

OPERATION AND PARTS MANUAL



MODEL J36E2 WALK-BEHIND TROWEL (2 HP ELECTRIC MOTOR)

Revision #1 (8/27/15)



THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

PN: 23814

PARTS FINDER

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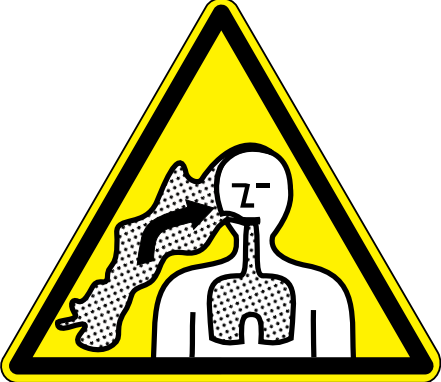
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SILICOSIS/RESPIRATORY WARNINGS

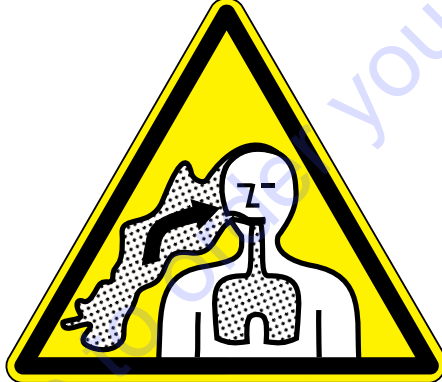
⚠ WARNING



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.

⚠ WARNING



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.

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NOTICE

Specifications and part numbers are subject to change without notice.

TRAINING CHECKLIST

Training Checklist			
No.	Description	OK?	Date
1	Read operation manual completely.		
2	Machine layout, location of components, checking of gearbox oil level.		
3	Operation of controls (machine not running).		
4	Safety controls, safety stop switch operation.		
5	Emergency stop procedures.		
6	Startup of machine, applying power.		
7	Maintaining a hover.		
8	Maneuvering.		
9	Pitching.		
10	Concrete finishing techniques.		
11	Shutdown of machine.		
12	Lifting of machine.		
13	Machine transport and storage.		

DAILY PRE-OPERATION CHECKLIST

Daily Pre-Operation Checklist		✓	✓	✓	✓	✓	✓
1	Gearbox oil level						
2	Condition of blades						
3	Blade pitch operation						
4	Safety stop switch operation						
5	Main ON/OFF switch operation						

Go to Discount-Equipment.com to order your parts

SAFETY INFORMATION

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.








SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER**, **WARNING**, **CAUTION** or **NOTICE**.

SAFETY SYMBOLS

 DANGER
Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY .
 WARNING
Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY .
 CAUTION
Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE INJURY .
NOTICE
Addresses practices not related to personal injury.

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety messages.

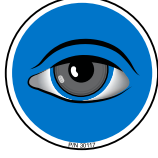
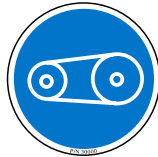

Symbol	Safety Hazard
	Electric shock hazards
	Explosive area hazards
	Rotating parts hazards
	Crush hazards
	Respiratory hazards

SAFETY INFORMATION

DECALS

Decals associated with the operation of this equipment are defined below.

DECAL	DEFINITION
	<p>WARNING Rotating Blade Hazard</p> <ul style="list-style-type: none"> Keep hands, fingers, and feet clear of engine fan blades and guard rings. Moving parts can cut. DO NOT remove guards. Stop engine before servicing.
	<p>WARNING Read Manual</p> <p>To avoid injury you must read and understand operator's manual before using this machine.</p>
	<p>WARNING Belt Guard Hazard</p> <p>Keep hands and fingers clear from engine belts. Moving parts can crush. DO NOT remove belt guards.</p>
	<p>DANGER Lifting/Crush Hazard</p> <ul style="list-style-type: none"> NEVER allow any person to stand underneath the trowel while lifting. DO NOT lift trowel with pans attached. ALWAYS make sure handle is securely attached. On Quick Pitch™ models make sure T-Handle latch is locked (engaged).
	<p>WARNING Training</p> <p>This machine to be operated by qualified personnel only. Ask for training as needed.</p>

DECAL	DEFINITION
	<p>NOTICE Visual Inspection</p> <p>Visually inspect designated locations before operating trowel. Check that all components are in appropriate operating condition.</p>
	<p>NOTICE Belt Drive</p> <p>XXXXXXX.</p>
	<p>NOTICE Protective Clothing</p> <p>ALWAYS wear appropriate clothing before operating trowel.</p>

SAFETY INFORMATION

GENERAL SAFETY

CAUTION

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



- Avoid wearing jewelry or loose fitting clothes that may snag on the controls or moving parts as this can cause serious injury.

- **NEVER** operate this equipment when not feeling well due to fatigue, illness or when under medication.



- **NEVER** operate this equipment under the influence of drugs or alcohol.



- **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

- No one other than the operator is to be in the working area when the equipment is in operation.

- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

NOTICE

- This equipment should only be operated by trained and qualified personnel 18 years of age and older.

- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.

- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.

- **NEVER** use accessories or attachments that are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

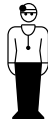
- **ALWAYS** know the location of the nearest fire extinguisher.



- **ALWAYS** know the location of the nearest first aid kit.



- **ALWAYS** know the location of the nearest phone or **keep a phone on the job site**. Also, know the phone numbers of the nearest **ambulance, doctor** and **fire department**. This information will be invaluable in the case of an emergency.




SAFETY INFORMATION

TROWEL SAFETY

DANGER

- **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe **bodily harm or even death**.

WARNING

- **ALWAYS** keep clear of rotating or moving parts while operating the trowel. 
- **DO NOT** start or operate the trowel if the drive train will not disengage. Centrifugal force between the trowel and surface when starting can cause uncontrolled handle movement that can cause serious injury. The handle must not move while starting the electric motor
- **NEVER** disconnect any **emergency or safety devices**. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.

CAUTION


- **NEVER** stand on trowel during operation.
- **NEVER** lubricate components or attempt service on a running machine.
- **NEVER** place your feet or hands inside the guard rings while starting or operating this equipment.

NOTICE


- **ALWAYS** keep the machine in proper running condition.
- Fix damage to machine and replace any broken parts immediately.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.
- A safety manual for operating and maintenance personnel of concrete power trowels produced by the Association of Equipment Manufacturers (AEM) can be obtained for a fee by ordering through their website at www.aem.org. Order FORM PT-160

ELECTRIC MOTOR SAFETY

WARNING

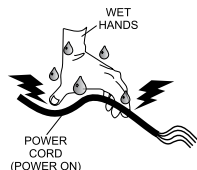
- **NEVER** operate the electric motor with guards removed.
- Keep fingers, hands hair and clothing away from all moving parts to prevent injury. 

GENERATOR SAFETY

If using a generator to power trowel, refer to applicable generator manual safety information section. 

ELECTRICAL SAFETY

DANGER

- **NEVER** let power cords or cables **lay in water**.
- **NEVER** use **damaged** or **worn** cables or cords when connecting equipment to generator or power source. Inspect for cuts in the insulation.
- **NEVER** grab or touch a live power cord or cable with wet hands. The possibility exists of **electrical shock, electrocution or death**. 
- Make sure power cables are securely connected. Incorrect connections may cause electrical shock and damage to the trowel.

SAFETY INFORMATION

TRANSPORTING SAFETY

CAUTION

- **NEVER** allow any person or animal to stand underneath the equipment while lifting.



NOTICE

- Some walk-behind trowels can be lifted or moved by two people utilizing lifting tubes or other special attachments. Generally, however, they must be lifted using lifting bales and cranes, hoists, or forklifts.
- **NEVER** transport trowel with float pans attached unless safety catches are used and are specifically cleared for such transport by the manufacturer.
- **NEVER** hoist the trowel more than three feet off the ground with float pans attached.
- Before lifting, make sure that the lifting bales are not damaged.
- Always make sure crane or lifting device has been properly secured to the lifting bales of the equipment.
- **ALWAYS** shutdown electric motor before transporting.
- **NEVER** lift the equipment while the motor is running.
- Use adequate lifting cable (strap or rope) of sufficient strength.
- **DO NOT** lift machine to unnecessary heights.
- **ALWAYS** tie down equipment during transport by securing the equipment.

ENVIRONMENTAL SAFETY/DECOMMISSIONING

NOTICE

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned (demolition and dismantlement), be sure to follow rules below.

- Contact your country's Department of Public Works or recycling agency in your area and arrange for proper disposal of any electrical components, waste associated with this equipment.
- When the life cycle of this equipment is over, it is recommended that the trowel frame and all other metal parts be sent to a recycling center.

Metal recycling involves the collection of metal from discarded products and its transformation into raw materials to use in manufacturing a new product.

Recyclers and manufacturers alike promote the process of recycling metal. Using a metal recycling center promotes energy cost savings.

TROWEL SPECIFICATIONS/DIMENSIONS

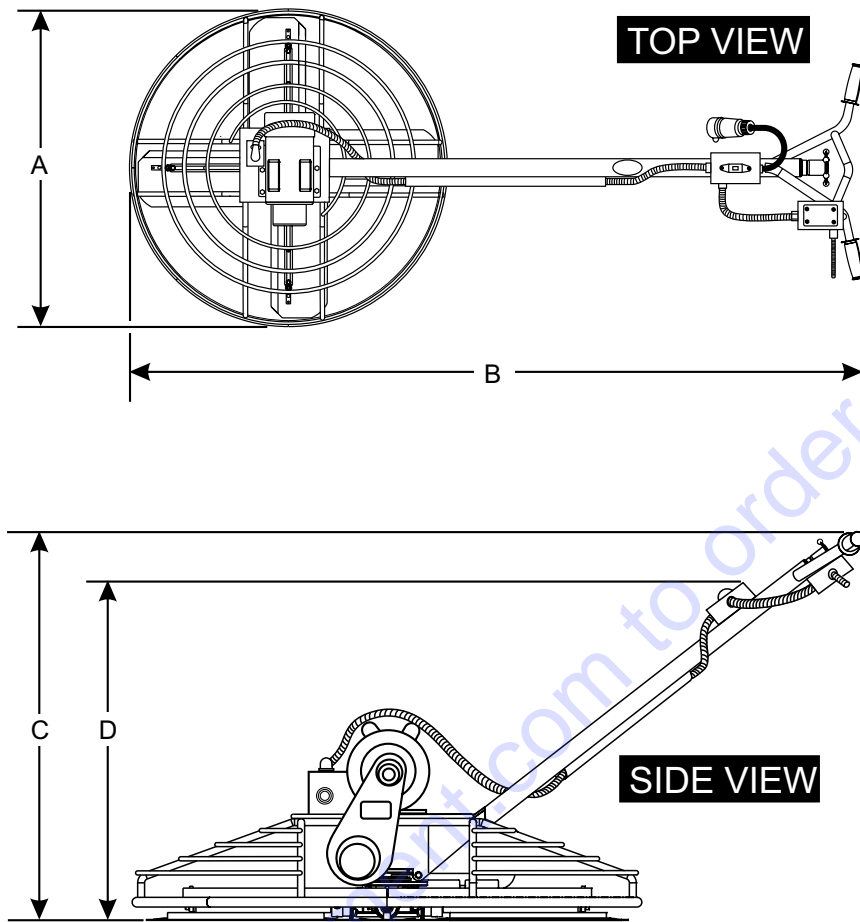


Figure 1. Dimensions

Table 1. Trowel Specifications			
A-Width (Ring Diameter) – in. (mm)	36.5 (927)	Sound Pressure (Guaranteed) – dBA ²	
B-Length – in. (mm)	70.5 (1,790)	Vibration (Hand/Arm) – ft/s ² (m/s ²) ¹	
C-Height (Handle) – in. (mm)	37.5 (953)	Electric Motor – H.P.	2.0 (1.5 kW)
D-Height (Switch Box) – in. (mm)	36 (914)	Rotor – RPM (Dry Concrete)	30-160
Number of Blades	4	Operating Weight – lbs. (kg.)	166 (75)
Path Width – in. (mm)	34.5 (876)	Shipping Weight – lbs. (kg.)	191 (86)
Sound Pressure (Weighted) – dBA ²			

1. Sound pressure is “A” weighted . Measured at the operators ear position while the walk-behind trowel 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.

2. The vibration level indicated is the maximum RMS (Root Mean Square) value obtained at the handle grip while operating the ride-on trowel 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.

ELECTRIC MOTOR SPECIFICATIONS

Table 2. Electric Motor Specifications	
Model	B697
Type	CP
HP/RPM	2.0 @ 3450
Hz	60
Phase	1
Input Voltage	230/115 VAC
Amps	8.4/16.6
Thermal Protection	Yes
Insulation Class	B
Ambient Temperature	104° F (40° C)

GENERAL INFORMATION

INTENDED USE

Operate this trowel, tools and components in accordance with the manufacturer's instructions. Use of any other tools for stated operation is considered contrary to designated use. The risk of such use lies entirely with the user. The manufacturer cannot be held liable for damages as a result of misuse.

TROWEL FAMILIARIZATION

This walk-behind trowel is designed for the floating and finishing of concrete slabs.

Take a walk around the trowel. Take notice of all the major components (Figure 2) like the electric motor, blades, steering handle, operator presence switch, gearbox, etc.

Read all the safety instructions carefully. Safety instructions will be found throughout this manual and on the trowel. Keep all safety information in good, readable condition. Operators should be well trained on the operation and maintenance of the trowel.

Before using your trowel, test it on a flat watered down section of finished concrete that is free of any debris and other objects.

This trial test run will increase your confidence in using the trowel and at the same time it will familiarize you with the trowel's controls. In addition you will understand how the trowel handles under actual conditions.

ELECTRIC MOTOR

This trowel is equipped with a 2 HP 115/230 VAC, 60 Hz single phase dual voltage motor. Refer to the wiring chart affixed to electric motor casing for the desired voltage configuration.

DRIVE SYSTEM

Power is transferred from the electric motor to the gearbox input shaft via a V-belt pulley drive system. The pulley engages using a centrifugal clutch. See parts section of this manual for a breakdown of the drive system.

GEARBOX

The **gearbox** is located beneath the motor and transfers power to the **spider** assembly. The gearbox controls the rotational speed of the trowel and is equipped with two shafts (input and output).

SPIDER

The vertical output shaft of the gearbox connects to a cast hub called the **spider**. The spider has 4 arms that extend outward that are used for attachment of blades or other accessories. Remember as the gearbox output shaft rotates so does the spider assembly.

GUARD RING

This unit is equipped with a safety guard ring. It is designed to help protect items from coming into contact with the rotating blades while the trowel is in operation.

BLADES

The blades of the trowel finish the concrete as they are rotated around the surface. This trowel comes equipped with four **combination blades** (8 in./203 mm wide) per rotor equally spaced in a radial pattern and attached to a vertical rotating shaft by means of a spider assembly.

OPERATOR PRESENCE START/STOP SWITCH

In the event of a trowel runaway condition (operator releases handlebars during operation), the operator presence start/stop switch will stop the electric motor and bring the trowel to a halt.

CAUTION

NEVER attempt to lift the trowel by yourself. **ALWAYS** get the assistance of another person to help lift the trowel.

TRAINING

For proper training, please use the "**TRAINING CHECKLIST**" form located in the front of this manual. This checklist will provide an outline for an experienced operator to provide training to a new operator.

TROWEL COMPONENTS

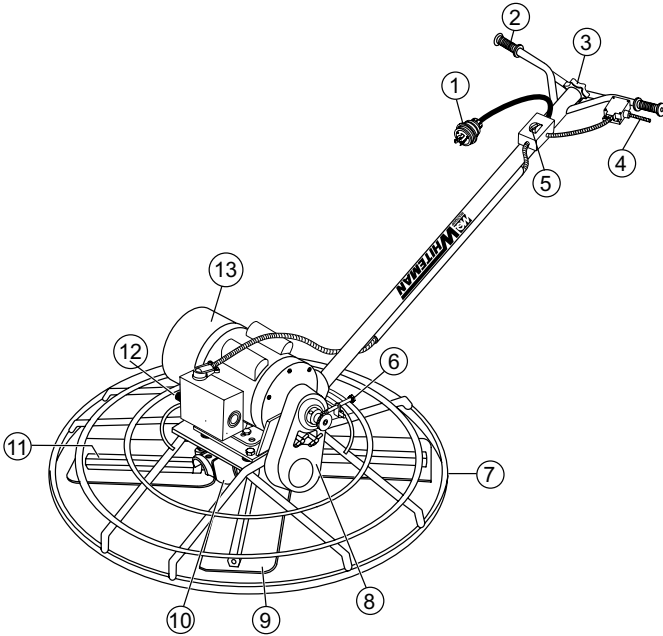


Figure 2. Trowel Control and Components

Figure 2 shows the location of the basic controls or components, for the trowel. Listed below is a brief explanation of each control or component.

