INSTRUCTIONS–PARTS LIST

GRACO

306–390

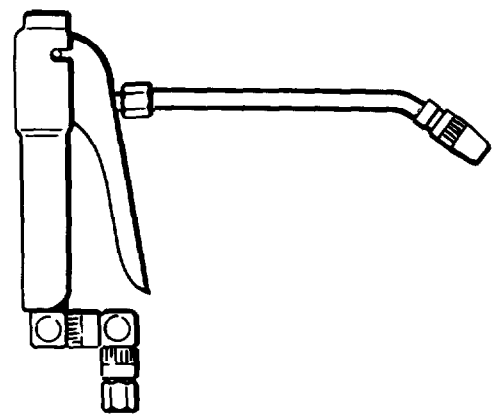
Rev. J
Supersedes G and PCN H

This manual contains IMPORTANT WARNINGS AND INSTRUCTIONS
READ AND RETAIN FOR REFERENCE

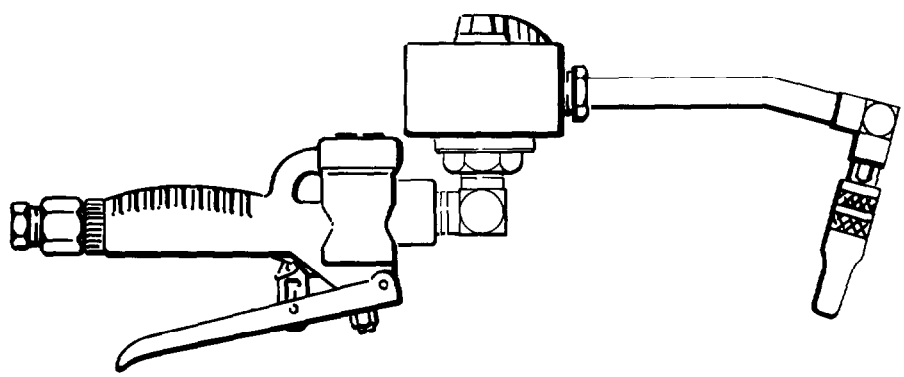
LUBRICANT CONTROL VALVES

Hose Swivel, Adapters, Extensions and Grease Fitting Couplers

See page 2 for model numbers and descriptions



Model 218–539
High Pressure Chassis Lube Control Valve



Model 204–650, Series F
Low Pressure Bearing Lube Control Valve

CONTENTS

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440–1444

HIGH PRESSURE CHASSIS LUBE CONTROL VALVES

Model No. & Series	Hose Z-Swivel No.	Max. Working Pressure psi (bar)	Coupler & Extension Part No.	Coupler & Extension Type	Height in. (mm)	Length in. (mm)	Weight lb (kg)
203-980, E	none	8000 (550)	none	—		4 (102)	1.50 (0.7)
218-539	202-579	8000 (550)	200-389	rigid	8.25 (210)	12.50 (318)	3 (1.4)
218-540	none	5000 (350)	200-389	flexible	8.25 (210)	18 (457)	3 (1.4)

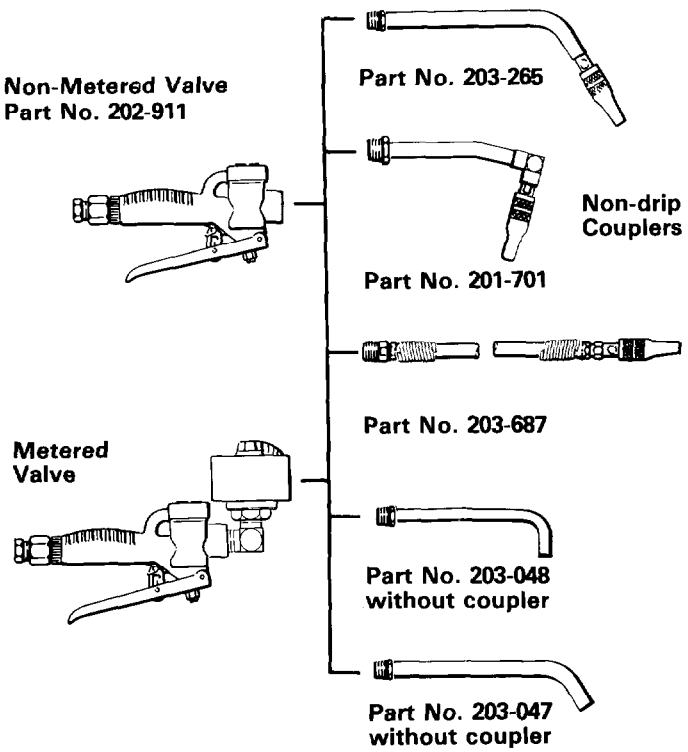
LOW PRESSURE CONTROL VALVES

750 psi (75 bar) MAXIMUM WORKING PRESSURE

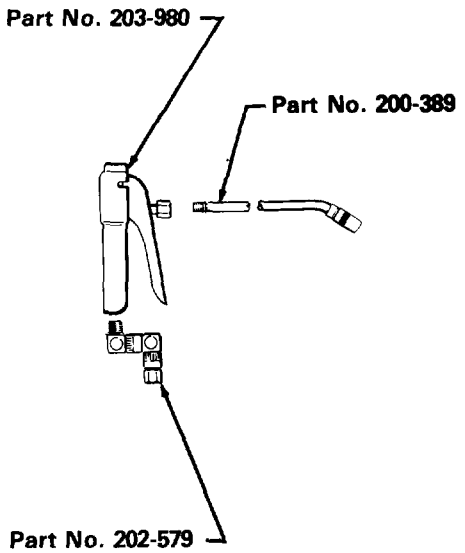
Model No. & Series	Non-drip Coupler & Extension Part No.	Extension Type	METER Part No.	METER Unit of Measure	METER Meter Type	Type of Service	Length in. (mm)	Weight lb (kg)
202-911	none	none	none	—	—	—	15.50 (390)	4 (1.8)
203-341	201-701	rigid	none	—	—	Gear lube	22 (559)	4.50 (2.1)
203-216, G	201-701	rigid	154-785	8 pt	non-totalizing	Gear lube	18.25 (460)	7 (3.2)
215-248, B	none	none	154-785	8 pt	non-totalizing	Gear lube	18.25 (460)	7 (3.2)
203-218, G	201-701	rigid	157-771	8 pt	totalizing	Gear lube	18.25 (460)	7 (3.2)
215-333, B	none	none	158-690	4 qt	non-totalizing	Gear lube	25 (635)	7 (3.2)
204-650, F	201-701	rigid	162-787	1 qt (in ounces)	non-totalizing	Bearing lube	18.25 (460)	7 (3.2)
207-225	203-265	rigid	none	—	—	Motor oil	22 (559)	4.25 (2.1)
203-217, G	203-265	rigid	157-779	16 qt	totalizing	Motor oil	25 (635)	7 (3.2)
218-541	203-047	rigid	none	—	—	Motor oil	21 (533)	7 (3.2)
218-542	203-047	rigid	158-690	4 qt	non-totalizing	Motor oil	21 (533)	7 (3.2)
218-543	203-048	rigid	154-785	8 pt	non-totalizing	Gear oil	21 (533)	7 (3.2)
203-444, G	203-687	flexible	157-779	16 qt	totalizing	ATF	24.50 (622)	6 (2.7)

