



OPERATIONS-PARTS MANUAL



Roller Tube Finisher (RTF) Power Unit

NOTICE

This manual, or a copy of it, needs to be kept with the machine at all times.



Roller Tube Finisher

OPERATIONS-PARTS

MANUAL

This manual covers the Roller Tube Finishers listed below:

<u>Part No.</u>	<u>Description</u>
051258	POWER UNIT, RTF OMA250H SINGLE TUBE

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Allen® Products are covered under one or more of the following patent numbers:

U.S. Design Patents: 344,736; 400,542; 400,544; 402,998; 402,999; 403,332; 404,041; 404,042; 410,931; 413,127; 416,564; 465,897; 466,909; 474,203.

U.S. Utility Patents: 5,108,220; 5,238,323; 5,328,295; 5,352,063; 5,405,216; 5,476,342; 5,480,257; 5,480,258; 5,533,831; 5,562,361; 5,567,075; 5,613,801; 5,658,089; 5,685,667; 5,803,658; 5,816,739; 5,816,740; 5,890,833; 5,934,823; 5,967,696; 5,988,938; 5,988,939; 6,019,433; 6,019,545; 6,048,130; 6,053,660; 6,089,786; 6,106,193; 6,857,815; 5,288,166; 6,582,153 B1; 7,690,864 B2.

Canadian Patents: 2,039,893.

With other Patents Pending.

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Limited Warranty

LIMITED WARRANTY and LIMITATION OF LIABILITY

Allen Engineering Corporation ("Allen") warrants its products to be free of defects in material or workmanship for the following periods:

A. New Machines and Parts One Year

The above listed warranty periods are effective for Allen Machines with a first day of use by End User.

Warranty period begins on first day of use by End User. This first day of use is established by the date of a completed Allen Warranty Card or a Bill of Sale to the End User. All warranty is based on the following limited warranty terms and conditions, including the disclaimer of implied warranties and consequential damages.

1. Allen's obligation and liability under this warranty is limited to repairing or replacing parts if, after Allen's inspection, there is determined to be a defect in material or workmanship. Allen reserves the choice to repair or replace.
2. If Allen chooses to replace the part, it will be at no cost to the customer and will be made available to the Allen Distributor, Dealer, or Rental Center from whom the End User purchased the product.
3. Replacement or repair parts, installed in the product, are warranted only for the remainder of warranty period of the product as though they were the original parts.
4. Allen does not warranty engines. Engine warranty claims should be made directly to an authorized factory service center for the particular engine manufacturer.
5. Allen's warranty does not cover the normal maintenance of products or its components (such as engine tune-ups and oil & filter changes). The warranty also does not cover normal wear and tear items (such as belts and consumables).
6. Allen's warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations or repairs made to the product without the written approval of Allen.
7. Allen will pay shop labor on warranty items at the Allen Shop Labor Rate in existence on the date of the warranty claim. An Allen Labor Chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
8. Allen will pay freight on warranty replacement parts at worldwide standard ground rates. No warranty replacement parts will be shipped air freight at the expense of Allen. Allen only pays outbound freight charges when sending warranty replacement parts to the customer via ground service. Allen does not pay any inbound freight. However, if Allen determines this to be a warranted item, only then will Allen reimburse the customer for inbound freight at standard ground rates.
9. ALLEN ENGINEERING CORPORATION'S WARRANTY POLICY WILL NOT COVER THE FOLLOWING: TAXES; SHOP SUPPLIES; ENVIRONMENTAL SURCHARGES; AIR FREIGHT; TRAVEL TIME; LOSS OF TIME; INCONVENIENCE; LOSS OF RENTAL REVENUE; RENTAL COSTS OF EQUIPMENT USED TO REPLACE THE PRODUCT BEING REPAIRED; LOSS OF USE OF THE PRODUCT; COMMERCIAL LOSS; OR ANY OTHER CHARGES WHATSOEVER OR ANY LIABILITIES FOR DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGE OR DELAY.
10. ALLEN ENGINEERING CORPORATION MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THIS LIMITED WARRANTY IS IN LIEU OF THE WARRANTY OF MERCHANTABILITY AND FITNESS. THERE ARE NO OTHER WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THIS DOCUMENT.
11. No Allen employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering Corporation.

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Notes



Information Contained in this Manual



This manual provides information and procedures to safely operate and maintain the Allen Machine.

For your own safety and protection from personal injury, carefully read, understand, and observe the safety instructions described in this manual. Keep this manual or a copy of it with the machine at all times.

Always operate this machine in accordance with the instructions described in this manual. A well maintained piece of equipment will provide many years of trouble free operation.

This manual is divided into the following sections:

**SECTION 1
SAFETY**

**SECTION 2
OPERATIONS**

**SECTION 3
SERVICE**

**SECTION 4
PARTS**

Complete any warranty requirements as specified by the engine manufacturer.

Your engine is not manufactured by Allen Engineering Corporation, Inc, and therefore is not covered under Allen Engineering Corporation, Inc warranty.

Your engine manufacturer should be contacted if you wish to purchase a parts manual or a repair manual for your engine.

Refer to enclosed owners engine manual for complete O&M instructions.

Dealer Information

Your Dealer has Allen Engineering Corporation trained mechanics and original Allen replacement parts. Always contact the Allen Dealer who sold you this machine for Allen Certified repairs and replacement parts.

Place Allen Dealer information below for future reference.

Dealer Name: _____

Phone #: (____) - ____ - _____

Address: _____

City: _____ **State:** _____ **Zip:** _____

Salesman: _____ **Mobile Phone** _____

Additional Comments: _____

Ordering Parts

Section 4.0 contains illustrated parts lists for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the "PARTS" section of this manual.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. **DO NOT** return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC dealer nearest you.

NOTE

All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

Model Number - Serial Number Codes

Manufacturer's Codes:

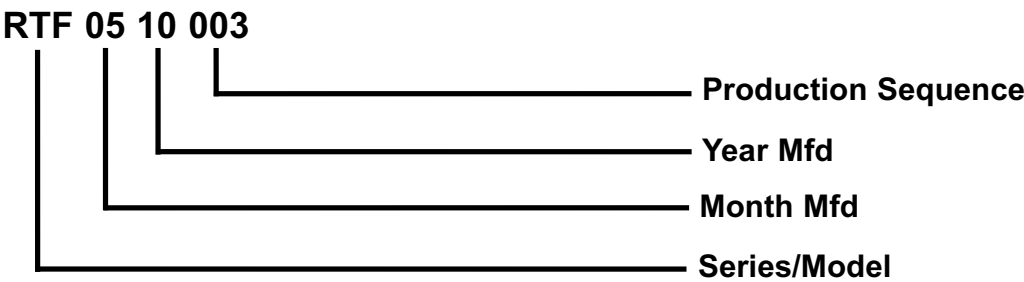
When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine. The legends below specifically defines each significant character or group of characters of the Model Number and Serial Number codes.

Model Number



Serial Number

The serial number found on the identification plate is a ten digit format. The model number identifies your machine and will ensure that you receive the correct replacement parts.



Unit Identification

Unit Identification Plate Location:

An identification plate listing the model number and the serial number is attached to each unit and is located on the side of the engine mounting bracket. Refer to Figure 1 for serial number and model number location. This plate should not be removed at any time.

Please record the information found on this plate below so it will be available should the identification plate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine.

FILL IN FOR FUTURE REFERENCE

Model Number: _____

Serial Number: _____

Date Purchased: _____

Purchased From: _____



Figure 1
Serial Number Location

Technical Specifications

Measurements in this manual are in U.S. units and their customary metric units (i.e., metric units contained within brackets [8 mm]).

Machine Features:

- Dimensions - (L x W x H) inch [mm]18.33x19.62x44.5
.....[465.6x498.3x1,130.3]
- Operating Weight lb [kg]76 [34]
- Tube Operating RPM130
- 2.5HP 4-cycle Honda Engine
- Max Torque80 ft/lbs (108 Nm)
- 18:1 Gear Ratio Transmission
- Automatic centrifugal clutch
- Right angle drive gearbox
- Wheel assembly
- Power unit storage box

Transmission Specifications:

- TypeEnclosed, Double Reduction
- Reduction Ratio:37 : 1
- Output Shaft1" Round / 1" Square Combo Shaft
- Grease Capacity6 oz
- Grease TypeHigh Temp Transmission Grease
- Clutch:Centrifugal, 2-1/4" Shoe, Rotor & Cup
- Clutch EngagingCentrifugal Engaging at 3300 RPM
- Shaft RotationClockwise (Looking from the top)

CE MARKING Compliance:

AEC hereby declares under our sole responsibility that the machine identified within this manual complies with the provisions in accordance with Machinery Directive 98/37/EC. AEC has applied the following normative documents:

- 2000/14/EC; Noise Emission Of Outdoor Equipment Directive
- EN 294:1992; Safety Of Machinery-Safety Distance Of Danger Zones
- EN 574:1996; Safety Of Machinery-Two-hand Control Devices



