



Mi-T-M[®]
C O R P O R A T I O N

PROFESSIONAL
28 INCH ROTARY SURFACE
CLEANER
AW-7020-8001
OPERATING INSTRUCTIONS
AND PARTS LIST



CAUTION

RISK OF INJURY! READ MANUAL BEFORE OPERATING!
THIS MANUAL IS AN IMPORTANT PART OF THE CLEANER AND MUST
REMAIN WITH THIS UNIT WHEN YOU SELL OR RENT IT!

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WARNING

Warning: This product contains lead, a chemical known to the State of California to cause birth defects or other reproductive harm.

Wash your hands after handling this product.

WARNING

This product contains one or more chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

INTRODUCTION

Congratulations on the purchase of your new Mi-T-M Rotary Surface Cleaner! You can be assured this Cleaner was constructed and designed with quality and performance in mind. Each component has been rigorously tested to ensure the highest level of acceptance.

Your Rotary Surface Cleaner is equipped with a heavy duty high pressure swivel with the versatility of using this Cleaner in both Cold and Hot water applications. Simply connect the Rotary Surface Cleaner to your Mi-T-M Pressure Washer, pull the trigger and walk behind for fast and efficient cleaning!

This manual was compiled for your benefit. The contents of this manual 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, material, equipment, specifications or models at any time without notice.

! IMPORTANT !

These paragraphs are surrounded by a "SAFETY ALERT BOX". This box is used to designate and emphasize Safety Warnings that must be followed when operating this Rotary Surface Cleaner. Accompanying the safety warnings are "signal words" which designate the degree or level of hazard seriousness. The "signal words" used in this manual are as follows:

DANGER: Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided MAY result in minor or moderate injury.



The symbols set to the left of this paragraph are "Safety Alert Symbols". These symbols are used to call attention to items or procedures that could be dangerous to you or other persons using this equipment.

ALWAYS PROVIDE A COPY OF THIS MANUAL TO ANYONE USING THIS EQUIPMENT. READ ALL INSTRUCTIONS IN THIS MANUAL AND ANY INSTRUCTIONS SUPPLIED BY MANUFACTURERS OF SUPPORTING EQUIPMENT BEFORE OPERATING THIS UNIT AND ESPECIALLY POINT OUT THE "SAFETY WARNINGS" TO PREVENT THE POSSIBILITY OF PERSONAL INJURY TO THE OPERATOR.

Unbox the unit and inspect for signs of obvious or concealed freight damage. Be sure that all damaged parts are replaced and the mechanical problems are corrected prior to the operation of the cleaner. Write in the serial number in the space provided below.

SERIAL NUMBER _____

If you have questions, contact your Mi-T-M® Customer Service Representative at 800-553-9053.

Please have the following information available for all service calls:

1. Model Number
2. Serial Number
3. Date and Place of Purchase


Mi-T-M® Corporation, 8650 Enterprise Drive, Peosta, IA 52068-0050 USA

SPECIFICATIONS

Operating Pressure (PSI/ BAR)	2000-4000/ 138-276
Water Volume (GPM/ IPM)	3.0-10.0/ 11.36- 37.85
Maximum Temperature (°F/ °C)	212°/ 100°
Maximum RPM	2500
Unit Net Weight (lbs./ Kg)	46/ 20.87
Unit Net Dimensions (IN/ CM)	L44.00 x W28.00 x H38.00/ L111.1 x W71.76 x H96.5
Unit Shipping Weight (lbs./ Kg)	52/23.59
Unit Shipping Dimensions (IN/ CM)	L42 x W29 x H11.5/ L106.68 x W73.66 x H29.21



SAFETY WARNINGS

When using this product, basic precautions should always be observed, including the following:
READ ALL SAFETY WARNINGS BEFORE USING ROTARY SURFACE CLEANER

