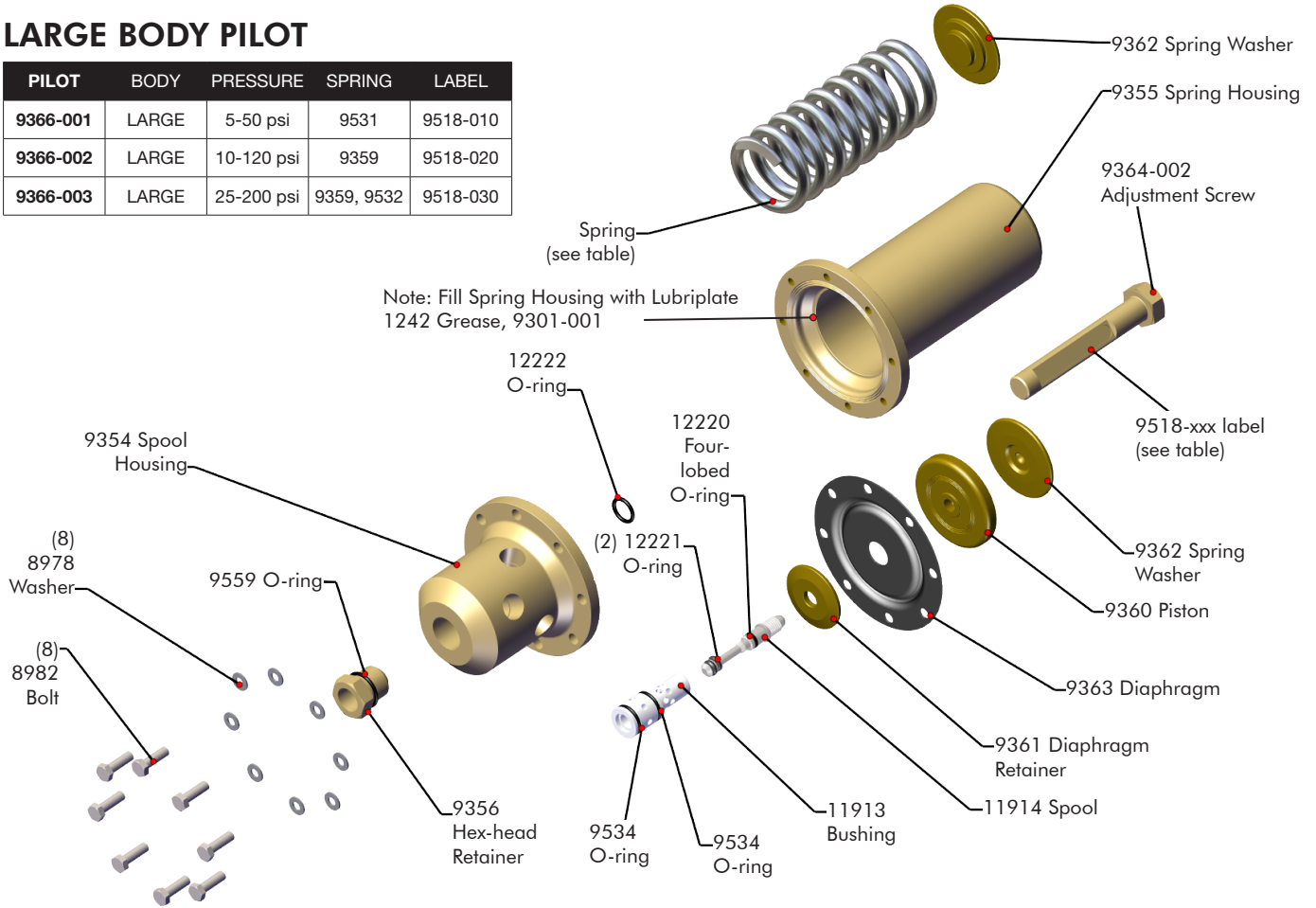
5 Install the new bushing assembly in the spool housing. Thread-in the retainer.



6 Install the new spool assembly in spool housing. Re-assemble the spool housing and the spring housing. Set the adjustment screw to the desired pressure set point.