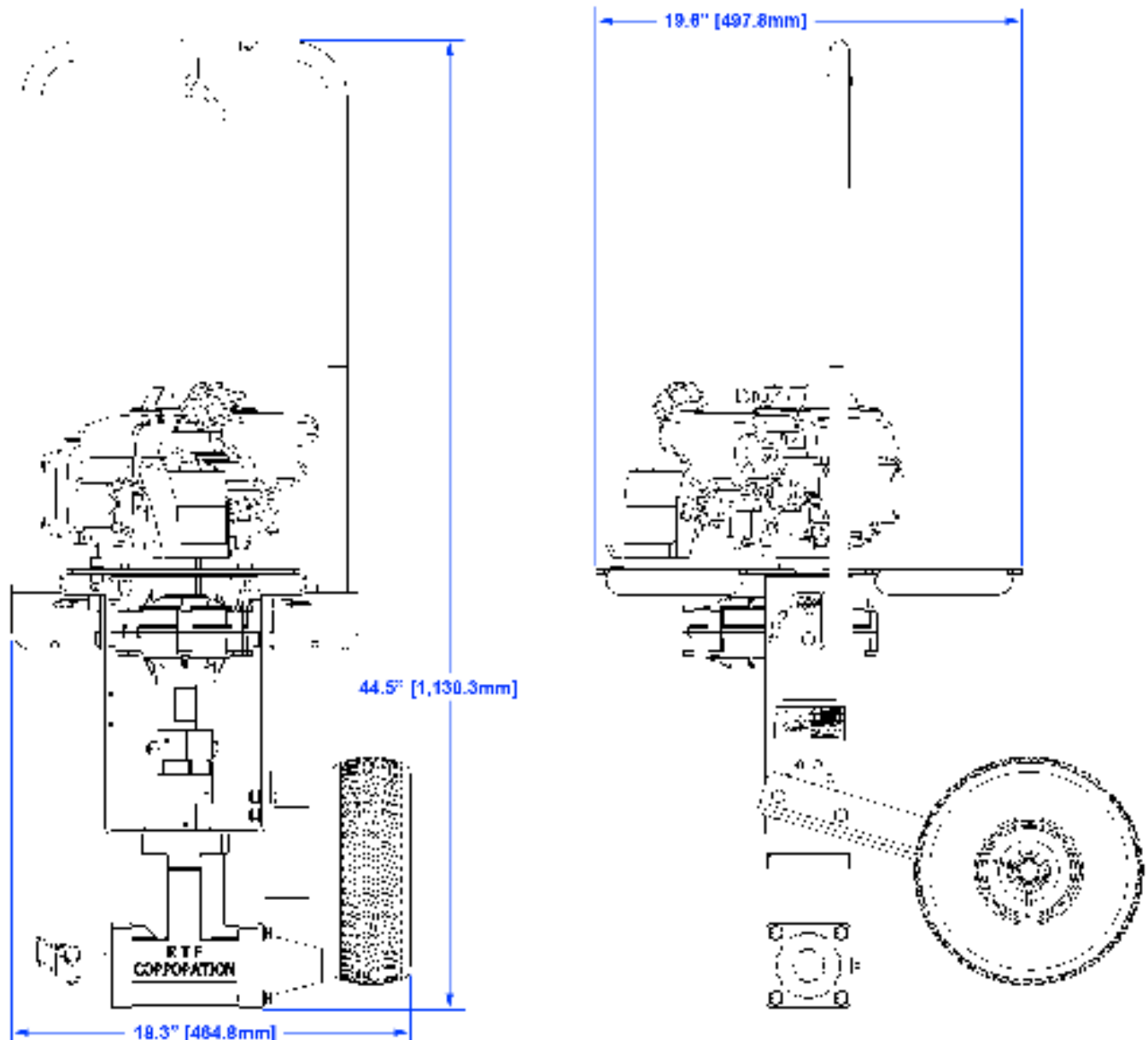
Engine Specifications

Honda GXV50 Engine Information

Engine Type	Air-cooled, 4-Stroke, OHV, single cylinder
Bore x Stroke	41.8 x 36 mm (1.65 x 1.42 in)
Displacement	49 cm ³ (2.99 cu in)
Compression Ratio	8.0 : 1
Net Horse Power Output*	1.6kW (2.1HP) at 7,000 rpm
Net Torque	2.7 Nm (2.0 lbs ft) at 4,500 rpm
PTO Shaft Rotation	Counterclockwise (from PTO shaft side)
Ignition System	Transistorized magneto ignition
Starting System	Recoil Starter
Carburetor	Float Type
Lubrication System	Forced Splash
Governor System	Centrifugal Mechanical
Air Cleaner	Semi-dry Type
Oil Capacity	0.25l (0.26 US qt, 0.22 Imp qt)
Fuel Tank Capacity (liter)	0.27l (0.29 US qt)
Dimensions (L x W x H)	249mm(9.8 in) x 286mm (11.3 in) x 198mm (7.8 in)
Dry Weight	5.2 kg (11.5 lbs)

Machine Dimensional Specifications

All information, specifications, and illustrations on this page in this manual are subject to change without notice and are based on the latest information at the time of publication.



Sound And Vibration Data



Sound Pressure Level Information:

Sound pressure is "A" weighted . Measured at the operators ear position while the roller tube finisher is operating at full throttle on concrete in a manner most often experienced in "normal " circumstances. Sound pressure may vary depending upon the condition of the concrete. Hearing protection is always recommended.



Vibration Level Information:

The vibration level indicated is the maximum RMS (Root Mean Square) velocity value obtained at the handle grip while operating the roller tube finisher on curing concrete in a manner most often experienced in "normal " circumstances. Values were obtained from all three axes of motion. The values shown represent the maximum RMS value from these measurements.

Summary Data Of Sound And Vibration Testing for CE Marking							
Test Machine	Engine Type	Distant Sound Press	Operator Ear SPL	Sound Power Level	Seat Vibration Overall	Foot Vibration Overall	Hand Vibration Maximum
RTF	Honda	dB (A) TBD	dB (A) TBD	dB (A) TBD	m/sec ² TBD	m/sec ² TBD	m/sec ² TBD
This information was acquired from extensive sound and vibration analysis tests conducted at Allen Engineering Corporation test facilities.							

Section 1 ***SAFETY***

SECTION 1 SAFETY

State Regulations



CALIFORNIA PROPOSITION 65 WARNING

Gasoline engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.



SILICOSIS WARNING

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory diseases, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.



RESPIRATORY HAZARDS

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm. If you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturers or suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the materials being used.

SECTION 1 SAFETY

1.1 General Safety Precautions

1.1.1 Safety-Alert Signs

This manual contains Safety-Alert Signs, as defined below, which must be followed to reduce the possibility of improper service damage to the equipment or personal injury. Read and follow all Safety-Alert Signs included in this manual.



NOTE defines an operating procedure, condition, etc. which is essential to highlight that contains useful or important information.



EMERGENCY is used for the identification of safety equipment, first aid, or emergency egress locations.



NOTICE used to convey safety information on labels and signs.



CAUTION is indicative of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



Potentially hazardous situations that could result in death or serious injury are indicated by the word WARNING.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

1.2 **Spark Arrestor Notice**

SECTION 1 **SAFETY**

1.2.1 Laws Pertaining to Spark Arrestors

Some states require that in certain locations arrestors be used on internal combustion engines. A spark arrester is a device designed to prevent the discharge of spark or flames from the engine exhaust. It is often required when operating equipment on forested land to prevent the risk of fires. Consult the engine distributor or local authorities and make sure that you comply with regulations regarding spark arrestors.



1.3

Operating Safety

1.3.1 Operating Safety



Familiarity and proper training are required for the safe operation of this equipment! Equipment operated improperly or by untrained personnel can be dangerous! Read the operating instructions contained in both this manual and the engine manual and familiarize yourself with the location and proper use of all controls.

1.3.2 **NEVER** operate this machine in applications for which it is not intended.

1.3.3 **NEVER** allow anyone to operate this equipment without proper training. People operating this equipment must be familiar with the risks and hazards associated with it.

1.3.4 **NEVER** touch the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.

1.3.5 **NEVER** use accessories or attachments that are not recommended by AEC. Damage to equipment and injury to the user may result.

1.3.6 **NEVER** leave machine running unattended.

1.3.7 **DO NOT** run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.

1.3.8 **ALWAYS** remain aware of moving parts and keep hands, feet, and loose clothing away from the moving parts of the equipment.

1.3.9 **ALWAYS** keep hands, feet, and loose clothing away from moving parts of the machine.

1.3.10 **ALWAYS** read, understand, and follow procedures in the Operator's Manual before attempting to operate the equipment.

1.3.11 **ALWAYS** be sure operator is familiar with proper safety precautions and operation techniques before using machine.

1.3.12 **ALWAYS** close fuel valve on engines equipped with one when machine is not being operated.

- 1.3.13** **ALWAYS** store the equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.
- 1.3.14** **ALWAYS** operate the machine with all safety devices and guards in place and in working order.

READ MANUAL PRIOR TO INSTALL

Improper installation, operation, or maintenance of the equipment could result in serious injury or death. Operators and maintenance personnel should read this manual as well as all manuals related to this equipment. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL.**

READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing or operating this equipment.

KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to assure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn and hard to read.

DO NOT MODIFY EQUIPMENT

Modifications may weaken the integrity of the equipment and may impair the functions, safety, life, and performance of the equipment. When making repairs, use only AEC genuine parts, following authorized instructions. Other parts may be substandard in fit and quality.

1.4 Engine Safety

1.4.1 Engine Safety



Internal combustion engines present special hazards during operation and fueling. Read and follow the warning instructions in the engine owner's manual and the safety guidelines below. Failure to follow the warnings and safety guidelines could result in severe injury or death.

- 1.4.2 **DO NOT** run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.
- 1.4.3 **DO NOT** smoke while operating the machine.
- 1.4.4 **DO NOT** smoke when refueling the engine.
- 1.4.5 **DO NOT** refuel a hot or running engine.
- 1.4.6 **DO NOT** refuel the engine near an open flame.
- 1.4.7 **DO NOT** spill fuel when refueling the engine.
- 1.4.8 **DO NOT** run the engine near open flames.
- 1.4.9 **ALWAYS** refill the fuel tank in a well-ventilated area.
- 1.4.10 **ALWAYS** replace the fuel tank cap after refueling.
- 1.4.11 **ALWAYS** keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.

1.5.1 Service Safety



Poorly maintained equipment can become a safety hazard! In order for the equipment to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary.