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
<p data-bbox="107 204 325 272">RISK OF INJECTION OR SEVERE CUTTING INJURY</p> 	<p data-bbox="346 204 614 272">Serious injury or death could occur from high pressure spray penetrating the skin.</p> <p data-bbox="346 1354 578 1425">Do not make repairs or adjustments while unit is running.</p>	<p data-bbox="636 204 1009 272">Keep clear of nozzle and spray! Never put your hand, fingers or body directly over the spray nozzle.</p> <p data-bbox="636 293 998 358">Never point the high pressure discharge spray at yourself or anyone else.</p> <p data-bbox="636 383 958 427">This product is to be used only by trained operators.</p> <p data-bbox="636 451 1008 495">Always keep operating area clear of all persons.</p> <p data-bbox="636 519 998 563">DO NOT allow children to operate this unit.</p> <p data-bbox="636 587 1001 812">If an accident does occur, and the spray appears to have penetrated the skin, SEEK EMERGENCY MEDICAL CARE. DO NOT TREAT AS A SIMPLE CUT! Be prepared to tell a physician exactly what kind of cleaning agents you were using by reading the Detergent Label and the Material Safety Data Sheet (MSDS) provided with your detergent.</p> <p data-bbox="636 836 1004 1011">High pressure hoses should be inspected daily for signs of wear. If evidence of failure exists, promptly replace all suspect hoses to prevent the possibility of injury from the high pressure spray. If a hose or fitting is leaking, NEVER PLACE YOUR HAND DIRECTLY ON THE LEAK.</p> <p data-bbox="636 1036 1001 1195">Before using rotary surface cleaner, or when quick connecting high pressure hoses, be certain the "collar" on the female quick connect is locked securely to prevent accidental discharge and that all quick coupler fittings are secure.</p> <p data-bbox="636 1219 993 1328">NEVER operate the gun with the trigger wired in the open position. To prevent accidental discharge, the trigger gun should be securely locked when not in use.</p> <p data-bbox="636 1352 1004 1552">Before removing the spray nozzle or servicing the unit, ALWAYS shut off the unit and trigger the gun to release trapped pressure. (Even after you shut off the unit, there is high pressure water left in the unit until you release it by triggering the gun.) Allow the unit to cool down and service in a clean, dry, flat area.</p>


SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING ROTARY SURFACE CLEANER

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
<p style="text-align: center;">RISK OF BURNS</p> 	<p>Serious injury may occur from touching Hot Surfaces.</p>	<p>The Rotary Surface Cleaner is capable of accepting a maximum of 212°F. When using in a hot water application, do not touch or direct discharge stream at persons. Be cautious of hose fittings as surface temperatures are the same as the water temperature.</p>
<p style="text-align: center;">RISK OF BODILY INJURY</p> 	<p>Serious injury or death may occur from detergents contacting or penetrating the skin.</p> <p>Serious injury can occur from loose debris being propelled at a high speed from the spray gun.</p> <p>Injury may occur if the operator loses his balance caused by the thrust of water traveling through the spray nozzle.</p>	<p>SEEK EMERGENCY MEDICAL CARE if the spray appears to have penetrated the skin! DO NOT TREAT AS A SIMPLE CUT! Be prepared to tell a physician exactly what kind of cleaning agents you were using by reading the Material Safety Data Sheet (MSDS) provided with your detergent.</p> <p>Never use any solvents or highly corrosive detergents or acid type cleaners with this rotary surface cleaner.</p> <p>Protective equipment such as rubber suits, gloves and respirators are advisable, especially when using cleaning detergents.</p> <p>Keep all detergents out of the reach of children!</p> <p>ALWAYS wear protective goggles when operating the unit to shield the eyes from flying debris and detergents.</p> <p>DO NOT direct spray toward fragile materials such as glass for shattering could occur.</p> <p>Stay alert-watch what you are doing. Do not operate the unit when fatigued or under the influence of alcohol or drugs.</p> <p>NEVER squeeze the trigger unless securely braced.</p> <p>DO NOT overreach or stand on unstable support.</p> <p>Wet surfaces can be slippery, wear protective foot gear and keep good footing and balance at all times.</p>