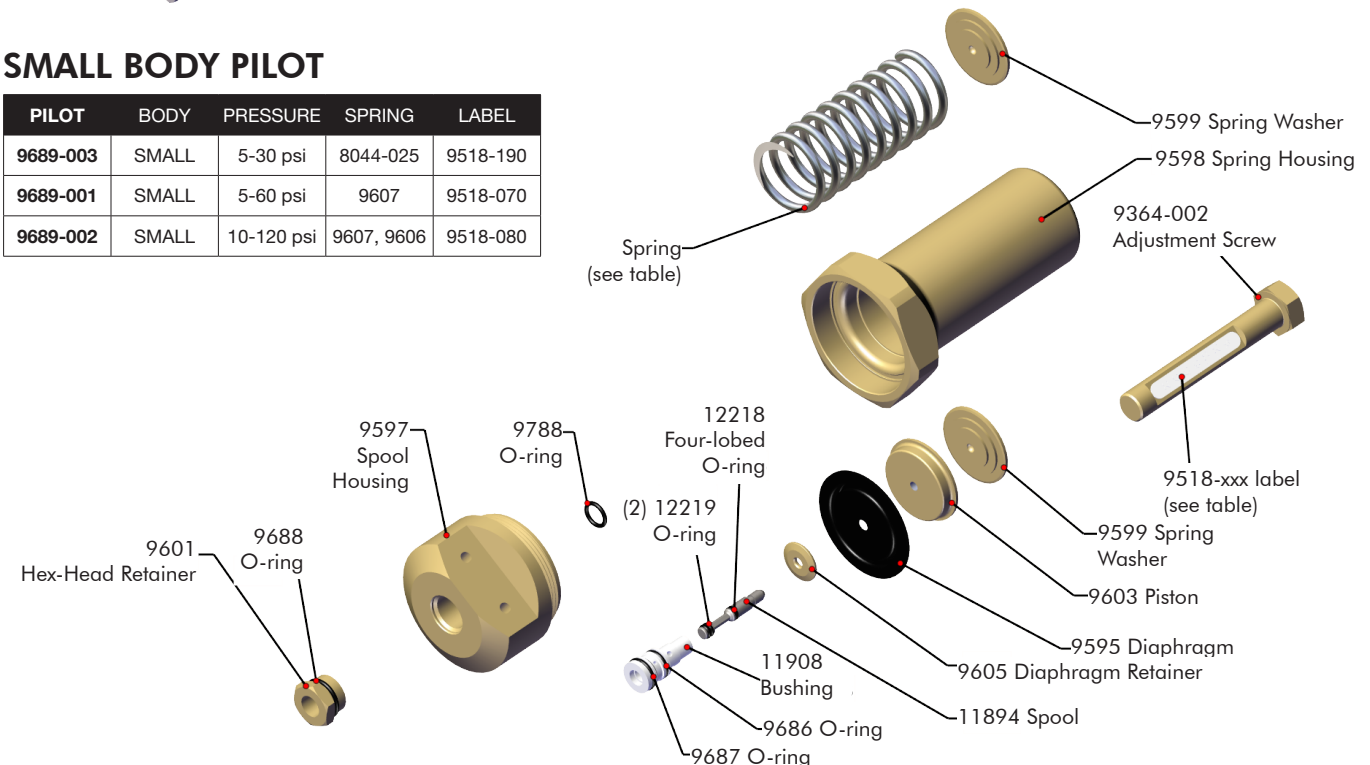
LARGE BODY PILOT

PILOT	BODY	PRESSURE	SPRING	LABEL
9366-001	LARGE	5-50 psi	9531	9518-010
9366-002	LARGE	10-120 psi	9359	9518-020
9366-003	LARGE	25-200 psi	9359, 9532	9518-030



SMALL BODY PILOT

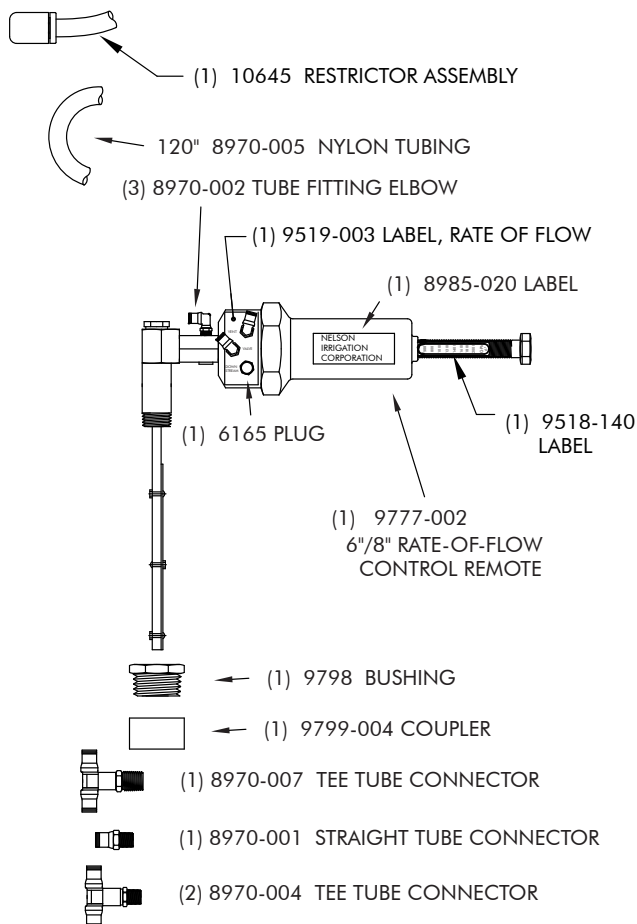
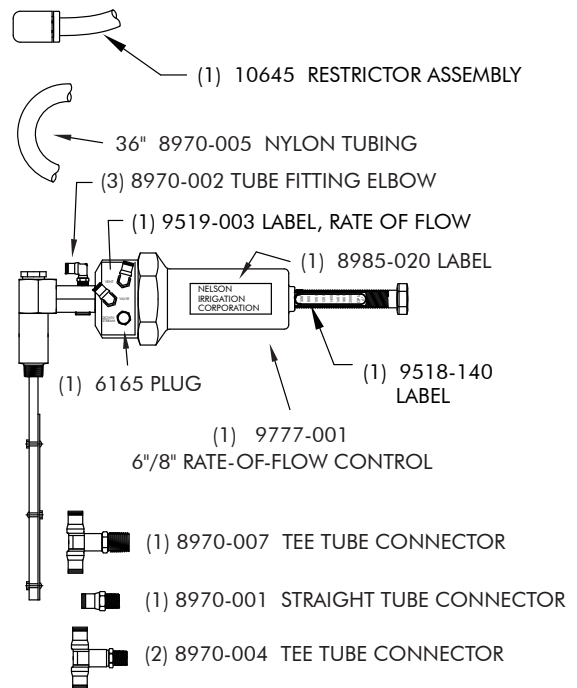
PILOT	BODY	PRESSURE	SPRING	LABEL
9689-003	SMALL	5-30 psi	8044-025	9518-190
9689-001	SMALL	5-60 psi	9607	9518-070
9689-002	SMALL	10-120 psi	9607, 9606	9518-080

