SPARTAN

MODEL 2001

Owner's Manual

Record the Serial Number of your
Model 2001
and give the number to the factory when ordering parts.

Serial
Number_____

Spartan Tool L.L.C.
800.435.3866
www.spartantool.com

44292100 6-20-12

— Read the safety and operating instructions before using any Spartan Tool product. Drain and sewer cleaning can be dangerous if proper procedures are not followed and appropriate safety gear is not utilized.

— Before starting unit, be sure to wear personal protective equipment such as safety goggles or face shield and protective clothing such as gloves, coveralls or raincoat, rubber boots with metatarsal guards, and hearing protection.

— Drains and sewer can carry bacteria and other infectious micro-organisms or materials which can cause death or severe illness. Avoid exposing eyes, nose, mouth, ears, hands and cuts and abrasions to waste water or other potentially infectious materials during drain and sewer cleaning operations. To further help protect against exposure to infectious materials, wash hands, arms and other areas of the body, as needed, with hot, soapy water and, if necessary, flush mucous membranes with water. Also, disinfect potentially contaminated equipment by washing such surfaces with a hot soapy wash using a strong detergent.

— For any questions contact the company at the address shown below.

“California Prop. 65: This product may contain an extremely small amount of lead in the coating. Lead is a material known to the State of California to cause cancer or reproductive toxicity.”

SPARTAN TOOL L.L.C.
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Introduction

The Spartan Model 2001 Electric Drain/Sewer Cleaning Machine has been designed and manufactured with high quality materials and care in workmanship. The instructions in this manual have been prepared to ensure that, when followed, the Spartan Model 2001 will provide long and efficient service.

WARNING: It is the responsibility of the operator to read and understand the Operator's Manual and other information provided and use the correct operating procedure. Machines should be operated only by qualified operators. Failure to do so can result in personal injury, death or machine damage.

Read the entire manual before the initial start-up of the machine. It is important to know the correct operating procedures of the machine and all safety precautions to prevent the possibility of property damage and/or personal injury.

NOTE: Information in this manual is current at the time of printing. Spartan Tool reserves the right to make changes and improvements to its products at any time without notice or obligation.

Service Information

All requests for information, service or parts should include machine serial number. Additional copies of this Owner's Manual can be downloaded free of charge from the Spartan Tool website, www.spartantool.com.

For more information contact:

Customer Service, Spartan Tool L.L.C.
1506 W. Division Street
Mendota, IL 61342-2234
Phone (800) 435-3866
Fax (888) 876-2371

Record below and retain product model and serial number.

Model Number:_____

Serial Number: _____

Safety Instructions

Use of any electrical equipment in a wet or damp environment can cause fatal shock if not properly guarded against by the operator.

1. Know Your Drain Cleaning Machine. Read this Operator's Manual carefully. Learn the operation, applications and limitations of this machine.

2. Grounding Instructions. Before using your Spartan equipment, make sure that a properly grounded, (three hole) electrical outlet is available. If not, as in older homes, use a three-prong adapter and connect the green pigtail or grounding lug to a known ground, such as a (metallic) cold water pipe.

   This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with a three-conductor cored and proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to a live terminal. Units designed for use on less than 150 volts, have a plug that looks like that shown in Fig. 1A. An adapter, (Fig. 1B and 1C), is available for connecting three-prong plugs to two-prong receptacles, (except in Canada). If such an adapter is used, the green colored rigid ear, lug, or the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

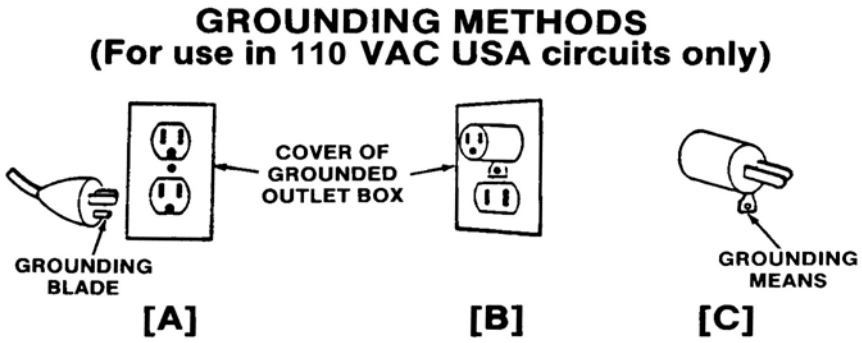


Figure 1

This machine is equipped with a Ground Fault Circuit Interrupter (GFCI), which should always be plugged directly into an inspected, grounded receptacle. Plug the three-pronged plug on the machine power cord with GFCI directly into an inspected grounded outlet and then test and reset the GFCI.

Never cut off the grounding prong on the power cord for use in a two-hole outlet. Doing so cuts off your protection from shock. Replace or repair all damaged power cords and components.

Safety Instructions (cont.)

3. Extension Cords. DANGER- Improper use of an extension cord will cause death or severe injury. The GFCI on the machine's power cord does not protect the operator from electrical shock along the extension cord.

   If an extension cord must be used, it must be of an approved, three-wire construction, equipped with a three-pronged plug, and in good condition. Replace or repair damaged cords.

   Do not use an undersized extension cord. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Use the following minimum gages depending upon the length of the extension cord:

   -16 Ga. –for cords of less than 100 feet in length

   -14 Ga. –for cords of 100 feet to 150 feet in length.

   If in doubt, use the next heavier gage. (The smaller the gage number, the heavier the cord.) When the machine is used outdoors, use only extension cords intended for use outdoors and so marked. Do not allow an extension cord to be exposed to water.

Don't assume that all three hole outlets are properly installed. Check the outlet and also the adapter, if used, with an outlet testing device which quickly indicates if a ground is connected. Correct a faulty test indication before proceeding.

4. Don't Abuse Cord. Never move or lift tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.

5. Disconnect Power Cord. When not in use, before servicing, and when changing accessories, such as blades and cutters.

6. Guard Against Electric Shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, refrigerator enclosures.

7. Avoid Accidental Starting. Don't move plugged-in tools. Make sure switch is in OFF position before plugging in power cord.

8. Stay Alert. Watch what you are doing. Use common sense. Do not operate tool when you are tired.

9. Keep Work Area Clean. Cluttered areas invite injuries.

10. Consider Work Area Environment. Don't expose power tools to rain. Keep work area well lit.

    Do not use tool in presence of flammable liquids or gases.

    Avoid operating the machine in areas of standing water.

Safety Instructions (cont.)

11. Dress properly. Do not wear loose clothing or jewelry. They can be caught in moving parts. Wear protective hair covering to contain long hair.

    Wear standard equipment. (Spartan riveted gloves). Never grasp a rotating cable with a cloth or loose fitting glove which would get wrapped around cable. Replace gloves if rivets or staples start to pull out.

    Wear rubber boots and wear rubber gloves inside your Spartan cable handling gloves to further insulate yourself.

12. Use Safety Glasses. Guard against foreign material that might fly off cable.

13. Don't Overreach. Keep proper footing and balance at all times.

14. Keep Children Away. Do not let visitors contact tool or extension cord.

All visitors should be kept away from work area.

15. Use Recommended Equipment and Accessories.

Use of improper equipment may be hazardous.

Don't force small cable with attachment to do the job of heavy-duty cable.

16. Don't Force Tool.

It will do the job better and safer at the rate for which it was intended.

17. Remove Punches and Wrenches. Form a habit of checking to see that punches and adjusting wrenches are removed from tool before turning it on.

18. Keep Guards in Place. Never operate machine with guard removed.

19. Avoid Operating Machine in Reverse. Operating machine in reverse can result in cable damage and is used only to back tool away from an obstruction.

Warning! Continued drum rotation in reverse position will cause cable to "jump" out of drum. Possible operator injury could result.

20. Do Not Over Torque Cables. Excessive and/or continued rotation of the drum once an obstruction has been encountered will over torque the cable. Kinking or breakage of cable may result. A worn cable can be identified as being very limber, kinked or as having flattened coils on the outside of cable. Worn cable should be replaced as soon as possible.

Safety Instructions (cont.)

21. Maintain Tools with Care. Keep tools sharp and clean for better and safer performance.

    Follow instructions for lubricating and changing accessories.

    Never use damaged power cords.

    Inspect tool cords periodically and if damaged, repair with proper Spartan replacement parts.

    Inspect extension cords periodically and replace if damaged.

    Keep handles dry, clean, and free from oil and grease.

22. Check Damaged Parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

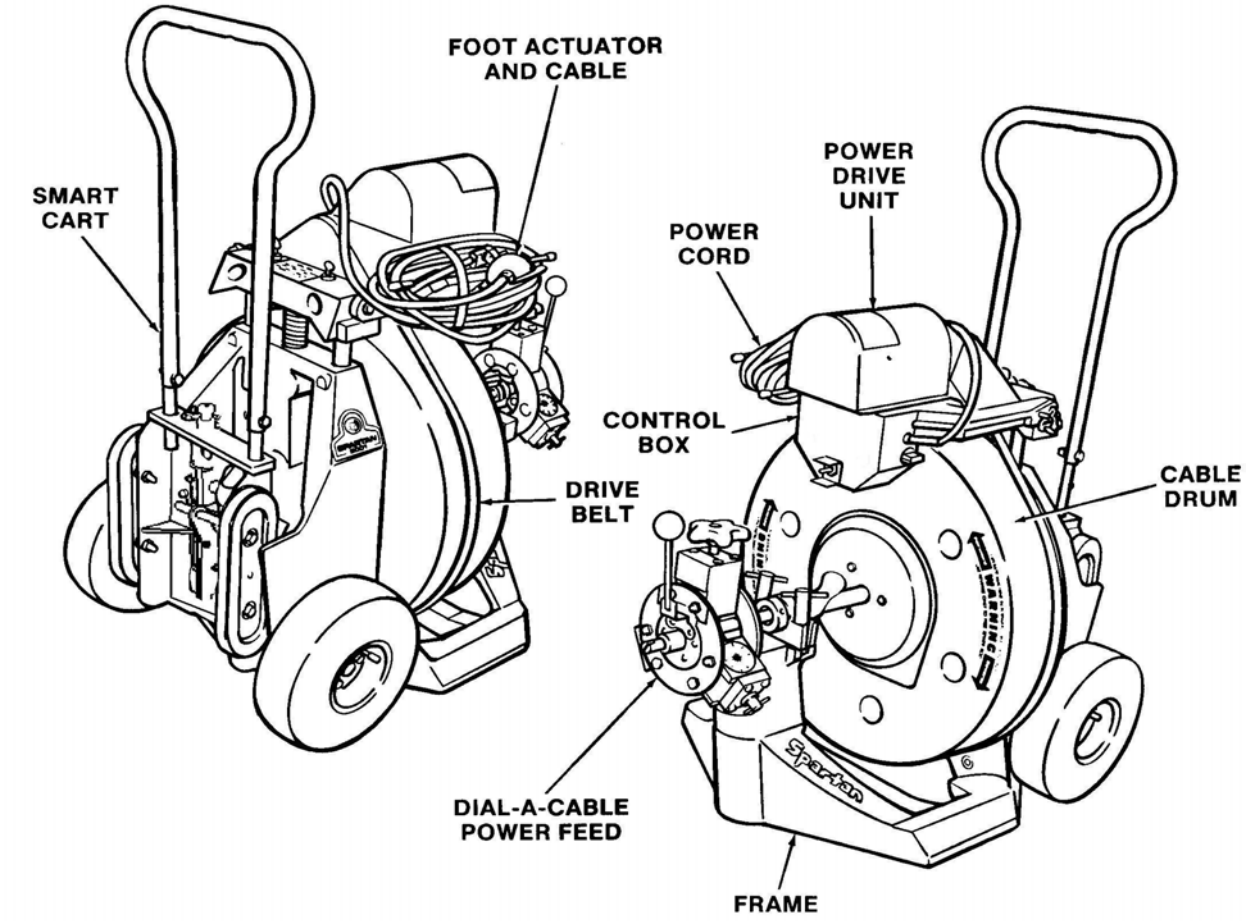
    Replace defective switches with proper Spartan replacement parts.

    Do not use tool if switch does not turn on and off.

23. Store Idle Tools. When not in use, tools should be stored in a dry and locked up place, away from children.

24. Handling Cables. Be very careful when cleaning drains exposed to cleaning compounds. Wear protective gloves when handling cable, and avoid direct contact of skin and especially the eyes and facial areas as serious burns can result from some drain cleaning compounds.

Description



GENERAL DESCRIPTION. The Spartan Model 2001 Electric Sewer and Drain Cleaner is designed for cleaning 3" to 10" sewer and drain lines up to 300' long. The complete machine has five major components - the frame, cable drum, power drive unit with electric controls, "Dial-A-Cable" power feed, and removable smart-cart.

IMPORTANT FEATURES. The modular design of the Spartan 2001 has many important features to make it easier to use and more efficient on the job. Handling the power unit and fully loaded drums separately with the smart-cart makes it easier to transport the equipment close to the point of operations. This system also makes it easy to quickly change drums with different cable sizes, or for additional cable on an extended cleaning situation.

The "Dial-A-Cable" power feed gives the operator constant control over cable movement without the physical labor of pushing the cable ahead. In difficult situations, the operator can slow or reverse the cable movement.

The Spartan power drive motor senses the need for power when encountering a difficult blockage. As more torque is required, the motor automatically increases amperage to deliver increased power. An automatic brake on the motor stops rotation when the foot actuator disconnects the power.

Description (cont.)

SPECIFICATIONS

Drum Capacity ..... 3/4 inch 112 ft
.66 magnum 137 ft

Cleaning Capacity ..... 3" to 10" up to 300 ft

Motor ... Permanent Magnet 120VAC 60Hz (Rectified)
4.2 amp (DC) max @ 200 inch - 02 Torque
180 RPM .36 HP 3000RPM @ 1 amp
no load automatic brake

Weight ..... (Mach/drum/cart /anchor cable) 129lbs

Height ..... Adjustable to 43" to top of handle

Width ..... 22 1/2" - 22 3/4"

Length ..... 34"

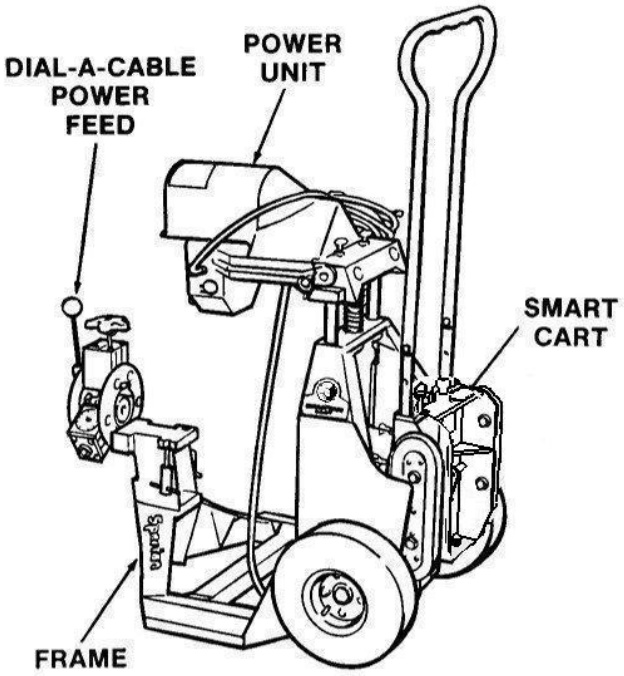
Drum Speed ..... 220 RPM with no load

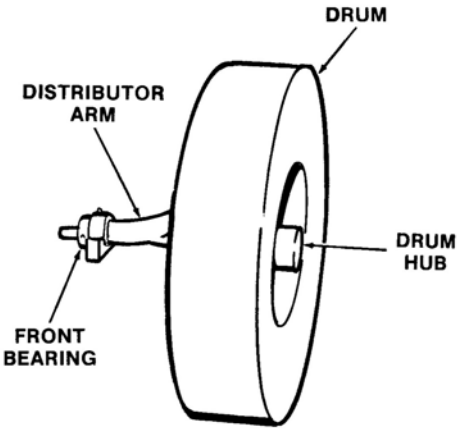
Cable Feed ..... Spartan "Dial-A-Cable" power feed

Frame ..... Extra strength aluminum/magnesium castings

Power Cord ..... Permanently attached 25 ft
w/ground fault unit

Cable Safety Guide ..... 42"





POWER UNIT. Extra strength aluminum magnesium cast frame forms the base of the power unit. The cable drum is supported on the frame by the distributor shaft bearing at the front and drum shaft at the rear. The frame also supports the power cable feed assembly. The electric power unit support at the top of the frame is spring loaded to maintain drum drive belt tension. The smart cart is attached to the frame by a shaft inserted in the rear and held in place by the spring-loaded latch assembly.

DRUM ASSEMBLY. The drum which rotates on a shaft on the rear casting of the machine, incorporates an integral distributor arm and front bearing. The advantage of this drum design is it can be quickly removed from the frame and replaced by another drum loaded with additional cable or a different size cable. The drum will accommodate two types of cable systems in a wide range of lengths. An anchor cable is included with the drum.

Description (cont.)

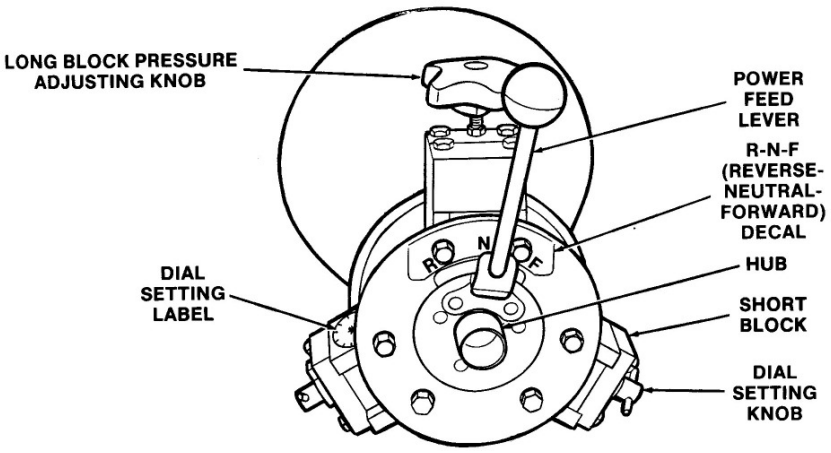
POWER DRIVE ASSEMBLY. The power unit is a totally enclosed, heavy-duty permanent magnet .36 HP motor with watertight switch and an automatic brake. The motor is mounted on a motor support assembly which encloses an air-actuated “ON/OFF” switch and “FORWARD-OFF-REVERSE” switch. The unique arrangement of the motor support maintains the belt drive tension, but quickly swings away for drum removal. The air-operated foot actuator, with hose attached, keeps both operator’s hands free during operation.

CONTROLS AND INDICATORS. The electric motor controls are located in the control box below the motor. A three position switch on the front of the control box sets the motor at “FORWARD-OFF-REVERSE”. The air operated foot actuator is the master “ON/OFF” switch to control the motor during cleaning operations.

CABLE SAFETY GUIDE. A cable safety guide is included with the machine. The cable is fed through this guide which attaches to the Dial-A-Cable feed unit and extends to the entry point of the drain to protect the operator from possible cable buckling.

CABLE ASSEMBLIES. The Model 2001 is designed to handle four types of cable assemblies listed in the Specifications Section of this manual.

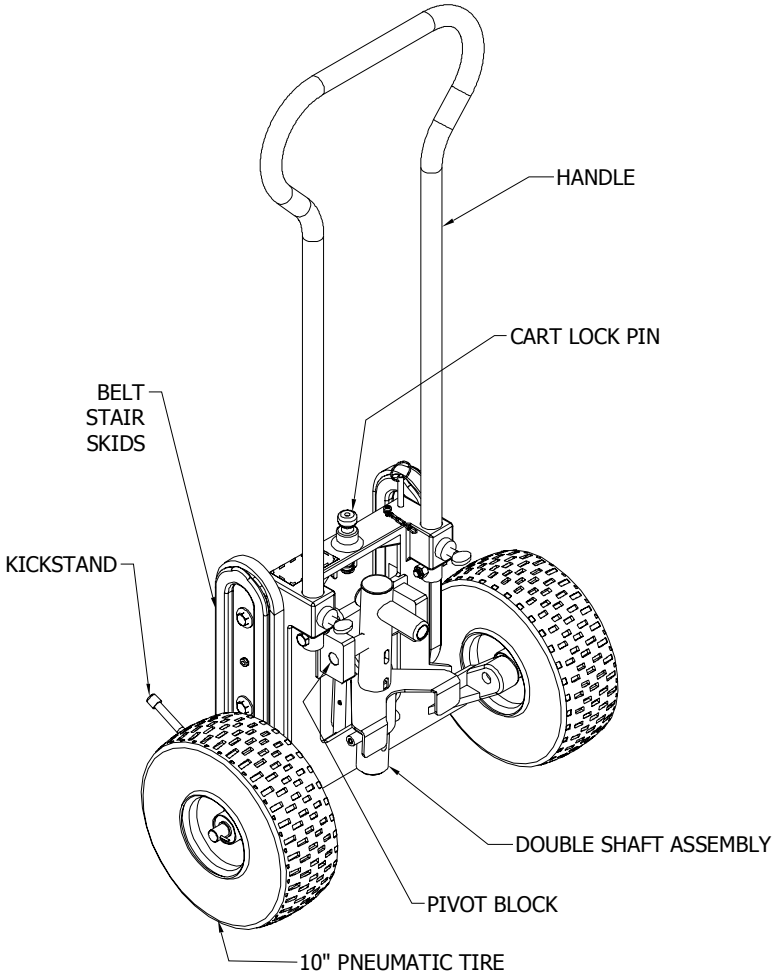
POWER CABLE FEED. The Spartan Dial-A-Cable power feed is standard on the Model 2001. This single-lever control can be operated at an infinite number of speeds from 0 to 30’ per minute to give the operator constant control over cable penetration. The operator can slow down or reverse the direction of cable progress quickly with the power feed lever in response to reduced motor speed which indicates increasing torque.



Description (cont.)

SMART CART. An exclusive feature of the Model 2001 is the Smart Cart which can transport the complete machine or can be removed to handle loaded cable drums separately. A double shaft arrangement on the cart can be swung to carry the complete machine, or the cable drum, or power unit separately. The cart is equipped with integral continuous belt stair skids for easier transporting up and down stairways. A kick-stand at the bottom of the cart supports it to stand alone.

WARNING: Insure the locking pin with chain located on the back of the Smart Cart is always locked in position before transporting the drum, and insure the double shaft spring loaded latch is engaged in the lower lock position when transporting the machine. If the locking pin with chain is not in position or the double shaft spring latch is not engaged, the drum or machine can separate from the Smart Cart and injury or property damage may result.



