



## **36" AND 46" MARSHALLTOWN POWER TROWELS**

Includes Models M4611(RP), M469(RP), M365E(RP), M365(RP), M369(RP)



104 S. 8th Ave. | Marshalltown, IA  
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[www.MARSHALLTOWN.com](http://www.MARSHALLTOWN.com)  
WS1987



## INTRODUCTION

Congratulations on your purchase of a MARSHALLTOWN power trowel. MARSHALLTOWN prides itself in producing the highest quality trowels for the professional and has applied the same research, design, and production principles to these walk-behind power trowels.

These powerful machines designed for finishing and floating come in 36" and 46" rotor sizes and are available with three different Honda engine sizes. The Honda GX160 is available on the 36", the GX270 is available on both sizes, and the GX340 is available on the 46".

This machine was built with user safety in mind, however, it can present hazards if improperly operated and serviced. Carefully read and follow all safety and operating instructions in this manual. Ensure every operator reads this manual before operating the unit. The replacement of any part with anything other than the manufacturer's authorized replacement part may adversely affect the performance, durability and safety of the product.

**Be sure safety precautions are observed. Read and follow all safety and operating instructions in this operator's manual.** The manufacturer reserves the right to make changes on or add improvements to its product at any time without prior notice or obligation. The manufacturer reserves the right to decide, upon its sole discretion and at any time, to discontinue this product.

Information regarding operation and maintenance of the engine can be found in a separate engine manual supplied with this trowel. The engine manual provides all the information required regarding engine adjustments, operation and maintenance. Should any questions arise concerning engine operation or service, contact the nearest engine repair facility or the engine manufacturer.

This manual covers all MARSHALLTOWN power trowel models and options. For technical questions or repair parts, please call MARSHALLTOWN customer service at 1-800-888-0127, 641-753-6341 or visit [www.MARSHALLTOWN.com](http://www.MARSHALLTOWN.com).

# TABLE OF CONTENTS

|                                       |       |
|---------------------------------------|-------|
| INTRODUCTION.....                     | 3     |
| SAFETY PRECAUTIONS.....               | 5     |
| SAFETY DECALS.....                    | 6     |
| WARRANTY INFO.....                    | 6     |
| SPECIFICATIONS.....                   | 7     |
| COMMON COMPONENTS.....                | 8     |
| ASSEMBLY.....                         | 9-10  |
| PRE-OPERATION CHECKS.....             | 11    |
| CONTROLS AND ACCESSORIES.....         | 11-12 |
| OPERATION.....                        | 13    |
| FLOATING/FINISHING.....               | 14    |
| TECHNICAL DATA.....                   | 15    |
| MAINTENANCE.....                      | 15    |
| CHANGING THE BLADES.....              | 16    |
| ADJUSTING THE PITCH ARMS.....         | 16-17 |
| <b>PARTS BREAKDOWN</b>                |       |
| GEARBOX.....                          | 18-19 |
| 36" SPIDER ASSEMBLY.....              | 20    |
| 46" SPIDER ASSEMBLY.....              | 21    |
| THRUST COLLAR ASSEMBLY.....           | 22    |
| 46" STABILIZER ASSEMBLY.....          | 23    |
| KNOB STYLE HANDLE TUBE ASSEMBLY.....  | 24-25 |
| RAPID PITCH HANDLE TUBE ASSEMBLY..... | 26-27 |
| 36" BLADES.....                       | 28    |
| 46" BLADES.....                       | 28    |
| 36" & 46" GUARD RING.....             | 29    |
| 36" EDGER ROTATING RING.....          | 30    |
| UPPER HANDLE ASSEMBLY.....            | 31    |
| DRIVE ASSEMBLY.....                   | 32-33 |
| TROUBLESHOOTING.....                  | 34    |

# SAFETY PRECAUTIONS



- WARNING safety signs are located near specific hazards.

- General precautions are listed on CAUTION safety signs.

- This notation appears before warnings in the text. It means that the step that follows must be carried out to avoid the possibility of personal injury or death. These warnings are intended to help the technician avoid any potential hazards encountered in the normal service procedures. We strongly recommend that the reader takes advantage of the information provided to prevent personal injury or injury to others.

THE FOLLOWING PRECAUTIONS ARE SUGGESTED TO HELP PREVENT ACCIDENTS. A CAREFUL OPERATOR IS THE BEST OPERATOR. MOST ACCIDENTS CAN BE AVOIDED BY OBSERVING CERTAIN PRECAUTIONS. READ AND TAKE THE FOLLOWING PRECAUTIONS BEFORE OPERATING THIS EQUIPMENT TO HELP PREVENT ACCIDENTS. EQUIPMENT SHOULD BE OPERATED ONLY BY THOSE WHO ARE RESPONSIBLE AND INSTRUCTED TO DO SO.



**CALIFORNIA PROPOSITION 65 WARNING:** Operation of this equipment and/or engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

- Read all operating and maintenance instructions before operating or servicing the machine
- Equipment is only as safe as its operator. Give complete and undivided attention to the operation of the equipment.
- Keep inexperienced and unauthorized people away from equipment at all times
- Know how to stop the equipment instantly.
- Test all safety switches before every use.
- Always have all guards and safety devices attached and in place before operating equipment.
-  **NEVER** Operate the power trowel with the blade access panel off or if the kill switch is not functioning properly
-  **Never reach into the guard ring while the trowel is running**
-  **Never let go of the power trowel or walk away from it while it is running**
- Always make sure engine is stopped with the switch in the “OFF” position before making any adjustments or putting hands or tools near the power trowel.
- Always make sure engine is in “OFF” position when servicing or not in use
- Keep the trowel in good condition. Loose or damaged parts are dangerous.
- Avoid loose clothing that could get caught in moving parts.
-  **Keep hands and feet away from moving parts.**
- Always allow ample time for the power trowel to cool before making any adjustments
- Do not smoke while refueling the engine. Ensure the engine is in the “off” position and allow it to cool before refueling. Do not spill fuel.
- **NEVER** operate the power trowel in confined areas without ample ventilation.
- Keep all warning, caution and safety instruction labels in good condition. Replace missing, damaged or illegible labels.
- **DO NOT OPERATE** this power trowel under the influence of alcohol or while taking medication that impairs your reactions.
- Never sit or ride on the power trowel.
- Always properly secure machine before transporting
- Always follow recommended maintenance schedules
- Use factory authorized parts for replacement.
- Never try to lift unit by yourself.
- Wear safety glasses and hearing protection while operating the power trowel.
- Wear proper protective clothing while operating trowel, including eye, ear, and clothing.
- Clear the work area around the machine to prevent tripping or falling onto the power trowel.
- Do not operate the power trowel on extreme inclines.

# SAFETY DECALS

If your safety and operating decals are damaged, they can be replaced by contacting Customer Service.



WS1250



WS1984



WS1985

# MARSHALLTOWN

WS1988

## 2-YEAR POWER TROWEL WARRANTY

This product is warranted to the original purchaser only to be free of defects in material and workmanship, under normal use and servicing, for a period of 2 years from the purchase date, excluding the engine. Warranty on the engine is limited to the warranty extended by the engine manufacturer and any warranty claims related to the engine should be directed to the engine manufacturer. MARSHALLTOWN Company's sole obligation under this warranty is limited to the replacement or repair of the product or covered part(s) at no charge delivered to you F.O.B standard ground rates from its designated facility if the product is determined upon inspection by MARSHALLTOWN Company to have been defective in materials or workmanship. MARSHALLTOWN Company's warranty for replacement parts will extend for the duration of the original product warranty.

This warranty will not apply when the product becomes damaged or inoperative due to misuse, abuse, normal wear and tear, neglect, improper maintenance, accident, or freight damage; if the product has not been operated and maintained in accordance with the instructions furnished in the Operator's Manual; or when the product has been altered or modified without approval from MARSHALLTOWN Company.

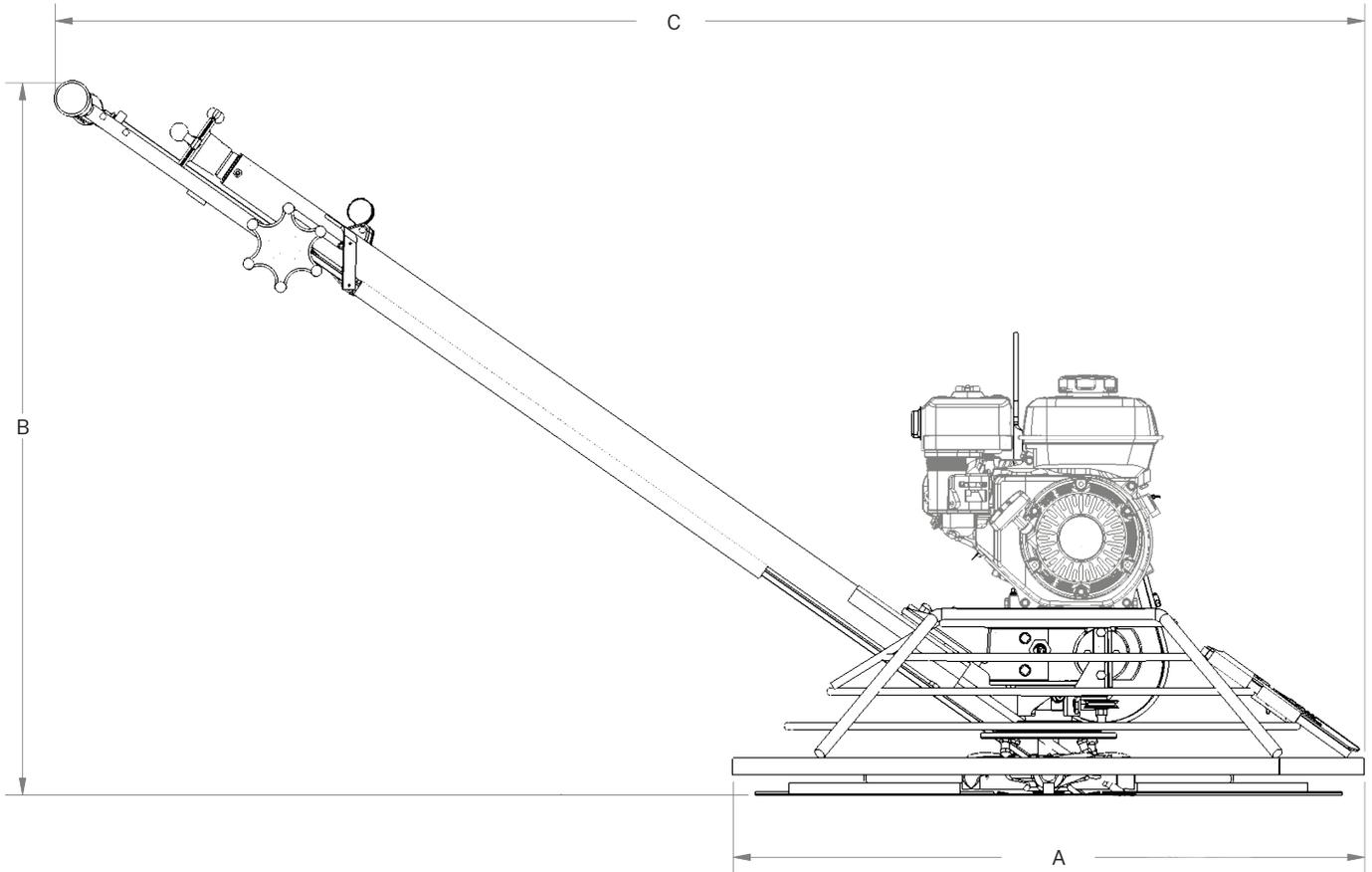
Under no circumstances shall MARSHALLTOWN Company be responsible or liable for any consequential, special, or punitive damages, pickup and delivery of the unit, inbound shipping charges to MARSHALLTOWN Company's service facility, rental charges for a replacement unit, loss of income, or other loss resulting from the failure of the product to function properly because of a defect in material or workmanship covered under this warranty.

There are no warranties which extend beyond the description of this warranty. No employee or agent of MARSHALLTOWN Company has the authority to modify this warranty.

If you wish to make a warranty claim, contact Customer Service at 1-800-888-0127 for return authorization and instructions.

THE FOREGOING LIMITED WARRANTIES ARE EXCLUSIVE AND ARE GIVEN AND ACCEPTED IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER REMEDIES. MARSHALLTOWN COMPANY'S TOTAL LIABILITY ARISING OUT OF SUPPLYING AND THE USE OF THE EQUIPMENT, WHETHER BASED ON A CLAIM OF WARRANTY, NEGLIGENCE, OR OTHERWISE, SHALL NOT EXCEED THE COST PAID BY YOU FOR THE EQUIPMENT.