NOTE: See Manual 306-391 for other low pressure couplers.

LOW PRESSURE VALVES



HIGH PRESSURE VALVE



WARNING

FLUID UNDER HIGH PRESSURE CAN CAUSE SERIOUS INJURY.

FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS.

Read and understand all instruction manuals before operating equipment.

TERMS

Be sure you read and understand each of these terms before reading the rest of the manual.

WARNING: Alerts user to avoid or correct conditions which could cause bodily injury.

CAUTION: Alerts user to avoid or correct conditions which could cause damage to or destruction of equipment.

NOTE: Gives more explanation of a procedure or helpful hints.

FLEXIBLE EXTENSION: A flexible rubber hose extending from the dispensing valve, to which a grease fitting coupler is attached.

RIGID EXTENSION: A rigid tube extending from the dispensing valve, to which a grease fitting coupler is attached.

GREASE FITTING COUPLER: The device at the end of the flexible or rigid extension which connects to the parts to be lubricated.

FLUID INJECTION HAZARD

Fluid emitted under high pressure from leaks or ruptured components can penetrate the skin and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes or onto the skin can cause serious damage.

Dispensing Valve Safety

Do not modify any part of the dispensing valve. Only use extensions and grease fitting couplers which are designed for use with your dispensing valve. Modifying parts can cause a malfunction and result in serious bodily injury.

Flexible Extension Safety

Be sure you know the maximum working pressure of the flexible extension you are using. **Never exceed that pressure,** even if your dispensing valve and/or pump is rated for higher working pressures.

Never use a low pressure flexible extension, designed for low pressure dispensing valves or hand-powered lubricating equipment, on a high pressure dispensing valve.

Never attempt to force the lubricant into a fitting! If the lubricant is not flowing, **STOP DISPENSING IMMEDIATELY!** The fitting may be clogged. Forcing lubricant may cause excessive back pressure in the flexible extension which could cause it to rupture and result in serious bodily injury, including fluid injection and eye injury.

Grease Fitting Coupler Safety

Use extreme caution when cleaning or changing grease fitting couplers. If the coupler clogs while dispensing, **STOP DISPENSING IMMEDIATELY.** Follow the **Pressure Relief Procedure,** at right. Then remove the coupler to clean it. Never wipe off buildup around the coupler until pressure is fully relieved.

General Safety

Check the operation of all equipment safety devices before each use.

NEVER point the dispensing valve at anyone or any part of the body.

NEVER put hand or fingers over the grease fitting coupler.

NEVER try to stop or deflect leaks with your hand or body.

Medical Alert—Airless Spray Wounds

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT.** Tell the doctor exactly what fluid was injected.

Note to Physician: *Injection in the skin is a traumatic injury.* **It is important to treat the injury surgically as soon as possible.** Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection or splashing in the eyes or on the skin, always follow this procedure when shutting down the system, and before checking or repairing this valve or any part of the system.

1. Turn off the power supply to the pump.
2. Trigger the valve into a waste container to relieve pressure.
3. Open any bleed-type master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to use the system again.

EQUIPMENT MISUSE HAZARD

General Safety

NEVER alter or modify any part of this dispensing equipment; doing so could cause it to malfunction.

CHECK all dispensing equipment regularly and repair or replace worn or damaged parts immediately.

ALWAYS read and follow the fluid and solvent manufacturer's recommendations regarding the use of protective clothing and equipment.

System Pressure

The *MAXIMUM WORKING PRESSURE* of your control valve is shown on page 2. *NEVER* exceed this pressure, or the pressure of the lowest rated component in your system.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards—particularly the General Standards, Part 1910, and the Constructon Standards, Part 1926—should be consulted.

HIGH PRESSURE CONTROL VALVES

OPERATION/SERVICE

WARNING

To reduce the risk of serious bodily injury, including fluid injection, always read and follow the WARNINGS on page 3 before operating this high pressure control valve.

This control valve provides positive control of high pressure lubricants. When the pump is supplied with air, it will start when the valve is triggered, and will stall against pressure when the trigger is released. The z-swivel and adapter allow the operator to reach hard-to-reach fittings. See Fig 1.

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection or splashing in the eyes or on the skin, always follow this procedure when shutting down the system, and before checking or repairing this valve or any part of the system.

1. Turn off the power supply to the pump.
2. Trigger the valve into a waste container to relieve pressure.
3. Open any bleed-type master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to use the system again.

NOTES:

1. Clean all parts thoroughly when disassembling. Check them carefully for damage or wear, replacing parts as needed.

2. Reference numbers in parentheses in the text refer to Fig 2, and the parts drawing on page 5.

If grease continues to flow after trigger is released: *valve may be out of adjustment.* Follow **Pressure Relief Procedure Warning,** above. Check for minimum 0.125 in. (3.2 mm) clearance between trigger (23) and outlet adapter (17). To adjust, loosen locknut (11) and turn adjusting screw (13) in or out as needed. Then hold adjusting screw in place and securely tighten locknut. See Fig 2.