- 1.5.2 **DO NOT** attempt to clean or service the machine while it is running. Rotating parts can cause severe injury.
- 1.5.3 **DO NOT** crank a flooded engine with the spark plug removed on gasoline-powered engines. Fuel trapped in the cylinder will squirt out the spark plug opening.
- 1.5.4 **DO NOT** test for spark on gasoline-powered engines if the engine is flooded or the smell of gasoline is present. A stray spark could ignite the fumes.
- 1.5.6 **DO NOT** use gasoline or other types of fuels or flammable solvents to clean parts, especially in enclosed areas. Fumes from fuels and solvents can become explosive.
- 1.5.7 **ALWAYS** turn engine off before performing maintenance or making repairs.
- 1.5.8 **ALWAYS** keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.
- 1.5.9 **ALWAYS** replace worn or damaged components with spare parts designed and recommended by AEC Corporation.
- 1.5.10 **ALWAYS** disconnect the spark plug on machines equipped with gasoline engines, before servicing, to avoid accidental start-up.
- 1.5.11 **ALWAYS** keep the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

SECTION 1 SAFETY

1.5, continued Service Safety

PREPARE FOR EMERGENCIES

- Be prepared if a fire starts.
- Keep a first aid kit near by when operating equipment.

OPERATOR SAFETY

- Protective clothing and equipment should be worn at all times.
- Wear protective clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- Prolonged exposure to excessive noise can cause hearing loss. Wear suitable hearing protection such as ear plugs.
- Operating equipment safely requires the full attention of the operator. Avoid distractions.
- Do not operate the unit when you are tired, ill or under the influence of alcohol, drugs or medication.
- Never let a minor or inexperienced person operate the unit.
- Do not operate or start the engine inside a closed area or building. Breathing exhaust fumes can cause death.
- Keep your hands and the handles on the unit free from oils and fuel.

UNIT AND TOOL SAFETY

- Inspect the entire tool before operation.
- Check for fuel leaks and make sure all fasteners are securely fastened.
- Replace parts that are cracked, chipped or damaged in any way before operation.
- Keep others away when making any adjustments to the unit.

FUEL SAFETY

- Pour fuel outdoors and away from sparks or open flames.
- Do not smoke or allow smoking near the fuel or the unit when fueling or using the unit.
- Stop engine before removing the fuel cap.
- Empty the fuel tank before storing the unit. It is recommended that the fuel be emptied after each use.
- Store unit and fuel in an area where fuel vapors cannot reach sparks or open flames from various other equipment.

PRACTICE SAFE MAINTENANCE

- Use proper tools and equipment when conducting maintenance, refer to this manual for additional information.
- Work in a clean dry area.
- Inspect all parts. Be sure parts are in good working condition and installed properly.
- Remove build up of grease, oil or any debris.
- Remove all tools and unused parts from equipment before beginning operation.

TRANSPORT AND STORAGE

- Carry the unit by hand with the engine stopped and the muffler pointed away from your body.
- Allow the engine to cool, empty the fuel tank, and secure the unit before storing or transporting.
- Store unit out of the reach of children.
- Be sure the engine is off when transporting.

INCORRECT APPLICATIONS

This unit is designed for a specialized type of powered equipment and for a specific job function. This unit is not designed to install anchoring devices of any kind.

BE ALERT ON THE JOB SITE

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to machinery and work activity. Never assume that children will remain where you last saw them. BE ALERT and turn the equipment off if children enter the work area. Keep children out of the work area and under supervision of another responsible adult.

OPERATORS CONDITION

Operators must be in good physical condition, mental health and not under the influence of any type of drugs. Operating this unit can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating this unit. Guard against the possibility of back related injuries by always lifting the unit with your leg muscles and not your back. Operators should also be of adequate height so that in any configuration, the operators handles remain below the shoulders.



SECTION 1 SAFETY

1.6 Safety and Operation Labels

The safety and operation labels shown in this section are placed in important areas on the machine to draw attention to potential safety hazards and service information. Should any of these labels become unreadable or damaged, replacement labels can be ordered from your distributor.

CAUTION

This is a multi-purpose label that requires the operator to have maximum eye, hearing, hand, and feet protection. Also, it highly recommends that the operator reads the manual.



CAUTION

This is a label that cautions the operator to keep hands away from the moving shafts on the equipment.



CAUTION

This label cautions the operator to allow the engine to cool before refueling the machine.



Section 2 ***OPERATIONS***

SECTION 2

OPERATIONS



This machine is built with user safety in mind. However, it can present hazards if improperly operated and serviced. Follow operating instructions carefully.

If you have any questions about operating or servicing this equipment, please contact your Allen Engineering Dealer or AEC Customer Service at 800-643-0095 or 870-236-7751.



2.1.1 Description

The **Single Roller Tube Finisher**, more commonly referred to as the “**RTF**”, strikes off concrete fast and accurately. This machine quickly establishes surface grade. Portable and powerful, the RTF is the perfect quick-strike finisher for paving - especially for pervious concrete. The principal advantage of the RTF is it's minimum set-up time and ease of use. With the addition of a winch, slopes can be finished quickly and economically.

Check out the Hydraulic Driven Power Unit at www.alleneng.com



2.2 Start Up Procedures

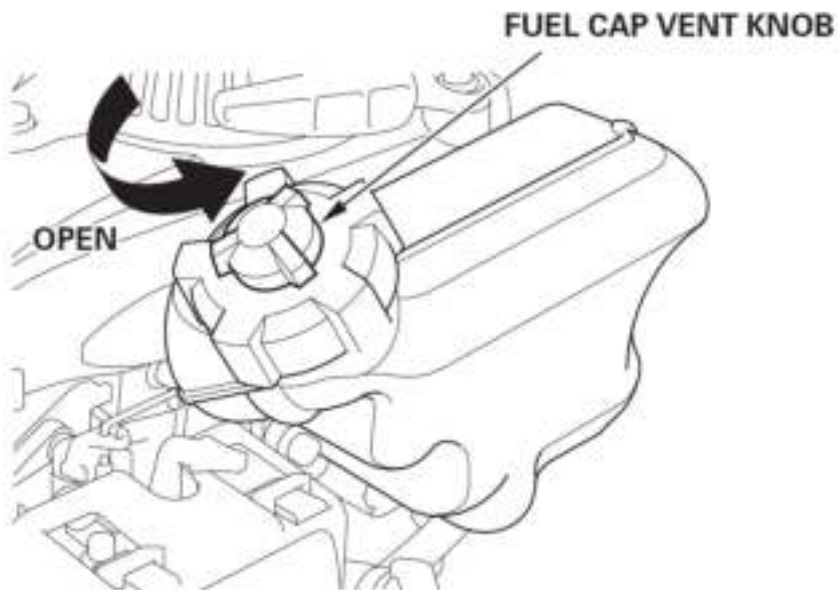
2.2.1 Before Starting Procedures

Before starting the roller tube finisher, check for the following:

- 1) Oil level in engine.
- 2) Fuel level in fuel tank.
- 3) Air filter element.
- 4) Condition of roller tube connections.
- 5) Verify that daily maintenance of grease points have been performed.

2.2.2 Starting Procedures

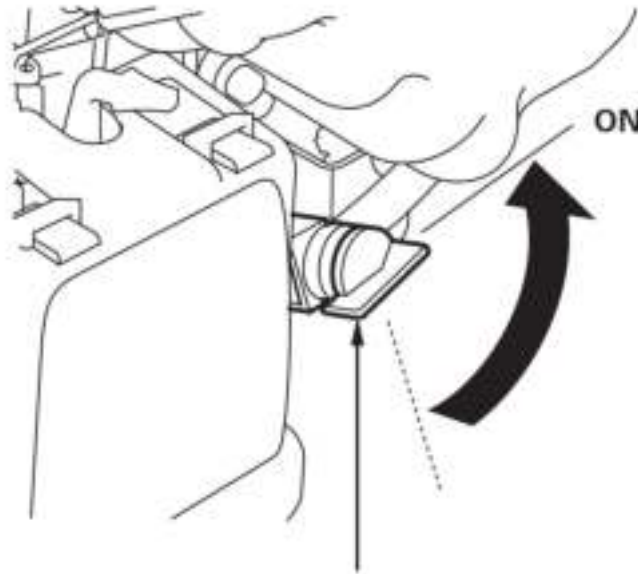
- 1) Open the fuel tank vent by turning the vent knob at least 2 or 3 turns counter-clockwise.



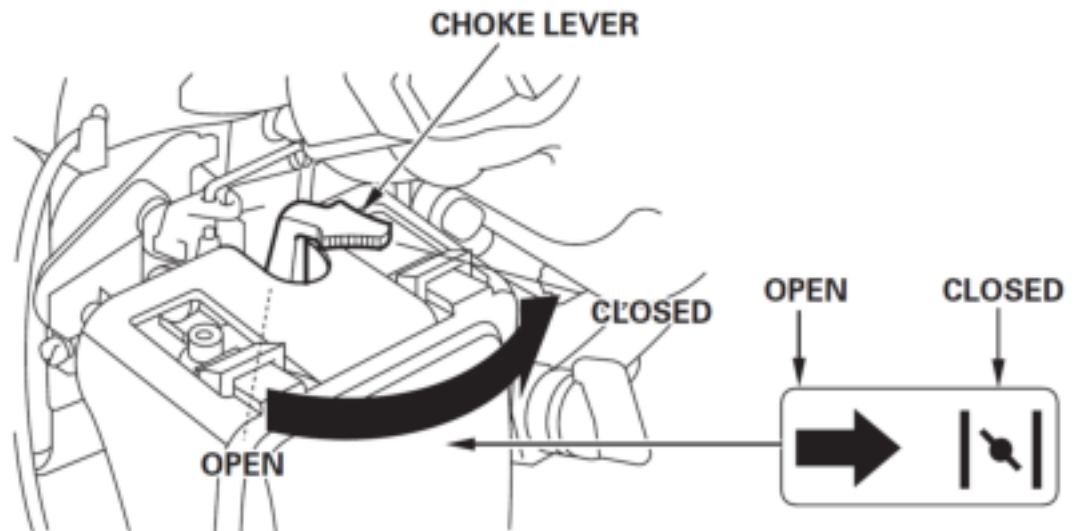
2.2, continued Start Up Procedures

SECTION 2 OPERATIONS

- 2) Turn the fuel valve lever to the ON position.