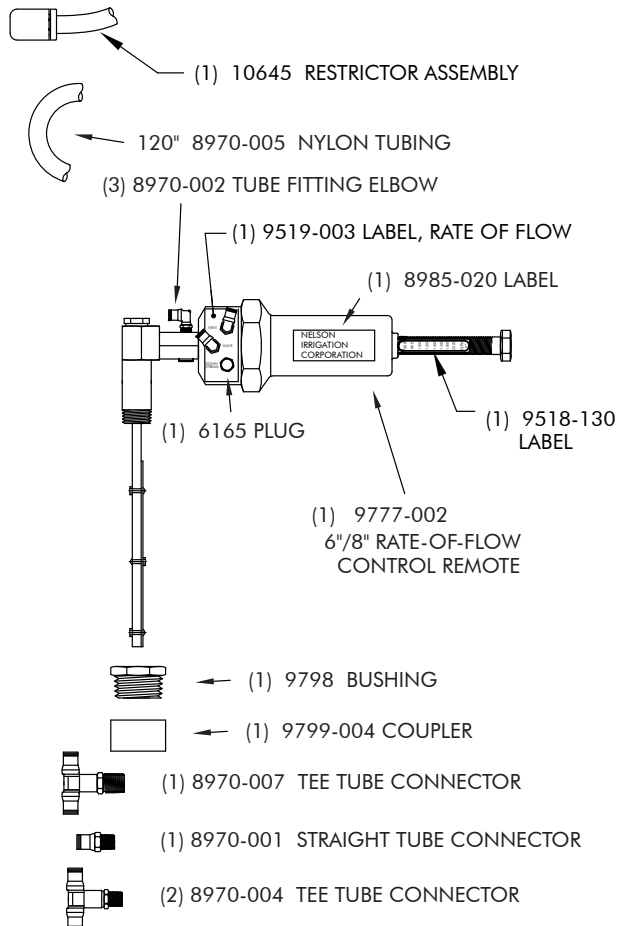
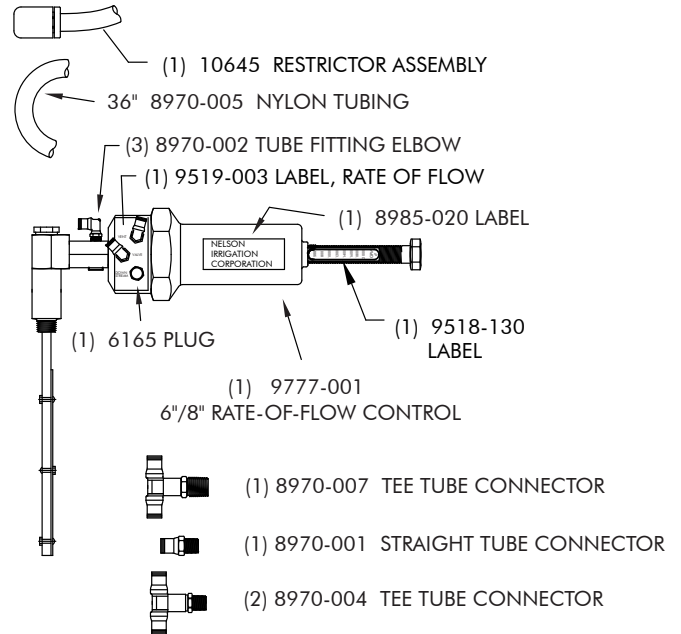


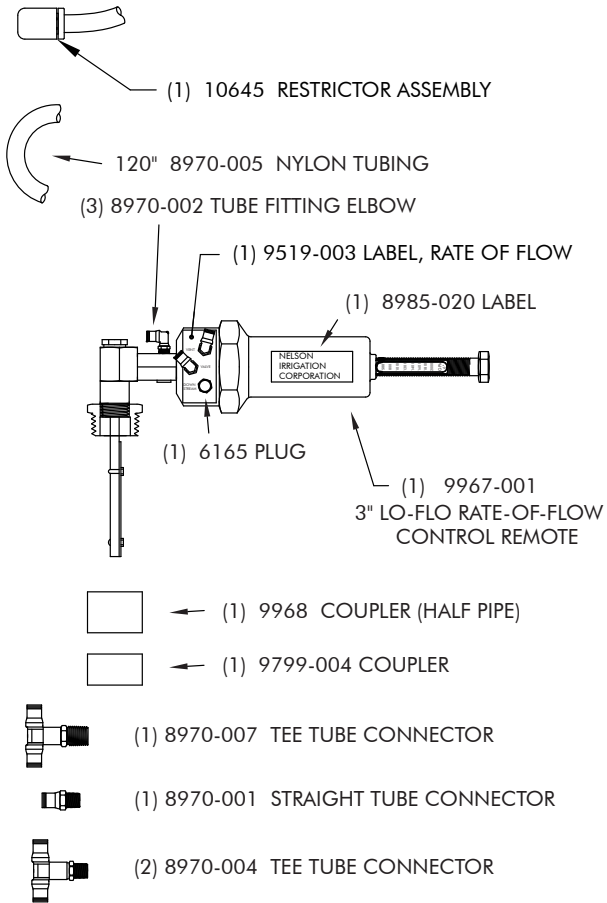
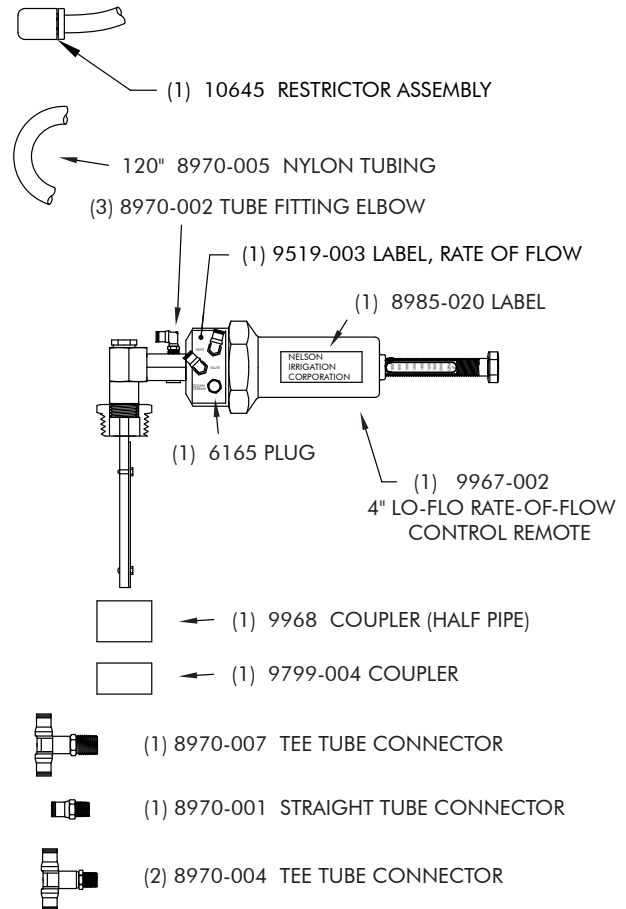
RATE-OF-FLOW KITS 9778-XXX
D18 RATE OF FLOW KITS

