3A5413F

Pulse[®], SDP and SDM Metered Dispense Valve Repair

For dispensing oil, automatic transmission fluid (ATF), gear oils, antifreeze and windshield washer solvent.

Not approved for use in explosive atmospheres or hazardous locations. For professional use only.

Metered Dispense Valve Models: (page 5)

1500 psi (10 MPa, 103 bar) Maximum Working Pressure

Repair Kits

26C287: Pulse Bezel Replacement, page 8 26C403: SDP8/18 Bezel Replacement, page 8

26C484: SDM8 and SDM18 Bezel

Replacement, page 8

25D906: Swivel Seal and Filter

Replacement, page 12

25D903: Trip Rod Replacement for Pulse

and SDP meters, page 15

26C394: Trip Rod Replacement for SDM8

and SDM18 meters, page 17

25D904: Valve Replacement, page 19 25P665: Power Cable Replacement, page

11



Important Safety Instructions

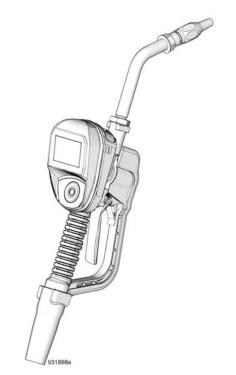
Read all warnings and instructions in this manual and related Pulse System manuals. Save all instructions.

NOTICE

The metered dispense valve is designed to dispense petroleum-based lubricants, windshield washer solvent and antifreeze only. Dispensing brake cleaner and/or harsh solvents may damage the plastic components.

Related Manuals

3A5412 - Pulse Metered Dispense Valve Installation and Operation 3A6711 - SMD8 and SDM18 Metered Dispense Valves Installation and Operation 3A6673 - SDP8 and SDP18 Preset Metered Dispense Valves Installation and Operation



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Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

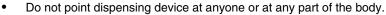
MARNING



SKIN INJECTION HAZARD



High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**





- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment.



- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.



EQUIPMENT MISUSE HAZARD



Misuse can cause death or serious injury.



- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
 Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Specifications** in all equipment
- manuals.
 Use fluids and solvents that are compatible with equipment wetted parts. See
 Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request
- Safety Data Sheets (SDSs) from distributor or retailer.
 Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you
 are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

Warnings

↑ WARNING



FIRE AND EXPLOSION HAZARD



When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well-ventilated area.
- Eliminate all ignition sources, such as cigarettes and portable electric lamps.
- Ground all equipment in the work area.
- Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Use only grounded hoses.
- Stop operation immediately if static sparking occurs or you feel a shock. Do
 not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.



PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eye wear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

CALIFORNIA PROPOSITION 65

WARNING: This product can expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65warnings.ca.gov.

Models

Pulse	SDP	SDM		Exten-			Volu	lax netric Rate
Model	Model	Model	Swivel	sion	Nozzle	Fluid	GPM	LPM
25M317	26C384	25M404	1/2 NPT	Rigid	Auto- matic	Oil	8	30
25M318	26C385	25M405	1/2 NPT	Rigid	Anti- freeze	Anti- freeze	8	30
25M319	26C354	25M406	1/2 NPT	Flexible	Auto- matic	Oil	8	30
25M320	26C355	25M407	1/2 NPT	Flexible	Anti- freeze	Anti- freeze	8	30
25M323	26C356	25M410	1/2 NPT	Rigid	High Flow	Oil	18	68
25M324	26C357	25M411	1/2 NPT	Flexible	High Flow	Oil	18	68
25M326	26C358	25M413	1/2 NPT	Gear Lube	Manual	Gear Lube	5	19
25M328	N.A.	25M415	1/2 NPT	Rigid, open	None	WWS*	8	30
25M329	26C360	25M416	3/4 NPT	Rigid	High Flow	Oil	18	68
25M330	26C361	25M417	3/4 NPT	Flexible	High Flow	Oil	18	68
25M332	26C362	25M419	1/2 BSPP	Rigid	Auto- matic	Oil	8	30
25M333	26C363	25M420	1/2 BSPP	Rigid	Anti- freeze	Anti- freeze	8	30
25M334	26C364	25M421	1/2 BSPP	Flexible	Auto- matic	Oil	8	30
25M335	26C365	25M422	1/2 BSPP	Flexible	Anti- freeze	Anti- freeze	8	30
25M338	26C368	25M425	1/2 BSPP	Rigid	High Flow	Oil	18	68
25M339	26C369	25M426	1/2 BSPP	Flexible	High Flow	Oil	18	68
25M341	26C370	25M428	1/2 BSPP	Gear Lube	Manual	Gear Lube	5	19
25M343	N.A.	25M430	1/2 BSPP	Rigid, open	None	WWS*	8	30
25M344	26C372	25M431	3/4 BSPP	Rigid	High Flow	Oil	18	68

