

# Mi-T-M<sup>®</sup> CORPORATION

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## PARTS LIST FOR JCW-3504-0MHB/0MVB

HONDA ENGINE OIL GRADE:	SAE 10W/30
HONDA ENGINE OIL CAPACITY:	37.1 oz.
VANGUARD ENGINE OIL GRADE:	Above 40°F=SAE30
	Below 40°F=SAE10W-30
VANGUARD ENGINE OIL CAPACITY:	51 oz.
PUMP OIL GRADE:	Mi-T-M #AW-4085-0016
PUMP OIL CAPACITY:	16 oz.
PRESSURE NOZZLE:	4.0

This Parts Listing has been compiled for your benefit. You can be assured your Mi-T-M pressure washer was constructed and designed with quality and performance in mind using over 25 years experience in the pressure washer business. Each component has been rigorously tested to insure the highest level of acceptance.

The contents of this Parts Listing are based on the latest product information available at the time of publication. Mi-T-M reserves the right to make changes in price, color, materials, equipment, specifications or models at any time without notice.

### **WARNING**

**THIS IS A PROFESSIONAL HIGH PRESSURE, PRESSURE WASHER. CAUTION SHOULD BE OBSERVED WHEN USING OR REPAIRING THIS UNIT! READ AND FOLLOW THE SAFETY WARNINGS LISTED BELOW BEFORE ATTEMPTING ANY REPAIRS ON THIS PRESSURE WASHER!**

### **SAFETY WARNINGS**

1. NEVER alter or modify the equipment. Be sure any accessory items and system components being used will withstand the pressure developed. Use only genuine Mi-T-M parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will VOID warranty.
2. NEVER make adjustments on machinery while the unit is connected to the engine without first removing the ignition cables from the spark plugs. Turning over the machinery by hand during adjustment or cleaning might start the engine and machinery with it, causing serious injury to the operator.
3. Know how to stop and bleed pressures quickly. Be thoroughly familiar with controls.
4. Before servicing the unit, turn unit off, relieve the water pressure and allow the unit to cool down. Do not make repairs while the unit is running. Service in a clean, dry, flat area. Block the wheels to prevent the unit from moving. Be especially careful to properly dispose of any flammable materials.
5. After testing the machine, DO NOT leave the pressurized unit unattended. Shut off the unit and release trapped pressure before leaving.