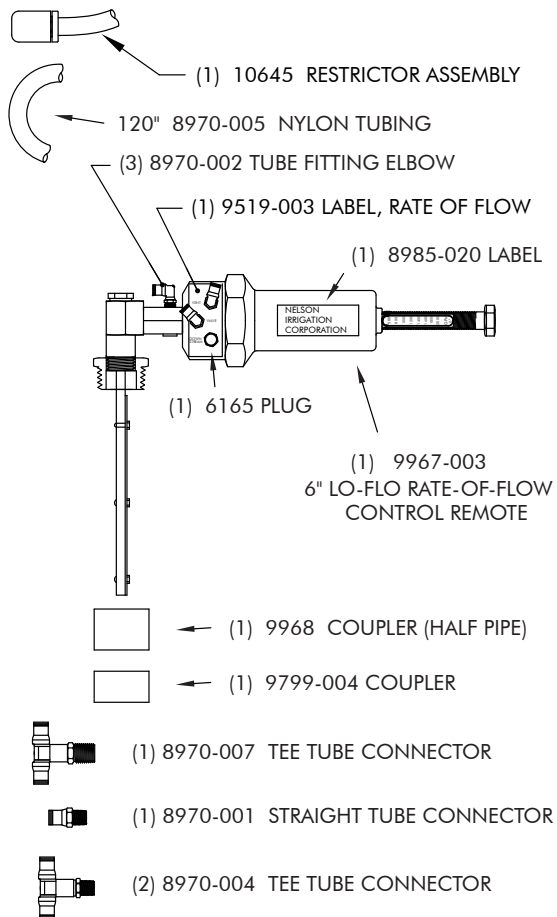
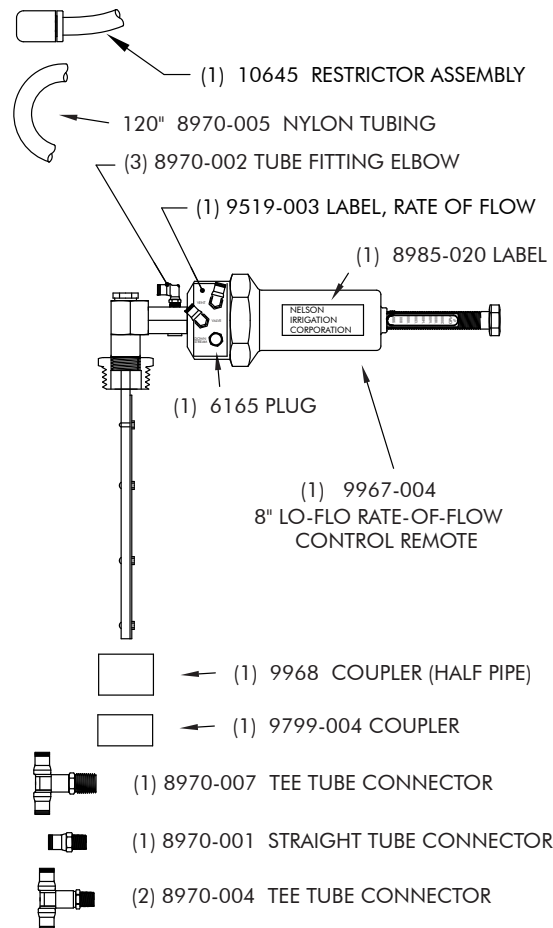
PIPE SIZE	FLOW (GPM)	INSTALL	KIT P/N
High-flow Models			
8"	900-3800	Remote	9778-001
8"	900-3800	In-valve	9778-002*
6"	500-2000	Remote	9778-003
6"	500-2000	In-valve	9778-004*
Low-flow Models			
8"	490-1530	Remote	9778-008
6"	330-1010	Remote	9778-007
4"	200-540	Remote	9778-006
3"	120-400	Remote	9778-005

*Contact Factory for availability.

