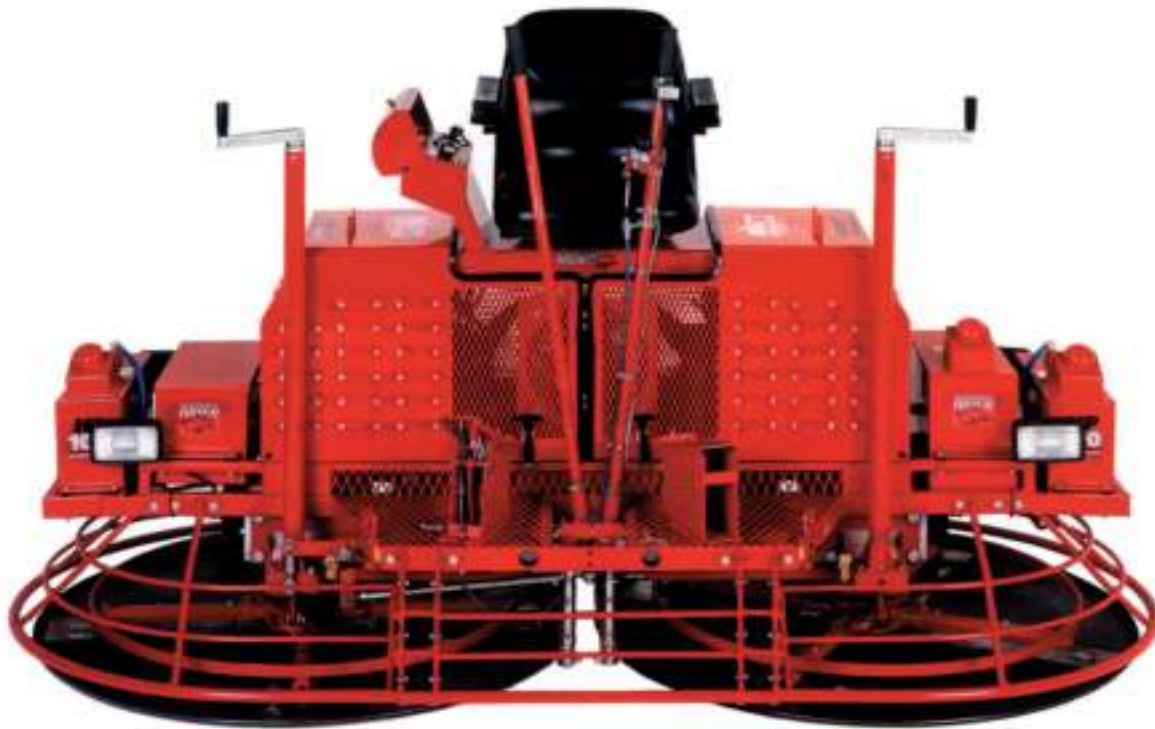


# **RAZORBACK<sup>®</sup> RIDERS**



**HP 100B**  
HIGH PERFORMANCE

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DUAL ENGINE FRAME  
VERSION 2

**allen**  
**ENGINEERING**  
CORPORATION<sup>®</sup>

# Riding Trowel

**OPERATIONS  
PARTS**

**MANUAL  
BOOK**

**THIS MANUAL COVERS RIDING TROWEL(S) BELOW**

**MODEL**

**100B-1200-SHD-22KA-4L**

**# 037878**

Allen Engineering's Razorback Riding Trowels are covered under one or more of the following patent numbers: **U.S. Design Patents:** 323,510; 340,340; 344,736; 400,542; 402,998; 402,999; 403,332. **U.S. Utility Patents:** 4,298,555; 5,108,220; 5,480,257; 5,480,258; 5,613,801; 5,685,667; 5,803,658; 5,816,739. **Canadian Patents:** 2,039,893. **French Patents:** 0293496. **German Patents:** M9007736.9 With other Patents Pending.

### **LIMITED WARRANTY**

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

A. All New Machines and Part	<b>6 Months</b>
B. All New Gear Boxes	<b>2 Years</b>
C. All Factory Reconditioned Gear Boxes	<b>1 Year</b>

Warranty period begins on first day of use by End User. This first day of use is established by a completed warranty card or a Bill of Sale to the end user. All warranty is based on the following limited warranty terms and conditions.

1. Allen Engineering Corporation's obligation and liability under this warranty is limited to repairing or replacing parts if, after Allen's inspection, it is determined to be a defect in material or workmanship. Allen Engineering Corporation reserves the choice to repair or replace.
2. If Allen Engineering Corporation chooses to replace the part, it will be at no cost to the customer and will be made available to the Distributor/Dealer from whom the customer purchased the product.
3. Replacement or repair parts, installed in the product, are warranted only for the remainder of warranty period of the product as though they were the original parts.
4. Allen Engineering Corporation's warranty applies only to the products that are manufactured by Allen Engineering and does not cover component parts such as engines and clutches. Allen Engineering Corporation DOES NOT warranty clutches. Engine warranty claims should be made directly to an authorized factory service center for the particular engine make.
5. Allen Engineering Corporation's warranty does not cover the normal maintenance of products or its components (such as engine tune-ups and oil changes). The warranty also does not cover normal wear and tear items (such as belts and consumables).
6. Allen Engineering Corporation's warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations or repairs made to the product without the written approval of Allen Engineering Corporation. Allen Engineering Corporation specifically excludes from warranty any damage to any trowels resulting from an impact to the rotors. Allen Engineering Corporation also excludes from warranty any failure of clutches on any engine driven piece of equipment.
7. If a new gear box has a factory defect within the first year of use, Allen Engineering Corporation will either repair the gear box or replace it with a new gear box. If a new gearbox has a factory defect in the second year of use, Allen Engineering Corporation will either repair it or replace it with a factory reconditioned gear box. Impact damage is NOT covered under the gear box warranty.
8. Allen engineering Corporation will pay shop labor repair on warranty at the Allen Engineering Shop Labor Rate in existence on the date of the warranty claim. An Allen Engineering Labor Chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
9. Allen Engineering Corporation will pay freight on warranty replacement parts at Worldwide standard ground rates. No warranty replacement parts will be shipped air freight at the expense of Allen Engineering Corporation. Allen Engineering only pays outbound freight charges when sending warranty replacement parts to the customer VIA ground service. Allen Engineering does not pay any inbound freight, however, if Allen Engineering determines this to be warranty defect only then will Allen Engineering reimburse the customer for inbound freight at standard ground rates.
10. Allen Engineering Corporation's warranty policy WILL NOT COVER the following; taxes, shop supplies, environmental surcharges, air freight, travel time, loss of rental revenue, or any other charges whatsoever or any liabilities for direct, incidental, or consequential damage or delay.
11. **Allen Engineering Corporation makes no other warranty, expressed or implied. This limited warranty is in lieu of the warranty of merchantability and fitness. There are no other warranties that extend beyond the description on this document.**
12. No Allen Engineering Corporation employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering Corporation.

## OPERATIONS IDENTIFICATION PLATE

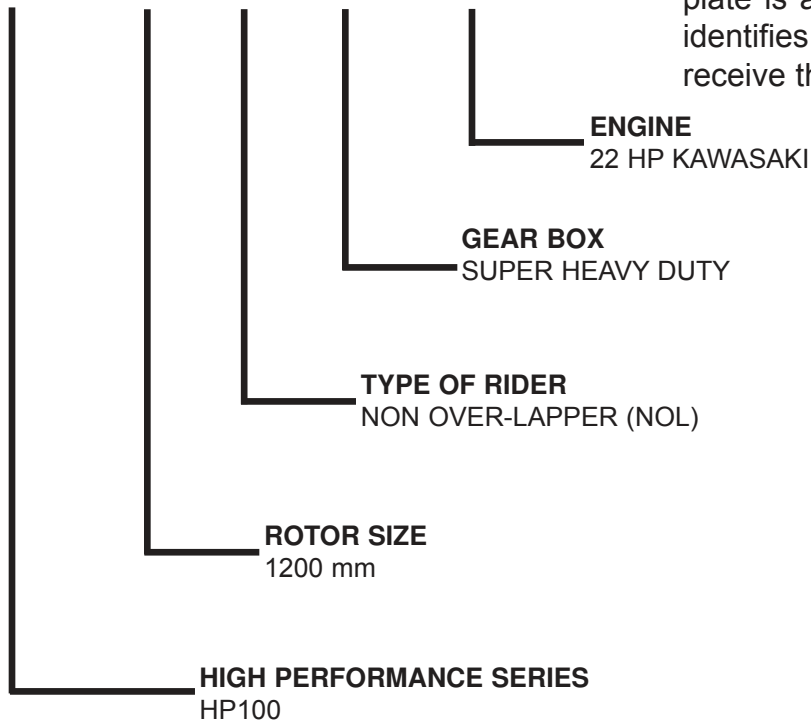
## 1A OPERATIONS

An identification plate listing the Model Number and Serial Number is attached to each unit and is located on the left side of the mainframe. The plate should not be removed.

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

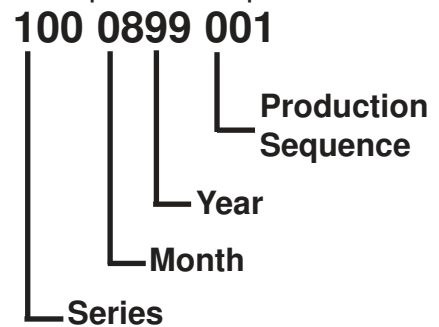
### Model Number

**HP100B- 1200-NOL-SHD 22KA**



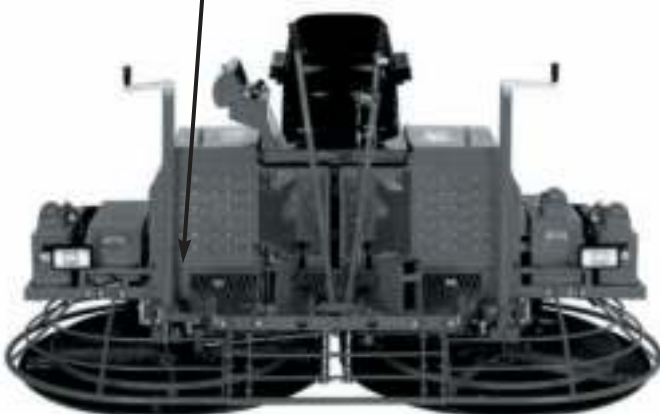
### Serial Number

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



### Identification Plate Location

The serial number plate is located on the inside edge of the right hand deck channel close to the rear of the trowel.



### FILL IN FOR FUTURE REFERENCES

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Purchased From: \_\_\_\_\_

\_\_\_\_\_

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

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

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## Important Reminder

## 1A OPERATIONS

Complete any warranty requirements as specified by the engine manufacturer in their instructions found inside the battery box.

Your engine and clutch is not manufactured by Allen Engineering Corp., and therefore is not covered under Allen Engineering warranty.

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

Refer to enclosed owners engine manual for complete O&M instructions. See your battery manufacturer for battery warranty.

### Your Distributor

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

Place distributor information here for future reference.

DISTRIBUTOR NAME: \_\_\_\_\_ PHONE NUMBER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

SALESMAN: \_\_\_\_\_

ADDITIONAL INFORMATION: \_\_\_\_\_

\_\_\_\_\_

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# 1A OPERATIONS

THE INFORMATION CONTAINED IN THIS MANUAL WAS BASED UPON THE MACHINES IN PRODUCTION AT THE TIME OF PUBLICATION (BEGINNING WITH SERIAL NUMBERS 1000899001). ALLEN ENGINEERING RESERVES THE RIGHT TO CHANGE ANY PORTION OF THIS DOCUMENT WITHOUT NOTIFICATION.

## Information Contained in This Manual

This manual provides information and procedures to safely operate and maintain the Allen Engineering HP100B Model **Razorback® Riding Trowels**.

