



READ MANUAL BEFORE OPERATING  
KEEP MANUAL FOR FUTURE REFERENCE

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# MACHINE MANUAL

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★ BUILT **USA** TOUGH ★

DM150



RIGHT IN THERE WITH YOU.



**DURACABLE**<sup>®</sup>  
— MANUFACTURING CO —

# DM150 MACHINE MANUAL

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### WARRANTY

Duracable Manufacturing Company warrants the DM150 machine to be free from defects in material and workmanship for a period of two years from the date of purchase. Warranty service can be obtained by contacting Duracable Manufacturing Company at the address listed below. If a defect is covered by warranty, Duracable Manufacturing Company will repair or replace the defective machine or component without charge for labor or materials (freight is not included).

Warranty of the machine is limited to the original purchaser. Duracable Manufacturing Company assumes no responsibility for damage or injury from accident, neglect, abuse, misuse or from damage due to repair or alterations by others. This warranty does not cover damage to the machine from use of parts other than genuine Duracable brand parts.

Duracable Manufacturing Company's sole obligation and the original purchaser's sole remedy under this warranty shall be for repair or replacement as described above. All other warranties, expressed or implied, including but not limited to, implied warranties of merchantability and fitness for a particular purpose, are disclaimed. In no event shall Duracable Manufacturing Company be liable for any incidental or consequential damages.

### PARTS AND SERVICE INSTRUCTIONS

Parts can be purchased from Duracable Manufacturing Company. Service work is also available. Service is performed by trained factory personnel. Machines sent to the factory for evaluation and repair can be estimated and quoted prior to service work. When sending a machine, be sure to include the return address and include instructions on how the repair should be handled. Instructions can either be included with the machine, explained to your account manager over the phone (800-247-4081), or faxed (515-223-6109).

### IMPORTANT

Keep this manual in a safe, convenient place for future reference. Important information about this machine, its diagrams and warranty information are included in this manual.

Serial Number:

Date of Purchase:

Duracable Manufacturing Company  
300 Ashworth Road • West Des Moines, IA 50265

## SAFETY LABELS

Duracable Manufacturing uses three signal words on its safety labels and instructions. These words have the following definitions:

### **⚠ DANGER**

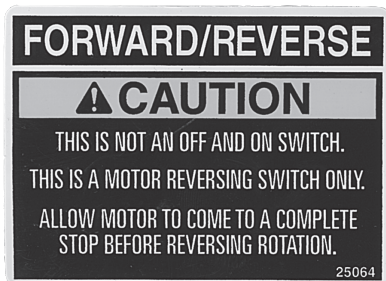
A 'Danger' label indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situation, typically for machine components that, for functional purposes, cannot be guarded. The word 'danger' will be in white letters on a red background.



### **⚠ CAUTION**

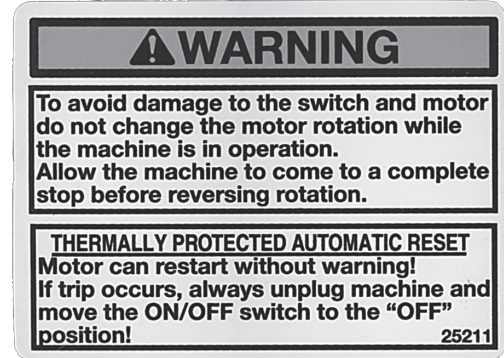
A 'Caution' label indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The word 'caution' will be in black letters on a yellow background.

The safety label format includes the signal word and symbol, a picture (not required), and the message.



### **⚠ WARNING**

A 'Warning' label indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices. The word 'warning' will be in black letters on an orange background.



## INFORMATION AND SPECIFICATIONS

### Safe Machine Operation

Read this machine manual thoroughly before assembling or operating the machine. Become familiar with its controls and proper use before operating. Keep this manual in a handy place for reference and replacement parts referral. This machine is designed specifically for the purpose of opening and cleaning drains. Use it for this purpose - do not use it for other purposes.

Use gloves to protect your hands. Wear them to feed and retrieve cable. Use a material that cannot be easily grabbed by the cable. Most leather gloves and certain rubber gloves work well. Duracable Manufacturing has each type available through the Duracable Product Catalog. Also, avoid the use of loose-fitting clothes or jewelry when operating this machine.

Keep guards in place to protect the operator from the electric motor and electrical wiring. These guards are for safety protection and must be in place when running the machine. Each machine is equipped with an air foot switch. Use of the air foot switch to operate the machine is required for safe operation. This allows the machine operator to turn the machine on or off with the foot while keeping both hands on the cable.

Select a work area free from obstruction with room to work. Keep the machine within three feet of the pipe opening, allowing only enough room to work. This is required to shorten the length of exposed cable, thus providing maximum control in high-torque situations. Take a position that is comfortable to the left or right side of the machine for feeding or retrieving cable. For high work openings, the machine can be placed on its back as conditions require.