**SUFFIX -001
D18 RATE-OF-FLOW 8" KIT, REMOTE**

**SUFFIX -002
D18 RATE-OF-FLOW 8" KIT, IN VALVE**


RATE-OF-FLOW KITS 9778-XXX
**SUFFIX -003
 D18 RATE-OF-FLOW 6" KIT, REMOTE**

**SUFFIX -004
 D18 RATE-OF-FLOW 6" KIT, IN VALVE**


RATE-OF-FLOW KITS 9778-XXX
**SUFFIX -005
 D18 RATE-OF-FLOW 3" KIT, LO-FLO REMOTE**

**SUFFIX -006
 D18 RATE-OF-FLOW 4" KIT, LO-FLO REMOTE**


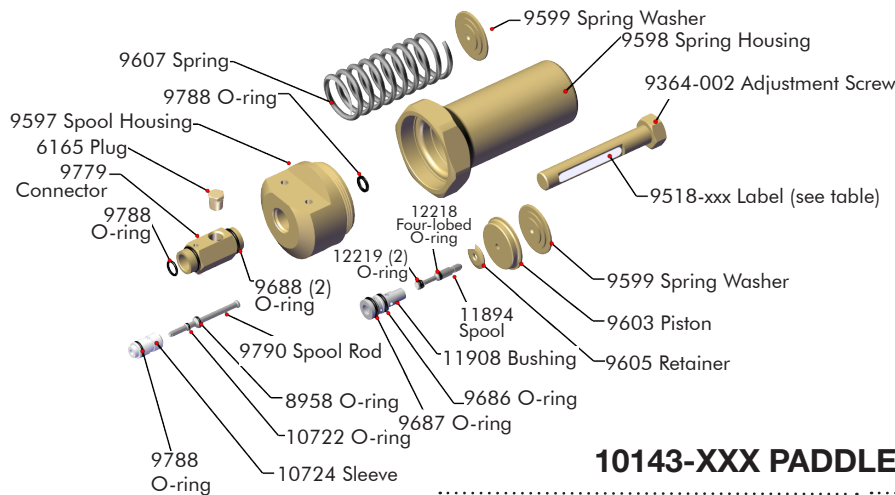
RATE-OF-FLOW KITS 9778-XXX
**SUFFIX -007
 D18 RATE-OF-FLOW 6" KIT, LO-FLO REMOTE**

**SUFFIX -008
 D18 RATE-OF-FLOW 8" KIT, LO-FLO REMOTE**


D18 RATE-OF-FLOW KITS

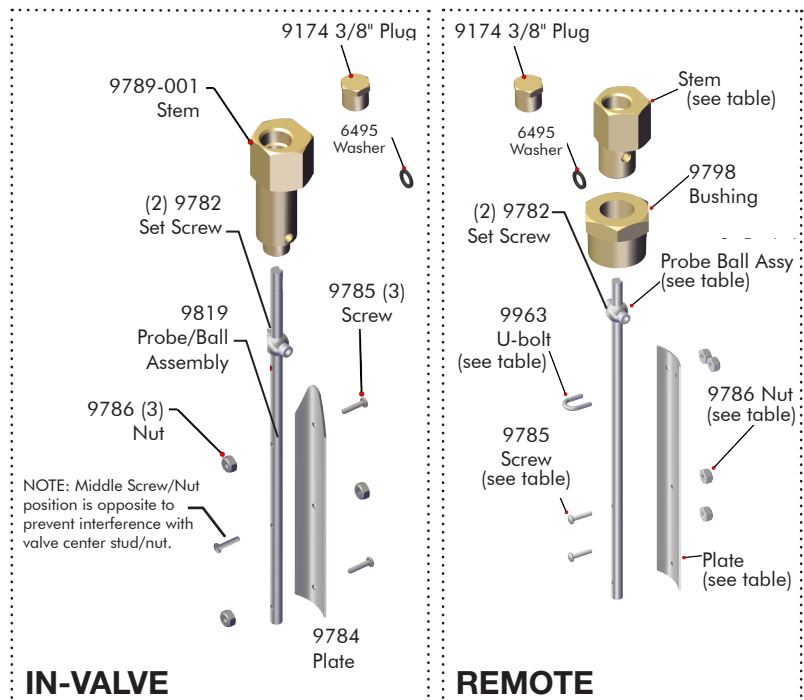
10143-xxx - Paddle Assembly Parts

PIPE SIZE	FLOW (GPM)	INSTALL	KIT	PILOT	LABEL	PADDLE ASSEMBLY	STEM	PROBE/BALL ASSY	PLATE	9785 SCREW QTY.	9786 NUT QTY.	9963 U-BOLT QTY.
High-flow Models												
8"	900-3800	Remote	9778-001	9777-002	9518-140	10143-006	9789-002	9819	9784	3	3	0
8"	900-3800	In-valve	9778-002*	9777-001	9518-140	10143-005	9789-001	9819	9784	3	3	0
6"	500-2000	Remote	9778-003	9777-002	9518-130	10143-006	9789-002	9819	9784	3	3	0
6"	500-2000	In-valve	9778-004*	9777-001	9518-130	10143-005	9789-001	9819	9784	3	3	0
Low-flow Models												
8"	490-1530	Remote	9778-008	9967-004	9518-180	10143-004	9935	9966-004	9965-004	3	5	1
6"	330-1010	Remote	9778-007	9967-003	9518-170	10143-003	9935	9966-003	9965-003	2	4	1
4"	200-540	Remote	9778-006	9967-002	9518-160	10143-002	9935	9966-002	9965-002	1	3	1
3"	120-400	Remote	9778-005	9967-001	9518-150	10143-001	9935	9966-001	9965-001	1	3	1

*Contact Factory for availability

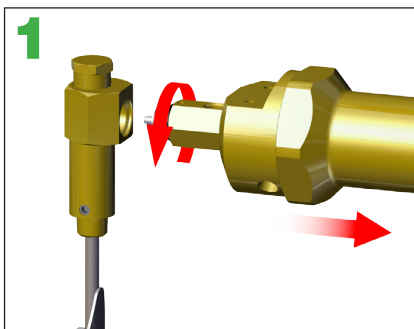
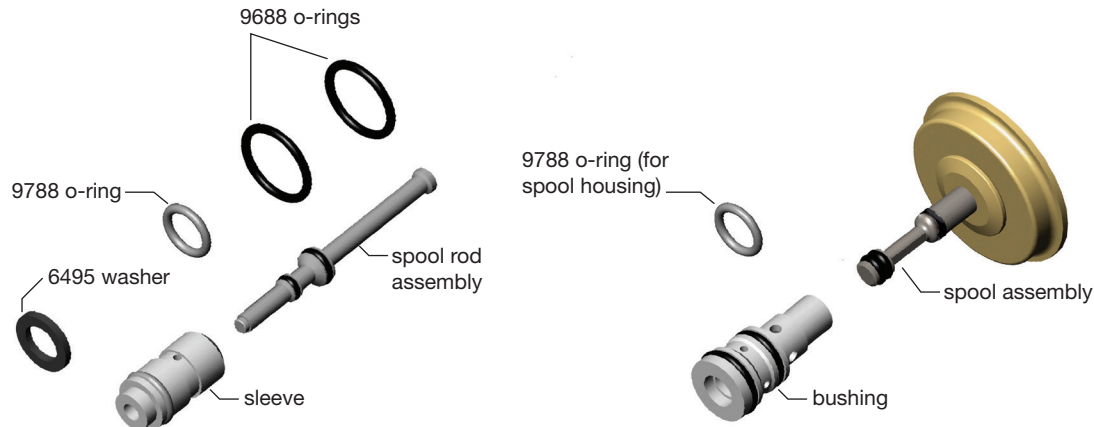