Models

Pulse	SDP	SDM		Exten-			Max Volumetric Flow Rate	
Model	Model	Model	Swivel	sion	Nozzle	Fluid	GPM	LPM
25M345	26C373	25M432	3/4 BSPP	Flexible	High Flow	Oil	18	68
25M347	26C374	25M434	1/2 BSPT	Rigid	Auto- matic	Oil	8	30
25M348	26C375	25M435	1/2 BSPT	Rigid	Anti- freeze	Anti- freeze	8	30
25M349	26C376	25M436	1/2 BSPT	Flexible	Auto- matic	Oil	8	30
25M350	26C377	25M437	1/2 BSPT	Flexible	Anti- freeze	Anti- freeze	8	30
25M353	26C378	25M440	1/2 BSPT	Rigid	High Flow	Oil	18	68
25M354	26C379	25M441	1/2 BSPT	Flexible	High Flow	Oil	18	68
25M356	26C380	25M443	1/2 BSPT	Gear Lube	Manual	Gear Lube	5	19
25M358	N.A.	25M445	1/2 BSPT	Rigid, open	None	WWS*	8	30
25M359	26C382	25M446	3/4 BSPT	Rigid	High Flow	Oil	18	68
25M360	26C383	25M447	3/4 BSPT	Flexible	High Flow	Oil	18	68

^{*}WWS = Windshield Washer Solvent

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.











This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

- Turn off power supply to the pump or close fluid shut off valve (B).
- 2. Open nozzle.
- Trigger the metered dispense valve into a waste container to relieve pressure.
- Pulse meters require an authorized test dispense within the Pulse Fluid Management Software to enable the trigger.
- SDP meters require a preset dispense activation to enable the trigger.
- SDP meters with Pulse FC enabled require an enabled dispense card to authorize a dispense to enable the trigger.
- SDM meter triggers are always enabled.
- 4. Open any bleed-type master air valves and fluid drain valves in the system.
- 5. Leave the drain valve open until you are ready to pressurize the system.

Battery Replacement

NOTE: The metered dispense valve does not have to be taken out of service to replace the batteries.

- Replace batteries with four AA, alkaline batteries.
- Be sure to follow the correct polarity as shown on the installation labels located on either side of the metered dispense valve when installing batteries in the battery compartment (Fig. 2).
- Do not mix different types of batteries together or old batteries with fresh ones. Always replace all 4 batteries with 4, fresh, new AA batteries.

To change the battery:

- 1. Remove screws (36) from the battery compartment cover (5).
- Use a small, flat screwdriver to gently pry
 the cover away from the metered
 dispense valve housing on the bottom
 side of the cover, near the extension
 attachment as shown in Fig. 1.

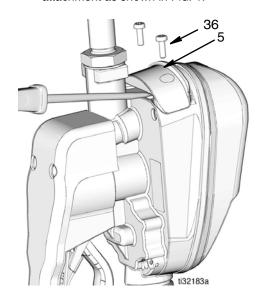


Fig. 1

- Remove and separately recycle batteries according to all applicable regulations.
- Install 4 new batteries. See labels on the each side of the housing and Fig. 2 for battery orientation.

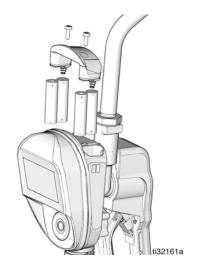


Fig. 2

5. Replace cover (5) and screws (36). Tighten screws hand tight. Do not over-tighten screws(Fig. 3).

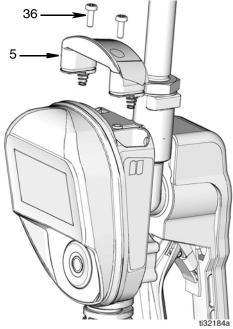


Fig. 3

Bezel Replacement

Pulse Meters use Bezel Replacement Kit 26C287

SDP Meters use Bezel Replacement Kit 26C403

SDM Meters use Bezel Replacement Kit

NOTE: The metered dispense valve does not have to be taken out of service to replace the bezel.