When performing a job, use the smallest blade first. Rinse the pipe after each blade is run through the line in order to clean out loosened debris. Then follow with the increasing sizes of blades until the size used is one that actually scrapes the side of the pipe or sewer. The cutting blades are flexible and can be compressed to enter most clean out openings. Centrifugal force created by the spinning cable forces the blades to expand to their natural diameter or to the walls of the pipe. It is advisable to maintain a very keen cutting edge on the blades at all times.

Place two hands on the cable between the outlet of your machine and the clean out, and keep them there at all times during operation. Your hands placed in the proper position will provide a guide for the cable.

As the blade makes contact with an obstruction in the line, it stops the blade from turning and builds torque in the cable. Do not permit the blade to get hung up in an obstruction for more than three seconds. Torque buildup can be both helpful and dangerous. It is helpful when pulled from the obstruction in a timely manner. When the cable is pulled away, the tension is released and the blade turns at a high speed. When the blade is

free, feed it back into the obstruction to make use of the built-up power to clean the line. It is dangerous because excess torque can cause looping over of the cable. Serious injury to fingers and hands is possible unless precautions are observed. When retrieving cable from the line, feed the cable into the machine until the blade is close to the clean out opening. Shut off the machine and hand-feed the remaining cable into the machine.

### Unpacking Your Machine

The DM150 is shipped to you pre-assembled and ready for use, with the following parts: the base machine, a reel, a revolving arm, and head bearing. When it arrives, remove the parts immediately and inspect for damage. If any of the contents are damaged, contact your motor freight carrier immediately.

### Moving Your Machine

Break the machine down into lighter-weight components to move it to and from the job site. To do this, secure the GFCI cord and the air foot switch pedal with the velcro. Loosen the "T" bolts and remove the revolving arm and head bearing as one piece. Various accessories are available from Duracable Manufacturing to assist and protect the operator during the moving process.

### Lubrication Maintenance

Caution: Do not over oil these points.

- Head Bearing Assembly - The roller bearing, located in the front assembly, requires monthly lubrication. Use a grease gun to lubricate the zerk fitting with multipurpose grease. A lithium-base grease is recommended.
- Reel Shaft and Reel Bearings - The reel shaft requires monthly lubrication. Use a multipurpose grease or heavy oil. Keeping the shaft lubricated means the reel will slide freely and will not 'freeze' to the shaft and need to be repaired. The reel bearings require some light oil monthly.

### Cable Care Instructions

Take care of your cable for optimum performance. The recommended care procedure is as follows:

- Break in a new cable. To relieve the stress on new cable that has been coiled since its manufacture, put it in a clean line and run it for 10 minutes.
- Oil the cable once a week.
- Rinse the cable immediately after each use with the hottest water available. This is especially important if the cable was in acid or alkali during use.
- When one end of the cable begins to show wear, rewind and use the opposite end. (Tip: order the same kind of end fittings on both ends of the cable.)
- If the cable kinks, cut out the kink and splice the cable ends together.

# DM150 MACHINE MANUAL

## INFORMATION AND SPECIFICATIONS

### DM150

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1/4 HP Motor

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230 RPM

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Direct Drive

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14" Reel

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1/2" x 75' Cable

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Optional Handle

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2-Year Warranty

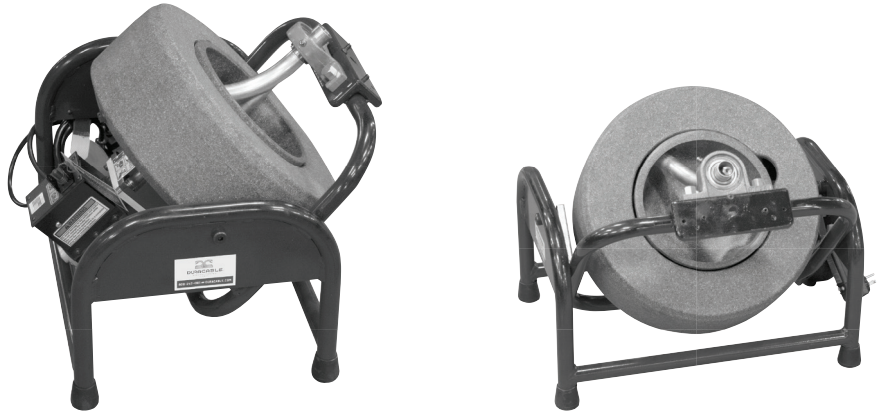
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Continuous Weld  
Uni-body Frame

### USES:

1-1/4" to 4" lines,  
Residential, Sinks,  
Bathtubs, Shower Drains,  
Roof Vents, Floor Drains

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DM150 with 14" Enclosed Polyethylene Reel



# DM150 MACHINE MANUAL

## INFORMATION AND SPECIFICATIONS

### Frame

The frame on the Model DM150 is a continuously welded frame made of high strength aluminum alloy, including the heavy-duty casted front bearing mount. Non-marring rubber pads do not leave marks on the customers' floors.

### Head Bearing

The heavy-duty casted self-aligning head bearing makes sure the reel stays properly aligned when it spins. This increases the life span, making for a longer-lasting reel. The head bearing holds the reel in place, as well as allowing quick release of the reel. Just loosen the thumb screws and everything slides off for fast, easy reel changes.