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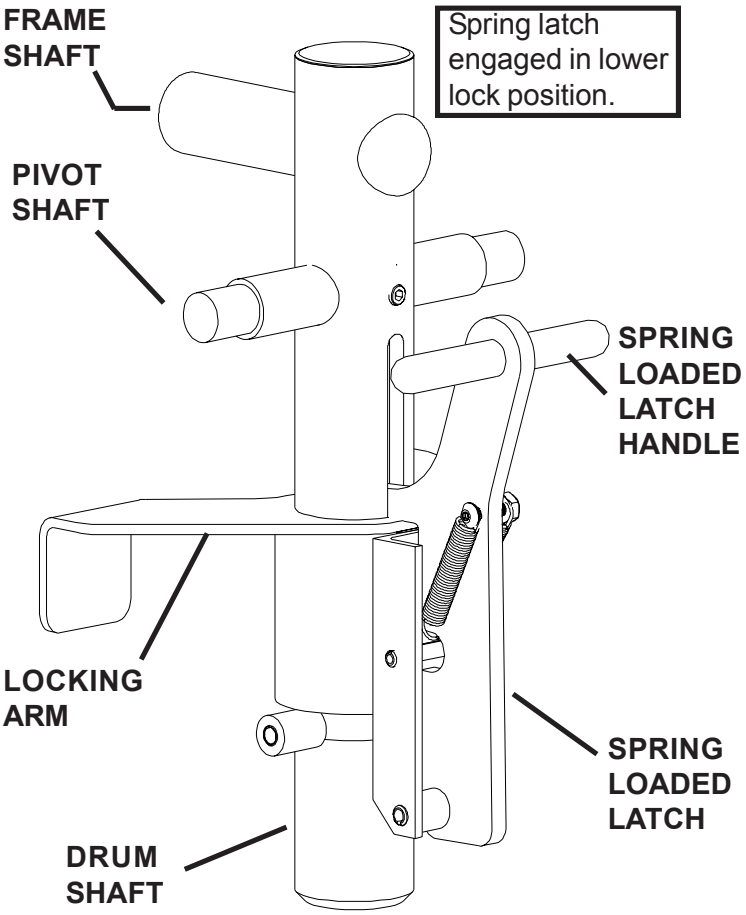
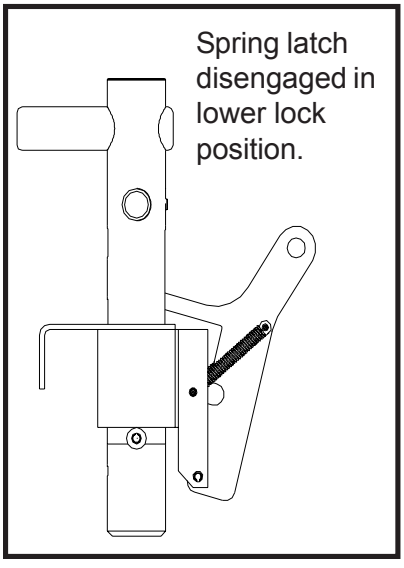
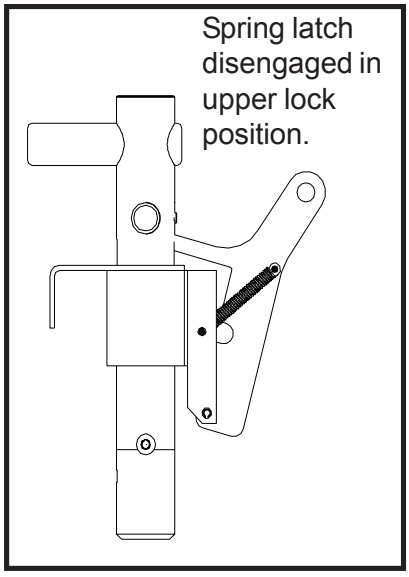
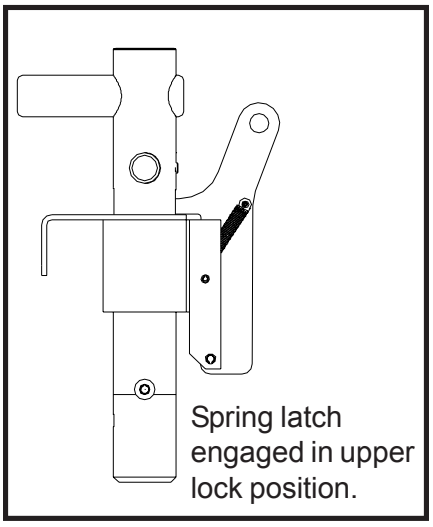


DOUBLE SHAFT ASSEMBLY. The Double Shaft Assembly can be swung to carry the complete machine, the cable drum, or power unit separately. The Assembly has two engagement positions: upper and lower. The lower position is used for transporting the power unit or complete machine by fastening the locking arm to the frame cross member. The upper position is used to remove the smart cart from the frame, or to stow the locking arm while using the drum shaft.

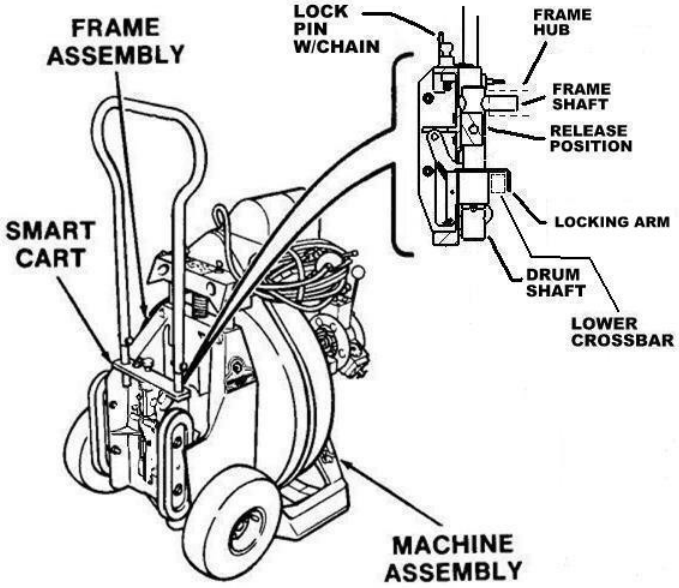


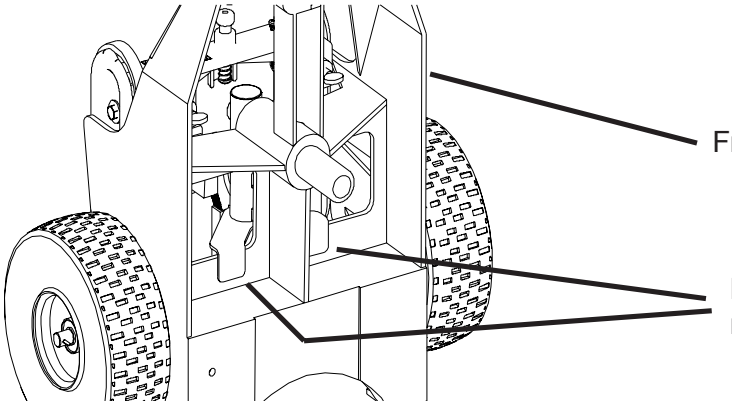




Description (cont.)

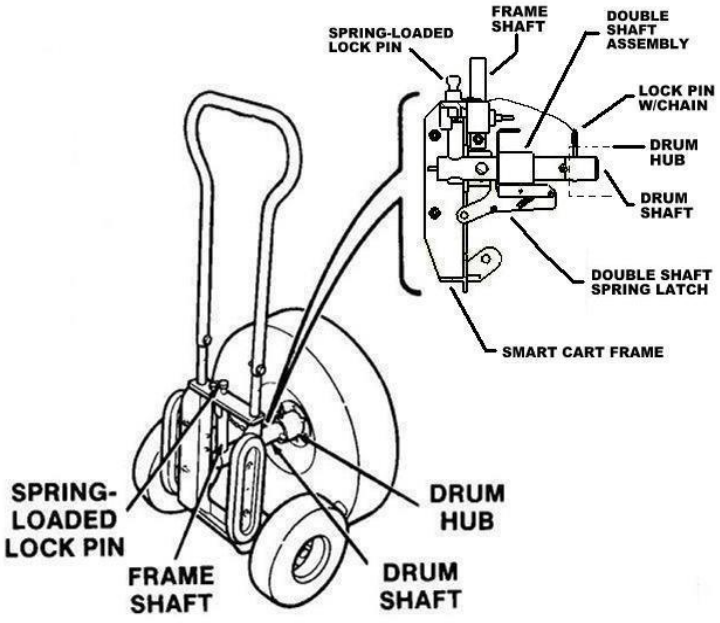
TRANSPORTING COMPLETE MACHINE OR POWER UNIT. Starting with the Smart Cart unattached from the Machine/Power Unit, pull back the spring loaded latch handle to disengage the spring latch. Slide the spring loaded latch assembly up and engage the latch in the upper position. Swing the double shaft assembly so that the frame shaft portion is horizontal. Move the cart against the rear of the power unit and push the frame shaft into the hole in the rear of the casting. Pull back on spring latch handle to disengage, then slide assembly down to fasten the locking arm to the lower crossbar. Confirm spring latch engages in the lower locked position. To disconnect the cart, disengage spring latch, slide assembly up from lower crossbar, and pull the cart back.





Note: In order to properly fit individual machines, replacement Double Shaft Assemblies are shipped without locking pin holes. These holes must be drilled during assembly.

TRANSPORTING A CABLE DRUM. Starting with the Smart Cart unattached, pull the spring loaded latch handle back to disenage the spring latch. Move the assembly to the upper position and engage the spring latch to hold this position. Swing the drum shaft portion of the double shaft assembly into horizontal position on the cart and lock it in place with the spring loaded lock pin on the Smart Cart frame. Push the drum shaft into the rear of the drum hub. Rotate the drum to align one of the three holes in the drum hub with the hole in the drum shaft and insert the shaft lock pin to secure the drum to the cart. To disconnect the cart, remove the lock pin and pull the cart back. The Smart Cart has a kickstand on the bottom to support it standing alone.



Before Operation

WARNING: Operator must be thoroughly familiar with the Safety Instructions of this manual before attempting to operate this equipment.

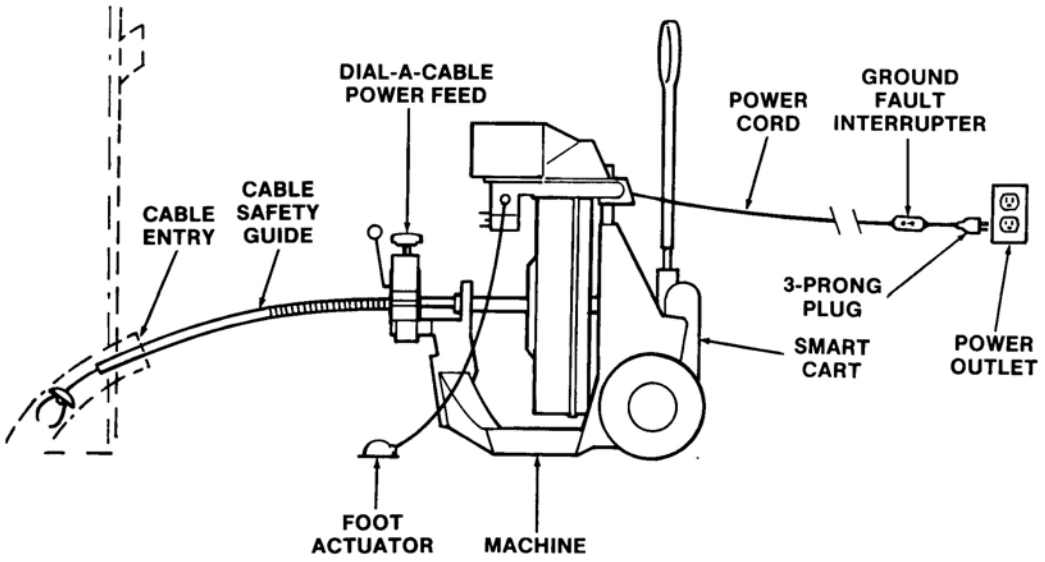
PREPLANNING OPERATIONS. Before starting a cleaning operation, preplanning will save time, money and effort. After analyzing the blockage problem; consider the type of cable and tools needed, determine best location for the machine and cable entry, and consider access to the power source.

CABLE AND TOOL SELECTION. Spartan offers a wide variety of cables and tools to meet sewer and drain blockage problems. Consult your Spartan Representative to select the cable and tool combination to work most efficiently on each job. To load or reload drums, and to install tools, refer to the CABLE AND TOOLS section of this manual.

WORKSITE LOCATION. Check access for machine transportation to the work site. If difficult stairways are involved, it may be necessary to remove the loaded drum from the machine to transport the drum and power unit separately with the Smart Cart. For unusual locations, refer to the SPECIAL APPLICATIONS section of this manual. Plan to place the machine close enough to the entry position so the cable will be covered by the cable safety guide between the machine and the entry point. Locate a minimum 15-ampere electrical power source, 115V AC within reach of the 25' power cord with the ground fault unit.

TRANSPORTING THE MACHINE. The machine, complete with loaded cable drum, can readily be transported by the two-wheeled cart. However, when necessary to pull up or down stairways, or load/unload from a vehicle, the loaded drum can be removed and transported separately. The power unit and the drum unit should be separated prior to loading/unloading to lower the risk of injury. If needed, a hoist bracket (see page 45) can be purchased to aid in lifting the machine in and out of a vehicle. The procedure for removing and replacing the drum is described in the following pages of this manual.

OPTIONAL HOIST LIFT BRACKET. An optional bracket is available that can be attached to the frame which provides a convienent method for lifting. See page 42 for more information.



CABLE DRUM REPLACEMENT. Loaded cable drums can be quickly installed on the machine for added cable reach or to change cable size. Loaded or empty drums can also be removed from the power unit for replacement or for easier transport of machine and drum.

NOTE: If the drum is loaded with cable, use the Smart Cart to transport it to the power unit. If the drum is not loaded with cable, it can be transported without the cart.

WARNING: Disconnect electric power cord from power source before removing or installing any components, making adjustments or working on the machine. Unintentional start-up could cause personal injury.

CAUTION: Motor brake is on at all times unless machine is plugged into power and foot actuator is pressed. Pressing the foot actuator will disengage the brake. The drum action will depend on the position of the 3-position power switch. At "FORWARD", the drum will rotate counterclockwise. At "OFF" the drum is free to rotate by hand. At "REVERSE", the drum will rotate clockwise. When necessary to feed or retrieve cable by hand, set the switch at "OFF" and hold the foot actuator down.

DRUM REMOVAL. Remove the drum from the power unit as follows:

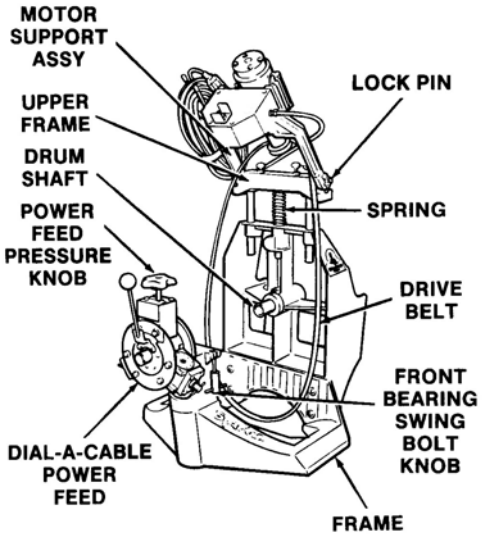
1. Disconnect the cable coupling at the end of the cable loaded in the drum or the drum anchor cable. Remove the expansion pin completely from the female coupling.
2. Loosen the top power unit knob counter-clockwise the release bearing pressure on the cable.
3. Push the cable through the power feed until it clears the rear of the feed but the female coupling remains clear of the distributor arm.
4. Remove the black plastic shroud covering the motor and pulley by grasping firmly with both hands and pulling upward. A metal clasp holds the motor shroud firmly in place. Place the motor shroud safely aside.
5. Move to the left side of the machine. Place one hand on the top of the spring loaded motor support assembly (above "CAUTION" decal) and press down firmly. Slide the belt off the side of drum with the other hand.
6. Remove the lock pin in the side of the motor support. Lift the front of the motor support assembly until it pivots against the cart handle. Avoid the pinch area. Place the lock pin into the hold located in the side of the motor support to hold the motor support in the raised position.
7. Loosen the knobs on the swing bolt assemblies in the front of the drum unit on the upper front casting, until the swing bolts are free to fall to the sides.
8. Push the drum and distributor shaft forward to clear the drum shaft on the rear casting. Roll

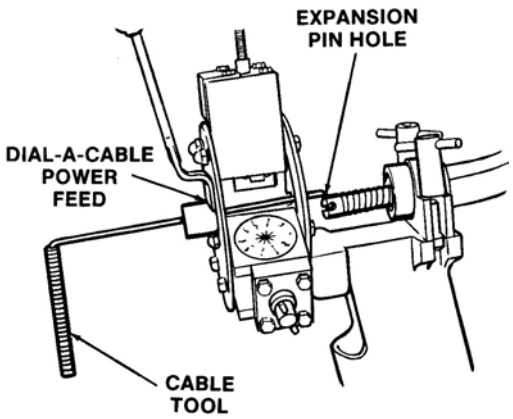
DRUM INSTALLATION. Install the drum on the power unit as follows:

1. Check the drum anchor cable or supply cable extends a few inches from the ditributor arm so the female coupling is clear. If there is an expansion pin in the female coupling, drive it out before installing the drum.
2. Position the drum next to the left side of the machine frame with the distributor shaft forward and the hub towards the rear.
3. The safety cover on the motor is attached by a spring clamp. Lift the cover off from the unit. Remove the lock pin in the side of the motor support. Swing the support up and reset the lock pin to hold it there.

CAUTION: Avoid the pinch point between the motor and frame.

4. Locate the drum drive belt, hand it over the drive pulley and place it in the frame so it will be in position behind the drum when the drum is rolled in place. Roll the drum over the edge of the frame casting into position on the frame crossbar.
5. Align the drum rear hub with the rear drum shaft on the frame, and push the drum part way onto the shaft. Allow room for the belt at the rear of the drum. The front bearing should align with the bearing support at the front.
6. Remove the lock pin and lower the motor support assembly. Reinsert the lock pin. Be sure the drive belt remains on the drive pulley.
7. To attach the drive belt, push the motor support down against spring pressure above the CAUTION decal and slide the drive belt over the drum. When the motor is run, the belt will align itself around the pulley and drum.
8. Push drum tight to rear bearing. Raise the front bearing locks into the lock position and tighten them securely.
9. Replace the safety cover over the power unit. Press down until the clasp locks in place.
10. Insert the special cable tool through the Dial-A-Cable power feed unit into the expansion pin hole in the female coupler on the drum cable and pull it through the power feed unit about 3” beyond the front hub.



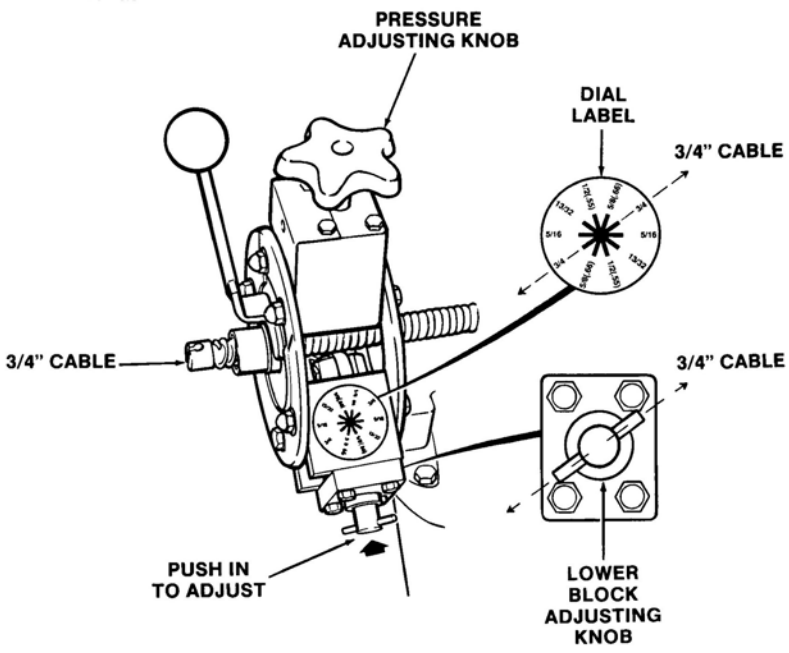


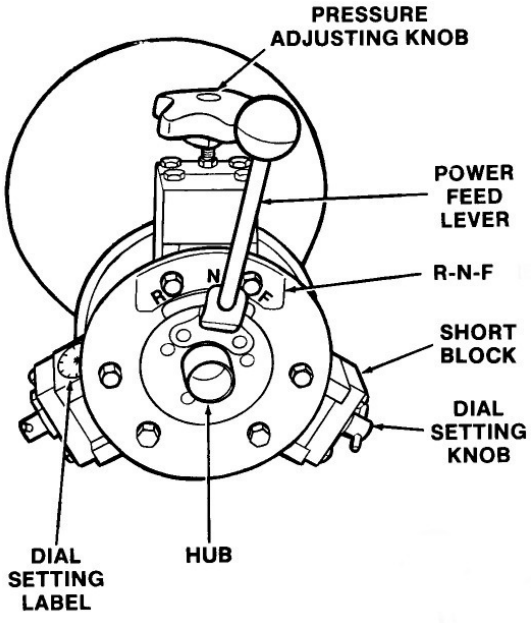
Before Operation (cont.)

DIAL-A-CABLE POWER CABLE FEED. The Spartan Dial-A-Cable power feed unit provides infinitely variable cable penetration speeds. The single lever control varies the speed, and the forward or reverse movement of the cable through two lower and one upper bearing assemblies. The two lower bearing blocks can be adjusted to match the cable size in the drum. The pressure on the upper bearing block is adjusted by turning the adjusting knob to the right with just enough pressure to keep the cable moving. It should be set so that the cable feeds freely in-and-out of the drum.

DIAL CABLE SIZE. To adjust the cable size, first turn the pressure knob counterclockwise to raise the upper bearing block to clear the cable size. The dial the two lower bearing blocks to match the size cable in the drum. For example, for 3/4" cable, push each lower bearing knob in and turn it so the pin in the top is parallel to the 3/4" indicators on the dial. Then release it to be sure it is locked in position. Be sure both bearing blocks are set at the same cable size. After the cable is pulled through the unit,the upper bearing knob will be adjusted as necessary for the cleaning operation.

NOTE: When the 3-position motor switch is at "REVERSE" and the drum is rotating clockwise in reverse, the Power Feed Lever works opposite to the decal "R-N-F" positions. "R" now will feed the cable forward, and "F" will feed it in reverse.





Operation

WARNING: Operator must be thoroughly familiar with the Safety Instructions section before attempting to operate this equipment.

WARNING: Always use safety goggles. Guard against foreign material that might fly off the cable.

BEFORE OPERATING CHECK LIST. Before starting operation, check the following:

1. The machine is placed so the cable safety guide will extend from the machine to inside the cleanout entry point. Allow clear working area around the machine for adding cable and changing cleaning tools.
2. Check machine for properly installed cable drum with front bearing clamps tight and cable extending through the power feed.
3. Check Dial-A-Cable power feed bearing blocks are both set for the size cable to be used.
4. Place foot actuator in comfortable and accessible position in order to have control of power at all times.

WARNING: Never wear loose fitting clothing or jewelry when operating this machine. Always wear Spartan riveted gloves when handling cable.

WARNING: Do not allow power cord or foot actuator hose or power cord velcro binder to become entangled in any rotating machine parts, that might cause personal injury or machine damage.

POWER AND GROUNDING CONNECTIONS

DANGER:

Use of any electrical equipment in a wet or damp environment can cause fatal shock if not properly guarded against by the operator.

Before plugging the power plug into a power source, study the grounding and power cable instructions carefully in the SAFETY SUMMARY SECTION of this manual to assure the power source and connections are safe.

Do not plug the power cable into a direct current source, or higher than 115V AC power source. Severe damage to the machine could result.

Set 3-position power switch in the center position at “OFF”. Plug the power cord into a 15-amp, 115V AC power source which has been determined to meet all the safety requirements.

Place the power switch in the “F” (forward) position. Check by pressing down on the foot actuator to make sure that drum rotates in a counterclockwise direction while facing the front side of the drum.