10143-XXX PADDLE ASSEMBLIES

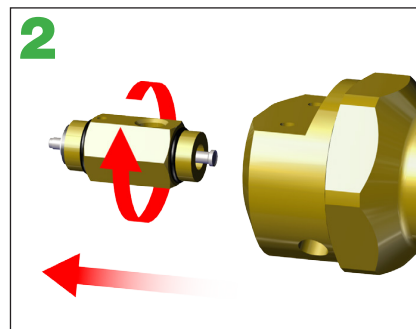


#12305-001 RATE-OF-FLOW PILOT UPGRADE KIT

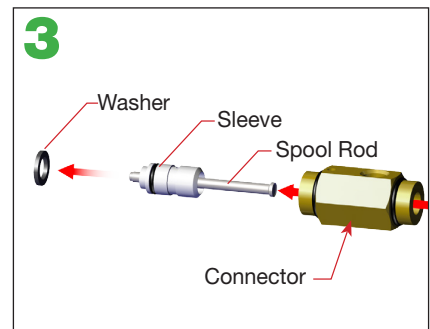
New internal parts of the Rate-of-Flow Control Pilots were put into production beginning 1/1/2014. The internal parts in pre-2014 pilots cannot be serviced without first being rebuilt using the upgrade kit (12305-001). Service kits (12305-002) are available to rebuild pilots manufactured or upgraded after 1/1/2014. The upgrade and service kits fit all models of Rate-of-Flow (3"-8", high and low-flow models).



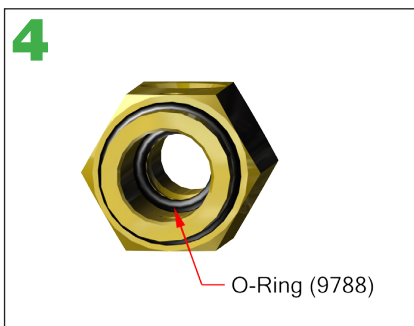
Back-off adjustment screw to remove pressure from the spring. Unthread pilot from stem.



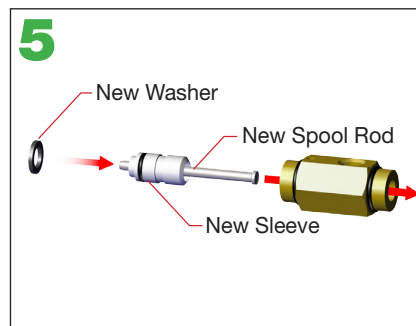
Unthread connector from the spool housing.



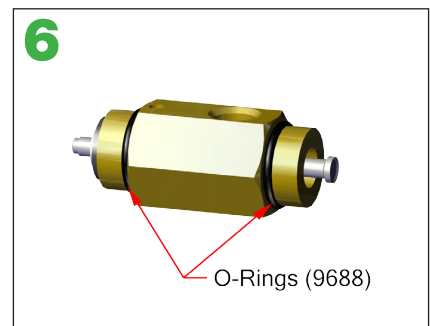
Remove the washer (6495) on the connector. Push the spool rod through the connector to remove both the spool rod and sleeve. Discard the washer, sleeve and spool rod.



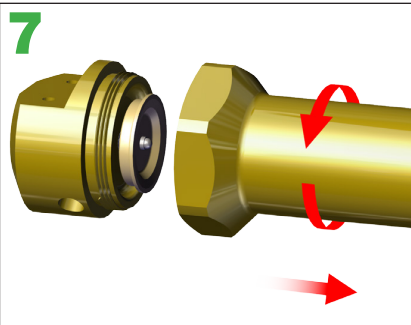
Replace the o-ring (9788) inside of the connector.



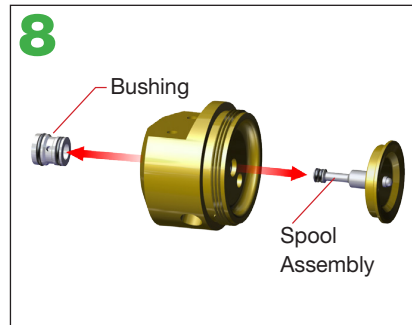
Replace the washer, sleeve (10724), and spool rod (9790) with the parts included in the upgrade kit.



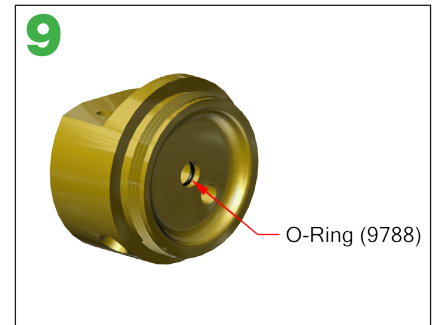
Replace the o-rings (9688) on the threads of the connector.