### Electrical Wiring

The machine's electrical wiring is located in the conduit box to the side of the motor, housing both the forward/reverse switch and the air foot switch. The Ground Fault Circuit Interrupter (GFCI) is built into the electrical cord to protect the operator against electrical shock or electrocution. The air foot pedal is standard equipment and allows the operators to turn the machine on and off with their foot while their hands stay on the cable.

### RPM/Drive

The Model DM150 has a 1/4 HP gear-driven motor and a heavy-duty 20 amp switch.

### Maneuverability

The Model DM150 can tilt from 0-90 degrees with five notched positions to secure the reel in place. These notches have positive positioning that locks the reel in place until you manually adjust to a different notched position. This is an ideal use for roof vents. A guide tube and quick-lock guide tube bracket are options and best used with 5/16" cable and 3/8" cable. An optional lifting handle is available for lifting the machine (and carrying it separately from the reel). An optional mobility kit is available with a pulling handle, axle brackets and wheels. An optional machine cart is available which can be used with both the lifting handle and the pulling handle.

### Cable and Reel Selections

The Model DM150 is recommended for use with the 14PRWLK reel and the 14PROWLK reel. It will accommodate the 8PRK reel for 1/4" cable; however, it is not recommended. Due to the high torque capabilities of this machine, 1/4" cable should only be used by experienced technicians, and with caution.

### Standard Package

The Model DM150 standard package (part number DM150A) comes with the following: revolving arm, 1/4 HP motor at 230 rpm, one 14" oversized enclosed polyethylene reel with head bearing, 1/2" x 4' tail piece, 1/2" x 75' cable, and choice of end fittings.



The DM150 is shown with the 14PRWLK reel. (See options on the next page.)

## MACHINE SPECIFICATIONS (APPROXIMATE)

Length of Standard Machine	17"
Width of Standard Machine	20"
Height of Machine with 14PRWLK Reel	16"
Height of Machine with 14PROWLK Reel	16"
Weight of Machine with 1/3 HP Motor	34 lbs
Weight of 14PRW Reel with Inner Reel	6.5 lbs
Weight of 14PRWLK Reel with Inner Reel and Head Bearing	7.75 lbs
Weight of 14PROW Reel with Inner Reel	7 lbs
Weight of 14PROWLK Reel with Inner Reel and Head Bearing	8.25 lbs
Line Size	1-1/4"-4"

**RECOMMENDED USE:** residential lines, sinks, bathtubs, shower drains, roof vents and floor drains

# DM150 MACHINE MANUAL

## INFORMATION AND SPECIFICATIONS

REELS			REVOLVING ARM	CABLES*	
Part #	Dimensions	Description	Part #	Part #	Dimensions
14PRWLK	14" Diameter	Enclosed Polyethylene Reel with Inner Reel and Head Bearing	38RAW-L	__31-090 __38-090	5/16" up to 90' 3/8" up to 90'
14PROWLK	14" Diameter	Enclosed Polyethylene Reel, Oversized, with Inner Reel and Head Bearing	25RAWP	__31-090 __38-090 __50-075	5/16" up to 90' 3/8" up to 90' 1/2" up to 75'

- \* Add **CH** in front of cable part # for Hollow Core.
- \* Add **CI** in front of cable part # for Inner Core.
- \* Maximum length of cable is not always the recommended length.
- \* Custom lengths are available.

