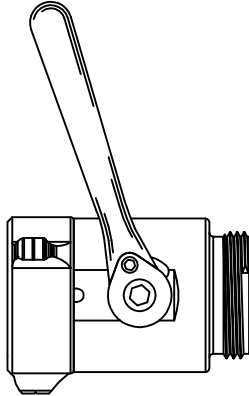


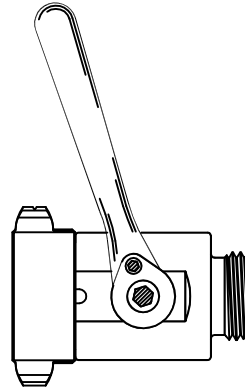


BALL VALVE

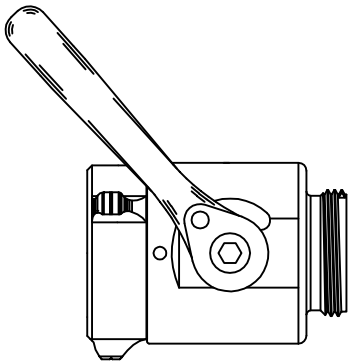
-SERVICE PROCEDURE-



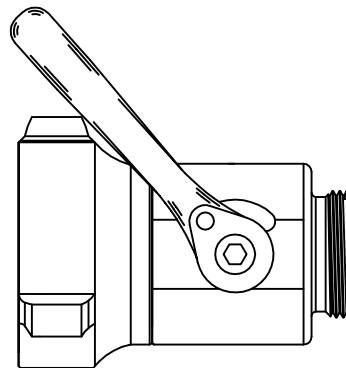
F100 SERIES



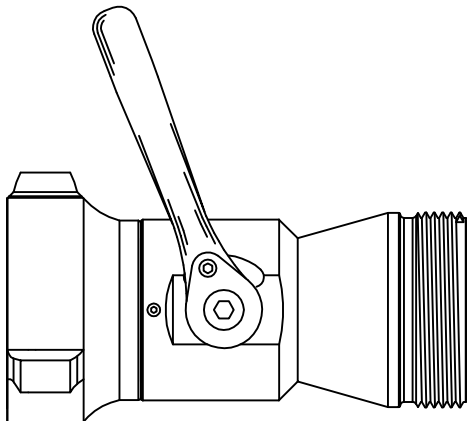
D75 SERIES



F140 SERIES



J140 SERIES



J140 SERIES



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BALL VALVE - SERVICE PROCEDURE -

Intended for use with all ball valves constructed of stainless steel with quick-change rear valve seat.

ITEMS NEEDED (not supplied in in repair kit)

- Bench Vise
- Hammer
- 1/8" Diameter Punch
- Safety Glasses
- Drill Press (or electric drill)
- Loctite 271

INSTRUCTIONS

- 1) Remove and discard Hose Gasket (20), Rear Seat (19), and O-ring (18).
- 2) Open or close bench vise until there is a gap between the jaws of 1/4" to 3/8". Prop Valve Handle (6) over gap so that Spirol Pins (5) can be driven into the gap between the vise jaws. Drive out the spirol pins using a 1/8" diameter punch. Note: Do not use a nail set or pointed punch. This may cause pins to expand, making it very difficult to remove. If possible, remove broken handle at this time. Be sure to wear safety glasses.
- 3) Pad vise jaws with several rags. Open valve and place repair mandrel through Valve Ball (16). Gently clamp valve in vise with one Trunnion (2) pointing up. Place allen wrench in end of Trunnion. Unscrew and discard trunnion along with O-ring (3). It may be necessary to place a piece of pipe or wrench on end of allen wrench for additional leverage.
- 4) Turn valve over in vise and repeat step #3.
- 5) Remove valve from vise and remove mandrel, Ball (16), Front Valve Seat (15), and Belleville Washer (14). Discard Valve Seat and Belleville Washer. Note: Earlier models may have an O-ring in place of the Belleville Washer.
- 6) Stand valve vertically on drill press and clamp in vise with coupling end up. Drop Belleville Washer (14) into Valve Body (1) (note orientation in drawing). Drop Front Valve Seat (15) into Valve Body (1) (note orientation in drawing). Drop Valve Ball (16) into Valve Body (1) and insert plastic mandrel through hole in ball.
- 7) Rotate Valve Ball (16) so that threaded holes are aligned with trunnion hole in Valve Body (1).
- 8) Install O-rings (3) on Trunnions (2).
- 9) Apply a thin film of grease (supplied) to O-rings and Trunnions, take care not to get any grease on the threads.