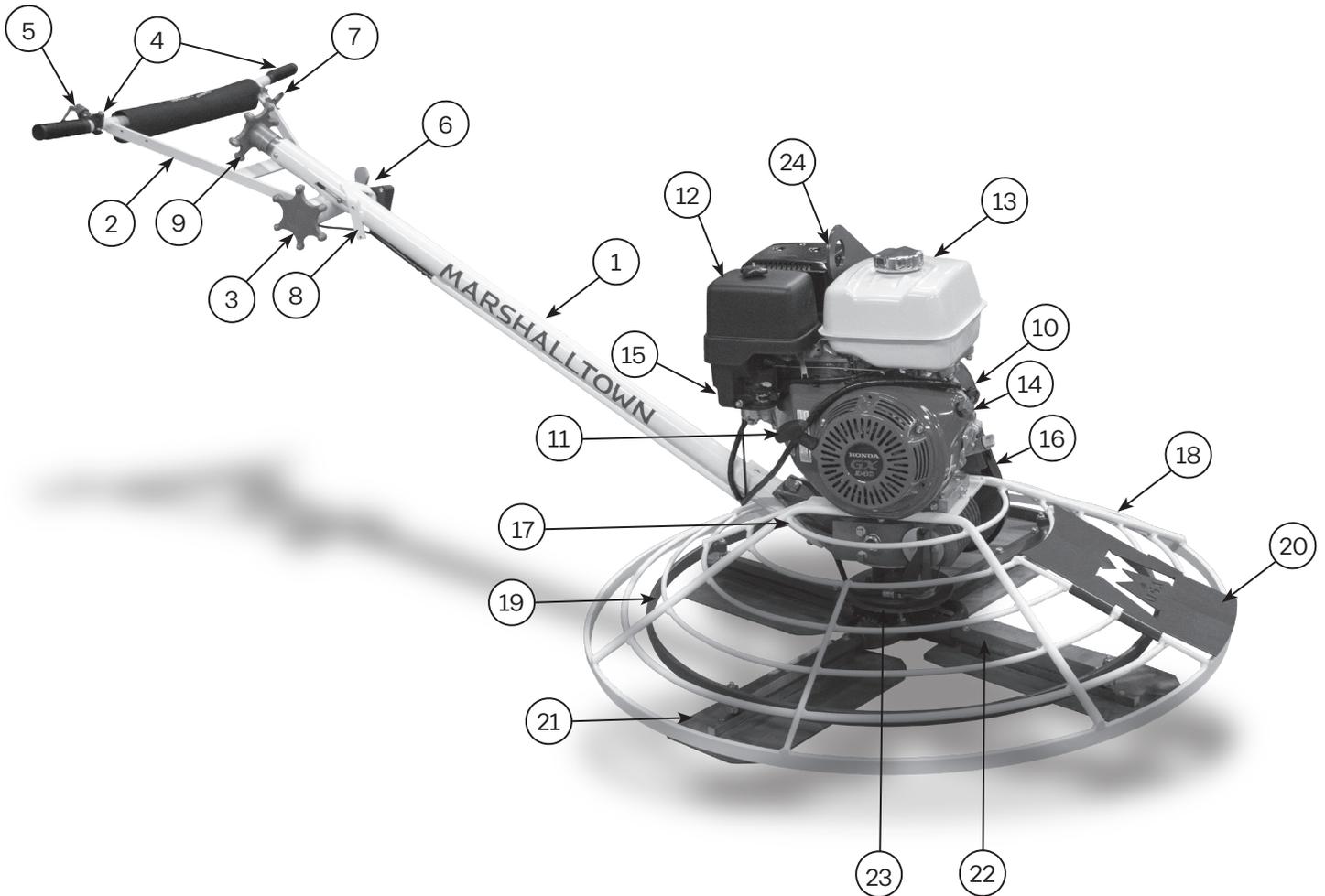
# SPECIFICATIONS



| PART #  | STYLE  | ENGINE      | HANDLE STYLE | "A" WIDTH IN (MM)" | "B" HEIGHT IN (MM)" | "C" LENGTH IN (MM)" | ROTOR RPM | WEIGHT LBS (KG) |
|---------|--------|-------------|--------------|--------------------|---------------------|---------------------|-----------|-----------------|
| M4611   | TROWEL | HONDA GX340 | KNOB STYLE   | 46 (1168)          | 41.64 (1058)        | 81.13 (2061)        | 50-130    | 288             |
| M469    | TROWEL | HONDA GX270 | KNOB STYLE   | 46 (1168)          | 41.64 (1058)        | 81.13 (2061)        | 50-130    | 274             |
| M369    | TROWEL | HONDA GX270 | KNOB STYLE   | 36.94 (938)        | 41.64 (1058)        | 76.6 (1946)         | 50-130    | 257             |
| M365    | TROWEL | HONDA GX160 | KNOB STYLE   | 36.94 (938)        | 41.64 (1058)        | 76.6 (1946)         | 50-130    | 219             |
| M365E   | EDGER  | HONDA GX160 | KNOB STYLE   | 35.06 (891)        | 41.64 (1058)        | 75.66 (1922)        | 50-130    | 216             |
| M4611RP | TROWEL | HONDA GX340 | RAPID PITCH  | 46 (1168)          | 41.64 (1058)        | 81.13 (2061)        | 50-130    | 294             |
| M469RP  | TROWEL | HONDA GX270 | RAPID PITCH  | 46 (1168)          | 41.64 (1058)        | 81.13 (2061)        | 50-130    | 280             |
| M369RP  | TROWEL | HONDA GX270 | RAPID PITCH  | 36.94 (938)        | 41.64 (1058)        | 76.6 (1946)         | 50-130    | 263             |
| M365RP  | TROWEL | HONDA GX160 | RAPID PITCH  | 36.94 (938)        | 41.64 (1058)        | 76.6 (1946)         | 50-130    | 225             |
| M365ERP | EDGER  | HONDA GX160 | RAPID PITCH  | 35.06 (891)        | 41.64 (1058)        | 75.66 (1922)        | 50-130    | 222             |

# COMMON COMPONENTS

1. Handle tube
2. Handle bar
3. Handle bar adjustment
4. Handle grip
5. Tether safety switch
6. Centrifugal safety switch
7. Throttle
8. Mounting for bicycle bottle holder
9. Pitch adjustment
10. Engine
11. Recoil starter
12. Air filter
13. Gas tank
14. On/Off switch
15. Fuel valve lever and choke
16. Belt guard
17. Gearbox
18. Guard Ring
19. Stabilizing ring (46" only)
20. Blade access panel
21. Blades
22. Trowel arm
23. Thrust plate
24. Lifting plate



# ASSEMBLY

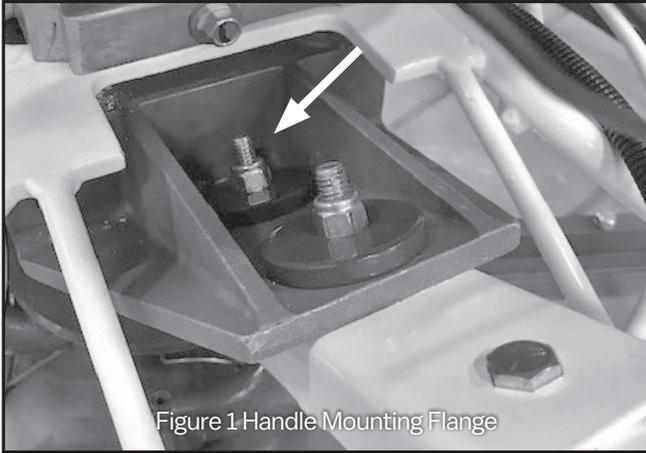


Figure 1 Handle Mounting Flange

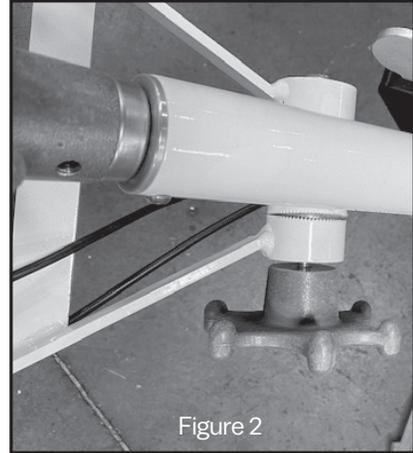


Figure 2

## Attaching the handle to the machine

Place the spacers in the mounting flange and position the handle below the flange. Align the holes and insert the bolts through the bottom of the handle, through the spacers, and tighten the nuts on the top side to 35 ft-lbs. (Figure 1)

## Attaching the upper handle

With the throttle lever on the right, slide the two sides of the upper handle over the support block. Run the carriage bolt through the assembly and fasten with the hand wheel nut on the right.

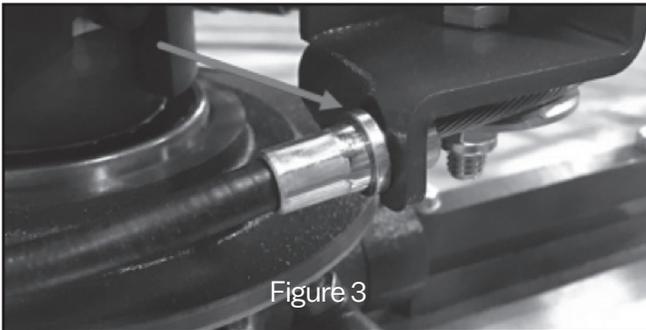


Figure 3

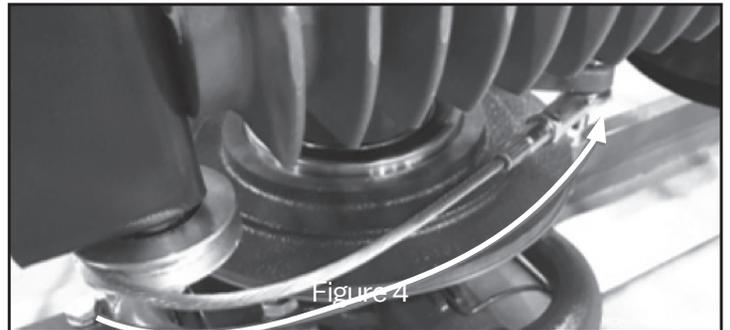


Figure 4

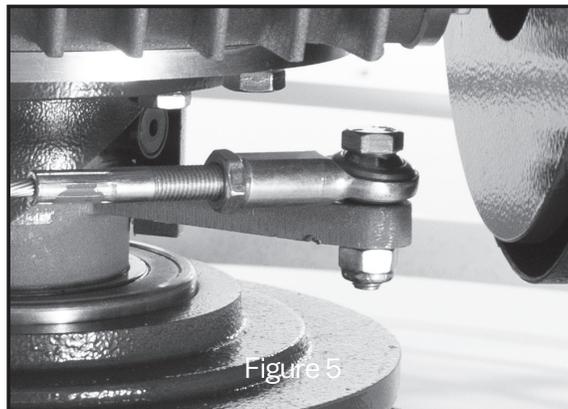
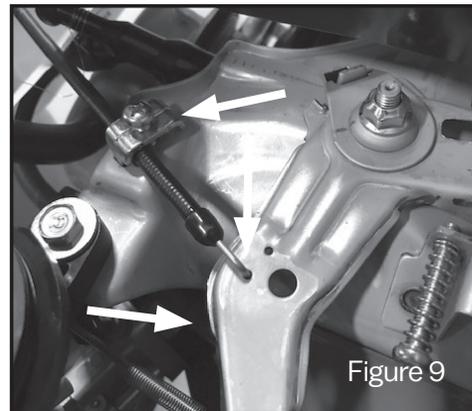
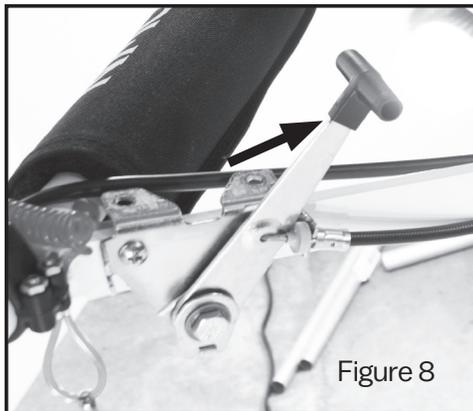
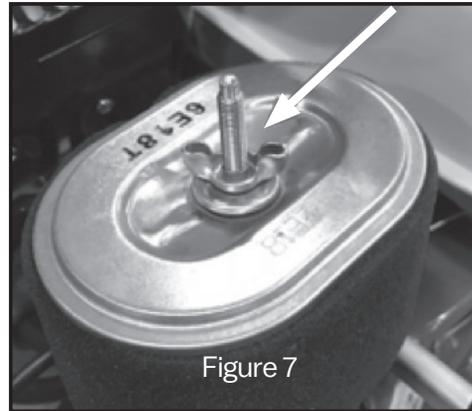
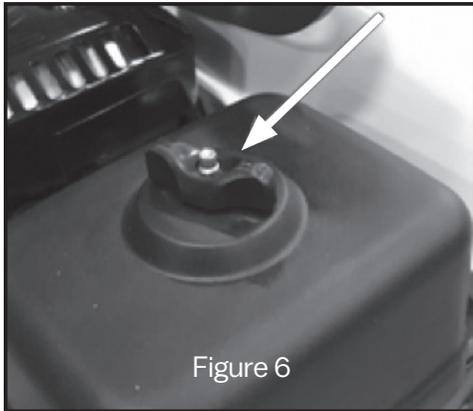


Figure 5

## Attaching the pitch cable to the cam lever

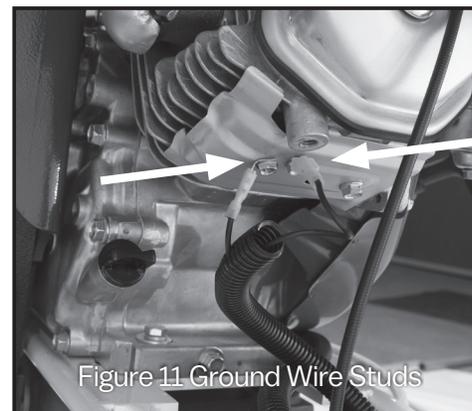
Find the pitch cable and insert the boss into the pitch bracket (Figure 3). Guide the cable around the pulley (Figure 4) and toward the cam lever (Figure 5). Place bolt through the rod end eye and the cam lever and tighten the nut to the bolt

## ASSEMBLY CONT.



### Attaching the throttle cable

Remove the nut from the air filter cover (Figure 6) and then the nut that holds the air filter in place (Figure 7). The throttle lever needs to be pushed all the way away from the operator (Figure 8). Make sure that the engine's throttle lever is in the closed position and insert the cable under the keeper, inserting the "Z" bend cable into the small throttle lever hole. (Figure 9). Tighten the keeper.