Valve ball (12) or seat (20) may be obstructed or worn, or spring (16) may be weakened. Follow **Pressure Relief Procedure Warning,** above. Disconnect valve from hose. Remove plastic handle (25) by pulling from back of valve. Unscrew lower body (21) from upper body (24). Remove ball (12) and valve seat (20). Valve seat may be reversed at reassembly. If spring (16) needs replacement, unscrew outlet adapter (17) and insert new spring. See Parts Drawing on page 5.

Reassemble valve in reverse order of disassembly.

If grease leaks past valve stem o-ring and back-up: *valve stem (18), o-ring (15) or back-up (19) may be worn or damaged.* Follow **Pressure Relief Procedure Warning,** above. Disconnect valve from hose. Remove plastic handle (25) by pulling from back of valve. Unscrew lower body (21) from upper body (24). See Parts Drawing on page 5.

Loosen locknut (11) and remove adjusting screw (13). Insert a small diameter rod through adjusting screw hole and push valve stem (18) out of body. Use a hooked wire to remove o-ring (15) and back-up (19) from body, if needed.

NOTE: Be careful not to lose the small 0.125 in. (3.2 mm) ball when removing stem.

Use a 0.25 in. (6.4 mm) dia. rod to position back-up and o-ring, one at a time, all the way up into cavity. Install ball. Replace adjusting screw. Insert valve stem. Continue reassembling. Adjust trigger clearance. See Fig 2.

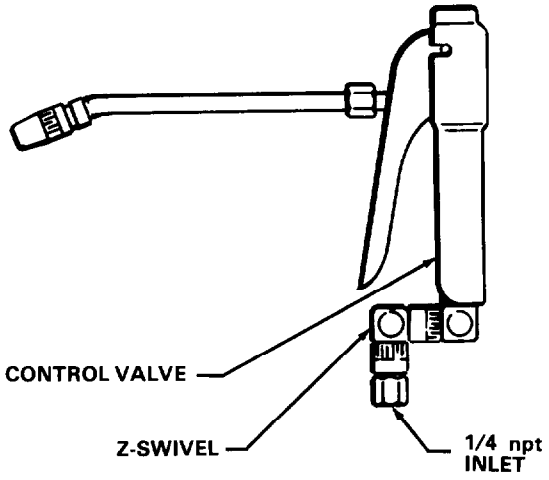


Fig 1

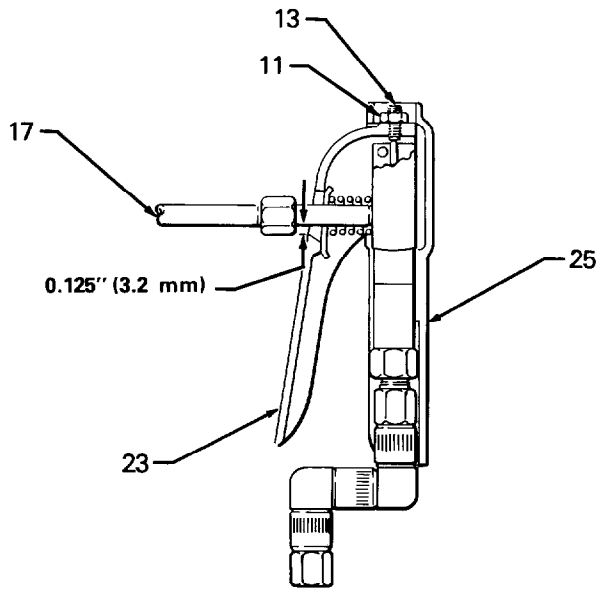


Fig 2

Z-SWIVEL SERVICE

If swivel leaks: *swivel packings (7) or glands (2 & 4) may be worn.* Disassemble swivel; see parts drawing, page 5. Clean and inspect all parts and replace as necessary. Soak new packings in light machine oil until pliable, and reassemble swivel.

WARNING

Tighten all threaded connections securely. High pressure fluid can dislodge a loose connection or allow high pressure fluid to be emitted from the connection.

PARTS LIST & DRAWING (HIGH PRESSURED VALVES)

Model 218–539 Control Valve
Includes items 1–29

REF NO.	PART NO.	DESCRIPTION	QTY
1	202–579	Z–SWIVEL ASSY Includes items 2–9	1
2**	150–516	.GLAND, packing; male	3
3	150–522	.SPRING, compression	1
4**	157–894	.GLAND, packing; female	3
5	157–901	.ADAPTER, swivel; 1/8 npt(m)	1
6	159–908	.SPRING, compression	2
7**	162–694	.V–PACKING; leather (Optional PTFE v–packing 183–978 available)	12
8		.ELBOW (not sold separately)	2
9	159–734	.ADAPTER	1
10	203–980 Series E	HIGH PRESSURE CONTROL VALVE ASSY, Includes items 11–26	1
11	100–015	.NUT, hex; 1/4–20	1
12***	100–148	.BALL, steel; 1/8 (3.2 mm) dia	1
13	101–618	.SCREW, sltd hdls; 1/4–20 x 5/8	1
14***	151–222	.GASKET, copper	1
15***	157–628	.O–RING; nitrile rubber	1
16*	160–804	.SPRING, compression	1
17*	160–805	.ADAPTER, outlet; 1/8 npt	1
18***	160–806	.STEM, valve	1
19***	160–807	.BACK–UP; leather	1
20***	160–810	.SEAT, valve	1
21	160–812	.BODY, lower	1
22	164–386	.PLATE, scuff	1
23	165–593	.LEVER, valve	1
24	165–594	.BODY, upper	1
25	165–595	.SHIELD, plastic hand grip	1
26	165–596	.PIN, pivot	1
27	200–389	ADAPTER Includes items 28 & 29	1
28		.TUBE, adapter (not sold separately)	1
29	200–325	.COUPLER; see 306–391 for parts	1

Model 218–540 Control Valve
Includes items 10–29

306 number in description refers to a separate instruction manual.