For your own safety and protection from personal injury carefully read, understand and observe the safety instructions described in this manual.

Always operate and maintain this machine in accordance with the instructions described in this manual. A well maintained piece of equipment will provide many years of trouble free operation. This manual is divided into the sections listed below.

## 1A OPERATIONS

## 2A PARTS

## Ordering Parts

This manual contains an illustrated parts list for help in ordering replacement parts for your machine. Follow the instructions listed below when ordering parts to ensure prompt and accurate delivery. All orders for parts must be made through your local authorized Allen Engineering dealer. All authorized Allen Engineering dealers must fax a copy of the parts order to customer service. The fax number is (870-236-3934). Facsimile orders must contain the following information:

1. On all orders for service parts include SERIAL NUMBER and MODEL number.
2. Shipment may be delayed if this information is not included.
3. Include correct description and part number from part section 2A.
4. **State exact shipping instructions including preferred routing and complete destination address. Also please indicate your preferred freight carrier. If no freight carrier is indicated Allen Engineering reserves the right to ship the shipment the best way possible. Once a shipment leaves Allen Engineering's docks it becomes the responsibility of the freight carrier to insure that it arrives at it's intended destination.**
5. **DO NOT** return parts to Allen Engineering without receiving written authorized Customer Service Report(CSR) from Allen Engineering. All authorized returns must be shipped pre-paid. **All unauthorized returns will be shipped back to the addressee at their expense.**

**Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy please contact your Allen distributor or Allen Engineering Corporation at (800) 643-0095 and order literature part number 039089.**

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Change Without Prior Notice.



## 1.1 Safety Notes

This manual contains NOTES, CAUTIONS and WARNINGS which must be followed to reduce the possibility of improper service damage to the equipment or personal injury. Read and follow all NOTES, CAUTIONS and WARNINGS included in this manual.

**NOTE** Contains additional information important to a procedure.

**CAUTION** Provides information important to prevent errors which could damage machine or components.

**WARNING** Warns of conditions or practices which could lead to personal injury or death.

## 1.2 Laws Pertaining to Spark Arrestors

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



# 1A OPERATIONS

## 1.3 Operating Safety

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

### Safety Precautions

1. Read operating and safety instructions before using the Riding Trowel. Operate the machine in accordance with the manufacturer's instructions.
2. Inspect your Riding Trowel for damage or tampering that can sometimes occur during shipping.
3. **If damage is found file a claim with your carrier immediately! Mark freight bill of lading as damaged shipment.**
4. Do not operate Riding Trowel if any guards have been removed or if the "safety switch" is not operational.
5. Only trained personnel should be allowed to operate your Riding Trowel.
6. Never allow more than one person on the Riding Trowel while it is in operation.
7. No foreign objects such as buckets, tools or materials should ever be attached or allowed to ride on the Trowel during operation.
8. Do not attempt to fill fuel tank or oil sump while the engine is running. Allow engine to cool before refueling.
9. Never attempt to operate the Riding Trowel on steep inclined surfaces.
10. Do not use over the counter hardware to replace manufacturer's hardware.
11. **WARNING: When operating machines with gas engines in confined areas. The fumes MUST be ventilated!**
12. Always wear safety goggles, ear protection, and gloves when operating the Riding Trowel.

## 1.4 Service Safety

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

**DO NOT** attempt to clean or service machine while it is running. Rotating parts can cause severe injury.

**DO NOT** crank a flooded engine with the spark plug removed. Fuel trapped in the cylinder will squirt out the spark plug opening.

**DO NOT** test for spark if engine is flooded or the smell of gasoline is present. A stray spark could ignite the fumes.

**DO NOT** use gasoline or other types of fuels or flammable solvents to clean parts especially in enclosed areas. Fumes from fuels and solvents can become explosive and can be hazardous to your health.

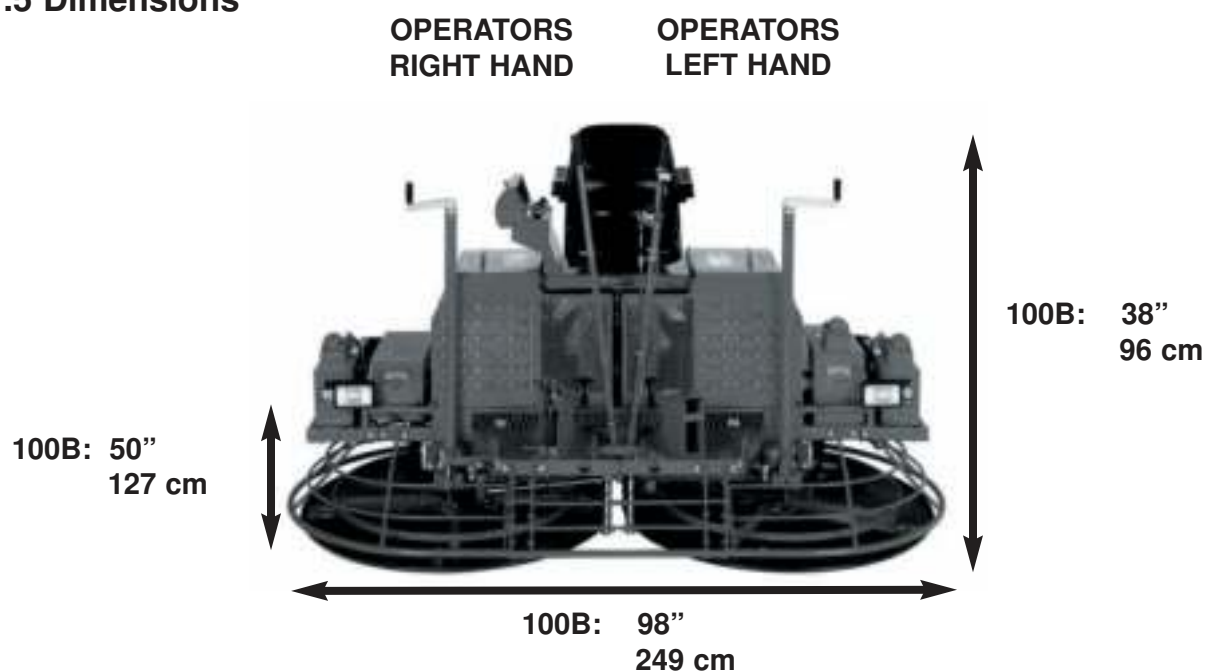
**ALWAYS** operate machine with all safety devices and guards in place and in working order.

**ALWAYS** keep area around muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite such items starting a fire.

**ALWAYS** replace worn or damaged components with spare parts designed and recommended by ALLEN ENGINEERING.

**ALWAYS** disconnect battery on machines before servicing to avoid accidental start-up.

## 1.5 Dimensions



### **MODEL**

### **100B-1200-SHD-22KA**

Length	98" (249 cm)
Width	50" (127cm)
Height (w/o Seat, Levers, Pitch Controls)	38" (96 cm)
Detachable Heavy Duty Guard Rings?	Yes
Panning Path Width	92" (234 cm)
Travel Speed	350 fpm (107 m/min)
Two Rotors (diameter)	46" (117 cm)
Rotor Speed (RPM)	160
Eight Finish Blades	8" x 18"
GearBoxes (2)	Super Heavy Duty (SHD)
Steering System	Dual Lever
Gearbox Rotation	Standard Only
Cruise Control	Standard
Battery	12 Volt
Safety Shutdown Switch	Foot Pedal
Fuel Capacity	6 Gal (23 L)
Approximate Running Time	4 hrs.
Powered Retardant Spray System?	Yes {4.5 Gal (17 L)}
Centrifugal Clutches (2) (diameter)	8" (103 mm)
Twin Belt Drive?	Yes
Gearbox Drive System	SHD w/ U-Joint
Horn w/ Light Alerting Low Oil?	Yes
Horn Alerting Low Coolant	Yes
Engine Hour and RPM Meter	Digital

### **ENGINE OPTIONS:**

### **100B-1200-SHD-22KA**

Engines	Kawasaki
Engines (2) HP/WEIGHT	22HP/1,441 lbs (654 kgs)
Number of Lights/Amperage	4/40

### **OPTIONAL FEATURES:**

### **100B-1200-SHD-22KA**

Eight Combination Blades	8" x 18"
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### **OPTIONAL RIDER ACCESSORIES:**

### **100B-1200-SHD-22KA**

Two Pans	46" (1,168 mm)
Lifting Bridle	Nylon Straps
Trowel Cover	HP100
Dolly Jacks	HP Recommended
Riding Trowel Trailer	6' x 10' Recommended
Trowel Arm Jig	Available
Spider Pulling Tool	Available

## 1.7 Description

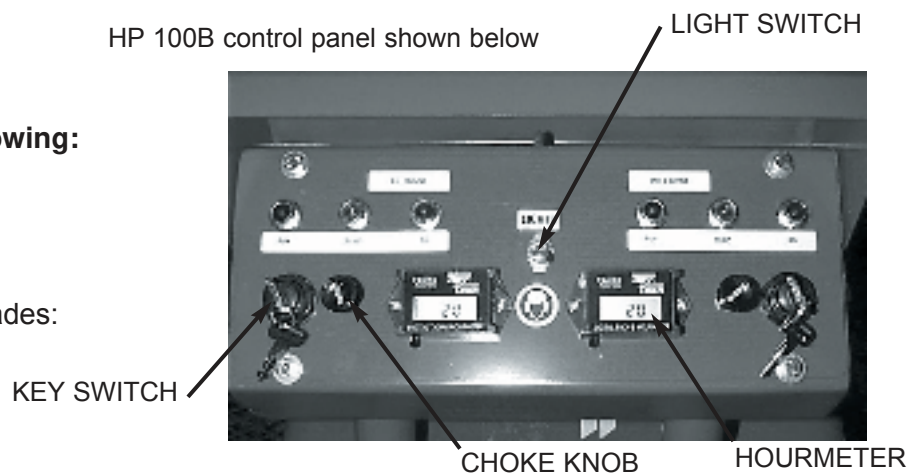
The Riding Trowel is a modern high production machine. Finishing rate will vary depending on the operators skill and job conditions. The Riding Trowel has eight finishing blades. The Super Heavy Duty Gearboxes are designed to provide exceptional performance with low maintenance and trouble free use under some of the worse conditions. All Allen Engineering **Razorback® Riders** are equipped with a safety shutdown switch and a low oil shut down for added job safety and engine protection. Operating time between fuel refills is approximately 3 hours with a rotor speed of 155 RPM. The **Razorback® Riders** are the most technically advanced trowels on the market today. With proper maintenance and use of your Riding Trowel will provide you with exceptional service.

## 1.8 Before Starting

**Before starting trowel check the following:**

- \* Oil level in engine:
- \* Oil level in trowel gearboxes:
- \* Fuel level :
- \* Condition of air filter:
- \* Condition of trowel arms and blades:
- \* Grease trowel daily:

HP 100B control panel shown below



## 1.9 Starting

Before starting trowel refer to drawing above for location and identification of controls.

1. Sit down correctly on the Riding Trowel Seat. DO NOT attempt to start the Riding Trowel with out an operator in the seat.
2. Place left foot on the safety switch pedal located on the operators left hand side. Press down gently engaging the safety switch and maintain slight pressure.
3. If engine is cold pull out the choke lever located on the control panel (refer to drawings above).
4. Press down on throttle pedal (located by the operator's right foot) one to two times. NOTE: To much throttle during start-up will flood the engine.
5. Turn key to the start-position. Immediately release key when engine starts. If after two or three attempts the engine has not started push in choke. This will open the choke. Attempt to start trowel again. Allow engine to warm up before operating trowel.

**Caution:** Operating the starter for more than 5 seconds can damage the starter or engine. If engine fails to start release the switch and wait 10 seconds before operating starter again.