1. **Power Plug** — Connect this plug to either a 115 or 230 VAC power source. Unit is shipped from factory for 115 VAC configuration. **ALWAYS** read label on electric motor to determine voltage configurations.
2. **Hand Grips** — When maneuvering of the trowel is required **ALWAYS** place both hands on each grip to operate the trowel. Replace hand grips when they become worn or damaged.
3. **Pitch Control Star Wheel**— To adjust the pitch of the blades, rotate the star wheel clockwise to pitch blades upwards. Rotate star wheel counterclockwise to pitch blades flat (no pitch).
4. **Operator Presence ON/OFF Lever Switch** — This lever switch when closed (squeezed), will apply power to the electric motor. When lever switch is released (open), power to the electric motor will be interrupted. Please note main ON/OFF switch must be in ON position in order for the operator presence switch lever to operate.
5. **Main ON/OFF Switch** — Place in ON position to apply power to electric motor via operator presence switch.
6. **Adjustment Knob** — This knob is used to vary the blade speed.
7. **Guard Ring** — **NEVER** put hands or feet inside guard ring while the machine is running **NEVER** operate trowel with broken or defective guard rings. Serious injury could occur.
8. **V-Belt Cover** — Remove this cover to gain access to the V-belt. **NEVER** operate the trowel with this cover removed.
9. **Blades** — This trowel is equipped with combination blades. These blades are versatile and should take care of most troweling needs. In addition float discs can be attached to the trowel arms that will allow the trowel to float on "wet" concrete. Contact Discount-Equipment for other types of blades and float pan options
10. **Gearbox** — Worm gear drive gearbox. Provides rotation of blades via electric motor interface. **ALWAYS** check gearbox oil level prior to each use. Fill with recommended type gearbox oil.
11. **Trowel Arm** — **NEVER** operate the trowel with a bent, broken or out of adjustment trowel arm. If the blades show uneven wear patterns or some blades wear out faster than others, the trowel arm may need to be adjusted. Use the trowel arm adjustment tool P/N 1817 to adjust the trowel arms.
12. **Electric Motor Reset Switch** — In the event of an overload press this switch to reset the motor. Allow a sufficient amount of time for the motor to cool down before pressing the reset switch.
13. **Electric Motor** — This trowel is equipped with a dual voltage motor. It is shipped from the factory for 115 VAC, 60 Hz single phase operation. For 230 VAC configuration refer to the electric motor wiring diagram within this manual.

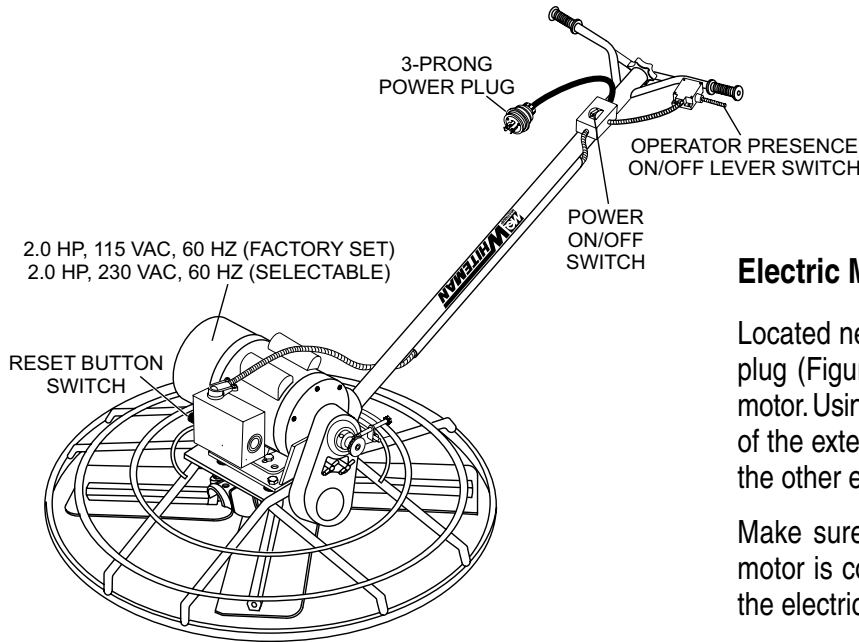


Figure 3. Electric Motor

ELECTRIC MOTOR

For maintenance care and operation of the electric motor, refer to your electric motor instruction booklet furnished with the electric motor.

Protect the electric motor from dust as much as possible and keep ventilating openings clean.

CAUTION

NEVER spray water at any time on the electric motor.

NEVER operate electric motor in a explosive environment.

The electric motor used on this trowel is a single-phase, 60 Hz, 2.0 HP motor. The motor is shipped from the factory for 115 VAC operation. Make certain that the correct size, grounded 3-wire type extension cord is used. See Table 3.

Read legend on motor nameplate to configure for 230 VAC operation or reference wiring diagram in this manual.

Electric Motor	Input Voltage	50 FT. (15.24 m)	75 FT. (22.86 m)	100 FT. (30.48 m)	200 FT. (60.96 m)
2.0 HP	115 VAC	No. 12	No. 10	No. 8	No. 6
	230 VAC	No. 14	No. 12	No. 12	No. 8

Electric Motor Connection

Located near the handle bars is the electric motor power plug (Figure 3). This plug provides power to the electric motor. Using an adequate size extension cord, plug one end of the extension cord into the trowel power plug. Connect the other end of the extension cord to the power source.

Make sure the voltage supplied to the trowel's electric motor is correct. Incorrect voltage could severely damage the electric motor.

Motors can burn out when the line voltage falls 10% below the voltage rating of the motor. Failure to use proper voltage will cause the motor to overheat and actuate the overload switch.

If overload protection should actuate because of improper voltage or any other malfunction, remove power from the electric motor. Allow the motor to cool and correct the problem that caused the overload, then press the reset switch button, and re-apply power to the electric motor.

NOTICE

NEVER! disable or disconnect the electric motor *main* ON/OFF switch which is located on the main tube. It is provided for operator safety. Injury may result if it is disabled, disconnected or improperly maintained.

In addition **NEVER** disable, disconnect, or modify the *operator presence* ON/OFF lever switch located on the handle bars.

Important!, when changing the input voltage to the electric motor from 115 to 230 VAC, the power plug on the trowel must be changed. See Table 4 below.

Electric Motor HP	115-230 VAC, 60 Hz -Single Phase	
	NEMA Plug	Mating NEMA Receptacle
2.0 HP 115 VAC	L5-20P	L5-20R
2.0 HP 230 VAC	L6-20P	L6-20R

ASSEMBLY AND INSTALLATION

ASSEMBLY AND INSTALLATION

Before the trowel can be put into operation there are some components that must be installed before the trowel can be used. This section provides general instructions on how to install those components.

Handle Tube Installation

1. Attach the main handle (tube) to the gearbox as shown in (Figure 4). The mounting hardware should be contained in the shipping container.

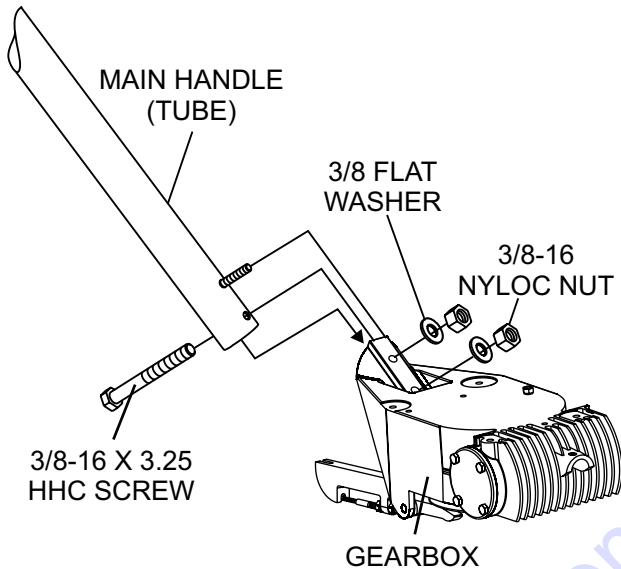


Figure 4. Handle Tube Installation

NOTICE

If additional handle height adjustment is desired, a handle wedge kit can be purchased for your trowel by ordering P/N 2576 from your Multiquip dealer.

These wedges are placed between the handle and the gearbox to adjust the operating height of the handle. This kit comes complete with wedges, new bolts and installation instructions. This will move your operating handle position up or down approximately 3" (76 mm).

Pitch Cable Installation

1. Expose the pitch cable to maximum by turning the blade pitch star wheel (Figure 5) fully counterclockwise for no pitch (blades flat).

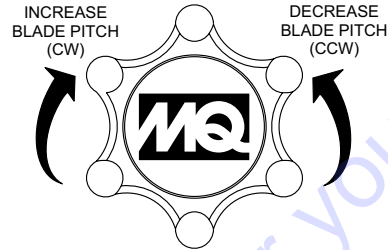


Figure 5. Blade Pitch Star wheel

2. Remove brass set nut #1 from the blade pitch cable end as shown in (Figure 6).

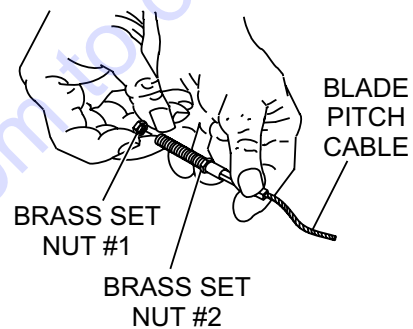


Figure 6. Blade Pitch Cable

3. Thread brass set nut #2 (Figure 6) towards the cable as far as possible.
4. Insert the cable end through the yoke eyelet (Figure 7). Tighten brass set nut #1 by hand to remove all the slack from the cable.

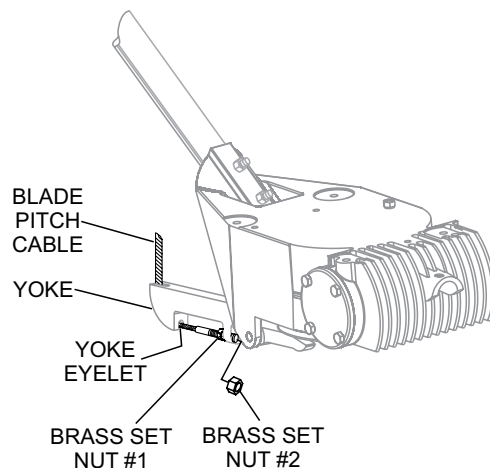



Figure 7. Pitch Cable Yoke Attachment

ASSEMBLY AND INSTALLATION

- Using a wrench, tighten the brass set #2 nut up against the yoke boss. This will lock the cable in place.
- Use a wrench and finish tightening the brass set #1 nut up against the yoke boss.

CAUTION

 **ALWAYS** wear approved eye and hearing protection before operating the trowel.

 **NEVER** place hands or feet inside the guard rings while the electric motor is running. **ALWAYS** remove power from the electric motor before performing any kind of maintenance on the trowel.

Gearbox Oil

- Determine if the gearbox oil is low by removing the oil plug located on the side of the gearbox. (Figure 8) This plug will be marked by the "check" decal. The correct level of the lubrication oil should be to the bottom of the fill plug.

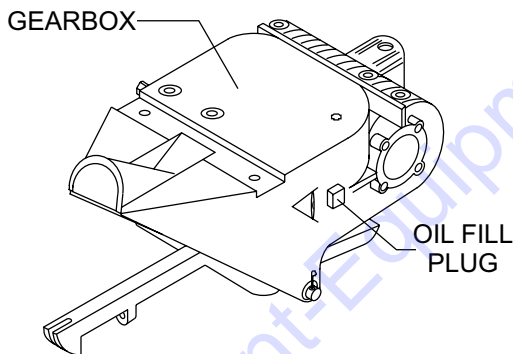


Figure 8. Gearbox

- If lubrication oil begins to seep out as the drain plug is being removed, then it can be assumed that the gearbox has a sufficient amount of oil.
- If lubrication oil does not seep out as the drain plug is being removed, fill with type ISO 680 (P/N 10139) gearbox lubricant oil until the oil filler hole overflows.

V-Belt Check

A worn or damaged V-belt can adversely affect the performance of the trowel. If a V-belt is defective or worn simply replace the V-belt as outlined in the maintenance section of this manual.

Belt Guard Check

Check for damage, loose or missing hardware.

Blade Check

Check for worn or damaged blades. Check to see if one blade is worn out while the others look new. If this is the case there could be a blade pitch problem. Refer to the maintenance section of this manual for blade pitch adjustment procedure. Replace any worn blades.

WARNING

NEVER disable or disconnect the safety "operator presence" ON/OFF lever switch. It is provided for operator safety. Injury may result if it is disabled, disconnected or improperly maintained.

Operator Presence ON/OFF Lever Switch

This trowel has been equipped with an operator presence ON/OFF lever switch (Figure 9). This switch should be tested every time the motor is started.

The purpose of this switch is to stop the electric motor in a runaway situation, (i.e. the operator releasing the handle during operation).

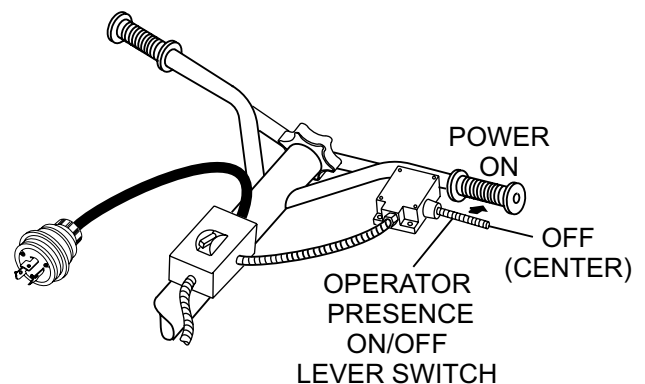


Figure 9. Operator Presence Switch

STARTING

This section is intended to assist the operator with the initial start-up of the walk-behind trowel. It is extremely important that this section be read carefully before attempting to use the trowel in the field. **DO NOT** use your trowel until this section is thoroughly understood.

Lifting the Trowel Onto a Slab

Extra care should be taken when lifting the trowel off the ground. Serious damage to the machine or personal injury could be caused by dropping a trowel.

WARNING

NEVER attempt to lift this machine alone. **ALWAYS** use two people when lifting of the trowel is required. Be careful when lifting the trowel by the guard ring as it may rotate and cause injury.

NOTICE

DO NOT attempt to operate the trowel until the Safety, General Information and Inspection sections of this manual have been read and thoroughly understood.

NOTICE

NEVER lift the trowel to unnecessary heights. **DO NOT** stand underneath the trowel while it is being lifted. Serious damage to the machine or personal injury could be caused by dropping a trowel.

Starting the Electric Motor

NOTICE

The electric motor used on this equipment must be grounded in accordance with the **National Electrical Code** (NEC) and local codes by trained personnel to prevent serious electrical shock.

To service motor, **ALWAYS** disconnect power source from motor and allow motor a sufficient amount of time to cool before servicing.

1. Using an extension cord (Figure 10) of adequate size, plug one end of the extension cord into the trowel power plug.

2. Connect the other end of the extension cord to the power source. Make sure the correct voltage is being supplied to the electric motor.
3. Place the main ON/OFF switch (Figure 10) in the **ON** position.
4. Grasp both hand grips on the handle bar, then with the left hand squeeze the operator presence ON/OFF lever switch.
5. The blades should be rotating as the lever is held.
6. Release the lever and verify that the blades stop rotating.

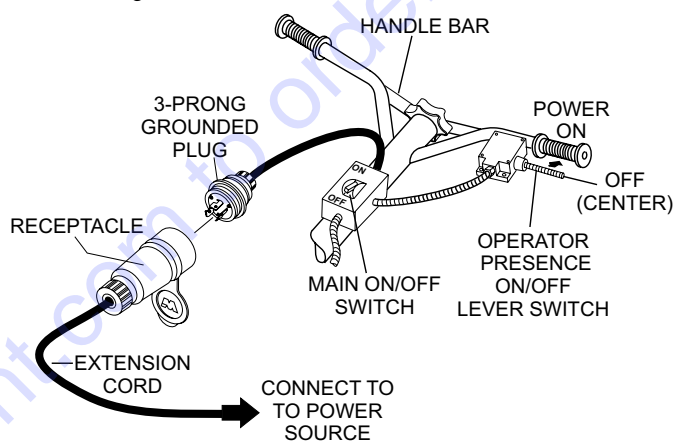


Figure 10. Starting Electric Motor

7. To begin troweling, squeeze and hold operator presence lever switch. To stop troweling release the lever.

NOTICE

Reference Table 3 when selecting proper size extension cord.