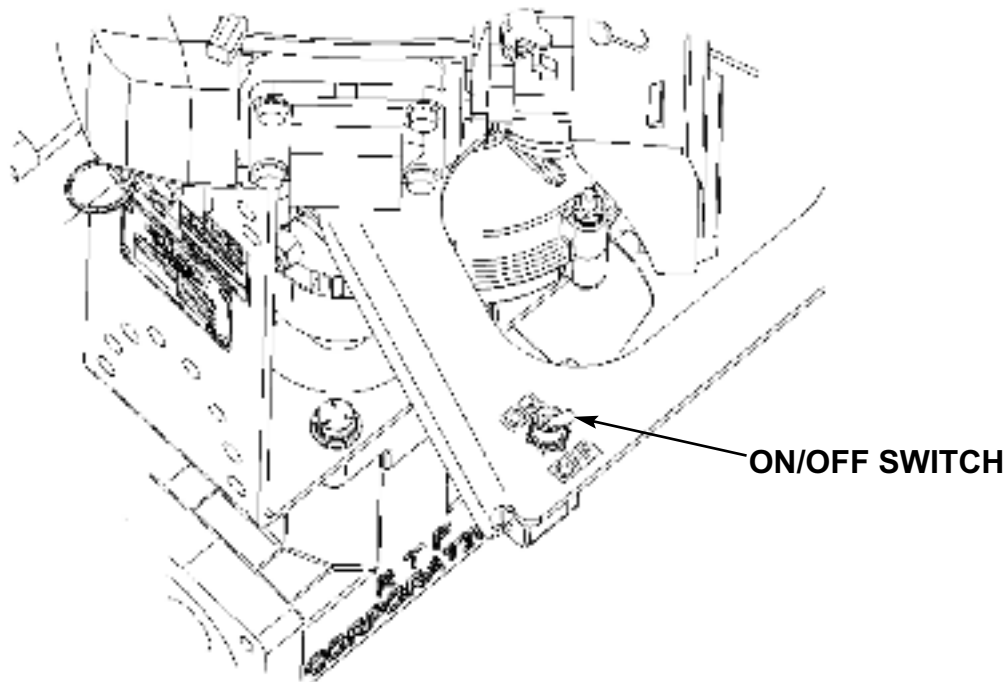
- 3) To start a cold engine, move the choke lever to the CLOSED position. To restart a warm engine, leave the choke lever in the OPEN position.



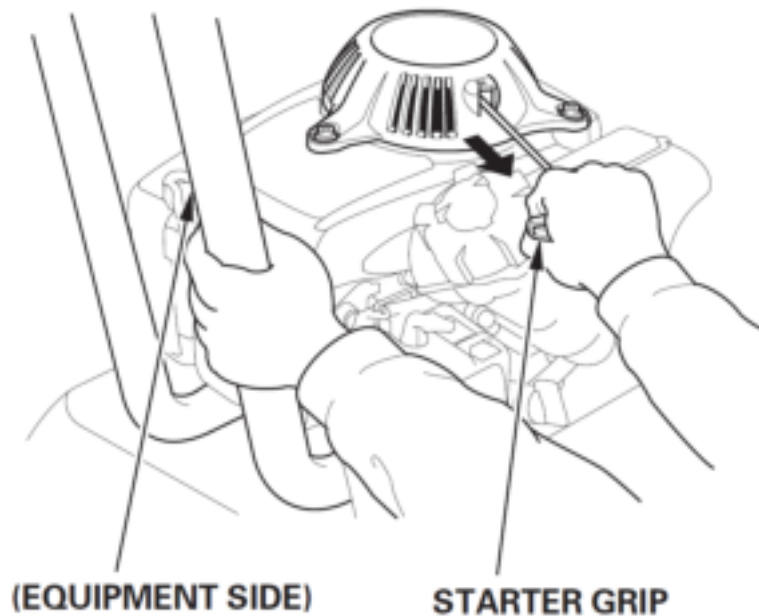
SECTION 2 OPERATIONS

2.2, continued Start Up Procedures

- 4) Turn the engine switch on the equipment to the ON position.



- 5) Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.



2.3 Operating Instructions

SECTION 2 OPERATIONS

2.3.1 Operating The RTF

1) Location of Operating Controls and Components

- [A] Idle end handle
- [B] Roller tube
- [C] Throttle lever
- [D] Driven end handle
- [E] Support wheel
- [F] Power unit

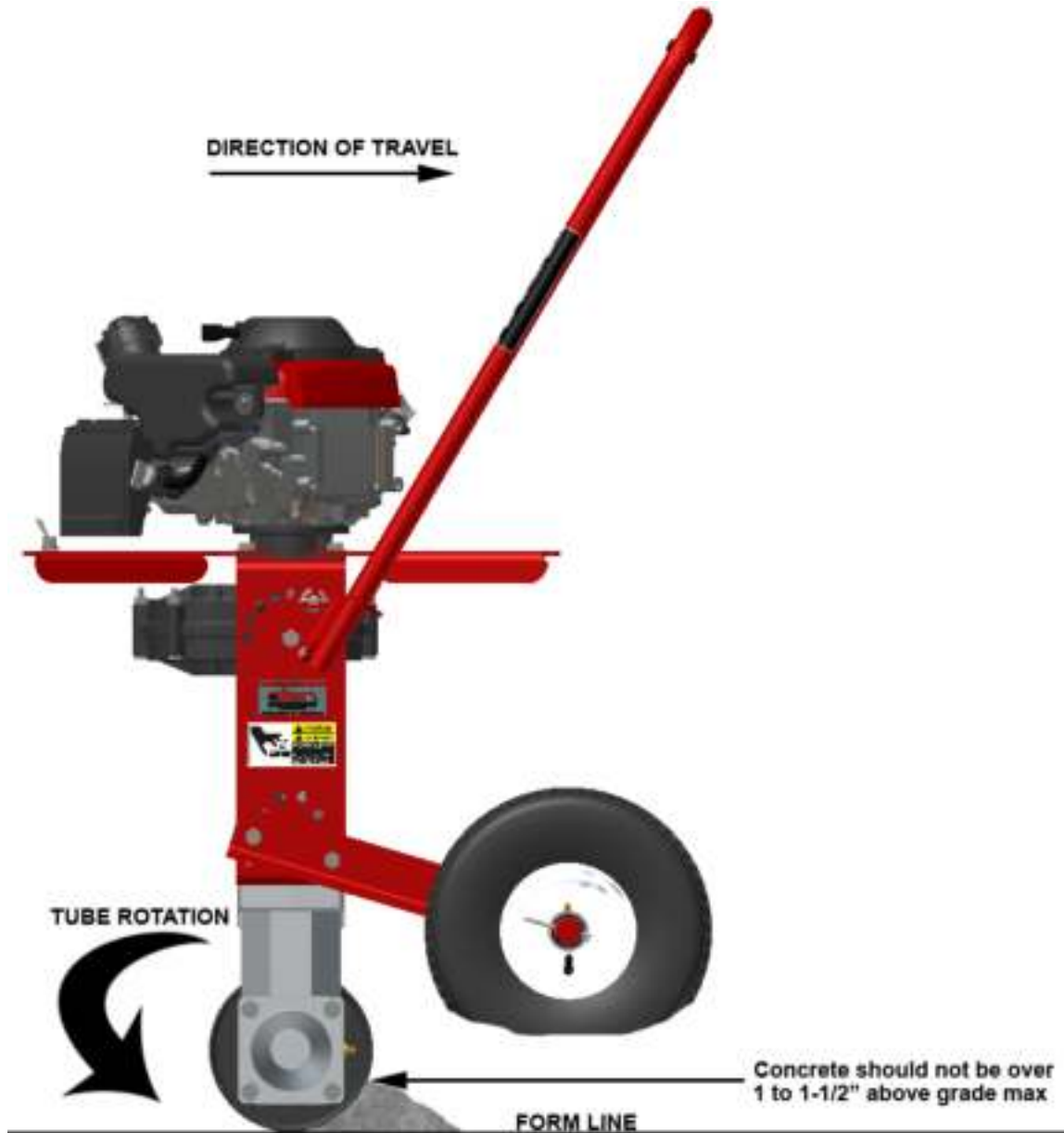


NOTICE

- 2) **Before operating the equipment, make sure that the power unit is vertical and not at an angle. The operator handle (D) is adjustable to allow for this. This RTF uses a 4-stroke engine which requires it to be level. (see above illustration)**
- 3) After concrete is placed and finishing is ready to begin, increase the throttle and slowly pull the roller towards you. Be sure that both operators pull at the same time to ensure the roller stays on the forms.
- 4) Make sure to not allow excessive concrete to build up in front of the tube. The tube is equipped with a plug for the use of water to add weight. This may be necessary if the tube will not stay on the forms and concrete is not built up to high on the tube.

SECTION 2 OPERATIONS

2.3 continued Operating Instructions



2.3.2 Stopping The RTF

Let go of the throttle on the handle and turn the power unit ON/OFF switch to the OFF position

NOTICE

Always keep the machine in the upright position. Never lay the RTF on it's side. This can cause leakage of the fuel and oil in the engine as well as the transmission causing them to burn up during operation. Also, when machine is not in use store it in the storage box and make sure it is in a secure location that will keep it from tipping over.

Section 3 ***SERVICE***

SECTION 3 SERVICE

3.1 Periodic Maintenance

3.1 Periodic Maintenance Schedule

The table below list basic RTF and engine maintenance. Refer to OEM engine manufacturer's Operation Manual for additional information on engine maintenance. A copy of the engine operator's manual was supplied with the machine when it was shipped. Below you will find some general maintenance instructions. For further information contact your authorized service dealer.

DAILY MAINTENANCE:

- Clean the exterior of the unit with a mild detergent and water to remove any debris and grime.
- Paint all scratched or bare metal surfaces.
- Check and tighten all bolts, nuts, and screws.
- Check air filter and clean as needed.