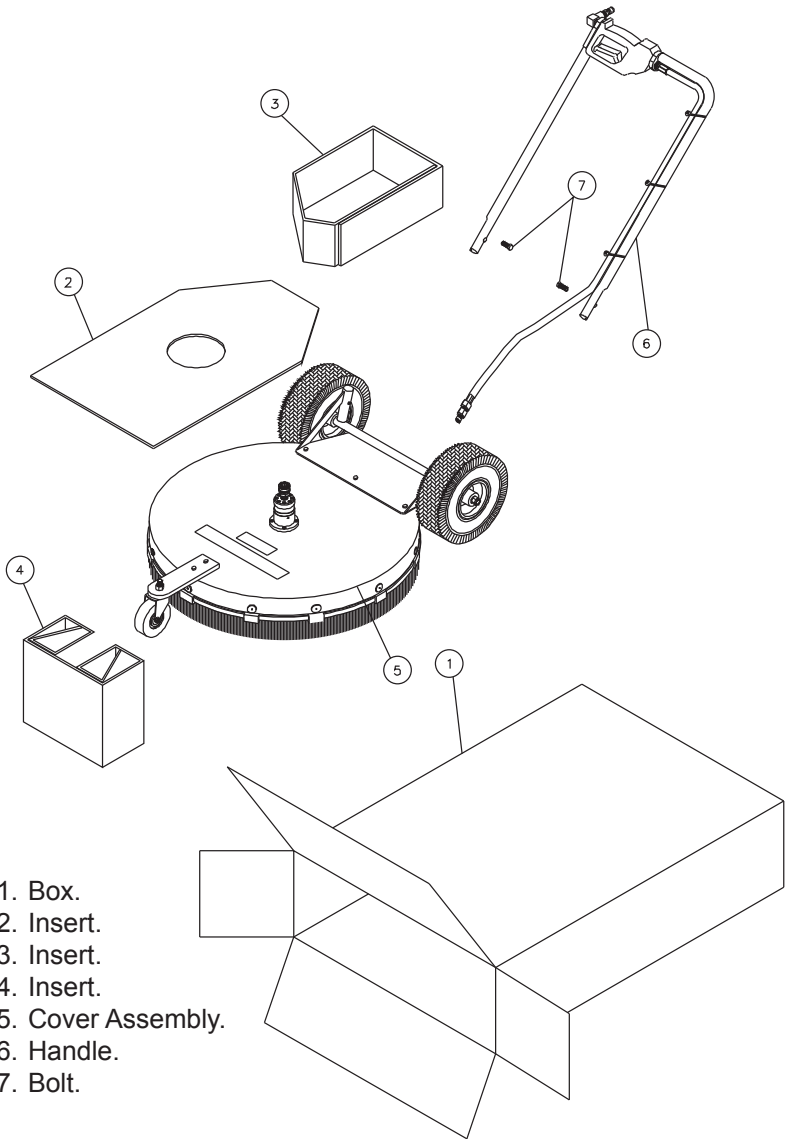
SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING ROTARY SURFACE CLEANER

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
<p data-bbox="133 186 303 235">RISK OF BODILY INJURY</p> 	<p data-bbox="351 186 601 235">Injury may occur from the rotary surface cleaner.</p>	<p data-bbox="622 186 994 349">ALWAYS hold on firmly to the handles of the Rotary Surface Cleaner when operating the unit. Failure to do so can cause the Cleaner to move dangerously. To prevent accidental discharge, the trigger gun should be securely locked when not in use.</p> <p data-bbox="622 381 973 511">Always wear eye and ear protection when using the Rotary Surface Cleaner. Other protective clothing such as a rubber suit, gloves, respirator, etc., may be necessary when using detergents.</p> <p data-bbox="622 544 931 592">Never make adjustments on the machine while in operation.</p> <p data-bbox="622 617 984 714">DO NOT leave pressurized unit unattended. Shut off the pressure washer and release trapped pressure before leaving.</p> <p data-bbox="622 738 984 803">Know how to stop the Rotary Surface Cleaner. Be thoroughly familiar with controls.</p>

!SAVE THESE INSTRUCTIONS!