Concrete Finishing Techniques

The following steps are intended as a basic guide to machine operation, and are not to be considered a complete guide to concrete finishing. We suggest that all operators (experienced and novice) read "**Slabs on Grade**" published by the **American Concrete Institute, Detroit, Michigan**. Read the "Training" section of this manual for more information.

Pitching the Blades (Standard Handle)

To pitch the blades upwards using the "**Standard**" handle, (Figure 11) simply turn the **star-wheel** clockwise. Turning the star wheel counter clockwise will cause the blades to lay flat.

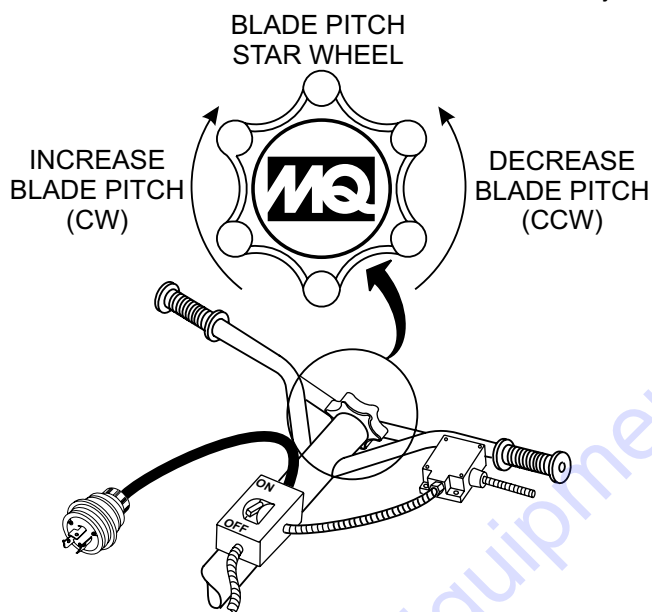


Figure 11. Blade Pitch Star Wheel

Shutdown

1. Release the operator presence ON/OFF switch lever, wait for blades to stop rotating.
2. Place the main ON/OFF switch in the **OFF** position.
3. Remove extension cord from trowel power plug.

OPERATION

Maneuvering the Trowel

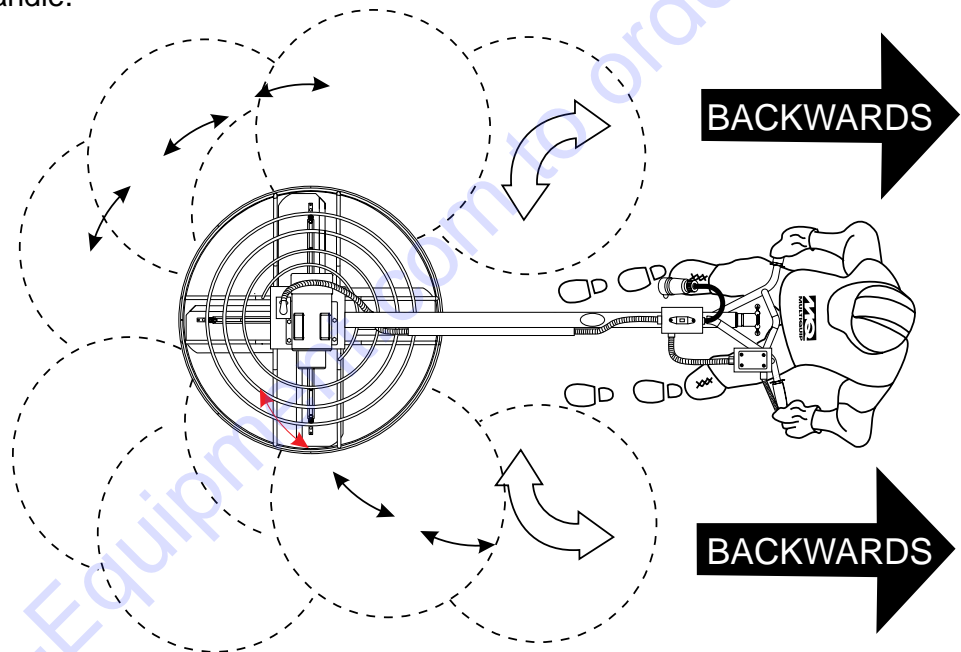
1. Get into the operator's position behind the handle. With a secure foothold and a firm grasp on the handle, slowly increase the engine speed until the desired blade speed is obtained.
2. Figure 12 below illustrates a typical walk-behind trowel application. Practice maneuvering the trowel. The trick is to let the trowel do the work.

3. Continue to practice maneuvering the trowel. Try to practice as if you were finishing a slab of concrete. Practice edging and covering a large area.

Remember a good finishing technique is to work backwards. Be careful when moving backwards so that hazards can be avoided. The best way to get accustomed to the trowel is repeated use.

To move the trowel to the operator's left, **lift up** on the handle, to move the trowel to the right **push down** on the handle.

Remember! that if you let go of the trowel, just **step away** and let the trowel come to a complete **STOP** before trying to recover the trowel.



The best method for finishing concrete is to slowly walk **backwards** with the trowel, guiding the trowel from side to side. This will cover all footprints on wet concrete.

Figure 12. Maneuvering the Trowel

CAUTION

NEVER place your **feet** or **hands** inside the guard rings while starting or operating this equipment.

CAUTION

ALWAYS keep clear of **rotating** or **moving** parts while operating this equipment.

NOTICE

Trowel blades should be changed when they fail to finish concrete in a satisfactory manner.

Blades are a vital part of finishing concrete. This trowel, or finisher, has been designed to finish concrete and the blades are built to stringent quality standards out of the finest steel.

If you need replacement blades, consult the parts list in this manual for part numbers and order them from your Multiquip parts dealer or importer.

Combo Blades

This trowel is equipped with combination float/finish (Figure 13) blades as original equipment. These blades have been designed for optimum performance in both the floating and finishing operations. These blades are versatile and should take care of most troweling needs.

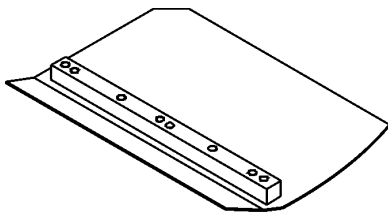


Figure 13. Combination Blade

Finish Blades (Optional)

These blades (Figure 14) have been specifically designed for finish operations with this trowel. They will provide a premium surface finishing capability from your trowel. They should only be used after the concrete has set to the point where the trowel does not sink into the concrete when placed on it.

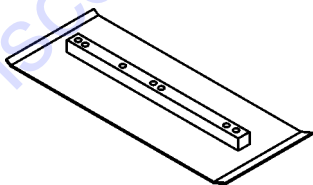


Figure 14. Finish Blade

Clip-On Float Blades (Optional)

These blades will clip (Figure 15) onto an existing installed blade, allowing your finisher to float on “wet” concrete so that the troweling operation can begin as early as possible.

These blades are easily removable, so that after the floating operation, when the concrete is sufficiently cured, they can be removed to expose the finish blades for continued troweling.

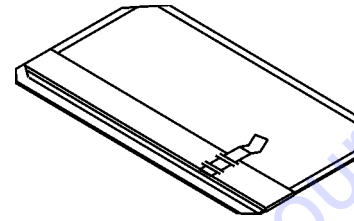


Figure 15. Clip-On Float Blade

Float Discs (Optional)

These round discs (Figure 16) attach to the spiders and allow the machine to “float” on “wet” concrete. The disc design allows early floating and easy movement from wet to dry areas. They are also very effective in embedding large aggregates and surface hardeners.

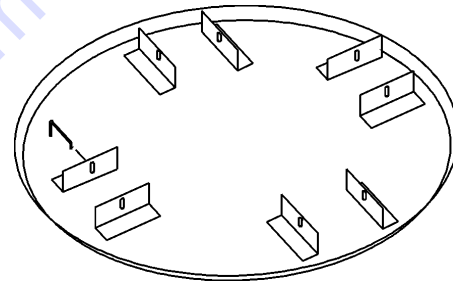


Figure 16. Float Disk/Pan

Trowel Arm Adjustment Tool (Optional)

If blades show uneven wear patterns or some tend to wear out faster than others, the trowel arms may need to be adjusted. A special tool is available (Figure 17) that will adjust all of the trowel arms consistently. The Trowel Arm Fixture P/N is 1817.

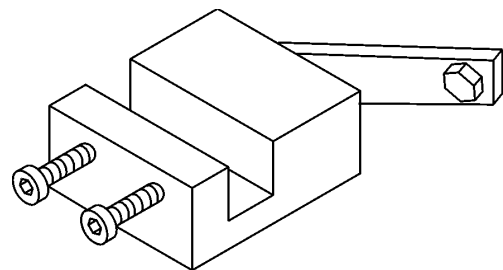


Figure 17. Trowel Arm Adjustment Fixture

Table 5. Trowel Maintenance Schedule

ITEM	OPERATION	DAILY	Periodic Maintenance Interval		
			Every 50-60 Hrs	Every 200-300 Hrs	Every 2000-2500 Hrs
V-Belt	Check/Replace	X			
Relube Trowel Arms	Grease		X		
Blades	Check/Replace		X		
Trowel Arms	Remove/Clean			X	
Thrust Collar/Bushing	Remove/Clean			X	
Blade Arms	Adjust			X	
Arm Bushing	Remove/Replace				X
Wear Ring	Remove/Replace				X
Thrust Collar Bearing	Remove/Replace				X
Pitch Control Cable	Check				X

General maintenance practices are crucial to the performance and longevity of your trowel. This equipment requires routine cleaning, blade and trowel arm inspection, lubrication and V-belt inspection for wear and damage. Reference Table 5 for scheduled trowel maintenance.

The following procedures, devoted to maintenance, can prevent serious trowel damage or malfunctioning.

GENERAL CLEANLINESS

Clean the trowel daily. Remove all dust and slurry buildup. If the trowel is steam-cleaned, ensure that lubrication is accomplished **AFTER** steam cleaning.

ELECTRIC MOTOR

The electric motor bearing is prelubricated, no further lubrication or maintenance is required.

V-BELT

Visually examine the V-belt (Figure 18) and determine if it is full of tiny cracks, frayed, has pieces of rubber missing, is peeling or otherwise damaged.

Also, examine the V-belt and determine if it is "**glazed**" (hard shiny appearance on the sides of the belt). Either of these two conditions can cause the belt to run hot, which can weaken it and increase the danger of it breaking.

If the V-belt exhibits any of the above wear conditions replace the V-belt immediately

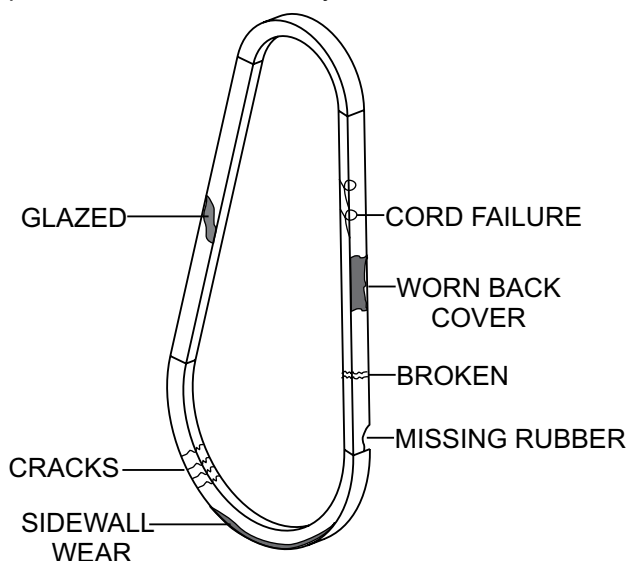


Figure 18. V-Belt Inspection

BLADE PITCH ADJUSTMENT PROCEDURE

The maintenance adjustment of blade pitch is an adjustment that is made by a bolt (Figure 19) on the arm of the trowel arm lever. This bolt is the contact point of the trowel arm lever to the lower wear plate on the thrust collar. The goal of the adjustment is to promote consistent blade pitch and finishing quality. Adjustments are made by tightening or loosening the blade pitch adjustment bolt.

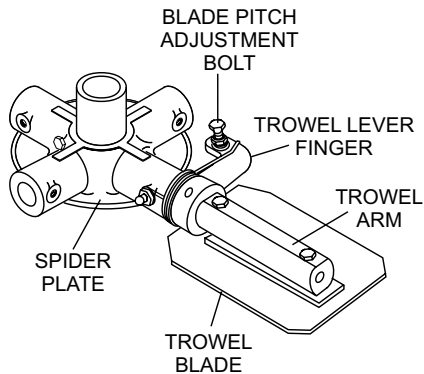


Figure 19. Blade Pitch Adjustment Bolt

Watch for the following indications when determining if blade pitch adjustments are necessary:

- Is the machine wearing out blades unevenly, (i.e. one blade is completely worn out while the others look new)?
- Does the machine have a perceptible rolling or bouncing motion when in use?
- Look at the machine while it is running, do the guard rings “rock up and down” relative to the ground?

If it is determined that blade pitch adjustments are required do the following:

1. Place the trowel on a flat, level area free of dirt and debris.

NOTICE

Before any blade pitch adjustments can be made it is essential to have a clean level area free of dirt and debris to test the trowel. Any unlevel spots in the floor or debris under the trowel blades will give an incorrect perception of adjustment. Ideally, a 5 x 5 ft. (1.5 x 1.5 meter), three-quarter inch (19 mm) thick **FLAT** steel plate should be used for testing.

2. Pitch the blades as flat as possible. The pitch adjustment bolts (Figure 20) should all barely make contact (0.10 inch max. clearance) with the **lower wear plate** on the spider. All pitch alignment bolts should be spaced the same distance from the lower wear plate. If one is not making contact, adjustment will be necessary.

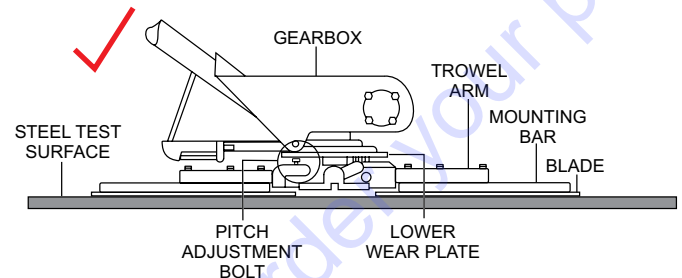


Figure 20. Correct Blade Pitch (Flat)

3. Adjust the “**high**” bolts down to the level of the one that is not touching, or adjust the “**low**” bolt up to the level of the higher ones. If possible, adjust the low bolt up to the level of the rest of the bolts. This is the fastest way, but may not always work. Verify after adjustment the blades pitch correctly.
4. Blades that are incorrectly adjusted often will not be able to pitch flat. This can occur if the adjusting bolts are raised too high. Conversely, adjusting bolts that are too low will not allow the blades to be pitched high enough for finishing operations.
5. If, after making blade pitch adjustments the machine is still finishing poorly, blades, trowel arms, and trowel arm bushings may be suspect and should be looked at for adjustment, wear, or damage.
6. Figure 21 illustrates, “incorrect alignment”, worn spider bushings or bent trowel arms.

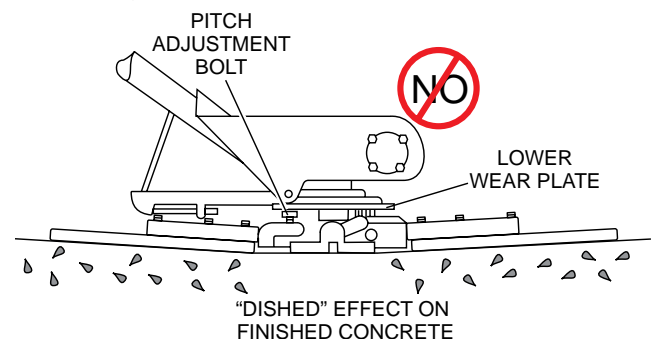


Figure 21. Incorrect Spider Plate Alignment

SPIDER REMOVAL

Remove the spider assembly from the gearbox shaft as follows:

1. Locate the cone point square head set screw (Figure 22) and attached jam nut found on the side of the spider assembly.
2. Loosen the jam nut and cone point square head set screw.
3. Carefully lift the upper trowel/gearbox assembly off of the spider assembly. A slight tap with a rubber mallet may be necessary to dislodge the spider from the main shaft of the gearbox.