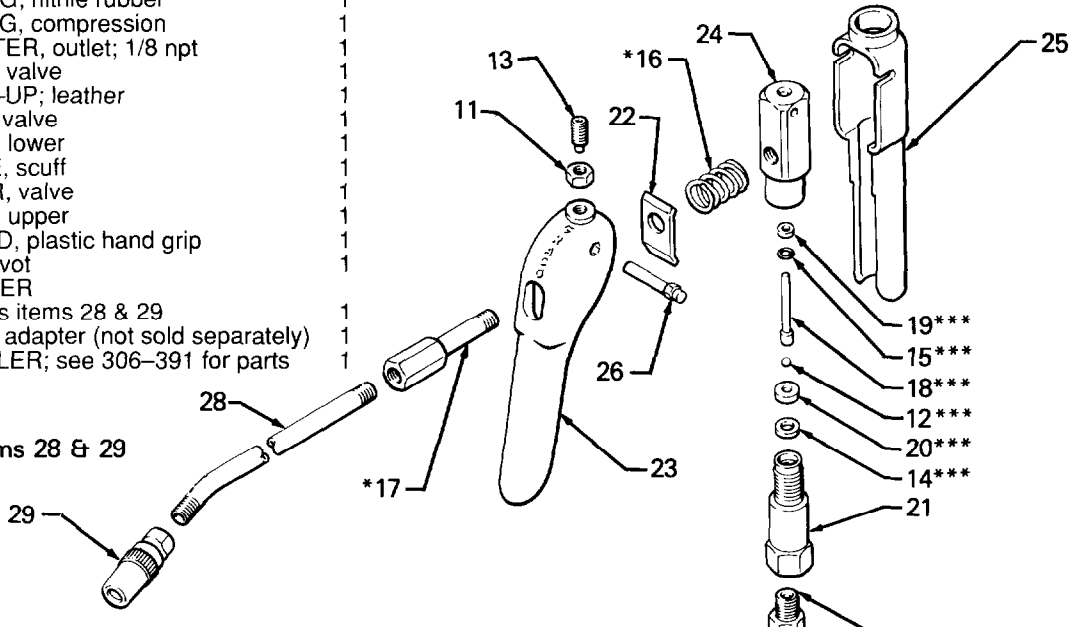
**Recommended "tool box" spare parts. Keep on hand to reduce down time.*

***Included in Repair Kit 206–935.*

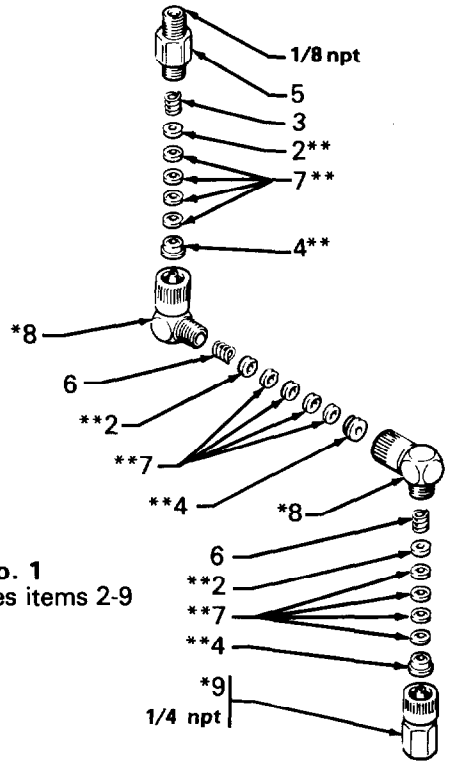
****Included in Repair Kit 204–161.*

See "How to Order Replacement Parts" on the back cover

Ref No. 10
Includes items 11-26



Ref No. 27
Includes items 28 & 29



Ref No. 1
Includes items 2-9

183–978 Optional PTFE n V–Packing
Replaces V–Packing 162–694 (item 7).

204–161 Control Valve Repair Kit
(Must be purchased separately)
Consists of:

Ref No.	Qty
12	2*
14	1
15	1
18	1
19	1
20	1

*One is a spare part.

206–935 Z–Swivel Repair Kit
(Must be purchased separately)
Consists of:

Ref No.	Qty
2	3
4	3
7	12

LOW PRESSURE (HIGH VOLUME) CONTROL VALVES

OPERATION

These control valves are available in metered or non-metered models. The valve inlets and outlets are 1/2 npt(f), except Model 203-341 which has a 3/8 npt(f) inlet.

The non-drip coupler supplied with some models eliminates dripping after the valve is closed.

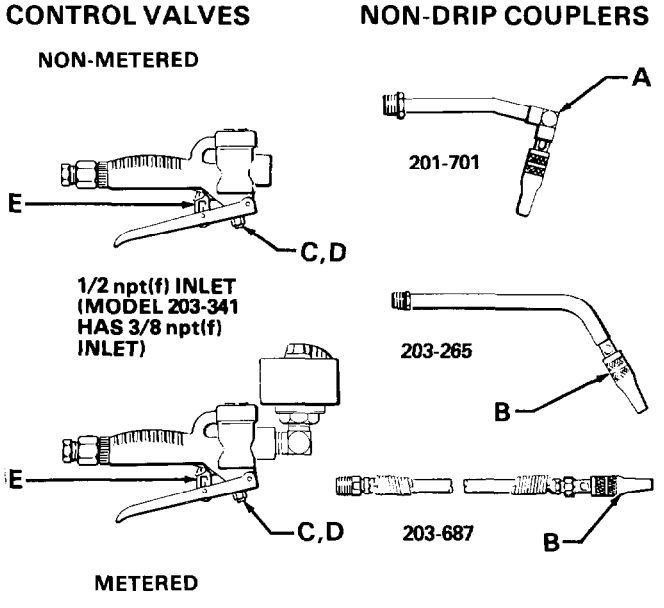


Fig 3

Set non-drip coupler in "automatic" position by turning thumbscrew (A) counterclockwise or housing (B) clockwise two or more turns. See Fig 3. When set in "automatic " position, coupler will automatically open and close with the control valve.

Trigger control valve. With non-drip coupler set in "automatic" position, lubricant flow begins with the slightest movement and continues until trigger is released. When dispensing light fluids, such as automatic transmission fluid, the degree of trigger play should be increased to reduce the flow and reduce splashing of fluid. To reduce flow, loosen adjusting screw locknut (C) and back screw (D) out until desired flow reduction is achieved, then tighten locknut securely. See Fig 3.