WEEKLY MAINTENANCE:

- Check the starter, especially the cord and return spring.
- Clean the exterior of the spark plug. Remove it and check the electrode gap. Adjust to .024" (0.6mm) or replace.
- Check the gearbox transmission for sufficient amount of grease. (The gearbox should be maintained at 3/4 full)

MONTHLY MAINTENANCE:

- Rinse the fuel tank with gasoline.
- Clean the exterior and surrounding area of the carburetor.
- Clean the fan and the area around it.

REGULAR SERVICE PERIOD (1)		Each use	First month	Every 3 months or 10 hrs.	Every 6 months or 25 hrs.	Every year or 100 hrs.	Every 2 years or 300 hrs.
ITEM	Perform at every indicated month or operating hour interval, whichever comes first.						
	Engine oil	Check level	○				
Air cleaner	Change		○		○ (3)		
	Check	○					
	Clean			○ (2)			
Spark plug	Check-adjust					○	
	Replace						○
Spark arrester (applicable types)	Clean					○	
Fuel tank and filter	Clean					○ (4)	
Idle speed	Check adjust					○ (4)	
Valve clearance	Check-adjust						○ (4)
Combustion chamber	Clean				After every 300 hrs. (4)		
Fuel tubes	Check					Every 2 years (Replace if necessary) (4)	

3.2 General Maintenance

SECTION 3 SERVICE

Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

Always use proper tools or equipment when conducting maintenance. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your attachment to original specifications. AEC will not claim responsibility for use of unapproved parts or accessories and other damages as a result of their use. If equipment has been altered in any way from its original design, AEC does not accept any liability for injury or warranty.

CHANGING THE TRANSMISSION GREASE

Type of grease: High temperature transmission grease classified for extreme pressure applications. Amount required: 6 oz (0.2 liters)

1. Change the grease every 25 hours of normal operation. Change the grease every 15 hours of operation in extremely dusty or dirty conditions.
2. Drain the gasoline from the fuel tank into an approved container.
3. Position the unit on a suitable work surface with the operator handle level with the surface. Wipe any dust or dirt from the area where the gearbox separates.
4. Separate the gearbox by removing the hardware and prying the two halves apart. Use caution during separation to not damage the dowel pins or the gasket. Remove the gasket and primary gear assembly.
5. Clean the interior of the gearbox with an approved solvent.
6. Replenish the gearbox with 6 oz (0.2 liters) of high temperature transmission grease containing an extreme pressure additive. Distribute the grease evenly around the gear teeth.

NOTE: Do not use standard lithium based grease. This type of grease is not intended to operate at the higher operating temperatures encountered during the finishing process.

7. Reinstall the primary gear assembly. Replace the original gasket with a new gasket. Align the dowel pins before mating the two gearbox covers. Fasten together with original hardware.
8. Manually rotate the drive shaft and listen for excessive noise or binding. If excessive or unusual noise is heard, disassemble the gearbox and troubleshoot the cause. Repeat until gearbox is in original working condition.

SECTION 3

SERVICE

3.3

Engine Maintenance

Consult the engines owners / operators manual packaged with the unit for specific maintenance information and service intervals regarding the following:

A. Air Filter. Must be cleaned from dust and dirt to avoid:

- Starting problems.
- Carburetor malfunctions.
- Engine power reduction.

B. Spark Plug. Condition is influenced by:

- An incorrect carburetor setting.
- A dirty air filter
- Cold weather running conditions.

C. Muffler.

D. Cylinder Fins

E. Carburetor Adjustment.

NOTE: Keep both this owners / operators manual and the engine owners / operators manual together and available for reference. A properly maintained engine will prolong the life and overall performance of the entire unit.

3.4 Troubleshooting

SECTION 3 SERVICE

In the event the power head unit malfunctions, please refer to the section below to identify the cause of the problem and possible remedy. If the problem persists, contact your Authorized Service Dealer for assistance.

Engine fails to start:

- Safety Trigger is not collapsed. Collapse the Safety Trigger.
- Connection between the ignition wire and spark plug is loose or disconnected. Reconnect.
- Fuel tank is empty. Refill the fuel tank with gasoline.

Engine Power Loss:

- Water in the fuel supply. Drain the fuel and replace.
- Plugged engine exhaust port. Remove any obstacles or debris.
- Dirty or depleted spark plug. Clean, check electrode gap or replace.
- Dirty air filter. Clean or replace. (If filter is hard due to excessive dirt buildup it must be replaced)

Engine Overheats:

- Cooling fins are clogged. Remove protective covering and clean as needed.

Unit Lacks Power:

- Centrifugal clutch assembly is worn. Replace clutch.
- Too much concrete in front of roller tube. Remove excess concrete in front of tube.

Tube Rotates At Idle Speed:

- Centrifugal clutch assembly is worn. Replace clutch.
- Incorrect throttle control / cable adjustment does not allow proper engine idle. See authorized service dealer.

SECTION 3

SERVICE

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Section 4

PARTS

SECTION 4 PARTS

Factory Service Information

This section contains the illustrated drawings and parts lists for help in identifying and/or ordering replacement parts for your machine. Follow the instructions in the front section of this manual “Ordering Parts” when ordering replacement parts to insure prompt and accurate delivery.

NOTE

All set screws have blue (LOC-TITE™) applied at the factory. If set screw is removed or loosened for any reason re-apply blue (LOC-TITE™).

NOTE

All grease fittings are capped with CAP PLUG GC-5 (AEC PN 015692) to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.



We recommend AEC quality replacement parts, available from the AEC Customer Service Department or your nearest AEC Dealer.

Part numbers are subject to change without notice. Part numbers might be different outside of the United States of America. Use part numbers listed in the applicable parts list table when you place your order. If a part number changes, the AEC Customer Service Department or your nearest AEC dealer will have the latest part number for the replacement part.

Remember when you order replacement parts, you will need your model number and serial number. These are the numbers that you have recorded in the UNIT ID section of this manual. Please order replacement parts by the appropriate part number, not the key number.

This manual contains an illustrated parts list for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

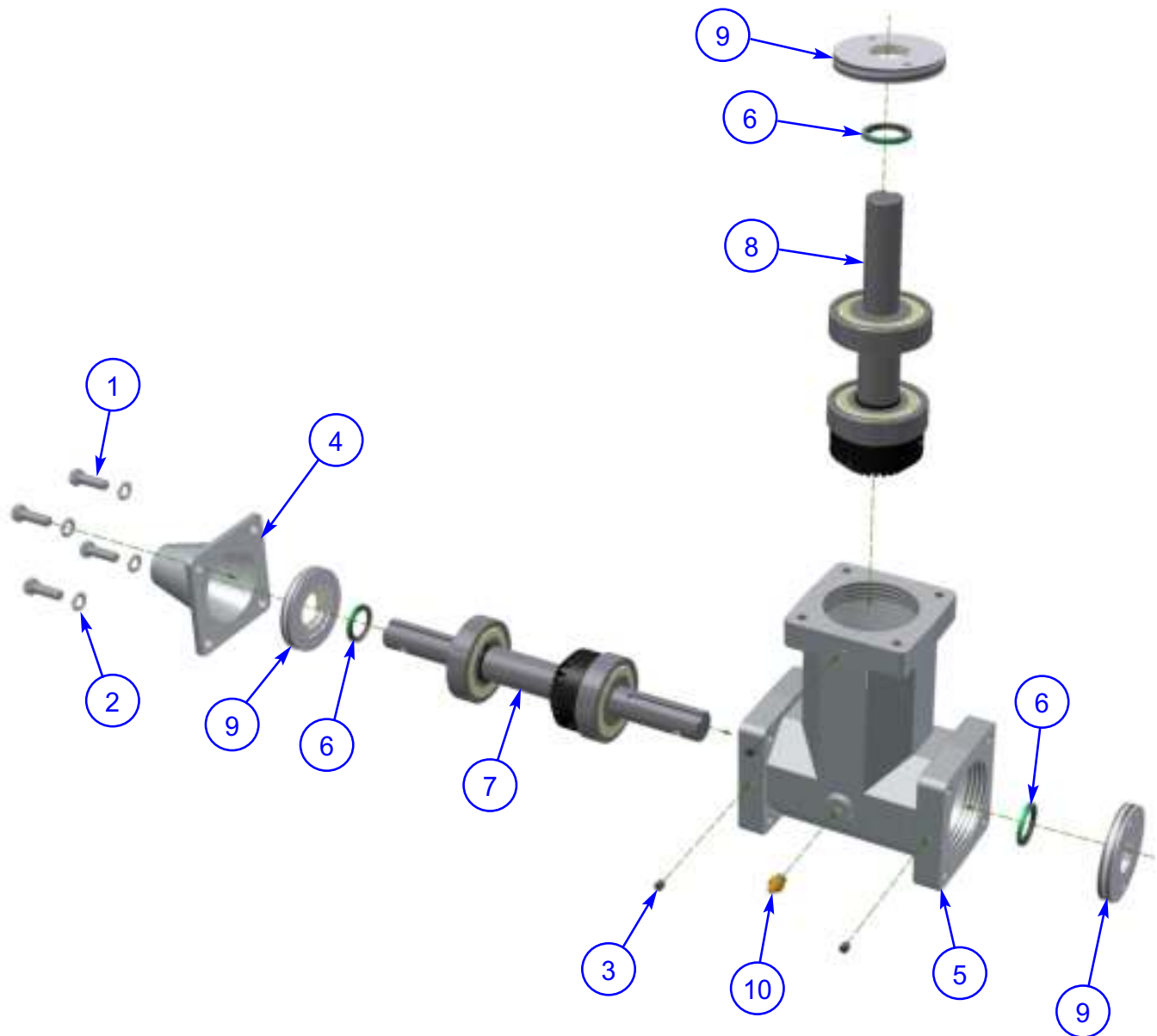
1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the "PARTS" Section 4.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. **DO NOT** return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC Dealer nearest you.