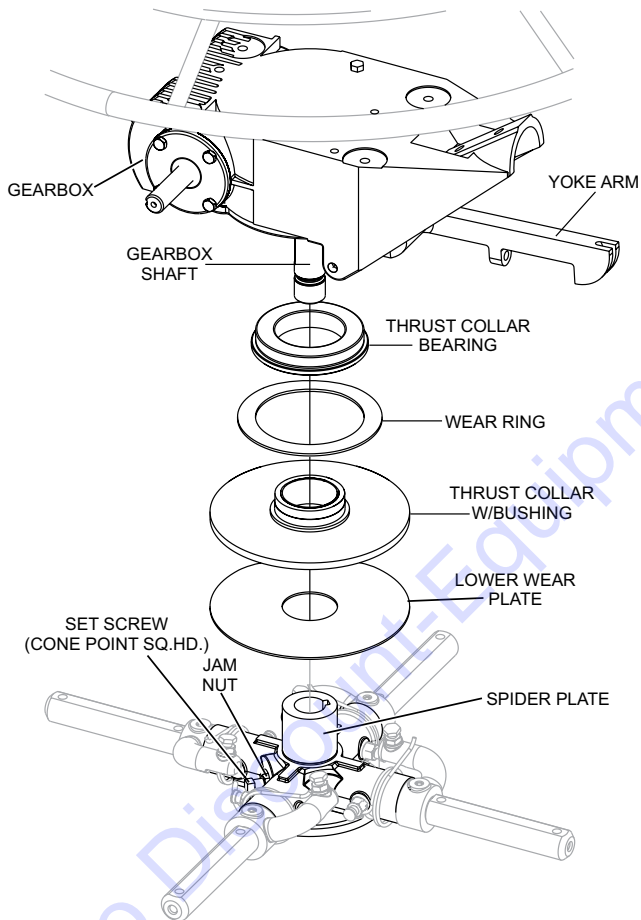


Figure 22. Spider Removal

CHANGING BLADES

It is recommended that **ALL** the blades on the trowel are changed at the same time. If only one or some of the blades are changed, the machine will not finish concrete consistently and the machine may wobble or bounce.

Perform the following procedure when changing blades: Please note the blade orientation on the trowel arm before removing.

1. Lift the trowel up, placing blocks under the main guard ring to support it.
2. Remove the bolts and lock washers from all the trowel arms, and then remove the blades as shown in Figure 23.

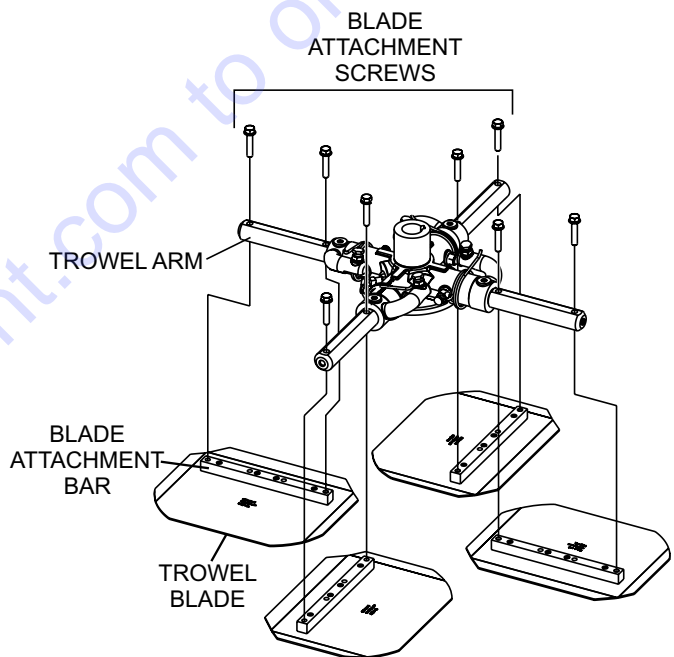


Figure 23. Blade Removal

3. Wire brush and remove all concrete and debris from all six sides of each of the four trowel arms. This is important to properly seat the new blades.
4. Install the new blades, maintaining the proper blade orientation for direction of rotation.
5. Reinstall the bolts and lock washers.

TROWEL ARM REMOVAL

1. Each trowel arm is held in place at the spider plate by a hex head bolt (zerk grease fitting) and a roll pin. Remove both the hex head bolt and the roll pin (Figure 24) from the spider plate.
2. Remove the trowel arm from the spider plate.
3. Should the trowel arm inserts (bushing) come out with the trowel arm, remove the bushing from the trowel arm and set aside in a safe place. If the bushing is retained inside the spider plate, carefully remove the bushing
4. Examine the trowel arm bushing insert (Figure 24), clean if necessary. Replace bushing if out of round or worn.

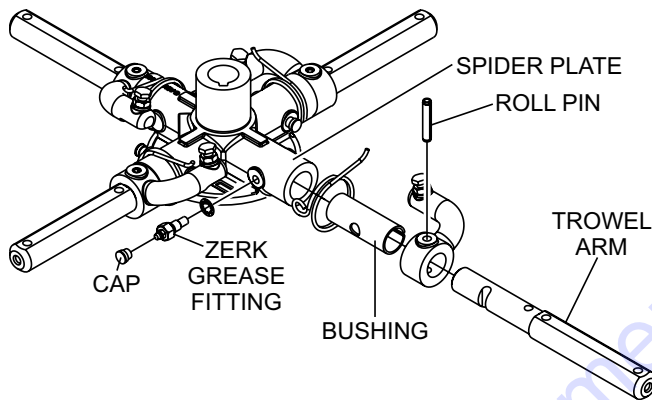


Figure 24. Trowel Arm Removal

CHECKING TROWEL ARM STRAIGHTNESS

Trowel arms (Figure 25) can be damaged by rough handling, such as dropping the trowel on the pad, or by striking exposed plumbing, forms, or rebar while in operation. A bent trowel arm will not allow the trowel to operate in a smooth fluid rotation. If bent trowel arms are suspect, check for flatness as follows:

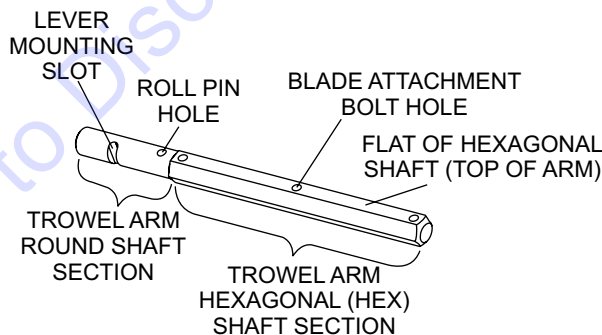


Figure 25. Trowel Arm

1. Use a thick steel plate, granite slab or any surface which is true and flat, to check all six sides of each trowel arm for flatness (Figure 26).
2. Check each of the six sides of the trowel arm (hex section). A feeler gauge of .004 inch (0.10 mm) should not pass between the flat of the trowel arm and the test surface along its length on the test surface.

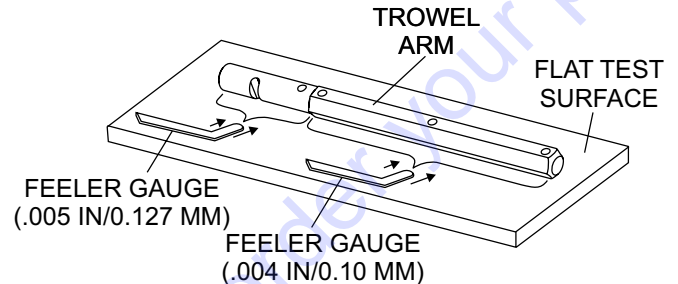


Figure 26. Checking Trowel Arm Flatness

3. Next, check the clearance between the round shaft and the test surface as one of the flat hex sections of the arm rests on the test surface. Rotate the arm to each of the flat hex sections and check the clearance of the round shaft. Use a feeler gauge (Figure 27) of .005 inch (0.127 mm). Each section should have the same clearance between the round of the trowel arm shaft and the test surface.
4. If the trowel arm is found to be uneven or bent, replace the trowel arm.

TROWEL ARM LEVER ADJUSTMENT

The easiest and most consistent way to adjust the trowel arm lever is to use the Trowel Arm Adjustment Fixture (P.N. 1817).

As each trowel arm is locked into the fixture, the arm bolt is adjusted to where it contacts a stop on the fixture. This will consistently adjust all of the trowel arms, keeping the finisher as flat and evenly pitched as possible.

This fixture will allow consistent adjustment of the trowel arm lever. It comes with all the hardware necessary to properly accomplish this maintenance and instructions on how to properly utilize this tool. Adjusting the trowel arm lever without a fixture requires a special talent.

Perform the following procedure when adjusting the trowel arm lever:

1. Unscrew the locking bolts on the adjustment fixture and place the trowel arm (lever attached) into the fixture channel as shown in Figure 27.
2. Ensure the fixture arm is in the up position.
3. A thin shim may be required to cover the blade holes on the trowel arm. Make sure to align the trowel adjustment bolt with the fixture adjustment bolt.

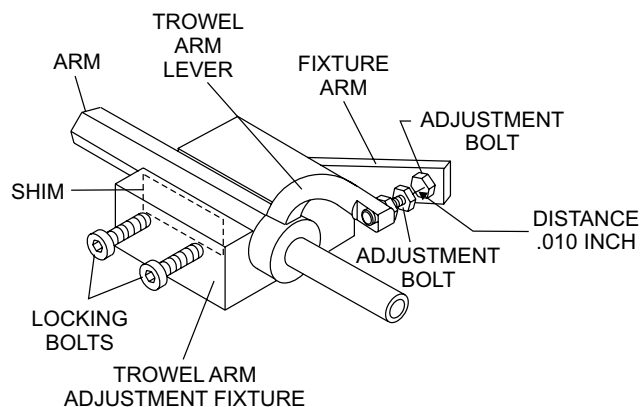


Figure 27. Trowel Arm Adjustment Fixture

4. Use an allen wrench to tighten the locking bolts securing the trowel arm in place.
5. Adjust the bolt distance shown in Figure 27 to match one of the arms. The other arms will be adjusted to match this distance.
6. Loosen the locking nut on the trowel arm lever, then turn the trowel arm adjusting bolt until it barely touches (.010") the fixture adjusting bolt.
7. Once the correct adjustment is made, tighten the lock nut on the trowel arm to lock in place.
8. Loosen locking nuts on the adjustment fixture, and remove trowel arm.
9. Repeat steps for the remaining trowel arms.
3. Reinstall bronze bushing onto trowel arm.
4. Repeat steps 2 -3 for each trowel arm.
5. Make sure that the spring tensioner is in the correct position to exert tension on the trowel arm.
6. Insert all trowel arms with levers into spider plate (with bronze bushing already installed) using care to align grease hole on bronze bushing with grease hole fitting on spider plate.
7. Lock trowel arms in place by tightening the hex head bolt with zerk grease fitting and jam nut.
8. Reinstall the blades onto the trowel arms.
9. Install stabilizer ring onto spider assembly.
10. Reinstall lower wear plate, thrust collar and upper wear ring in the reverse order that they were disassembled onto the spider shaft. Make sure that there is little or no lateral movement between the thrust collar and the spider shaft.
11. Carefully lift the upper trowel assembly, line up the keyway on gear box main shaft and insert into spider assembly.
12. Reinstall square head cone point into spider plate and tighten in place. Tighten jam nut. Use care in making sure point of set screw engages groove in gear box main shaft.
13. Lubricate all grease points (zerk fittings) with premium "Lithum 12" based grease, conforming to NLG1 Grade #2 consistency.

REASSEMBLY

1. Clean and examine the upper/lower wear plates and thrust collar. Examine the entire spider assembly. Wire brush any concrete or rust buildup. If any of the spider components are found to be damaged or out of round, replace them.
2. Make sure that the bronze trowel arm bushing is not damaged or out of round. Clean the bushing if necessary. If the bronze bushing is damaged or worn, replace it.

INSTALLING PANS ONTO FINISHER BLADES

These round discs, sometimes referred to as "pans", attach to the spiders arms and allow early floating on wet concrete and easy movement from wet to dry areas. They are also very effective in embedding large aggregates and surface hardeners.

Refer to Figure 28 when installing pans onto finisher blades.

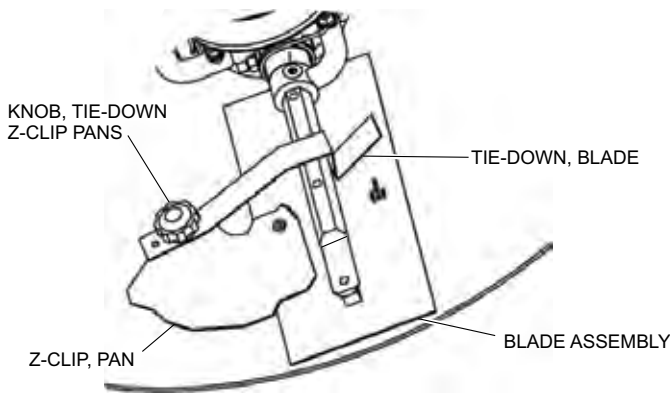


Figure 28. Z-Clip Finisher Pan Installation

1. Lift trowel just enough to slide pan under blades. Lower finisher onto pan with blades adjacent to Z-Clips.
2. Rotate blades into position under Z-Clips. Ensure that the blades are rotated in the direction of travel when the machine is in operation or use the engine to rotate the blades into position.
3. Attach the blade tie-downs to the far side of the Z-Clip brackets with tie-down knobs as shown in Figure 28.
4. Check to make certain that the blade edges are secured under the Z-Clips and the tie-downs are secured completely over the edges of the blade bar before the machine is put back into operation.

LONG-TERM STORAGE

For storage of the trowel for over 30 days, the following is required:

- Clean all external parts of the trowel with a cloth.
- Cover the trowel and store in a clean, dry place.

VARIABLE SPEED PULLEY

General Description

A fixed center distance compound drive consists (Figure 29) of one cam stabilized automatic variable pulley, one manually controlled pulley and a standard "V" belt or a variable speed belt.

The speed adjustment is accomplished by turning the leadscrew of the manually controlled pulley. As the faces contract, the belt is forced to a larger diameter in the manual pulley and consequently to a smaller diameter in the automatic pulley.

Compound center distance drives may be "C" mounted, both driving and driven shafts pointed in the same direction, or "Z" mounted, driving and driven shafts opposed.

The manually controlled pulley must be mounted on the driver shaft.

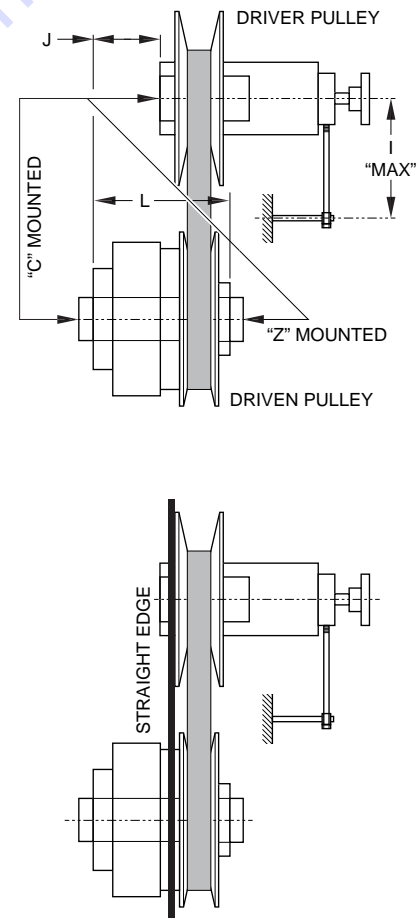


Figure 29. Pulley Orientation

ELECTRIC MOTOR INSTALLATION

1. Locate the electric motor so its shaft is offset from the driven shaft according to the dimension J for "C" mount or dimension L minus J for "Z" mount. Make sure the shafts are parallel.
2. Place both pulleys on the proper shaft and install the belt with the manually controlled pulley wide open (minimum speed position). It should not be necessary to use force to mount the pulleys.

If they do not slide on easily, examine the shaft for burrs and check the diameter. The shaft should be of proper size (+.0000-0005). Too loose a fit between pulley bore and the shaft can cause vibration, imbalance and pounding-out of the pulley bore.

3. Align the drive by placing a straight edge along the outside rim of the automatic pulley and move either pulley axially on its shaft until the belt edge is parallel to the straight edge. See Figure 29.
4. Before starting the drive tighten the set screws and make sure the torque arm is anchored. Install torque arm guide (anchor) rod through clip on torque arm. Secure one end of guide rod to a stationary object.

NOTICE

Torque arm must be free to slide over guide rod through the full range of speed adjustments.

5. Adjust the tension on the **leadscrew** by tightening the **set screw** in the **leadscrew nut**. If the leadscrew creeps in operation, more tension is necessary.
6. In order to obtain the full ratio of a compound drive, the V-belt should bottom on the manually controlled pulley shaft when it is at the maximum diameter of the automatic pulley.