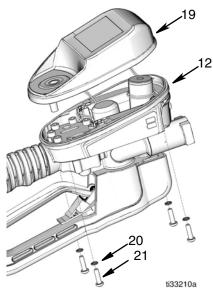




Disassembly

- Relieve pressure. See Pressure Relief procedure, page 7.
- 2. Remove batteries. See Battery Replacement, page 7.
- Remove 4 screws (21) and o-rings (20) and carefully lift bezel (19) off housing (12) (Fig. 4).

NOTE: The solenoid (Pulse and SDP Models only) and power will still be connected to the bezel via the power connections as shown in Fig. 5. Before the bezel can be completely separated from the housing, these connections must be detached.



- Fig. 4
- Detach the red and white solenoid connection (a) (Fig. 5). Pulse and SDP Models only.
- 5. Detach the black and red power connection (b) (Fig. 5).

NOTE: Be careful not to disturb the white button board ribbon cable taped to the bezel housing if reusing the bezel (19).

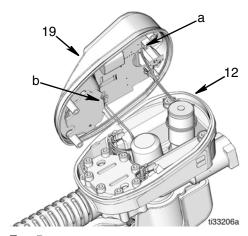


Fig. 5

Reassembly

Connect the black and red power wires
 (b) (Fig. 5).

NOTE: Be careful not to disturb the white button board ribbon cable taped to the bezel housing.

- Connect red and white solenoid wires (a) (Fig. 5). Pulse and SDP Models only.
- 3. There are three wire groupings that must be carefully routed inside the housing.
- Wrap the red and white solenoid wire (a) around the solenoid (37) (Fig. 6). Pulse and SDP Models only.

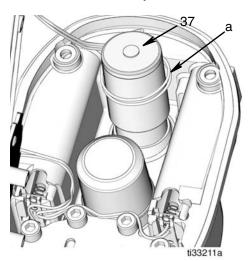


Fig. 6

 Route the red and black power wires (b) between the central valve boss (c) and the battery compartment (d) and under the foam retainer (Fig. 7).

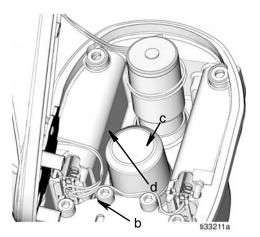


Fig. 7

 Route black and white wire (f) between the central valve boss (c) and gear cover screws (e) (Fig. 8).

NOTE: This wire runs between the two battery compartments.

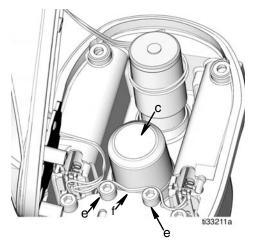


Fig. 8

FIG. 9 shows the inside of the housing with all wires routed correctly.

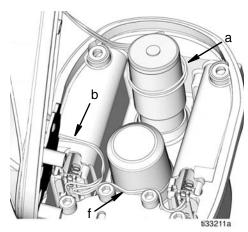


Fig. 9

- Take care that the wires will not be pinched between the bezel (19) and housing (12) and between the green printed circuit board and the gear cover when securing the bezel to the housing.
- Verify o-ring (20) is in place on housing (12). Install bezel (19) to housing using o-rings (20) and 4 screws (21). Tighten screws securely.
- 6. Install batteries and battery cover. See **Battery Replacement,** page 7.
- Recalibrate the metered dispense valve.
 See Calibrate the Metered Dispense Valve instructions provided in the appropriate Metered Dispense Valve Installation and Operation manual.
- Pulse Pro meters must be registered and configured per instructions found in PulseTM Metered Dispense Valve manual.

SDP meters with Pulse FC enabled must be configured per instructions found in SDP8/SDP18 Preset Metered Dispense Valve, Pulse FC Enabled manual.