NOTE

All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

SECTION 4 PARTS

4.1 Illustration Right Angle Drive (099009)



4.1 Parts List Right Angle Drive (099009)

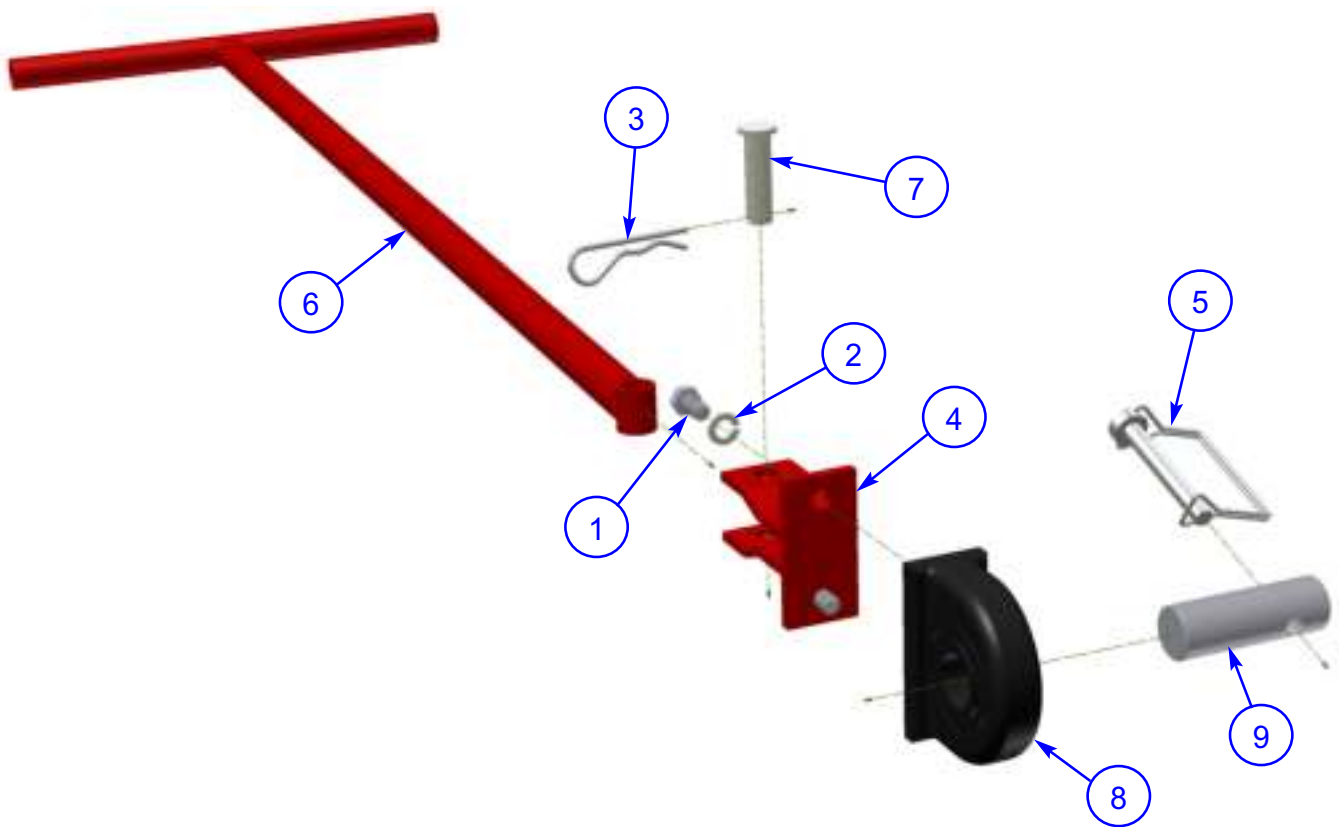
SECTION 4 PARTS

ITEM	PART #	DESCRIPTION	QTY
	001003	GREASE, MOBILITH SCH220	4.5 oz
1	010036	FSTN, HHCS 3/8-16 X 1 GR 5	4
2	010091	FSTN, LW 3/8	4
3	010316	FSTN, SHSS 1/4-20 X 1/4 HOLO	3
4	099010	COVER, SHAFT	1
5	099038	HOUSING, GEARBOX RTF	1
6	099267	SEAL, OIL	3
7	099287	SHAFT, DRIVE BOTTOM	1
8	099290	SHAFT, DRIVE BOTTOM	1
9	099291	CAP, END FOR RT ANG GEAR SHAFT	3
10	201163	FITTING, 1/8-27 PTF STR GREASE	1



SECTION 4 PARTS

4.2 Illustration Idle Handle Assembly



4.2 Parts List Idle Handle Assembly

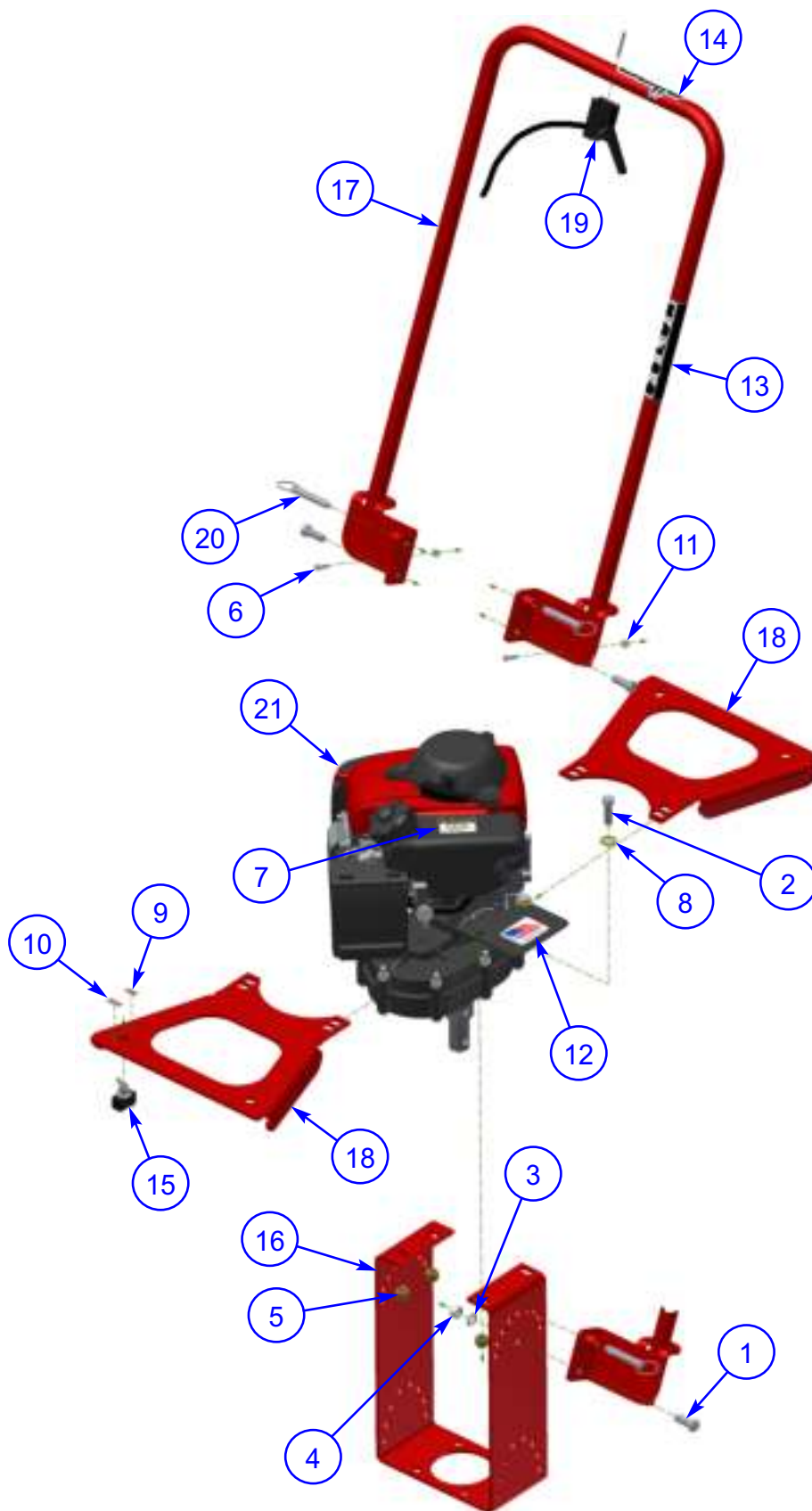
SECTION 4 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	010035	FSTN, HHCS 3/8-16 X 3/4	2
2	010091	FSTN, LW 3/8	2
3	010711	CLIP, .125x2-9/16 HITCH PIN	1
4	034792	BRACKET, BEARING MNT RTF IDLE END HANDLE	1
5	040940	3/8 X 2-1/2 SAFETY SNAP	1
6	099008	HANDLE, ROLLER TUBE FINISHER	1
7	099020	FSTN, PIN CLEVIS 1/2" X 1 3/4" LONG	1
8	099022	BEARING, 1" RTF IDLE END HANDLE	1
9	099270	PIN, FOR RTF IDLE END HANDLE	1