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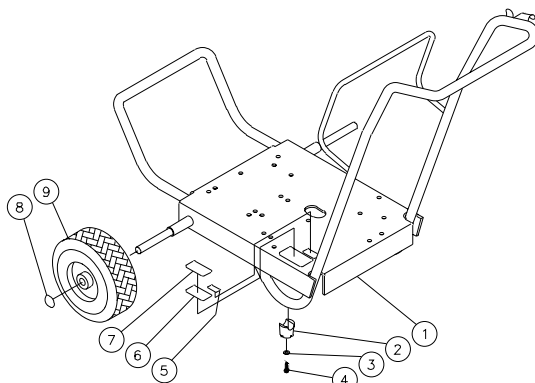
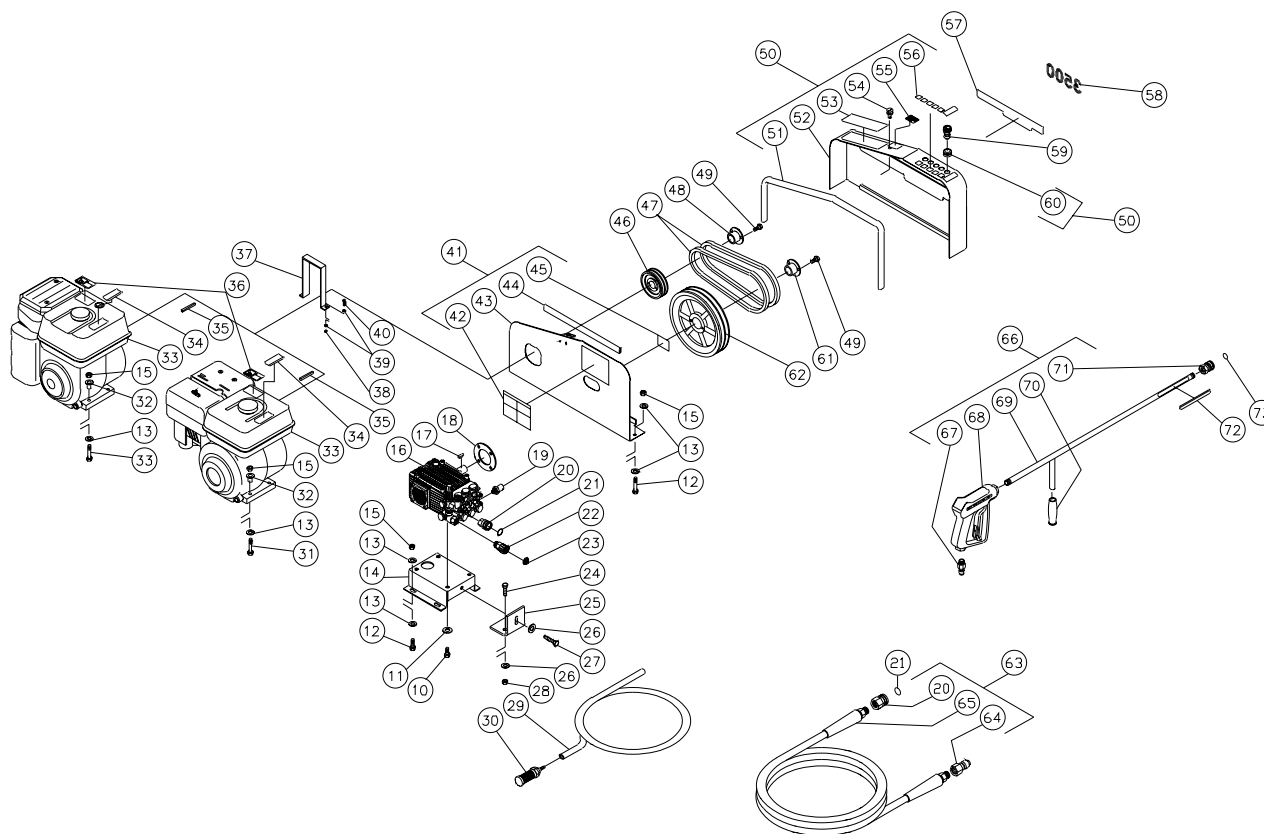
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## SPECIFICATIONS

JCW-3504-0MHB/0MVB

MODEL NUMBER	JCW-3504-0MHB	JCW-3504-0MVB
<b>Operating Pressure (PSI/Bar):</b>	3500/241	
<b>High Pressure Nozzle:</b>	4.0	
<b>Water Volume (GPM/lpm):</b>	3.7/14.0	
<b>Engine:</b>	Honda	B & S Vanguard
Horsepower	13.0	13.0
Engine Type	4 Stroke, Overhead Valve, Single Cylinder	
Oil Type	SAE 10W 30	Above 40 F=SAE30/Below 40 F=SAE 10W 30
Oil Capacity (oz./liters)	37.1/1.1	51/1.5
Low Oil Protection	Oil Alert	Oil Guard
Fuel Type	Unleaded Gasoline 86 Octane Minimum	
Fuel Capacity (gallon/ liters)	1.72/6.5	1.88/7.1
Starting	Recoil	
Maximum No Load RPM	3600 (+/- 100) RPM	
<b>Pump:</b>	Belt Driven, Oil Bath, Triplex Piston	
Oil Type	Mi-T-M Pump Oil #AW-4085-0016	
Oil Capacity (oz./liters)	16/.47	
Plungers	Ceramic	
Manifold	Forged Brass	
Valves	Stainless Steel	
Unloader	Adjustable	
Heat Dump Valve	Relieves heated water during unloader bypass stage	
Detergent Injector	Adjustable low pressure down stream from pump	
<b>Unit Net Weight (Lbs/kg)</b>	161/73	165/75
<b>Unit Shipping Weight (Lbs/kg)</b>	215/97	219/99
<b>Unit Net Dimension (In/cm)</b>	42L x 26W x 26H/107L x 66W x 66H	
<b>Unit Shipping Dimension (In/cm)</b>	48L x 30W x 34H/122L x 76W x 86H	