Power Cable Replacement

- Remove screws (36) and battery cover (5).
- 2. Remove screws (21), o-rings (20) and bezel (19).
- 3. Remove Foam (39) and adhesive.
- 4. Remove the Power Cable (38).
- 5. Install the new Power Cable (38).
 - Cord is to the left when holding the metered valve in a normal dispense position (Fig. 9).
 - The black battery contacts (g) are installed so that the springs (h) are located at the top of the installed contacts (Fig. 10).

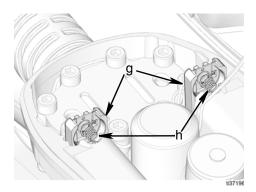


Fig. 10

- 6. Orient the wires following **Reassembly**, Step 3 on page 9.
- Install new Foam (38) retainer. This holds the power cable in place. The foam is shown in the installed position (Fig. 11).

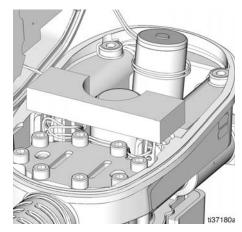


Fig. 11

8. Reinstall the bezel following Reassembly steps 4 - 8, page 10.

Swivel Seal and Strainer Replacement

Use Swivel Seal and Filter Kit 25D906









- 1. **Relieve pressure.** See Pressure Relief procedure, page 7.
- Slide the swivel boot (a) back, over the hose, to access the swivel fitting (6) (Fig. 12). Using two wrenches working in opposite directions, disconnect swivel fitting (6) from hose fitting (b)(Fig. 12).

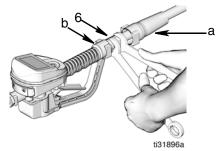


Fig. 12

 Use a wrench to loosen and remove swivel fitting (6) from metered dispense valve (Fig. 13).

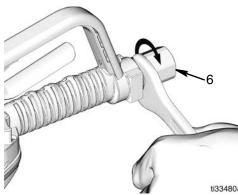


Fig. 13

4. Use a pick to remove o-ring (10) (Fig. 14) from inlet.

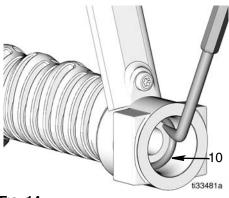


Fig. 14

5. Remove mesh strainer (4) from inlet (Fig. 15).

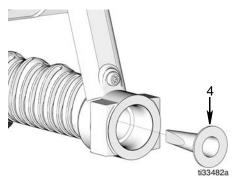


Fig. 15

6. Install new mesh strainer (4) and o-ring (10) in the inlet (Fig. 16).

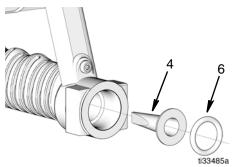


Fig. 16

- Reinstall swivel fitting (6) in inlet. Torque fitting to 20-25 ft.-lb (12-34 N•m).
- Apply thread sealant to the male threads of the hose fitting. Thread the hose fitting (b) into the metered dispense valve swivel (6). Use two wrenches working in opposite directions, to tighten securely (Fig. 17).

NOTE: Allow sufficient time for the sealant cure to according to the manufacturer's recommendations before circulating fluid through the system.

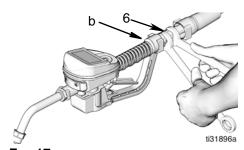


Fig. 17

Trip Rod Replacement or Valve Replacement







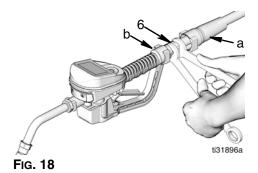


Disassembly

Disassembly Steps 1 - 6 are required when replacing the trip rod or replacing the valve. After completing Step 6, refer to the specific repair procedure for the part(s) you are replacing:

Trip Rod Replacement - Page 15
Valve Replacement - Page 19

- Relieve pressure. See Pressure Relief procedure, page 7.
- Slide the swivel boot (a) back, over the hose, to access the swivel fitting (6) (Fig. 18). Using two wrenches working in opposite directions, disconnect swivel fitting (6) from hose fitting.