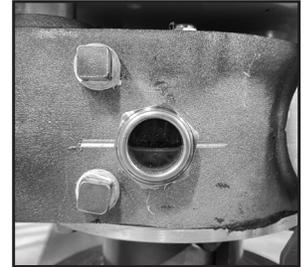
### Attaching the electrical wires

Attach the two red wires to the wiretaps near the engine's on/off switch (Figure 10). Attach the two black wires to the wire studs under the valve cover. (Figure 11).

# PRE-OPERATIONAL CHECKS

The following steps should be taken prior to using the power trowel:

1. The operator must be familiar with the location and operation of all controls.
2. The unit ships with oil, but check the crankcase oil and fill the fuel tank before starting. Read and understand the engine manual supplied with this machine regarding adjustments, operation, and maintenance before operating this machine.
3. On serial numbers 9107 and higher, ensure gearbox oil level is visible in sight glass but below the engraved line (see photo). For units with serial number lower than 9107, remove sight glass and fill until oil reaches bottom of hole.
4. Check the fuel filter and inspect air filter
5. Check both safety switches and electrical connections.
6. Check nuts and bolts to ensure nothing has loosened during shipping.



## CONTROLS AND ACCESSORIES



Figure 12 Handle Adjustment Knob

### Handles

The handle bar is adjusted by simply unscrewing the adjustment knob attached to the handle and moving the handle to the preferred height (Figure 12)

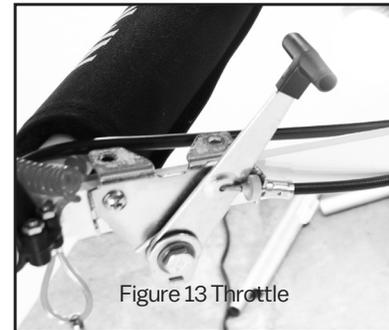


Figure 13 Throttle

### Throttle

Throttle should be in the furthest forward position before starting the trowel. Failure to do so will cause trowel blades to rotate upon starting. Once started pull throttle towards you to start/increase rotation of blades.



Figure 14 Centrifugal Safety Switch

### Centrifugal Safety Switch

The weight within the safety switch must be able to move freely without obstruction forward and backwards. Test the safety switch before every use. Failure to have a free moving or properly functioning switch will inhibit the switch from working as intended. Push the weight away from you so that it is closer to the engine before starting the trowel.



Figure 15 Tether Safety Switch

### Tether Safety Switch

Secure tether to your person before starting to finish. If the handle slips out of your hand the plug will detach from the safety switch and stop the machine. Test the safety switch before every use. The button on top of the tether switch can also be used to stop the engine.

## CONTROLS AND ACCESSORIES CONT.



Figure 16 Knob Style Pitching Handle

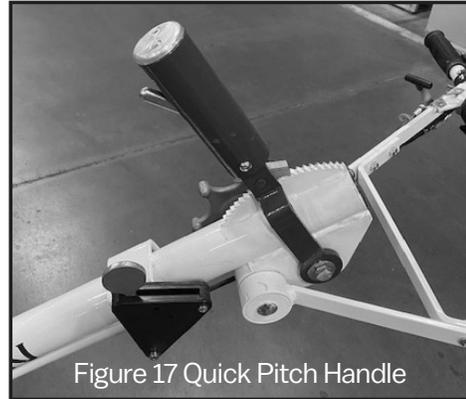


Figure 17 Quick Pitch Handle

### Knob Pitching System

Turn the knob clockwise to increase the angle of the blades and turn them counterclockwise to decrease the angle of the blades.

### Rapid Pitching System

Engage the release lever and pull the pitching lever towards you to increase the angle of the blades and push the lever away from you towards the front of the machine to decrease the angle of the blades.

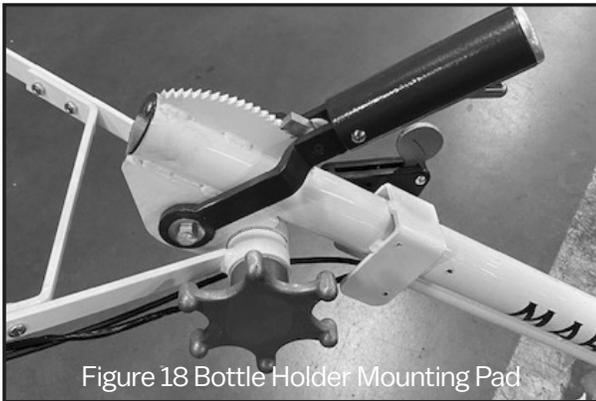


Figure 18 Bottle Holder Mounting Pad



Figure 19 Bottle Holder

### Bottle Holder Mounting Pad

There are two tapped holes opposite of the centrifugal safety switch that will accept any standard bicycle bottle holder. This can be used to hold a spray bottle to wet the concrete as it sets-up.

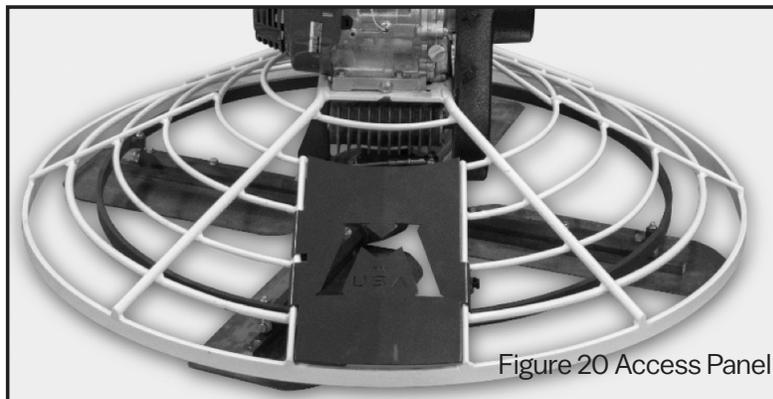


Figure 20 Access Panel

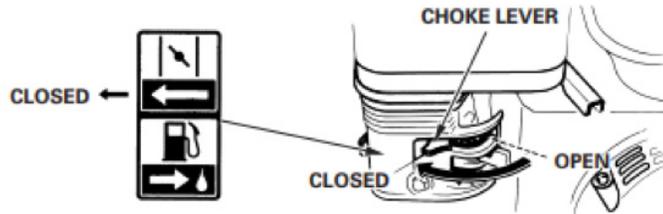
### Blade Access Panel

The access panel screw can be found on the right side of the panel. Loosened the screw and swing the panel to the left to easily access the blades. Close the panel and tighten the screw before running the machine.

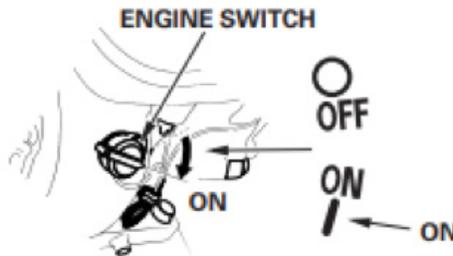
# OPERATION

## STARTING THE ENGINE

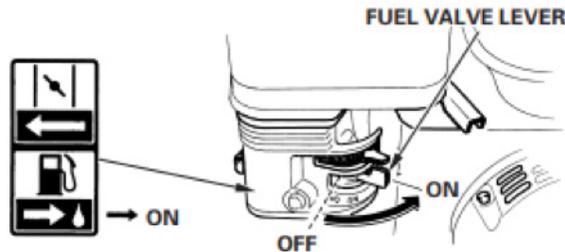
1. On a cold engine, move choke lever to CLOSED position. To restart a warm engine leave choke in OPEN position.



2. Both safety switches need to be in the running position otherwise the engine will not start.
3. Switch the On/Off Switch to the On position.



4. Switch the fuel valve lever on.



5. Pull the starter grip lightly until you feel resistance, then pull briskly. Repeat until engine starts.
6. If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.

## RESTARTING A WARM ENGINE

1. Leave the choke lever in the OPEN position.
2. Switch the On/Off Switch to the On position.
3. Switch the fuel valve lever on.
4. Pull the starter grip lightly until you feel resistance, then pull briskly. Repeat until engine starts.

## FLOATING/FINISHING

MARSHALLTOWN trowels come with combination blades installed. These blades can be used to float and finish. Combination blades or a float pan can be used to float wet concrete to increase the flatness of the slab. Combination and finish blades can be used to finish the slab once the concrete starts to set up and the surface is ready to take a finish.

1. Place the trowel on the concrete and start the engine.
2. Attach tether to your person.
3. Slowly increase engine RPM by pulling the throttle lever towards you until the blades/pan start(s) to spin.
4. Adjust the speed to the desired rotation
5. If using blades, pitch the blades to the desired angle. If using a pan, the blades should be flat on the surface of the pan.
6. While slowly and gently pulling the machine backwards, push down on the handle to move the cage to the right and pull up on the handle to move the cage left.
7. Use caution around pipes, walls, obstacles and the edge of the forms. If you have an edger machine the cage on the machine will rotate while up against walls to help prevent damage.
8. Use until the desired surface is obtained.

## RECOMMENDED SPARE PARTS

| DESCRIPTION                                       | EDI   | QTY |
|---------------------------------------------------|-------|-----|
| GEARBOX INPUT GASKET/SEAL KIT                     | 28907 | 1   |
| GEARBOX INPUT BEARING KIT                         | 28908 | 1   |
| GEARBOX OUTPUT GASKET/SEAL KIT                    | 28909 | 1   |
| GEARBOX OUTPUT BEARING KIT                        | 28910 | 1   |
| 36" TROWEL ARM                                    | 28911 | 1   |
| 46" TROWEL ARM                                    | 28912 | 1   |
| TROWEL ARM BUSHING                                | 28913 | 2   |
| THRUST BEARING KIT                                | 28914 | 1   |
| THROTTLE ASSEMBLY                                 | 28915 | 1   |
| CENTRIFUGAL SAFETY SWITCH ASSEMBLY                | 28916 | 2   |
| SPACER, GEARBOX                                   | 28917 | 2   |
| PITCH CABLE                                       | 28918 | 1   |
| HANDLE GRIP                                       | 28919 | 2   |
| TETHER SAFETY ASSEMBLY                            | 28920 | 1   |
| BELT GUARD                                        | 28921 | 1   |
| V-BELT (GX340 AND GX270)                          | 28922 | 2   |
| V-BELT (GX160)                                    | 28923 | 2   |
| GEARBOX LUBRICANT 0.75L                           | 28928 | 1   |
| SEE HONDA MANUAL FOR SUGGESTED ENGINE SPARE PARTS | NA    | NA  |

## TECHNICAL DATA

| HONDA                        | GX340               | GX270 | GX160 |
|------------------------------|---------------------|-------|-------|
| WEIGHT (LBS)                 | 70                  | 57    | 33    |
| DISPLACEMENT CM <sup>3</sup> | 289                 | 270   | 163   |
| OIL CAPACITY US QT           | 1.2                 | 1.2   | 0.61  |
| FUEL TANK CAPACITY US GAL.   | 1.61                | 1.4   | 0.82  |
| FUEL                         | 86 OCTANE OR HIGHER |       |       |
| IDLE SPEED RPM               | 1400                |       |       |
| TOP SPEED RPM                | 3800                |       |       |
| SPARK PLUG                   | BPR6ES (NGK)        |       |       |
| SPARK PLUG GAP               | .7 to .8 mm         |       |       |
| ENGINE OIL                   | SAE 10W30           |       |       |
| GEARBOX OIL                  | Mobil SHC 634       |       |       |

## MAINTENANCE

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| CHECK OIL LEVEL                 | BEFORE EACH USE                                |
| CHANGE ENGINE OIL               | FIRST MONTH OR 10 HRS. - 6 MO. OR 50 HRS AFTER |
| CHECK GEARBOX OIL               | EVERY 25 HOURS OR EVERY 3 MONTHS               |
| CHECK FUEL LEVEL                | BEFORE EACH USE                                |
| CHECK AIR FILTER                | BEFORE EACH USE                                |
| CHECK BLADES                    | BEFORE EACH USE                                |
| CHANGE BLADES                   | AS NEEDED                                      |
| CHECK BELT                      | EVERY 25 HOURS OR EVERY 3 MONTHS               |
| CHANGE BELT                     | AS NEEDED                                      |
| CHECK THROTTLE AND PITCH CABLES | EVERY 100 HOURS OR 1 YEAR                      |
| REPLACE AIR FILTER              | EVERY 25 HOURS OR EVERY 3 MONTHS               |
| SPARK PLUG - CHECK AND ADJUST   | EVERY 100 HOURS OR 1 YEAR                      |
| SPARK PLUG - REPLACE            | EVERY 300 HOURS OR 2 YEARS                     |
| ELECTRONIC CONNECTIONS          | BEFORE EACH USE                                |
| CHECK NUTS AND BOLTS            | BEFORE EACH USE                                |
| CHECK SAFETY SWITCHES           | BEFORE EACH USE                                |

## CHANGING THE BLADES

1. Using the pitch handle lay the blades flat on a very level surface.
2. Remove all bolts and lock washers that hold the blade on (2 for the 36" and 3 for the 46").
3. Remove the blade from under the arm.
4. Clean arms thoroughly of any debris.
5. Replace with a new blade. Be sure to replace the blades in the right orientation. Combination blades are to be installed with the larger portion of the blade on the right side of the arm when looking down at it.
6. Replace all bolts and lock washers.