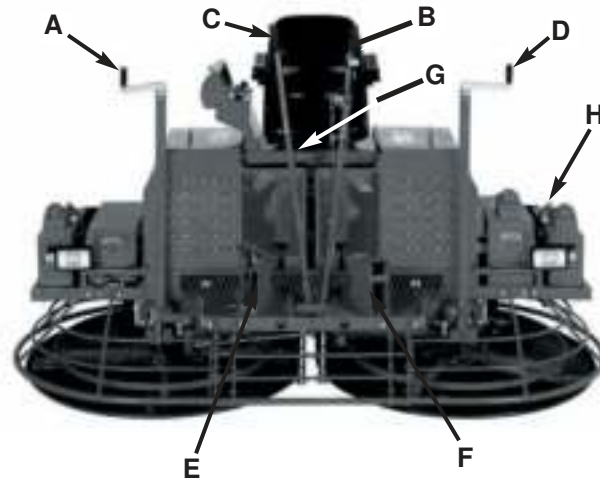
# 1A OPERATIONS

## 1.10 Operating

To utilize your Allen Engineering **Razorback® Rider** to its fullest capacity the machine should be driven in the direction the operator is facing. This will finish the widest possible area while giving the operator an excellent view of the slab surface about to be troweled. When the machine reaches the end of the slab make a 180 degree turn and repeat the straight line of direction to the other end of the slab. To familiarize a new operator with the Riding Trowel the following steps should be taken.

### 1. Point out the location of all Controls

- A. right pitch control
- B. control lever (forward reverse)
- C. control lever (left & right, forward & reverse)
- D. left pitch control
- E. right foot pedal (throttle control)
- F. left foot pedal (safety switch)
- G. seat adjustment
- H. fuel gauge



### 2. With the operator in the seat, show him the functions of the control levers (B) and (C) and how to start the machine. (refer to page 1A-10)

A hard level concrete slab with water on the surface is an ideal place for an operator to practice with the machine. For practice pitch the blades up approximately 1/4" on the leading edge. Start by making the machine hover in one spot and then practice driving the machine in a straight line and making 180 degree turns. Best control is achieved at full RPM.

**CAUTION:** After starting engine fully engage the throttle. This allows the engine to warm up quicker and also engages the centrifugal clutch to maximum RPM'S. NOTE: If you start out at a low RPM this will partially engage the clutch, causing it to slip. This will severely damage the clutch, causing clutch failure.

**CAUTION: DO NOT** use excessive pressure on the control levers. Excessive pressure does not increase the reaction time of the machine and can damage steering controls.

## 1.11 Stopping

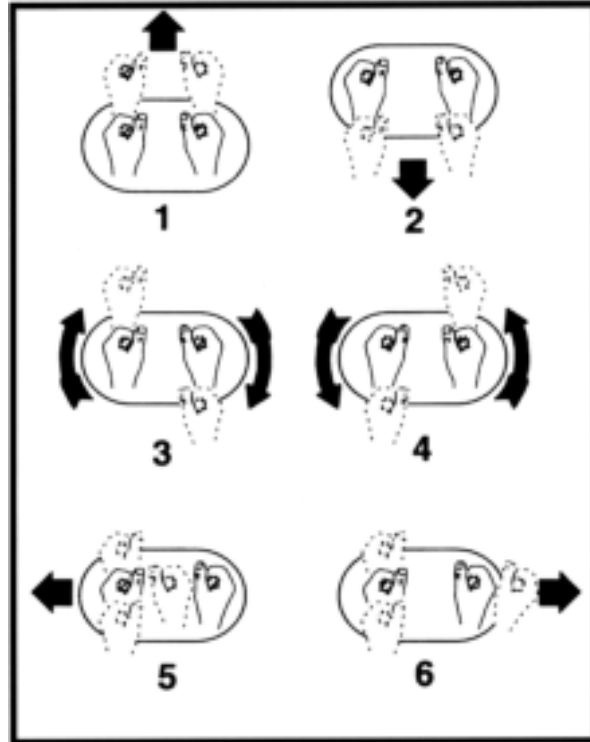
To stop the trowels movement, return the control levers (B) and (C) to their neutral position and release pressure on the right foot pedal (E) .

NOTE: On units equipped with an optional cruise control push lever all the way down this will release the right foot pedal and reduce engine speed to disengage the clutch. To stop engine turn the key to the off position.

## 1.12 Steering

A slight "feathering motion" forward and backward with the left hand control lever is required to move the machine in a straight path to the left or right while operating the right hand control lever. See illustration.

- 1 forward
- 2 reverse
- 3 rotate clockwise
- 4 rotate counter clockwise
- 5 left sideways
- 6 right sideways



## 1.13 Pitch Adjustment

Different pitch angles are needed as you work the different stages of the concrete. See the drawing below. When changing or setting pitch (angle of trowel blades), slow the machine down, set the desired degree of pitch on the left side of the machine and then adjust the right side to match.

To increase the pitch, turn the pitch control clockwise (a) use the pitch indicator (b) to adjust pitch equally on both right and left trowel blades.

	Working Conditions of Concrete	Suggested Working Pitch
	① Wet surface working stage	Flat (No Pitch)
	② Wet plastic working stage	5° Slight Pitch
	③ Plastic working stage	10° Additional Pitch
	④ Semi-hard working stage	15° Additional Pitch
	⑤ Hard finishing stage (burnishing)	20° Maximum Pitch

# 1A OPERATIONS

## 1.14 Periodic Maintenance Schedule

The chart below list basic trowel and engine maintenance. Refer to engine manufacturer's Operation Manual for additional information on engine maintenance. A copy of the engine Operator's Manual was supplied with the machine when it was shipped. To Service the engine pull the seat locking pin out and tilt seat back.

	DAILY	EVERY 20 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 300 HOURS
GREASE TROWEL ARMS	X				
CHECK OIL LEVEL IN G-BOX	X				
CHECK FUEL LEVEL	X				
INSPECT AIR FILTERS REPLACE AS NEEDED	X				
CHECK AND TIGHTEN EXTERNAL HARDWARE	X				
GREASE CONTROL LINKAGE		X			
CHECK DRIVE BELTS			X		
CHECK VALVE CLEARANCE			X		
CHANGE ENGINE OIL				X	
REPLACE OIL FILTERS				X	
OIL CROSSHEAD				X	
GREASE TROWEL G-BOX					X
REPLACE SPARK PLUG					X

## 1.15 Trowel Gearbox

1. Check Oil levels in the gearbox daily (every 8 hours) Add oil if oil level is below the check sight glass. To add oil tilt trowel back and remove the side plug. Add Oil through hole opening. Replace plug after proper level has been achieved. DO NOT Fill past the plug. Use only Mobil Oil SHC 634, synthetic ISO VG 460.

2. Each Gearbox has a grease fitting on top cover that must be greased (2 SHOTS ONLY) every 400 operating hours. Use only Mobilith SHC 220. Extended pressure grease.



## 1.16 Drive Belts

# 1A OPERATIONS

### To Tighten Belts

1. Loosen jam nuts (E) located on the adjustment bolts (B).
2. Tighten the engine plate adjustment bolts (B) an equal number of turns until correct belt tension is obtained. Maximum belt play should be from approximately  $3/16"$  at 7.5 ft/lbs for new belts and 4.5-5 ft/lbs. for used belts the center of the span. (refer to fig 3) New belts should be re-tensioned after the first 10-12 hours of operation.
3. Tighten the jam nuts (E).

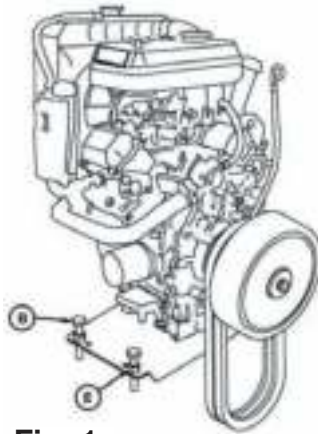


Fig. 1

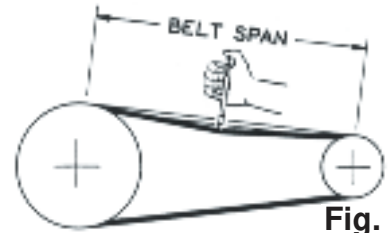


Fig. 3

- \* Check tension frequently during the first 24-48 hours of operation.
- \* Over tensioning shortens belt and bearing life.
- \* Keep belts free from foreign material which may cause slip.
- \* Make V-drive inspection on a periodic basis. Tension when slipping.

### To Replace

1. Loosen the four bolts underneath the engine mounting plate.
2. Loosen jam nuts(E) and loosen engine plate adjustment bolts (B) until belt tension is relieved. (refer to fig 1.)
3. Loosen set screws(C) where the u-joint couples to the drive shaft.
4. Slide u-joint(D) off the drive shaft to create a gap in the drive line to allow removal of belts through gap.
5. Install new belts through gap and reverse process to tighten new belts. **Be sure to reset the gap between the U-Joints to between  $3/64$  to  $3/16$ (F).**
6. Tighten all nuts and jam nuts.

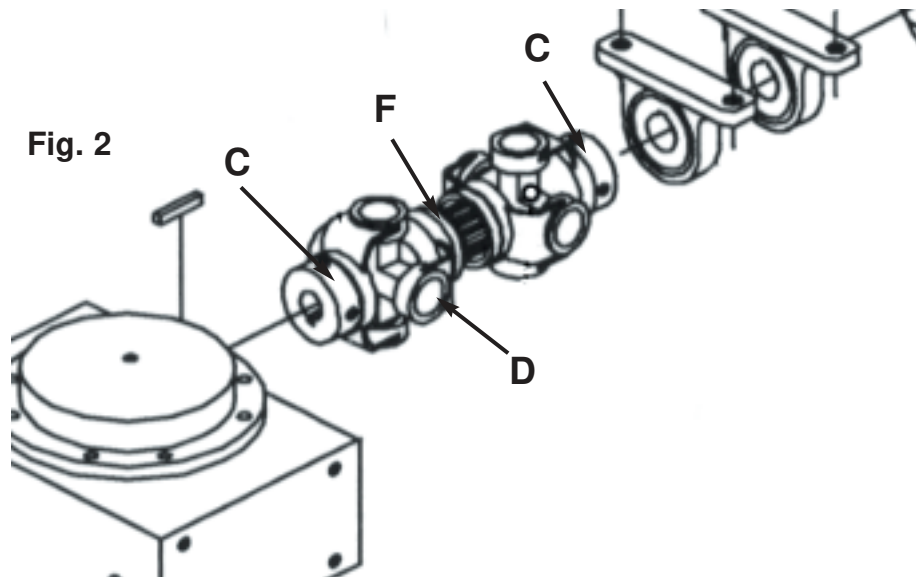


Fig. 2

## 1.17 Control Linkage Lubrication

The control linkage is equipped with seven grease fitting to lubricate pivot points. Grease control linkage once a week or every 20 hours to prevent wear and ensure free movement and smooth response of control levers.

Use a general purpose grease and add one to two shots of grease to each fitting.

## 1.18 Control Lever Adjustment

Be sure that the trowel is on a level surface. The control levers should line up evenly. If levers appear out of adjustment they can be re-adjusted forward or backwards as follows:

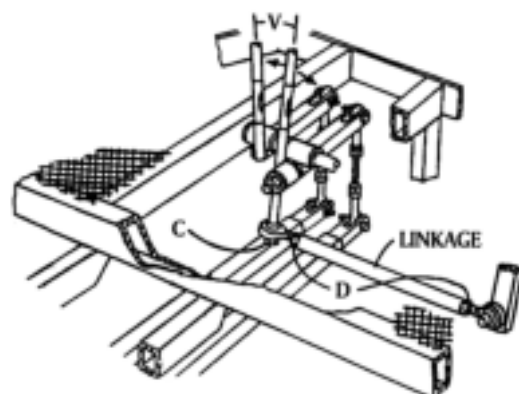
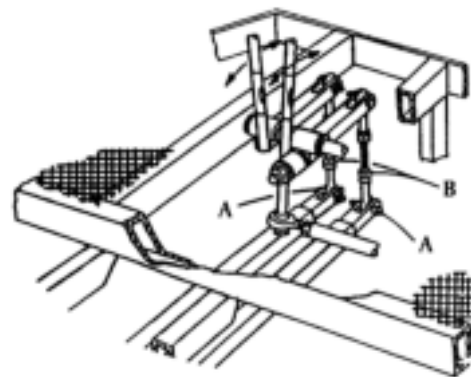
NOTE: Trowel must be placed on flat level surface that fully supports the blades on both rotors.