FEATURES

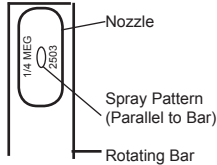


1. Box.
2. Insert.
3. Insert.
4. Insert.
5. Cover Assembly.
6. Handle.
7. Bolt.

INSTALLATION & PREPARATION

NOZZLE SELECTION & INSTALLATION:

1. Your Rotary Surface Cleaner will come installed with one set of 2502.5 nozzles.
 - a. The minimum orifice size to be used in your Rotary Surface Cleaner is half that which is being used in your pressure washer. Example: If your pressure washer uses a size 5 orifice, you will need to use a size 2.5 orifice in your Rotary Surface Cleaner. (Two nozzles are inserted in the Rotary Surface Cleaner, therefore; two nozzles x size 2.5 orifice = size 5 orifice.)
 - b. The nozzles being used should have a 15°-25° spray pattern; anything less than a 15° spray pattern can damage the area being cleaned. Anything more than 25° may not allow the bar to rotate.
2. Nozzles should be screwed into the rotating bar. The spray fan should be parallel to the Rotating Bar. (See figure at right.)



UNIT ASSEMBLY:

1. Line up the holes on the lower part of handle (6) with the holes on the cover assembly (5).
2. Insert the bolt (7) through the handle and cover holes and tighten securely.
3. Quick connect the Rotary Surface Cleaner hose assembly to the swivel located on the unit base.

SET-UP:

1. Locate the high pressure discharge hose on your pressure washer and ensure it is securely connected to the water outlet of the pressure washer. Quick connect the other end of the high pressure discharge hose to the gun on the Rotary Surface Cleaner.
2. Connect the water supply hose, one end to your pressure washer, the other end to a pressurized water supply.

SURFACE PREPARATION:

1. Clear any loose debris from the area to be cleaned.
2. Never attempt to clean surface with objects that protrude from the surface being cleaned. Striking any raised obstacle during operation will damage machine. If contact does occur and results in vibration when operating machine, STOP and replace spray bar.

⚠ CAUTION
Risk of Injury or damage to machine!!
NEVER OPERATE THE UNIT IF IT BEGINS TO VIBRATE!
Shutdown the unit and tighten the rotating bar, bolts and fittings.

PRE-START INSPECTION PROCEDURES:

1. Inspect Rotary Surface Cleaner before each use. Tighten rotating bar, bolts and fittings as needed.
2. Ensure all connections are secure. Turn the water supply completely "ON". (DO NOT START PRESSURE WASHER!)
3. Inspect hoses for kinking, cut or leaks. If found, DO NOT USE HOSE! Replace damaged hoses before starting.
4. Unlock the trigger gun and squeeze the trigger. Water will begin flowing from the nozzles of the Surface Cleaner. Ensure nozzles are not clogged and spray pattern is not erratic. Change nozzles before proceeding if problems exist.
5. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation. If you need service, contact a Mi-T-M Authorized Service Center.

END OF PREPARATION INSTRUCTIONS



THE FOLLOWING CONTAINS OPERATING AND MAINTENANCE INSTRUCTIONS.

DO NOT ATTEMPT TO OPERATE THIS ROTARY SURFACE CLEANER UNTIL YOU HAVE READ AND UNDERSTOOD ALL SAFETY WARNING AND INSTRUCTIONS LISTED IN THIS MANUAL.


INCORRECT OPERATION OF THIS UNIT CAN CAUSE SERIOUS INJURY!!

DO NOT ALTER OR MODIFY THIS EQUIPMENT IN ANY MANNER!

OPERATION

START-UP:

1. Lock the trigger gun on the Rotary Surface Cleaner in the "OFF" position (move the lever on the gun handle to a 90° angle so it rests against the handle grip).
2. Ensure all connections are secure.
3. Unlock the trigger gun and squeeze the trigger while starting the Pressure Washer.
4. Water will begin flowing from the nozzles of the Surface Cleaner. Ensure nozzles are not clogged and spray pattern is not erratic. Turn the pressure washer and water supply off and change nozzles before proceeding if problems exist.
5. Walk slowly behind the unit, cleaning as you go. If striping occurs, slow down the pace. Do not allow machine to remain stationary on soft surfaces such as wood.
6. Check "weep holes" on top of the swivel periodically. Water will seep slowly. If it shoots out, shut-down the unit and replace seals and/or main seal.