## ADJUSTING THE PITCHING ARMS

1. Using the pitch handle lay the blades flat on a very level surface.
2. Mark an outline of the blade on the floor directly under the handle. Mark the blade opposite of this also. You will be moving the cage and blades on the floor and will need these outline to make sure all of the blades are moved to the correct position.
3. Pitch the blade under the handle to about half way and do not touch again until after this procedure is finished.
4. Measure from the floor directly under the centrifugal safety switch to the top of the safety switch. Mark the location on the floor that was measured from. This is the distance the handle should be from the ground when all blades are rotated into the outlines marked.

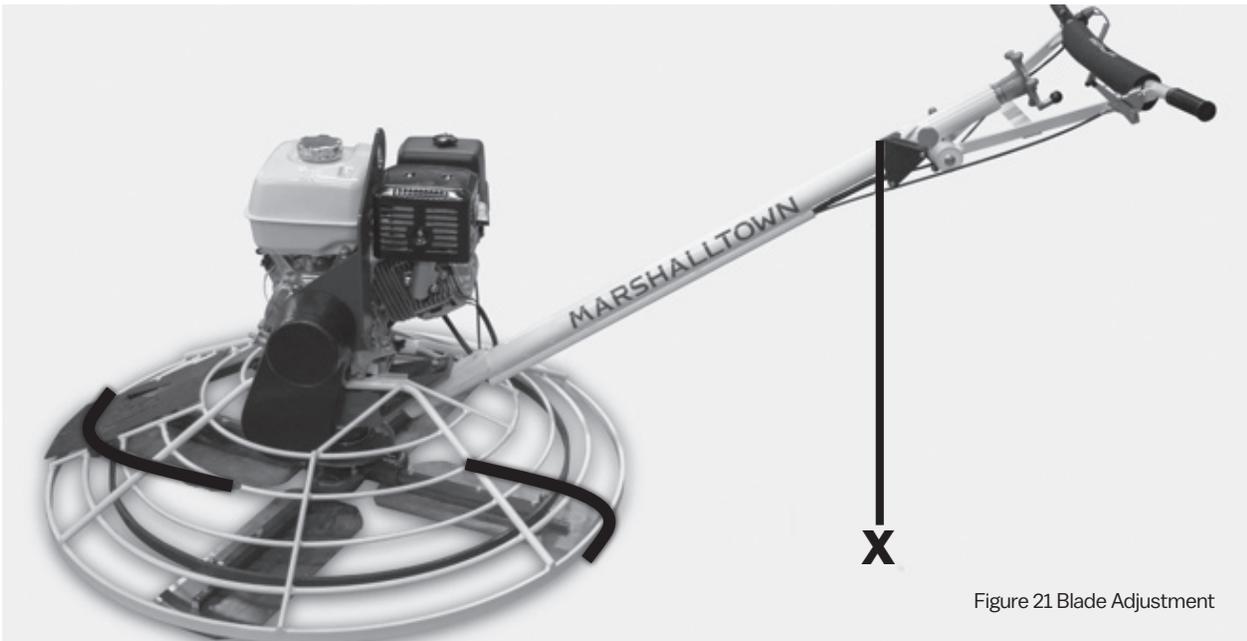
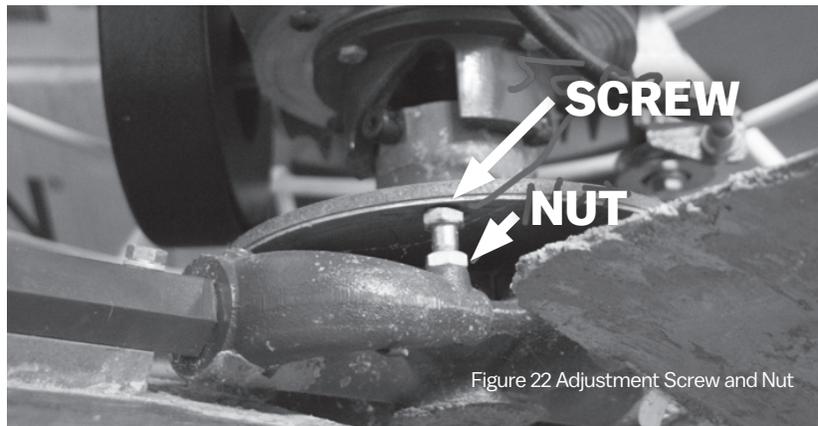


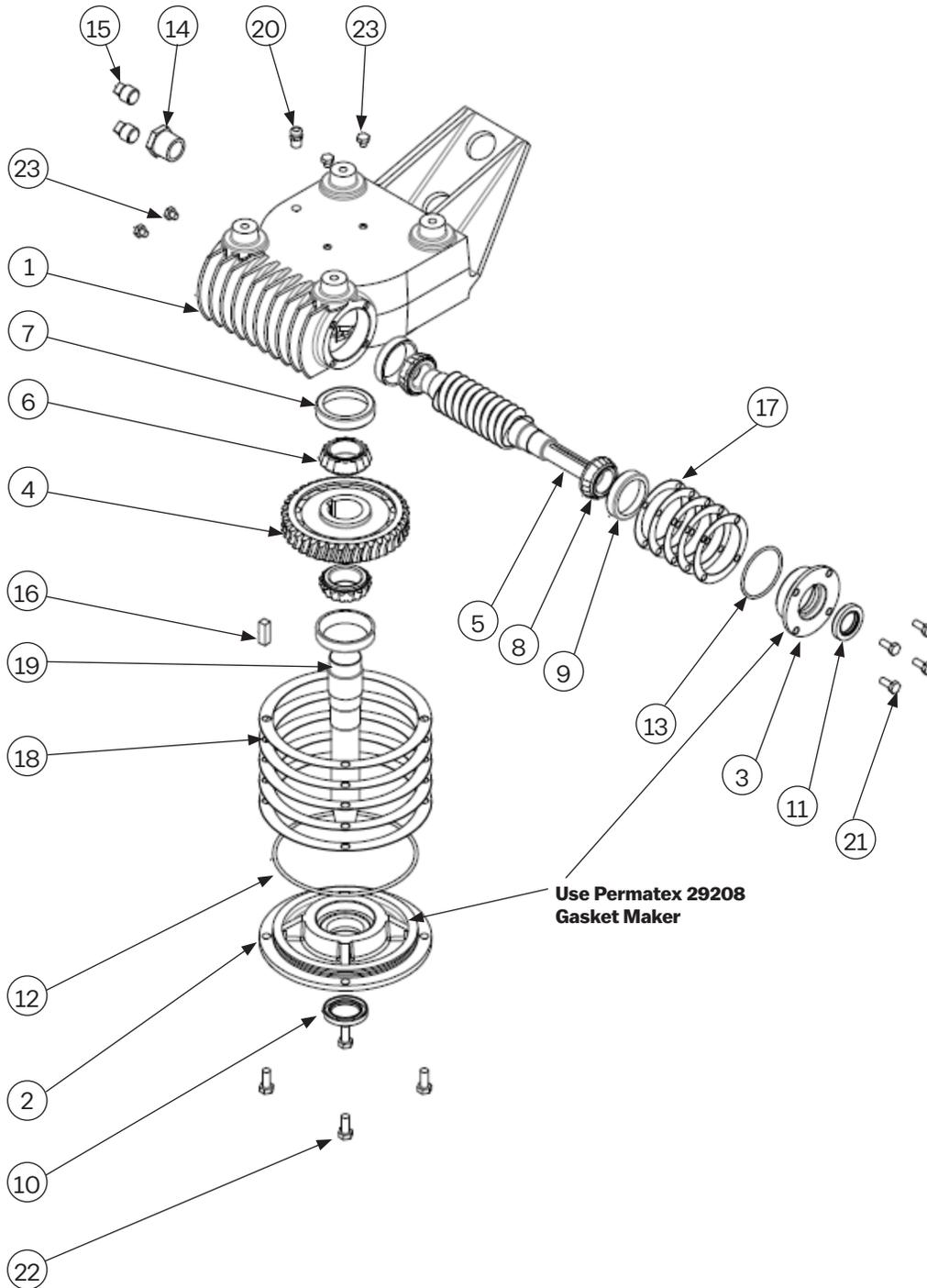
Figure 21 Blade Adjustment

5. Rotate the machine 90 degrees so that the blade to the left of the one just measured is now inside the outline and the blade opposite is inside its outline.
6. Move the handle so that the safety switch is directly above the mark made on the floor.
7. Measure the distance from the mark on the floor to the top of the safety switch. If it is not within a  $\frac{1}{16}$ " go to step 8 to adjust the pitch. If it is within range go to step 9.
8. To adjust the height loosen the nut on the pitch finger and rotate the pitch adjustment bolt. To decrease the distance rotate the bolt clockwise and to increase the distance rotate the bolt counterclockwise. Tighten the nut once the height is within  $\frac{1}{16}$ ".



9. Repeat steps 5 through 8 until all blades have been in the outline and the height is within range.

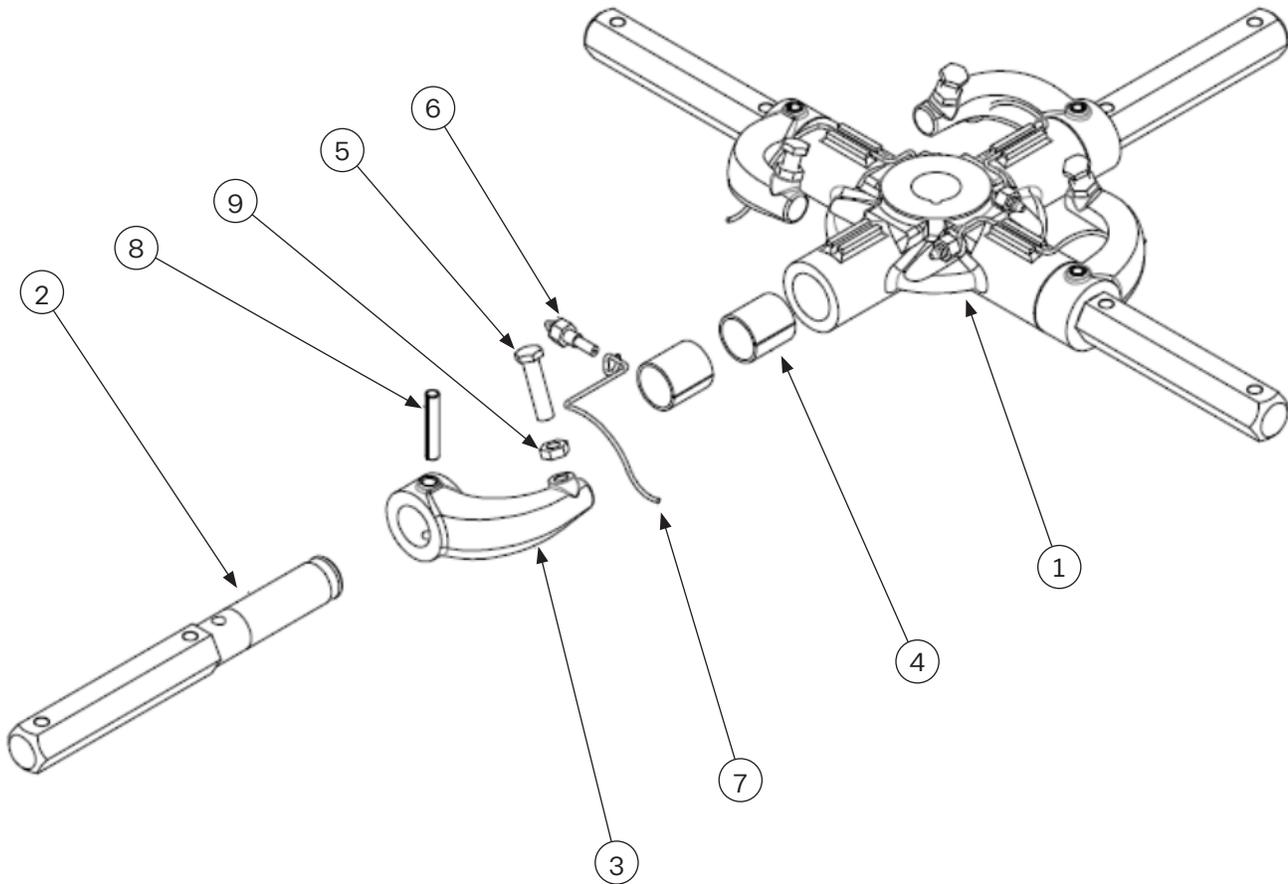
# GEARBOX (R4326)