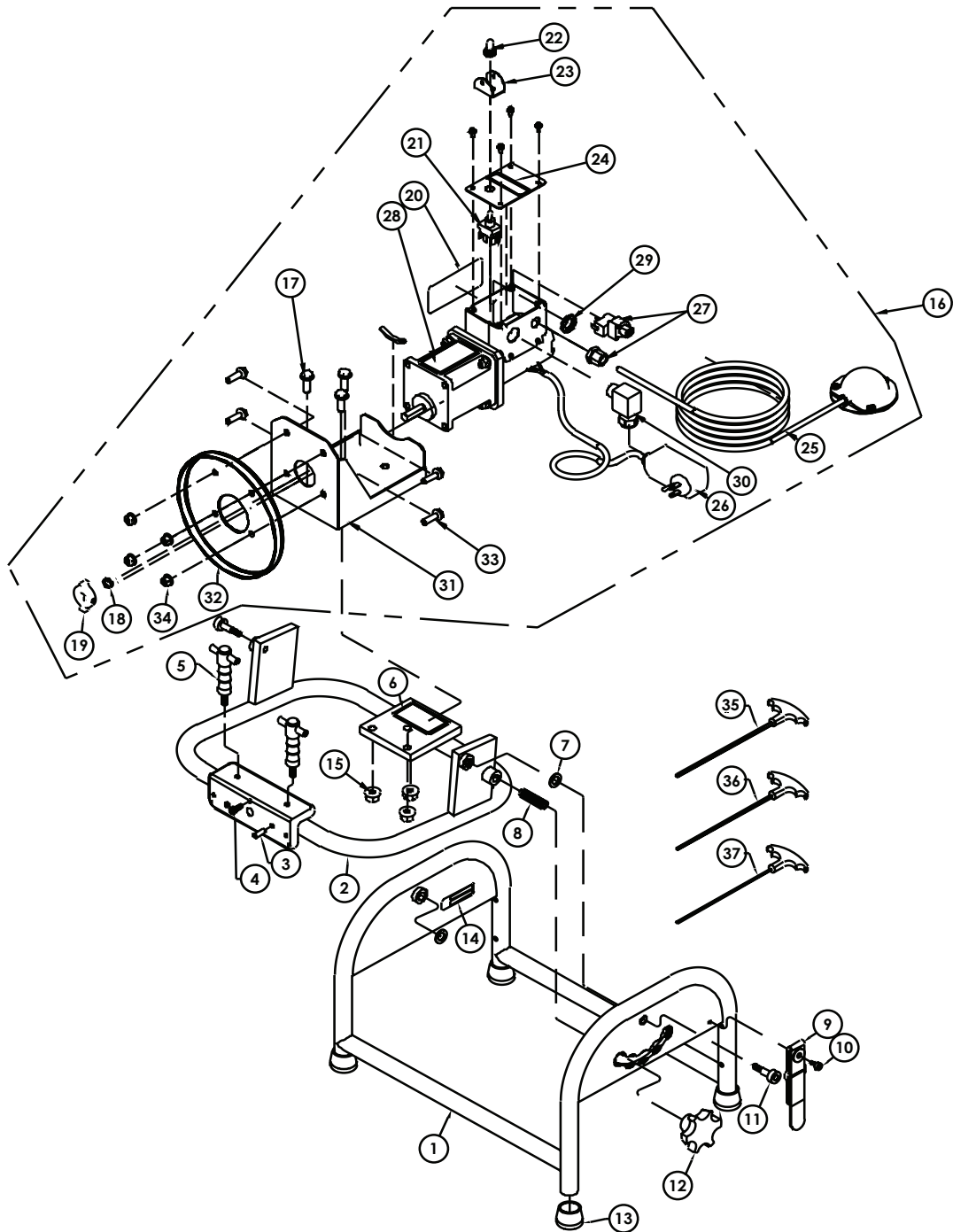
MACHINE PACKAGES				
Part #	Horse Power	RPM	Reel	Cable
DM150A	1/4 HP Motor	230 RPM	14PROWLK	1/2" x 75'
DM150A1	1/4 HP Motor	230 RPM	14PRWLK	3/8" x 75'
DM150A2	1/4 HP Motor	230 RPM	14PRWLK (1), 14PROWLK (2)	3/8" x 75', 1/2" x 75'

MACHINE ACCESSORIES / REPLACEMENT PARTS	
Part #	Description
52005S	1/4 HP Motor
25074	Air Foot Pedal ( <i>rubber</i> ) with 10' Tubing
25061	Air Switch with Strain Relief Nut
25216	Guide Tube
11036	Quick-Lock Guide Tube Bracket Assembly
14PRW	14" Polyethylene Reel with Inner Reel
14PROW	14" Oversized Polyethylene Reel with Inner Reel
52040	Machine Cart



The Model DM150 is shown above with the 14PRWLK reel.