# FRAME ASSEMBLY

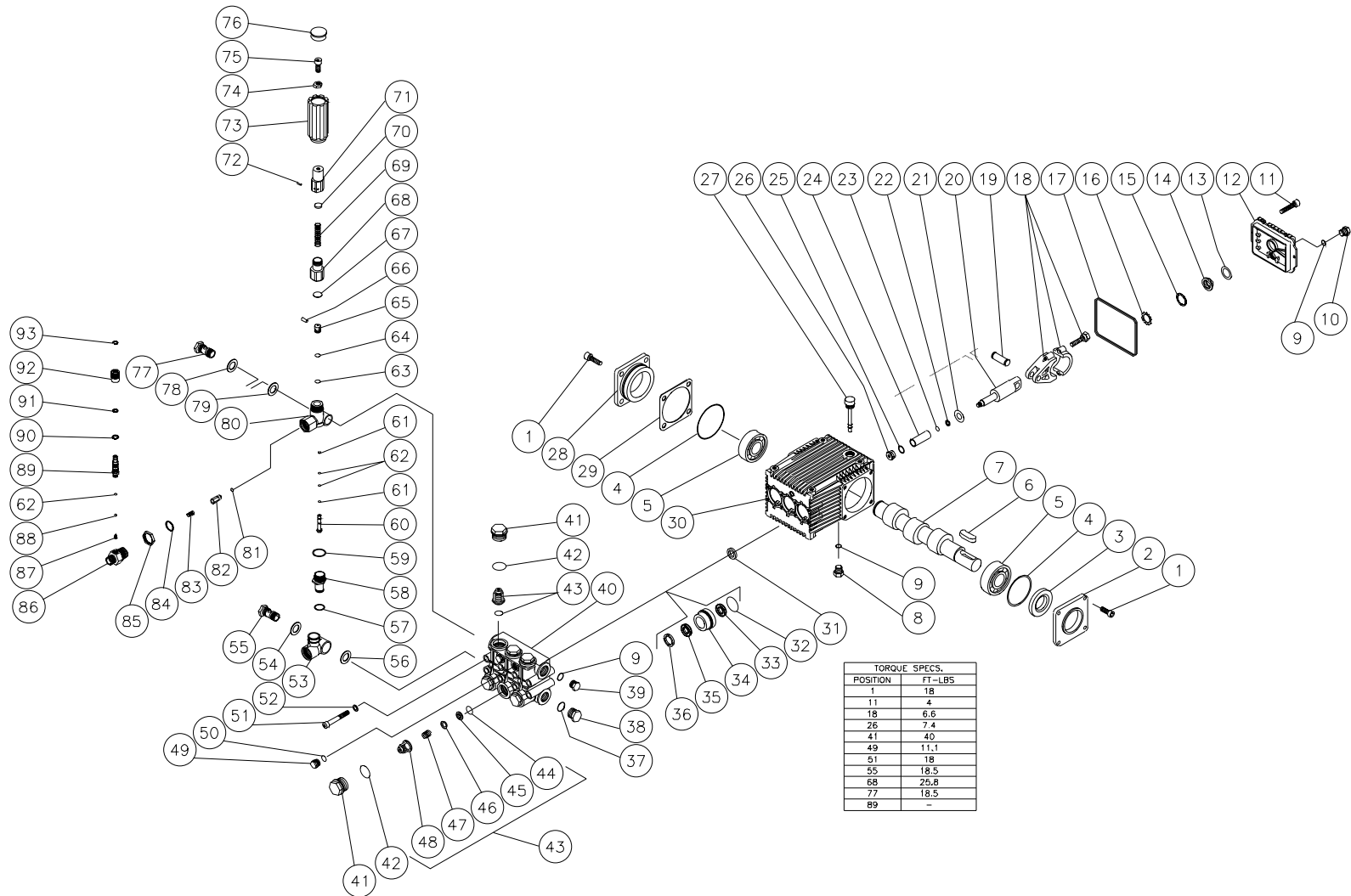


OMCWU256-021099-RD

FRAME ASSEMBLY

REF #	DESCRIPTION	PART #	QTY	REF #	DESCRIPTION	PART #	QTY	REF #	DESCRIPTION	PART #	QTY
1	Frame Assembly	5-0129A01	1	28	Locknut	30-0159	2	54	Fastener	33-0197	1
2	Isolator	14-0066	2	29	Detergent Hose *(Four feet required)	15-0021	1	55	Decal- American Flag	34-0521	1
3	Washer	28-0021	2	30	Detergent Strainer	19-0050	1	56	Decal- White Die Cut	34-0500	1
4	Screw	27-3096	2	31	Bolt	27-0070	4	57	Decal- Beltguard	34-0777	1
5	Decal- Serial Number	N/A	1	32	Engine Shim	33-0169	4	58	Decal- White Die Cut	34-0909	1
6	Decal- Silver Sticker	N/A	1	33	Engine- Honda 13 HP	1-0086	1	59	Nozzle- 0004	18-0028	1
7	Decal- Clear Laminate	N/A	1	-	Engine- Vanguard 13HP	1-0090	1	-	Nozzle- 1504	18-0029	1
8	Hubcap	33-0018	2	34	Decal- Caution: Allow to Cool (E/S)	34-0599	1	-	Nozzle- 2504	18-0030	1
9	Wheel	14-0017	2	35	Key	43-0078	1	-	Nozzle- 4004	18-0031	1
10	Bolt	27-8884	4	36	Decal- Warning: Muffler Hot (E/S)	34-0598	1	-	Nozzle- 6540	18-0148	1
11	Washer	29-0054	4	37	Bracket	6-0054A01	1	60	Grommet	33-0001	5
12	Bolt	27-0067	7	38	Locknut	30-0155	2	61	Bushing- Pump	9-0017	1
13	Washer	28-0003	18	39	Washer	28-0002	4	62	Sheave- Pump	10-0035	1