To lock control valve in open position, engage trigger latching pin in slot in latch (E). See Fig 3. To release latch, squeeze and release trigger.

When lubrication is completed, manually lock non-drip nozzle by turning thumbscrew clockwise or housing counterclockwise as far as possible. Reset meter by turning reset knob counterclockwise back to zero stop.

CAUTION

Do not attempt to manually advance meter or force reset knob past the zero stop. Doing so will damage the meter's gear mechanism.

NOTE: If meter reset knob cannot be turned easily, do not force it. Clean and inspect meter as explained on page 10.

SERVICE

CONTROL VALVES, NON-METERED

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection or splashing in the eyes or on the skin, always follow this procedure when shutting down the system, and before checking or repairing this valve or any part of the system.

1. Turn off the power supply to the pump.
2. Trigger the valve into a waste container to relieve pressure.
3. Open any bleed-type master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to use the system again.

NOTES:

1. Clean all parts thoroughly when disassembling. Check them carefully for damage or wear, replacing parts as needed.

2. Reference numbers in parentheses in the text refer to the parts drawing on page 8.

If Lubricant Continues To Flow After Trigger Is Released:

Valve may be out of adjustment. To adjust valve, loosen locknut (19) and turn adjusting screw (20) in or out as needed. To stop flow, all pressure of screw upon push rod (33) must be released. With proper adjustment, there is a slight degree of play in handle. When adjustment is complete, hold adjusting screw in place and securely tighten locknut.

Valve spring may be weakened, o-rings worn or valve poppet unseated. Disconnect valve from hose. Remove valve plug (35). Related parts will come out with plug. Swab out valve cavity and seat (29) and inspect seat for nicks. If seat is damaged, contact a Graco authorized service center for repair.

If Lubricant Leaks Past Push Rod Packing:

Push rod or packing may be worn. Disconnect valve from hose. Drive out trigger latch pin (13) and swing trigger back. Remove guide (21), gasket (15) and push rod (33). Use a dull instrument to remove packing (23). Reassemble in reverse order of disassembly, using a new gasket (15).

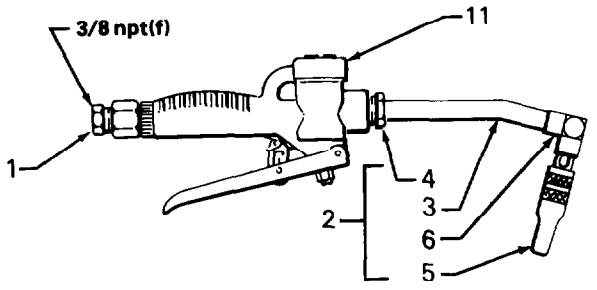
If Lubricant Leaks At Swivel:

Disconnect valve from hose. Remove swivel from valve body. Clean and inspect o-ring (16) and valve surface. Replace if necessary and reassemble.

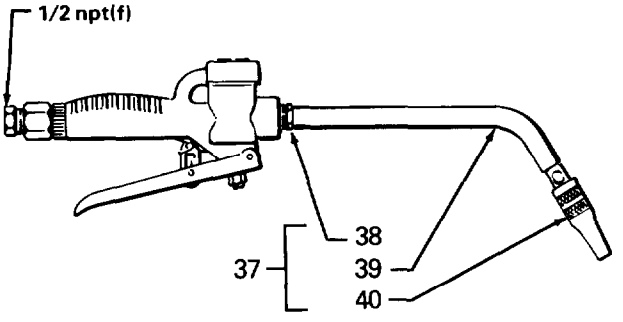
PARTS DRAWING (NON-METERED VALVES)

Model 203-341 GEAR LUBE CONTROL VALVE
Series B (w/o meter) Includes items 1-36

Model 202-911 CONTROL VALVE ONLY
Series E Includes items 12-36



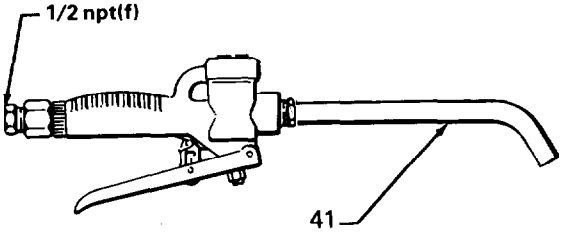
Model 207-225 MOTOR OIL CONTROL VALVE
Includes items 11-40

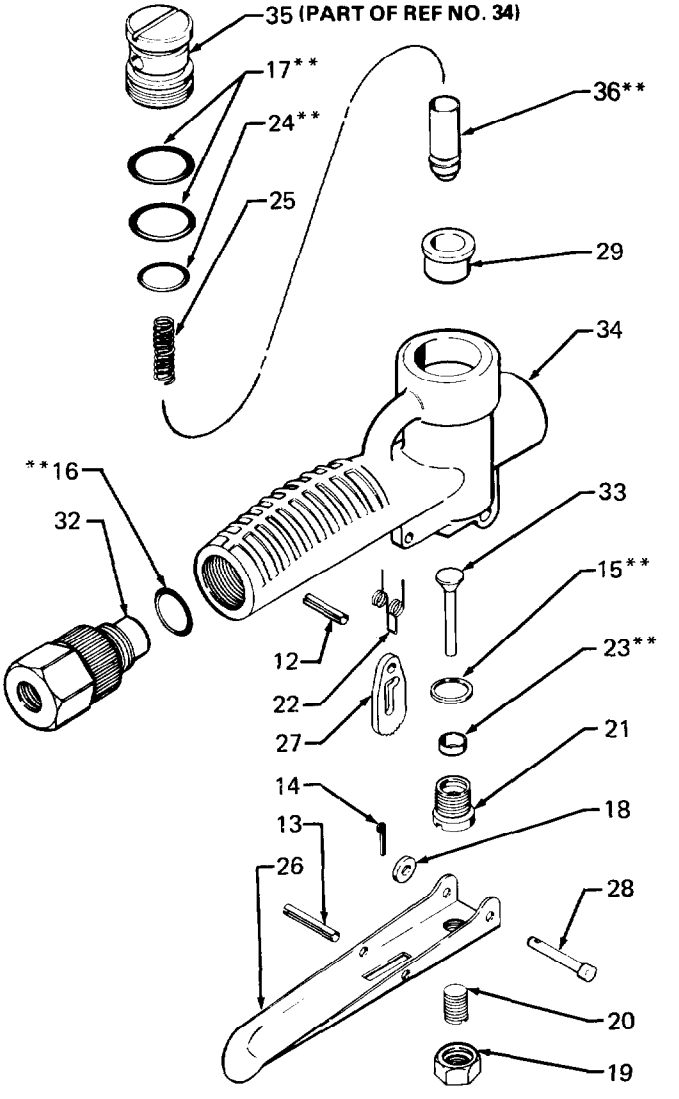


214-008 **Repair Kit**
(must be purchased separately)
consists of:

Ref No.	Qty
15	1
16	3
17	2
23	1
24	1
36	1

Model 218-541 MOTOR OIL CONTROL VALVE AND EXTENSION
Includes items 11-36, 41





PARTS LIST (NON–METERED VALVES)

REF NO.	PART NO.	DESCRIPTION	QTY
1	100–081	BUSHING; 1/4 npt(f) x 1/2 npt(m)	1
2	201–701	EXTENSION & COUPLER NOZZLE ASSY; Includes items 3–6	1
3	160–729	.TUBE, nozzle; 6" (150 mm) long	1
4	100–206	.BUSHING; 1/4 npt(f) x 1/2 npt(m)	1
5	203–655	.NON–DRIP COUPLER ASSY	1
6	108–511	.ELBOW; 1/4 npt(fbe)	1
11	202–911 Series D	LOW PRESSURE CONTROL VALVE ASSY; Includes items 12–36	1
12	108–445	.PIN, spring; 5/32 (4.0 mm) dia; 7/8 (22.2 mm) long	1
13	101–354	.PIN, roll; 3/16 (3.2 mm) dia; 1–1/8 (28.6 mm) long	1
14	101–421	.PIN, cotter; 5/8 (1.8 mm) dia; 3/8 (9.5 mm) long	1
15**	150–451	.GASKET, copper	1
16**	155–500	.O–RING; nitrile rubber	1
17**	156–401	.O–RING; nitrile rubber	2
18	157–974	.WASHER, special	1
19	158–213	.NUT, lock; 3/8–24	1
20	158–214	.SCREW, slotted hdless set; 1/8–24 x 9/16	1
21	158–668	.GUIDE, push rod	1
22	158–671	.SPRING, torsion	1
23**	158–673	.PACKING, v–block; nitrile rubber	1
24**	158–674	.O–RING; nitrile rubber	1
25	159–080	.SPRING, compression	1
26	159–118	.TRIGGER	1
27	159–168	.LATCH, trigger	1
28	159–484	.PIN, pivot	1
29	160–708	.SEAT, valve	1
32	202–994	.ADAPTER, swivel; 1/2 npt	1
33	203–977	.ROD, push	1
34	205–347	.VALVE BODY; Includes item 35	1
35	158–662	..PLUG, valve	1
36**	217–316	.VALVE, piston	1
37	203–265	EXTENSION & COUPLER NOZZLE ASSY; Includes items 38–40	1
38	100–081	.BUSHING, spout; 3/8 npt(f) x 1/2 npt(m)	1
39	159–246	.SPOUT, nozzle	1
40	203–655	.COUPLER, non–drip	1
41	203–047	MOTOR OIL EXTENSION See 306–391 for parts	1

306 number in description refers to a separate instruction manual.

**Recommended "tool box" spare parts. Keep on hand to reduce down time.*

***Included in Repair Kit 214–008.*

See "How to Order Replacement Parts" on the back cover

SERVICE

CONTROL VALVES, METERED

WARNING

Pressure Relief Procedure
To reduce the risk of serious bodily injury, including fluid injection or splashing in the eyes or on the skin, always follow this procedure when shutting down the system, and before checking or repairing this valve or any part of the system.

1. Turn off the power supply to the pump.
2. Trigger the valve into a waste container to relieve pressure.
3. Open any bleed-type master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to use the system again.

NOTES:

1. Clean all parts thoroughly when disassembling. Check them carefully for damage or wear, replacing parts as needed.

2. Reference numbers in parentheses in the text refer to the parts drawing on page 11.

Metered control valves are equipped with a strainer (27) to remove foreign particles from lines before they reach meter. Remove and clean strainer every 2 to 3 weeks.

Disconnect valve from hose. Unscrew swivel (28) from valve, then unscrew strainer (27) from swivel. Clean strainer in non-flammable solvent and blow dry with air.

If Lubricant Continues To Flow After Trigger Is Released:
Valve may be out of adjustment. To adjust valve, loosen locknut (13) and turn adjusting screw (14) in or out as needed. To stop flow, all pressure of screw upon push rod (29) must be released. With proper adjustment, there is a slight degree of play in handle. When adjustment is complete, hold adjusting screw in place and securely tighten locknut.

Valve spring may be weakened, o-rings worn or valve poppet unseated. Disconnect valve from hose. Remove valve plug (31). Related parts will come out with plug. Swab out valve cavity and seat (23) and inspect seat for nicks. If seat is damaged, contact a Graco authorized service center for repair.

If Lubricant Leaks Past Push Rod Packing:
Push rod or packing may be worn. Disconnect valve from hose. Drive out trigger latch pin (3) and swing trigger back. Remove guide (15), gasket (5) and push rod (29). Use a dull instrument to remove packing (17). Reassemble in reverse order of disassembly, using a new gasket (5).

If Lubricant Leaks At Swivel:
Disconnect valve from hose. Remove swivel from valve body. Clean and inspect o-ring (10) and valve surface. Replace if necessary and reassemble.

METERS

If meter fails to register, it may be due to a loose cap or dirt in chamber. Be sure cap is screwed tightly into housing against properly positioned o-ring. If meter still fails to register, clean and inspect meter.