1. Remove bolts (A).
2. Loosen jam nuts (B).
3. Extend linkage to adjust control levers backward.
4. Shorten linkage to adjust linkage control levers forward.
5. After levers have been adjusted to the desired position, reassemble bolts (A) and tighten jam nuts (B).

## 1.19 Right Hand Control Lever Adjustment Right or Left

The right hand lever should be set to the same angle as that of the left to form a "V". If levers become out of adjustment adjust the right hand lever as follows:

1. Remove bolt (C).
2. Loosen jam nuts (D).
3. Extend linkage to move control levers to the right .
4. Shorten linkage to move control levers to the left.
5. After control lever has been adjusted to the desired position reassemble bolt (C). And tighten jam nuts (D).



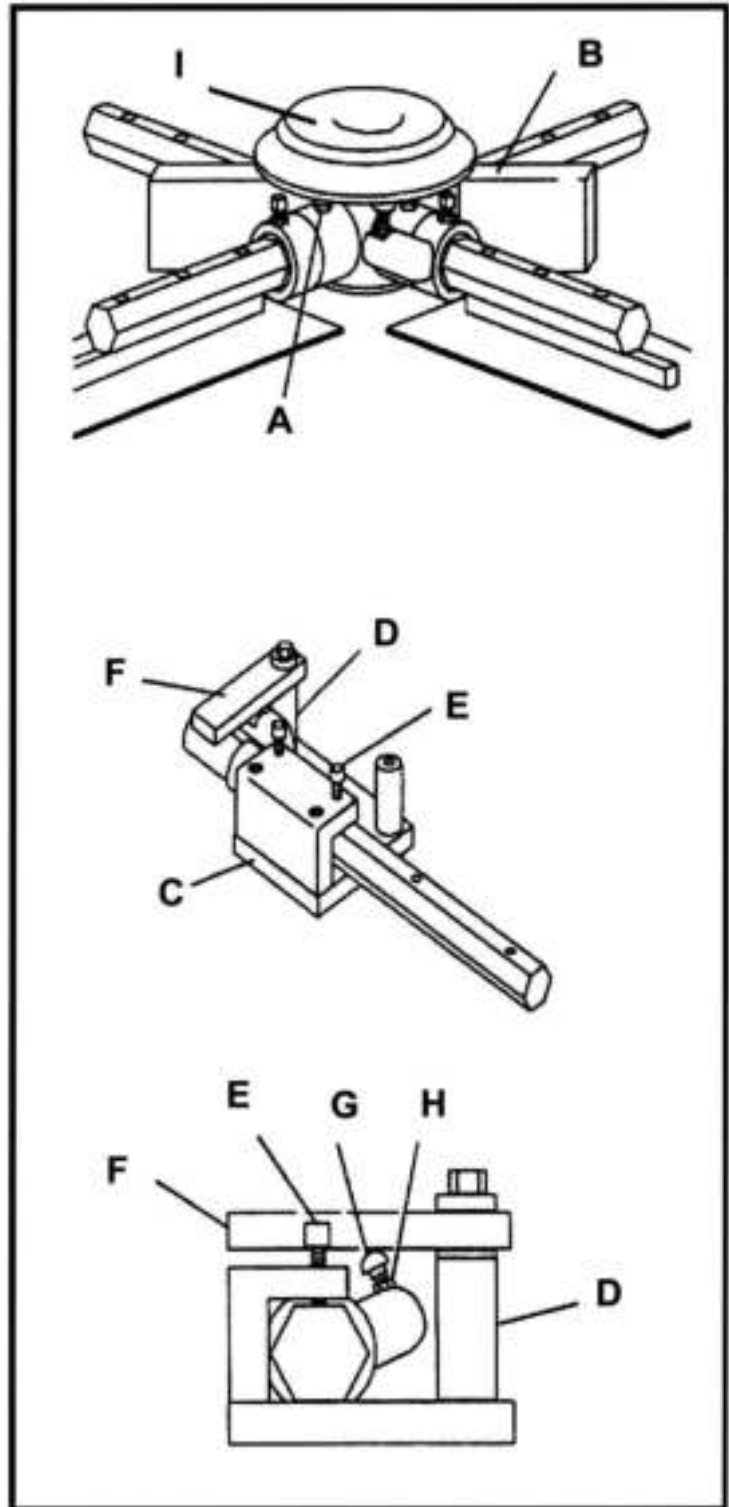
## 1.20 Lift Lever Adjustment

# 1A OPERATIONS

Damage to or replacement of a trowel arm can change the adjustment of the lift lever. This can unbalance the trowel arms and cause the trowel to wobble during operation. To operate smoothly the lift lever on all arms must be adjusted the same to ensure that the trowel is balanced correctly. Adjust trowel arms using optional trowel arm jig as described below.

NOTE: Make sure that there is no pitch in the blades before attempting to remove a trowel arm.

1. Block up pressure plate (I) using wooden block (B).
2. Remove stabilizer ring from spider assembly (only on available models).
3. Remove blades from trowel arms.
4. Loosen hex head cap screw (A) and remove it and the external star washer from the spider boss.
5. Remove trowel arms from spider 4-boss with lift levers in place.
6. Clean flats on trowel arm before placing it in the trowel arm jig (PART# 016863).
7. For HP 100 series trowels use the smallest spacer (1- $\frac{1}{4}$  X 2- $\frac{1}{4}$ ) (D).
8. Insert trowel arm into trowel arm jig as shown.
9. Tighten socket head bolts (E) down on the trowel arm to hold in place.
10. Place carriage bolts (G) on lift lever under the trowel arm jig (F) as shown.
11. Loosen jam nut (H) and adjust the carriage bolt so that the top of the bolt is just touching the bottom of the trowel arm jig and tighten jam nut (H).
12. Attach trowel arm to spider boss and blades to arms.
13. Tighten down hex head cap screw to secure arm in place.
14. Reattach stabilizer ring (only on available models).



# 1A OPERATIONS

## 1.21 Transporting Trowel

Optional dolly jacks are available for short moves or to aid in servicing the trowel. Install dolly jacks as follows:

1. Inspect dolly jack for serviceability and damage.
2. Place riding trowel on firm level ground.
3. Tie steering levers (I) to frame to prevent them from tipping forward when trowel is being lifted.

4. With the front dolly jack (J) fully insert extension tube in the holes (K) in the mainframe of the riding trowel.

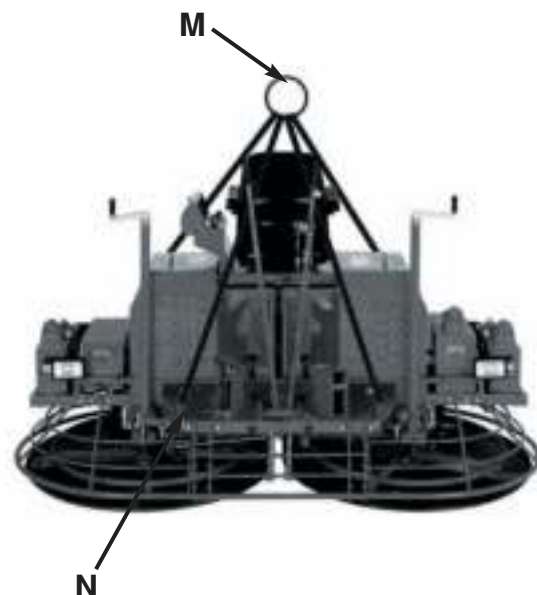
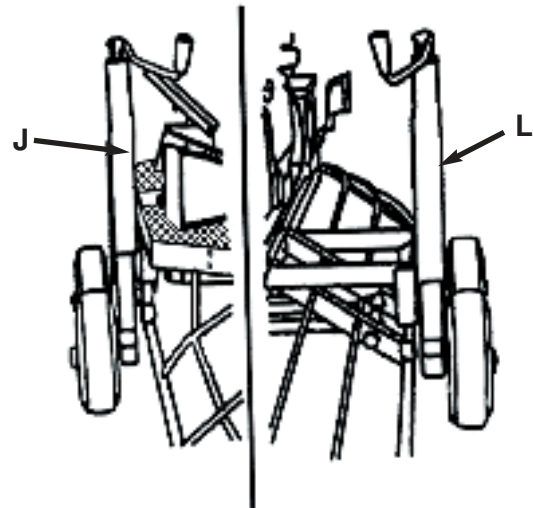
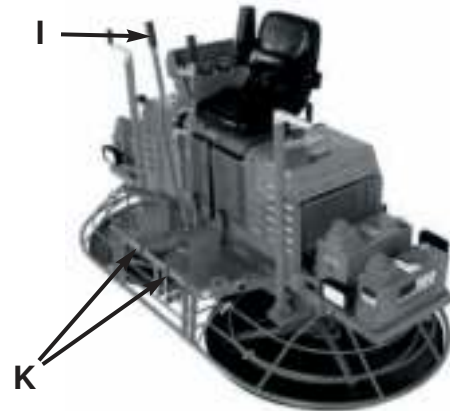
The front dolly jacks are equipped with short lifting tubes while the rear dolly jacks have long lifting tubes.

5. Insert the rear dolly jacks(L) with the long lifting tubes into the holes provided in the rear of the mainframe. The holes in the mainframe are located directly opposite the front holes.

6. Turn jack handles clockwise to lift trowels and counter-clockwise to lower trowel.

### CAUTION:

The dolly jack lifting system is designed for short moves and to aid in servicing the trowel. It is not a substitute for a towing system or trailer. An optional lifting bridle (M) is available and recommended for lifting the trowel. Attach the bridle to each of the four lifting eyes (N) on the trowel.



## 1.22 Battery Jump Start Procedure

# 1A OPERATIONS

Occasionally it may be necessary to jump start a weak battery. If jump starting is necessary the following procedure is recommended to prevent starter damage, battery damage, and personal injury.

**Warning:** Jump starting a battery incorrectly can cause the battery to explode resulting in severe personal injury or death. Do not smoke or allow any ignition sources near the battery and do not jump start a frozen battery.

**Warning:** Electrical arcing can cause severe personal injury. Do not allow positive and negative cable ends to touch.

1. Disengage Clutch.
2. Use a battery of the same voltage (12V) as is used with your engine.
3. Attach one end of the positive booster cable (red) to the positive (+) terminal of the booster battery. Attach the other end of the terminal of your engine battery.
4. Attach one end of the negative booster cable (black) to the negative (-) terminal on the booster. Attach the other end of the negative cable to your engine battery.
5. Jump starting in any other manner may result in damage to the battery or the electrical system.

**Caution:** Over cranking the engine can cause starter damage. Allow 5 minutes for starter to cool if engaged for more than 15 seconds.

**Caution:** When using lights or high amperage draw accessories, idle the engine for a period of 20 minutes to bring the battery to charge state.