Operation (cont.)

WARNING: Avoid operating machine in reverse. Operating machine in reverse can result in cable damage and is used only to back stuck or imbedded tool out of an obstruction. Continual drum rotation in reverse position will cause cable to "jump" out of drum. Possible operator injury could result.

If the power cord is plugged into an extension cord to the power outlet, there is no ground fault protection from the socket of the extension cord to power socket. The ground fault breaker only functions from the machine to the breaker.

GROUND FAULT INTERRUPTER. The ground fault breaker built into the power cord is intended to cut off the power in case of any ground fault. There is a test button and a reset button on the breaker. To test the breaker, with the cord plugged into the power source, press the test button. The breaker should open and cut off the power. The indicator light will go off. To reset the breaker, press the breaker button and power should be restored and the indicator light is illuminated.

CONTROL SETTINGS

1. Set power switch in "FWD" position.
2. Turn power feed control upper bearing knob clockwise until there is slight pressure on the cable. Set the power feed control lever at " N", center position.
3. Press foot actuator to make sure the drum turns in a counterclockwise direction facing the drum.
4. Screw the spring end of the safety tube counterclockwise over the hub on the power feed. Be sure it is all the way on against the face of the feed plate.
5. With power switch at "FWD" and power feed lever midway between N and F position on the feed plate, press the foot actuator. The cable should feed through the cable safety guide. Slowly tighten the feed knob if necessary. When cable end is about two inches beyond the end of the guide tube, release the foot actuator and set the power switch to the center "OFF" position.
6. Install the selected tools on the cable with either the 2' leader or the double male coupling. Refer to the CABLE AND TOOLS section of this manual.

Operation (cont.)

CLEANING OPERATION. Move the machine as close to the entry point as possible. The end of the cable safety guide and cutting tool should be inside the entry point of the cleanout.

This machine should be operated from the side of the power feed. During operations, always have one hand on the power feed lever, and the other hand resting on the cable safety guide so torque build-up may be felt as the motor slows down. The operator should wear Spartan riveted leather gloves whenever machine is being operated.

Move the power feed lever to midway point between “N” and “F” on the nameplate on the Dial-A-Cable feed unit.

Step on foot actuator and slowly tighten (turn clockwise) the power feed knob. When cable is driving steadily forward, stop turning the knob. Move the power feed lever toward “R” position on the nameplate. Cable should now retrieve properly.

NOTE: Do not run the cutting tool into the end of the cable safety guide.

Do not continue to tighten the knob any more at this time. If cable slips after running 100’ or more into sewer or whenever a stoppage is encountered, the knob may be tightened until cable is again moving steadily. Do not tighten knob any more than is necessary to cause cable to move in a steady motion. Excessive tightening may damage the cable or feed or overload the motor.

To start the cleaning operation, place one gloved hand on the cable safety guide about 18” from the power feed. Keep the other hand on the power feed lever, while stepping on the foot actuator to start the drum rotating.

WARNING: Make sure to keep downward pressure on the safety guide tube at all times since flexible cable is subject to buckling under high torque conditions.

Control forward movement of the cable by moving the feed control lever towards the “F” (forward) position.

Never try to force the cable into the line. Choose a proper feeding speed that gives a smooth cutting action until the cable reaches resistance and torque builds up, then slow down or stop and take clearing action.

The design of the motor is such that as soon as the blade end of the cable gets hung up in an obstruction, a reduction in speed and a decrease in motor sound level provide notice to the operator to pull the blade away from the obstruction, thereby releasing the tension that has been built up in the coil-spring cable. That release of tension reduces the chances of buckling, kinking or breakage of the cable.

WARNING: Do not permit blade end to get hung up in an obstruction for more than 2 to 3 seconds. It is important to keep the cable rotating. Remember, do not operate the machine to the point where the cable begins to buckle. This practice is dangerous and could damage the cable.

Operation (cont.)

Kinkage and breakage of cable are caused by allowing the working end of the cable to get hung up in an obstruction while twisting the other end with the motor, until something must give. The only way to clean an obstruction from a line, or negotiate a bend in a line, is with the blade rotating.

A good rule to follow for releasing tension on a cable is: when the blade gets hung up in the obstruction and fails to rotate, a motor RPM sound reduction will be noticeable, which indicates it is time to pull the blade away from the obstruction. As the cable is pulled away, all tension in the cable will be released immediately and the blade will turn at high speed.

As soon as the blade is free, push it back into the obstruction quickly to utilize the built-up power of the spinning cable which enables cleaning the line more quickly and efficiently. This propeller type action helps the blade cut or tear through the obstruction.

WARNING: Do not allow tool to get hung up in an obstruction. But, if a tool does get hung up in an obstruction, a reverse feature is provided on this machine for just this purpose. Do not reverse machine until motor and drum come to a complete stop. Avoid operating this machine in reverse for any other purpose.

In the event the blade does get hung up on an obstruction and cannot be released by backing off with the power drive lever, move the power switch to the “OFF” position, and permit the machine to come to a complete stop. The brake on the motor will stop rotation as soon as the foot actuator is released. Then, move the toggle switch to the “R” position.

Now start the machine slowly. By depressing and releasing the foot actuator rapidly until the drum rotates at leaset one revolution, see if the blade can be removed from root or other obstruction by this reverse action.

When blade is released, let the machine come to a complete stop again. Then place the toggle switch in the “F” position. Make sure that drum rotates counterclockwise, when standing in front of machine, except when reversing it to free cutting tool from obstruction.

After cutting through one group of roots, it is a good practice to pull back the cable, remove the debris from the blade and reenter the pipe to take another cut. This final cut gives a thorough cleaning job.

Sometimes a stoppage can be relieved by setting the power feed lever straight up where the drive is in neutral position. there is no lateral movement of cable at this point. This enables positioning the blade against the stoppage and chewing it away if necessary.

MAIN SEWER OR SEPTIC TANK OVERRUN. It is very important to know the approximate distance from inlet to main sewer or septic tank. Overrunning cable into main sewer or septic tank can allow cable to knot up and prevent its retrieval.

Operation (cont.)

CABLE PULLBACK. When the job is complete, feed the cable back into drum by moving the power feed lever towards the “R” position, making sure the machine is running forward with the power switch in “FWD” position, so that the distributor arm can feed and distribute cable into the drum properly. Keep the machine running in the forward direction with the power feed lever in “R” position.

If additional lengths of cable have been added during the cleaning operation, disconnect them as they are retrieved from the cleanout. Remove the full drum and replace it with an empty drum to receive the added cable lengths. Refer to drum replacement procedure in this manual.

When tool is close to the cleanout opening, release foot actuator and allow machine to come to a complete stop. Move power switch to “OFF” position. Step on the air actuator and hold it down to release the brake on the motor. Pull remaining cable and tool from the line. Hand-feed cable back into the drum until the tool reaches the end of the cable safety guide. Release the foot actuator. Remove the tool from the cable, and remove the safety guide from the hub of the power feed unit.

Reset the power switch at “F” (forward) and power feed lever to “R”. Operate the drum with the foot actuator to retract the cable to the end of the distributor arm. Allow the female coupling on the end of the cable to remain clear of the tube.

MACHINE SHUTDOWN. With the cable retracted, set the power switch at “OFF”, and pull the power plug from the supply source. Rewind the power cord on the brackets at the side of the machine. Rewind the foot actuator hose there also.

CAUTION: Excessive distance between the drain/sewer cleaning machine and pipe opening may caused rotating cable to become uncontrollable and lead to personal injury from rotating, swinging cable.

Always locate drain/sewer cleaning machine as close as possible to opening of pipe. Ideally, 2’ - 3’ from the opening.

When the machine is positioned for overhead work or if it isn’t possible to locate the sewer/draining cleaning machine within 2’ - 3’ of the pipe opening, additional safety precautions are necessary. Place the cable inside an extra piece of pipe or pipe assembly (approximately the size of the pipe being cleaned) the distance between the machine and the opening of the pipe. It may be necessary to cut an extra piece of pipe to length or to carry a variety of lengths of pipes and elbows on the operator’s vehicle.

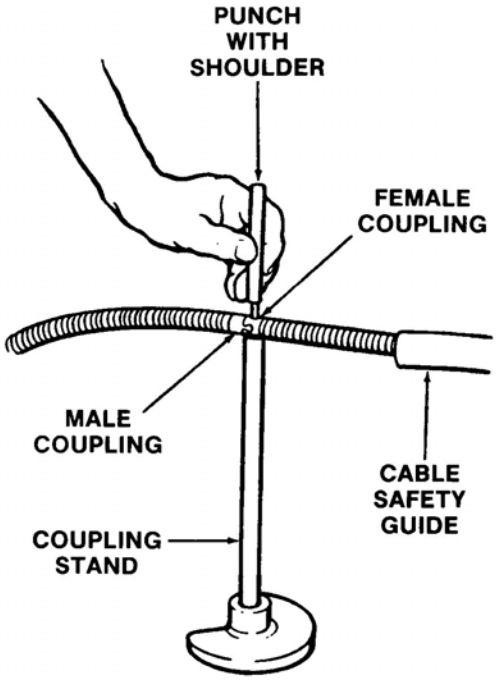
NOTE: If an extra length of pipe is not used at distance beyond 2’ - 3’, it’s possible, in an over-torque situation, for the cable to twist around the operator causing personal injury.

Cable and Tools

CABLE DESCRIPTION. There are two types and sizes of cable available for the Spartan 2001. Each is designed for particular types of cleaning operations. Consult your Spartan Tool Representative for the cable type to be used in each applications.

CABLE DRUMS. The cable drum comes with an anchor cable attached to make it easy to install the cable supply in the drum. The end of the anchor cable is fitted with a female coupling.

JOINING CABLES. All cables and leaders are coupled together by male and female joined couplings in the groove on top of the stand with the expansion pin in upright position. Using hammer, drive an expansion pin down flush with coupling. Assembly is complete and cable is ready for use.



ASSEMBLY. Place the male and female joined couplings in the groove on top of the stand with the expansion pin in upright position. Using hammer, drive an expansion pin down flush with coupling. Assembly is complete and cable is ready to use.

DISASSEMBLY. Position coupling stand at a convenient distance from the machine (2'-3'). Place the coupling in the groove, expansion pin up, on top of the stand. Place tip of the punch in the expansion pin. Drive the expansion pin down out of the coupling with a hammer.

LOADING CABLE INTO A SPARE DRUM

WARNING: Due to the amount of initial tension wound into the Spartan cable, care must be taken when uncoiling the bundle of cable. The cable will spring apart after the wire ties, which secure the cable, are cut.

Cable is shipped in wire-tied bundles. After carefully uncoiling the cable and laying out flat, attach the male end of the cable to the female end of the anchor cable in the drum. With the machine plugged in, depress the foot actuator and check the rotation of the drum. The drum should rotate in a counterclockwise direction, as indicated on the drum facing the front of the machine. If the drum rotates in the wrong direction, reverse the toggle switch located on the motor support and check rotation again. With the drum rotating in the proper direction, start feeding the cable into the drum.

CAUTION: Always wear Spartan riveted gloves when handling a rotating cable. Read the section on Operating Procedure before beginning to feed cable into the drum. Feed the cable into the drum with the drum rotating in counterclockwise direction as indicated on the drum. This insures proper distribution of cable inside the drum.

Cable and Tools (cont.)

Leave about 2' - 3' of cable out of the machine to allow for attaching either a 2' leader cable or a double male coupling for tool installation.

SPARE DRUMS. Due to the ease of changing cable drums on the Model 2001, it may expedite the job to have spare drums already loaded with the cable to be used on the job. When cleaning further than the length of cable available in the drum, and change drums, refer to the procedure for cleaning farther than 100' in the SPECIAL APPLICATIONS Section.

BLADES. The optional tool box contains a number of different sizes and shapes of cutting tools for various size lines and types of cleaning work.

Spartan blades can be attached to either a 2' leader cable or a double male coupling. To attach a cutter assembly, seat the base of the blade holder assembly onto the hex part of the leader or double male coupling. Next, place the proper blade size into the blade holder base. After inserting the blade, secure with blade retainer, lock washer and nut. Draw up all blade assemblies tightly with the T-wrench, otherwise vibration may cause unnecessary loss of blades. A T-wrench is furnished in the optional tool box to quickly and conveniently assemble blades.

Consult Spartan Tool for optional blades and tools that are available from Spartan Tool for special conditions.

CARING FOR CABLES:

NOTE: Your anchor cable should be replaced each time new cable is installed.

Spartan cables are of such design that no special care is required. At the end of each day of use, cables and the inside of drum should be rinsed thoroughly with water to prevent damaging effects of drain cleaning compounds, acids and other organic compounds that eat away the cable's strength.

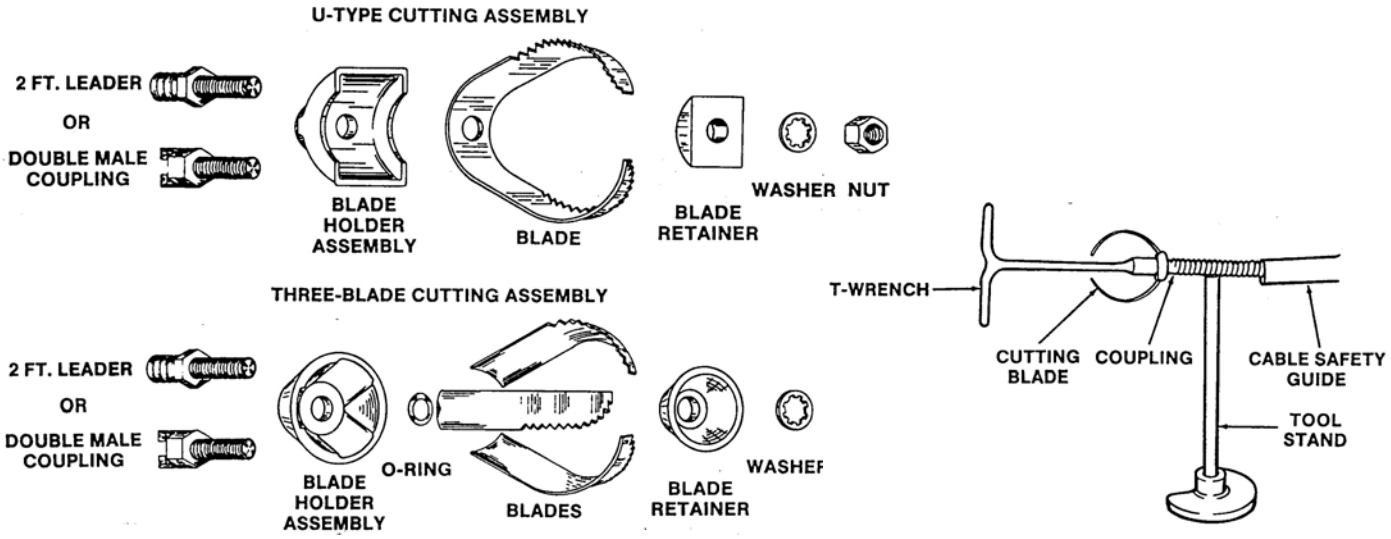
Cable should be replaced when they become severely corroded or worn. A "worn cable" can be identified when outside coils of cable become flattened and/or the cable becomes limber. A light weight rust inhibiting oil is recommended for use on cables when not in use. This serves to delay the effects of acid but only for a limited time.

NOTE: Worn or corroded cable reduce the machine efficiency in removing obstructions. New cable reduces chances of down time and the time it takes to get the job done.

TOOLS. A number of different sizes and shapes of blades for various size drains and types of cleaning work are available. Most common are U-type two-blade cutter and three-blade cutting assemblies.

WARNING: Always disconnect power cord before attaching or changing blades.

Cable and Tools (cont.)



BLADE ASSEMBLY. Blade assembly and attachment to the cable is the same for both types of blades. Either a double male coupling or a 2' leader cable is used to attach the cutters.

1. Seat the blade holder assembly on the leader or male coupling threaded end.
2. Place the blade or three blades into the blade holder. Use the O-ring on the three-blade assembly only.
3. After inserting the blades, insert the blade retainer and secure it with the lock washer and nut.

CAUTION: Draw up the nut on all blade assemblies tightly with the T-wrench, otherwise vibration may cause loss of blades.

A T-wrench is furnished in the optional tool box for assembling blades on the job.

HOW TO PREVENT COMMON CABLE PROBLEMS. Spartan cables are made to perform trouble-free on the toughest sewer and drain cleaning jobs over the full life of the cable. Three basic problems, however, may be encountered with any make of cable: kinking, breaking or acid contamination.

Most cable kinking can be avoided by correct machine operation. A cable virtually cannot be kinked as long as the entire cable continues to rotate.

Cable breaking is generally caused by applying too much torque when a stoppage is encountered. The cutter blade end of a cable may jam in a blockage and the rotation of the machine may eventually cause the cable to break. This problem can generally be prevented by feeding the cable in a slow, cautious manner.

Spartan cannot guarantee replacement of any cable contaminated by acid. The best prevention is a preliminary check to determine if an acid solution has been applied to the pipe before introducing cable in the pipe opening. A lightweight rust inhibiting oil is recommended for use on cables when not in use. Oil serves to delay the effects of acid but only for a very limited time.

Cable and Tools (cont.)

REMOVING ANCHOR CABLE

1. Remove drum from the machine.
2. Pull anchor cable out through the distributor arm as far as possible.
3. Using external retaining ring pliers, remove external retaining ring from inner drum shaft at rear of the drum.
4. With distributor arm and cable at the notch in the drum opening, pull the inner drum away from the outer drum exposing the anchor clamp at the end of the anchor cable
5. Loosen the two cable clamp screws from rear outside of the drum. DO NOT loosen the screw too much, as the clamp may come loose and fall off.
6. Pull the end of the cable out of the clamp and through the distributor arm.

REPLACING ANCHOR CABLE

1. Thread the non-working end of the cable through the distributor arm and counterclockwise into the outer drum. Push the end of the cable through the cable clamp with about a quarter of an inch extending beyond the clamp.
2. Tighten the cable clamp screws securely.
3. With the cable and distributor arm positioned at the notch in the opening of the outer drum, push the inner drum into the outer drum with the inner drum shaft through the hub of the outer drum. The inner drum shaft must extend through the outer drum hub to expose the retaining ring groove.
4. Install the retaining ring in the inner drum shaft groove to secure the drum together.
5. Push the anchor cable into the drum leaving about 2” of cable extending from the distributor arm bearing.
6. Install the drum on the machine. If installing .66 magnum cable, the drum is now ready for loading cable. If installing 3/4” cable, the Anchor Adapter Assembly, 44291501 is required.

Part No	Description
02822500	Retaining Ring 1/2"
02839400	Pliers, Retaining Ring
44291501	Anchor Adapter, .66-3/4

Special Applications

CAUTION: Excessive distance between the drain/sewer cleaning machine and pipe opening may cause rotating cable to become uncontrollable and lead to personal injury.

CLEANING FARTHER THAN DRUM CAPACITY. Cable can be added to the operation in two ways - replacing a loaded drum on the machine, or reloading cable into the cable drum.

To replace the drum, refer to DRUM ASSEMBLY HANDLING in BEFORE OPERATION Section of this manual. To reload the cable drum on the machine, refer to CABLE and TOOLS Section.

The drum contains an anchor cable attached to the drum and connected to the cable supply. When all of the cable is fed into the line, the cable coupling on the end of the anchor cable will show up at the end of the distributor arm on the machine. If the line requires more cable, replace the empty drum with a full drum of the same size cable.

1. Run the cable into the line until the coupling is beyond the power feed unit hub. Disconnect the cable safety guide and push it back on the line to clear the coupling. Disconnect the cable and leave it in the line. Insure that it cannot fall into the pipe beyond the opening, by securing it to the machine or the point of entry.
2. Remove the empty drum from the power unit.
3. Install a drum loaded with the same size cable used in the line. Pull the cable through the power feed unit, reinstall the cable safety guide, and connect the new cable to the cable in the line.

Maintenance

MAINTENANCE SAFETY. Inspect the machine before each operation. Do not operate a poorly maintained or damaged machine. Personal injury or machine damage could result.

Service the machine at regular intervals including lubrication, cleaning and maintenance. Use the check list as a guide.

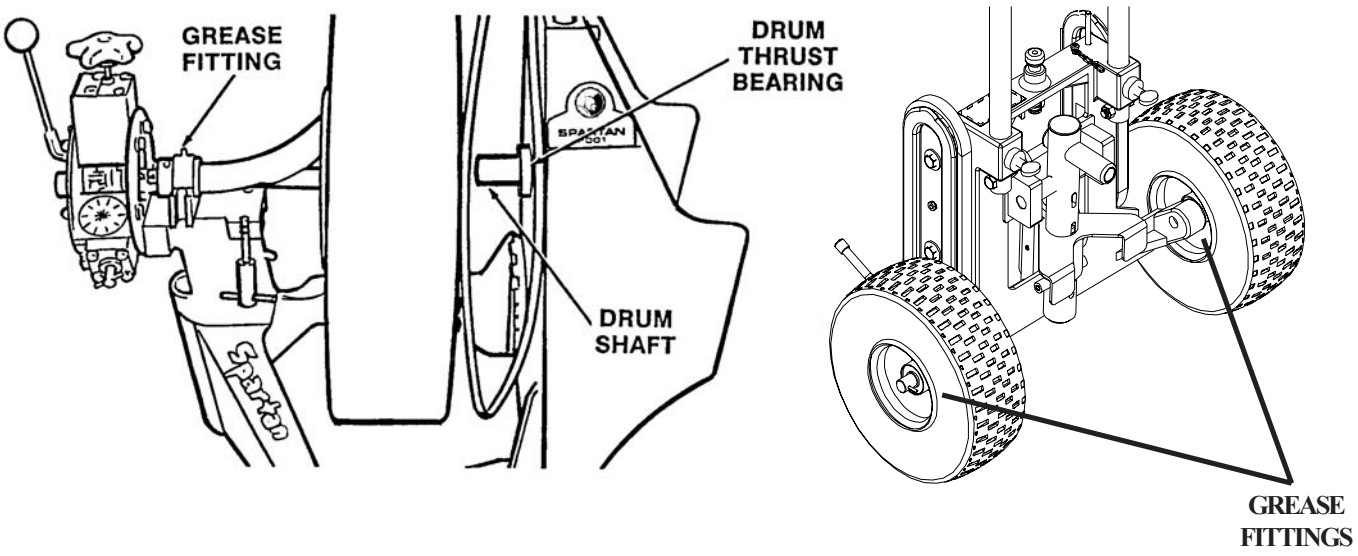
WARNING: Disconnect electric power cord from power source before removing, installing any components, or working on the machine. Unintentional start-up could cause personal injury.

NOTE: If any maintenance is required other than listed above or any other problem, call your Spartan Tool Territory Manager or contact Spartan Tool. Refer to your Spartan accessories book or parts manual for all repair parts and machine options.

LUBRICATION. The drum, distributor bearings and drum shaft require periodical lubrication. Use multi-purpose grease in a gun to lubricate the front grease fitting and the grease fittings on each smart cart wheel.

To lubricate the rear bearing and drum shaft, remove the drum and the rear bearing. Clean and repack the bearing with multi-purpose grease, apply light coat of grease to drum shaft. Reassemble the bearing and drum on the machine.

Lubricate smart cart wheel bearing grease fittings as required.



Maintenance (cont.)