 **CAUTION**
Risk of Injury or damage to machine!!
NEVER OPERATE THE UNIT IF IT BEGINS TO VIBRATE!
Shutdown the unit and tighten the rotating bar, bolts and fittings.

SHUT-DOWN:

1. Turn the Pressure Washer off.
2. Turn the water supply off.
3. Squeeze the trigger gun to relieve water pressure.
4. Disconnect and drain the water hose and wipe down unit. Store unit in a non-freezing environment.

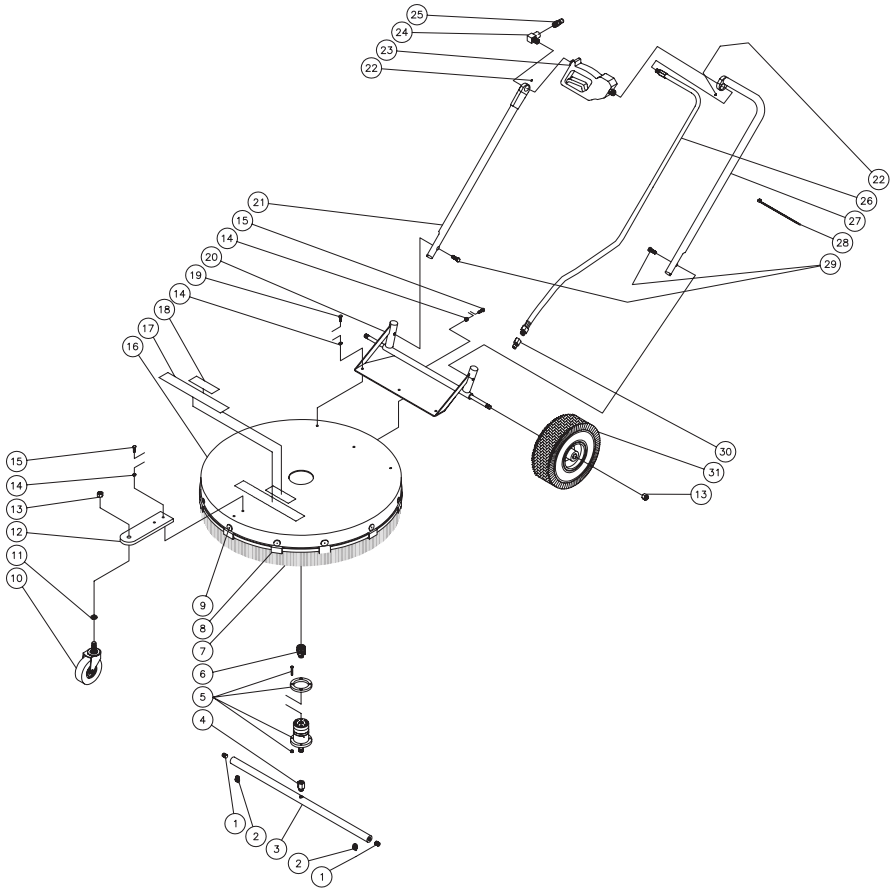
TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
Inadequate cleaning power.	Not enough PSI from pressure washer.	Ensure unit produces a minimum 2000 PSI. Most effective cleaning range is 2500-4000 PSI.
	Inadequate water supply.	Turn water supply completely "ON" and/ or clean water filter on pressure washer. Ensure unit produces a minimum of 3.0 GPM.
	Engine RPM on pressure washer is too low.	Increase throttle.
	Nozzle obstructed or worn.	Clean or replace as necessary.
	Incorrect nozzle orifice size.	Insert correct nozzle.
Rotating bar will not rotate.	Seal has drag.	Allow for break-in period.
	Snap ring dislodged.	Do not use! Contact Mi-T-M Customer Service.
	Seal malfunction.	Do not use! Contact Mi-T-M Customer Service.
	Bearing failure.	Do not use! Contact Mi-T-M Customer Service.
Excessive vibration of Surface Cleaner OR Cleaner base is creating a suction to the surface.	Nozzle clogged.	Clean or replace.
	Rotating bar, bolts or fittings loose.	Tighten.
	Rotating bar or swivel rotor bent.	Replace.
Streaked cleaning pattern.	Insufficient water supply OR PSI of pressure washer is too low. (Won't allow Rotating Bar to move.)	Increase water supply OR ensure pressure is a minimum of 2000 PSI and a minimum of 3.0 GPM.
	Nozzle clogged.	Clean or replace.
	Cleaning too fast.	Slow down pace.
Water weeping from swivel.	Small amount of seepage is normal.	No modification is necessary.
Water shooting from swivel.	Seal malfunction.	Replace.