#12305-001 RATE-OF-FLOW PILOT UPGRADE KIT (CONT'D)


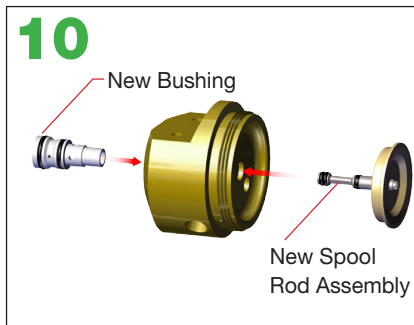
Unthread spool housing from the spring housing.



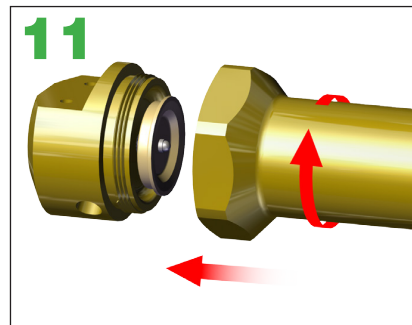
Remove and discard the old spool assembly and old bushing from the spool housing.



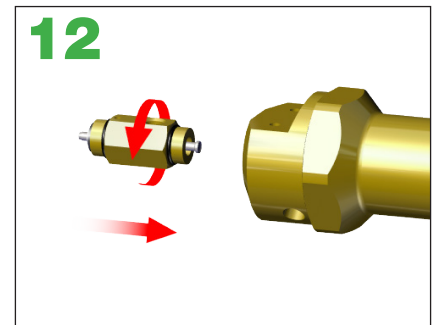
Replace the o-ring (9788) inside of the spool housing. Make sure inside of spool housing is free of debris. NOTE: Use an o-ring pick to remove and replace the o-ring.



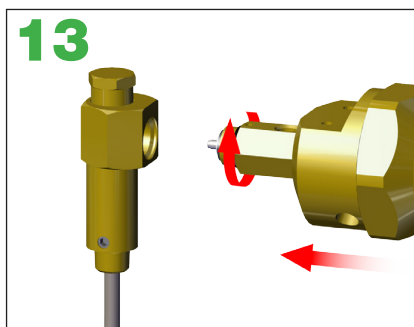
Insert the new bushing (11908) and new spool rod assembly into the spool housing.



Thread the spool housing back into the spring housing.



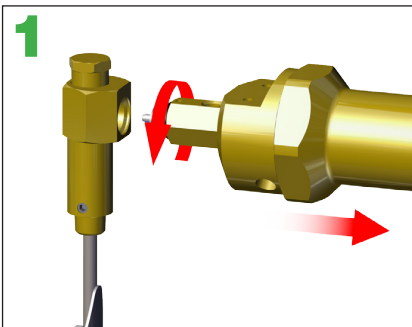
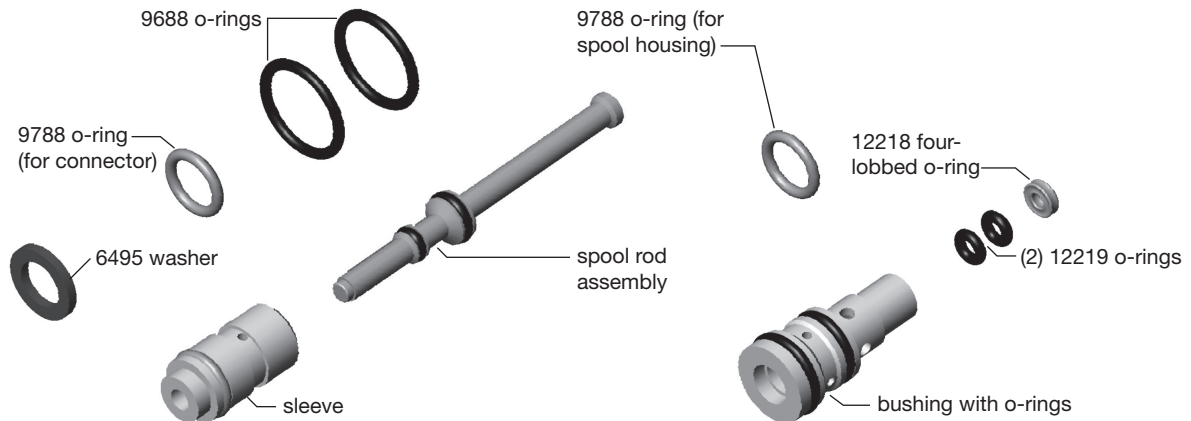
Thread the connector into the reassembled pilot body.



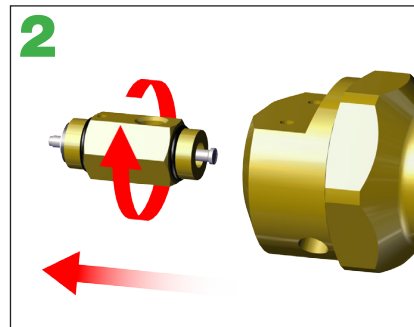
Thread the connector and pilot back onto the stem, making sure the washer is still in place.

#12305-002 RATE-OF-FLOW PILOT SERVICE KIT

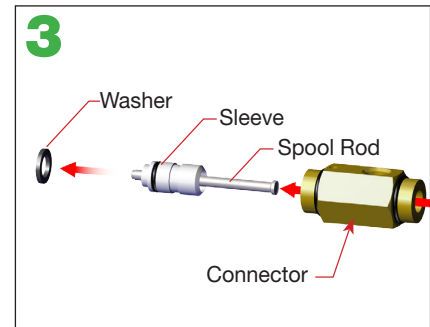
New internal parts of the Rate-of-Flow control pilots were put into production beginning 1/1/2014. The internal parts in pre-2014 pilots cannot be serviced without first being rebuilt using the upgrade kit (12305-001). Service kits (12305-002) are available to rebuild pilots manufactured or upgraded after 1/1/2014. The upgrade and service kits fit all models of Rate-of-Flow (3"-8", high and low-flow models).