14	Pump Bracket	5-0130A01	1	40	Bolt	27-0015	2	63	High Pressure Hose Assembly (Inc. 20,64,65)	851-0006	1
15	Locknut	30-0157	11	41	Beltguard Back Assembly (Inc. 42-45)	851-0312	1	64	Quick Connect Plug	17-0006	1
16	Pump (See Exploded Drawing)	3-0189	1	42	Decal- Warning/Caution (E/S)	34-0812	1	65	High Pressure Hose	15-0003	1
17	Key	46-0601	1	43	Beltguard Back	N/A	1	66	Gun Assembly (Inc. 67-72)	851-0095	1
18	Isolator Pump	33-0202	1	44	Edging *(Two Feet Required)	33-0020	1	67	Quick Connect Plug	17-0005	2
19	Heat Dump Valve	22-0005	1	45	Decal- Warning: Beltguard in Place (E/S)	34-0826	1	68	Gun (See Exploded Drawing)	16-0001	1
20	Quick Connect Socket	17-0004	2	46	Sheave- Engine	10-0067	1	69	Wand	16-0120A01	1
21	O-ring	25-0123	2	47	Belt	11-0023	2	70	Grip	7-0002	1
22	Garden Hose Swivel	23-0095	1	48	Bushing- Engine	9-0005	1	71	Quick Connect Socket	17-0001	1
23	Garden Hose Filter	19-0001	1	49	Bolt	27-0015	4	72	Decal- Warning: Risk of Injection	34-0572	1
24	Bolt	27-0118	2	50	Beltguard Cover Assembly (Inc. 51-56, 60)	851-0313	1	73	O-ring	25-0122	2
25	Brace Tightener Bracket	13-0005A01	1	51	Edging *(Three Feet Required)	33-0020	1	*Must Order in One Foot Lengths			
26	Washer	28-0023	3	52	Beltguard Cover	N/A	1				
27	Bolt	27-0576	1	53	Decal- Operating Instructions (E/S)	34-0813	1				