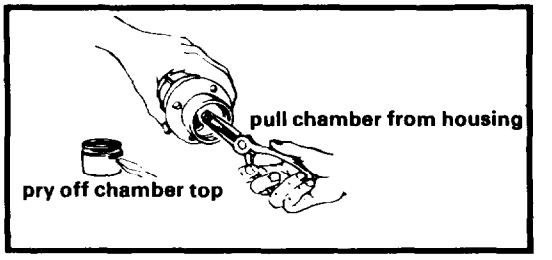
To Inspect And Clean Meter:
Unscrew outlet hose and nipple from meter.

Screw cap out of meter housing and remove o-ring seal, piston and chamber assembly, and planet pinion. See Fig 4.

Insert screwdriver into notch of chamber, pry off top and remove inner parts.

Clean all parts, including meter housing, thoroughly in solvent and blow dry. Inspect all parts for damage or wear. Carefully check outer surfaces of piston and inner surfaces of chamber bottom for pitting or scoring, and exchange if necessary, for a rebuilt meter assembly.

Place chamber and piston assembly in meter housing and turn it to be sure gears mesh. When properly engaged, meter cam wheel will turn as chamber and piston assembly turns.



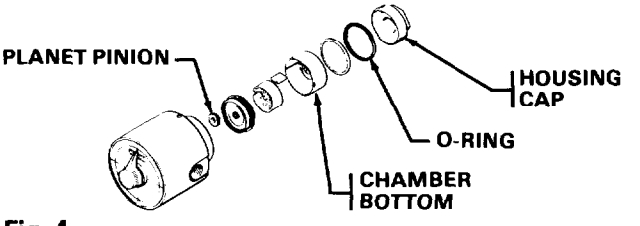


Fig 4

With o-ring in place, screw cap tightly into meter housing, install cover and reinstall meter.

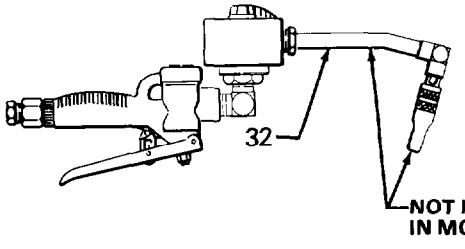
Start pump and dispense fluid to test meter and system operation, and to purge all air from system.

PARTS DRAWING (METERED VALVES)

Model 203-216 **GEAR LUBE CONTROL VALVE**
Series G **with 8 pint non-totalizing meter**
Includes items 2-32, 42, 43, 46

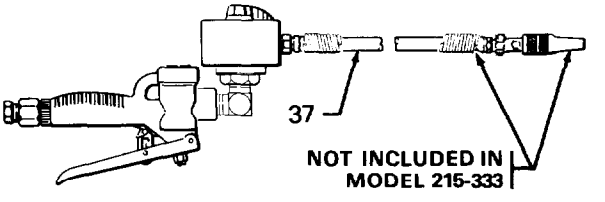
Model 215-248 **GEAR LUBE CONTROL VALVE ONLY**
Series B **with 8 pint non-totalizing meter**
Includes items 2-31, 42, 43, 46

Model 204-650 **GEAR LUBE CONTROL VALVE**
Series F **with quart calibrated in oz meter**
Includes items 2-32, 43, 46



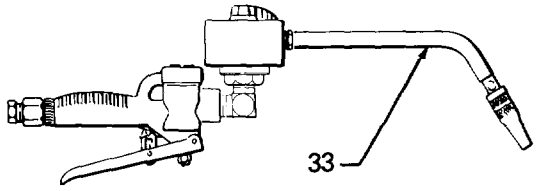
Model 203-218 **GEAR LUBE CONTROL VALVE**
Series G **with 8 pint totalizing meter**
Includes items 2-32, 42, 43, 46

Model 203-444 **ATF CONTROL VALVE**
Series G **with 16 quart totalizing meter**
Includes items 2-31, 37-43, 46

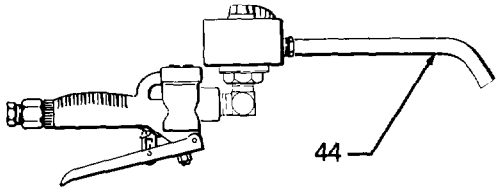


Model 215-333 **GEAR LUBE CONTROL VALVE**
Series B **with 4 quart non-totalizing meter**
Includes items 2-31, 43, 46

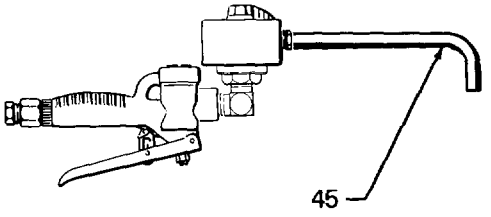
Model 203-217 Series G **MOTOR OIL CONTROL VALVE with 16 quart totalizing meter**
Includes items 2-31, 33-36, 42, 43, 46



Model 218-542 **MOTOR OIL CONTROL VALVE with 4 qt non-totalizing meter**
Includes items 2-31, 43, 44, 46