If practical, a take-up allowance should be provided for on either the driver or driven shaft.

However, the allowable tolerance on belt lengths and the possibility of belt stretch may require an adjustment of the center distance from that listed.

NOTICE

LUBRICATION: The fixed-center compound drive pulley has oil impregnated sintered bushings on all bearing surfaces and under normal operating conditions will not require lubrication for the life of the pulley. Ball bearings in the manual control are permanently lubed.

NOTICE

CLEANING: Foreign matter may collect in the moving parts of the pulley causing them to stick or freeze. If this occurs, disassemble the pulley (see section on disassembly) and clean the slide disc bushing and shaft thoroughly with a solvent. After cleaning, relubricate the pulley by wiping a film of grease on all bearing surfaces.

DISASSEMBLY

1. Remove the handwheel (Figure 30) from the **leadscrew**. Screw in the leadscrew until the **front disc** comes off the **shaft**.
2. The **bearing housing** will push the **lube seal** out of the front disc.
3. The **shaft bearing** is removed by removing the **retaining ring** and pushing against the inside end of the leadscrew in an arbor press.
4. Remove the **disc bearing** by pushing against the outer race of the bearing from the profile end of **front disc**. Use extreme care in removing the bearings as they are easily damaged.

NOTICE

Before the parts are removed, they should be line marked so they can be reassembled in the same order.

Reassemble all the parts onto the pulley shaft in the reverse sequence in which they were removed for placement under the arbor press.

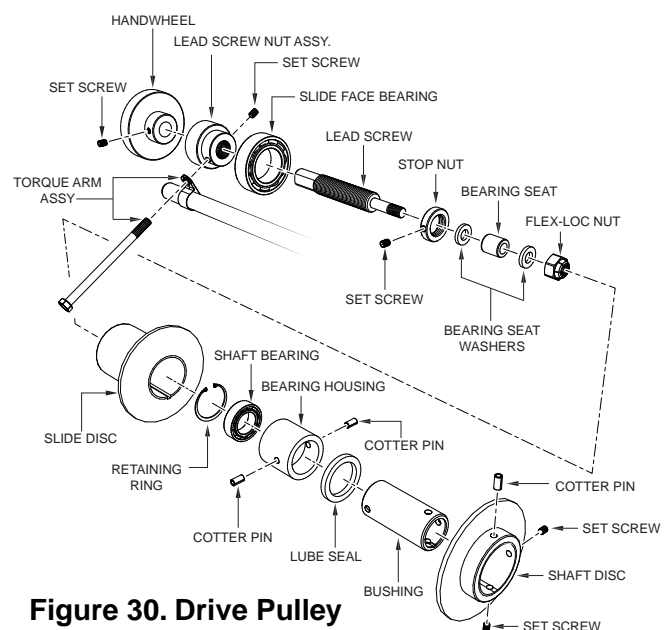


Figure 30. Drive Pulley Components

TROUBLESHOOTING

Troubleshooting (Electric Motor)		
Symptom	Possible Cause	Solution
Electric motor will not start.	Is there power?	Check power source. Check reset button.
	Is power cable plugged in?	Plug in power cable.
	Is ON/OFF switch placed in ON position?	Place ON/OFF switch in ON position.
	Defective cable?	Check cable.
Electric motor continuously stops.	Reset button OK?	Check power source.
Electric motor RPM's too low.	Low voltage?	Check input voltage.
Electric motor RPM's too high.	High voltage?	Check input voltage.

Troubleshooting (Walk-Behind Trowel)		
Symptom	Possible Problem	Solution
Trowel bounces, rolls concrete, or makes uneven swirls in concrete.	Blades?	Make certain blades are in good condition, not excessively worn. Finish blades should measure no less than 2" (50mm) from the blade bar to the trailing edge, combo blades should measure no less than 3.5" (89mm). Trailing edge of blade should be straight and parallel to the blade bar.
	Pitch adjustment?	Check that all blades are set at the same pitch angle as measured at the spider. A field adjustment tool is available for height adjustment of the trowel arms. (Contact Parts Dept.)
	Bent trowel arms?	Check the spider assembly for bent trowel arms. If one of the arms is even slightly bent, replace it immediately.
	Spider?	Check fit of arms in spider. This can be done by moving the trowel arms up and down. If there is more than 1/8 inch (3.2 mm) of travel at the tip of the arm, the spider and arms should be replaced.
	Thrust collar?	Check the flatness of the thrust collar by rotating it on the spider. If it varies by more than 0.02 inch (0.5 mm) replace the thrust collar.
	Thrust collar bushing?	Check the thrust collar by rocking it on the spider. If it can tilt more than 3/32 inch (2.4 mm) - as measured at the thrust collar O.D., replace the thrust collar.
	Thrust bearing worn?	Check the thrust bearing to see that it is spinning freely. Replace if necessary.
Machine has a perceptible rolling motion while running	Main shaft?	The main output shaft of the gearbox assembly should be checked for straightness. The main shaft must run straight and cannot be more than 0.003" (0.08 mm) out of round at the spider attachment point.
	Yoke?	Check to make sure that both fingers of the yoke press evenly on the wear cap. Replace yoke as necessary.
	Blade Pitch?	Check to ensure that each blade is adjusted to have the same pitch as all other blades. Adjust per maintenance section in manual.

PARTS FINDER

**Search Website
by Part Number**



**Search Manual
Library For Parts
Manual & Lookup Part
Numbers – Purchase
or Request Quote**

Search Manuals

Enter your information to help us find the right parts manual for your machine.

* Brand:

* Model:

* Serial:

* Part Number:

SEARCH

**Can't Find Part or
Manual? Request Help
by Manufacturer,
Model & Description**

Parts Order Form

Please fill in the following information to help us find the right part for your machine.

Manufacturer:	<input type="text"/>
Model:	<input type="text"/>
Description:	<input type="text"/>
Part Number:	<input type="text"/>
Quantity:	<input type="text"/>
Notes:	<input type="text"/>

Submit

Discount-Equipment.com is your online resource for quality parts & equipment.

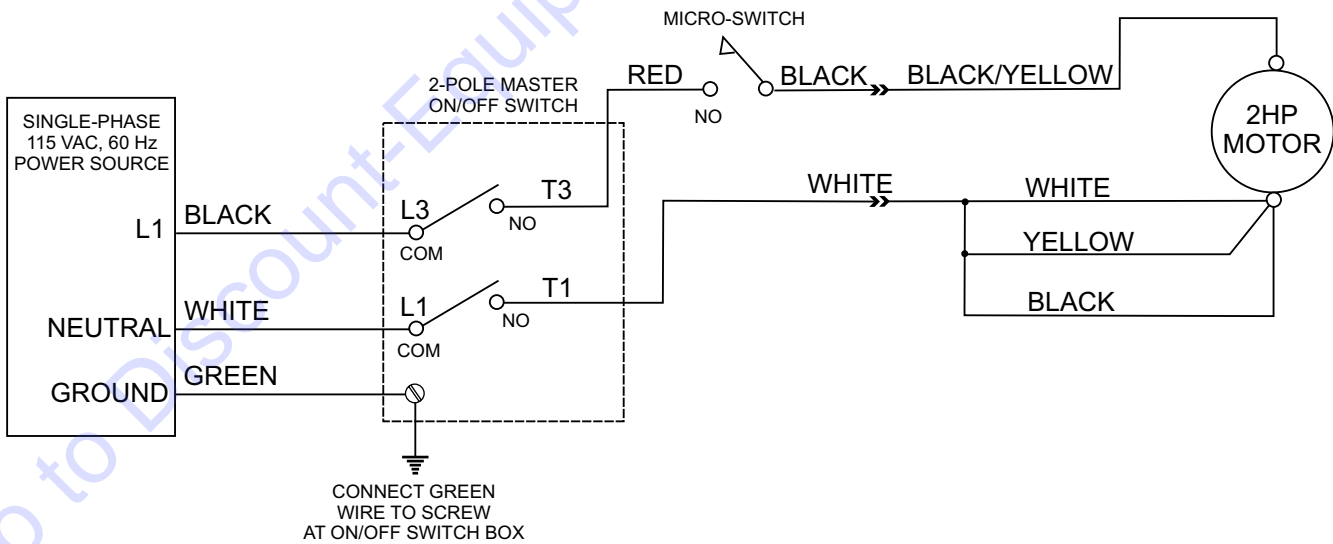
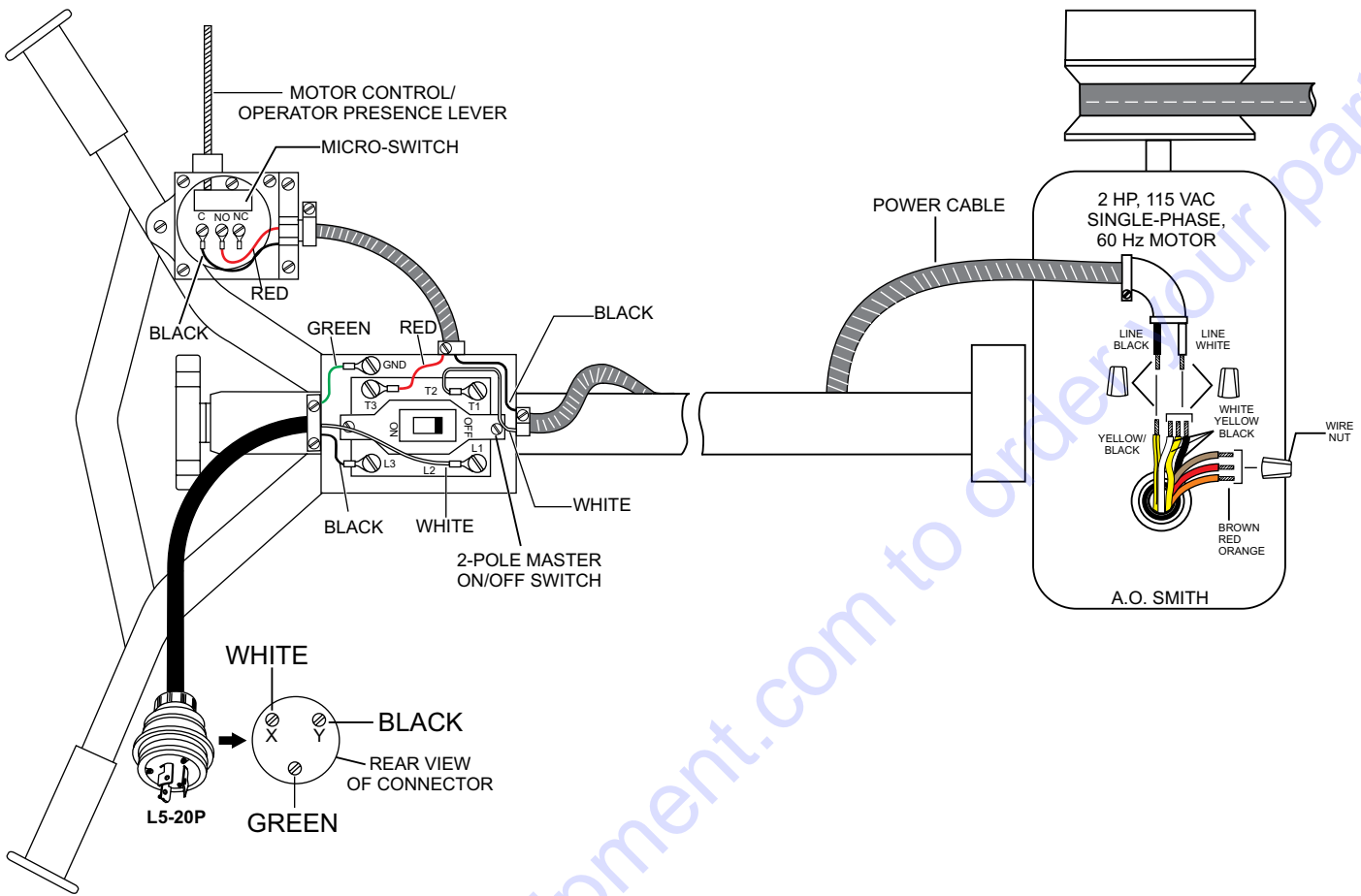
Florida: **561-964-4949** Outside Florida TOLL FREE: **877-690-3101**

Need parts?

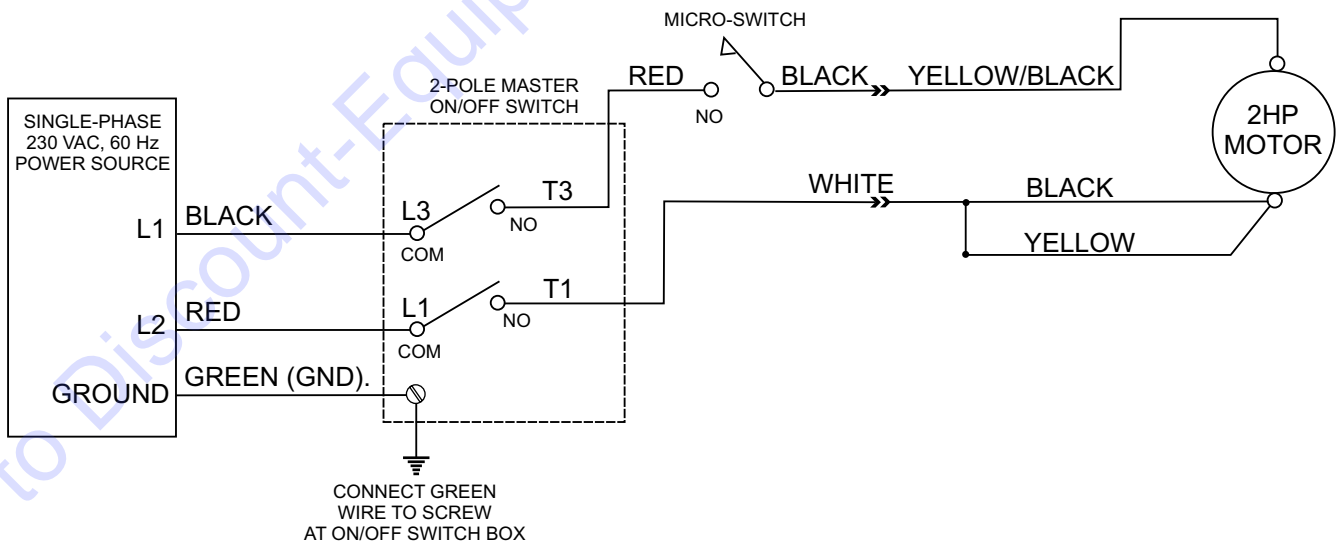
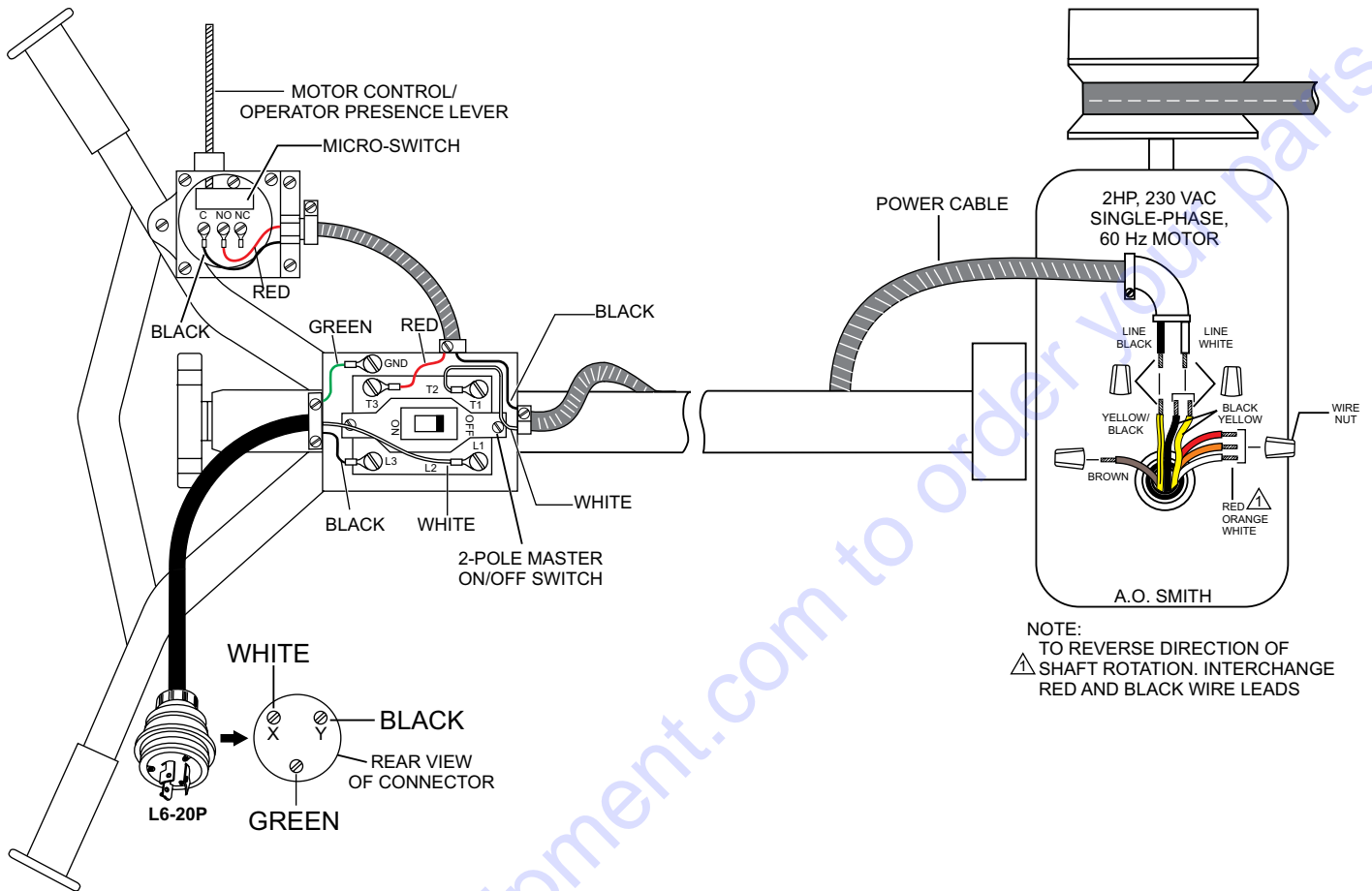
Click on this link: <http://www.discount-equipment.com/category/5443-parts/> and choose one of the options to help get the right parts and equipment you are looking for. Please have the machine model and serial number available in order to help us get you the correct parts. If you don't find the part on the website or on one of the online manuals, please fill out the request form and one of our experienced staff members will get back to you with a quote for the right part that your machine needs.