CONTACT

Mi-T-M CUSTOMER SERVICE: 800-553-9053
Monday - Friday 7:30 a.m. - 5:30 p.m. CST

28 INCH ROTARY SURFACE CLEANER AW-7020-8001

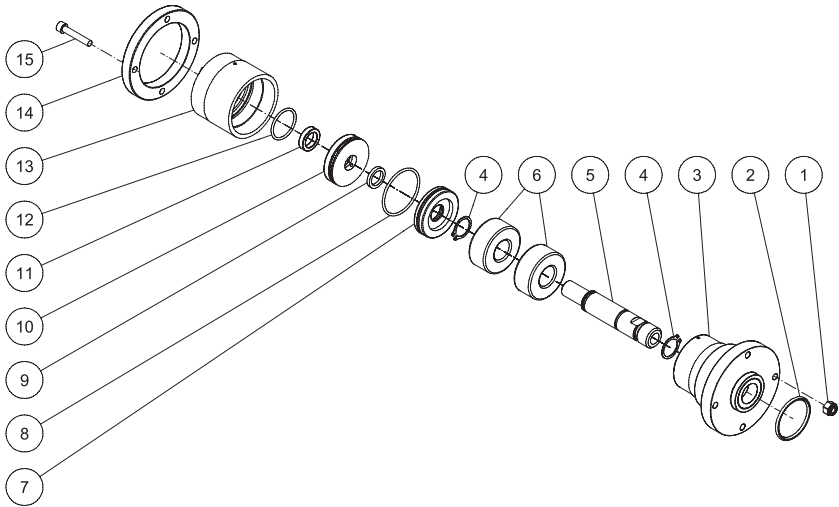


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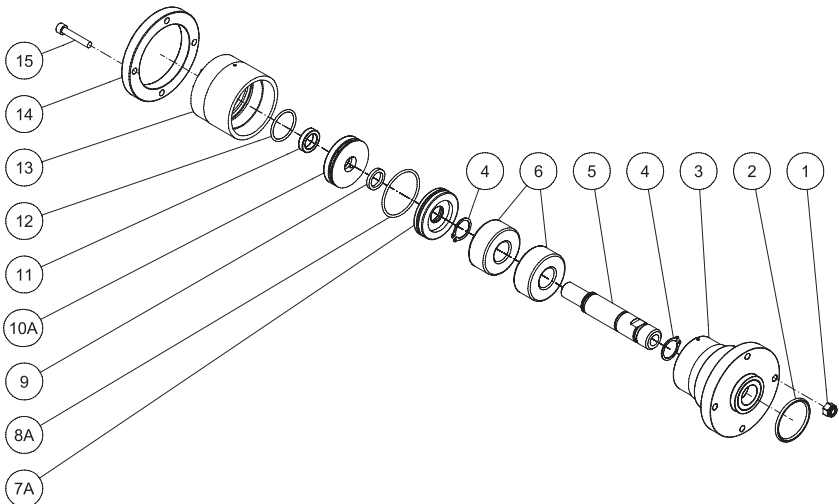
28 INCH ROTARY SURFACE CLEANER (AW-7020-8001)							
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Screw	27-8911	2	13	Nut	30-0163	3
2	Spray Nozzle- 1501.5	18-0294	2	14	Nut	30-0155	6
-	Spray Nozzle- 1502	18-0295	2	15	Bolt	27-0016	2
-	Spray Nozzle- 1502.5	18-0096	2	16	Cover Assembly	33-0300	1
-	Spray Nozzle- 1503	18-0053	2	17	Decal- Mi-T-M Stripe	34-0185	1
-	Spray Nozzle- 2501.5	18-0297	1	18	Decal- Warning	34-0845	1
-	Spray Nozzle- 2502	18-0298	2	19	Bolt	27-0015	4
-	Spray Nozzle- 2502.5	18-0299	2	20	Handle Base	20-0473	1
-	Spray Nozzle- 2503	18-0151	2	21	Handle- Right Side	7-0153	1
3	Spray Bar	33-0299	1	22	Set Screw	27-8913	2
4	Reducer	24-0156	1	23	Trigger Gun	16-0351	1
5	Swivel Assembly	33-0289	1	24	Elbow	24-0105	1
6	Quick Connect	17-0007	1	25	Quick Connect	17-0005	1
7	Skirt	33-0479	1	26	High Pressure Hose	15-0196	1
8	Clips	33-0477	11	27	Handle- Left Side	7-0154	2
9	Rivets	33-0478	11	28	Wire	33-0022	5
10	Swivel Wheel	14-0073	1	29	Bolt	27-0117	2
11	Washer	29-0010	1	30	Quick Connect	17-0006	1
12	Swivel Wheel Mount Plate	20-0472	1	31	Wheel	14-0074	2