CHECK LIST FOR MACHINE MAINTENANCE

Electrical power cable	Inspect for damaged cord, ground fault interrupter and plug connections, 3-prong plug.
Ground fault interrupter	Test breaker for correct operation using test button.
Foot actuator	Test operation of foot actuator to be sure motor does not operate unless actuator is pressed. Make sure motor brake operates when actuator is released.
Drum drive belt	Check drive belt for breaks or damage.
Grease fittings - drum distributor bearing and Smart Cart wheels	Lubricate as needed.
Drum bearing drum shaft	Clean and lubricate as needed
Dial-A-Cable	Clean and lubricate as required.
Electric drive motor	Service brushes as required.

CHANGING MOTOR BRUSHES.

WARNING: Make sure machine is unplugged from electrical system.

Remove motor cover.

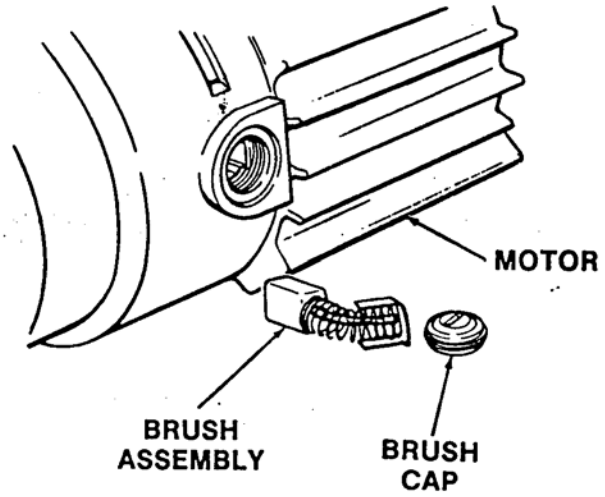
With the motor uncovered, unscrew brush cap.

Remove brush, mark the top of the brush. Note the condition of brush end and brush length. If brush end is chipped or damaged in an way, replace brush. Brush length of 1/4” or less indicates time for replacement.

If brush is still good, replace into holder with marked side up or if not good, replace with new brush. Repeat procedure on other side, then assemble cover and the machine is ready to run.

NOTE: If new brushes are used, run the machine for about five minutes before operating. Check brushes every 300 hours of operation and replace motor brushes every 5 years.

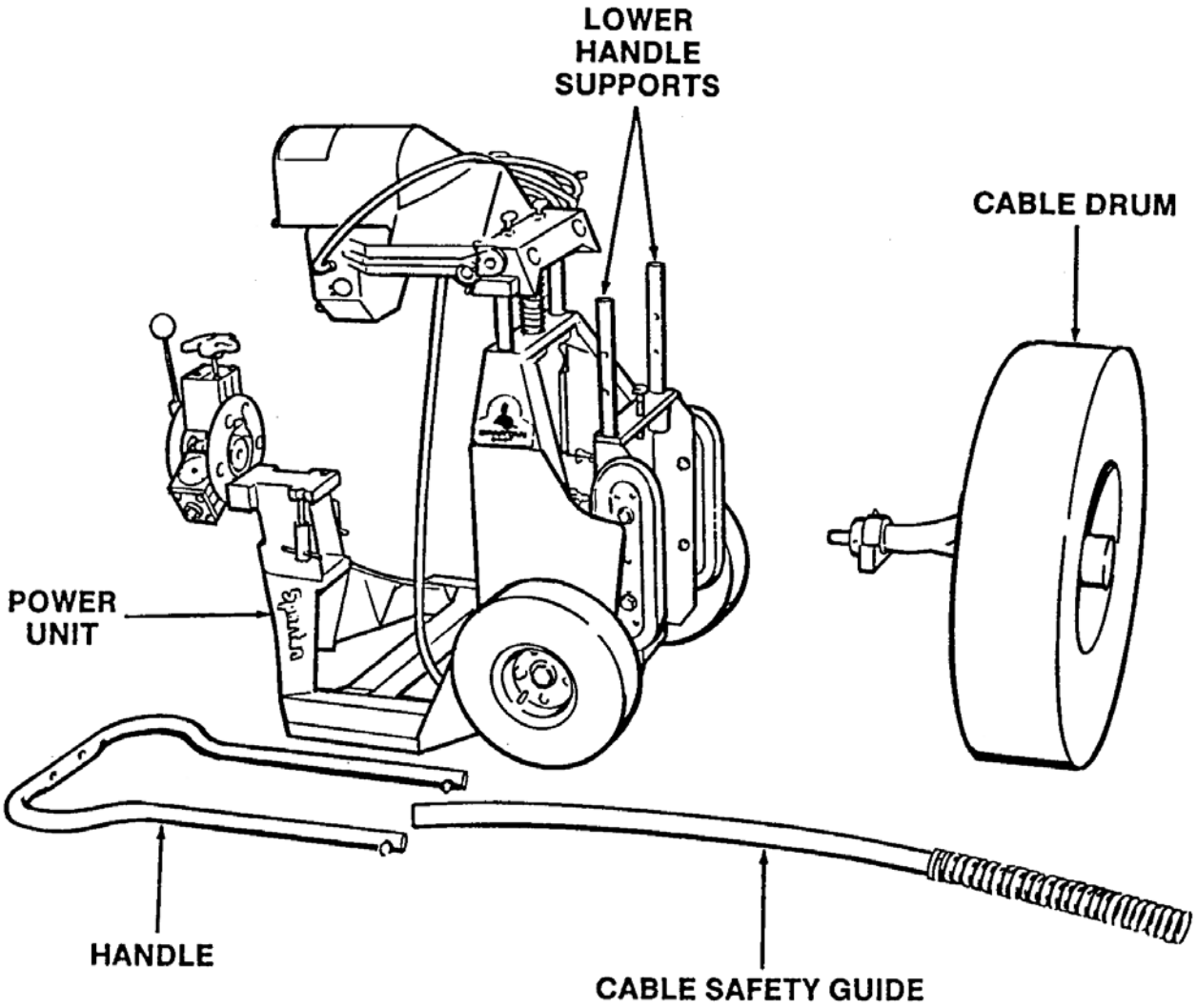
MACHINE STORAGE. Electric motor driven equipment must be stored indoors or properly covered in rainy weather.



Unpacking Instructions

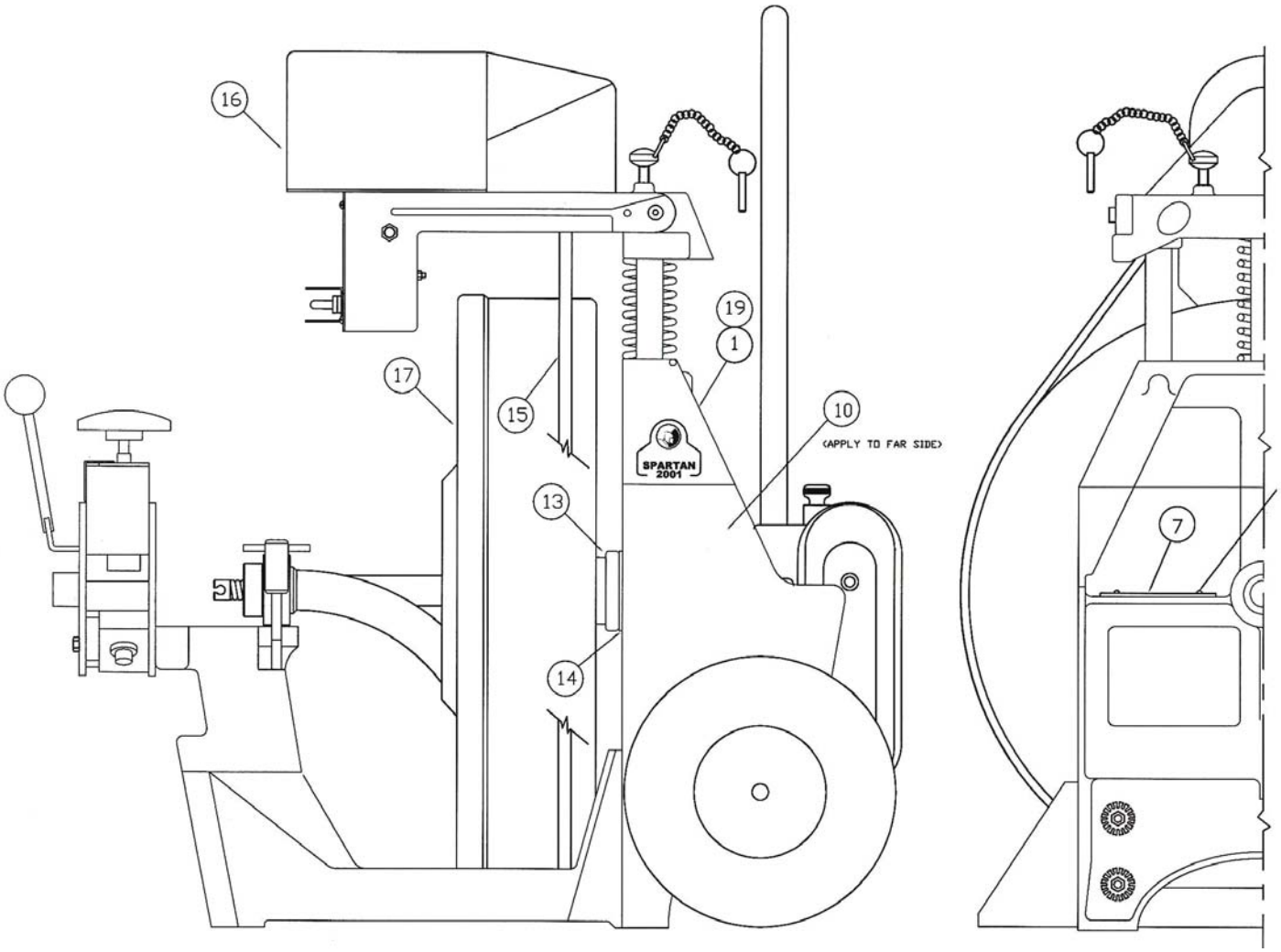
UNPACKING AND ASSEMBLY. The power unit carton will include the power unit with drum and cable safety guide. Before unpacking the cartons, examine them for damage that might have occurred during shipping. **In case of damage, report it immediately to the carrier**.

Unpack the power unit and drum from the carton and examine them for damage also.



Model 2001

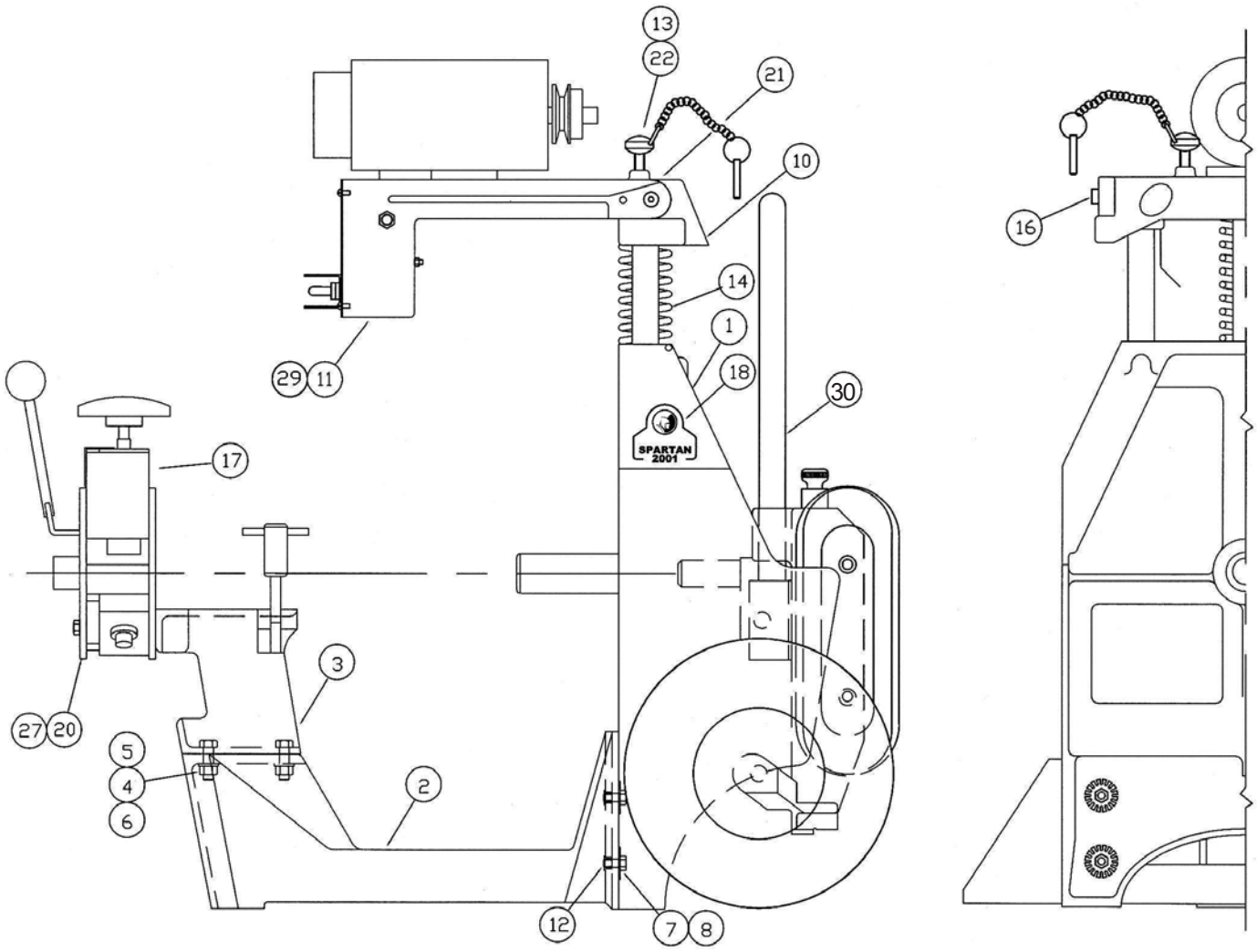
44226000 (110 Volt) - 44226020 (220 Volt)



Item	220 Volt	110 Volt	Part Number	Description
1	-	1	44213200	Assy, Frame 2001
2	1	1	44225300	Assy Cable Guide
5	1	1	44228500	Assy, Cable Retriever
7	1	1	71108000	Machine ID Plate
9	1	1	44292100	Manual, 2001 Owners
10	1	1	44281400	Decal, 1065, 300, 2001 Safety
11	1	1	44163000	Safety Instructions
12	1	1	44291500	Adapter, Anchor .66 - 3/4
13	1	1	02769100	Bearing, Thrust
14	2	2	44239700	Spacer, Steel 1.505" ID x 2.379"
15	1	1	44291200	V-Belt 4L-780
16	1	1	44289900	Assy, 2001 PM Motor Cover
17	1	1	44219505	2001 Drum C/W .66 Anchor
18	1	1	44053300	Pin, Expansion .66
19	1	-	44213220	Assy, Frame 2001

Frame Assembly

44213200 (110 Volt) - 44213220 (220 Volt)



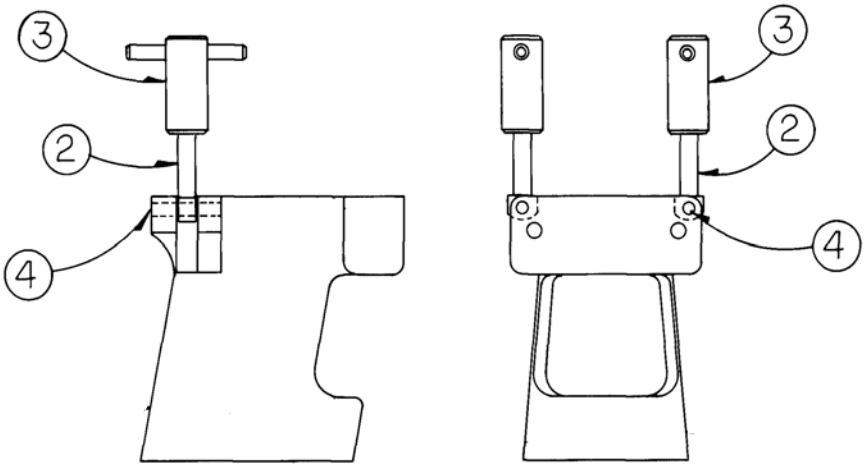
Item	220V Qty	110V Qty	Part Number	Description
1	1	1	44211800	Back Casting Assy
2	1	1	44209800	Lower Casting
3	1	1	44212900	Assy, Upper Front
4	2	2	02826500	Screw, Hex Head Cap 3/8-24 x 1-1/4"
5	2	2	00167200	Internal Tooth Lockwasher 3/8"
6	2	2	02821100	Nut, Hex 3/8-24
7	4	4	00115100	Screw, Hex Head Cap 5/16-18 x 1
8	4	4	02825000	Washer, Lock 5/16
10	1	1	44213300	Assy, Upper Back
11	-	1	44291000	Assy, PM Motor Support
12	-	4	44220000	Propeller Tee Nut 5/16-18

Item	220V Qty	110V Qty	Part Number	Description
13	-	1	02822400	Thumb Screw 3/8-16 x 1
14	-	1	44218700	Spring
16	-	2	44221300	Screw, Shoulder 3/8 x 5/8
17	-	1	04221000	Power Feed
18	-	2	44219400	Label, Spartan 2001
20	-	2	00169500	Screw, Hex Head Cap 5/16-18 x 3-1/2
22	-	1	44226600	Assy, Locking Pin
27	-	2	00167100	Internal Tooth Lockwasher
29	1	-	44294000	Assy, 220V PM Mtr Support 2001
30	1	1	44216600	Smart Cart Assembly

Additional Parts - see page 32

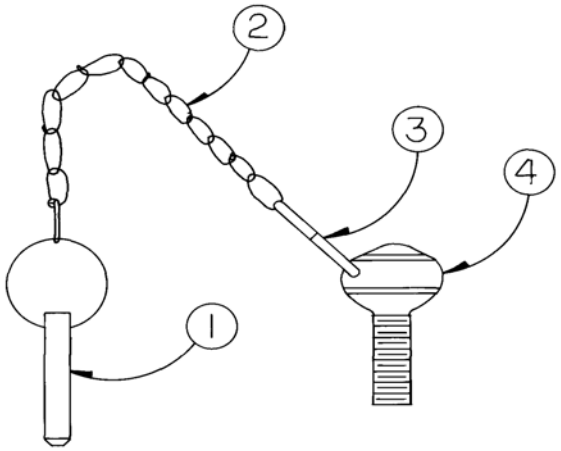
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	02769100	Thrust Bearing
2	1	44239700	Spacer, Steel 1.505" ID
3	1	44291200	V-Belt 4L-780

Upper Front Assembly
44212900



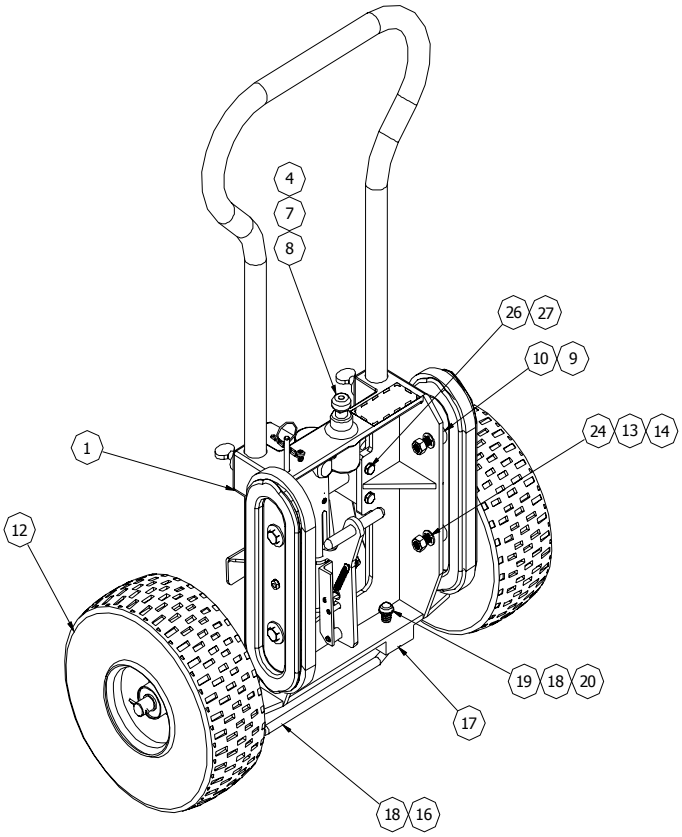
ITEM	QTY	PART NUMBER	DESCRIPTION
2	1	44212400	2001 Swing Bolt
3	1	03424000	Assy, Handle Body
4	1	44213000	Pin, Roll Pin 1/4 x 1.50

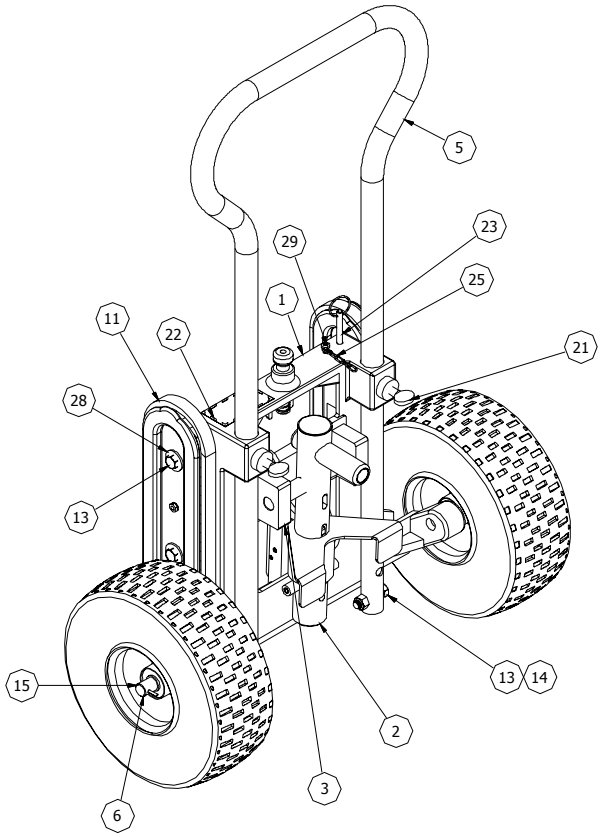
Locking Pin Assembly
44226600



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	44225200	Pin, Quick Release
2	0.5	77726800	Chain, #5 Double Loop .062"
3	1	77813100	Hook, "S"
4	1	44226700	Thumb Screw W/Hole

Smart Cart Assembly
44216600





ITEM	QTY	PART NO.	DESCRIPTION
1	1	44215000	SMART CART-MACHINED
2	1	44300000	ASSY, LOCK DOUBLE SHAFT
3	2	44216700	BLOCK, PIVOT
4	1	03410500	ADJUSTABLE KNOB
5	1	44248500	HANDLE
6	2	44218000	AXLE
7	1	44297500	PIN, DOUBLE SHAFT LOCK
8	1	44297600	SPRING, DOUBLE SHAFT LOCK
9	4	44239600	WASHER, NYLON
10	4	44073500	SPACER, SMART CART
11	2	04205500	CRAWLER TREAD UNIVERSAL
12	2	71100700	TIRE, 10" PNUEMATIC
13	6	77760000	SCREW, HEX HD 3/8-16 X 1-1/2
14	6	02934100	NUT, HEX 3/8-16
15	2	77747600	PIN, COTTER 1/8 X 1

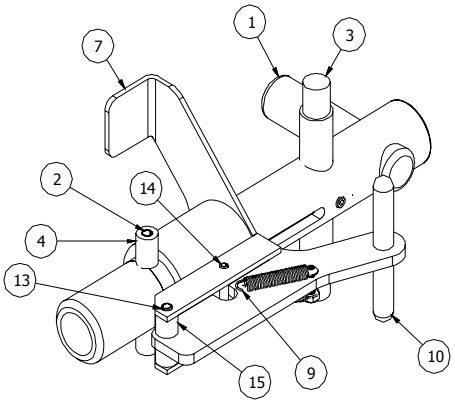
ITEM	QTY	PART NO.	DESCRIPTION
16	1	44217600	CAP, PROTECTIVE
17	1	44217400	ROLL PIN, 1/8 X 1
18	1	44217200	ROD, KICK STAND
19	1	44217500	NUT, PUSH
20	1	44217700	SPRING, COMPRESSION
21	2	02822400	THUMB SCREW
22	1	44229000	DECAL, SMART CART
23	1	77726700	HANDLE, RING
24	4	00167200	WASHER LOCK IN-TOOTH 3/8
25	1.2'	77726800	CHAIN, #5 DOUBLE LOOP
26	4	00113700	SCREW, HEX HD 1/4-20 X 3/4
27	4	00167000	INTERNAL TOOTH LOCK
28	4	00162700	WASHER, FLAT 3/8
29	1	44119500	SCREW, SELF TAP 10-24 X 1/2

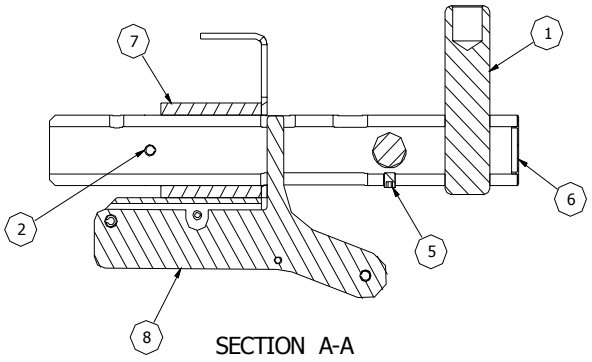
* Original black painted Units Require 44248500 Handle Assembly

NOTE: Original units (painted black - non casted) need to replace entire smart cart as double shaft is now a different dimension.