# PUMP ASSEMBLY (3-0189)

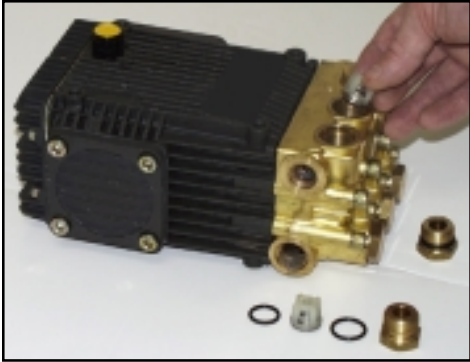


3-0189-012099-RD

PUMP ASSEMBLY (3-0189)											
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Bolt	27-8884	8	34	Packing Retainer	46-0708	3	68	Guide Spring	8-0474	1
2	Shaft Cover	46-0691	1	35	V-Packing (See 70-0177)	N/A Sep.	3	69	Spring	49-0132	1
3	Oil Seal	26-0188	1	36	Support Ring (See 70-0178)	N/A Sep.	3	70	Spring Button	8-0475	1
4	O-Ring	25-0380	2	37	O-ring	25-0372	1	71	Adjustment Barrel	8-0476	1
5	Roller Bearing	48-0061	2	38	Plug	39-0088	1	72	Pin	8-0477	1
6	Key	43-0091	1	39	Plug	39-0086	1	73	Unloader Knob	7-0141	1
7	Crankshaft	46-0692	1	40	Manifold	46-0711	1	74	Nut	30-3025	1
8	Plug	39-0102	1	41	Valve Cap	39-0095	6	75	Bolt	27-8433	1
9	O-ring	25-0325	3	42	O-ring	25-0160	6	76	Cap	7-0142	1
10	Plug	39-0086	1	43	Single Valve Assembly (Inc. 44-48) (See 70-0179)	N/A Sep.	6	77	Adaptor	8-0448	1
11	Bolt	27-8885	6	44	O-ring	25-0386	6	78	Washer	8-0449	1
12	Crankcase Cover	46-0812	1	45	Valve Seat (See 70-0179)	N/A Sep.	6	79	Washer	8-0450	1
13	O-ring	25-0370	1	46	Valve Plate (See 70-0179)	N/A Sep.	6	80	Unloader Body	8-0451	1
14	Oil Sight Glass	46-0670	1	47	Valve Spring (See 70-0179)	N/A Sep.	6	81	O-ring	25-0437	1
15	Reflector	46-0824	1	48	Valve Cage (See 70-0179)	N/A Sep.	6	82	Check Valve	8-0454	1
16	Retainer	46-0671	1	49	Plug	39-0096	2	83	Spring	49-0123	1
17	O-ring	25-0398	1	50	O-ring	25-0387	2	84	O-ring	25-0372	1
18	Connecting Rod	46-0697	3	51	Bolt	27-8440	8	85	Tightener Nut	8-0497	1
19	Piston Pin	46-0698	3	52	Lockwasher	29-0154	8	86	Injector Adapter	8-0498	1
20	Plunger Rod	46-0699	3	53	Inlet Bypass Adaptor	8-0437	1	87	Detergent Injector Spring (See 70-0233)	N/A Sep.	1
21	Washer	46-0700	3	54	Washer	8-0440	1	88	Ball (See 70-0233)	N/A Sep.	1
22	Backup Ring	25-0404	3	55	Adaptor	8-0438	1	89	Barb	8-0499	1
23	O-ring	25-0382	3	56	Washer	8-0439	1	90	O-ring (See 70-0233)	N/A Sep.	1
24	Piston	46-0701	3	57	O-ring (See 8-0456)	N/A Sep.	1	91	O-ring (See 70-0233)	N/A Sep.	1
25	Washer	26-0191	3	58	Nipple	8-0441	1	92	Knob	7-0152	1
26	Nut	30-6020	3	59	O-ring (See 70-0180)	N/A Sep.	1	93	Snap Ring (See 70-0233)	N/A Sep.	1
27	Oil Dipstick	39-0090	1	60	Piston	8-0442	1		High Pressure Seal Kit (Inc. 3 each 32, 33, 35)	70-0177	
28	Bearing Cap/ Support	46-0703	1	61	Backup Ring (See 70-0180)	N/A Sep.	2		Support Ring Kit (Includes 3 each 36)	70-0178	
29	Shim (Quantity Varies 1-3)	46-0704	-	62	O-ring	25-0371	3		Valve Kit (Includes 6 each 44-48)	70-0179	
-	Shim (Quantity Varies 1-3)	46-0705	-	63	O-ring (See 70-0180)	N/A Sep.	1		Unloader Kit (Inc. 53-83)	8-0456	
30	Crankcase	46-0811	1	64	Backup Ring (See 70-0180)	N/A Sep.	1		Unloader Repair Kit (Inc. 57, 59, 61-64, 81)	70-0180	
31	Oil Seal	26-0190	3	65	Poppet	8-0443	1		Injector Kit (Inc. 62, 84-93)	70-0232	
32	O-ring	25-0384	3	66	Pin	8-0444	1		Injector Repair Kit (See 62, 84, 87, 88, 90, 91, 93)	70-0233	
33	Low Pressure Seal (See 70-0177)	N/A Sep.	3	67	Spring Button	8-0445	1				