SWIVEL ASSEMBLY (33-0289)

OLD VERSION: WW128



NEW VERSION: WW312 "-3" SERIES



SWIVEL ASSEMBLY			
ITEM	DESCRIPTION	PART #	QTY
1	LOCKNUT	30-0136	4
2	O-RING (SEE KIT 70-0218, 70-0645 AND 70-0648)	SEE KIT	1
3	BEARING HOUSING	N/A	1
4	SNAP RING (SEE KIT 70-0648)	43-0094	2
5	ROTOR SHAFT (SEE KIT 70-0648)	33-0284	1
6	BEARING (SEE KIT 70-0648)	48-0068	2
7	LOWER PLATE (OLD WW128)	N/A	1
7A	PLATE - LOWER GLAND (NEW WW312) (SEE KIT 70-0648)	33-0567	1
8	STATIC O-RING (OLD WW128) (SEE KIT 70-0218)	SEE KIT	1
8A	STATIC O-RING (NEW WW312) (SEE KIT 70-0645 AND 70-0648)	25-0683	1
9	SECONDARY SEAL (SEE KIT 70-0218, 70-0645 AND 70-0648)	SEE KIT	1
10	UPPER PLATE (OLD WW128)	N/A	1
10A	PLATE - UPPER GLAND (NEW WW312) (SEE KIT 70-0648)	33-0566	1
11	MAIN SEAL (SEE KIT 70-0218, 70-0645 AND 70-0648)	SEE KIT	1
12	STATIC O-RING (SEE KIT 70-0218, 70-0645 AND 70-0648)	SEE KIT	1
13	SEAL CAP	N/A	1
14	CLAMP RING	43-0095	1
15	BOLT	27-8916	4