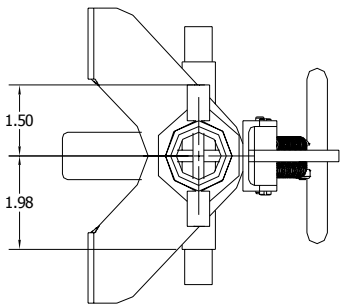
Locking Double Shaft Assembly
44300000

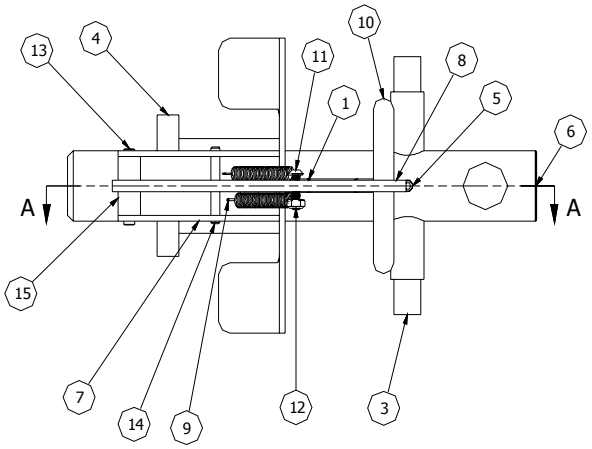
ITEM	QTY	PART NO.	DESCRIPTION
1	1	44301000	WELDMENT, LOCKING DOUBLE SHAFT
2	2	44217100	ROLL PIN .25 X 3.00
3	1	44216300	SHAFT, PIVOT
4	2	44225700	SPACER, NYLON
5	1	02893300	SCREW, SOC HD SET 1/4-20 x 5/16
6	1	44218200	CAP, 1" PLUG
7	1	44300100	WELDMENT, DOUBLE SHAFT LOCK
8	1	44300800	LATCH, SMART CART DOUBLE SHAFT
9	2	44300350	SPRING, EXTENTION
10	2	44300400	FOAM GRIP 3/16-1/4 X 1-1/2
11	1	63024600	SCREW, 8-32 X 3/4 SCK CAP BLCK
12	1	63024500	NUT, 8-32 LOCKNUT ZN PLT
13	1	44300200	PIN, ROLL 1/4 x 1-5/8
14	1	44300300	PIN, ROLL 3/16 x 1-5/8
15	2	44300500	SPACER, NYLON 1/2 OD x 1/4 ID x 1/2





SECTION A-A
SCALE 1 / 2

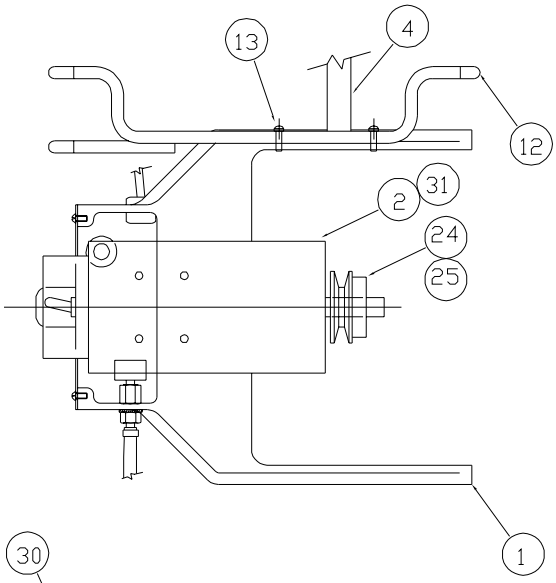


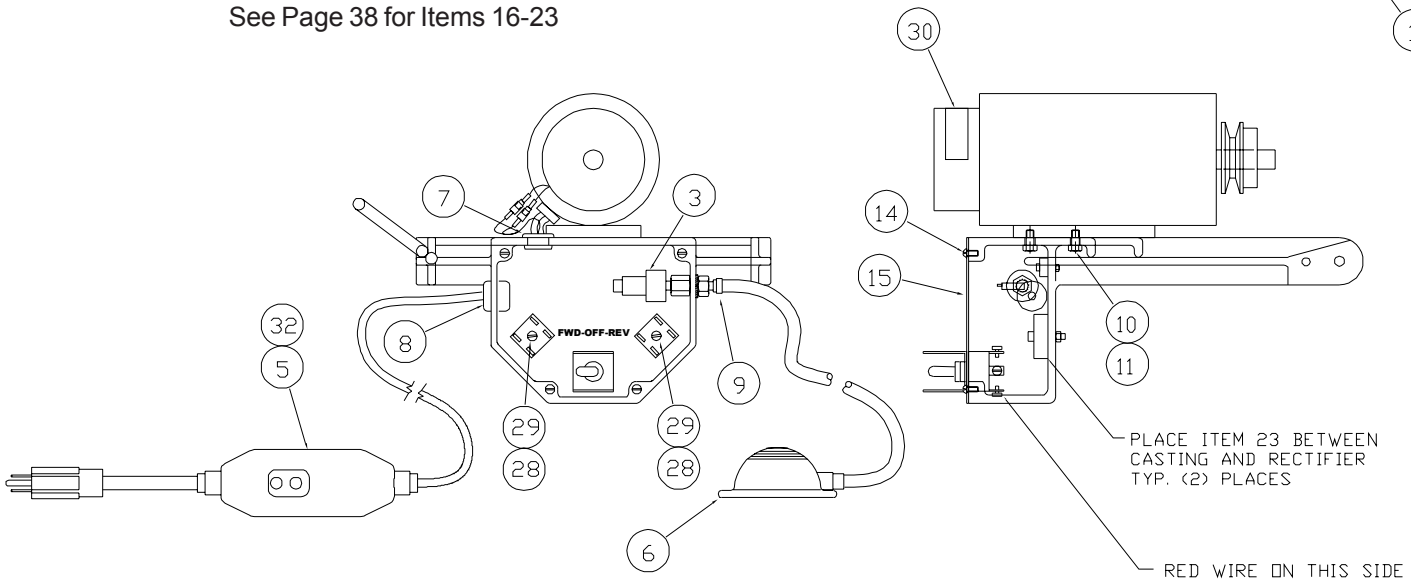


Motor Support Assembly
44291000 (110 Volt) - 44294000 (220 Volt)

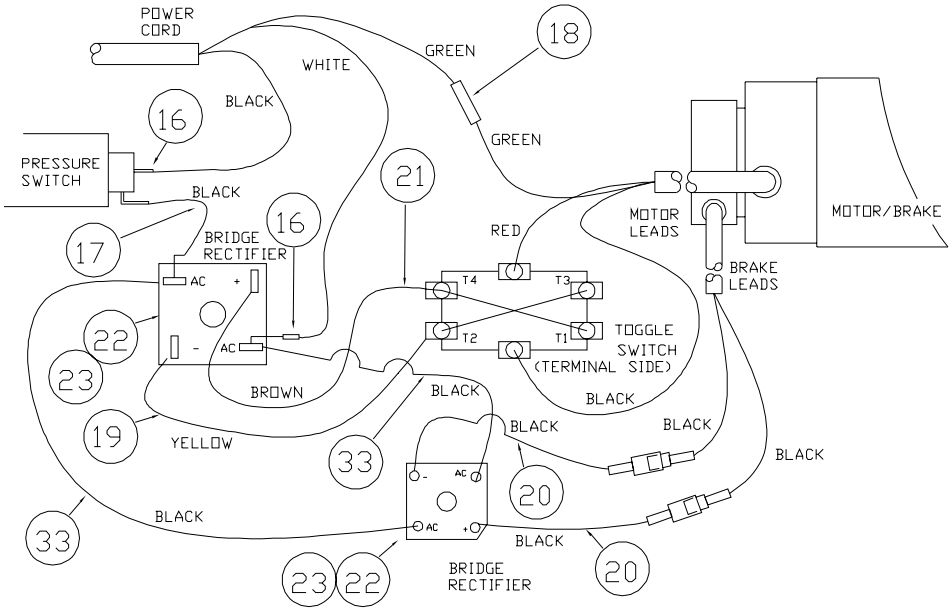
Item	220V Qty	110V Qty	Part Number	Description
1	1	1	44210200	Casting, Motor Support Machined 2001
2	-	1	44290000	PM Motor Assy w/ Brake
3	1	1	44002600	Pressure Switch
4	1	1	71107600	Velcro
5	-	1	71103300	Power Cord w/ GFI
6	1	1	44225800	Assy, Air Footswitch w/ Sleeve
7	1	1	44221600	Grommet, Rubber 1/2
8	1	1	44041700	Strain Relief Bushing
9	1	1	44225600	Hose Clamp, Crimp Type
10	4	4	02827200	Soc HD Cap Screw 1/4-20 x 3/4
11	4	4	00165400	Lockwasher, Kantlink 1/4
12	1	1	44220800	Assy, Cord Holder
13	2	2	04723100	RD Head Slot, Mach Screw #10-32 x 5/8
14	4	4	00125100	RD Head Slot, Mach Screw #8-32 x 3/8
15	1	1	44290900	Assy, Outlet Cover (2001 PM Motor)
24	1	1	44220400	Sheave, Single Groove
25	1	1	02751300	Key
26	-	1	44290606	Philips Hd Mach Screw #6-32 x 3/4
27	-	1	77789100	Hex Kep Nut #6-32
28	2	1	03850100	Hex Kep Nut #10-32
29	2	1	02824000	Philips Hd Mach Screw #10-32 x 1
30	1	1	04429100	Decal, Motor
31	1	-	44293400	220V PM Motor w/ Brake
32	1	-	44170700	Cord Assy

See Page 38 for Items 16-23





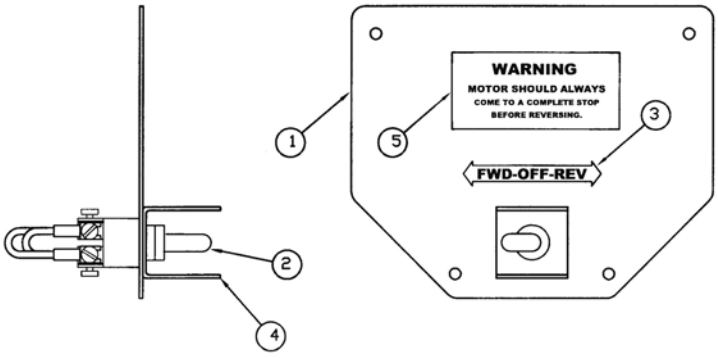
Wiring Diagram



Item	Qty	Part Number	Description
16	2	44216100	Terminal Quick Connect Female
17	1	44292200	Jumper Wire Assy Black 4"
18	1	02822800	Butt Connector
19	1	44290800	Jumper Wire Assy Yellow 5"
20	2	44294200	Jumper Wire 7" Black
21	1	44290700	Jumper Wire Assy Brown 5"
22	2	44290500	Bridge Rectifier
23	2	44290501	Pad, Thermo Conductive
33	2	44294100	Jumper Wire Piggyback

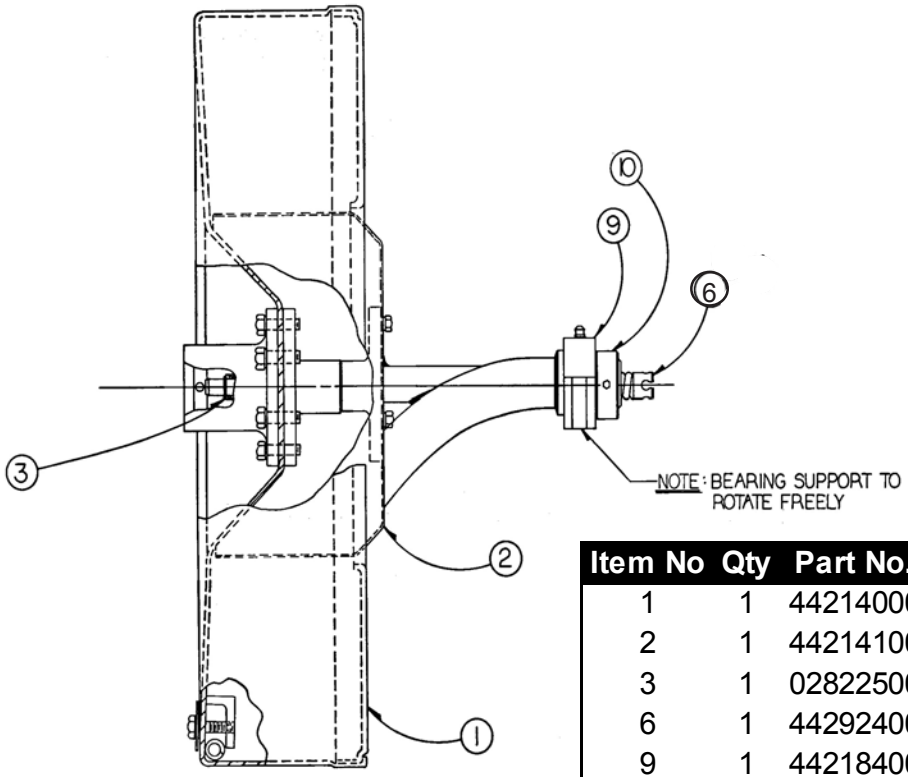
Outlet Cover Assembly

44290900



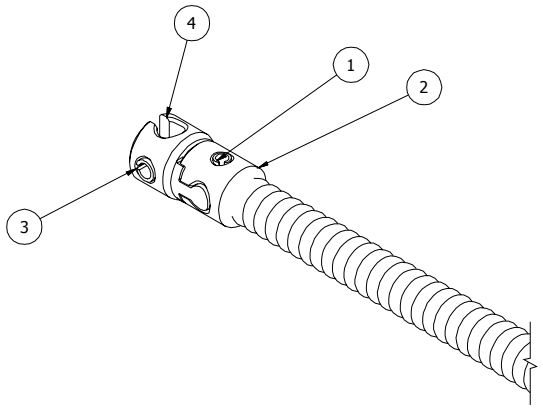
Item	Qty	Part Number	Description
1	1	44290901	Cover, Outlet Box 2001
2	1	44221500	Toggle Switch Assy
3	1	04714900	Label, Switch Direction
4	1	44230200	Guard, Toggle Switch
5	1	44290400	Label, Warning Stop Motor

Drum Assembly
44219505



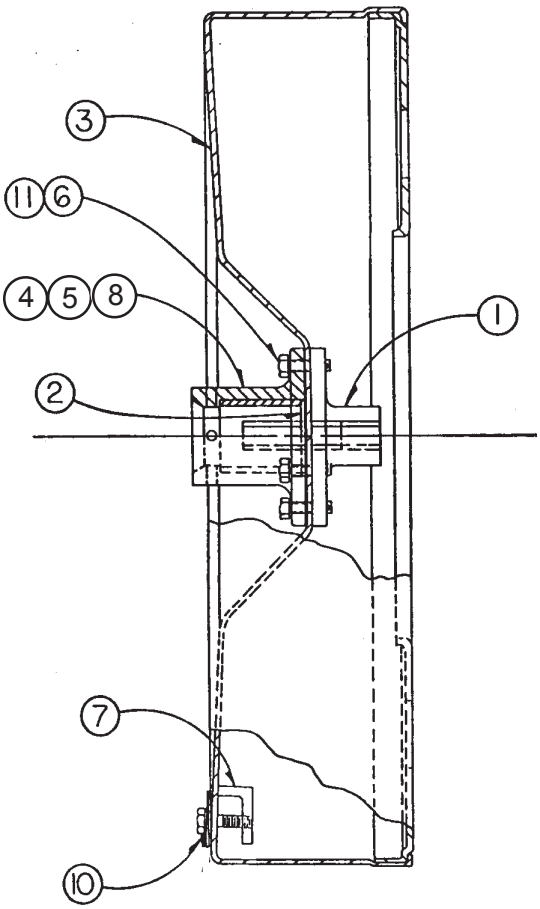
Item No	Qty	Part No.	Description
1	1	44214000	Assy, External Drum
2	1	44214100	Assy, InnerDrum
3	1	02822500	Retaining Ring
6	1	44292400	.66 Universal Anchor Assy.
9	1	44218400	Assy, Bearing Support
10	1	02751600	Set Collar Assy

.66 Universal Anchor Assembly
44292400



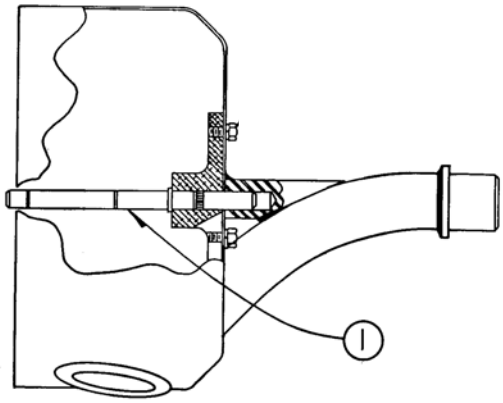
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	02821800	Expansion Pin 3/4" Cable
2	1	44120500	.66 Female Coupling
3	1	44117400	Roll Pin Carbon Steel
4	1	44291501	Ass'y,Adapter, Anchor .66-3/4

External Drum Assembly
44214000



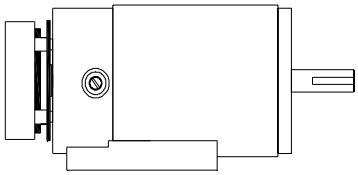
Item No	Req'd Qty	Part No.	Description
1	1	44214200	Assy, Drum Hub
2	1	44219000	Locating Washer
3	1	44209700	Drum, External
4	1	44218800	Assy, Hub
5	2	00167100	Internal Tooth Lockwasher
6	8	00165600	Washer Lock - Split Medium
7	1	02885000	Cable Clamp Assy.
8	1	02796300	Grease Zerk 1/8" 45 Deg.
9	2	44219300	Label, Drum 2001
10	1	44230000	Plug, Button 1/2"
11	6	00115100	Screw, Hex Hd Cap

Inner Drum Assembly
44214100



Item	Req'd	Part No.	Description
1	1	44218600	Assy, Drumshaft Bracket

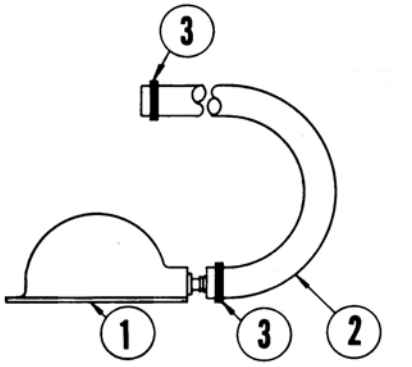
Motor Assembly
44290000



Part Number	Req'd	Description
44304000	2	Motor Assembly Brush Kit

Air Foot Switch - 44225800

Item No	Part No	Req'd	Description
	44055500	1	Air Foot Switch (Complete As Shown)
1	04576900	1	Pressure Transmitter
2	04577100	1	Air Hose
3	04652700	2	Crimp Type Hose Clamp



Decal Package
44230600

ITEM 1

ITEM 2

ITEM 3

ITEM 4

ITEM 5

ITEM 6

ITEM 7

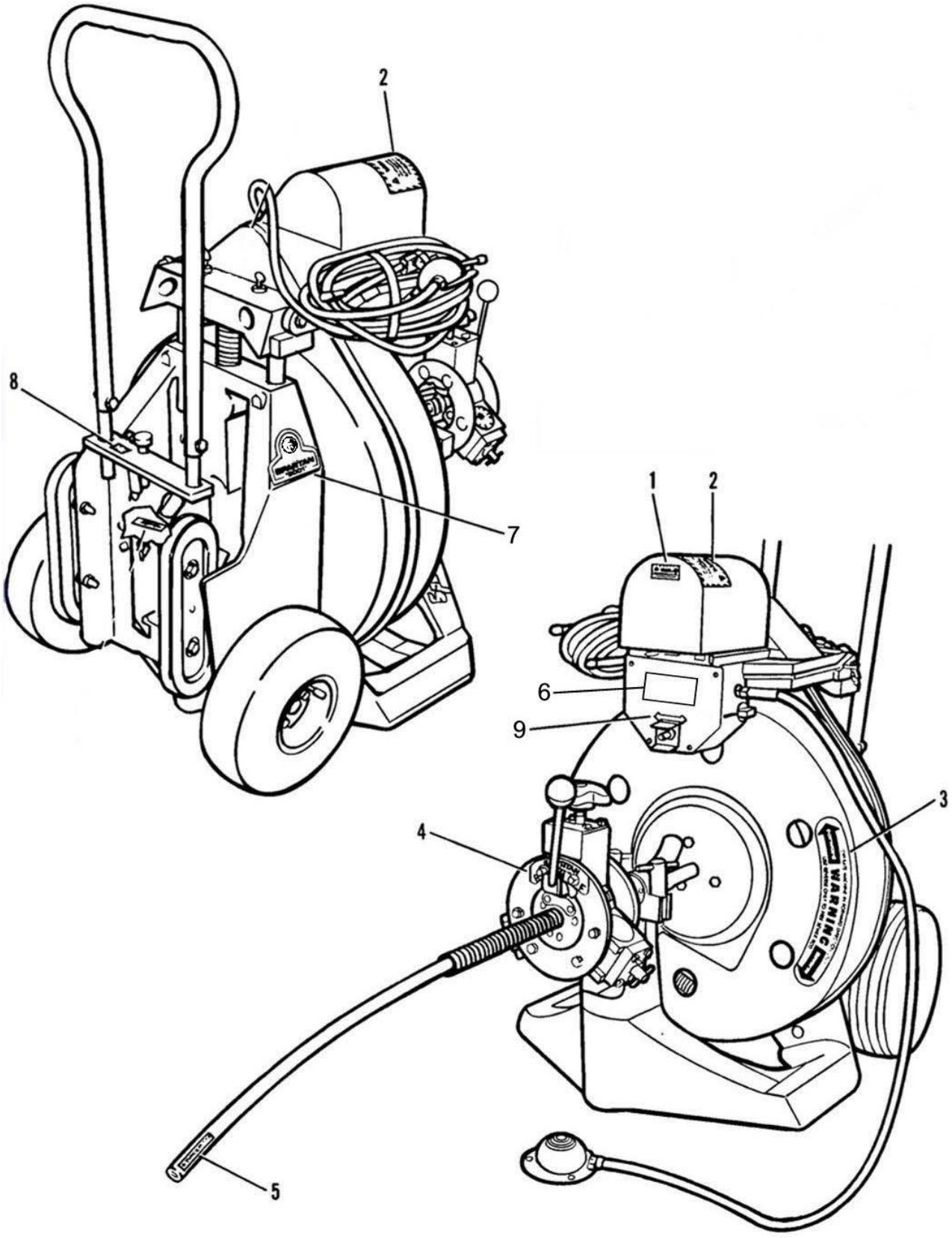
ITEM 8

ITEM 9

Item	Qty	Part Number
1	1	44228800
2	1	44228700
3	2	44219300
4	1	04220000
5	1	44228900
6	1	44290400
7	2	44219400
8	1	44229000
9	1	04714900

Decal Package (cont.)