## 1.23 Greaseing Thrust Bearing (T199W) HP 100B

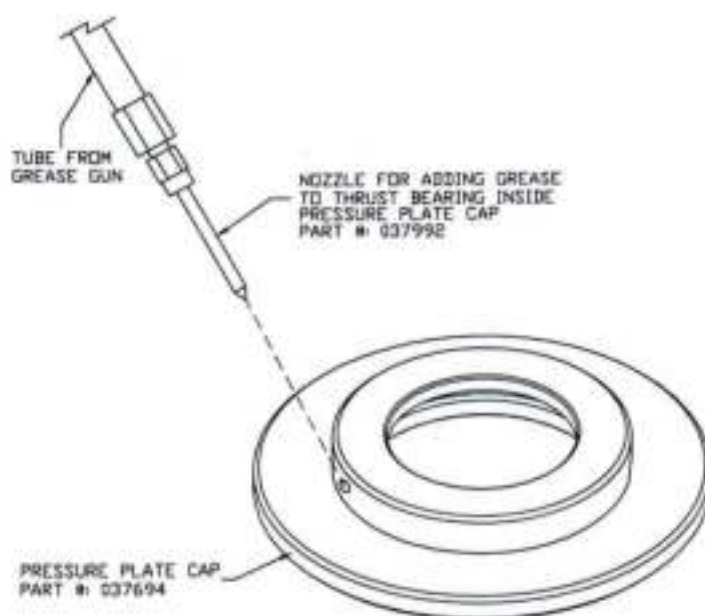
**Step 1:** Remove existing nozzle from grease gun.

**Step 2:** Add Part # 037922 to the grease gun.

**Step 3:** Insert tip of nozzle into opening of pressure plate cap as shown.

**Step 4:** Add grease every 40 hours of operation.

**Note:** You may have to slightly bend the nozzle tip to be able to access the grease opening in the pressure plate cap.



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## 2A PARTS

Frame Assembly	.2A-2
Engine Mounting System	.2A-3
Clutch Assembly 8" BLM	.2A-4
Driveline Assembly	.2A-5
Super Heavy Duty Gearbox Right Hand (SOM)	.2A-6&7
Super Heavy Duty Gearbox Left Hand (SOM)	.2A-8&9
Wiring Harness	.2a-10
Electrical Components	.2A-111
Crosshead and Pivot Box Assembly	.2A-12&13
Pitch Control Assembly	.2A-14&15
Steering Lever Assembly	.2A-16&17
Spray System Assembly	.2A-18&19
Spider Assembly	.2A-20&21
Fuel Assembly	.2A-22&23
Control Panel Assembly	.2A-24
Cruise Control Assembly	.2A-25
Accessories	.2A-26&27

**NOTE:** All set screws used on HP 100B have blue (LOC-TITE TM) applied at the factory. If set screw is removed or loosened for any reason re-apply blue (LOC-TITE TM).

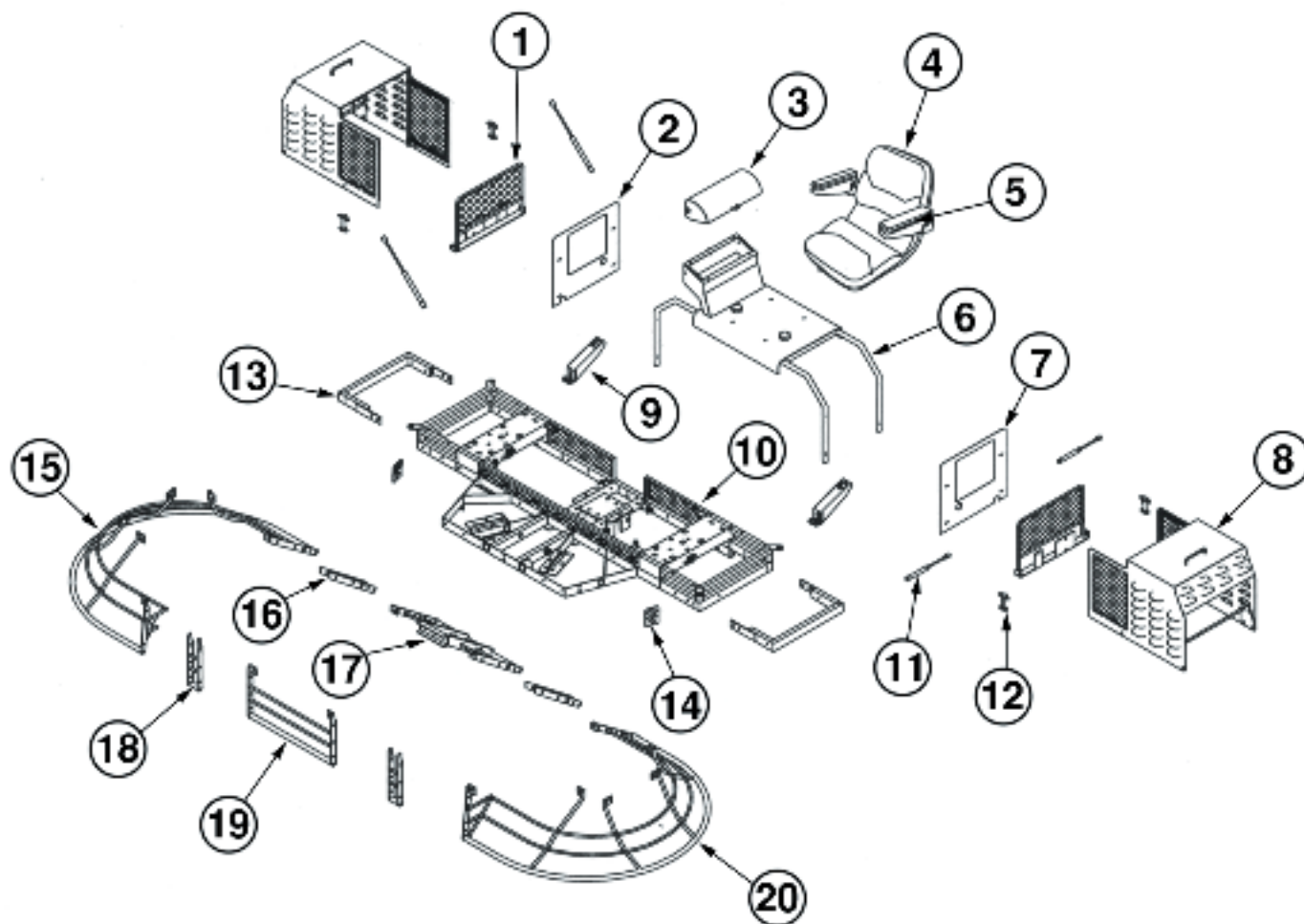
**NOTE:** All grease fittings on HP 100B are capped with CAP PLUG GC-5 part number #015692 to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.

**NOTE:** Anti-Seize is applied at the factory to all drive line couplings, gear box main and counter shafts and pitch control threaded rod assemblies. If these parts are disassembled re-apply a light coat of a graphite based anti-seize.



## 2A PARTS

## FRAME ASSEMBLY

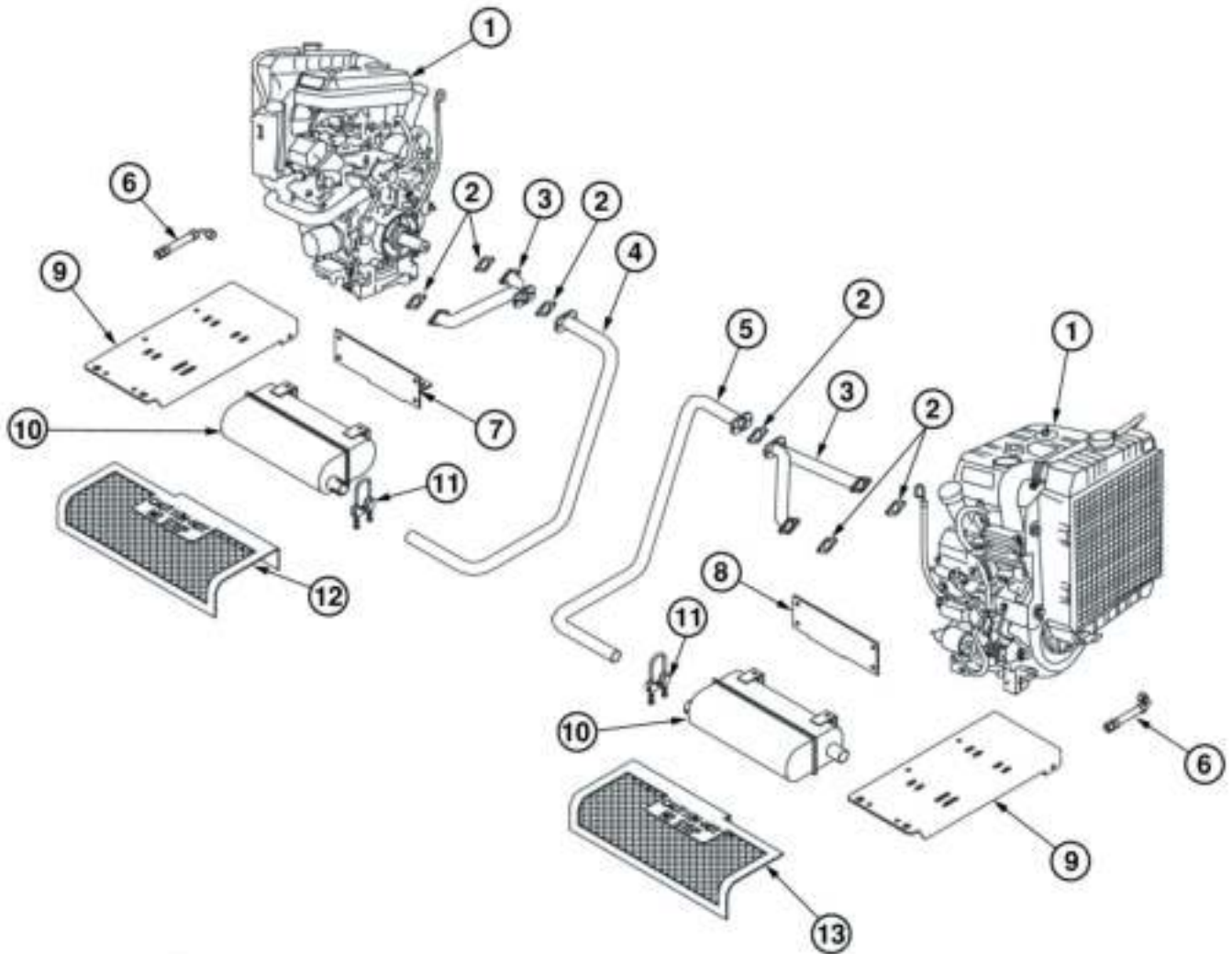


ILL.	PART #	DESCRIPTION	QTY.
1.	.037897	.GUARD, RADIATOR	.2
2.	.034338	.PLATE, AIR DUCT RH	.1
3.	.034356	.COVER, CONTROL PANEL	.1
4.	.037769	.SEAT	.1
5.	.037770	.ARM REST F/ SEAT	.1
6.	.037911	.FRAME, SEAT	.1
7.	.034339	.PLATE, AIR DUCT, LH	.1
8.	.037905	.HOOD, HP 100B	.2
9.	.035283	.LUG, LIFTING	.2
10.	.037885	.FRAME, MAIN HP 100B	.1
11.	.034364	.SHOCK, GAS SPRING	.4
12.	.037895	.LATCH, FLEXIBLE DRAW	.4
13.	.036817	.BRKT, WATER TANK MTG	.2
14.	.029890	.LUG, LIFTING	.2
15.	.034268	.RING, END RH	.1
16.	.026980	.SPACER, REAR RING	.2
17.	.026962	.RING, REAR	.1
18.	.026979	.SPACER, FRONT RING	.2
19.	.026961	.RING, FRONT	.1
20.	.034269	.RING, END LH	.1