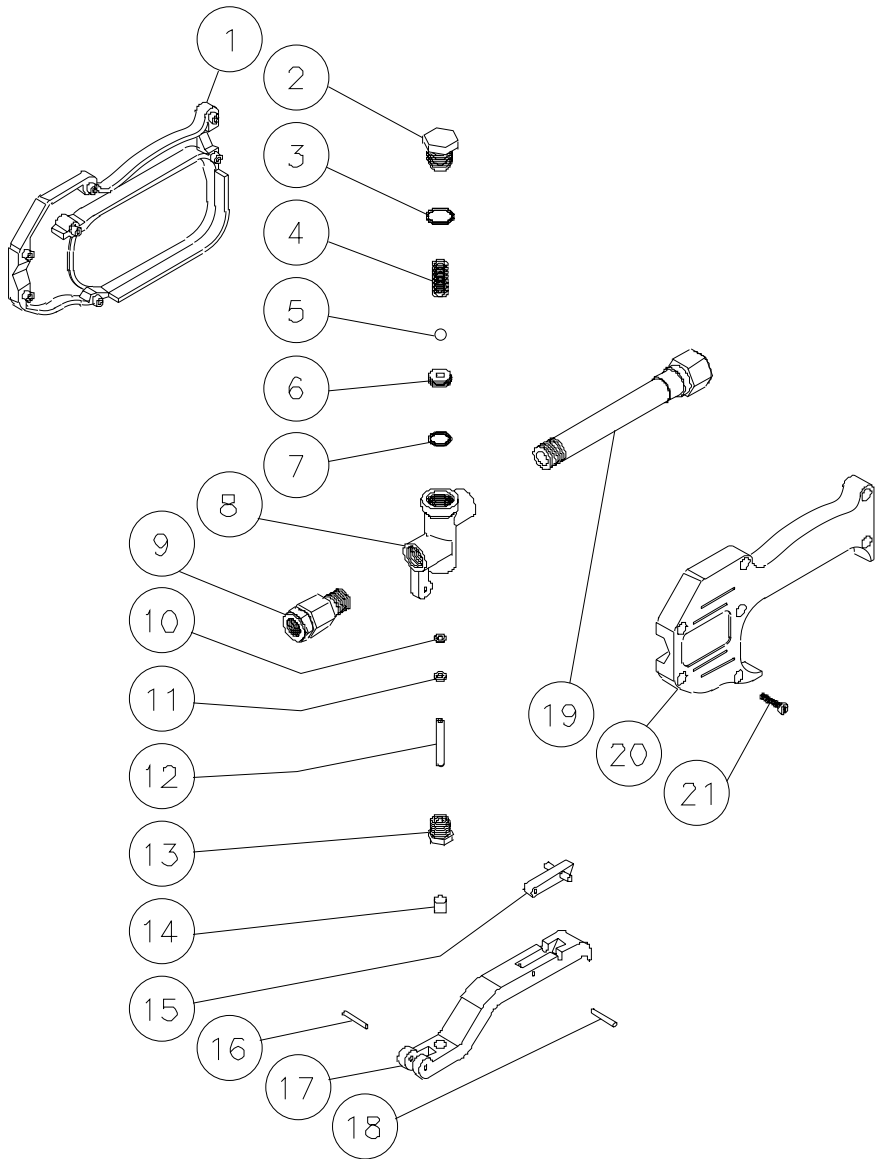
REPLACEMENT KITS FOR OLD WW128

PART #	DESCRIPTION	ITEMS	# OF ASSEMBLIES
70-0218	SEAL KIT	2, 8, 9, 11, 12	1

REPLACEMENT KITS FOR NEW WW312

PART #	DESCRIPTION	ITEMS	# OF ASSEMBLIES
70-0645	SEAL KIT	2, 8A, 9, 11, 12	1
70-0648	SWIVEL COMPLETE	2,4,5,6,7A,8A,9,10A,11,12	1

GUN ASSEMBLY (16-0351)



GUN ASSEMBLY (16-0351)			
REF. #	DESCRIPTION	PART #	QTY.
1	Housing	16-0352	1
2	Plug	16-0353	1
3	Washer	N/A Sep.	1
4	Spring	49-0137	1
5	Ball	N/A Sep.	1
6	Seat	N/A Sep.	1
7	O-Ring	N/A Sep.	1
8	Housing	16-0354	1
9	Fitting	16-0355	1
10	O-Ring	N/A Sep.	1
11	Back-up Ring	N/A Sep.	1
12	Piston Rod	N/A Sep.	1
13	Plug	16-0356	1
14	Striker	16-0357	1
15	Trigger Lock	16-0358	1
16	Pin	43-0076	1
17	Trigger	16-0359	1
18	Pin	43-0093	1
19	Fitting	16-0360	1
20	Housing	16-0361	1
21	Screw	27-4061	7
	Gun Repair Kit (3,5-7,10,-12)	70-0217	

NOTES

Manufactured by Mi-T-M
8650 Enterprise Drive, Peosta IA 52068
563-556-7484/ Fax 563-556-1235