3. Remove screws (17 and 18) and trigger guard cover (16) (Fig. 19).

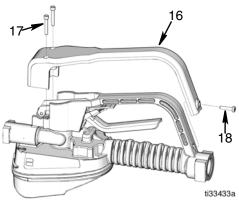


Fig. 19

4. Remove clip (15a) as shown in Fig. 20.

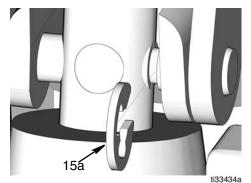


Fig. 20

5. Use a pick to push pin (15b) out (Fig. 21).

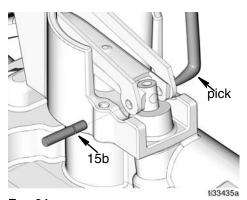


FIG. 21

6. Remove trigger assembly (15) from the housing (Fig. 22).

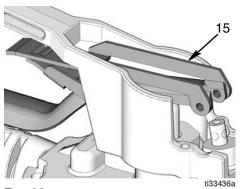


FIG. 22

Pulse and SDP Trip Rod Replacement

Pulse and SDP Models use Trip Rod Repair Kit 25D903

- Follow Disassembly instructions, Steps
 1 6, beginning on page 13.
- 2. Remove the batteries and turn metered dispense valve over.
- 3. Remove 4 screws (21) and o-rings (20) and carefully lift bezel (19) off housing (12) (Fig. 23).

NOTE: The solenoid and power will still be connected to the bezel via the power connections as shown in Fig. 23. Before the bezel can be completely separated from the housing, these connections must be detached.

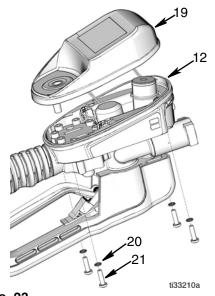


FIG. 23

4. Disconnect the red and white solenoid connection (a) (Fig. 24).

5. Disconnect the black and red power connection (b) (Fig. 24).

NOTE: Be careful not to disturb the white button board ribbon cable taped to the bezel housing if reusing the bezel (19).

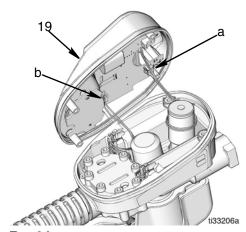


Fig. 24

 Loosen and remove solenoid (37) (Fig. 25). The trip rod assembly (27) is located below the solenoid.

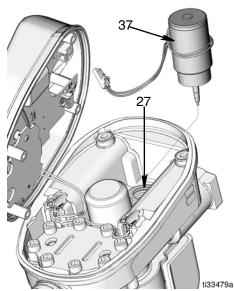
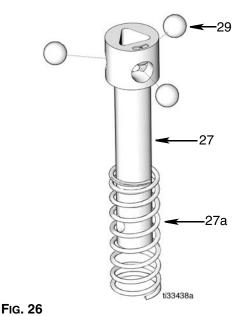


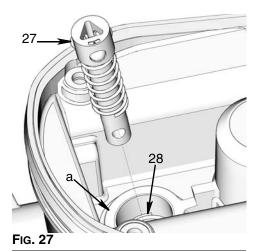
FIG. 25

7. Remove trip rod assembly (27) from housing (Fig. 27).

NOTE: Be careful when removing the trip rod assembly (Fig. 26). Cover the balls with your fingers or a rag to prevent them from falling out.



8. Use a pick to remove seal (28) from the bottom of the trip rod hole (a) (Fig. 27).



NOTE: Always use all the new parts provided in the kit. Do not reuse the old parts.

- Insert balls (29) in trip rod (27) (Fig. 26).
- 10. Slide spring (27a) over trip rod (27) (Fig. 26).
- 11. Install seal (28) onto trip rod (27) See Fig. 28.

NOTE: The lipped side of the seal (28) should face down, away from the end of the trip rod that holds the balls.

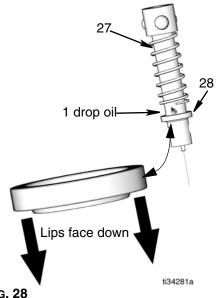


Fig. 28

- 12. Lubricate the trip rod above the seal, by applying one drop of oil to the rod.
- 13. Install trip rod assembly (27) into the trip rod hole (a) (Fig. 27).

 Reinstall and firmly hand tighten the solenoid (37) (Fig. 29).

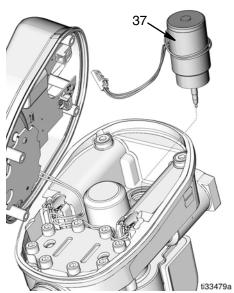


FIG. 29

 To complete the metered dispense valve reassembly, see Reassembly instructions page 20.