44230600

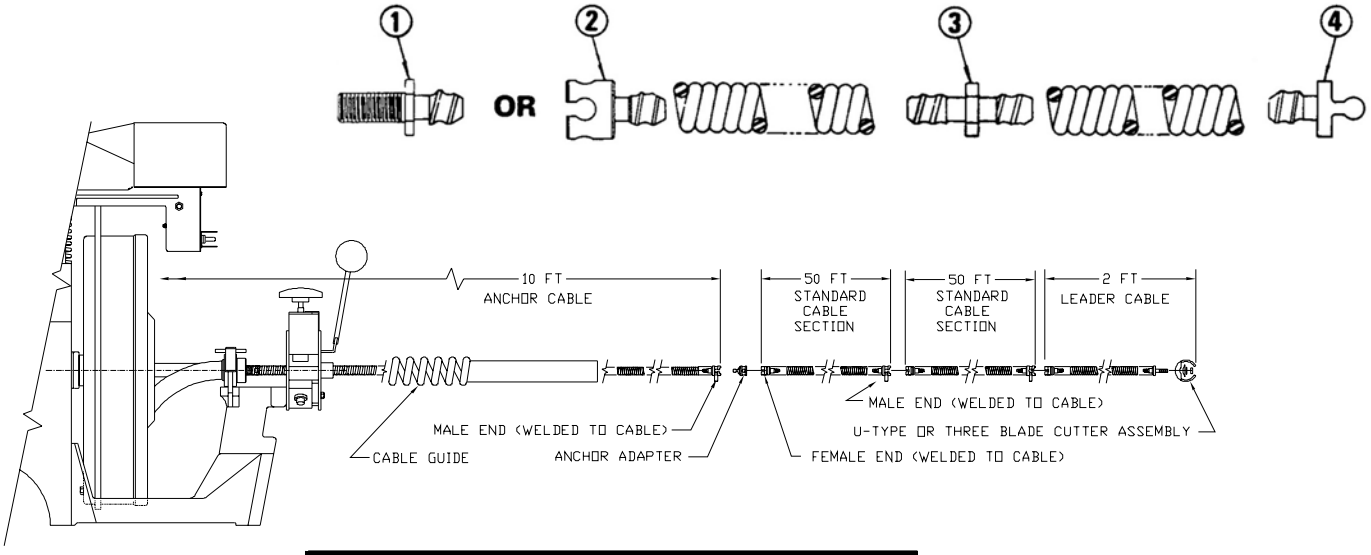


3/4” Cable for 2001

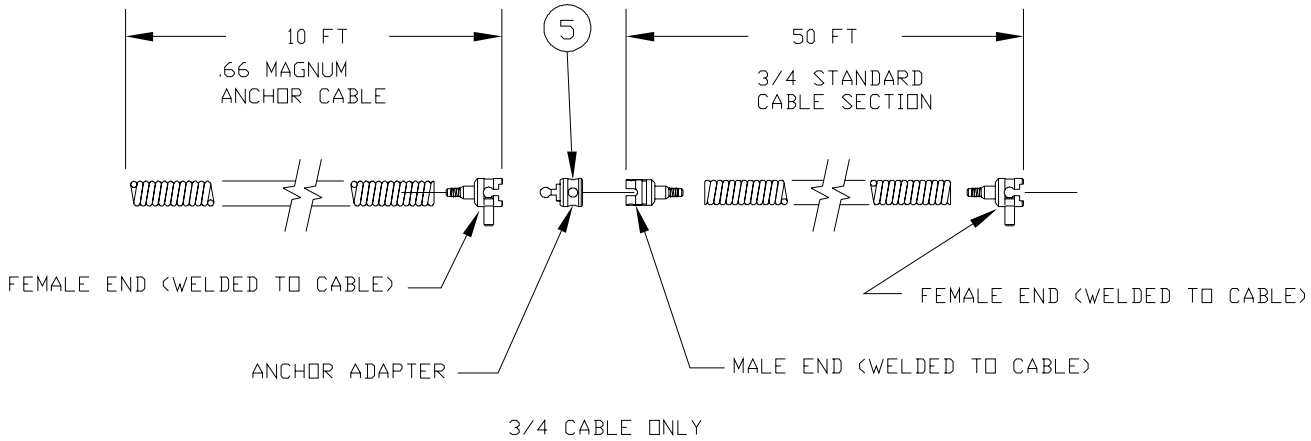
Spartan 3/4” Cable With and Without Inner-Core for Use in 3” to 10” Lines

Dia - Lth	3/4" Inner-Core Part No.	3/4" Sew er Cable w /o Inner-Core Part No.	3/4" No Tension Inner-Core (Loose Wound for "P" Traps) Part No.
3/4" x 25'	03442101	04209901	03442501
3/4" x 50'	03442102	04209902	03442502
3/4" x 75'	03442103	04209903	03442503
3/4" x 100'	03442105	04209905	03442505
3/4" x 110'	03442106	04209906	03442506
3/4 x 2'	04214010	Trap Leader	

Item No	Part No.	Description
1	02797100	Long Male Coupling
2	02788300	Female Coupling
3	02790600	Splicer
4	02795000	Male Coupling
5	44291500	Anchor Adapter



44292400 Universal Anchor Cable Assy .66-3/4		
1	44053300	.66 Expansion Pin
1	44053520	Anchor .66 x 10 Magnum
1	44291501	Adapter, Anchor .66 - 3/4
1	0281800	3/4 Expansion Pin

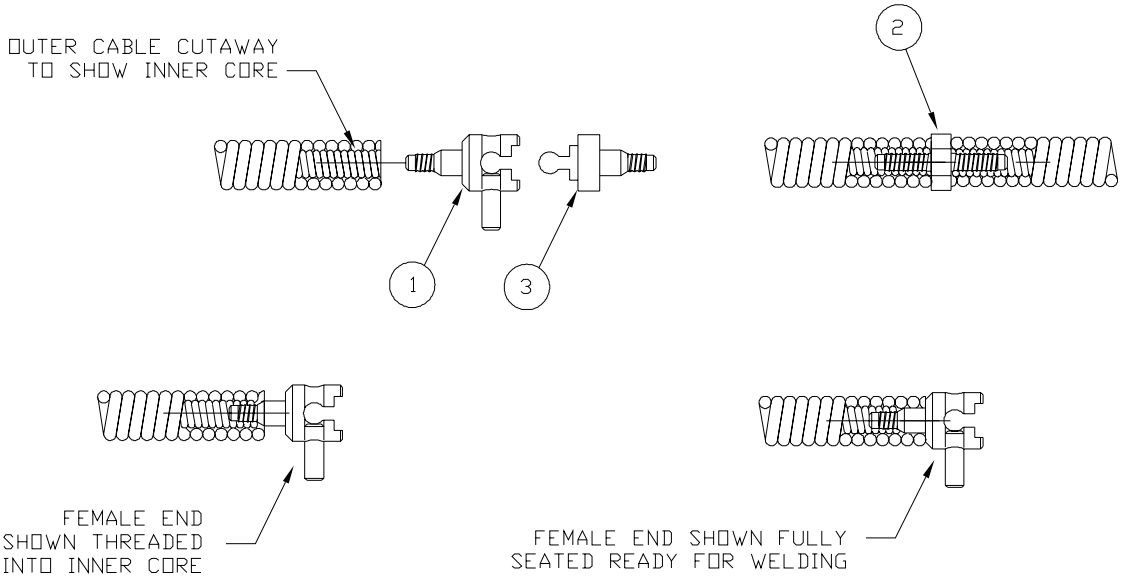


.66 Magnum Cable for 2001

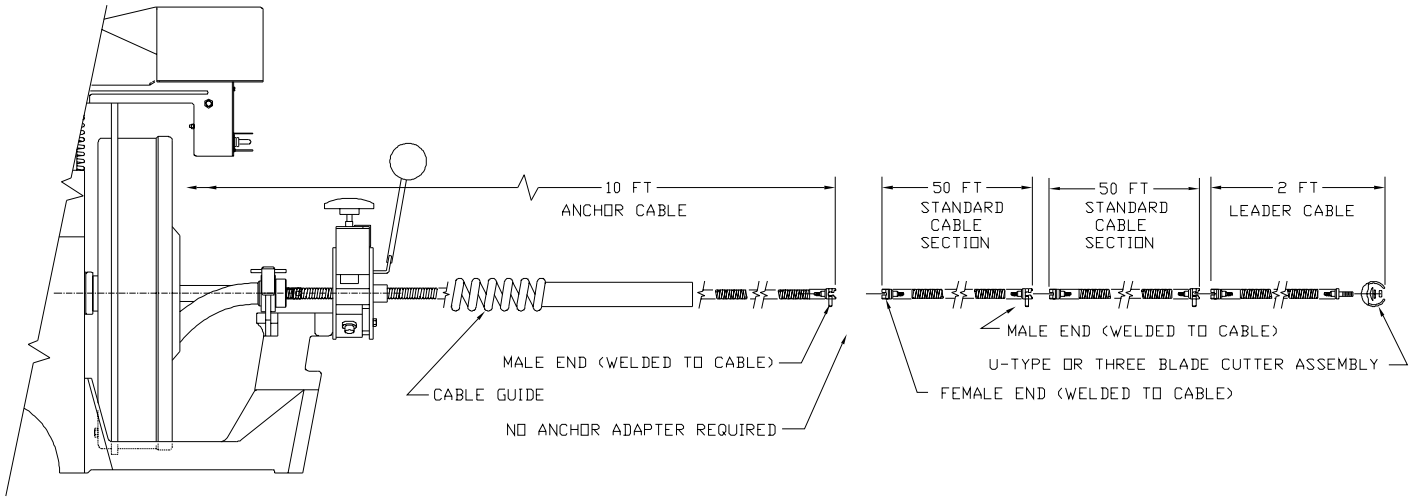
Spartan .66 Magnum Cable for Use in 3” to 10” Lines

Dia - Lth	Part No.
.66 x 25'	44053505
.66 x 50'	44053502
.66 x 10'	44053501
.66 x 2'	44074500

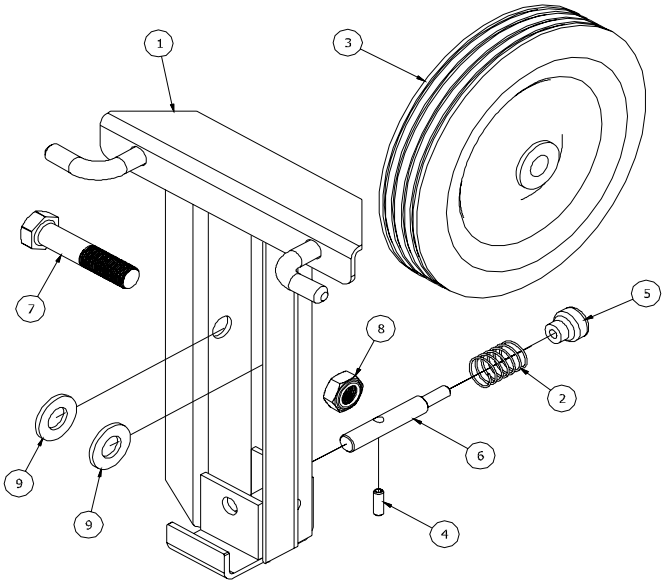
Item No	Part No.	Description
1	44120500	Female Coupling
2	44053400	Splicer
3	44120600	Male Coupling



NOTE: Couplings and splicer for .66 Magnum cable are ***not*** interchangeable with 3/4” or 5/8” Spartan cable connectors.



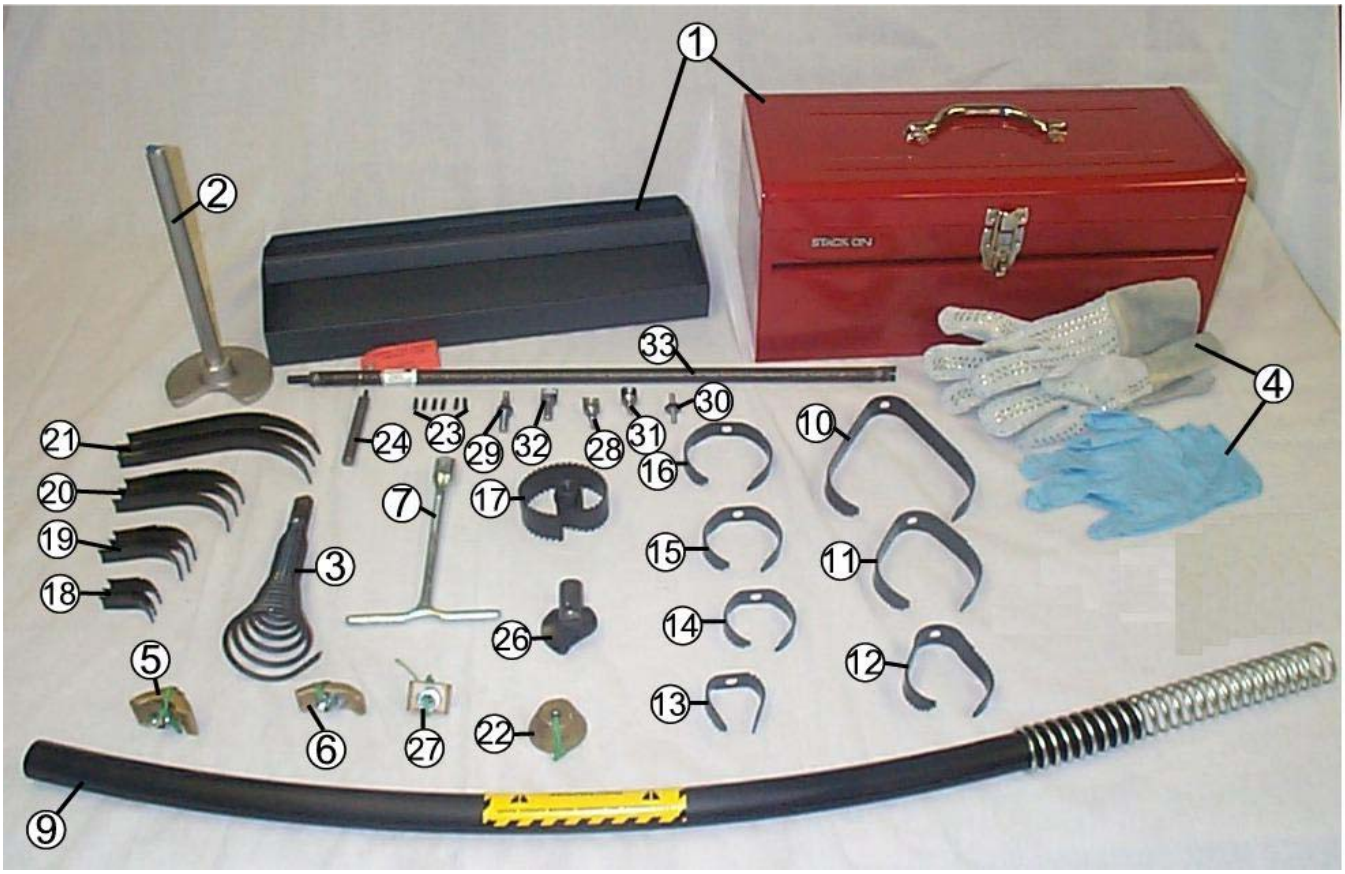
Compact Lift - Optional
02884900



Item	Part No	Req'd	Description
1	02888700	1	Rail & Hook Assembly
2	02888500	1	Spring
3	02811900	1	Wheel, Model 100/200
4	02821800	1	Pin, Roll 1/4 Dia X 3/4
5	03410500	1	Adjustable Knob
6	02887600	1	Locating Pin
7	02826200	1	Screw, Hex Hd 5/8-18 x 3
8	02821300	1	Stop Nut 5/8-18
9	00760400	2	Washer, Flat 5/8 SAE

Hoist Bracket Kit - Optional
44295910

Tool Box and Accessory Kit
44060700 (.66 Cable) - 04647000 (3/4 Cable)



Item No	Req'd Qty	Part No.	Description
		44060700	Tool Box & Assy Kit (.66)
		04647000	Tool Box & Assy Kit (3/4")
1	1	02752500	Tool Box
2	1	02883200	Cable Uncoupling Stand
3	1	02807700	Retriever
4	1	02893900	Glove (Pair)
5	1	02799400	3", 4"and 6" Blade Holder Assy
6	1	02799500	"P" Trap Blade Holder Assy
7	1	03406800	T Wrench
9	1	44225300	Cable Guide (Not Included In Tool Box)
10	1	02813500	6" Blade
11	1	02790900	4" Blade
12	1	02786600	3" Blade
13	1	02799000	2" Blade
14	1	03400600	2-1/2" Blade

Tool Box and Accessory Kit (cont)

Item No	Req'd Qty	Part No.	Description
15	1	02799100	3" "P" Trap Blade
16	1	02799200	3-1/2" "P" Trap Blade
17	1	02798700	4" Saw Blade
18	3	02799600	2" - 3 Blade Cutter
19	3	02791700	3" - 3 Blade Cutter
20	3	02791800	4" - 3 Blade Cutter
21	3	02870300	6" - 3 Blade Cutter
22	1	02797500	3 - Blade Holder Assy
23	6	44053300	Expansion Pin (.66)
23	6	02821800	Expansion Pin (3/4")
24	1	44054900	Pin Punch (.55 &.66)
24	1	02819100	Pin Punch (5/8" &3/4")
26	1	02798800	Spear Blade
27	1	02799300	2" and 2-1/2" Blade Holder Assy
28	1	44120600	.66 Male Coupling
28	1	02795000	3/4" Male Coupling
29	1	44120400	.66 Long Male Coupling
29	1	02797100	3/4" Long Male Coupling
30	1	44053400	.66 Splicer
30	1	02790600	3/4" Splicer
31	1	44120500	.66 Female Coupling
31	1	02788300	3/4" Female Coupling
32	1	44054800	.66 Double Male Coupling
32	1	04204100	3/4" Double Male Coupling
33	1	44074500	.66 x 2' (Trap Leader)
33	1	04214010	3/4" x 2' (Trap Leader)

Spartan Accessory Blades


02799000 2" U-Blade


02799100 3" P.-Blade


44261000 2" Double Cutter


03416600 3" Grease Blade


02786601 3" Half Blade


03400600 2 1/2" Blade


02799200 3 1/2" P-Trap Blade


02786600 3" U-Blade


03416700 4" Grease Blade


02790901 4" Half Blade


02799300
2 - 2 1/2" Blade Holder


02799500 P-Trap Blade Holder


44165200 4" Knife Blade


44006700 2 1/2" Round Cutter


02813501 6" Half Blade


02798800 Spear Blade


02807700 Retriever


02813500 6" U-Blade


44161300 3" Knife Blade

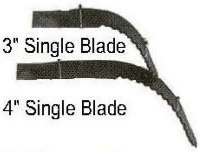

44052600 Boring Tool


03406800 T-Wrench


02798700 3 1/2" Saw Blade


02797500
Tri Blade Holder


02799600 2" Single Blade


02791700 3" Single Blade
02791800 4" Single Blade


02818400 8" U-Blade


02870300 6" Single Blade


02799400 3" - 4" - 6" Blade Holder

MODEL 75
Power Cable Feed Section

Operating & Maintenance Instructions

Power Cable Feed Section
Table of Contents

Introduction

The Spartan Tool Model 75 Power Cable Feed with “dial-a-cable” reflects the latest improvements in the marketplace. The operation, repair and maintenance of the Model 75 are simple to accomplish. These features allow a quick change for cable size and provide easy maintenance. The Model 75, which weighs just over 10 pounds, will feed and retrieve a cable up to 30 feet per minute.

A universal mounting plate allows adaptation to current Spartan Model 1065’s, 200’s, 300’s, and 100’s. (The Model 2001 does not need a mounting plate.) The power cable feed can be used on cable size from 5/16” through 3/4”.

Spartan Tool, L.L.C. strongly recommends the use of a Spartan Cable Safety Guide (44225300) with the Model 75 Power Cable Feed unit. (See Fig. 1) The Cable Safety Guide attaches to the front of the Model 75 unit, and is intended to help protect the operator from possible cable buckling and other hazards associated with handling rotating cable. Contact Spartan Tool, L.L.C. (800 435 3866) or www.spartantool.com with questions regarding the Cable Safety Guide.

Attaching the Cable Safety Guide To The Power Cable Feed

Disconnect the cable machine from its power source to avoid accidental starting. Pick up the Cable Safety Guide and place the spring against the hub on the Power Cable Feed and turn it counterclockwise until the spring rests against the plate behind the hub.

Reconnect the power by plugging in the machine. Insure the electrical switch on the machine is in the forward position. Insure the adjusting knob on the feed has been tightened until it makes contact with the cable. Place the lever (actuator assembly) midway between the “N” (Neutral) and “F” (Forward) position to allow the cable to enter the Cable Safety Guide slowly. Depress the foot pedal to engage the machine and allow the end of the cable to exit the Cable Safety Guide. Release the footpedal.

Disconnect the machine from its power source, and attach the selected tool to the cable. Move the machine as close to the entry point of the pipe as possible. The end of the Cable Safety Guide and attachment should be within inches of the pipe. Reconnect the power.

Warning: Unexpected machine start up can cause death or severe injury.

Disconnect the machine from its power source before installing, servicing or removing the Power Cable Feed, Cable Safety Guide, cable tools and cutters, or other machine components.