## PARTS BREAKDOWN

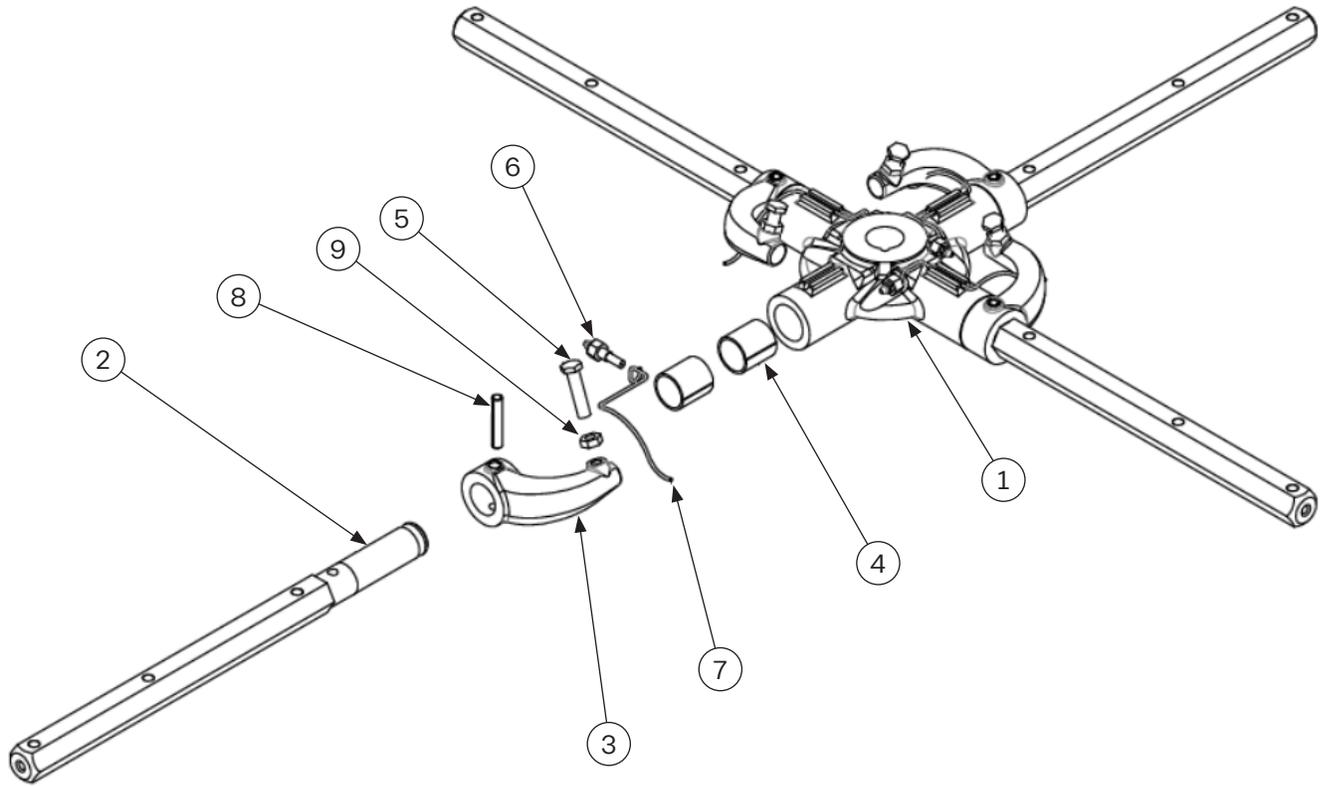
| REF #    | NAME                           | PART # | QTY |
|----------|--------------------------------|--------|-----|
| 1        | GEARBOX                        | WU984  | 1   |
| 2        | GEARBOX COVER                  | WU985  | 1   |
| 3        | GEARBOX CAP                    | R4329  | 1   |
| 4        | GEAR                           | WX2303 | 1   |
| 5        | INPUT WORM SHAFT               | WX2352 | 1   |
| 6        | OUTPUT CONE                    | WX2359 | 2   |
| 7        | OUTPUT CUP                     | WX2361 | 2   |
| 8        | INPUT CONE                     | WX2358 | 2   |
| 9        | INPUT CUP                      | WX2360 | 2   |
| 10       | OUTPUT SEAL                    | WK217  | 1   |
| 11       | INPUT SEAL                     | WK216  | 1   |
| 12       | OUTPUT O-RING                  | WK215  | 1   |
| 13       | INPUT O-RING                   | WK214  | 1   |
| 14       | 3/4 NPT SIGHT GLASS            | WR1281 | 1   |
| 15       | PLUG, 3/8 SQ                   | WR1295 | 2   |
| 16       | KEY, 5/16 X 5/16 X 1           | WR1288 | 1   |
| 17       | INPUT SHIM KIT                 | 28993  | 1   |
| 18       | OUTPUT SHIM KIT                | 28992  | 1   |
| 19       | OUTPUT SHAFT                   | R4331  | 1   |
| 20       | VENT, 1/8 NPT                  | WT975  | 1   |
| 21       | HEX CAP SCREW 1/4-20 X 5/8     | WR227  | 4   |
| 22       | HEX CAP SCREW 5/16 -18 X 3/4   | WR1309 | 4   |
| 23       | HEX CAP SCREW 1/ 4-28 X 1/4    | WR1304 | 4   |
| 11,13,17 | GEARBOX INPUT GASKET/SEAL KIT  | 28907  | 1   |
| 8,9      | GEARBOX INPUT BEARING KIT      | 28908  | 1   |
| 10,12,18 | GEARBOX OUTPUT GASKET/SEAL KIT | 28909  | 1   |
| 6,7      | GEARBOX OUTPUT BEARING KIT     | 28910  | 1   |

## 36" SPIDER ASSEMBLY (R4415)



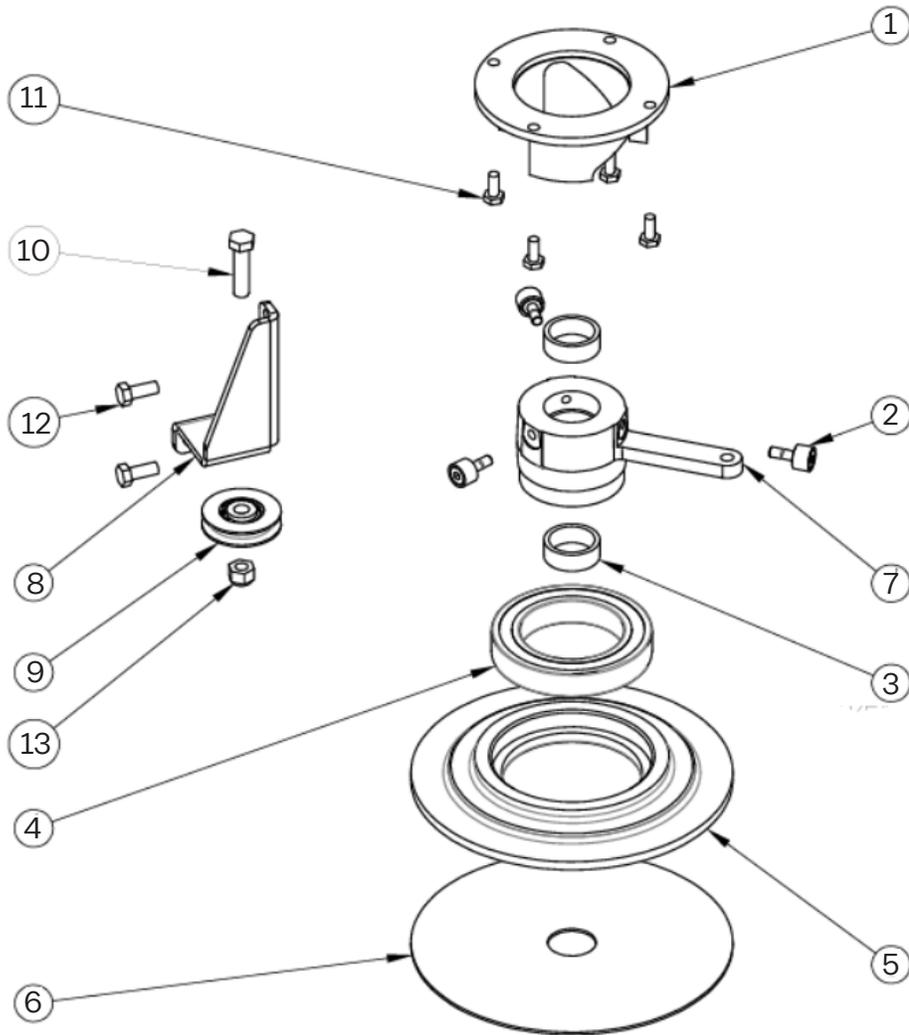
| REF # | NAME                   | PART # | QTY |
|-------|------------------------|--------|-----|
| 1     | SPIDER BASE            | R4360  | 1   |
| 2     | TROWEL ARM             | 28911  | 4   |
| 3     | SPIDER FINGER          | R4363  | 4   |
| 4     | ARM BUSHING            | 28913  | 8   |
| 5     | PITCH ADJUSTMENT BOLT  | WR1280 | 4   |
| 6     | RETAINING SCREW        | R4365  | 4   |
| 7     | ARM SPRING             | WX2333 | 4   |
| 8     | ROLL PIN, 5/16 X 1 3/4 | WR1299 | 4   |
| 9     | HEX JAM NUT, 3/8-16    | WR1197 | 4   |

# 46" SPIDER ASSEMBLY (R4359)



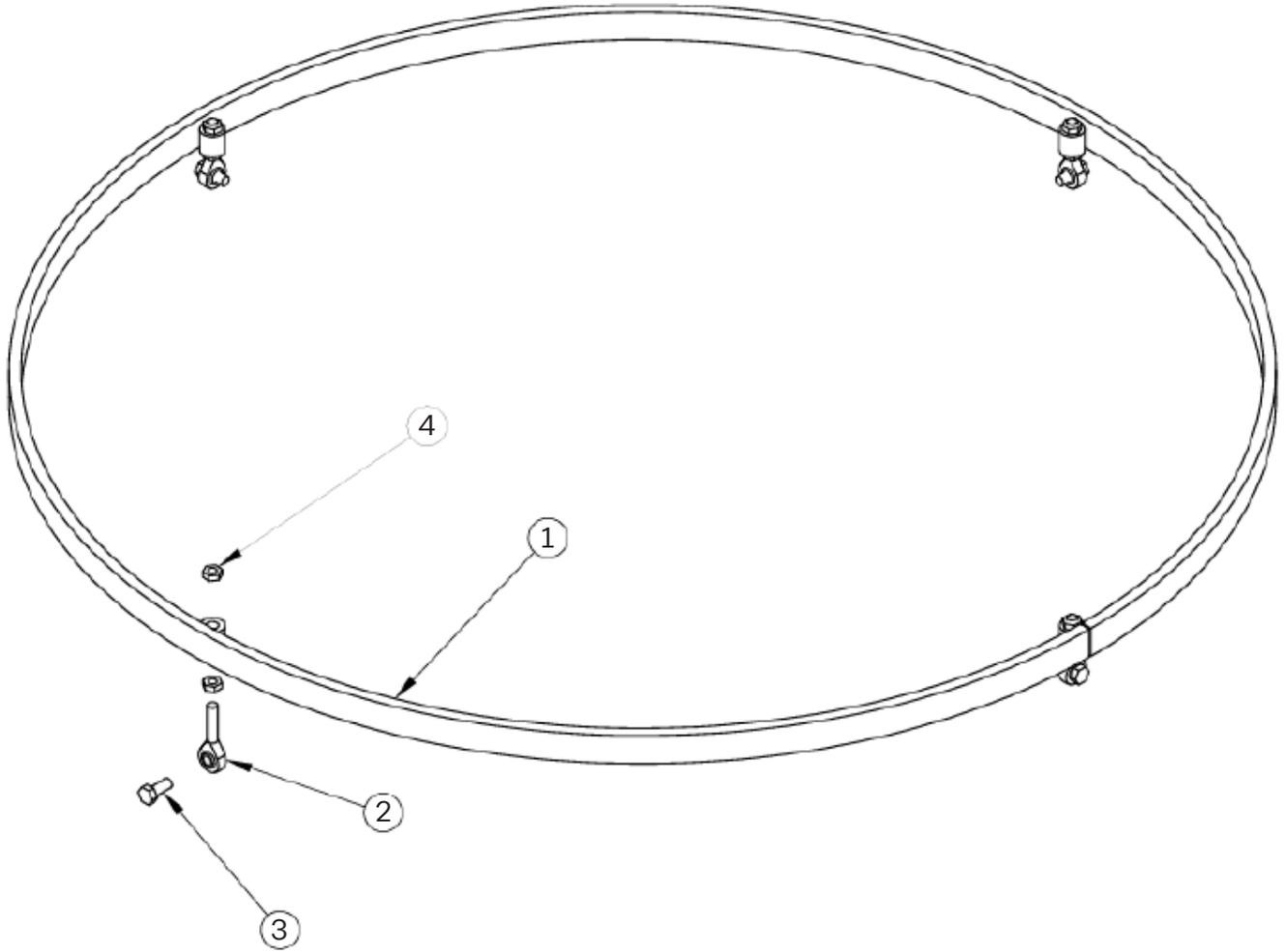
| REF # | NAME                   | PART # | QTY |
|-------|------------------------|--------|-----|
| 1     | SPIDER BASE            | R4360  | 1   |
| 2     | TROWEL ARM             | 28912  | 4   |
| 3     | SPIDER FINGER          | R4363  | 4   |
| 4     | ARM BUSHING            | 28913  | 8   |
| 5     | PITCH ADJUSTMENT BOLT  | WR1280 | 4   |
| 6     | RETAINING SCREW        | R4365  | 4   |
| 7     | ARM SPRING             | WX2333 | 4   |
| 8     | ROLL PIN, 5/16 X 1 3/4 | WR1299 | 4   |
| 9     | HEX JAM NUT, 3/8-16    | WR1197 | 4   |