## ENGINE MOUNT

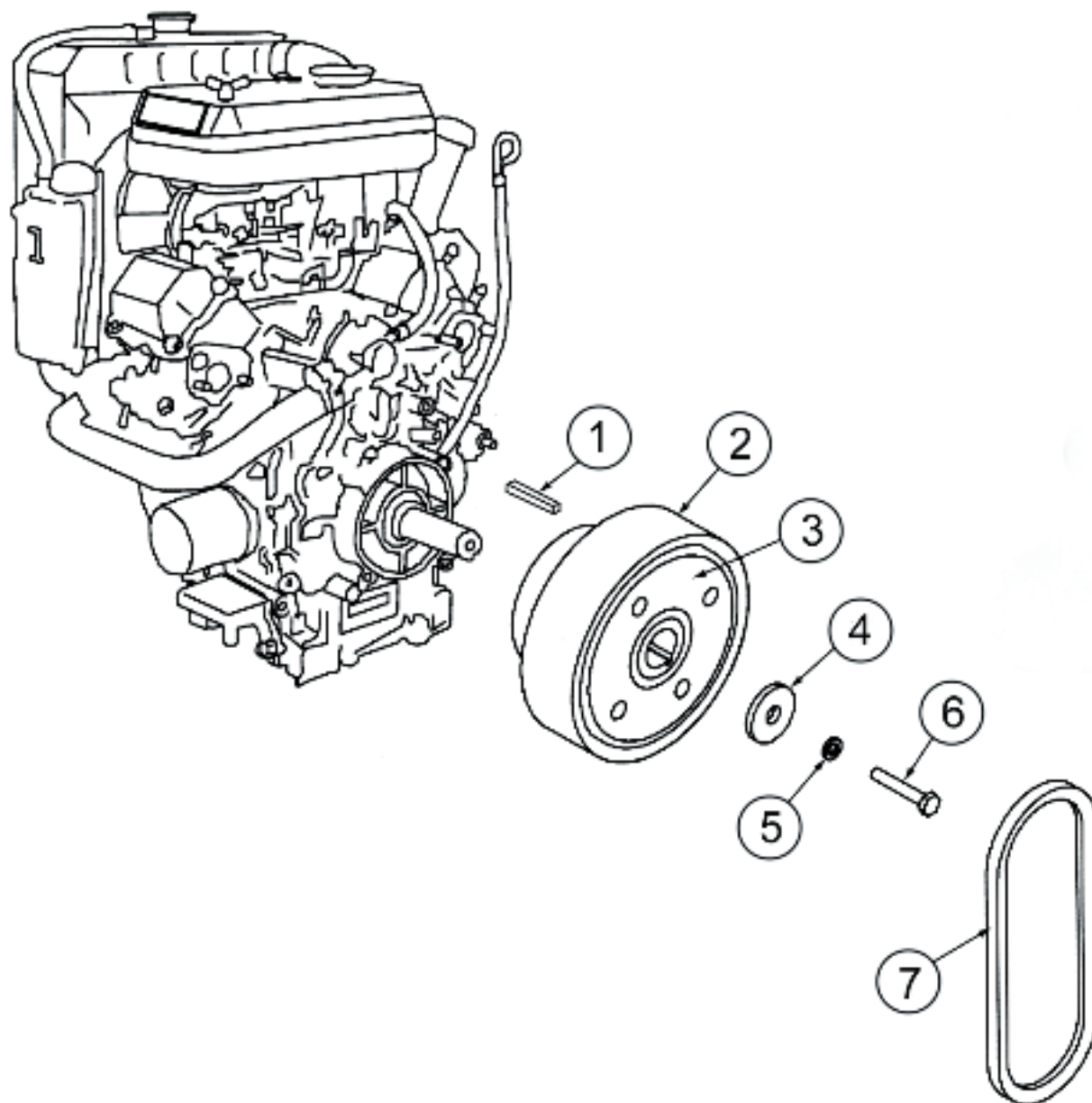
## 2A PARTS



ILL.	PART #	DESCRIPTION	QTY.
1.....	.034235	ENGINE, KAWASAKI 22 HP .....	.2
2.....	.035463	GASKET, MUFFLER .....	.6
3.....	.034413	HEADER .....	.2
4.....	.035222	TAILPIPE, LH .....	.1
5.....	.035221	TAILPIPE, RH .....	.1
6.....	.036943	HOSE, OIL DRAIN .....	.2
7.....	.034674	BRACKET, MUFFLER GUARD (LH) .....	.1
8.....	.034673	BRACKET, MUFFLER GUARD (RH) .....	.1
9.....	.036416	PLATE, MOTOR MOUNT .....	.2
10.....	.034235	MUFFLER (COMES W/ KAW ENGINE) .....	.2
11.....	.034617	CLAMP, MUFFLER .....	.2
12.....	.034401	GUARD, MUFFLER (LH) .....	.1
13.....	.034400	GUARD, MUFFLER (RH) .....	.1

## 2A PARTS

### CLUTCH ASSEMBLY 8" BLM

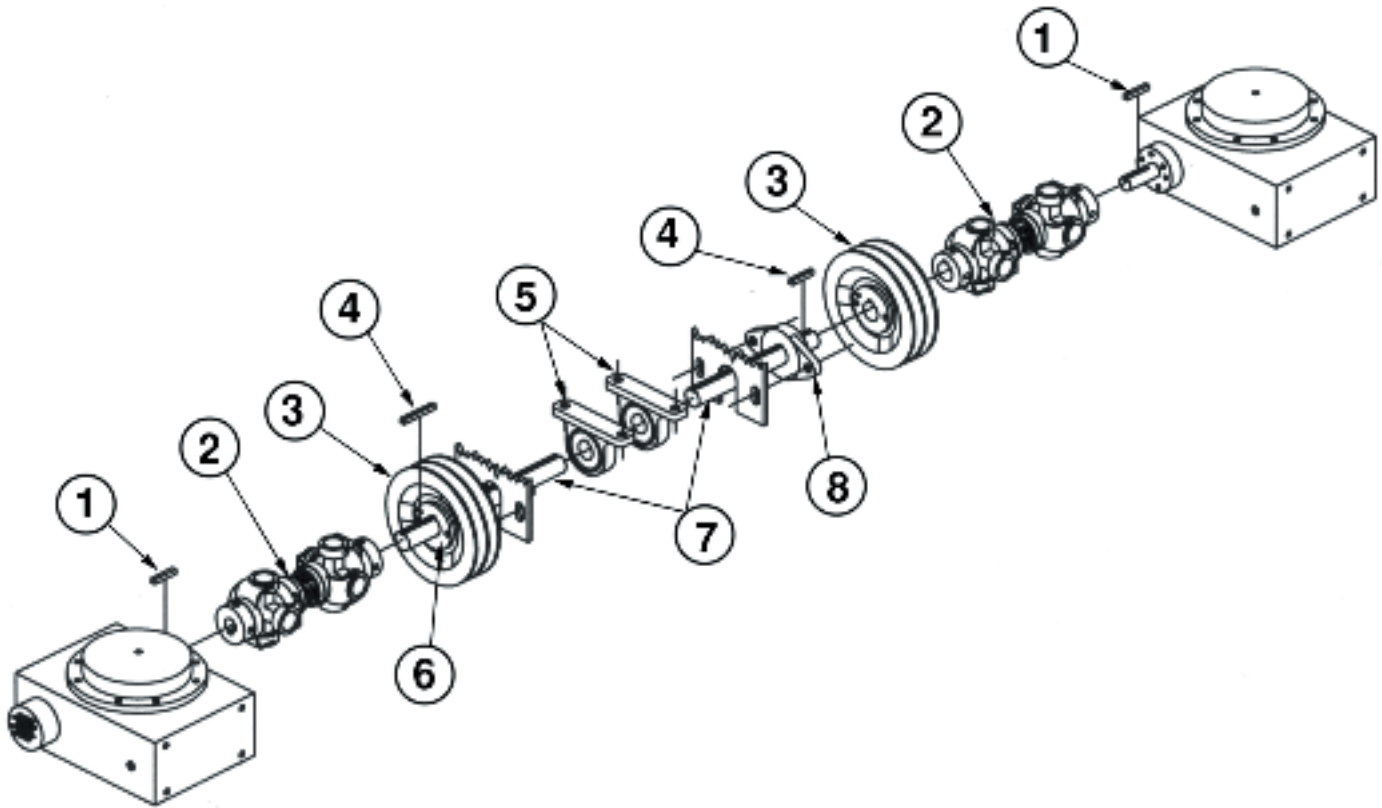


ILL.	PART #	DESCRIPTION	QTY.
1.....	.026992	KEY	.2
2.....	.032685	DRIVEN BODY (OUTER CLUTCH BODY)	.2
3.....	.033447	INNER CLUTCH ASSEMBLY	.2
4.....	.026433	WASHER, PRESSURE	.2
5.....	.021072	LW, 10MM	.2
6.....	.021364	BOLT, CLUTCH	.2
7.....	.028786	V-BELT, B35	.4

HP100B 8" BLM CLUTCH W/ 1-1/8" BORE -----PART# 034113

# DRIVELINE ASSEMBLY

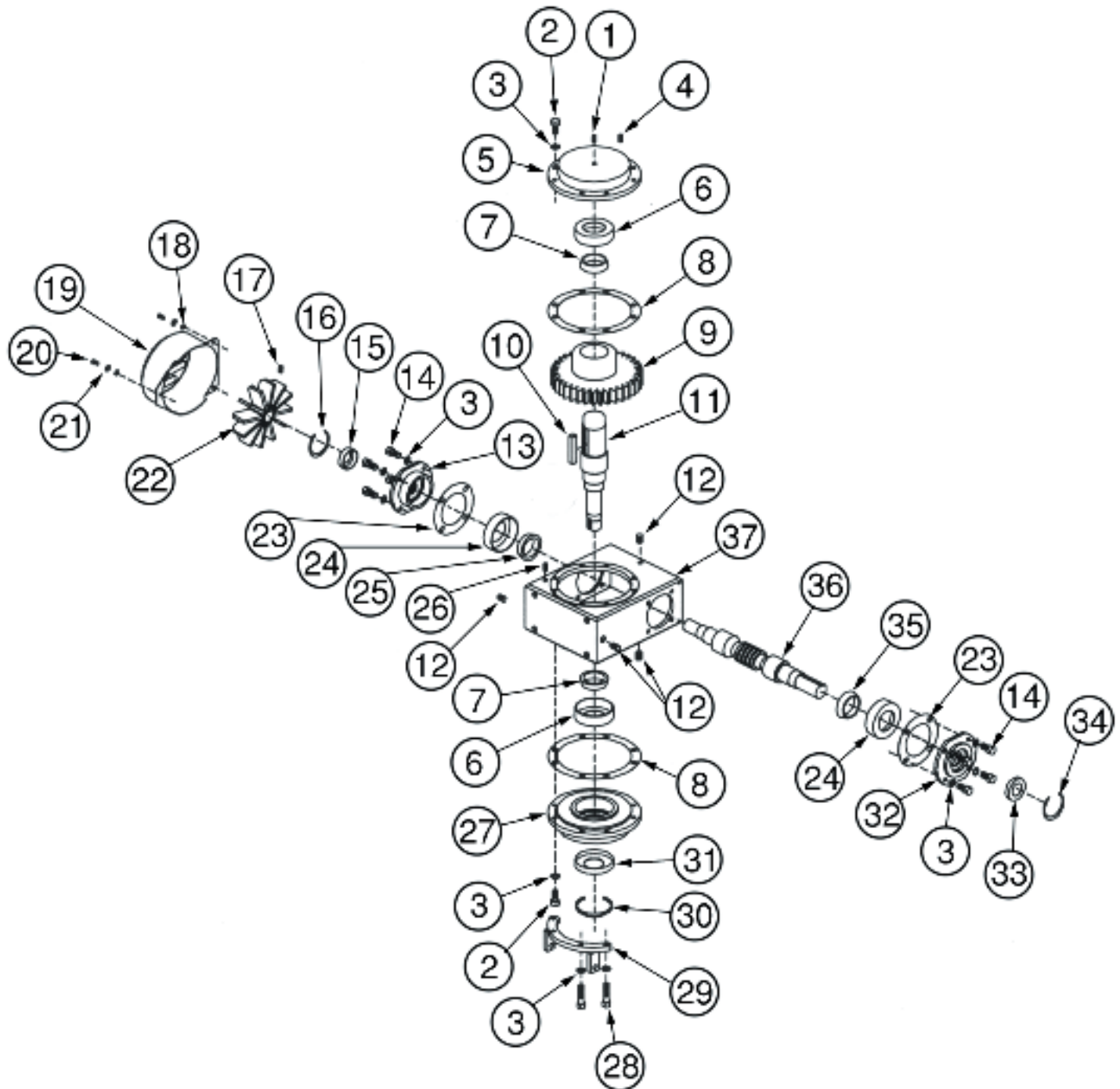
## 2A PARTS



ILL.	PART #	DESCRIPTION	QTY.
1.....	.099030	KEY, 1/4" X 2"	.2
2.....	.037684	U-JOINT ASSEMBLY	.2
3.....	.026445	PULLEY, 2BK-65H	.2
4.....	.027976	KEY, 1/4" x 3 3/8"	.2
5.....	.037886	BEARING, PULLEY BLOCK 1 1/4	.2
6.....	.033917	BUSHING, H 1 1/4"	.2
7.....	.037883	SHAFT, DRIVE 9 3/8"	.2
8.....	.033768	BEARING, 2-BOLT FLANGE 1 1/4"	.2