## PUMP SERVICE GUIDE

USE THE PARTS LIST ON THE PREVIOUS PAGE TO REORDER PARTS NEEDED TO SERVICE YOUR PUMP.

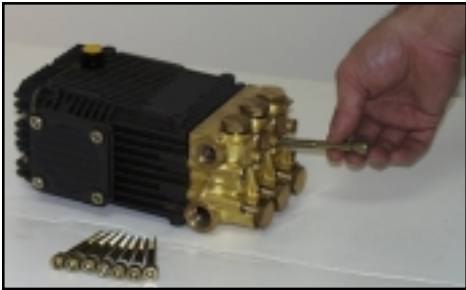


### REPLACING THE VALVE ASSEMBLY:

1. In order to maintain optimum pump performance, replace all the valves at one time. The valve assemblies can be replaced without disrupting plumbing.
2. Remove the valve cap from the manifold.
3. Inspect the o-ring on the valve cap for deterioration. Replace if necessary.
4. Remove the valve assembly from the valve cavity.
5. Remove the o-ring inside the bottom of the valve cavity. Check for signs of severe deterioration of the o-ring. This could reflect excessive wear in the valve cavity of the manifold which is a *normal* occurrence in pumps with an extended life (over 1000 hours). Check the manifold and replace if necessary. (Note: *Normal* wear in the manifold is not covered under warranty.)
6. Install the new o-ring into the bottom of the valve cavity, then place the new valve assembly into the valve cavity.
7. Reinstall the valve cap and torque to specifications listed on the pump drawing in your parts list.