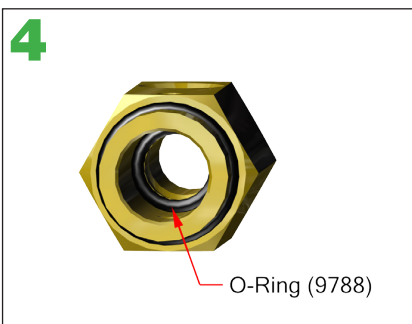
1 Back-off adjustment screw to remove pressure from the spring. Unthread pilot from stem.



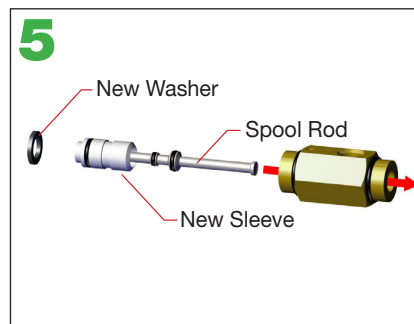
2 Unthread connector from the spool housing.



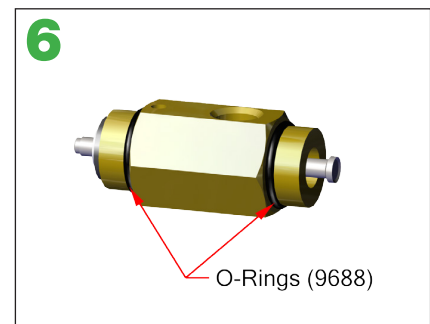
3 Remove the washer (6495) on the connector. Push the spool rod through the connector to remove both the spool rod and sleeve. Discard the washer and sleeve.



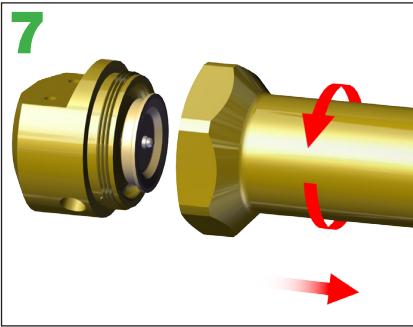
4 Replace the o-ring (9788) inside of the connector.



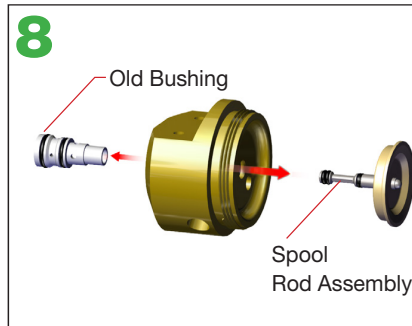
5 Replace the washer, sleeve (10724), and spool rod assembly.



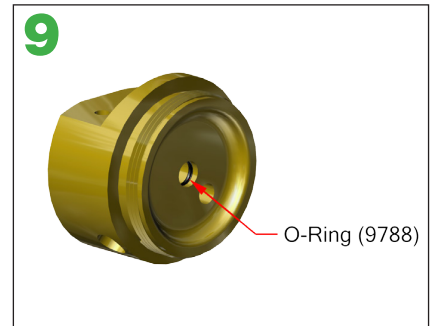
6 Replace the o-rings (9688) on the threads of the connector.

#12305-002 RATE-OF-FLOW PILOT SERVICE KIT (CONT'D)
7


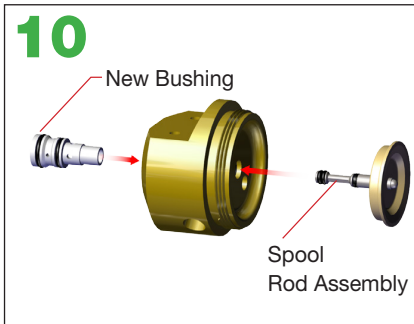
Unthread spool housing from the spring housing.

8


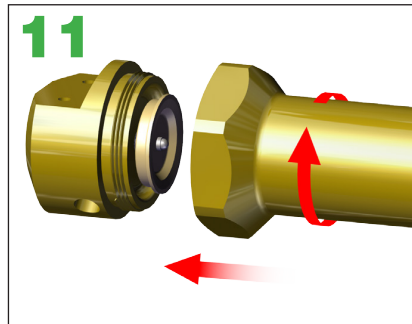
Remove spool assembly and replace 2 o-rings (12219) and the four-lobbed o-ring (12218). Remove and discard old bushing with o-rings.

9


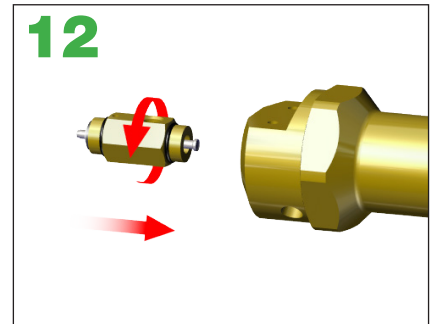
Replace the o-ring (9788) inside of the spool housing. Make sure inside of spool housing is free of debris. NOTE: Use an o-ring pick to remove and replace the o-ring.

10


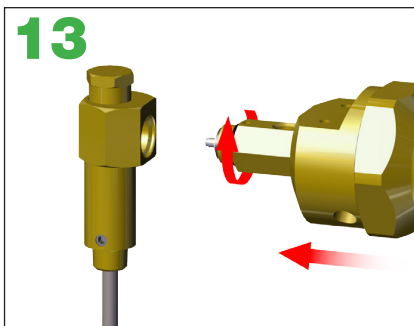
Insert the new bushing and spool rod assembly into the spool housing.

11


Thread the spool housing back into the spring housing.

12


Thread the connector into the reassembled pilot body.

13


Thread the connector and pilot back onto the stem, making sure the washer is still in place.