## 2A PARTS

### RIGHT HAND SUPER HEAVY DUTY GEARBOX 037882



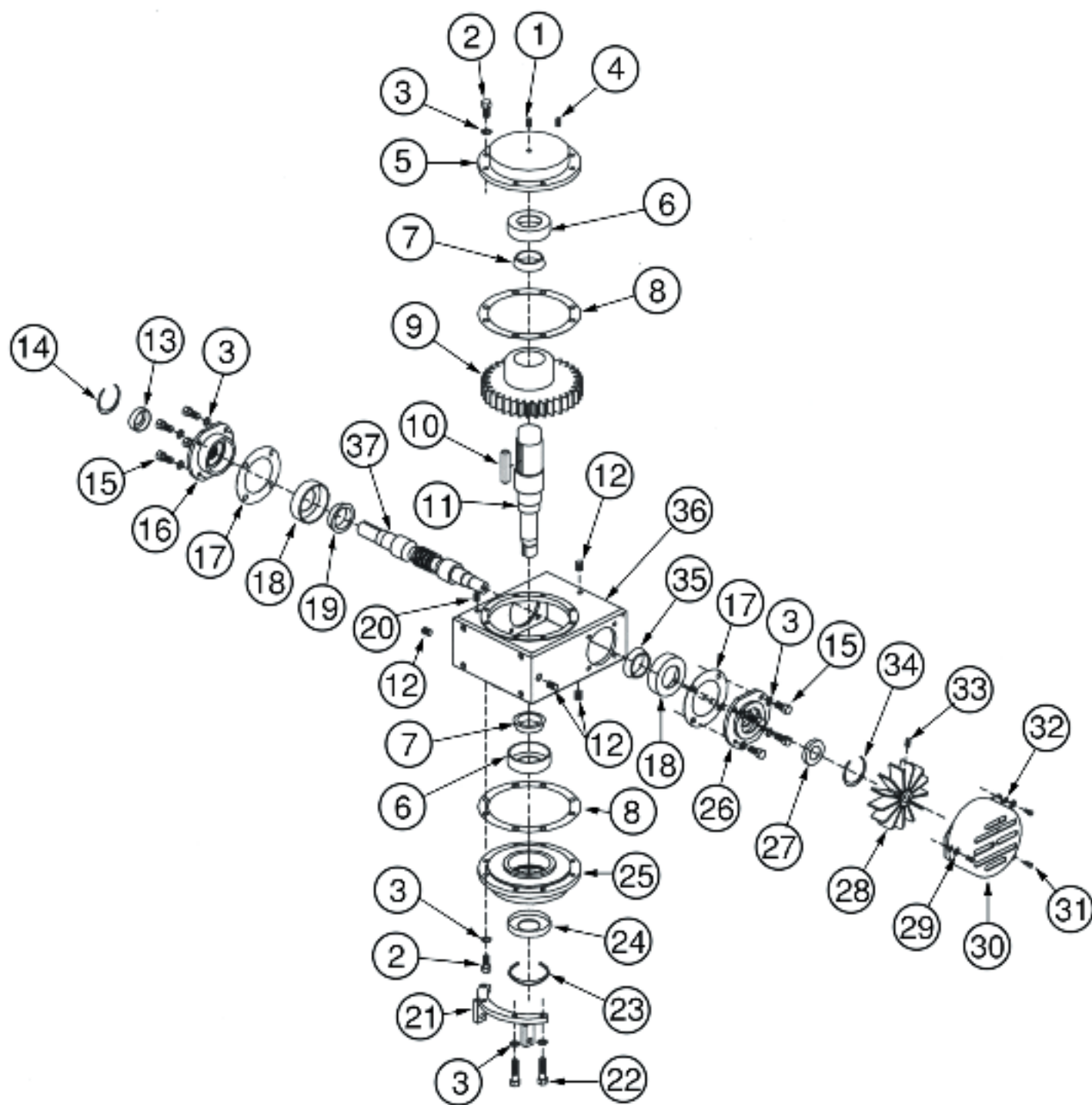
**RIGHT HAND SUPER HEAVY DUTY  
GEARBOX 037882 Cont'd**

**2A  
PARTS**

ILL.	PART #	DESCRIPTION	QTY.
1.	.010513	.GREASE SERT 1/4-28	.1
2.	.010038	.BOLT, 3/8-16 X 1 1/2	.12
3.	.010091	.WASHER, LOCK 3/8	.24
4.	.032754	.PLUG, PLASTIC P-18 1/8-27	.1
5.	.029150	.PLATE, TOP	.1
6.	.029184	.TIMKEN RACE 3720	.2
7.	.029183	.TIMKEN CONE 3780	.2
8.	.028914	.SHIMS	.AS REQ
9.	.029149	.GEAR, BRONZE IRON RIGHT	.1
10.	.029146	.KEY, GEAR	.1
11.	.037650	.MAINSHAFT, R.H. SHD	.1
12.	.010498	.PLUG	.4
13.	.029147	.FLANGE, GEARBOX	.1
14.	.010037	.BOLT, 3/8-16 X 1 1/4	.8
15.	.029181	.NATIONAL SEAL 471705	.1
16.	.032713	.RING, RETAINING UR175	.1
17.	.012869	.SCREW, SET 1/4-20 X 3/8	.1
18.	.018072	.WASHER, FLAT 3/16 SAE	.3
19.	.028703	.SHROUD, FAN	.1
20.	.013484	.SCREW, 10-24 X 1/2	.3
21.	.013740	.WASHER, LOCK #10	.3
22.	.034541	.FAN	.1
23.	.028915	.SHIMS	.AS REQ
24.	.029272	.TIMKEN RACE HM89410	.2
25.	.029182	.TIMKEN CONE HM89443	.1
26.	.029529	.VALVE, RELIEF 1/8-27 NPT	.1
27.	.029155	.PLATE, BOTTOM	.1
28.	.026775	.BOLT, 3/8-16 X 2	.4
29.	.032716	.BRKT, MOUNT	.1
30.	.032715	.RING, RETAINING UR275	.1
31.	.029180	.NATIONAL SEAL 472572	.1
32.	.029154	.CAP, END	.1
33.	.029179	.NATIONAL SEAL 473215	.1
34.	.032714	.RING, RETAINING UR237	.1
35.	.029178	.TIMKEN CONE HM89448	.1
36.	.029145	.SHAFT, COUNTER R.H. WORM	.1
37.	.029143	.CASE, GEARBOX	.1

## 2A PARTS

### LEFT HAND SUPER HEAVY DUTY GEARBOX 037654



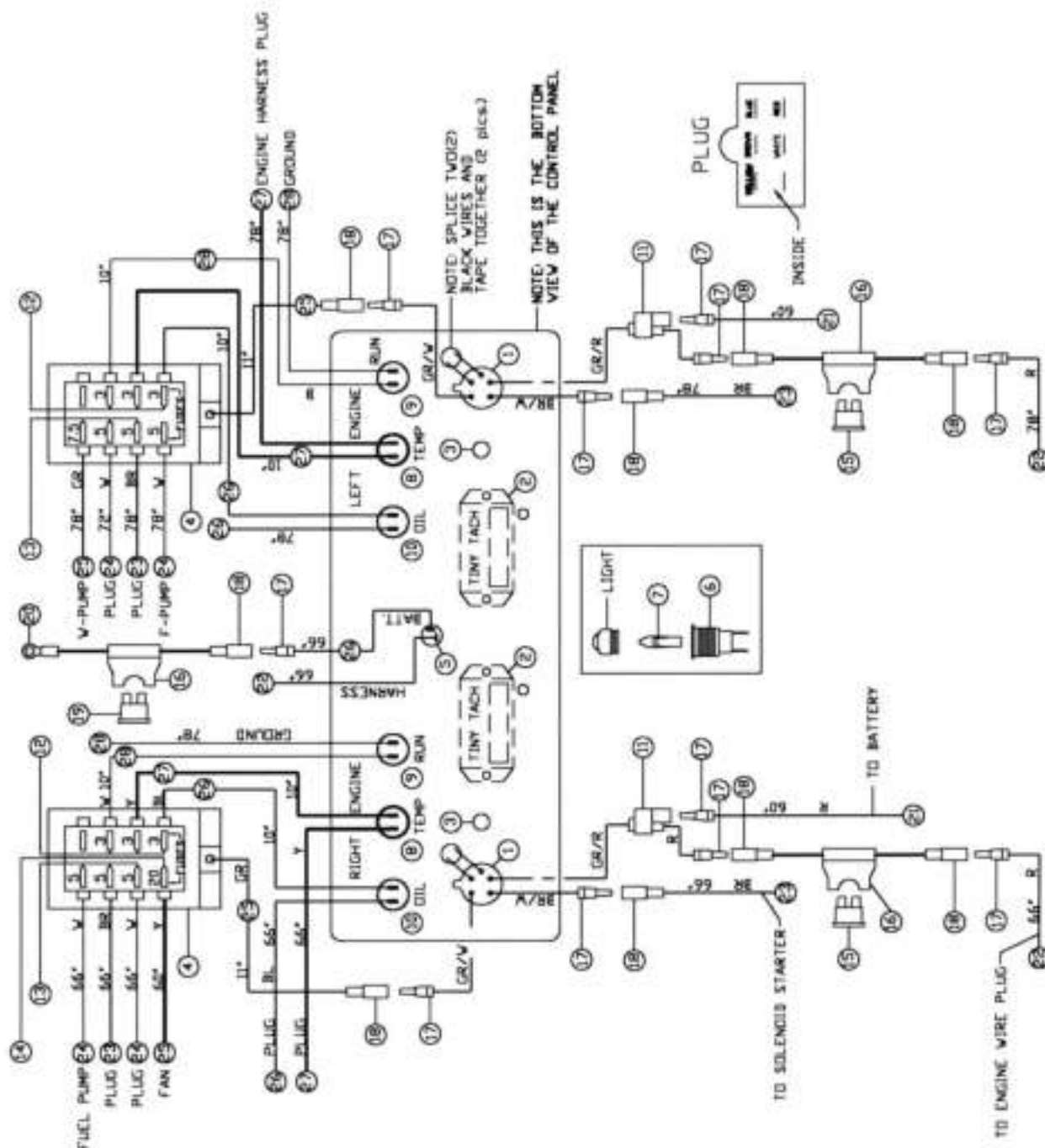
**LEFT HAND SUPER HEAVY DUTY  
GEARBOX 037654 Cont'd**