SECTION 4 PARTS

4.3 Illustration Upper Assembly



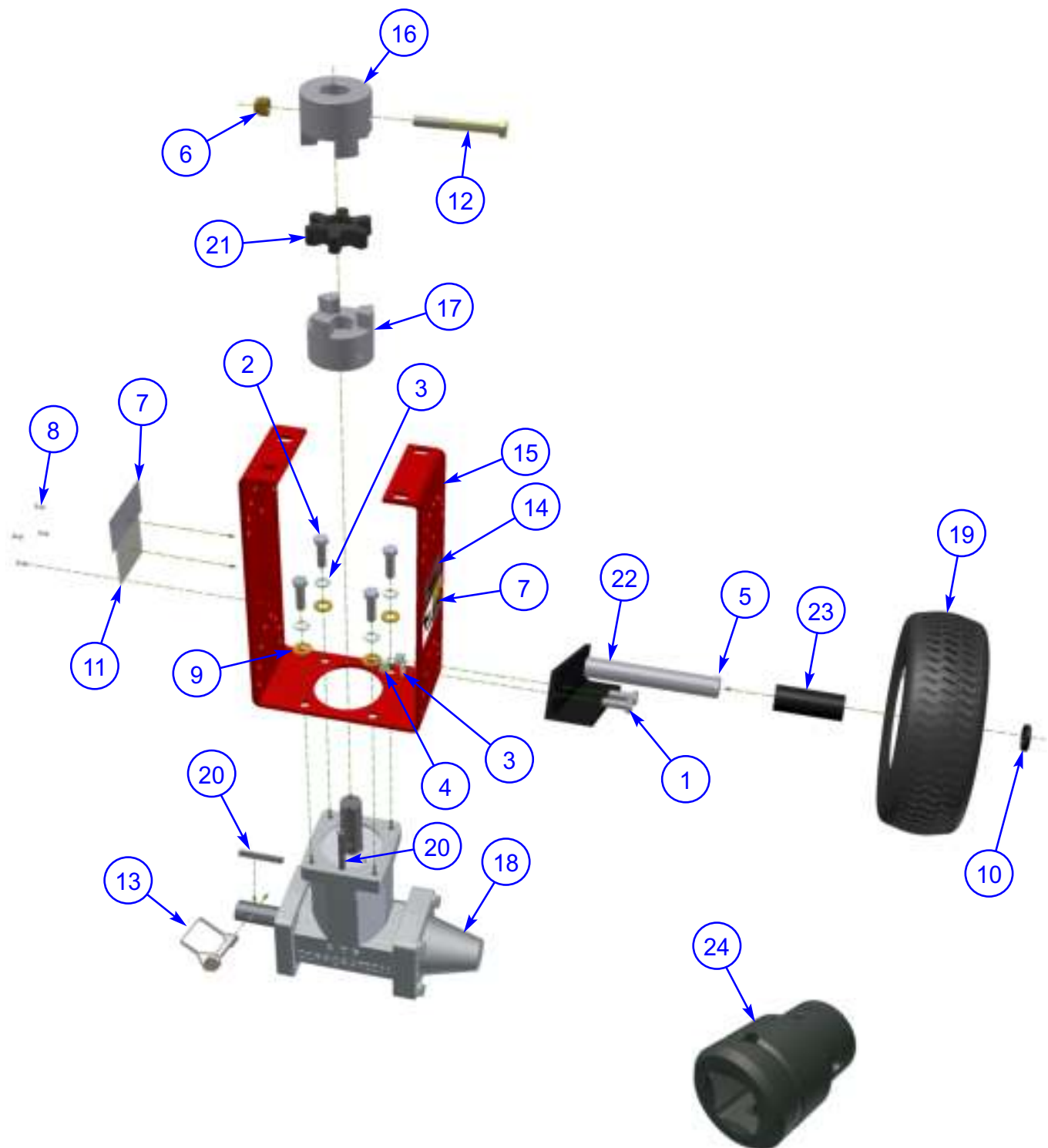
4.3 Parts List Upper Assembly

SECTION 4 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	010036	FSTN, HHCS 3/8-16 X 1	2
2	010036	FSTN, HHCS 3/8-16 X 1 GR 5	4
3	010091	FSTN, LW 3/8	2
4	010464	FSTN, NUT NYLOK 3/8-16	2
5	020514	FSTN, NUT STOVER 3/8-16	4
6	013728	SCR, 10-32x3/4 GR 2 HH MACH	2
7	016191	DECAL, ALLOW ENG TO COOL	1
8	017751	FSTN, FW HARD A325 3/8	10
9	022269	DECAL, ON	1
10	022270	DECAL, OFF	1
11	029568	NUT, 10-32 NYLOCK HEX	2
12	032896	DECAL, MADE IN USA-FLAG	1
13	039048	DECAL, GEN PROTECTION WARNING	1
14	048379	DECAL, ALLEN 4 1/2 x 1 1/2	1
15	050603	SWITCH TOGGLE, ON/OFF 12VDC	1
16	051193	BRACKET CONNECTING ROLLER FIN	1
17	051222	HANDLE, ADJUSTABLE (PENGO) POWER UNIT	1
18	051223	BRACKET, HAND GRAB FOR OMA250H POWER UNIT RTF	2
19	051227	THROTTLE CABLE ASSEMBLY WITH LEVER TRF	1
20	051256	PIN WITH LANYARD, 3/8 X 1 1/2" LONG USABLE LENGTH	2
21	051257-MOD	POWER UNIT ASSY, PENGO MODIFIED	1

SECTION 4 PARTS

4.4 Illustration Lower Assembly



4.4 Parts List Lower Assembly

SECTION 4 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	010036	FSTN, HHCS 3/8-16 X 1	2
2	010036	FSTN, HHCS 3/8-16 X 1	4
3	010091	FSTN, LW 3/8	6
4	010102	NUT, 3/8-16 HEX	2
5	010133	PIN, Ø3/16 X 2 ZP STL COTTER	1
6	020514	FSTN, NUT STOVER 3/8-16	1
7	012894	DECAL, CAUTION KEEP HANDS AWAY(SHAFT)	2
8	012994	RIVET, 1/8x3/8 ALUM DOME HD	4
9	017751	FSTN, FW HARD A325 3/8	4
10	021136	SPACER, DIAMOND HEADED GRINDER	1
11	032097	DECAL, SERIAL NUMBER PLATE	1
12	040663	FSTN, HHCS 3/8-16 X 3 GR8	1
13	040940	3/8 X 2-1/2 SAFETY SNAP	1
14	048937	DECAL, MFG. BY ALLEN ENG.	1
15	051193	BRACKET CONNECTING ROLLER FIN	1
16	051259	JAW COUPLER, RTF POWER UNIT OMA250H	1
17	099006	JAW COUPLER, RTF	1
18	099009	RIGHT ANGLE DRIVE RTF	1
19	099014	ASSY, 410/350 X 4 PNEU WHEEL	1
20	099030	KEY, 1/4" SQ X 2 1/4" LONG	2
21	099040	COUPLER SPIDER L099	1
22	099292	WELDMENT, WHEEL MNT. BRKT. RTF	1
23	099296	SPACER, LONG WHEEL MTG RTF	1
24	028930	DRIVER ADAPTER FOR BUNYON	OPTION

SECTION 4 PARTS

4.5 Illustration and Parts List Roller Tubes



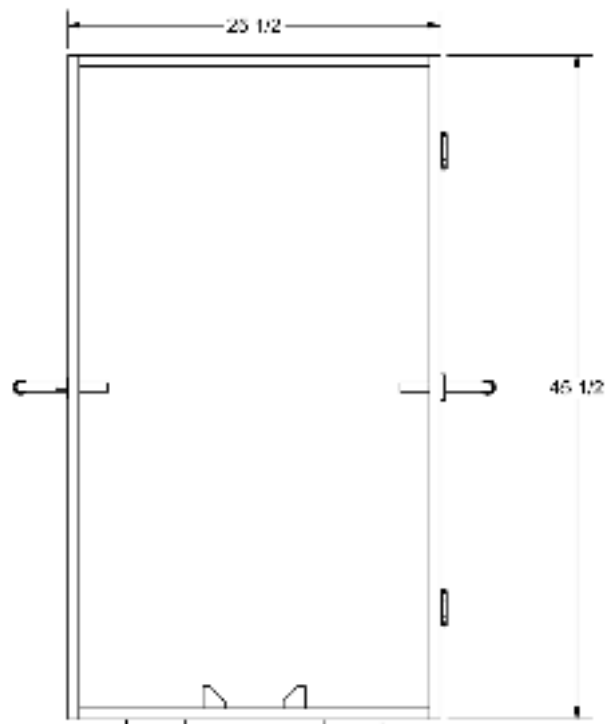
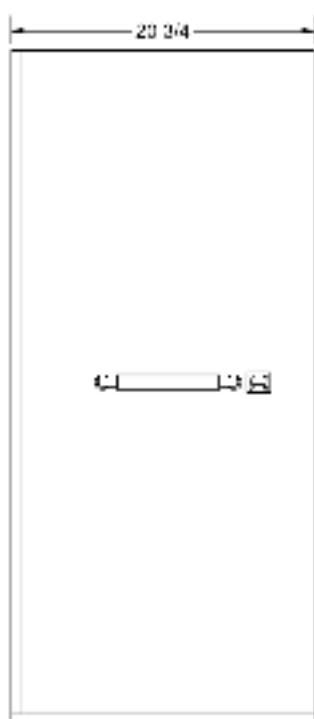
ITEM	PART #	DESCRIPTION	QTY
	099065	TUBE, ROLLER FINISHING 6'	1
	099080	TUBE, ROLLER FINISHING 8'	1
	099100	TUBE, ROLLER FINISHING 10'	1
	099120	TUBE, ROLLER FINISHING 12'	1
	099140	TUBE, ROLLER FINISHING 14'	1
	099160	TUBE, ROLLER FINISHING 16'	1
	099180	TUBE, ROLLER FINISHING 18'	1
	099200	TUBE, ROLLER FINISHING 20'	1
	099220	TUBE, ROLLER FINISHING 22'	1
	099240	TUBE, ROLLER FINISHING 24'	1
	099260	TUBE, ROLLER FINISHING 26'	1

Special length tubes available upon request.