DM150 SCHEMATIC





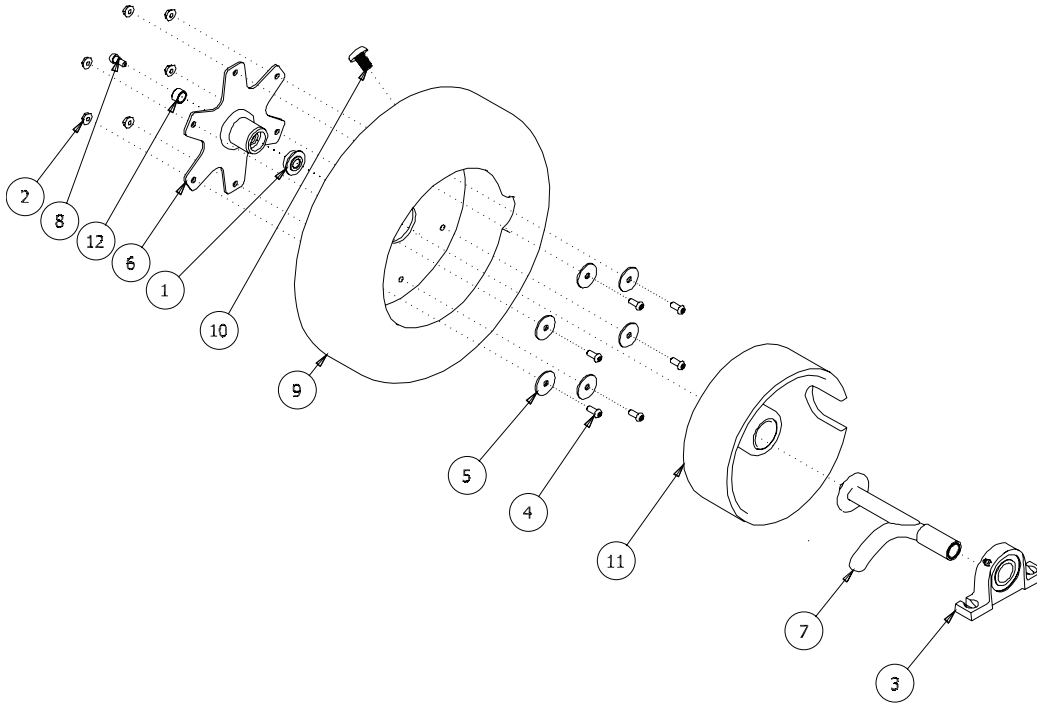
# DM150 MACHINE MANUAL

## DM150 SCHEMATIC

 The entire line item in **bold** identifies the name of an entire assembly. The “Z” shaped arrow identifies all the parts that make up that assembly. You can purchase the entire assembly, or just the individual parts.

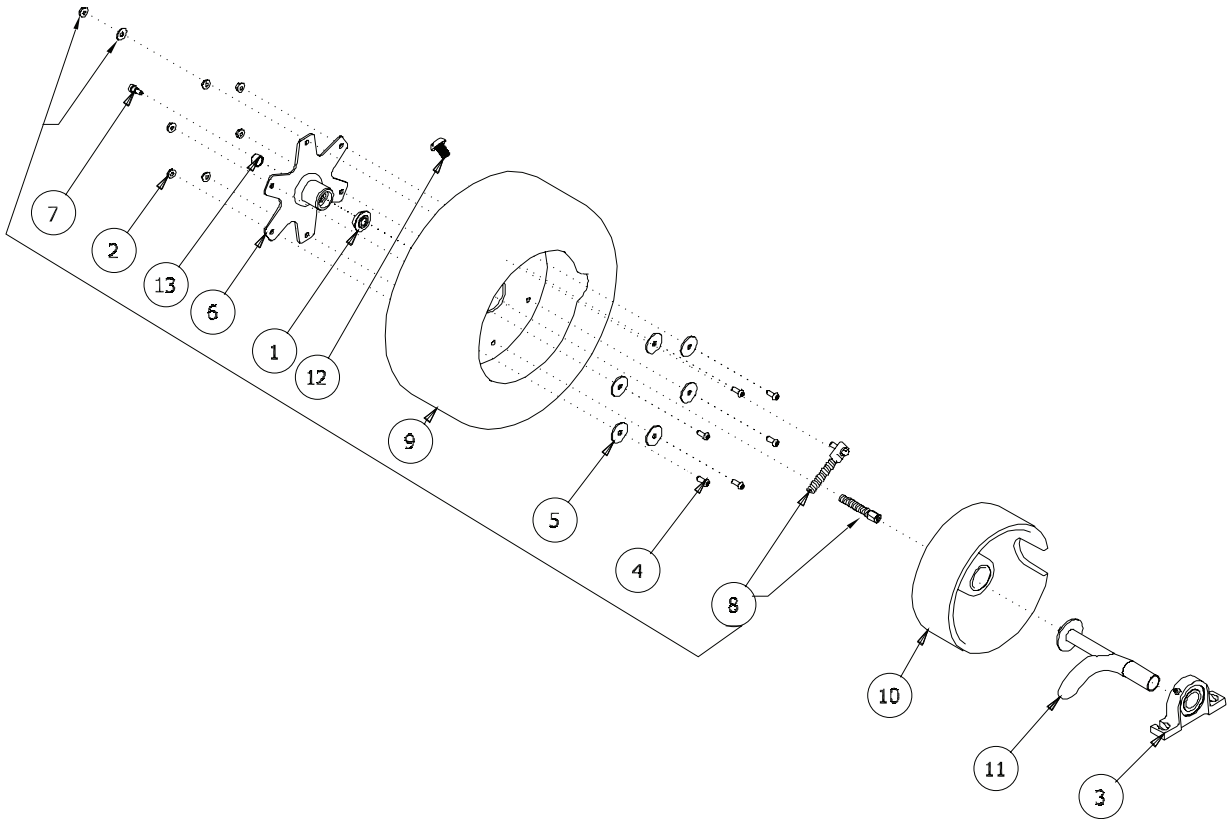
ITEM	QTY.	PART#	DESCRIPTION
1	1	D52014	Base Frame, Red
2	1	D52013	Pivot Frame, Red
3	2	RLPIN7	1/4" x 5/8" Roll Pin
4	1	SHCS31	1/4"-20 x 3/4" Socket Head Cap Screw
5	2	MM36	T- Bolt
6	1	D25000	Machine Logo Decal
7	2	MB4	Machine Bushing
8	1	CPSS18	1/2"-13 x 2.0" Socket Head Set Screw
9	1	CTIE5	Velcro Cord Strap
10	1	SKTS2	5/16"SD x 1/4"SL x 1/4"-20 Shoulder Screw
11	2	SKTS3	1/2"SD x 3/4"SL x 3/8"-16 Shoulder Screw
12	1	KNOB5	Aluminum Palm Knob
13	4	CPLUG6	Black Rubber Frame Cap
14	1	SNTAG	Serial Number Tag
15	3	FLNUT3	.313-18 Flange Hex Nut
<b>16</b>	<b>1</b>	<b>520055</b>	<b>Replacement Motor Assembly - complete</b>
17	3	FLSC9	.312-18 X 1 Flange Hex Screw
18	1	11014	Drive Dog Spacer
19	1	11013	.5" D-Shaft Drive Dog with Set Screw
20	1	25211	Rotating Warning Decal
21	1	25006	Forward/Off/Reverse Switch
22	1	ECT26	Rubber Switch Boot
23	1	25015	Switch Guard
24	1	25065	Forward/Reverse with On/Off Decal
25	1	25074	Rubber Air Foot Pedal with 10' tubing
26	1	25166	GFCI Cord, 16/3" x 22"
27	1	25061	On/Off Air Switch with Strain Relief Nut
28	1	25212	GFCI/Rotating Danger Decal
29	1	ELN1	Electrical Nut, 1/2" NPT (National Pipe Thread)
30	1	ECT34	1/2" Strain Relief, 90° Snap Elbow with Dome Nut
31	1	52015	Specialty Motor Mount Bracket
32	1	52020	Specialty Motor Drum Guard
33	4	FLSC9	.312-18 X 1 Flange Hex Screw
34	4	FLNUT3	.313-18 Flange Hex Nut
35	1	HKEY10	3/16" x 9.0" T-Handle Hex Key
36	1	HKEY11	5/32" x 9.0" T-Handle Hex Key
37	1	HKEY9	1/8" x 9.0" T-Handle Hex Key