# THRUST COLLAR ASSEMBLY



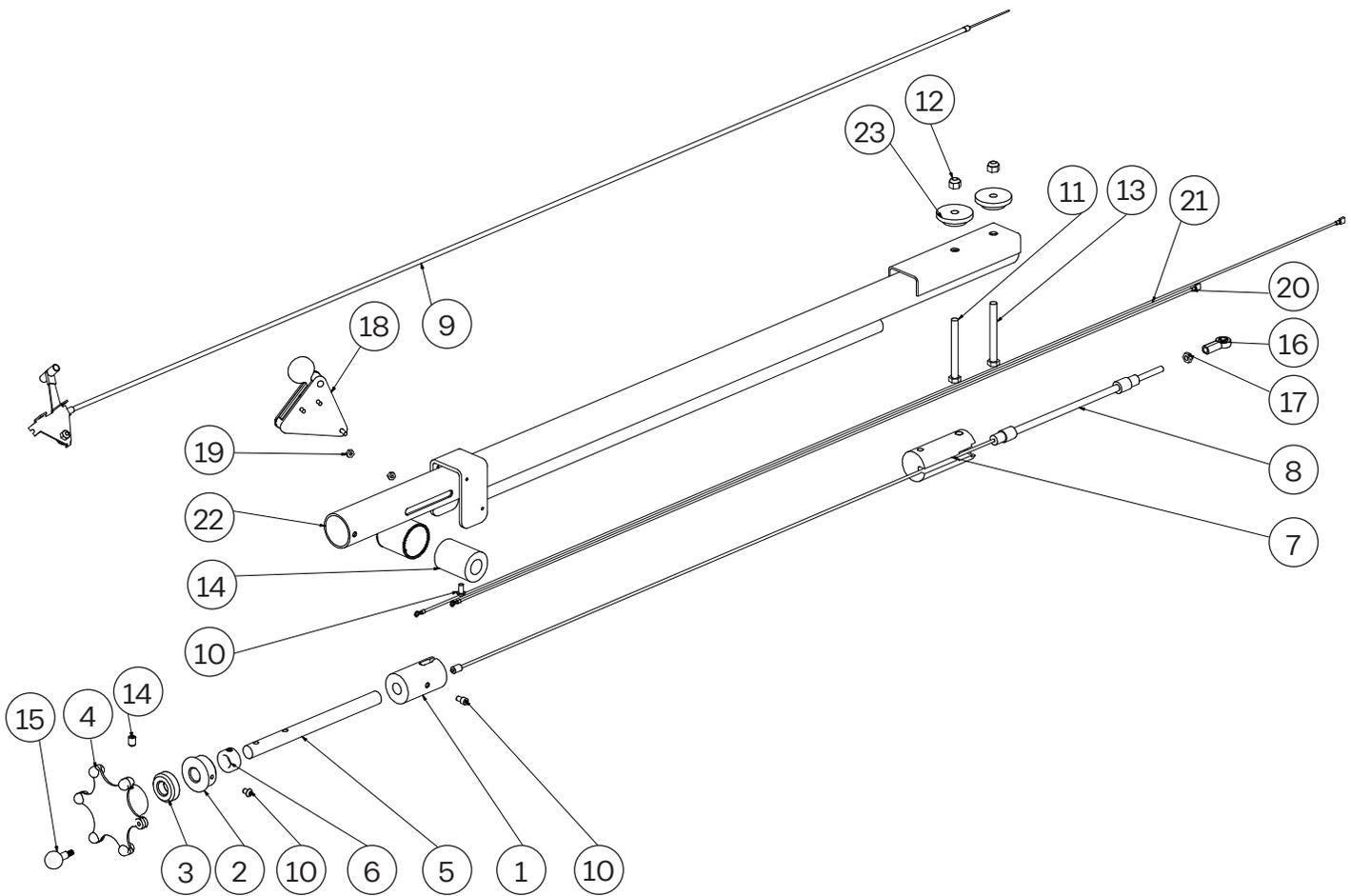
| REF #        | NAME                         | PART # | QTY |
|--------------|------------------------------|--------|-----|
| 1            | PITCH CAM                    | R4511  | 1   |
| 2            | FOLLOWER CAM                 | WR1276 | 3   |
| 3            | BUSHING                      | WL685  | 2   |
| 4            | THRUST BEARING               | WX2357 | 1   |
| 5            | THRUST COLLAR                | R4335  | 1   |
| 6            | WEAR PLATE                   | WX2351 | 1   |
| 7            | PITCH LEVER                  | R4337  | 1   |
| 8            | PITCH CABLE BRACKET          | R4338  | 1   |
| 9            | PITCH CABLE PULLEY           | R4413  | 1   |
| 10           | HEX CAP SCREW 3/8- 16 X 1.50 | WR1305 | 1   |
| 11           | HEX CAP SCREW 1/4- 20 X 5/8  | WR227  | 4   |
| 12           | HEX CAP SCREW 5/16- 18 X 5/8 | WR1411 | 2   |
| 13           | NYLOCK HEX NUT 3/ 8- 16      | WR263  | 1   |
| 1-7, 11      | THRUST COLLAR KIT            | R4513  | 1   |
| 8-10, 12, 13 | PITCH BRACKET KIT            | R4119  | 1   |
| 3-6          | THRUST BEARING KIT           | 28914  | 1   |

# STABILIZER ASSEMBLY 46" ONLY (R4355)



| REF # | NAME                        | PART # | QTY |
|-------|-----------------------------|--------|-----|
| 1     | STABILIZER RING             | R4356  | 1   |
| 2     | ROD END, 5/16 MA LE         | WR1298 | 4   |
| 3     | HEX CAP SCREW 5/16-18 X 3/4 | WR1309 | 4   |
| 4     | JAM HEX NUT 5/16-24         | WR1292 | 8   |

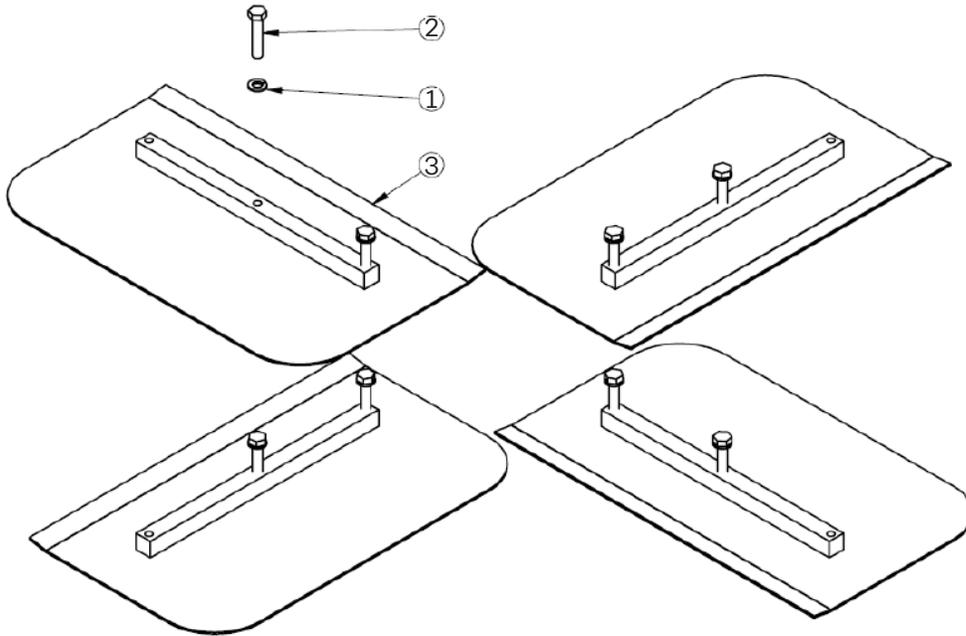
# FULL KNOB STYLE HANDLE ASSEMBLY (R4341)



| REF #          | NAME                                                                 | PART # | QTY |
|----------------|----------------------------------------------------------------------|--------|-----|
| 1              | SLIDE BLOCK                                                          | R4210  | 1   |
| 2              | HANDLE END                                                           | R4414  | 1   |
| 3              | THRUST BEARING                                                       | WX2365 | 1   |
| 4              | HAND WHEEL                                                           | R4349  | 1   |
| 5              | 3/4 ACME THREADED ROD                                                | WX2348 | 1   |
| 6              | 3/4 SET COLLAR                                                       | WR1275 | 1   |
| 7              | HANDLE SUPPORT BLOCK                                                 | R4347  | 1   |
| 8              | PITCH CABLE                                                          | 28918  | 1   |
| 9              | THROTTLE ASSEMBLY                                                    | 28915  | 1   |
| 10             | SOCKET HEAD SCREW BUTTON 1/4-20 X 3/8                                | WR1315 | 2   |
| 11             | HEX CAP SCREW 3/8-16 X 3.5 FULL THD                                  | WR1308 | 1   |
| 12             | HEX NUT 3/8-16 NYLOCK                                                | WR263  | 2   |
| 13             | HEX CAP SCREW 3/8-16 X 3.5                                           | WR1307 | 1   |
| 14             | UPPER HANDLE SPACER (INCLUDED WITH R4373, SEE UPPER HANDLE ASSEMBLY) | R4379  | 1   |
| 15             | REVOLVING HANDLE                                                     | WR1277 | 1   |
| 16             | ROD END, FEMALE 5/16                                                 | WR1283 | 1   |
| 17             | HEX NUT 5/16-24                                                      | WR1292 | 1   |
| 18             | CENTRIFUGAL SAFETY SWITCH ASSEMBLY                                   | 28916  | 1   |
| 19             | HEX NUT 10-24                                                        | WR1290 | 2   |
| 20             | GROUND WIRE ASSEMBLY                                                 | 29597  | 1   |
| 21             | SAFETY WIRE ASSEMBLY                                                 | 29598  | 1   |
| 22             | HANDLE TUBE                                                          | R4342  | 1   |
| 11-13,23       | SPACER, GEARBOX                                                      | 28917  | 2   |
| 2-6, 9, 10, 15 | KNOB STYLE HANDLE END KIT                                            | 28926  | 1   |
| R4341 & R4373  | FULL KNOB STYLE HANDLE ASSEMBLY WITH UPPER HANDLE ASSEMBLY           | R3888  | 1   |