4.6 Illustration and Parts List Shipping Box

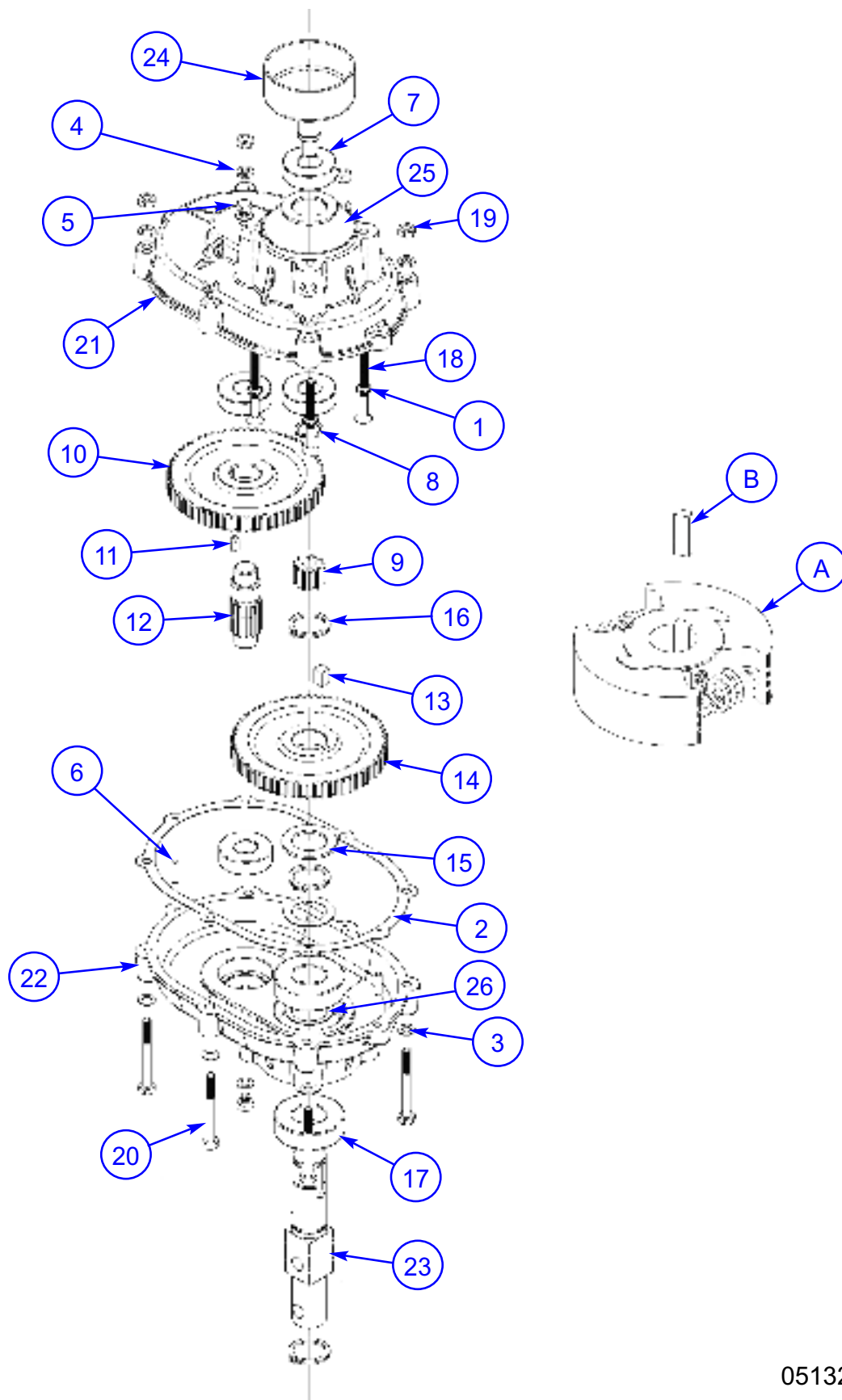
SECTION 4 PARTS

PART #	DESCRIPTION	QTY
051675	BOX STORAGE RTF POWER UNIT OMA250H	1



SECTION 4 PARTS

4.7 Illustration Transmission and Clutch



4.7 Parts List Transmission and Clutch

SECTION 4 PARTS

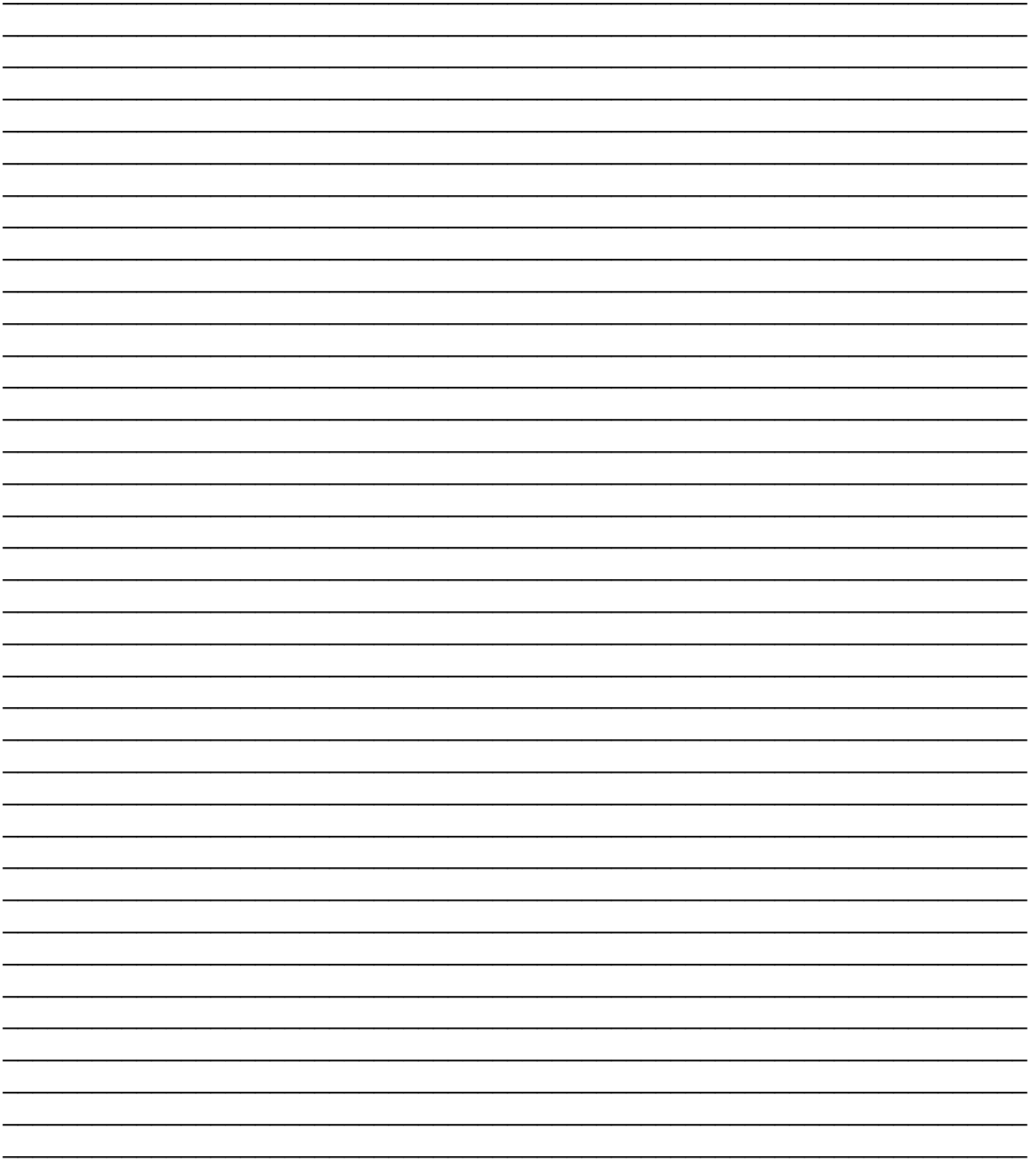
ITEM	PART #	DESCRIPTION	QTY
1	260038	WASHER, CTRSK EXT. TOOTH LOCK 6mm	4
2	260004	GASKET, TRANSMISSION CASE	1
3	260033	WASHER, FLAT 6mm	8
4	260011	WASHER, LOCK 6mm	6
5	260031	SCREW, HEX HEAD M6x1 6mm LONG	2
6	260032	PIN, DOWEL GEARBOX LINE-UP	2
7	260013	BEARING, CLUTCH SHAFT	4
8	260082	RING, SNAP 40 INTERNAL	1
9	260017	GEAR, PRIMARY PINION	1
10	260018	GEAR, PRIMARY 73 TOOTH	1
11	260021	KEY, WOODRUF	1
12	260026	GEAR, SECONDARY PINION	1
13	260027	KEY, SQUARE	1
14	260028	GEAR, SECONDARY 73 TOOTH	1
15	260029	WASHER, THRUST	1
16	260014	SNAP RING, OUTPUT SHAFT	3
17	260030	BEARING, OUTPUT SHAFT	2
18	260015	SCREW, FLAT HEAD HEX SOCKET	4
19	260010	NUT, HEX M6x1	6
20	260035	SCREW, HEX M6x1 x 60mm	6
21	260007	COVER, TRANSMISSION	1
22	260008	CASE, TRANSMISSION	1
23	260034	SHAFT, OUTPUT	1
24	260016	SHAFT, INPUT & CLUTCH CUP	1
25	260080	SPACER, BEARING (761400)	1
26	260081	SPACER, BEARING (761401)	1
A	260003	CLUTCH ASSEMBLY	1
B	260040	KEY, 5mm SQUARE x 18mm	1

SECTION 4

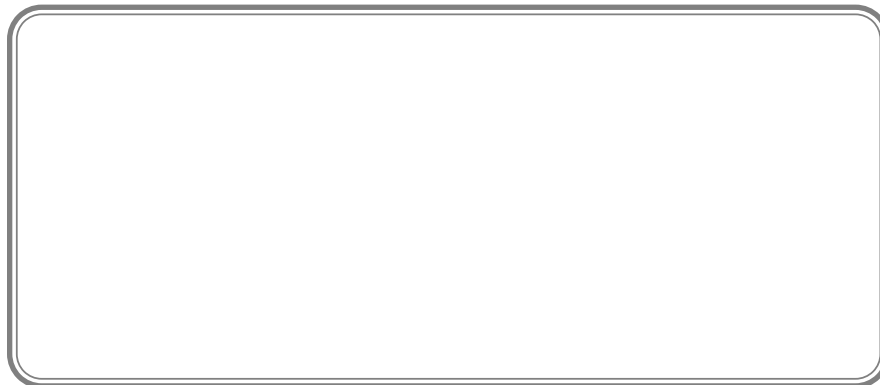
PARTS

Notes

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