## 14PRWLK (14" POLYETHYLENE REEL) SCHEMATIC FOR DM150



ITEM	QTY.	PART#	DESCRIPTION
1	1	D6A	.438 ID x 1.012 OD Thrust Bearing
2	6	FLNUT5	.25-20 Flange Nut
3	1	SB8	1" Pillow Block Bearing
4	6	SHCS32	.25-20 x .625 SBHCS
5	6	WA47	.25 Body Washer
6	1	771403	8 & 14" Plastic Drum Hub - Plate
7	1	38RAW-L	.678 ID-L Wide Mouth Left Revolving Arm Assembly (optional right arm available #38RAW-R)
8	1	SKTS2	.313 OD x .25 LG Socket Shoulder Screw
9	1	771405	14" Dia Big Mouth Plastic Drum
10	1	MM60	.5-13 x .75 STD threaded plug
11	1	771408	3" Long Inner Drum w/Bearing
12	1	11014	.504ID x .628OD x .375LG Liner

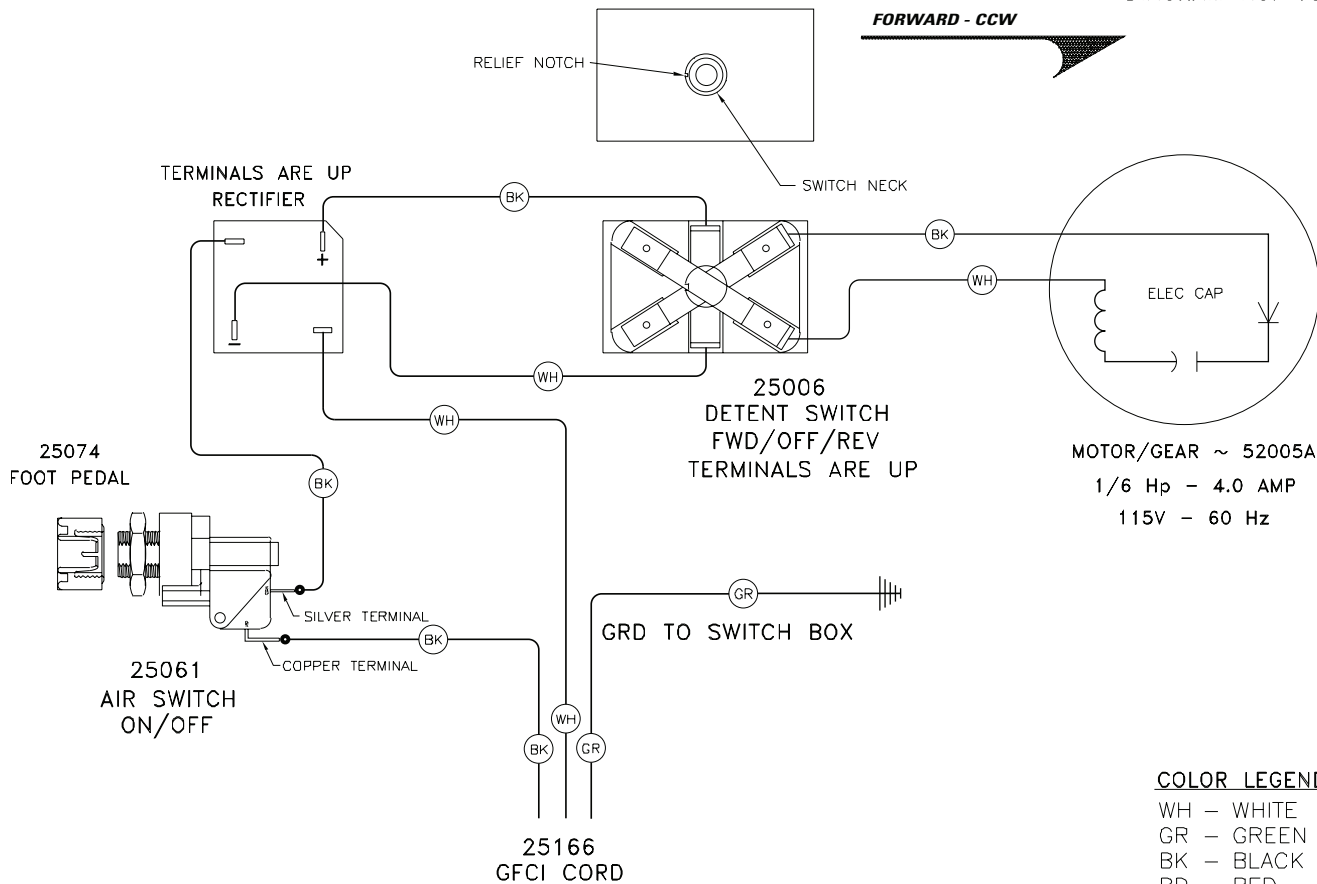
## 14PROWLK (14" OVERSIZED POLYETHYLENE REEL) SCHEMATIC FOR DM150



ITEM	QTY.	PART#	DESCRIPTION
1	1	D6A	.438 ID x 1.012 Thrust Bearing
2	6	FLNUT5	.25-20 Flange Nut
3	1	SB8	1" Pillow Block Bearing
4	6	SHCS32	.25-20 x .625 SBHCS
5	6	WA47	.25 Body Washer
6	1	771403	8 & 14" Plastic Drum Hub - Plate
7	1	SKTS2	.313 OD x .25 LG Socket Shoulder Screw
8	1	TS50-004	.5in x 4ft cable section w/ anchor and end
9	1	771406	14 Pro Big Mouth Plastic Reel w/ plug
10	1	771408	8.19 OD x 3" Long Inner Drum with Bearing
11	1	50RAW-L	.866 ID x 7.33 LG -L Revolving Arm (optional right arm available #50RAW-R)
12	1	MM60	.5-13 x .75 STD threaded plug
13	1	11014	.504ID x .628OD x .375LG Liner

## ELECTRICAL SCHEMATIC

DIAGRAM No. 18



SPECIALTY MOTOR WIRING DIAGRAM - CD5200  
115V RECTIFIED DC GEAR MOTOR - MODEL 5200

### COLOR LEGEND

WH - WHITE  
GR - GREEN  
BK - BLACK  
RD - RED  
YE - YELLOW  
BL - BLUE  
OR - ORANGE  
BR - BROWN

The wiring diagram for the basic DM150 is shown above. If you experience any electrical difficulties in operating your machine, or you notice any frayed or inadequate wiring, or wiring that does not conform to the diagram, discontinue use of your machine immediately and have a qualified electrician repair it, or return it for repair to Duracable Manufacturing.

## ELECTRICAL SAFETY

### Handle with Care

Although electricity is one of the safest energy forms, we tend to forget how powerful and dangerous it can be if not used properly. Every year many people are injured or killed by electricity. Most of these accidents could have been prevented with simple precautions and careful use of electricity. Following are some tips to help avoid electrical accidents. Read through this information. Be sure you understand its importance. If you have questions or feel you may have a potential electrical hazard, tell your supervisor or call a qualified electrician immediately.