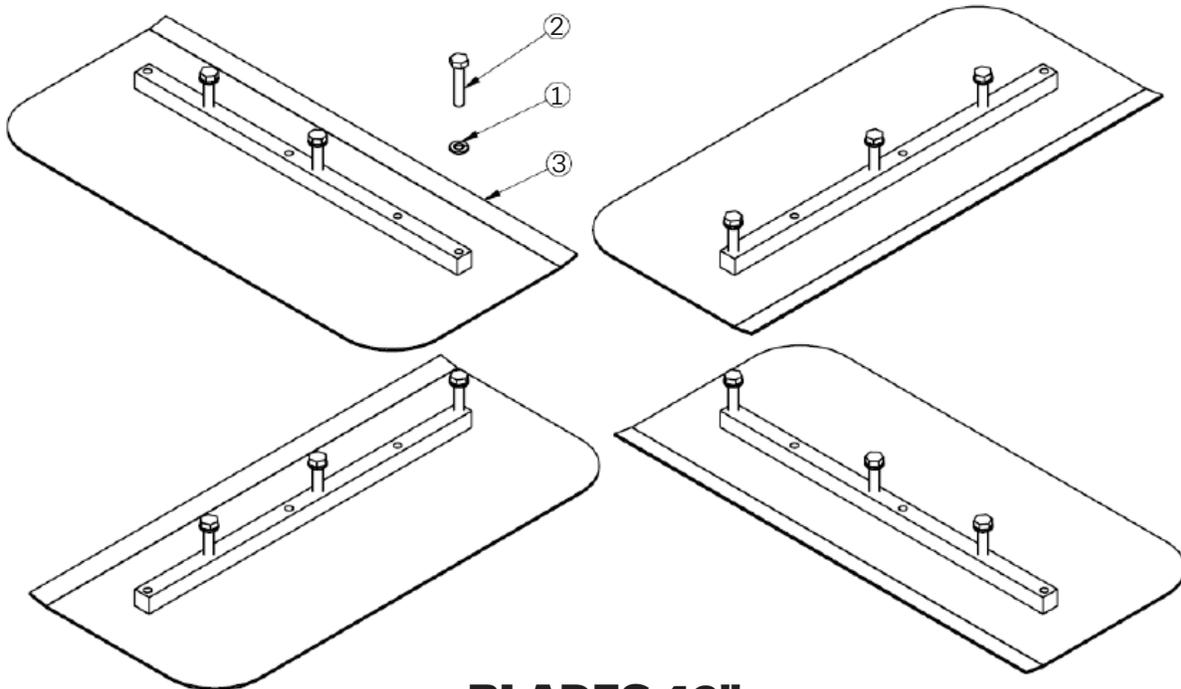


| REF # | NAME                                                                 | PART # | QTY |
|-------|----------------------------------------------------------------------|--------|-----|
| 1     | ROUNDED HEAD 1/4-20 X 3/8                                            | WR1315 | 4   |
| 2     | SPRING                                                               | WX2334 | 1   |
| 3     | CENTRIFUGAL SAFETY SWITCH ASSEMBLY                                   | 28916  | 1   |
| 4     | PITCH CABLE                                                          | 28918  | 1   |
| 5     | GROUND WIRE ASSEMBLY                                                 | 29597  | 1   |
| 6     | SAFETY WIRE ASSEMBLY                                                 | 29598  | 1   |
| 7     | THROTTLE ASSEMBLY                                                    | 28915  | 1   |
| 8     | HEX CAP SCREW 3/8-16 X 3.5 FULL THD                                  | WR1308 | 1   |
| 9     | HEX CAP SCREW 3/8-16 X 3.5                                           | WR1307 | 1   |
| 10    | HEX NUT 3/8-16 NYLOCK                                                | WR263  | 2   |
| 11    | HEX NUT 10-24                                                        | WR1290 | 2   |
| 12    | NEEDLE BEARING 3/8 X 3/8                                             | WX2356 | 2   |
| 13    | DOWEL PIN 3/8 X 1.5                                                  | WR1284 | 1   |
| 14    | RETAINING RING                                                       | WR1296 | 4   |
| 15    | HEX NUT 5/16-24                                                      | WR1292 | 1   |
| 16    | ROD END, FEMALE 5/16                                                 | WR1283 | 1   |
| 17    | HEX CAP SCREW 3/8-16 X 2.5                                           | WR1013 | 1   |
| 18    | HEX NUT 3/8-16                                                       | WR1291 | 1   |
| 19    | LOCKING LINK                                                         | WU912  | 1   |
| 20    | CONNECTING LOCKING LINK                                              | WU911  | 1   |
| 21    | PITCH RELEASE LEVER                                                  | WU910  | 1   |
| 22    | DOWEL PIN 3/8 X 1.25                                                 | WR1430 | 2   |
| 23    | FLANGED SLEEVE BEARING                                               | WR1431 | 2   |
| 24    | PITCH HANDLE SHAFT                                                   | R4444  | 1   |
| 25    | SLIDER LINK LEVER                                                    | R4446  | 1   |
| 26    | LINK PITCH                                                           | WX2306 | 1   |
| 27    | SLIDE BLOCK                                                          | R4400  | 1   |
| 28    | HANDLE TUBE                                                          | R4406  | 1   |
| 29    | EXTENSION SPRING                                                     | WR1432 | 1   |
| 30    | PITCH HANDLE                                                         | R4321  | 2   |
| 31    | PIVOT LINK PIN                                                       | R4401  | 1   |
| 32    | GRIP                                                                 | R4322  | 1   |
| 33    | GRIP CAP                                                             | R4443  | 1   |
| 34    | PITCH COVER                                                          | R4402  | 1   |
| 35    | GEARBOX SPACER                                                       | 28917  | 2   |
| 36    | WASHER 7/16                                                          | WR1056 | 2   |
| 37    | FLAT HEAD SCREW 10-24 X 1                                            | WR1429 | 2   |
| 38    | HEX CAP SCREW 7/16-14 X 3/4                                          | WR1174 | 2   |
| 39    | HANDLE SUPPORT BLOCK                                                 | R4347  | 1   |
| 40    | UPPER HANDLE SPACER (INCLUDED WITH R4373, SEE UPPER HANDLE ASSEMBLY) | R4379  | 1   |
| 41    | HEX NUT 1/4-20                                                       | WR1289 | 2   |
| 42    | ROUNDED HEAD 1/4-20 X 2 1/4                                          | WR1311 | 2   |
| 43    | WASHER 3/8 PLASTIC                                                   | WL652  | 8   |
| N/A   | FULL HANDLE ASM W/ UPPER HANDLEBARS                                  | R3889  | 1   |
| N/A   | FULL HANDLE ASM W/ UPPER HANDLEBARS GX160                            | R3879  | 1   |



### BLADES 36"

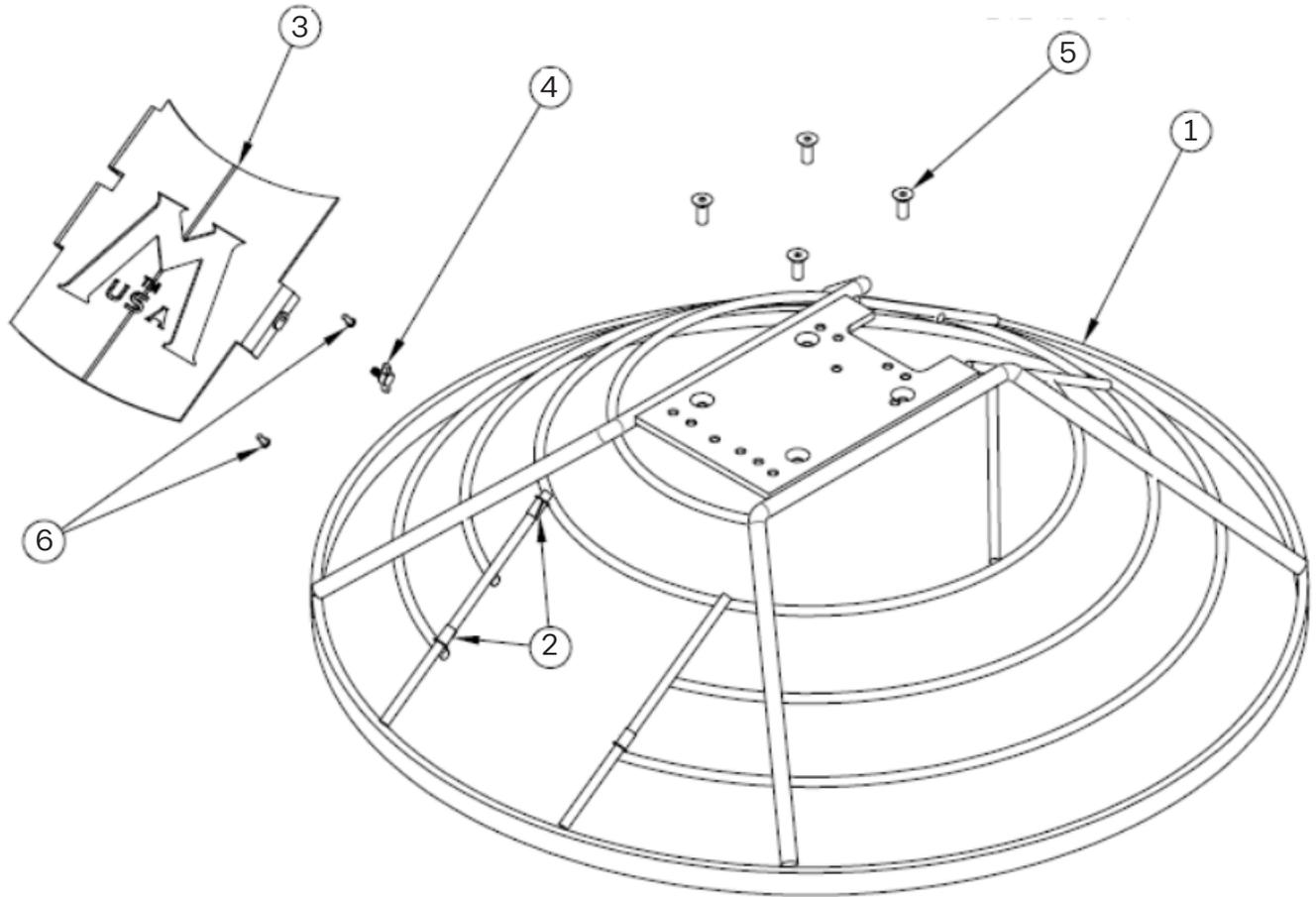
| REF # | NAME                        | PART #         | QTY |
|-------|-----------------------------|----------------|-----|
| 1     | LOCK WASHER 5/16            | WR364          | 8   |
| 2     | HEX CAP SCREW 5/16-18 X 1.5 | WR1008         | 8   |
| 3     | 8X14 COMBO BLADE            | M6092 (4-PACK) | 4   |



### BLADES 46"

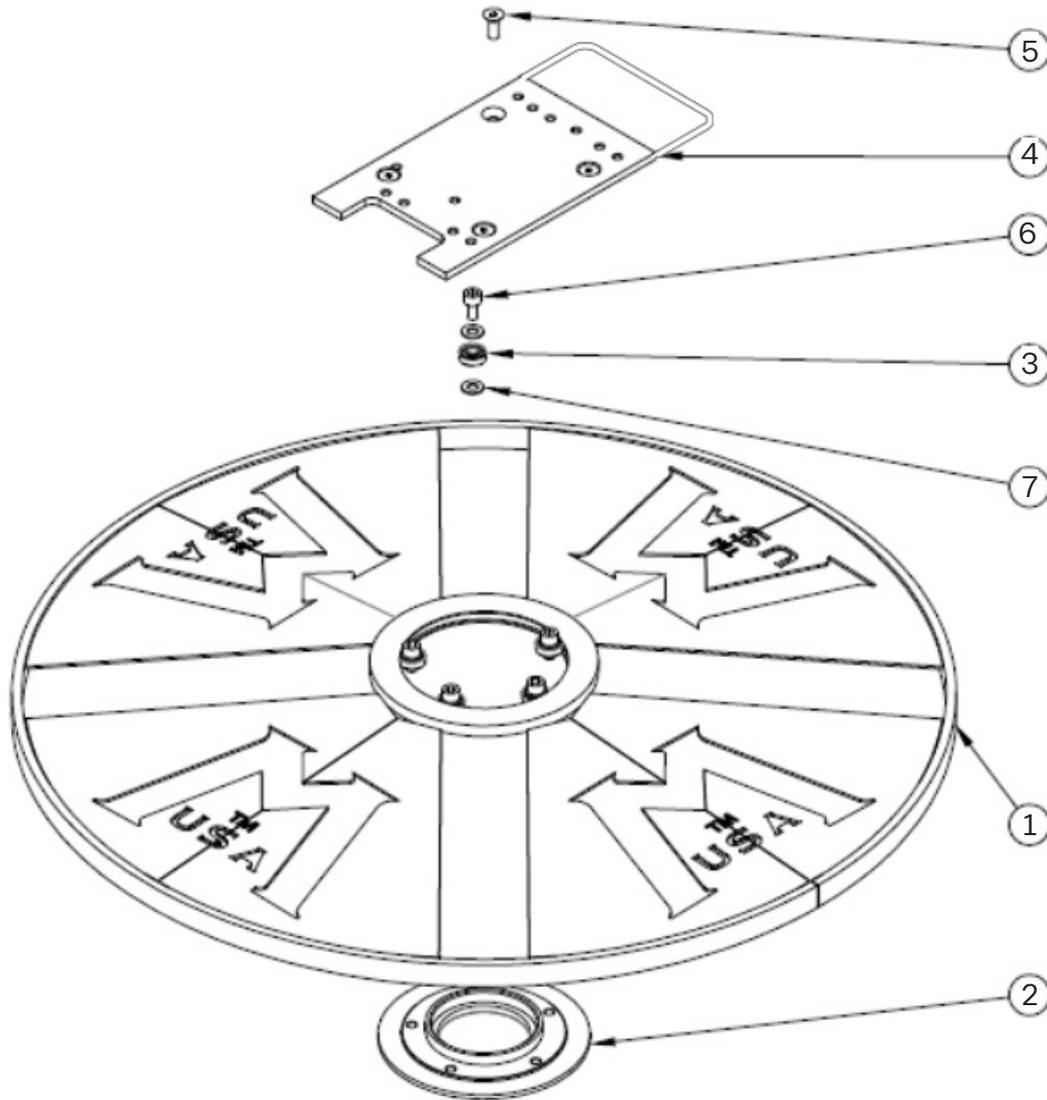
| REF # | NAME                        | PART #         | QTY |
|-------|-----------------------------|----------------|-----|
| 1     | LOCK WASHER 5/16            | WR364          | 12  |
| 2     | HEX CAP SCREW 5/16-18 X 1.5 | WR1008         | 12  |
| 3     | 8X18 COMBO BLADE            | M6094 (4-PACK) | 4   |