- 11) Place new Handle (6) in position over Valve Body (1). Make sure that "OFF" on the handle faces the coupling end of the valve.
- 12) Insert Trunnions (2) through Handle (6) and Valve Body (1) while pressing down on the plastic mandrel with drill press chuck or by hand. Note: It will take approximately 50 lb. to compress the Belleville Washer (14). Screw the Trunnion (2) into Valve Ball (16). Do not tighten yet.
- 13) Repeat step #12 with other Trunnion.
- 14) Clamp on allen wrench in vise with approximately 3/8" of the short end above the vise jaws.
- 15) Place one Trunnion on wrench in vise and second wrench in other Trunnion. The plastic mandrel should still be in the valve ball. Tighten both Trunnions as tight as you can by hand. Do not use a wrench or pipe on the allen wrench or threads may be damaged.
- 16) With the plastic mandrel still in the Valve Ball (16), pull the Handle (6) back to the open or "ON" position. Locate the small dimple on the Handle (6) above the Trunnions (2). Using the #22 drill (supplied), drill through the dimple, through the center of the Trunnion (2), and out the other side. Support the Handle (6) below the Trunnions (2) on the edge of the drill press table or on a pile of boards to insure that the hole passes through the center of the Trunnions (2).
- 17) Insert the new Spirol Pins (5) in the drilled holes and press, or gently tap them flush with the Handle (6).
- 18) Remove plastic mandrel. Lubricate and install O-ring (18) on Rear Valve Seat (19). Press Valve Seat (19) into Valve Body (1) (note orientation in drawing). Install new Hose Gasket (20).

If you have trouble, call 1-800-348-2686 for advice or send valve and remaining new parts to our service department. Failure to follow these instructions, or poor workmanship voids warranty.

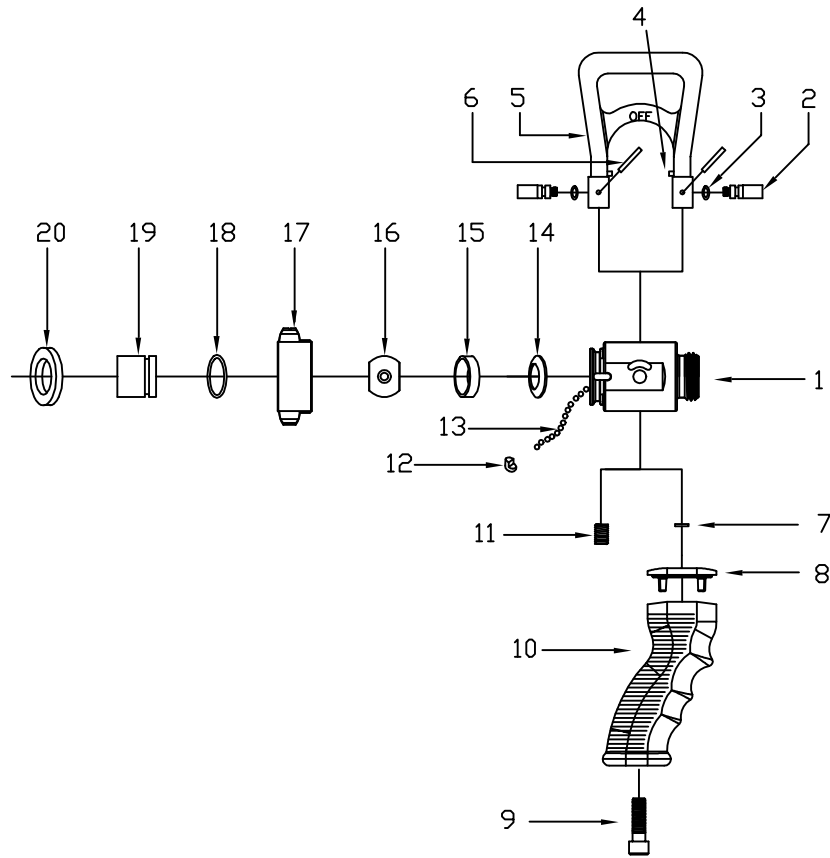
* Plastic Repair Mandrels:

3/4" Waterway (D75) - Part number D07535 (Included in repair kit D75-HRK)
1" Waterway (F100) – Part number F10035 (Included in repair kit F100-HRK)
1 3/8" Waterway (F140) – Part number F14035 (Included in repair kit F140-HRK)

* Valve Ball (16) and Valve Body (1) are NOT included in repair kits

Exploded view drawings and parts lists on following pages

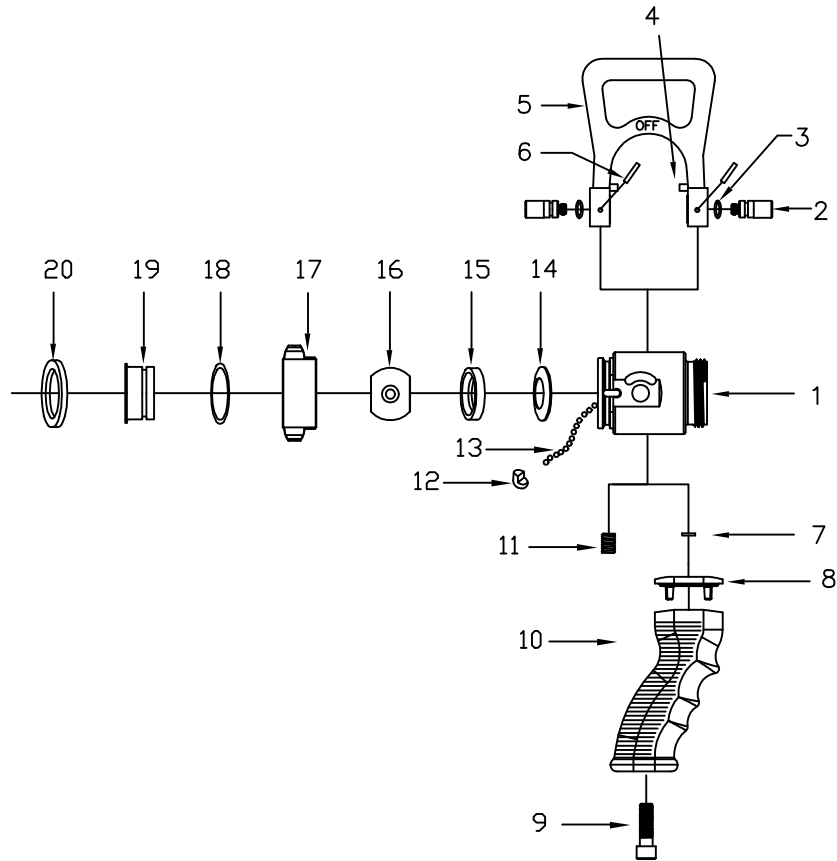
D75 1" Ball Valve



Ref #	Description	Qty.	Order #
1	75 Valve Body	1	D07520
2	75 Trunion	2	D07540
3	O-Ring-010	2	V3735-010
4	Stop Pin	2	D07550
5	75 Shutoff Handle	1	D07560
6	5/32 x 7/8 HDP Spirol Pin	2	V1900
7	Washer	1	VM4901
8	Pistol Grip Spacer	1	HM693-D
9	Socket Cap Screw	1	VT37-16SH1.0
10	Pistol Grip	1	HM692-BLK
11	3/8-16 x 5/16 Socket Set	1	VT37-16SS312
12	Port Plug	1	B770
13	3/16 SS Ball 302 SS	26	V2120
14	Belleville Washer	1	D07590
15	75 Front Seat	1	D07570
16	75 Ball	1	D07530
17**	75 Coupling	1	D07597**
18	O-Ring-120	1	VO-120
19	75 Rear Seat	1	D07580
20	Coupling Gasket 1.0"	1	V3040