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto, Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S. Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep, Small Line, Wanco, Yanmar

WIRING DIAGRAM (115 VAC)



WIRING DIAGRAM (230 VAC)



EXPLANATION OF CODE IN REMARKS COLUMN

The following section explains the different symbols and remarks used in the Parts section of this manual. Use the help numbers found on the back page of the manual if there are any questions.

NOTICE

The contents and part numbers listed in the parts section are subject to change **without notice**. Multiquip does not guarantee the availability of the parts listed.

SAMPLE PARTS LIST

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	12345	BOLT	1	INCLUDES ITEMS W/%
2%		WASHER, 1/4 IN.		NOT SOLD SEPARATELY
2%	12347	WASHER, 3/8 IN. ...	1	MQ-45T ONLY
3	12348	HOSE	A/R	MAKE LOCALLY
4	12349	BEARING	1	S/N 2345B AND ABOVE

NO. Column

Unique Symbols — All items with same unique symbol (@, #, +, %, or >) in the number column belong to the same assembly or kit, which is indicated by a note in the “Remarks” column.

Duplicate Item Numbers — Duplicate numbers indicate multiple part numbers, which are in effect for the same general item, such as different size saw blade guards in use or a part that has been updated on newer versions of the same machine.

NOTICE

When ordering a part that has more than one item number listed, check the remarks column for help in determining the proper part to order.

PART NO. Column

Numbers Used — Part numbers can be indicated by a number, a blank entry, or TBD.

TBD (To Be Determined) is generally used to show a part that has not been assigned a formal part number at the time of publication.

A blank entry generally indicates that the item is not sold separately or is not sold by Multiquip. Other entries will be clarified in the “Remarks” Column.

QTY. Column

Numbers Used — Item quantity can be indicated by a number, a blank entry, or A/R.

A/R (As Required) is generally used for hoses or other parts that are sold in bulk and cut to length.

A blank entry generally indicates that the item is not sold separately. Other entries will be clarified in the “Remarks” Column.

REMARKS Column

Some of the most common notes found in the “Remarks” Column are listed below. Other additional notes needed to describe the item can also be shown.

Assembly/Kit — All items on the parts list with the same unique symbol will be included when this item is purchased.

Indicated by:

“INCLUDES ITEMS W/(unique symbol)”

Serial Number Break — Used to list an effective serial number range where a particular part is used.

Indicated by:

“S/N XXXXX AND BELOW”

“S/N XXXX AND ABOVE”

“S/N XXXX TO S/N XXX”

Specific Model Number Use — Indicates that the part is used only with the specific model number or model number variant listed. It can also be used to show a part is NOT used on a specific model or model number variant.

Indicated by:

“XXXXX ONLY”

“NOT USED ON XXXX”

“Make/Obtain Locally” — Indicates that the part can be purchased at any hardware shop or made out of available items. Examples include battery cables, shims, and certain washers and nuts.

“Not Sold Separately” — Indicates that an item cannot be purchased as a separate item and is either part of an assembly/kit that can be purchased, or is not available for sale through Multiquip.

SUGGESTED SPARE PARTS

J36E2 WALK-BEHIND TROWEL WITH ELECTRIC 2 HP MOTOR

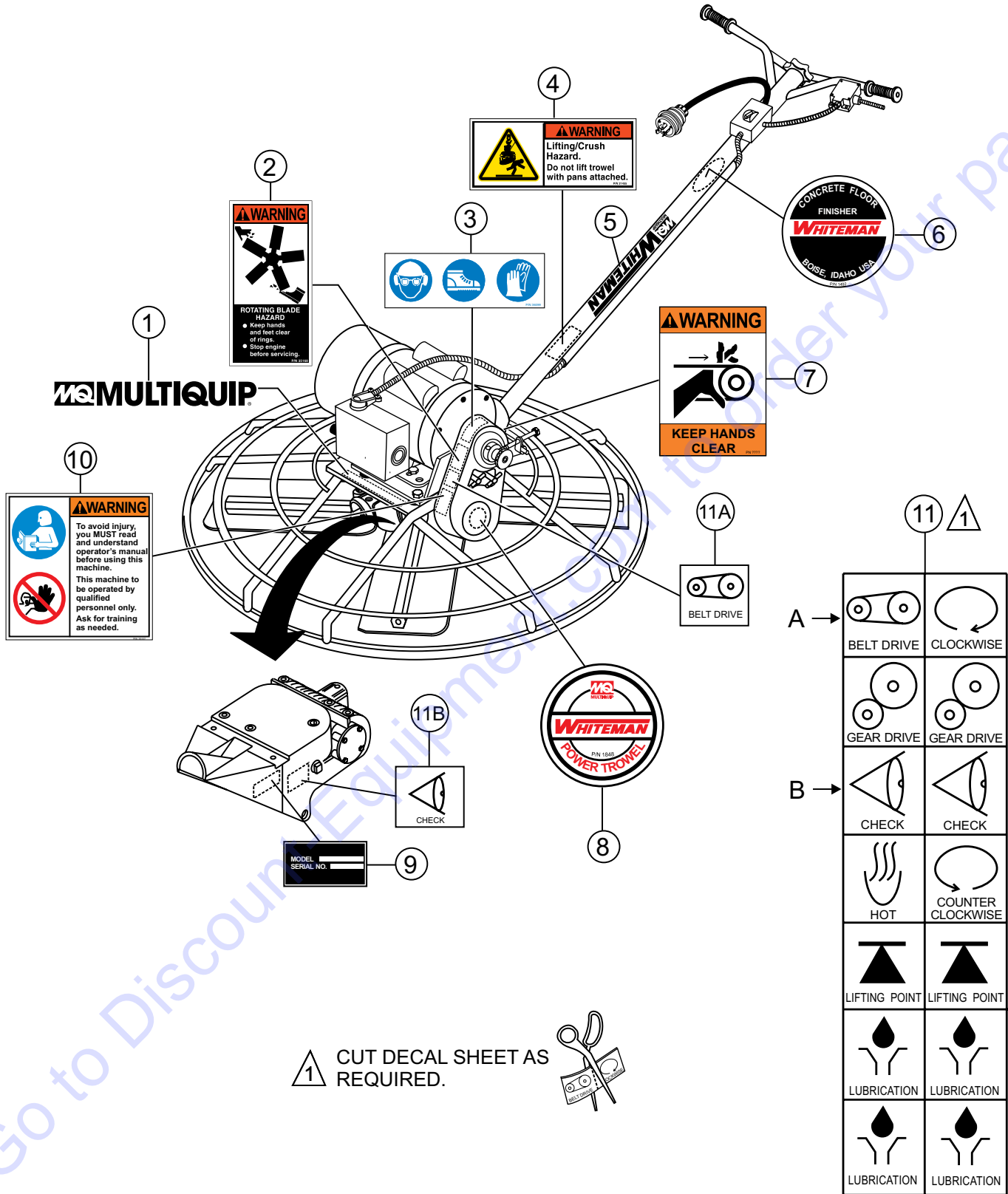
1 to 3 Units

Qty.	P/N	Description
2	4634	GRIP, HANDLE
1	21046	GASKET/SEAL KIT
1	21047	BEARING KIT
1	1115	PITCH CABLE
1	10968	THRUST BEARING KIT
1	10793	THRUST COLLAR
1	1154 A	WEAR PLATE
2	22622	V-BELT, AP22
2	20111	BOTTLE, SYNTHETIC OIL, 22 OZ.

NOTICE

Part numbers on this Suggested Spare Parts list may supersede/replace the part numbers shown in the following parts lists.

NAMEPLATE AND DECALS



CUT DECAL SHEET AS REQUIRED.



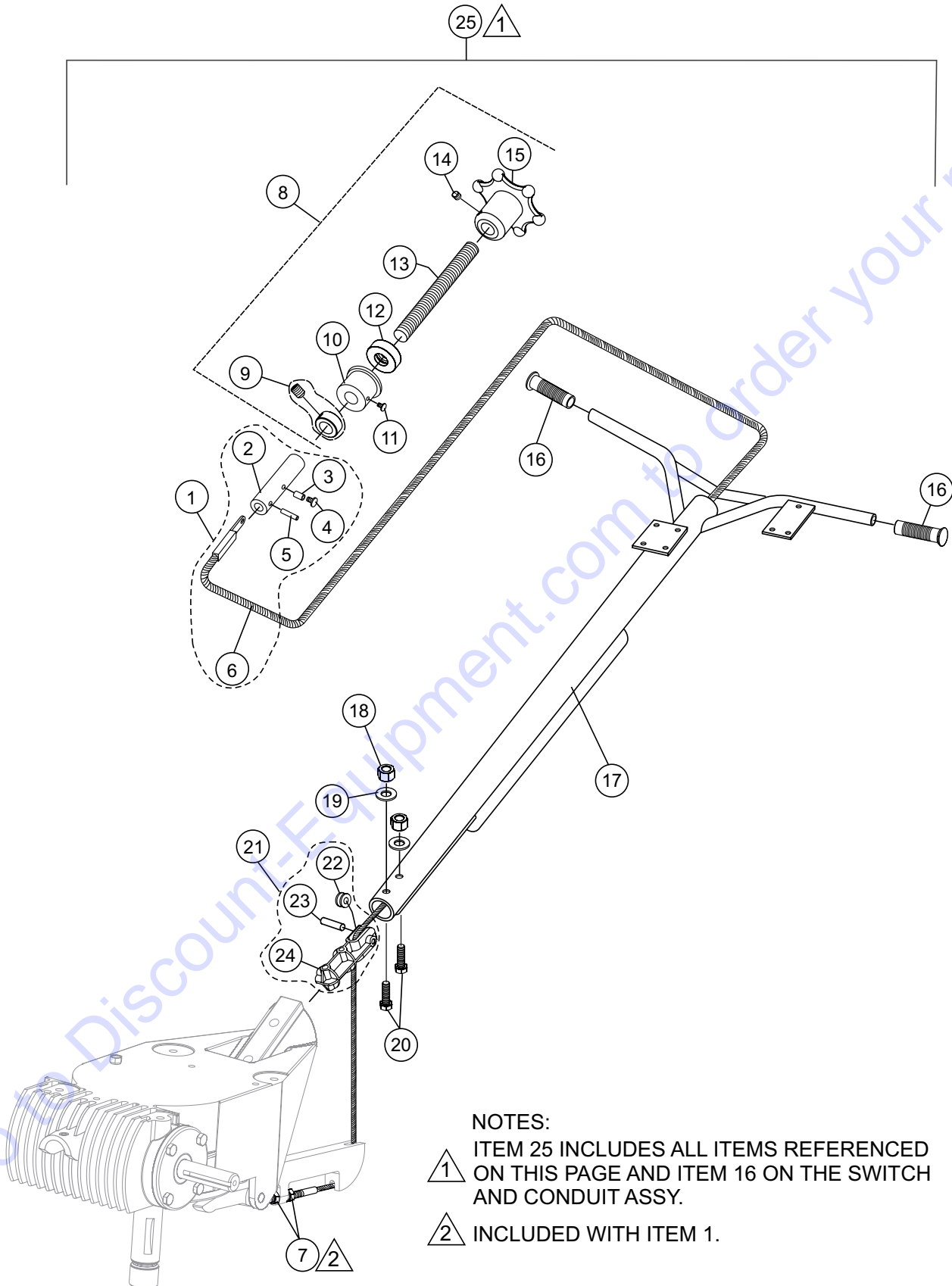
DECAL SHEET
INTL STDS ISO
P/N 11246

NAMEPLATE AND DECALS

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	20816	DECAL: MQ LOGO, .80 X 6	1	
2	35168	DECAL: WARNING BLADE RISK	1	
3	36099	DECAL: ISO HELMET, SHOE, AND GLOVE	1	
4	21455	DECAL: WARNING, LIFT/CRUSH HAZARD	1	
5	20816	DECAL: MQ WHITEMAN LOGO, 13" WHITE	1	
6	1492	DECAL: CUSTOM 2-1/2" CHROME, WHITEMAN	1	
7	21302	DECAL: WARNING, KEEP HANDS CLEAR	1	
8	1848	DECAL: V-BELT COVER	1	
9		NAMEPLATE.....	1	CONTACT DISCOUNT-EQUIPMENT
10	35137	DECAL: WARNING, READ MANUAL	1	
11	11246	DECAL: SET, INTERNATIONAL STDS.	1	

Go to Discount-Equipment.com to order your parts

CONTROL AND HANDLE ASSY.



NOTES:

△ 1 ITEM 25 INCLUDES ALL ITEMS REFERENCED ON THIS PAGE AND ITEM 16 ON THE SWITCH AND CONDUIT ASSY.

△ 2 INCLUDED WITH ITEM 1.