### General Electrical Guidelines

Remember, electricity is always trying to make a circuit. It can travel through an electric wire, metal pipe, or even your body. Electrical shock can occur when you come in contact with an energized electrical unit and a good conductor. Shock can range from a slight tingle to a severe burn, or death by electrocution.

Electrical accidents happen in everyday situations. Most electrocutions occur in a wet environment or when an electrical product is being repaired or installed. Think about, and take precautions against, potentially dangerous situations.

- When disconnecting electrical cords, pull on the plug rather than the cord to avoid damage.
- Use rubber gloves and rubber boots or insulated shoes to protect yourself, especially if you are in a wet or damp environment.
- Before using this machine, make sure a properly grounded, three-prong, 110-volt outlet is available. Where it is not available, use a three-prong adapter and connect the grounding lug to a known ground. Never cut off a grounding prong to fit a two-prong outlet. This eliminates the ground protection.

### Electrical Procedures

Do not leave the machine plugged in when not in use. Even with the switch off, a machine can shock or electrocute its handler. The machine must be grounded to protect the operator from shock. This is accomplished by using the Ground Fault Circuit Interrupter Cord (GFCI) to ensure proper grounding.

Check electrical cords before each use for signs of damage. Repair or replace cords which are pinched, cracked, frayed, or worn. Remember, the GFCI offers no protection against electric shock for wiring preceding it in the system. Your GFCI is direct-wired to the machine, plug the GFCI into the power source receptacle.

Discontinue use and repair immediately any machine that causes the slightest shock or is damaged in any way. It could lead to a serious electrical shock or electrocution. Inspect the machine daily for wear or damage that might expose live electrical parts.