### REMOVING THE MANIFOLD:

1. Remove the head bolts on the manifold.



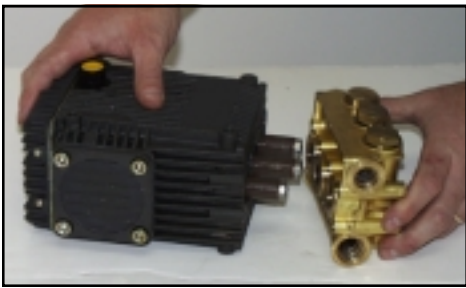
### CAUTION

#### RISK OF DAMAGE

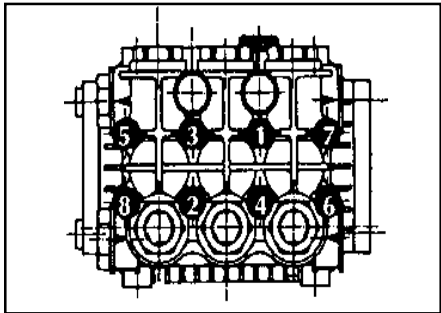
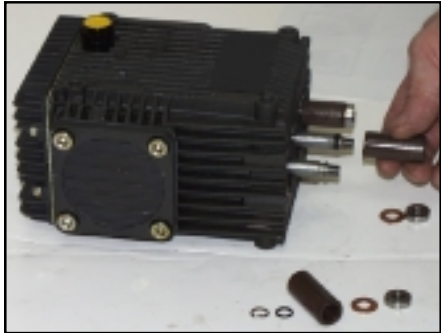
**USE CAUTION NOT TO DAMAGE THE PLUNGERS WHEN REMOVING THE MANIFOLD HEAD FROM THE CRANKCASE .**

2. Pull the manifold head from the crankcase. Rotate the crankshaft or tap the manifold head lightly with a rubber mallet to loosen if necessary.

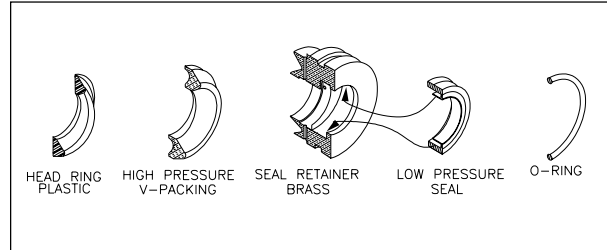
*NOTE: The V-packing assemblies may come off with the manifold head. If this happens, reinsert the V-packings in the order given in the "V-Packing Cross Section" illustration shown on the following page.*







### V-PACKING CROSS SECTION



### REPLACING V-PACKINGS:

1. In order to maintain optimum pump performance, replace all the V-Packings at one time. The manifold must be removed from the crankcase before performing this procedure. Use of an extractor is highly recommended for V-packing removal.
  2. Insert the extractor through the center of the V-packing and pull the V-Packing from the manifold.
  3. Install the V-Packings in the order shown in the drawing at left.
- NOTE: A film of grease on the o-rings ensure easier installation.*
4. Move on to replace plungers if necessary. If plungers do not need replacing, reinstall the manifold head as described in "Reinstalling the Manifold".

### REPLACING PLUNGERS:

1. Remove piston nut and washer from the piston rod.
2. Examine the plungers for cracks and wear. Replace if necessary.
3. Remove the plunger. If the slinger washer comes off with the plunger, replace it before installing the new plunger.
4. Install the replacement parts over the piston guide in the order given:  
-Anti-extrusion ring, O-ring, Plunger, Washer.