SDM Trip Rod Replacement

SDM Models use Trip Rod Repair Kit 26C394

- Follow Disassembly instructions, Steps
 1 6, beginning on page 13.
- 2. Remove the batteries and turn metered dispense valve over.
- Remove 4 screws (21) and o-rings (20) and carefully lift bezel (19) off housing (12) (Fig. 30).

NOTE: The power will still be connected to the bezel as shown in Fig. 30. Before the bezel can be completely separated from the housing, this connection must be detached.

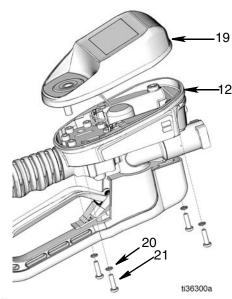


Fig. 30

4. Disconnect the black and red power connection (a) (Fig. 31).

NOTE: Be careful not to disturb the white button board ribbon cable taped to the bezel housing if reusing the bezel (19).

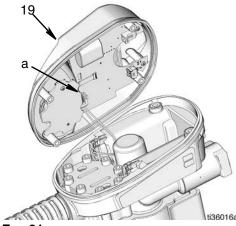


Fig. 31

- 5. Remove trip rod (27) from housing (Fig. 32).
- 6. Use a pick to remove seal (28) from the bottom of the trip rod hole (a) (Fig. 32).

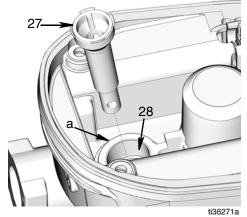
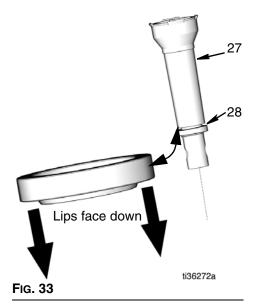


FIG. 32

NOTE: Always use all the new parts provided in the kit. Do not reuse the old parts.

7. Install seal (28) onto trip rod (27) See Fig. 33.

NOTE: The lipped side of the seal (28) should face down, away from the end of the trip rod that holds the balls.



- 8. Install trip rod assembly (27) into the trip rod hole (a) (Fig. 27).
- 9. To complete the metered dispense valve reassembly, see Reassembly instructions page 20.

Valve Replacement

When replacing the entire Valve assembly, use Valve Replacement Kit 25D904.









- Follow Disassembly instructions, Steps
 1 6, beginning on page 13.
- 2. Use a socket wrench to remove valve assembly (14) from housing (Fig. 34).

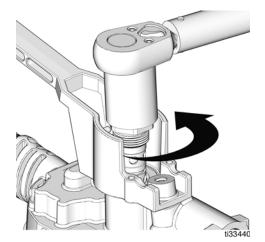


Fig. 34

Valve Replacement 25D904

- a. Apply a thin film of oil on each o-ring.
- Install new valve assembly (14) (Kit 25D904) in housing (Fig. 35).
 Torque to 20 to 30 ft. lb (27.12 to 40.67 N•m).

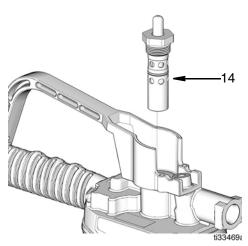


Fig. 35

 To complete the metered dispense valve reassembly, see Reassembly instructions page 20.

Reassembly

- Secure metered dispense valve in vise. Align holes in trigger assembly with holes in trip rod (27).
- Install trigger assembly (15) (Fig. 36).
 Push pin (15b) through holes in trigger (15) and trip rod assembly (27).

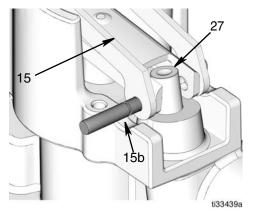


FIG. 36

3. Install clip (15a) as shown in Fig. 37.

NOTE: When correctly installed, the clip is seated in the groove in the pin (15b).