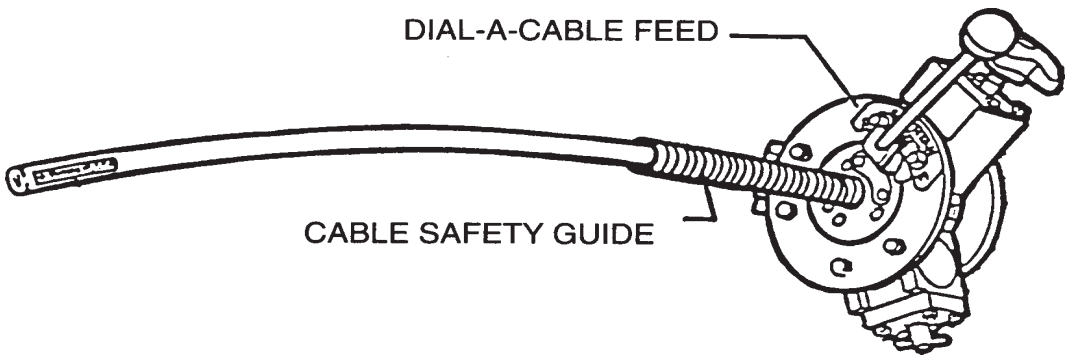


Fig. 1

Setting Your Spartan Power Cable Feed for Cable Size

(Refer to Fig. 2 for details)

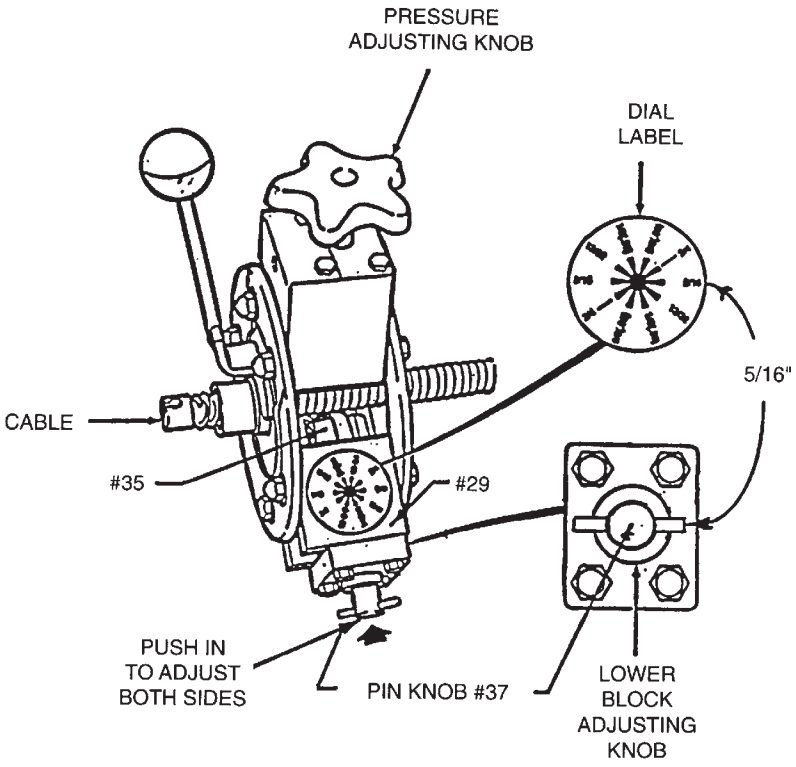


Fig. 2

To adjust for cable size, push in on the pin knob (#37) located on the bottom of the bearing blocks (#29) to unlock from setting. Turn pin knob right/clockwise and pull out. As each cable setting is reached the knob can be felt locking in. The body assembly (#35) will move in for smaller cable diameters and out for the larger diameter. As a starting point, push in and turn the pin knob so the pin in the knob is horizontal (in line with the cable). This setting should match the dial label for 5/16" cable setting. (The figure in the center of the dial label indicates pin knob setting if viewed from the block end.) The body assembly should be in to it's farthest point. Now, by pushing in and turning the pin knob right/clockwise pulling out at the next step should lock into the 13/32" setting, the next 1/2", etc. The body assembly will become longer with each rotational movement until returned to the 5/16" setting (horizontal). Rotating your Dial-A-Cable through the various settings and matching the dial label will make it easy to adjust cable size by feel.

Follow the chart (Fig. 3) to set your Dial-A-Cable for the cable size you have selected. Make sure both right and left block settings are the same.

Cable Diameter (Inches)	Set Power Cable Feed
5/16"	5/16"
3/8" or 13/32"	13/32"
1/2" or .55"	1/2"
5/8" or .66"	5/8"
3/4"	3/4"

Fig. 3

Model 75 Universal Power Feed
04221000

(Universal Unit Fits 100-200-300-1065 Machines)

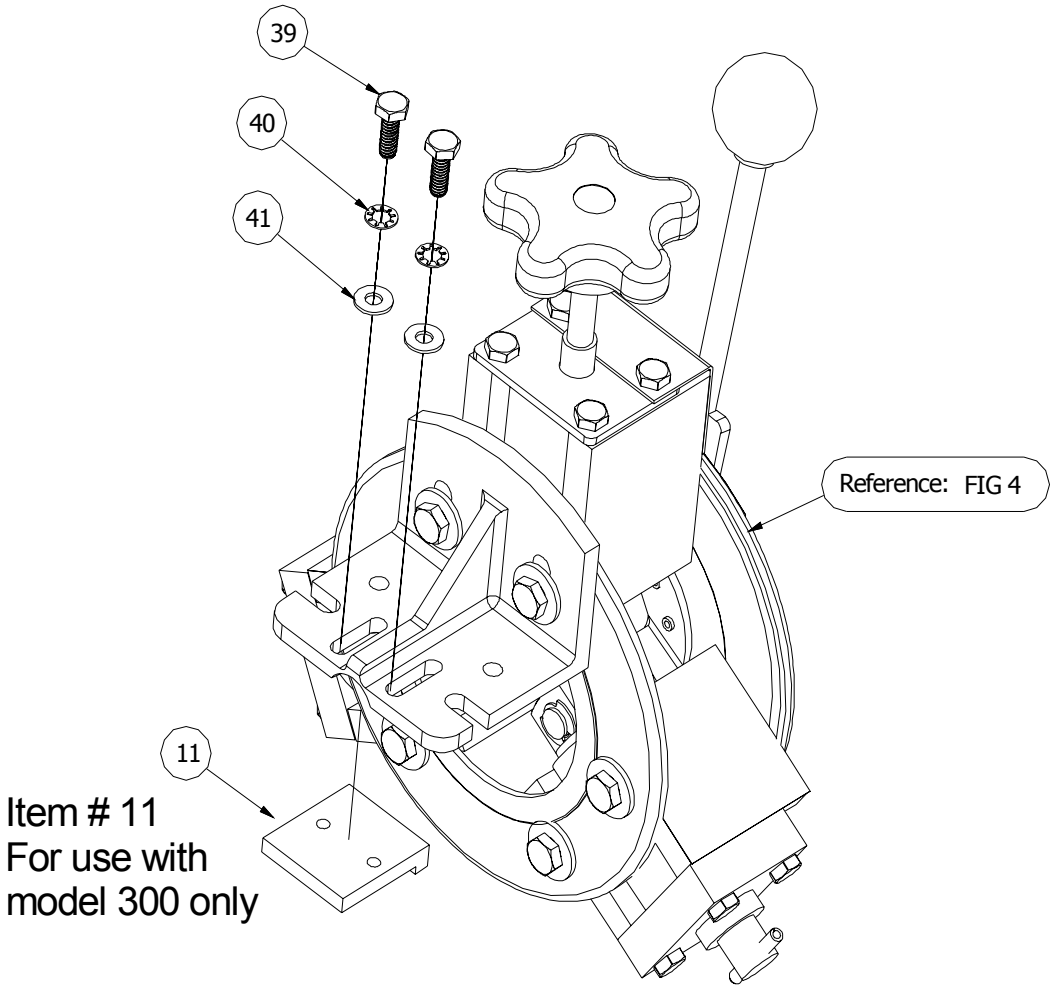


Fig. 14

ITEM	QTY	PART NUMBER	DESCRIPTION
11	1	03409000	Bushing Lock
39	2	00113600	Screw, Hex Hd 1/4-20 x 3/4
40	2	00162400	Washer, Flat 3/16 USS
41	2	00167000	Lockwasher, Internal Tooth
FIG 4	1	04217500	Power Feed Model 75

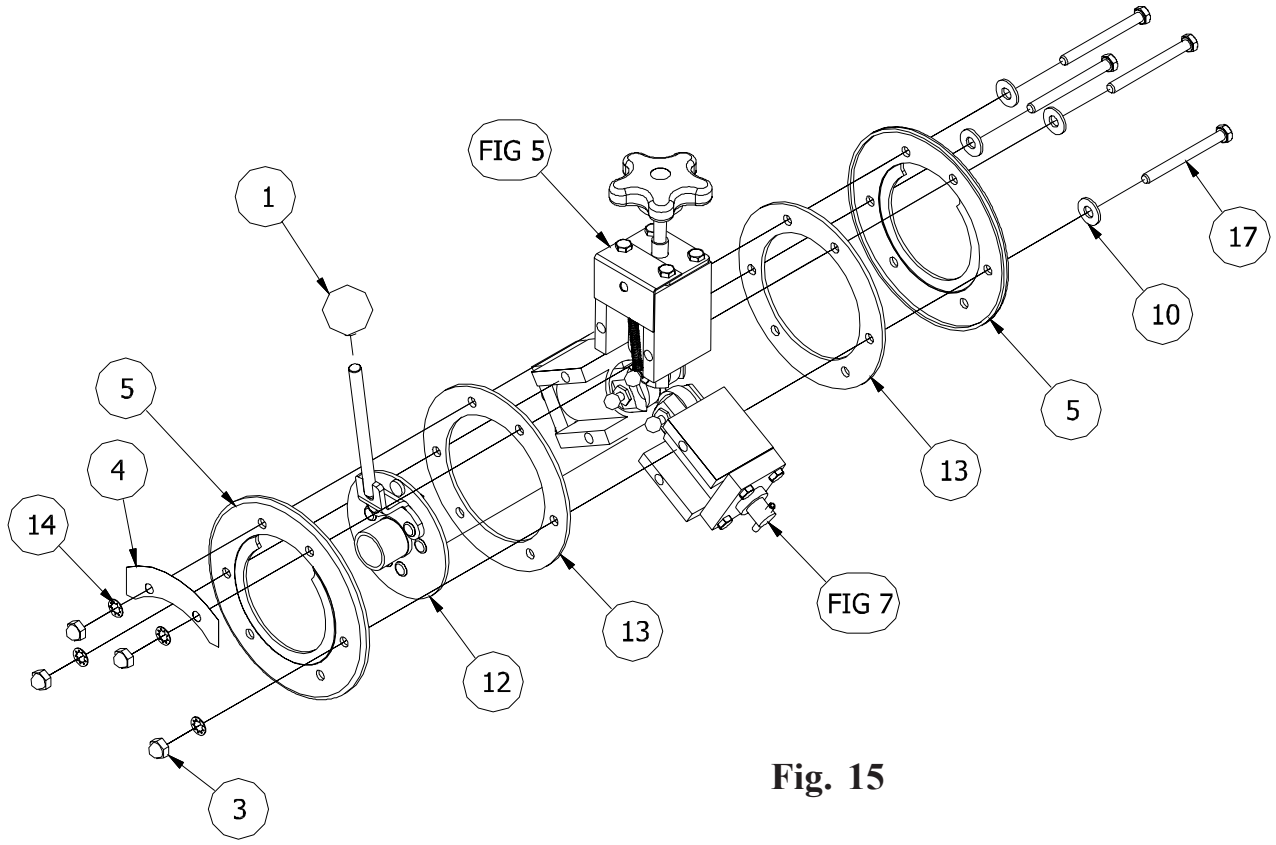


Fig. 15

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	02856900	KNOB
3	4	04134900	NUT ACORN CAP 5/16-18
4	1	04220000	DECAL BRG PLATE MOD 75 FEED
5	2	44224100	BEARING PLATE
10	4	00162600	WASHER, FLAT 5/16 USS
12	1	44223900	2001 ACTURATOR ASSY
13	2	04218300	PLATE STATIONARY 75 FEED
14	4	00167100	INTERNAL TOOTH LOCKWASHER
17	4	00480300	SCREW, HEX HD CAP 5/16-18x3-1/4
38	2	44220100	DIAL A CABLE LABEL
FIG 5	1	04224000	BEARING BLOCK ASSY - LONG
FIG 7	2	44219900	BEARING BLOCK ASSY - SHORT

Power Feed Assembly
04217500

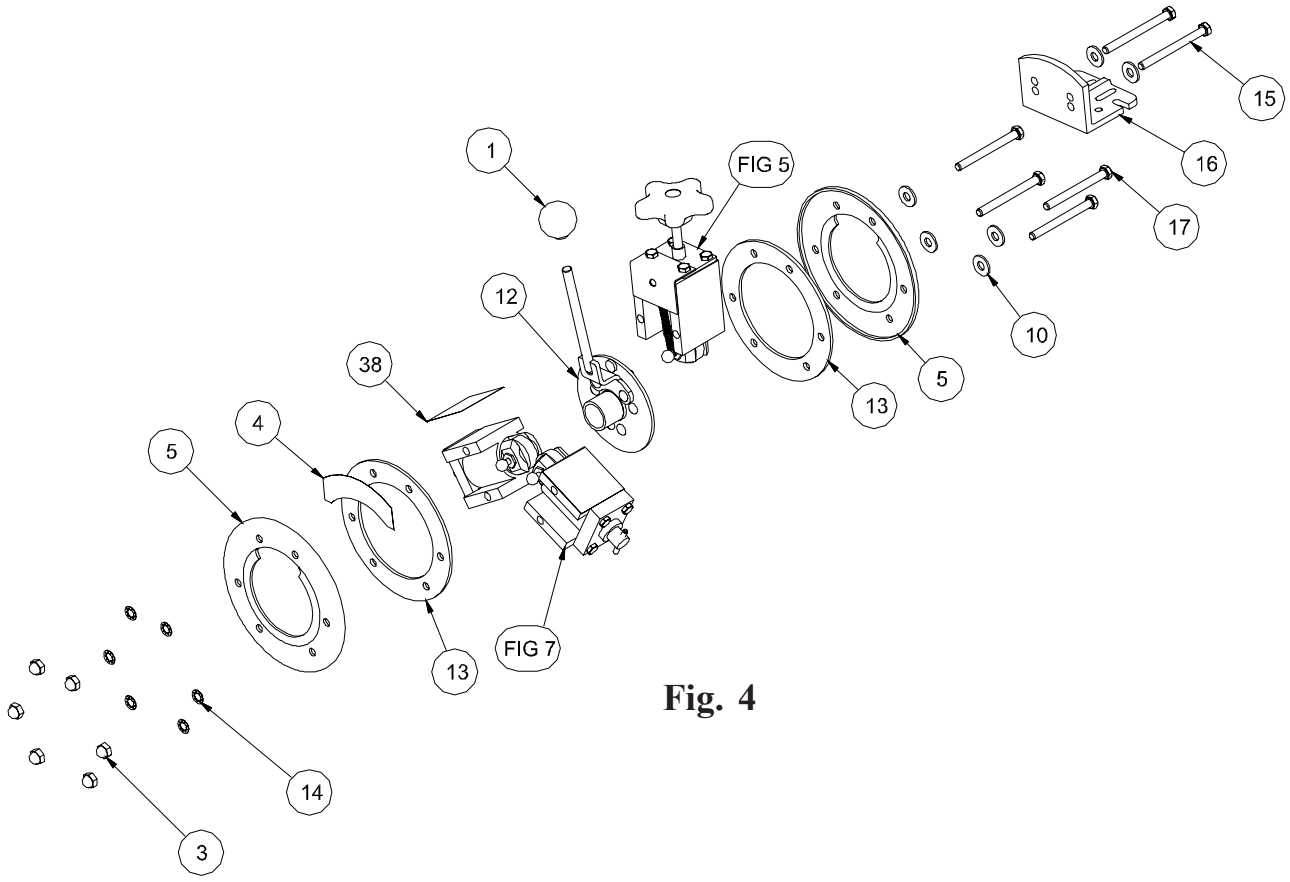


Fig. 4

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	02856900	KNOB
3	6	04134900	NUT ACORN CAP 5/16-18
4	1	04220000	DECAL BRG PLATE MOD 75 FEED
5	2	44224100	BEARING PLATE
10	6	00162600	WASHER, FLAT 5/16 USS
12	1	44223900	2001 ACTURATOR ASSY
13	2	04218300	PLATE STATIONARY 75 FEED
14	6	00167100	INTERNAL TOOTH LOCKWASHER
15	2	00169500	SCREW, HEX HD CAP 5/16-18x3-1/2
16	1	44249900	MOUNTING PLATE, MODEL 300/1065
17	4	00480300	SCREW, HEX HD CAP 5/16-18x3-1/4
38	2	44220100	DIAL A CABLE LABEL
FIG 5	1	04224000	BEARING BLOCK ASSY - LONG
FIG 7	2	44219900	BEARING BLOCK ASSY - SHORT

Bearing Block Assy (Long)
04224000

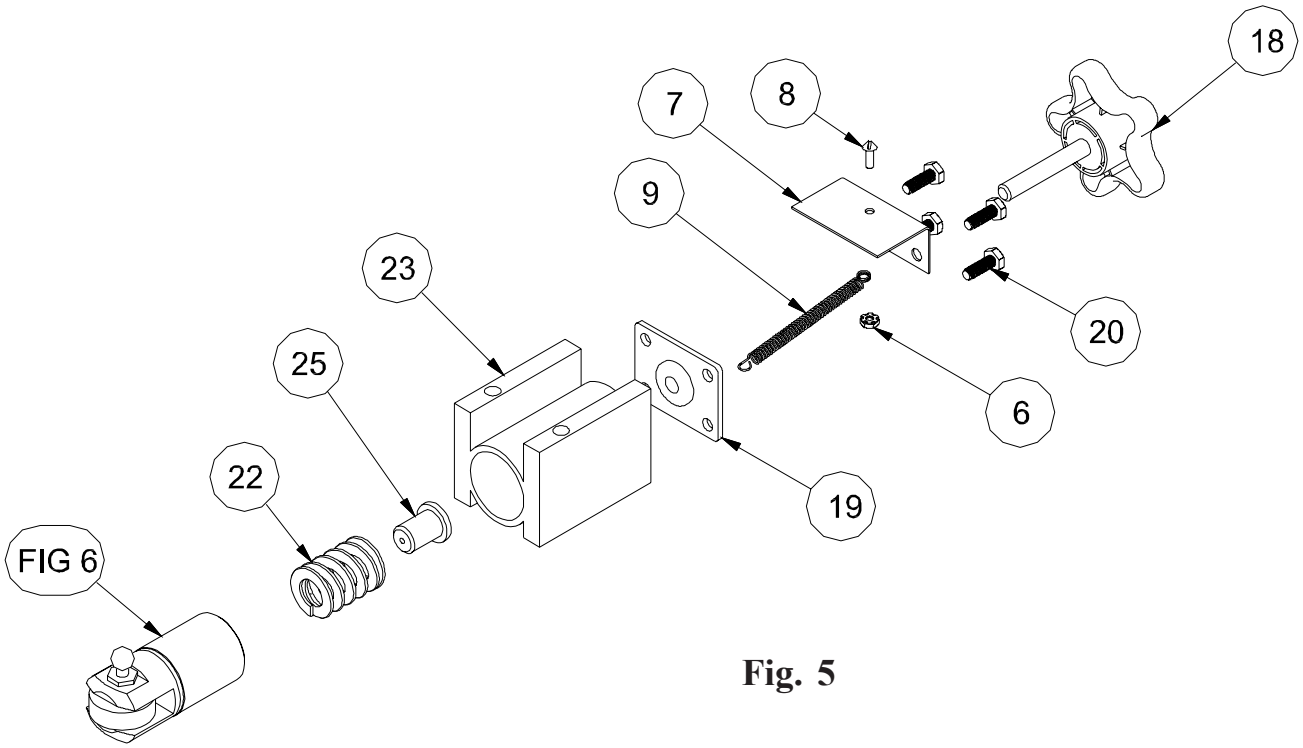


Fig. 5

ITEM	QTY	PART NUMBER	DESCRIPTION
6	1	03312001	Nut Kep #8-32 Zinc Plated
7	1	44221900	2001 Cover Spring
8	1	01921801	Screw, Mach Rd Hd Sl 8-32 x 1/2
9	1	44230100	2001 Spring Feed Ext
18	1	03415800	Knob and Screw Assy
19	1	04219000	Cap End Weld Assy 75
20	4	00113700	Screw, Hex Hd 1/4-20 X 3/4
22	1	04220100	Spring Hvy Duty Mod 75 Feed
23	1	04217900	Block Bearing Long Mod 75 Feed
25	1	03415700	Bushing & Ball Assembly
FIG 6	1	44119600	Wheel Carrier Body Comp (Long)

Bearing Block Assy (Short)
44219900

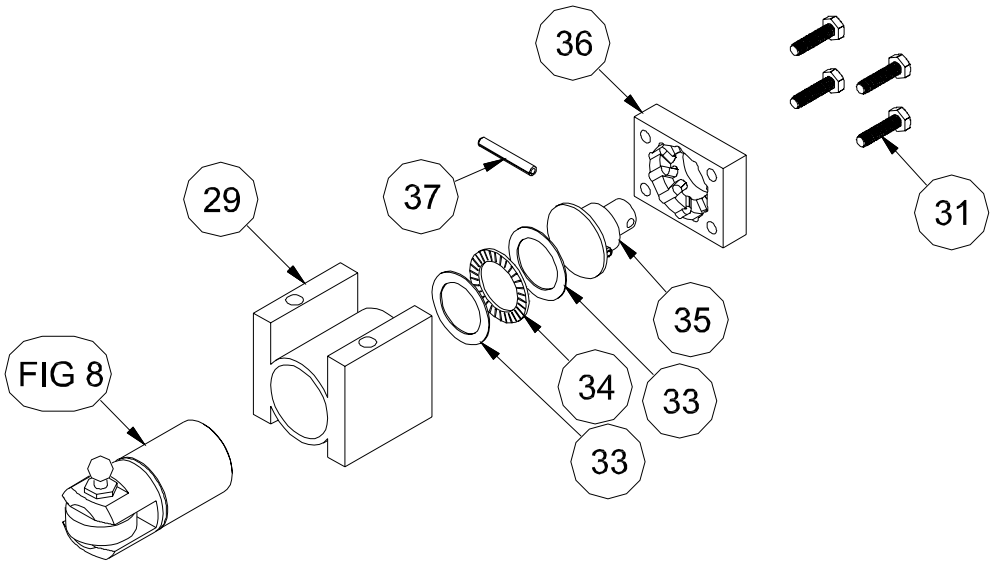


Fig. 7

ITEM	QTY	PART NUMBER	DESCRIPTION
29	1	04217800	Block Bearing Short Mod 75 Feed
31	4	00113901	Screw, Hex Hd 1/4-20 x 1
33	2	04219600	Thrust Race
34	1	04219500	Thrust Bearing
35	1	44222100	2001 Knob
36	1	44213800	Dial A Cable Block
37	1	44222200	Roll Pin 2001
FIG 8	1	44119700	Wheel Carrier Body Comp (Short)

Wheel Carrier Body Comp (Long)
44119600

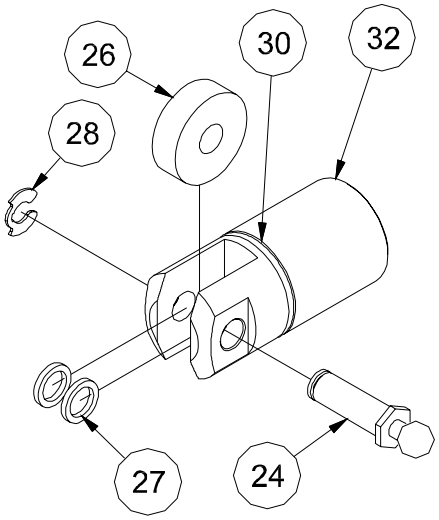


Fig. 6

ITEM	QTY	PART NUMBER	DESCRIPTION
24	1	04217700	Pin Drive Mod 75 Feed
26	1	04219700	Bearing Drive Mod 75 Feed
27	2	04219800	Washer 75 Feed Stainless
28	1	04219900	Ring Retaining-External
30	1	44250200	O-Ring Seal, Wheel Carrier
32	1	04218400	Body Wheel Carrier w/ Hole Long (Includes item 30)

Wheel Carrier Body Comp (Short)
44119700

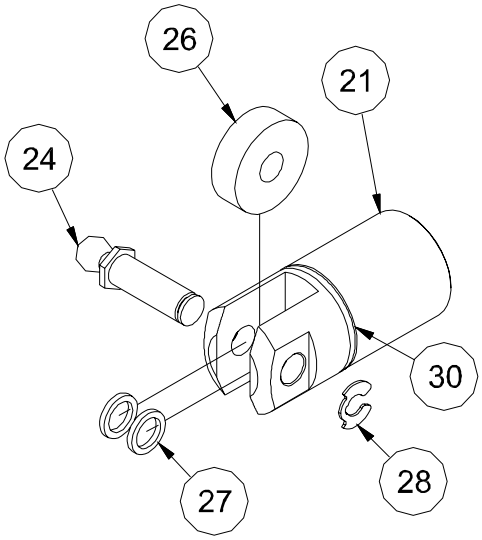


Fig. 8

ITEM	QTY	PART NUMBER	DESCRIPTION
21	1	04218500	Body Wheel Carrier w/ Hole Long (includes item 30)
26	1	04217700	Pin Drive Mod 75 Feed
27	1	04219700	Bearing Drive Mod 75 Feed
28	2	04219800	Washer 75 Feed Stainless
24	1	04219900	Ring Retaining-External
30	1	44250200	O-Ring Seal, Wheel Carrier

Installation Instructions for Model 1065 & 2001

(See: Fig. 4 and Fig 5)

The following instructions are for manual machines, delete step 1 through 4 when replacing older power feed units.