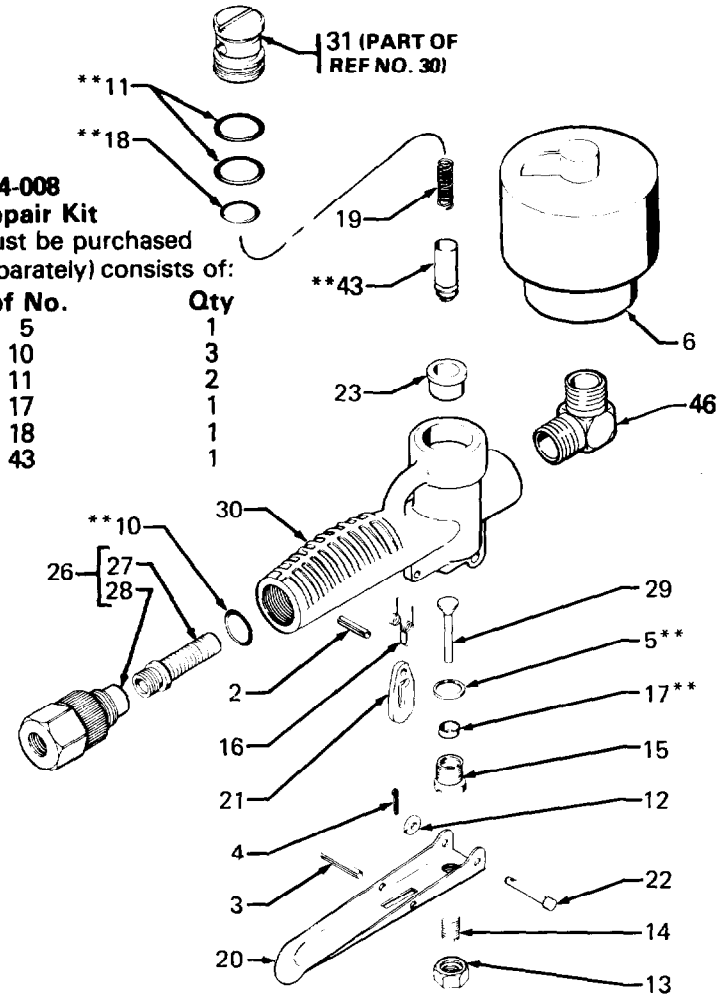


Model 218-543 **GEAR OIL CONTROL VALVE with 8 pt non-totalizing meter**
Includes items 2-31, 42, 43, 45, 46



214-008 Repair Kit
(must be purchased separately) consists of:

Ref No.	Qty
5	1
10	3
11	2
17	1
18	1
43	1



PARTS LIST (METERED VALVES)

REF NO.	PART NO.	DESCRIPTION	QTY
2	108–445	PIN, spring; 5/32 (4.0 mm) dia; 7/8 (22.2 mm) long	1
3	101–354	PIN, roll; 3/16 (3.2 mm) dia; 1–1/8 (28.6 mm) long	1
4	101–421	PIN, cotter; 5/8 (1.8 mm) dia; 3/8 (9.5 mm) long	1
5**	150–451	GASKET, copper	1
6	154–785	METER, 8 pt, non–totalizing	1
	157–771	METER, 8 pt, totalizing	1
	158–690	METER, 4 qt, non–totalizing	1
	157–779	METER, 16 qt, totalizing	1
	162–787	METER, qt calibrated in oz	1
10**	155–500	O–RING; nitrile rubber	1
11**	156–401	O–RING; nitrile rubber	2
12	157–974	WASHER, special	1
13	158–213	NUT, lock; 3/8–24	1
14	158–214	SCREW, slotted hdless st; 3/8–24 x 9/16	1
15	158–668	GUIDE, push rod	1
16	158–671	SPRING, torsion	1
17**	158–673	V–PACKING; nitrile rubber	1
18**	158–674	O–RING, nitrile rubber	1
19	159–080	SPRING, compression	1
20	159–118	TRIGGER	1
21	159–168	LATCH, trigger	1
22	159–484	PIN, pivot	1
23	160–708	SEAT, valve	1
26	203–275	SWIVEL ASSY Includes items 27 & 28	1
27	159–259	.STRAINER	1
28		.SWIVEL (not sold separately)	1
29	203–977	ROD, push	1
30	205–347	VALVE BODY; Includes item 31	1
31	158–662	.PLUG, valve	1
32	201–701	NOZZLE ASSY See page 9, item 2, for parts	1
33	203–265	NOZZLE ASSY; Includes items 34–36	1
34	100–081	.BUSHING, spout; 3/8 npt(f) x 1/2 npt(m)	1
35	159–246	.SPOUT, nozzle	1
36	203–655	.NOZZLE, non–drip	1
37	203–687	NOZZLE & HOSE ASSY Includes items 38 & 41	1
38*	220–273	.HOSE, high pressure; cpld, 1/4 ID; 1/4 npt(f) x 1/2 npt(m); 12 in (305 mm) long	1
41	203–655	.NOZZLE, non–drip	1
43**	217–316	VALVE, piston	1
44	203–047	EXTENSION, motor oil	1
45	203–048	EXTENSION, gear oil	1
46	108–478	ELBOW, 90°; 1/2–14 npt	1

**Recommended "tool box" spare parts. Keep on hand to reduce down time.*

***Included in Repair Kit 214–008.*

See "How to Order Replacement Parts" on the back cover

SERVICE INFORMATION

Listed below by the assembly changed are OLD and NEW parts.

ASSEMBLY CHANGED	PART STATUS	REF NO.	PART NO.	NAME
201–701 Extension & Coupler Assy	OLD		155–571	Bushing
	NEW	6	100–206	Bushing
	OLD		201–540	Coupler
	NEW	18	203–655	Coupler
	ADDED		108–511	Elbow
203–265 Extension & Coupler Assy	OLD		155–502	Bushing
	NEW		100–081	Bushing

INTERCHANGEABILITY NOTE: NEW parts replace OLD parts listed directly above them.

OPTIONAL V–PACKING NOTE: ADDED Optional PTFE › V–Packing 183–978 for replacing Leather V–Packing 162–694 (item 7 on page 5).

DELETED identification plugs (item 42) on all metered valves.

PTFE ›

HOW TO ORDER REPLACEMENT PARTS

1. To be sure you receive the correct replacement parts, kits or accessories, always give all of the information requested in the chart below.
2. Check the parts list to identify the correct part number; do not use the ref. no. when ordering.
3. Order all parts from your nearest Graco distributor.

6 digit Part Number	Qty	Part Description

THE GRACO WARRANTY AND DISCLAIMERS

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship onthe date of sale by an authorized Graco distributor to the original purchaser foruse. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repairor replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations. This warranty does not cover, and Graco shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non–Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility with Graco equipment of structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials notsupplied by Graco. This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributorfor verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection ofthe equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

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THE TERMS OF THIS WARRANTY CONSTITUTE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND ARE IN LIEU OF ANY OTHER WARRANTIES (EXPRESS OR IMPLIED), INCLUDING WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY NON–CONTRACTUAL LIABILITIES, INCLUDING PRODUCT LIABILITIES, BASED ON NEGLIGENCE OR STRICT LIABILITY. EVERY FORM OF LIABILITY FOR DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS IS EXPRESSLY EXCLUDED AND DENIED. IN NO CASE SHALL GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE. ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS OF THE DATE OF SALE.

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GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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PRINTED IN U.S.A. 306–390 9–52 Revised 6–88