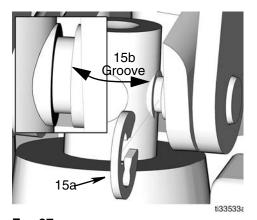


Fig. 37

4. Install trigger guard cover (16) using screws (17 and 18) (Fig. 38).

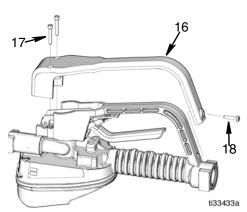
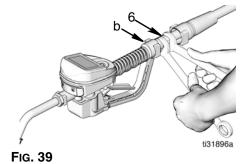


Fig. 38

5. If the metered dispense valve was taken out of service (disconnected from the supply hose), apply thread sealant to the male threads of the hose fitting. Thread the hose fitting (b) into the metered dispense valve swivel (6). Use two wrenches to tighten securely (Fig. 39).

NOTE: Allow sufficient time for the sealant cure to according to the manufacturer's recommendations before circulating fluid through the system.



20 3A5413F

Parts

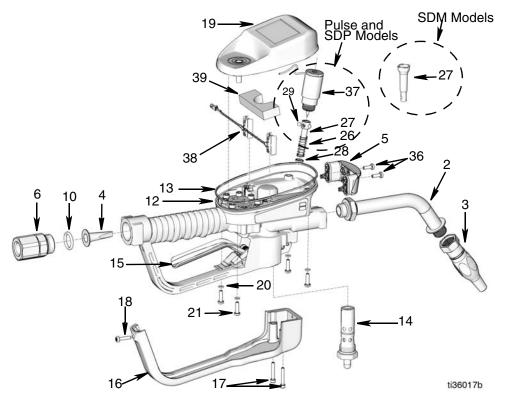


Fig. 40

Parts

Parts

Ref	Part No.	Description	Qty	Ref	Part No	. Description	Qty
1		VALVE, metered	1	17	16E337	SCREW, cap, sch, sst	2
		dispense valve (see models page 2)		18	131256	SCREW, mach, torx pan hd	1
2	16Y863	EXTENSION Flex		19	26C287	BEZEL, electrical, Pulse Models	1
	255194 255854	Rigid Gear Lube	1	19	26C403	BEZEL, electrical, SDP Models	1
	273079	Windshield washer solvent		19	26C484	BEZEL, electrical, SDM Models	1
3		NOZZLE		20	131257	PACKING, o-ring	4
J	17R220	Automatic, quick close	1	21	25N342	SCREW, mach, torx pan hd	4
	17T207 255461	Manual Antifreeze High Flow		26◆		Spring, Pulse and SDP Models only	1
	255470	Gear Lube/ATF		27◆†		ROD, trip	1
4★		STRAINER, mesh	1	28◆†	129623	SEAL, molded	1
5† 6	25M593	COVER, battery SWIVEL, straight	1	29♦		BALL, 5 mm, Pulse and SDP Models only	3
	247344 247345	1/2 in. NPT 3/4 in. NPT	1	33	121413	BATTERY, pkg, 4 ct, alkaline AA (not shown)	1
	24H097	1/2 - 14 BSPT		36 †	112380	SCREW, mach, pan hd	2
	24H098	1/2- 14 BSPP		37	26C276	SOLENOID, Pulse and	1
	24H099	3/4 - 14 BSPT				SDP Models only	
	24H100	3/4 - 14 BSPP		38❖		Power Cable	1
10★	155332	PACKING, o-ring	1	39❖		Foam	1
12		HOUSING, metered dispense valve	1	Dala	tad V:	.	
13	131258	PACKING, square ring	1	Rela	ited Kit	lS	
14	25D904	VALVE, metered	1				
		dispense valve, assy		Ref P	art No. D	escription	
15	25M601	TRIGGER, assy Pulse and SDP Models only. Pulse models 25M328, 25M343, and 25M358	1	• 2	25D903 2	(IT, Trip Rod Repair, includ 6, 27, 28, 29, Pulse SDP Models	es
		use trigger assembly 25M723.		* 2		(IT, Swivel Filter, includes and 10	4
15	25M723	TRIGGER, assy SDM and WWS Models only	1	† 2		IT, Battery Cover, includes nd 36	s 5
16	129619	COVER, trigger guard, Pulse Models.		‡ 2		(IT, Trip Rod Repair, includ 7, 28. SDM Models.	es
16	129830	COVER, trigger guard, SDP and SDM Models.	1	* 2		(it, Power Cable, includes and 39	38

Notes

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