## 36" GUARD RING (R4385) 46" GUARD RING (R4366)



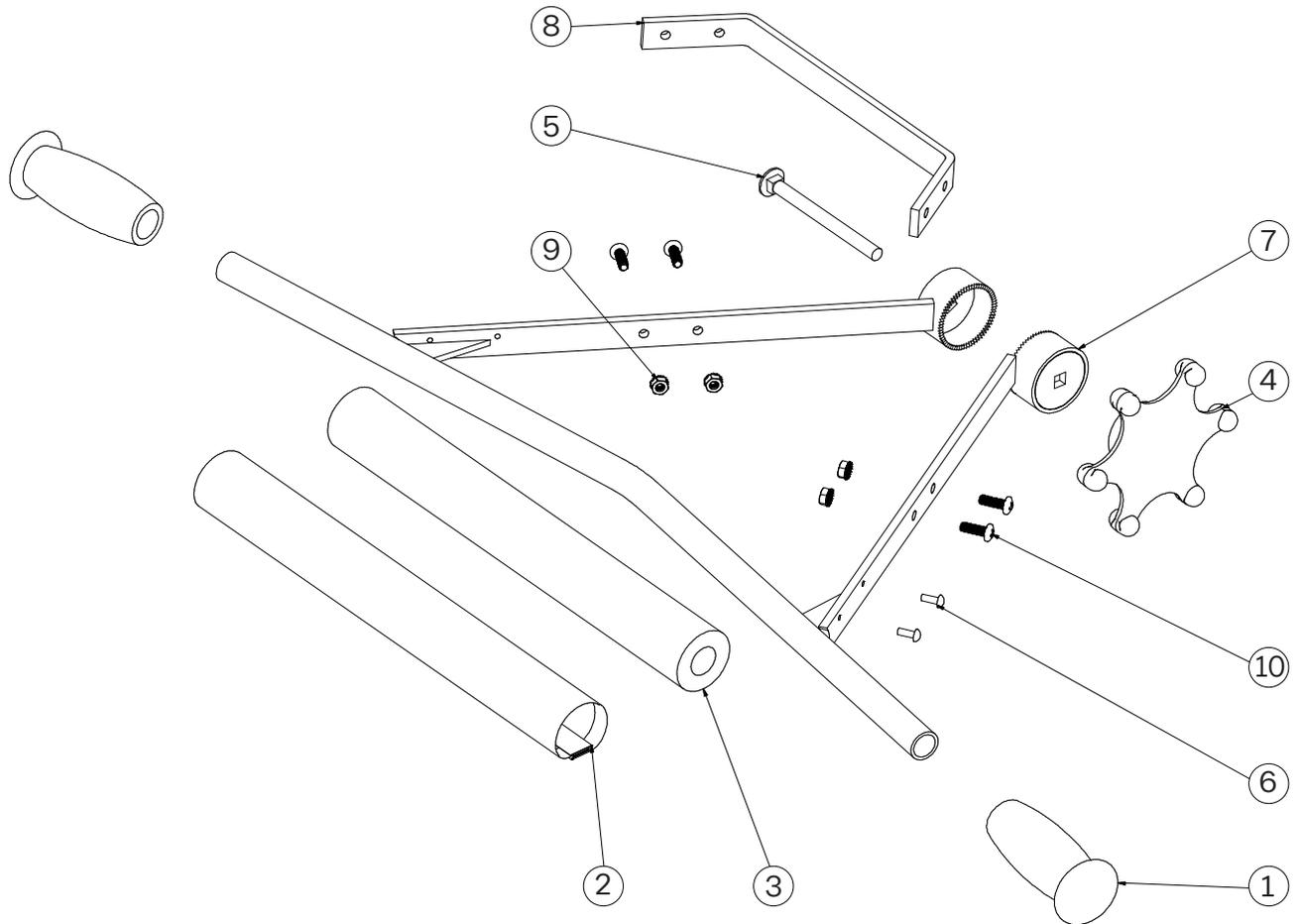
| REF # | NAME                           | PART # | QTY |
|-------|--------------------------------|--------|-----|
| 1     | 36" GUARD RING                 | R4386  | 1   |
|       | 46" GUARD RING                 | R4367  |     |
| 2     | BUSHING, SPLIT NYLON 3/8"      | WL684  | 2   |
| 3     | ACCESS DOOR FOR 36"            | R4389  | 1   |
|       | ACCESS DOOR FOR 46"            | R4371  |     |
| 4     | BELT GUARD SCREW               | WR1279 | 1   |
| 5     | FLAT HEAD SCREW, 3/8 -16 X 3/4 | WR1302 | 4   |
| 6     | ROUNDED HEAD SCREW 10-24 X 1/2 | WR1158 | 2   |

## 36" EDGER ROTATING RING (R4393)



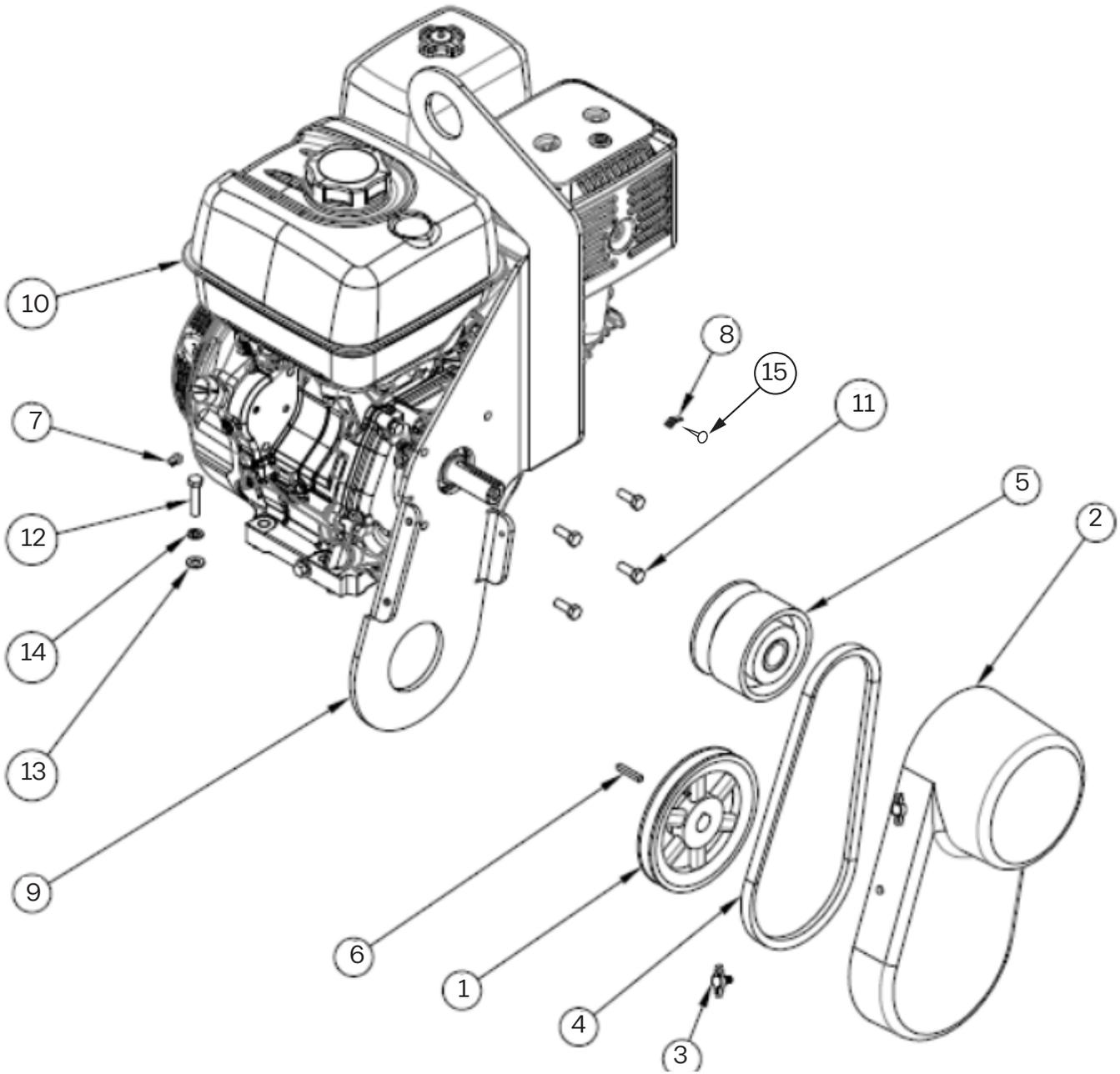
| REF # | NAME                            | PART # | QTY |
|-------|---------------------------------|--------|-----|
| 1     | ROTATING RING                   | R4394  | 1   |
| 2     | EDGER THRUST COLLAR             | R4417  | 1   |
| 4     | GUARD RING MOUNT                | R3971  | 1   |
| 5     | FLAT HEAD SCREW, 3/8 - 16 X 1.0 | WR1302 | 4   |
| 3,6,7 | BALL BEARING KIT                | 28927  | 1   |

# UPPER HANDLE ASSEMBLY (R4373)



| REF # | NAME                             | PART # | QTY |
|-------|----------------------------------|--------|-----|
| 1     | GRIP, HANDLE                     | WK210  | 2   |
| 2     | PAD COVER                        | WX2295 | 1   |
| 3     | PAD, HANDLE                      | WX2319 | 1   |
| 4     | HANDLE BAR ADJUSTMENT KNOB       | R4375  | 1   |
| 5     | CARRIAGE BOLT 3/8-16 X 4 1/2     | WR1301 | 1   |
| 6     | ROUNDED HEAD SCREW, 10-24 X 1/2  | WR1158 | 2   |
| 7     | HANDLE BAR                       | R4376  | 1   |
| 8     | BRACE, HANDLE BAR                | R4449  | 1   |
| 9     | KEPS NUT, 1/4-20                 | WR413  | 4   |
| 10    | ROUNDED HEAD SCREW, 1/4-20 X 3/4 | WR1378 | 4   |

# DRIVE ASSEMBLY



## GX340 (R4380) AND GX270 (R4382)

| REF # | NAME                                     | PART # | QTY |
|-------|------------------------------------------|--------|-----|
| 1     | PULLEY                                   | WX2321 | 1   |
| 2, 3  | BELT GUARD                               | 28921  | 1   |
| 3     | BELT GUARD SCREW                         | WR1279 | 3   |
| 4     | V-BELT, A29                              | 28922  | 1   |
| 5     | CLUTCH, 1"                               | WX2291 | 1   |
| 6     | KEY, 3/16 X 3/16 X 1.25                  | WX1321 | 1   |
| 7     | SAFETY WIRE TAP                          | WR1287 | 2   |
| 8     | GROUND WIRE LUG                          | WR1282 | 2   |
| 9     | LIFTING MOUNT FOR GX340 AND GX270        | R4381  | 1   |
| 10    | ENGINE, HONDA GX 340                     | WX2362 | 1   |
|       | ENGINE, HONDA GX 270                     | WX2302 | 1   |
| 11    | HEX CAP SCREW 5/16 - 24 X 7/8            | WR1338 | 4   |
| 12    | HEX CAP SCREW 5/16 - 24 X 1 1/2 (GX 340) | WR1345 | 4   |
|       | HEX CAP SCREW 5/16 - 24 X 1 1/4 (GX 270) | WR1406 | 4   |
| 13    | FLAT WASHER 5/16                         | WR236  | 4   |
| 14    | LOCK WASHER 5/16                         | WR364  | 4   |
| 15    | SHEET METAL SCREW #10 3/8                | WR1410 | 2   |

## GX160 (R4391)

| REF # | NAME                            | PART # | QTY |
|-------|---------------------------------|--------|-----|
| 1     | PULLEY                          | WX2321 | 1   |
| 2, 3  | BELT GUARD                      | 28921  | 1   |
| 3     | BELT GUARD SCREW                | WR1279 | 3   |
| 4     | V-BELT, A27                     | 28922  | 1   |
| 5     | CLUTCH, 3/4"                    | WX2292 | 1   |
| 6     | KEY, 3/16 X 3/16 X 1.25         | WX1321 | 1   |
| 7     | SAFETY WIRE TAP                 | WR1287 | 2   |
| 8     | GROUND WIRE LUG                 | WR1282 | 2   |
| 9     | LIFTING PLATE                   | R4416  | 1   |
| 10    | ENGINE, HONDA GX160             | WX2301 | 1   |
| 11    | FLAT HEAD SCREW 5/16 - 24 X 7/8 | WR1409 | 4   |
| 12    | HEX CAP SCREW 5/16 - 24 X 1 1/4 | WR1406 | 4   |
| 13    | FLAT WASHER 5/16                | WR236  | 4   |
| 14    | LOCK WASHER 5/16                | WR364  | 4   |
| 15    | SHEET METAL SCREW #10 3/8       | WR1410 | 2   |

# TROUBLESHOOTING

## ENGINE WON'T START:

1. Check safety switches. Tether should be attached and weight pushed away from operator. Check for loose connections.
2. Check for sufficient fuel.
3. Check oil level. Engines have an "Oil Alert" feature, which prevents them from starting when the oil level is low.
4. Was engine choked when starting?
5. Is engine flooded?
6. Check spark plug. (Clean and check gap)
7. If engine still will not start, consult the engine owner's manual or take it to an authorized service center.

## BLADES WON'T MOVE OR ARE SLOWER THAN NORMAL:

1. Check the throttle cable to make sure it is allowing the engine throttle to move freely in its entire range of motion.
2. Check the v-belt. Replace if worn.
3. Check the clutch. Replace if needed.
4. Check the gear box.

## MACHINE IS UNBALANCED:

1. Check for excessively worn blades.
2. Check the pitch of the blades. Make sure all blades are pitched at the same angle. See "ADJUSTING THE PITCHING ARMS" section for more information.
3. Check the arms, arms bushing, thrust collar, and thrust collar bushings for damage or wear.

## ENGINE KEEPS DYING:

1. Check handle to make sure it is secured to the base tightly, otherwise the centrifugal safety switch might activate.
2. Check for sufficient fuel.

## SAFETY SWITCH DOES NOT STOP ENGINE:

1. Check wire connection, damaged wire or if there is debris in the switch.

## BLADES WON'T PITCH:

1. Check to see the blades are installed correctly.
2. Check to see that the pitch cable is attached and intact.





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