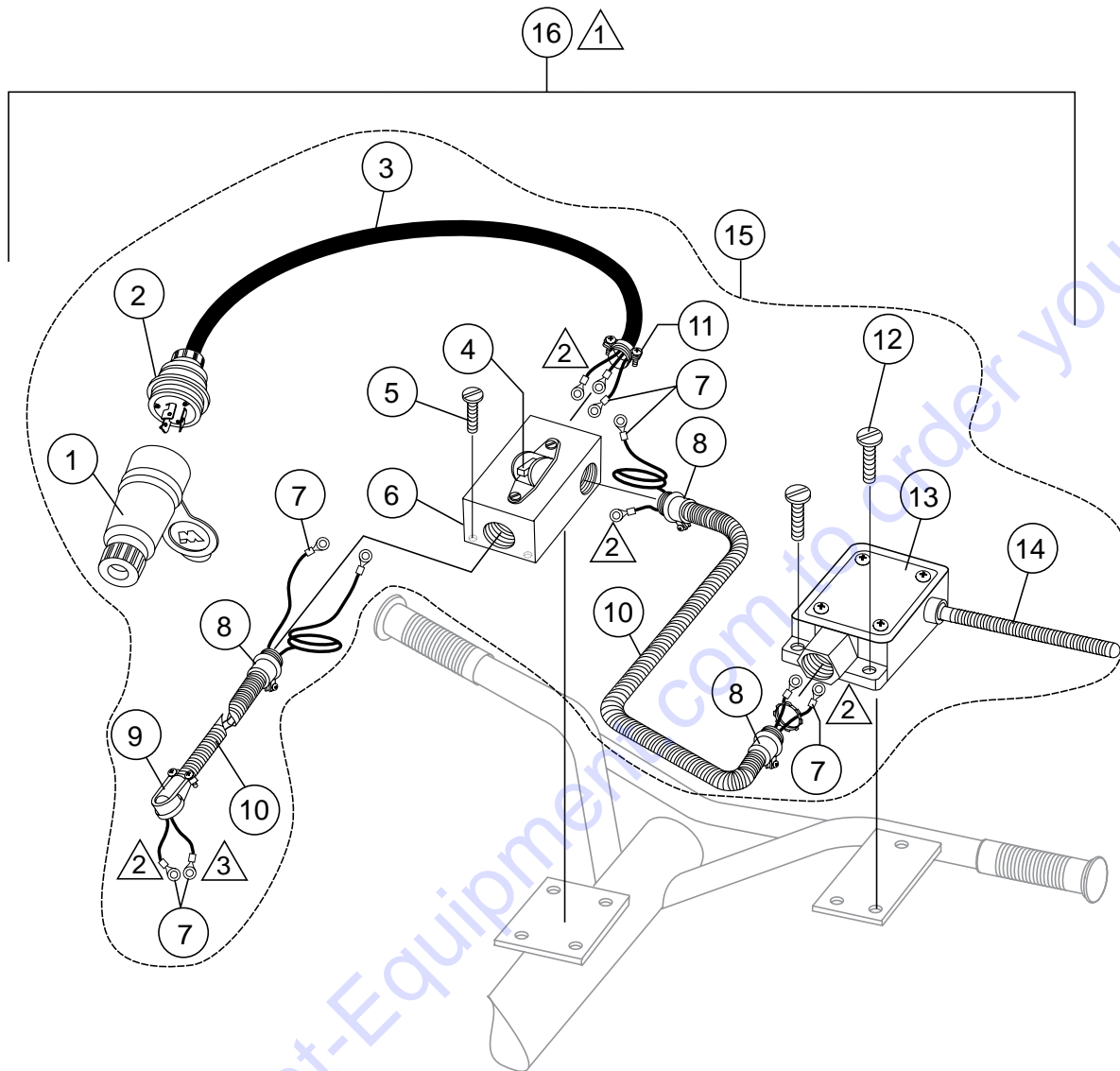
CONTROL AND HANDLE ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1@	1112	SLIDE BLOCK AND CABLE ASSY.....	1.....	INCLUDES ITEMS W/#
2#@	1113	BLOCK, SLIDE	1	
3#@	0786A	SPACER	1	
4#@	0786	SCREW, BHC 1/4-20 X 3/8" NYL PATCH ,NP	1	
5#@	1114	ROLL PIN 5/32" X1.3/8"	1	
6#@	1115	PITCH CONTROL CABLE ASSY, 47.25"	1	
7#@	1116	BRASS JAM NUT 5/16-18	2	
8@	1110	CONTROL, TROWEL ASSY.	1.....	INCLUDES ITEMS W/%
9%@	3615	SET COLLAR (W/SET SCREW)	1	
10%@	1111	BEARING	1	
11%@	0786	SCREW, BHC 1/4-20 X 3/8" NYL PATCH ,NP	1	
12%@	0281	BEARING	1	
13%@	1478	TROWEL CONTROL SHAFT	1	
14%@	0122 C	SCREW, SHS 3/8-16 X 1/2"	1	
15%@	20817	WHEEL, HAND PITCH CONTROL	1	
16@	4634	HANDLE GRIP	2	
17@	1907	HANDLE	1	
18@	10133	LOCK NUT 3/8-16	2	
19@	10136	FLAT WASHER 3/8"	2	
20@	1121	SCREW, HHCS 3/8-16 X 2.3/4"	2	
21@	1117	BLOCK, SUPPORT ASSY.....	1.....	INCLUDES ITEMS W/\$
22\$@	1118	PULLEY, PITCH CABLE	1	
23\$@	1119	PIN, SUPPORT BLOCK	1	
24\$@	B1790	BLOCK, SUPPORT	1	
25	1921	HANDLE, ELECTRIC FINISHER ASSY.....	1.....	INCLUDES ITEMS W/@

NOTICE

ITEM 25 INCLUDES ALL ITEMS REFERENCED ON THIS PAGE AND ITEM 16 ON THE SWITCH AND CONDUIT ASSY.

SWITCH AND CONDUIT ASSY.



NOTES:

- ① ITEM 16 INCLUDES ALL ITEMS REFERENCED ON THIS PAGE AND ITEM 25 ON THE CONTROL AND HANDLE ASSY.
- ② FOR ELECTRICAL CONNECTIONS REFERENCE OPERATOR'S MANUAL FOR ELECTRICAL WIRING DIAGRAM.
- ③ CONNECT TO ELECTRIC MOTOR HOUSING.

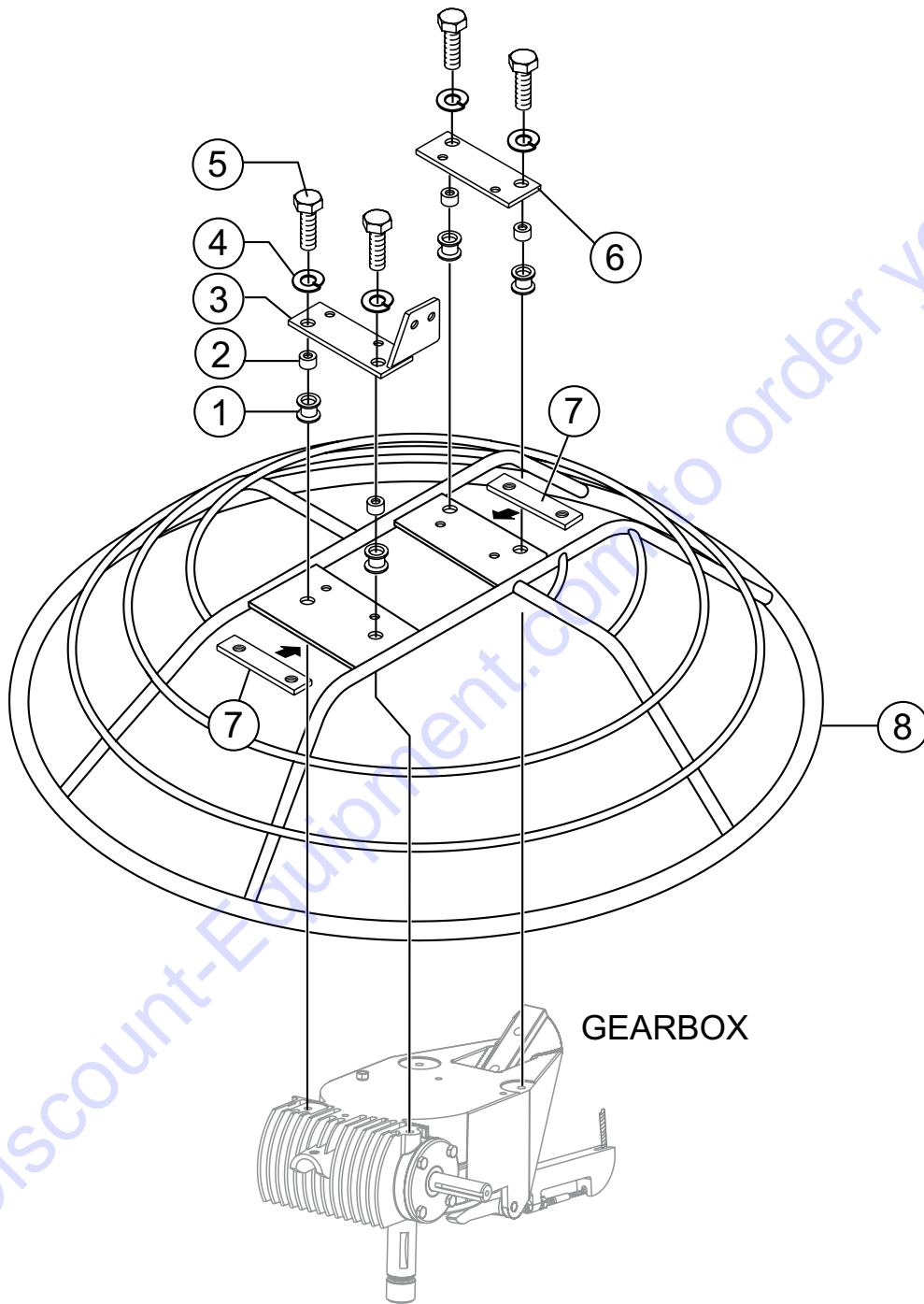
SWITCH AND CONDUIT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1#@	0179	CORD CAP 3-WIRE 1Ø (FEMALE)	1	
2@#	0178	CORD CAP 3-WIRE 1Ø (MALE)	1	INCLUDES ITEMS W/\$
3@\$#	2505	PIGTAIL, 15"	1	
4@#+	1H404	ON/OFF SWITCH	1	
5@#	0304	SCREW	4	
6@#	0175 1	SWITCH BOX, 1Ø.....	1	INCLUDES ITEM W/+
7@#	4693	TERMINAL, RING 16-14 #8	10	
8@#	0174	FITTING, 3/8" FLEX CONDUIT	3	
9@#	0173	FITTING, 3/8" 90° CONDUIT	1	
10@#	60077	CONDUIT .375 FLEX, 5.0' L.....	5	1PC=1FT
11@#	0176	FITTING, 3/8" SWITCH BOX TO PIGTAIL	1	
12#@	5044 A	SCREW, FLHP 10-32 X 3/4"	3	
13#@	1268	MICRO SWITCH	3	
14@	60077	CONDUIT .375 FLEX, 0.790' L.....	1	1PC=1FT
15@	1189	SWITCH AND CONDUIT ASSY.....	1	INCLUDES ITEMS W/#
16	1921	HANDLE, ELECTRIC FINISHER ASSY.....	1	INCLUDES ITEMS W/@

NOTICE

ITEM 16 INCLUDES ALL ITEMS REFERENCED ON THIS PAGE AND ITEM 25 ON THE CONTROL AND HANDLE ASSY.

GUARD RING ASSY.

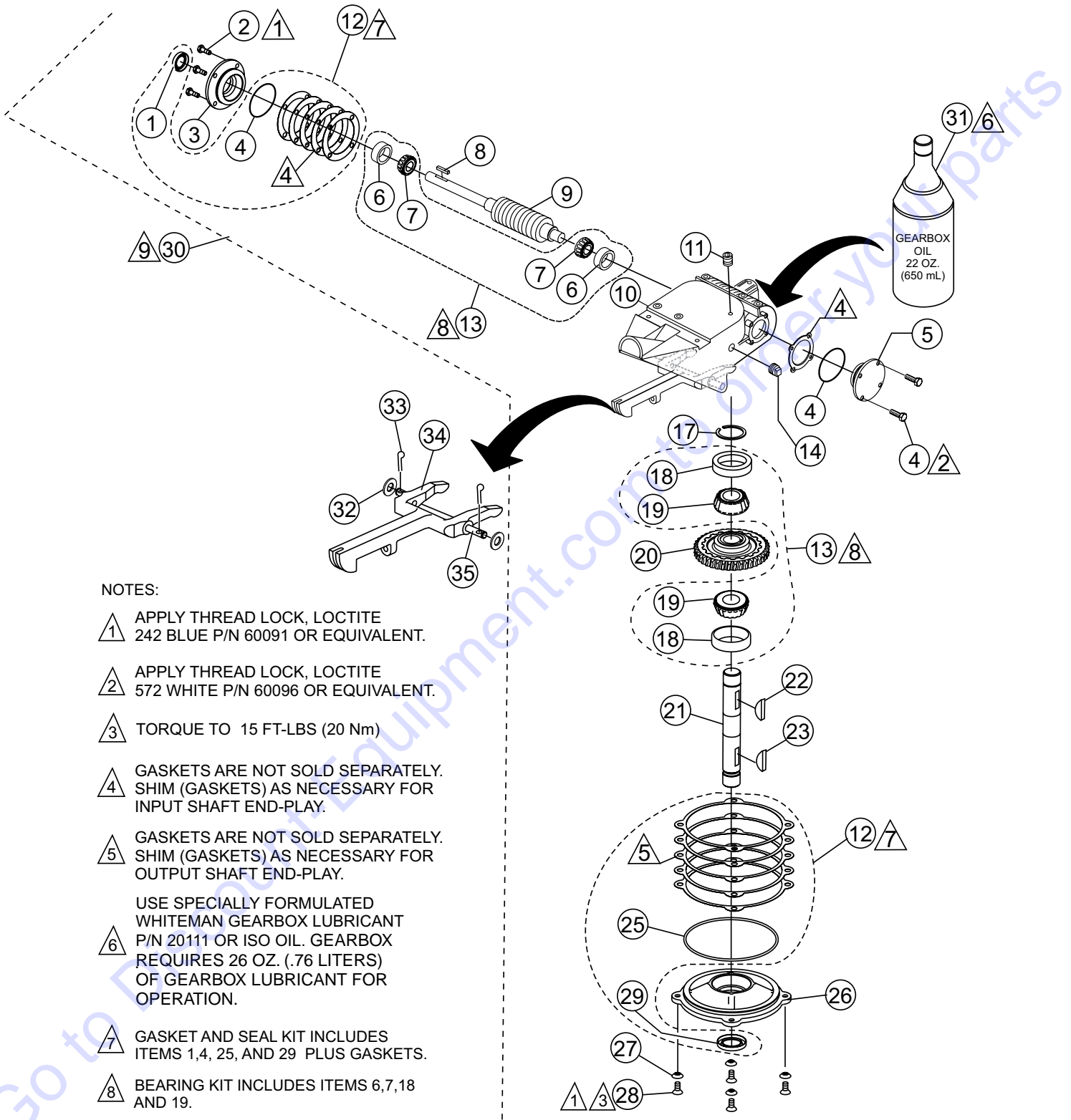


GUARD RING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	1247	GROMMET	4	
2	1245	SPACER	4	
3	1959	PLATE, FRONT MOUNT	1	
4	0166 A	WASHER, LOCK, 3/8" MED	4	
5	9154	SCREW, HHCS 3/8-16 X 1-3/4"	4	
6	1946	PLATE, REAR MOUNT	1	
7	1816	PLATE	2	
8	2274	STATIONARY GUARD RING	1	

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GEARBOX ASSY.



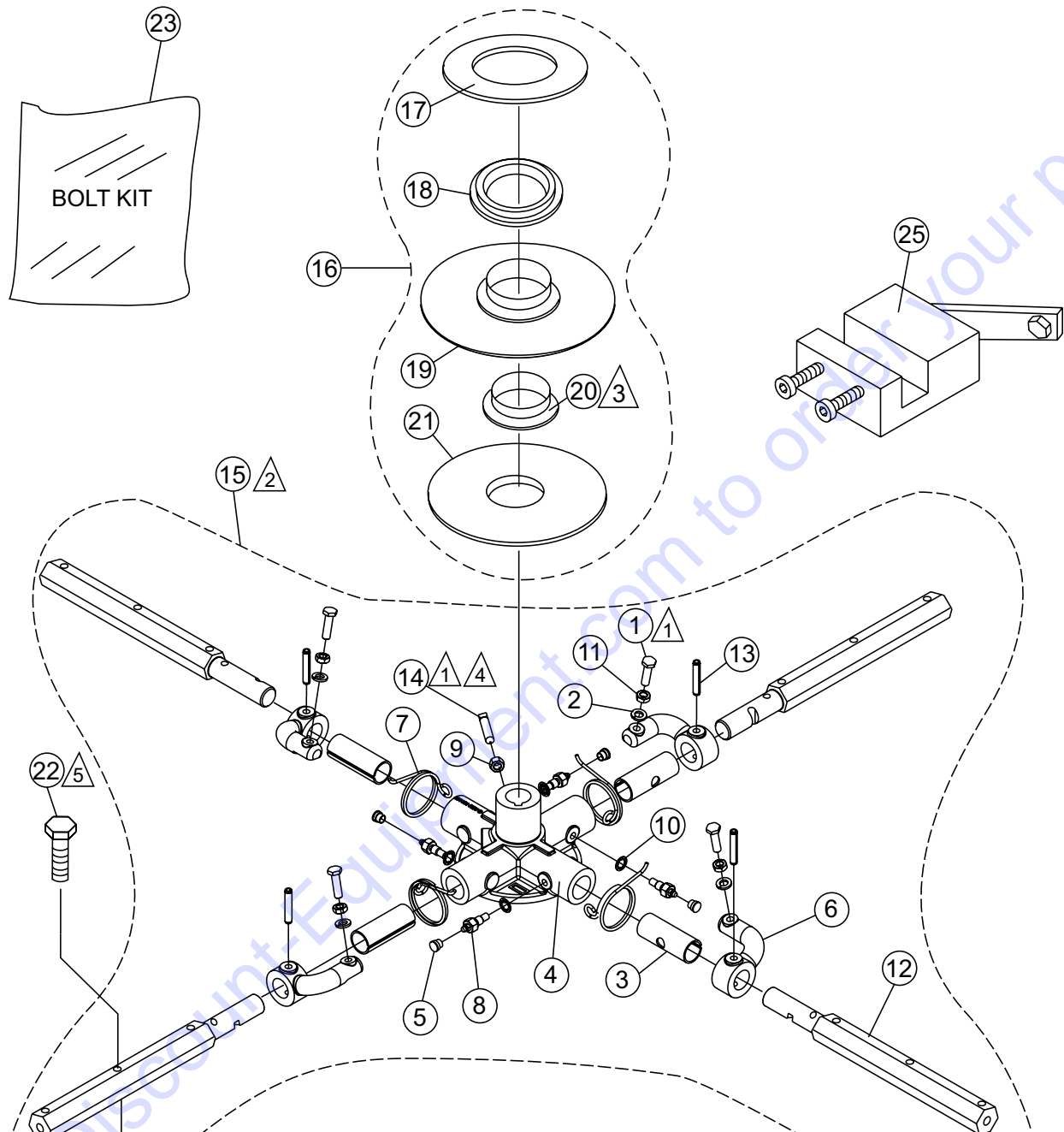
NOTES:

- ▲ 1 APPLY THREAD LOCK, LOCTITE 242 BLUE P/N 60091 OR EQUIVALENT.
- ▲ 2 APPLY THREAD LOCK, LOCTITE 572 WHITE P/N 60096 OR EQUIVALENT.
- ▲ 3 TORQUE TO 15 FT-LBS (20 Nm)
- ▲ 4 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR INPUT SHAFT END-PLAY.
- ▲ 5 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR OUTPUT SHAFT END-PLAY.
- ▲ 6 USE SPECIALLY FORMULATED WHITEMAN GEARBOX LUBRICANT P/N 20111 OR ISO OIL. GEARBOX REQUIRES 26 OZ. (.76 LITERS) OF GEARBOX LUBRICANT FOR OPERATION.
- ▲ 7 GASKET AND SEAL KIT INCLUDES ITEMS 1,4, 25, AND 29 PLUS GASKETS.
- ▲ 8 BEARING KIT INCLUDES ITEMS 6,7,18 AND 19.
- ▲ 9 GEARBOX ASSEMBLY ITEM 30, INCLUDES ITEMS WITHIN DASHED LINE EXCEPT ITEMS 12,13 AND 31

GEARBOX ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1%\$	0753	SEAL, OIL	1	
2%	0131 A	SCREW, HHC 1/4-20 X 3/4"	4	
3%	12876	FLANGE, INPUT SHAFT	1	
4%\$	2308	O-RING, SIZE-2	1	
5%	1136	CAP, COUNTERSHAFT END	1	
6%#	0735 A	BEARING, CUP, TIMKEN #A6157	2	
7%#	0735	BEARING, CONE, TIMKEN #A6075	2	
8%	0627	KEY, SQUARE 3/16" X 1-1/4"	1	
9%	1828	GEAR, WORM "J" INPUT SHAFT	1	
10%	1131	CASE, WORM GEAR	1	
11%	1132	VENT, AIR , 1/8" PTF SAE SPL SHORT	1	
12	2614	GASKET/SEAL KIT.....	1	INCLUDES ITEMS W/\$
13	2617	BEARING KIT.....	1	INCLUDES ITEMS W/#
14%	0121 A	FITTING PLUG 3/8" MP SQ HD PLATED	2	
17%	1138	RING, SNAP, TRUARC 5100-112	1	
18%#	0232 A	BEARING, CUP 2-5/16" O.D.	2	
19%#	0232	BEARING, TAPERED ROLLER 1.125 L.	2	
20%	1202	GEAR, WORM RH COMPOSITE FIN	1	
21%	2440	SHAFT, OUTPUT 1.126 DIA. x 7.77 HD	1	
22%	1139	KEY, WOODRUFF #810	1	
23%	1238	KEY, WOODRUFF #25	1	
25%\$	1143	O-RING, SIZE-254 BUNA-N	1	
26%	1145	COVER, GEARBOX	1	
28%	20875	SCREW, FHSC 5/16-18 X 3/4"	4	
29%\$	0254	SEAL, OIL	1	
30	1200	GEARBOX ASSY., W/OIL	1	INCLUDES ITEMS W/%
31	20111	BOTTLE, SYNTHETIC OIL, 22 OZ. (650 ML)	2	
32	10136	WASHER, FLAT SAE 3/8"	2	
33	0683	PIN, COTTER 3/32" D X 3/4" L.	2	
34	1150	YOKE ARM	1	
35	1151	PIN, YOKE ARM	1	

SPIDER ASSY.



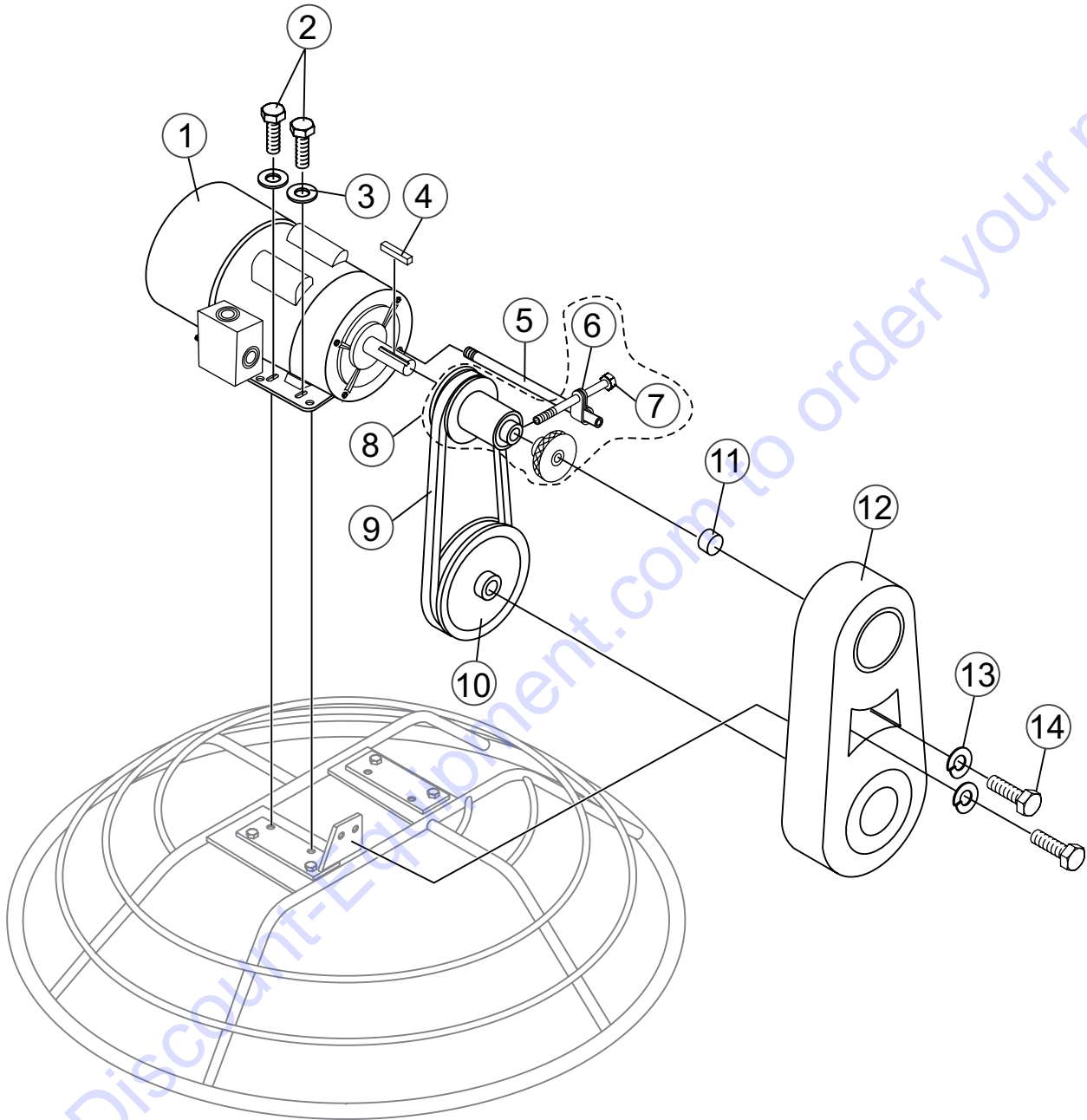
NOTES:

- ▲ 1 APPLY LOCTITE P/N 1477 TO ITEMS 1 AND 14
- ▲ 2 SPIDER ASSEMBLY P/N 1215
INCLUDES ALL ITEMS WITHIN OUTLINE.
- ▲ 3 INCLUDED WITH ITEM 19 OR CAN BE
ORDERED SEPARATELY (P/N 1471)
- ▲ 4 TORQUE TO 90 FT.-LBS (122 Nm)
- ▲ 5 TORQUE TO 130 FT.-LBS (176 Nm)

SPIDER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1%	0164 B	SCREW, HHC ROUNDED 3/8-16" SPCL	4	
2%	0166 A	LOCK WASHER 3/8" MED	4	
3%	1157 A	BUSHING, TROWEL ARM	4	
4%	1161-1	SPIDER PLATE, SILVER	1	
5%	1162 A	CAP, GREASE ZERK #2 YELLOW	4	
6%	1163-1	LEVER, TROWEL ARM RH, SILVER	4	
7%	1316	SPRING, LS ARM RETURN	4	
8%	1322	RETAINING SCREW ASSY.	4	
9%	1456	NUT, HEX FINISH 3/8-16	1	
10%	1875	WASHER, INT. SHKP. 3/8"	4	
11%	1876	NUT, HEX JAM 3/8-16 CLASS 2B	4	
12%	2826-1	ARM, TROWEL, 9-3/4", SILVER	4	
13%	4164	ROLL PIN 5/16" X 1-3/4"	4	
14%	12097	SCREW, SQHS 3/8 -16 X 1-3/4" CONE GRD 8	1	
15	1215	SPIDER PLATE ASSY.....	1	INCLUDES ITEMS W/%
16	10968	THRUST BEARING KIT.....	1	INCLUDES ITEMS W/\$
17\$	12208	WEAR RING	1	
18\$	12778	FLANGE BEARING	1	
19\$	10793	THRUST COLLAR	1	INCLUDES ITEMS W/#
20\$#	1471	THRUST COLLAR BUSHING	1	
21\$	1154 A	WEAR PLATE	1	
22@	21906	SCREW, HHCS 5/16-18 X 1-3/4"	12	
23	23647	KIT, BOLT SAE BLADE.....	1	INCLUDES ITEMS W/@
24		BLADE ASSEMBLY	4	CONTACT DISCOUNT-EQUIPMENT
25	1817	TOOL, TROWEL ARM ADJUST. FIXTURE	1	

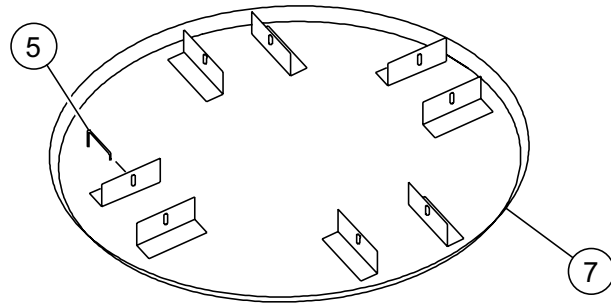
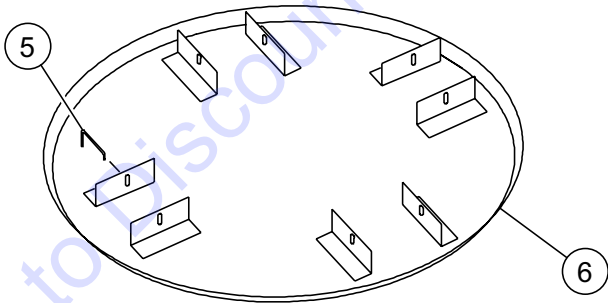
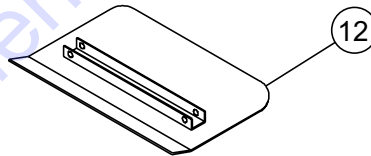
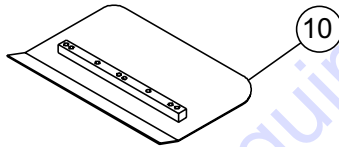
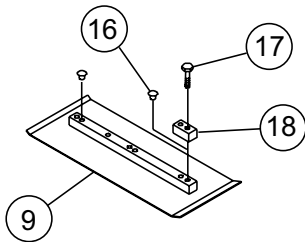
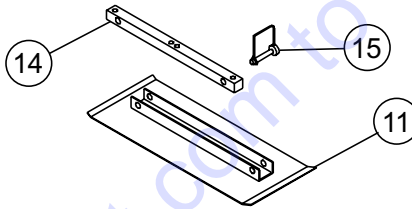
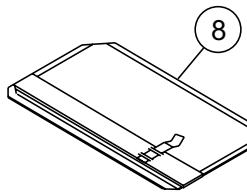
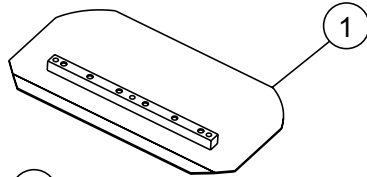
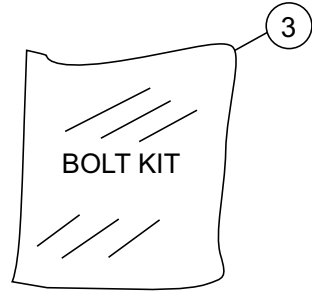
ELECTRIC MOTOR ASSY.



ELECTRIC MOTOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	1860	ELECTRIC MOTOR 2HP	1	
2	21247	SCREW, HHC 5/16-24 X 1/2"	4	
3	933241	WASHER, FLAT SAE 5/16" GRD 9 YZ	4	
4	0627	SQUARE KEY 3/16" X 3/16" X 1-1/4"	1	
5	10952	ROD, TORQUE ANCHOR, 50HZ	1	
6#		ROD HOLDER SUPPORT CLAMP	1	NOT SOLD SEPERATELY
7#		BOLT	1	NOT SOLD SEPERATELY
8	1909	PULLEY, DRIVE, MCV-30 X 5/8"	1	INCLUDES ITEMS W/ #
9	22622	BELT, AP22	1	
10	1910	PULLEY, DRIVEN, 40-TBR X 3/4"	1	
11	1867	PLUG,ELEC MOTOR, 5/8 X .90	1	
12	1923	GUARD, BELT	1	
13	0181 B	WASHER, LOCK 1/4" MEDIUM	2	
14	0131 A	SCREW, HHC 1/4-20 X 3/4"	2	

BLADE ASSY.



BLADE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	C844	TROWEL BLADE, 8" X 14", COMBO	4.....	CONTACT DISCOUNT-EQUIPMENT
2	F900	TROWEL BLADE, 8" X 14", FINISH	4.....	CONTACT DISCOUNT-EQUIPMENT
3	23647	KIT, BOLT SAE BLADE.....	1.....	ALL BLADES
5	20646	FLOAT DISC LATCH PIN.....	4.....	CONTACT DISCOUNT-EQUIPMENT
6	2870	FLOAT PAN, 36".....	1.....	CONTACT DISCOUNT-EQUIPMENT
7	11032	FLOAT PAN, 36" SUPER FLAT.....	1.....	CONTACT DISCOUNT-EQUIPMENT
8	CL945	FLOAT BLADE, 10" X 14" CLIP-ON	4.....	CONTACT DISCOUNT-EQUIPMENT
9	F10900	ENDURO FINISH BLADE 6" X 14".....	4.....	CONTACT DISCOUNT-EQUIPMENT
10	C10844	ENDURO COMBO BLADE 8" X 14".....	4.....	CONTACT DISCOUNT-EQUIPMENT
11	QF1872	QUICK CHANGE BLADE, 6" X 14"	4.....	CONTACT DISCOUNT-EQUIPMENT
11	QF10872	ENDURO QUICK CH.FINISH BLADE, 6" X 14"....	4.....	CONTACT DISCOUNT-EQUIPMENT
12	QC1871	QUICK CHANGE COMBO BLADE, 8" X 14"....	4.....	CONTACT DISCOUNT-EQUIPMENT
12	QC10871	ENDURO QK CHNG.COMBO BLADE, 8" X 14"....	4.....	CONTACT DISCOUNT-EQUIPMENT
14	QB1857	UNIVERSAL MOUNTING BAR.....	4.....	CONTACT DISCOUNT-EQUIPMENT
15	QS1869	SNAP PIN 1/4" X 1-3/4".....	8.....	CONTACT DISCOUNT-EQUIPMENT
16	1434	TROWEL LUG (FINISH BLADE ONLY)	4	
17	0202	SCREW, HHCS 5/16-18 X 1" RING	4	
18	0201	GUARD RING LUG	4	

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