### Ground Fault Circuit Interrupters (GFCI)

A GFCI works by detecting changes in electrical current flow. It breaks the circuit before serious injury can occur. For your protection, heed the "DANGER" warning on the machine cover and use the GFCI cord. The GFCI must be tested before each use. Use the following procedure:

- Insert the unit into a 110-volt, AC-grounded receptacle;
- Push the "test" button in - the red indicator light should go off;
- Push the "reset" button in - if the red indicator light goes on, the unit is ready for use;
- Do not use the unit if the light does not go on when reset;
- Do not use the unit if the indicator light remains on when the test button is pushed.

### Extension Cords

- Use extension cords only when necessary.
- Position cords in use to prevent tripping hazards. Do not place them in areas where they can be damaged by traffic.
- Avoid coiling extension cords during use to prevent possible overheating of the cord.
- Discard cracked or damaged cords.
- The following cord sizes and lengths should be observed according to the National Electrical Code when using this machine:
  - 12 gauge wire - 75' of cord, including 25' of GFCI cord.
  - 14 gauge wire - 50' of cord, including 25' of GFCI cord.
- Cord sizes smaller than 12 gauge should not be used for 3/4 HP motors. Larger gauge cords can run greater distances, but are not practical because of their size and weight.
- To protect your motor, observe the guidelines mentioned. If you have a run more than 75', use a generator to reduce your cord length from the power source to a working distance within these guidelines.

### Overhead Power Lines

- When working outdoors, keep clear from overhead power lines in all directions.
- Check the location of power lines before using a ladder. Use approved ladders made of non-conductive material.
- Never place a ladder where it can slide into a power line.
- When carrying or moving a ladder or equipment, lower it to avoid touching a power line.
- Never assume that a wire is safe to touch.

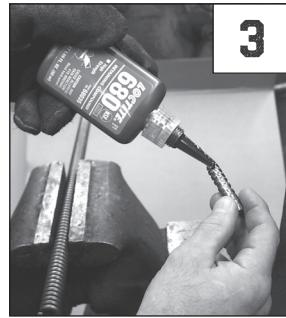
## HOW TO SPLICE DURAFLEX® CABLE



1. Cut a few inches off of each cable end and remove any burrs with a grinding disk or file.



2. Spray Loctite Primer in and around the cable end and splice core to thoroughly remove grease and grime.



3. Apply Loctite Retaining Compound to splice core.



4. Insert splice core into cable end one turn.



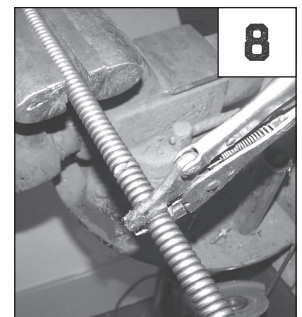
5. Apply Loctite Retaining Compound to other end of splice core.



6. Align other piece of cable onto splice core.



7. Place vise grips on free cable end and turn counterclockwise.

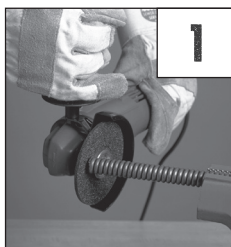


8. Continue turning and the cable ends will meet at the center of the splice core.

## HOW TO BOND END FITTINGS TO DURAFLEX® CABLE

You can attach end fittings and splice cores to DuraFlex cable using a chemical bonding process, which means you can make quick cable repairs on the job—without welding. With Loctite Primer and Loctite Retaining Compound, you can quickly create a dependable bond that is as strong as a conventional weld. Please note that these products are not the same thread-locking compounds available in hardware stores and plumbing-supply houses, they are heavy-duty, permanent-bonding compounds made especially for jobs such as bonding cable fittings.

1. Cut the cable end and remove any burrs with a grinding disk or file.



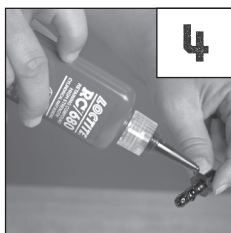
2. Spray Loctite Primer in and around the cable end to thoroughly remove grease and grime.



3. Spray Loctite Primer on the end fitting to thoroughly remove grease and grime.



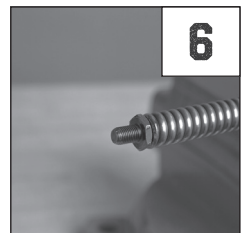
4. Apply Loctite Retaining Compound to the end fitting.



5. Using the wrench (part number EW), screw the fitting into the cable end until fitting is totally sealed.



6. The Retaining Compound will be fully bonded to the cable in just a few minutes.



# DM150 MACHINE MANUAL

Notes

# DM150 MACHINE MANUAL

★ BUILT **USA** TOUGH ★

## DM150



**DURACABLE**<sup>®</sup>  
— MANUFACTURING CO —

300 ASHWORTH ROAD  
WEST DES MOINES, IOWA 50265

**DURACABLE.COM** ----- **800.247.4081**

ANSWER LINE: 877.257.1781  
FAX: 515.223.6109

DM150MM  
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