1. Remove set collar on distributor arm and remove bearing assembly by removing screw in bottom.

2. Install new thrust bearing (inner race facing forward) on distributor arm.

3. Install new bearing assembly on distributor arm with swing bolts forward. Replace bottom screw and lockwasher, push bearing assembly back against thrust bearing and tighten lower screw.

4. Replace set collar and tighten.

   ATTENTION Model 1061 users only: Replace upper front casting assembly with 03414700.

5. Set Dial-A-Cable adjusters for 3/4" cable size (full open) and turn knob #18 counter clockwise (left) to raise upper wheel carrier. Place actuator handle #12 to "N" neutral position.

6. Place cable through back of power feed while sliding power feed unit over cable into proper position on new bearing assembly. Bring swing bolts up into slots on universal mounting plate #16 and tighten hand tight.

7. Position cable forward to the point where the smallest diameter of cable will come in contact with the drive bearings, adjust your Dial-A-Cable for your cable size. Turn knob #18 clockwise (right) until contact is made with drive bearing.

8. Apply grease through grease fitting on bearing assembly. Installation is complete. Refer to operating instructions for safe operation.

   Special Note: 2001 Dial-A-Cable Power Feed Replacement. When Replacing Dial-A-Cable power feed unit on 2001 machines, the two (2) long screws #15 must be used for old unit.

Installation Instructions For Model 300

(See: Fig. 4, Fig. 5 & Fig 14)

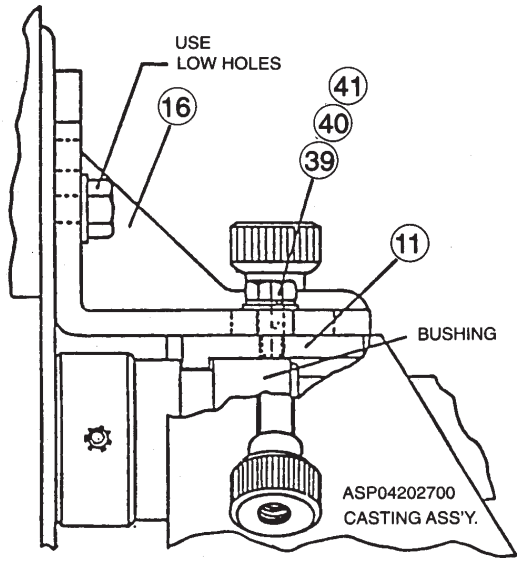


Fig. 9

The following instructions are for manual machines, delete step 1 through 3 when replacing older power feed units.

1. Remove upper front casting assembly.

2. Install new upper front casting assembly (04202700).

3. Install busing lock (#11) to mounting plate (#16) on drive unit. Use items #39, 40, and 41. Position as per Fig. 5. Place screws in bushing lock ***finger tight only.***

4. Set Dial-A-Cable adjusters for 3/4" cable size (full open) and turn knob (#18) counter clockwise (left) to raise upper wheel carrier. Place actuator handle (#12) to "N" neutral position.

5. Place cable through back of power feed while sliding power feed unit over cable into proper position on upper front casting assembly. Make certain lip of bushing lock engages slot in distributor arm bushing (Fig. 9). Swing up clamps on upper front casting into slots provided on mounting plate lock down tight. Now, tighten bushing lock screws.

6. Position cable forward to the point where the smallest diameter of cable will come in contact with the drive bearings, adjust your Dial-A-Cable for your cable size. Turn knob (#18) clockwise (right) until contact is made with drive bearing.

7. Installation is complete. Refer to operating instructions for safe operation.

Installation Instructions For Model 100

(See: Fig. 4 and Fig. 5)

The following instructions are for manual machines, delete step 1 through 3 when replacing older power feed units.

1. Remove mounting plate (#16) from Dial-A-Cable power feed and reposition bolts in upper holes in (#16) plate.

2. Remove thumb screws and latch assembly from trunnion on machine.

3. Position drum into place on power drive unit.

4. Set Dial-A-Cable adjusters for 3/4” cable size (full open) and turn knob (#18) counter clockwise (left) to raise upper wheel carrier. Place actuator handle (#12) to “N” neutral position.

5. Slide Dial-A-Cable power feed unit over cable end. Position mounting plate on trunnion using the two (2) round holes and locking in place with the two (2) thumb screws removed in step 2. Tighten securely.

6. Position the cable forward to the point where the smallest diameter of cable will come in contact with the drive bearings, adjust your Dial-A-Cable for your cable size. Turn knob (#18) clockwise (right) until contact is made with drive bearing.

7. Installation is complete. Refer to operating instructions for safe operation.

Operating Instructions For Model 75 Dial-A-Cable Power Feed

(See: Fig. 4, Fig. 5, Fig. 6 & Fig. 8)

WARNING! Follow all safety instructions as outlined in your operator's manual supplied with your machine. If a new operator manual is required, contact Spartan Tool (800-435-3866) or download it at www.spartantool.com.

The following instructions refer to the use of the Spartan cable safety guide (44225300) (Fig. 1) which we recommend for safer operation. Always wear Spartan riveted gloves when operating machines.

Upon completion of installation instructions for your machine and before actual sewer cleaning, it is recommended you become familiar with your power feed operation. By moving the actuator assembly (#12) by use of the knob (#1) you will note the wheel carrier blocks (#21) and (#32) will turn. When the drum and cable are rotating the movement will feed the cable in and out by the slanting of the drive bearings (#26). The decal (#4) on the front bearing plate (#5) is marked from left to right "R" (reverse), "N" (neutral), and "F" (forward).

1. Place the actuator handle to the midway point between "N" and "F" on the name plate.

2. No cutter should be attached to the cable at this time.

3. The forward/reverse electrical switch should be placed in the forward "F" with the machine plugged in to a power supply. **Note:** If drum rotation is reversed, feed of cable will be reversed.

4. Momentarily step on foot switch and check machine rotation. Drum and cable should rotate left or counter clockwise from cable end of machine.

WARNING! Use care when performing the next operation as cable will be fed out and if allowed to feed too long may whip. Do not feed cable out more than 12 inches from feed unit.

5. With left hand on actuator assembly knob and right hand on adjusting knob #18, step on footswitch and slowly tighten (turn clockwise) knob #18. When cable is driving steadily forward, stop turning knob. Move actuator assembly knob to "R" position on name plate and cable should now retrieve. Cable movement will stop feeding in or out when actuator assembly knob is placed in the "N" position. You will note the farther the actuator assembly knob is moved to the forward or reverse position, the faster the cable will move out or in.

Cleaning Operation

WARNING! Make sure to keep downward pressure on the cable safety guide at all times since flexible cable is subject to buckling under high torque conditions.

If cable slips or whenever a stoppage is encountered, knob #18 may be tightened down until cable is moving steadily. Caution! Do not tighten knob anymore than is necessary to cause cable to move in a steady motion in or out. Excessive tightening may damage cable or feed unit or overload motor. If at any time when cable is feeding into sewer line and torque build-up occurs, immediately move actuator control handle to the “R” (reverse) position to pull cable back. As soon as torque is relieved, move handle again to the “F” (forward) position. Repeat until stoppage is cleared.

Note: The electrical switch is to be placed in the reverse position for a few seconds only to release an entangled blade or to negotiate a difficult turn or trap. Never continue operating the machine in the reverse position. The cable may exit the drum prematurely causing injury.

How To Disassemble and Reassemble Model 75 Power Feed Unit

1. Remove top two (2) acorn nuts #3 from screws #15 that holds feed unit to mounting plate #16. (On 2001 unit, remove two (2) #15 screws at bottom that holds feed unit to upper front casting).

2. Remove feed unit from mounting screw #15 by pulling forward.

3. Lay unit flat on back.

4. Remove remaining acorn nuts #3.

5. Remove bearing plate #5 (with decal).

6. Remove handle assembly #12.

7. Remove stationary plate #13.

8. Remove the two (2) short bearing blocks #29 as assemblies.

9. Remove the long bearing block #23 as an assembly.

10. Remove bottom stationary plate #13.

11. Remove back bearing plate #35 (without decal).

Disassembly of Short Bearing Blocks

(See: Fig.10 and Fig. 11)

1. Pull wheel carrier bodies #21 from blocks #29.
2. Remove the two (2) thrust races #33 and one (1) thrust bearing #34 from each unit.
3. Remove four screws #31 holding Dial-A-Cable assembly #35, 36, and 37 to bearing block #29. (Do not disassemble unit)
4. Remove retaining rings #28 from drive pins #24 and pull pins from carrier bodies #32. This will release the drive roller #26 and two (2) spacers #27. Remove “O” ring #30 from carrier body grooves, use care not to damage same.

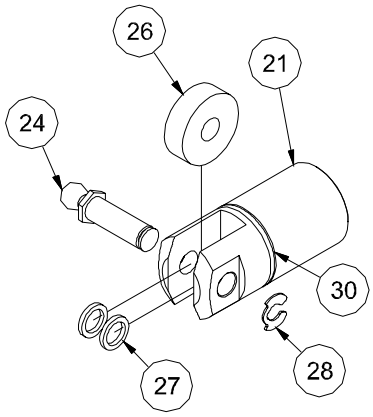


Fig. 10

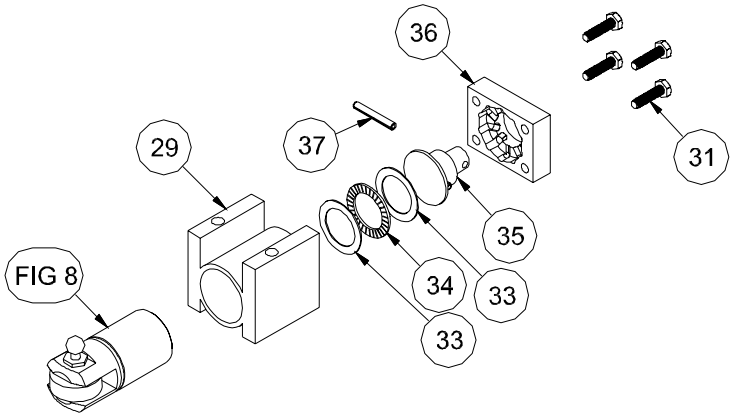


Fig. 11

Disassembly of Long Bearing Blocks

(See: Fig.12 and Fig. 13)

1. Remove the two (2) screws #20 holding spring cover #7 to top of long bearing block #23. Leave remaining two (2) screws.

2. Pull wheel carrier body #32 from block #23 with cove #7 and spring #9 attached.

3. Remove spring #22 and ball and bushing assembly #25 from long wheel carrier body.

4. Remove retaining ring #28 from drive pin #24 and pull pin from carrier body with feed spring and cover attached. This will release the drive roller #26 and two (2) spacers #27. Remove “O” ring #30 from carrier body groove, use care not to damage same.

5. Unscrew knob #18 and remove two (2) remaining screws #20 from end cap #19.

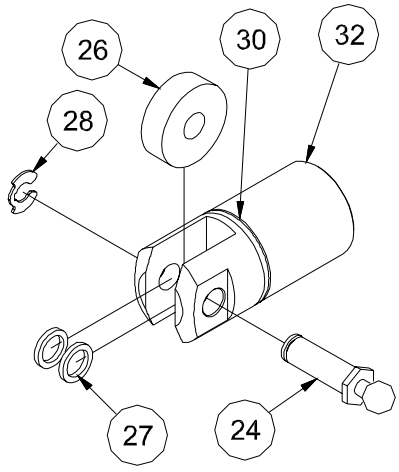


Fig. 12

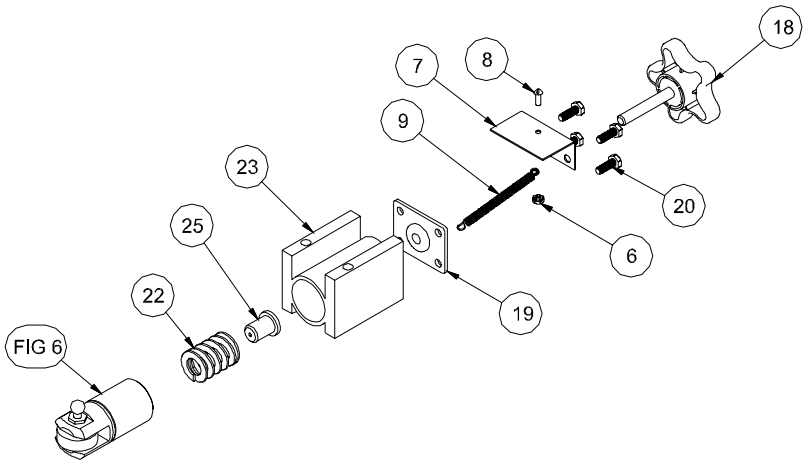


Fig. 13

Cleaning and Lubricating Instructions

WARNING!

The cleaning of parts in this instruction section recommends the use of kerosene for parts cleaning which is combustible and care should be used. Always work in a well ventilated area away from fire or open flame. When parts cleaning, always wear eye protection, rubber gloves and plastic or rubber apron. When cleaning of parts is complete dispose of all cleaning rags and waste cleaner in proper manner. NEVER USE GASOLINE OR ANY OTHER HIGHLY COMBUSTIBLE SUBSTANCE FOR CLEANING PARTS.

After unit disassembly, all parts with the exception of the drive rollers #26 and “O” rings #20 should be soaked and cleaned in kerosene to remove grease and grime. Wipe parts and allow to dry completely before lubricating in assembly. Drive rollers #26 and “O” rings #30 should be wiped clean only and not placed in cleaner. Rollers are prelubricated and sealed if drive bearings are rough turning or frozen and don’t turn, replace with new parts. We recommend the purchase of three (3) extra drive bearings #26 and three (3) extra “O” rings for replacement when necessary.

Lubrication of drive parts should be done as parts are reassembled. We recommend using a multipurpose lithium grease NLGI #2 which is water resistant and is available in tubes and aerosol cans.

Re-Assembly of Short Bearing Blocks

1. Replace “O” rings #30 into groove in short wheel carrier block #21. (Spring bottom on block)

2. Place drive wheels #26 in short blocks. BE SURE SPACERS #27 ARE ON EACH SIDE OF WHEEL. Slip drive pin #24 through hole and replace retaining ring #28.

3. Lubricate inside cylindrical section of short bearing blocks #29, covering inside wall with thin film of grease.

4. Lubricate “O” rings and lower section of wheel carrier blocks #21 and slide wheel carrier assembly into blank unthreaded end of short bearing blocks until drive wheel cut-out is flush with top of bearing block allowing room for thrust bearing.

5. Turn assembly over and place one (1) race #33 on bottom. Lubricate thrust bearing #34 and place on top of race. Place second race on top of thrust bearing.

6. Place Dial-A-Cable block assembly #36 on bottom of short bearing block. Insert four (4) long hex screws #31 through holes and screw into block, tighten hex screws securely. Assembly is complete.

Re-Assembly - Long Bearing Blocks

1. Replace “O” rings #30 into groove in long wheel carrier block #32. (Spring hole in bottom)

2. Lubricate inside cylindrical section of long bearing block #23. Install end cap #19 on end of long bearing block with two (2) short screws #20. Place these screws in the short rib side of the bearing block.

3. Lubricate “O” ring #30 and lower section of wheel carrier block #32. Install spring #22 into spring hole and install bushing and ball assembly #25 into spring. Slide wheel carrier unit into bottom of long bearing block.

4. Lay bearing block on bench with short rib side down. Place drive wheel #26 into end of wheel carrier block. BE SURE SPACERS #27 ARE ON EACH SIDE OF WHEEL.

5. Place drive Pin #24 (which has spring and cover attached) through hole and replace retaining ring #28.

6. Drive pin #24 should now be centered between the two (2) long ribs on the bearing block to allow spring #9 to lay between ribs.

7. Pull cover #7 up and place over end cap #19 attach with remaining two (2) short screws. Tighten all screws securely.

8. Replace knob #18 in end cap #19.

Cable Safety Guide Instructions

The Spartan Tool Cable Safety Guide has been designed to improve the operational safety. It's purpose is to prevent direct contact with the rotating cable. To install, place the spring end of the Cable Safety Guide against the hub of the power feed and rotate it counterclockwise under pressure until the spring rests against the wall of the Actuator Assembly.

Figure 1 illustrates the proper positioning and appropriate safety gear when using the machine and Cable Safety Guide:

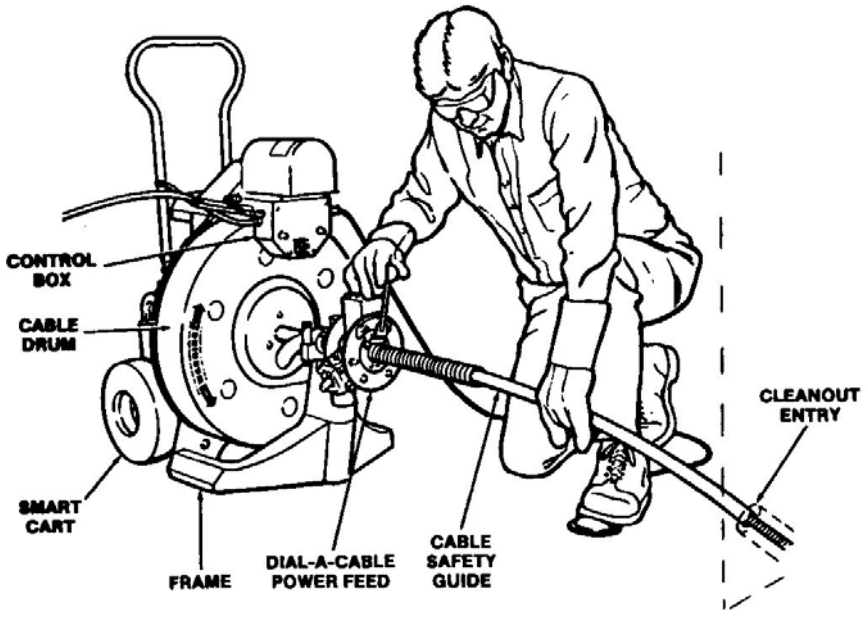


Figure 1

WARNING

Read the appropriate "Operating & Safety Instructions" before operating any Spartan Tool machine. Sewer cleaning can be dangerous if precautions are not taken and rules are not followed.

Before using the machine, make sure the operator's switch is in the "forward" position. [The drum will rotate clockwise when standing behind the machine.]

WARNING

If the operator's switch is in the "Reverse" position, the power feed will operate counter to the labeling on the power feed - "Reverse" will move the cable forward and "Forward will retrieve the cable.

Cable Safety Guide Instructions (cont)

The length of the Cable Safety Guide is the correct distance the machine should be located from the pipe opening. If the machine cannot be located as prescribed, precautions must be taken. A pipe section must be placed in the area between the “cleanout entry” and the end of the Cable Safety Guide to avoid injury.

WARNING

A distance exceeding of 3' between the machine and the pipe opening may cause personal injury from a rotating, swinging cable, if precautions are not taken.

If a “cleanout” is positioned on a wall, then the machine should have support legs, found in the tool box, positioned as in Figure 2. Ensure the appropriate pipe section is placed between the Cable Safety Guide and the Cleanout Entry to avoid injury.

WARNING

Make sure to keep downward pressure on the Cable Safety Guide to keep slack from developing on the cable to prevent looping.

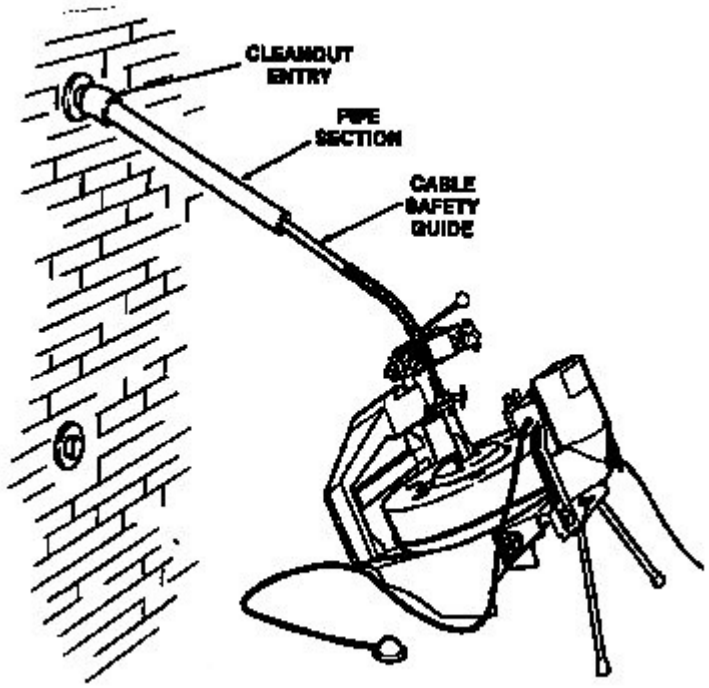


Figure 2

ONE YEAR WARRANTY

Spartan Tool warrants its equipment to free from defects in material and workmanship for one year from the date of purchase. To obtain warranty service, a purchaser should notify Spartan Tool in writing, at the address provided below, within the warranty period, and Spartan Tool will direct where to take or send the equipment for service. If the defect is covered by the warranty, Spartan Tool will repair or replace, at its option, the defective equipment, without charge for labor or materials. (Freight and insurance are the purchaser's responsibility.)

This warranty is limited to the original retail purchaser and is not transferable. Spartan Tool assumes no responsibility for damage due to accident, neglect, abuse, tampering or misuse, nor damage from repairs or alterations by others. This warranty does not cover damage to the equipment resulting from the use of replacement parts other than Spartan Tool parts.

Spartan Tool's sole obligation and the original retail purchaser's exclusive remedy under this warranty shall be for repair or replacement as described above. ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL SPARTAN TOOL BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SPARTAN TOOL L.L.C.
MENDOTA, ILLINOIS 61342

Spartan Tool L.L.C. reserves the right to make changes at any time, without notice, to specifications and models and also discontinue models. The right is also reserved to change specifications or parts at any time without incurring any obligation to equip same on models manufactured prior to the date of change.

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