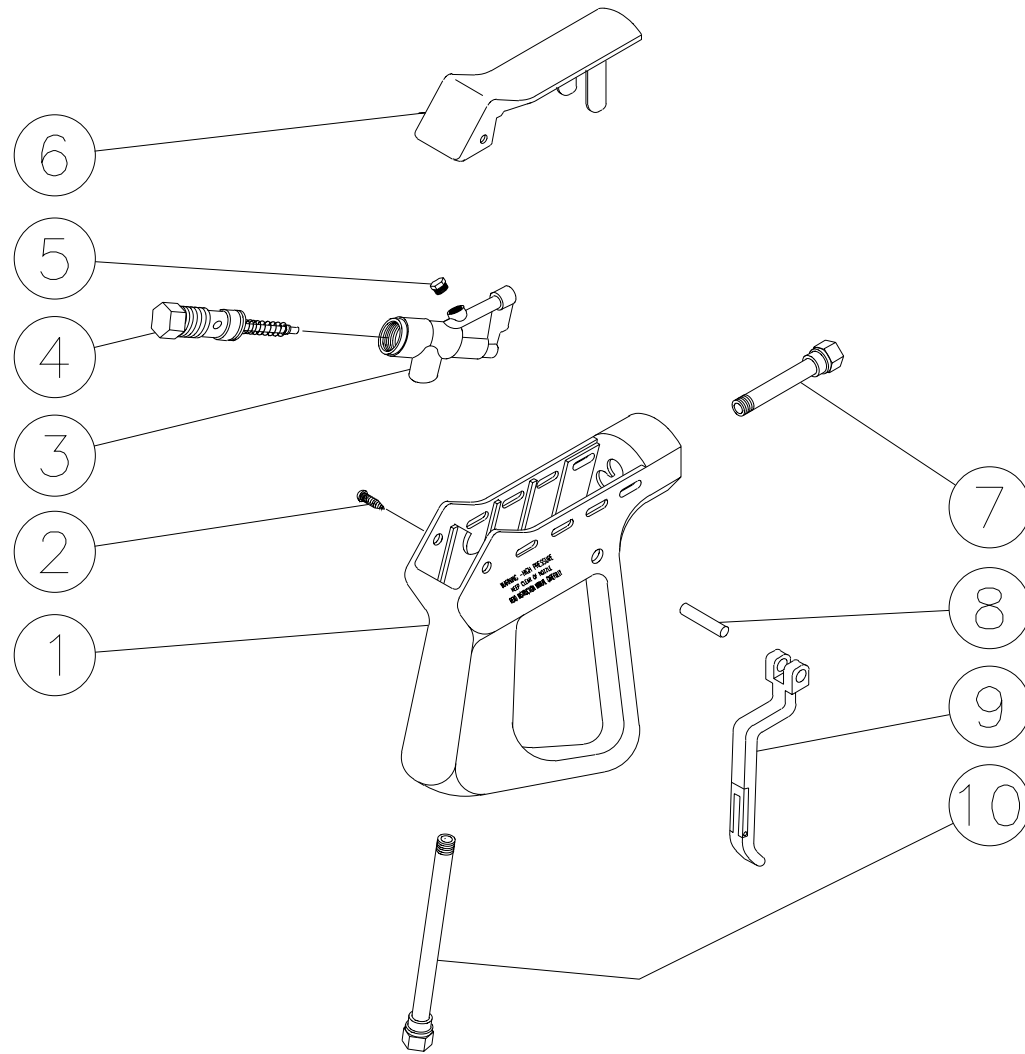
*NOTE: A film of grease on the o-ring ensures easier installation.*

5. Apply thread sealant to the piston guide threads.
6. Install the piston nut and torque to the specifications listed on the pump drawing in your parts list.

### REINSTALLING THE MANIFOLD:

1. Apply a coat of grease to each plunger and reinstall the manifold head, taking care not to damage the plungers.
2. Install and tighten the head bolts as shown in the sequence at left. Use your fingers first, then at half the torque specified for your pump. Perform a final torque to the specifications listed on the pump drawing in your parts list.

# GUN ASSEMBLY (16-0001)



OMGEN013-080294-BAR

<b>GUN ASSEMBLY (16-0001)</b>			
<b>REF. #</b>	<b>DESCRIPTION</b>	<b>PART #</b>	<b>QTY.</b>
1	Plastic Housing	16-0008	1
2	Screw	27-3230	2
3	Brass Housing	16-0012	1
4	Gun Repair Kit	70-0055	1
5	Brass Plug	39-0024	1
6	Plastic Cover	16-0009	1
7	Pipe Assembly	16-0013	1
8	Trigger Pin	16-0063	1
9	Trigger/Safety Lock-off	16-0010	1
10	Pipe Assembly- Inlet	16-0016	1
	Complete Gun Assembly	16-0001	1