** - State desired thread when ordering.

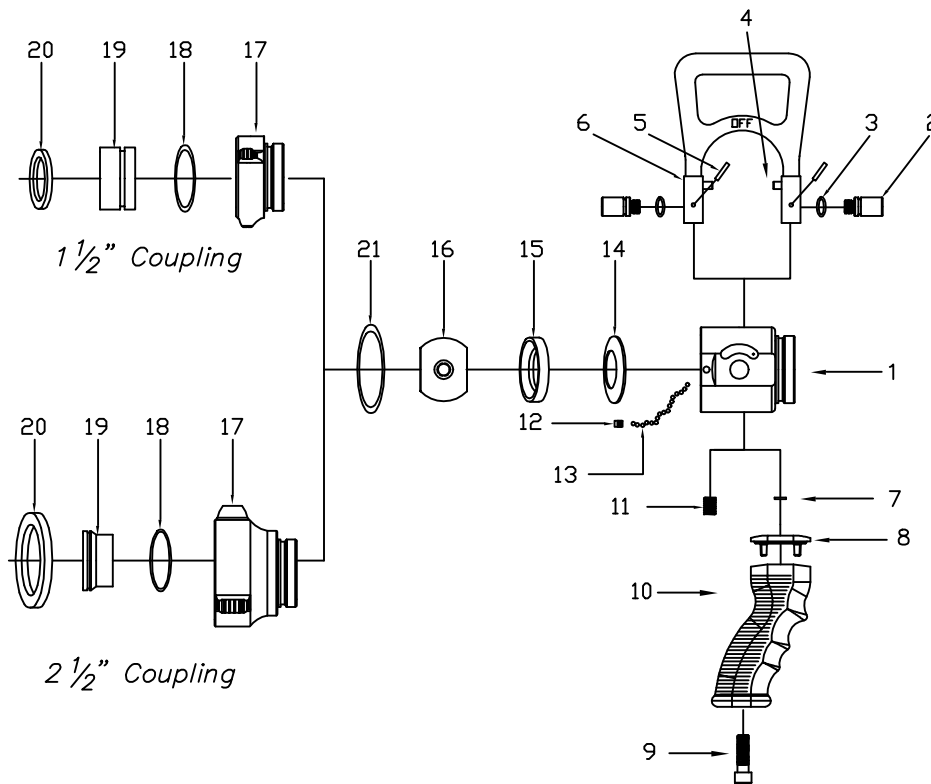
F100 1 1/2" Ball Valve



Ref #	Description	Qty.	Order #
1	100 Valve Body	1	F10020N
2	100 Trunion	2	F10040
3	O-Ring-012	2	VO-012
4	Stop Pin	2	F10050
5	100 Shutoff Handle	1	F10060
6	5/32 x 7/8 HDP Spirol Pin	2	V1900
7	Washer	1	VM4901
8	Pistol Grip Spacer	1	HM693-F
9	Socket Cap Screw	1	VT37-16SH1.0
10	Pistol Grip	1	HM692-BLK
11	3/8-16 x 5/16 Socket Set	1	VT37-16SS312
12	Port Plug	1	B770
13	3/16 SS Ball 302 SS	34	V2120
14	Belleville Washer	1	F10090
15	100 Front Seat	1	F10070
16	100 Ball	1	F10030
17**	1.5" Coupling	1	F10097**
18	O-Ring-126	1	VO-126
19	100 Rear Seat	1	F10080
20	Coupling Gasket 1.5"	1	V3130

**— State desired thread when ordering.

F140 1½" Ball Valve and J140 2½" Ball Valve



Ref #	Description	Qty	Order #
1	140 Valve Body (1.5"NH)	1	F14020N
	140 Valve Body (2.5"NH)	1	J14020N
2	140 Trunion	2	F14040
3	O-Ring-014	2	VO-014
4	5/32 x 1-1/8 Spirol HDP	2	V1920
5	Stop Pin	2	F14050
6	140 Handle	1	F14060
7	3/8" Flat Washer	1	VM4901
8	Grip Spacer	1	HM693-J
9	3/8-16 x 1.0 Socket Cap	1	VT37-16SH1.0
10	Pistol Grip	1	HM692-BLK
11	3/8-16 x 5/16 Socket Set	1	VT37-16SS312
12	1/4-28 x 3/16 Socket Set	36	V2120
13	3/16 SS Ball 302 SS	1	VT25-28SS187
14	Belleville Washer	1	J14090
15	140 Front Seat	1	F14070
16	140 Ball	1	F14030
17**	140 Coupling (F140)	1	F14097**
	140 2.5" Coupling (J140)	1	J14097**
18	O-Ring -129 (F140)	1	VO-129
	O-Ring -032 (J140)	1	VO-032
19	140 Rear Seat (F140)	1	F14080
	140 Rear Seat 2.5" (J140)	1	J14080
20	Coupling Gasket 1.5" (F140)	1	V3130
	Coupling Gasket 2.5" (J140)	1	V3190
21	O-Ring-140	1	VO-140

**— State desired thread when ordering.