**2A  
PARTS**

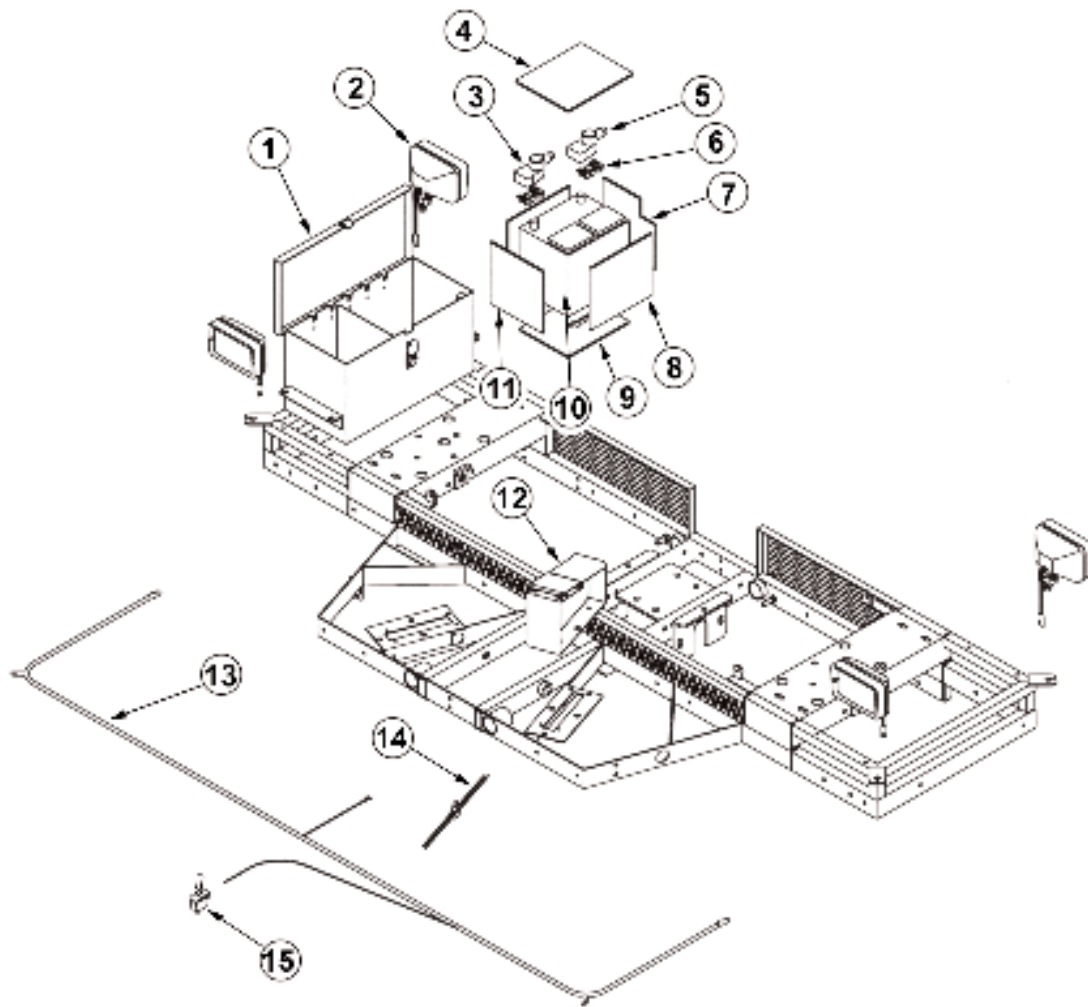
ILL.	PART #	DESCRIPTION	QTY.
1.	010513	GREASE SERT 1/4-28	.1
2.	010038	BOLT, 3/8-16 X 1 1/2	.12
3.	010091	WASHER, LOCK 3/8	.24
4.	032745	PLUG, PLASTIC P-18 1/8-27	.1
5.	029150	PLATE, TOP	.1
6.	029184	TIMKEN RACE 3720	.2
7.	029183	TIMKEN CONE 3780	.2
8.	028914	SHIMS	AS REQ
9.	029149	GEAR, BRONZE IRON RIGHT	.1
10.	029146	KEY, GEAR	.1
11.	037650	MAINSHAFT, R.H. SHD	.1
12.	010498	PLUG	.4
13.	029179	NATIONAL SEAL 473215	.1
14.	032714	RING, RETAINING UR237	.1
15.	010037	BOLT, 3/8-16 X 1 1/4	.8
16.	029154	CAP, END	.1
17.	028915	SHIMS	AS REQ
18.	029272	TIMKEN RACE HM89410	.2
19.	029178	TIMKEN CONE HM89448	.1
20.	029529	VALVE, RELIEF 1/8-27 NPT	.1
21.	032716	BRKT, MOUNT	.1
22.	026775	BOLT, 3/8-16 X 2	.4
23.	032715	RING, RETAINING UR275	.1
24.	029180	NATIONAL SEAL 472572	.1
25.	029155	PLATE, BOTTOM	.1
26.	029147	FLANGE, GEARBOX	.1
27.	029181	NATIONAL SEAL 471705	.1
28.	034514	FAN	.1
29.	013740	WASHER, LOCK #10	.3
30.	028703	SHROUD, FAN	.1
31.	013484	SCREW, 10-24 X 1/2	.3
32.	018072	WASHER, FLAT 3/16 SAE	.3
33.	012869	SCREW, SET 1/4-20 X 3/8	.1
34.	032713	RING, RETAINING UR175	.1
35.	029182	TIMKEN CONE HM89443	.1
36.	029143	CASE, GEARBOX	.1
37.	029145	SHAFT, COUNTER R.H. WORM	.1



WIRING SCHEMATIC FOR  
HP100B RIDER



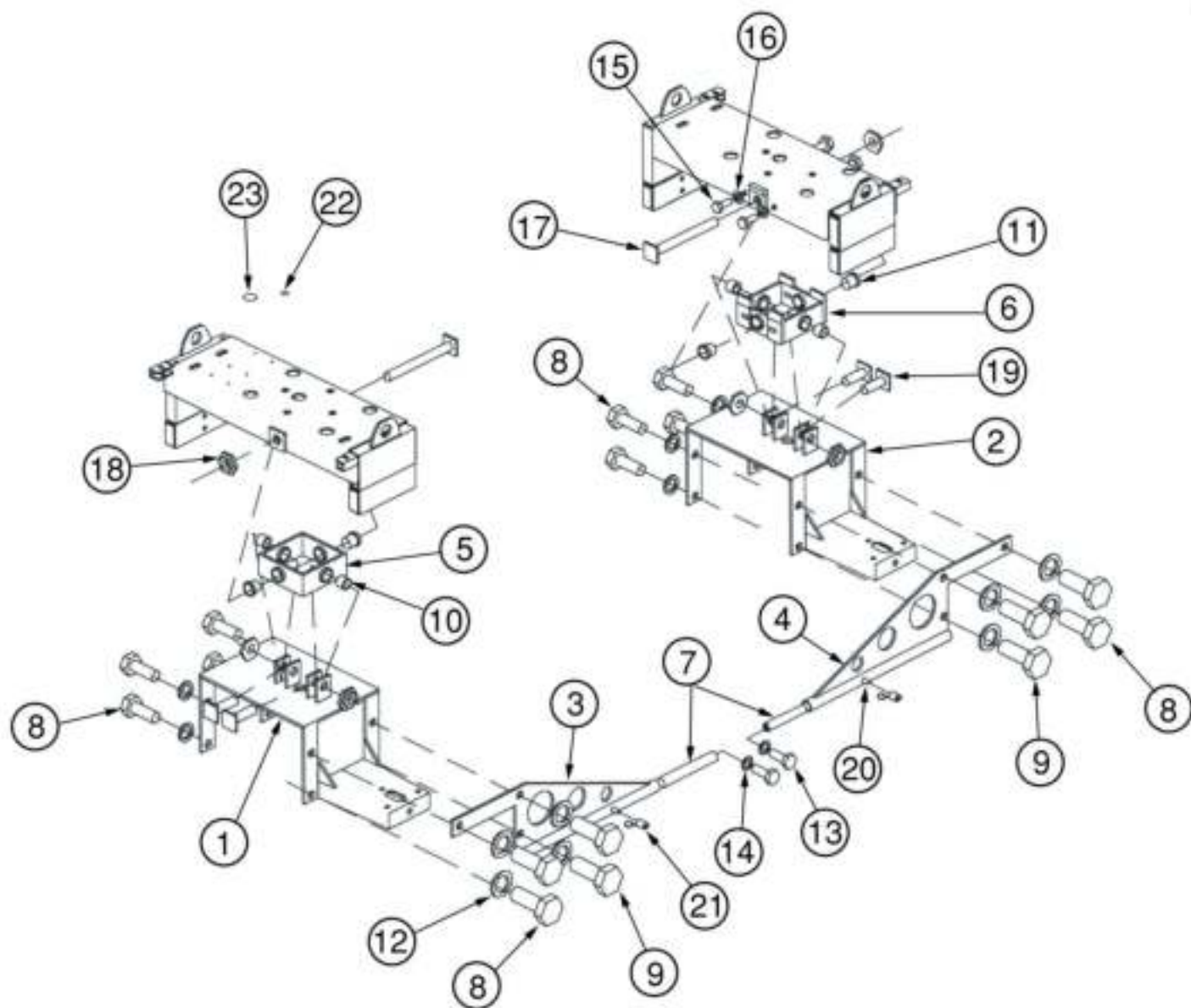
NO	DESCRIPTION	PART #
1	IGNITION	02005-0055
2	TINY TACH	029473
3	CHOKE CABLE	029928
4	FUSE BOX	036932
5	LIGHT SWITCH	022028
6	LAMP SOCKET	034610
7	LAMP	034611
8	YELLOW LIGHT	034612
9	GREEN LIGHT	034613
10	RED LIGHT	034614
11	2 TO 1 CONNECTOR	036673
12	3 AMP FUSE	036553
13	5 AMP FUSE	036554
14	7.5 AMP FUSE	036917
15	25 AMP FUSE	036918
16	FUSE LINK	026461
17	MALE BULLET	032265
18	FEMALE BULLET	032266
19	20 AMP FUSE	034524
20	SMALL EYELET	016137
21	RED 14 GA. WIRE	013270
22	RED 16 GA. WIRE	036928
23	BROWN 16 GA. WIRE	036927
24	WHITE 16 GA. WIRE	036929
25	GREEN 16 GA. WIRE	036930
26	BLUE 16 GA. WIRE	036925
27	YELLOW 16 GA. WIRE	036926
28	BLACK 16 GA. WIRE	036931



ILL.	PART #	DESCRIPTION	QTY.
1.	.036796	BOX, BATTERY & TOOL	.1
2.	.036881	LIGHT, 12 VOLT	.4
3.	.035598	COVER, TERMINAL NEGATIVE (BLACK)	.1
4.	.026453	CUSHION, TOP BATTERY	.1
5.	.035597	COVER, TERMINAL POSITIVE (RED)	.1
6.	.023869	TERMINAL, BATTERY POST	.2
7.	.026428	CUSHION, END BATTERY W/ HOLE	.1
8.	.026427	CUSHION, SIDE BATTERY	.2
9.	.026426	CUSHION, BOTTOM BATTERY	.1
10.	.023855	BATTERY, 12V (LRG)	.1
11.	.026429	CUSHION, END BATTERY W/O HOLE	.1
12.	.026103	KILL SWITCH MOUNT	.1
13.	.029303	HARNESS, LIGHT	.1
14.	.034005	SWITCH, NORMALLY CLOSED	.1
15.	.022028	SWITCH, TOGGLE	.1
16.	.026435	CABLE, NEGATIVE BLACK (NOT SHOWN F/ CLARITY)	.1
17.	.019490	CABLE, POSITIVE RED (NOT SHOWN F/ CLARITY)	.1

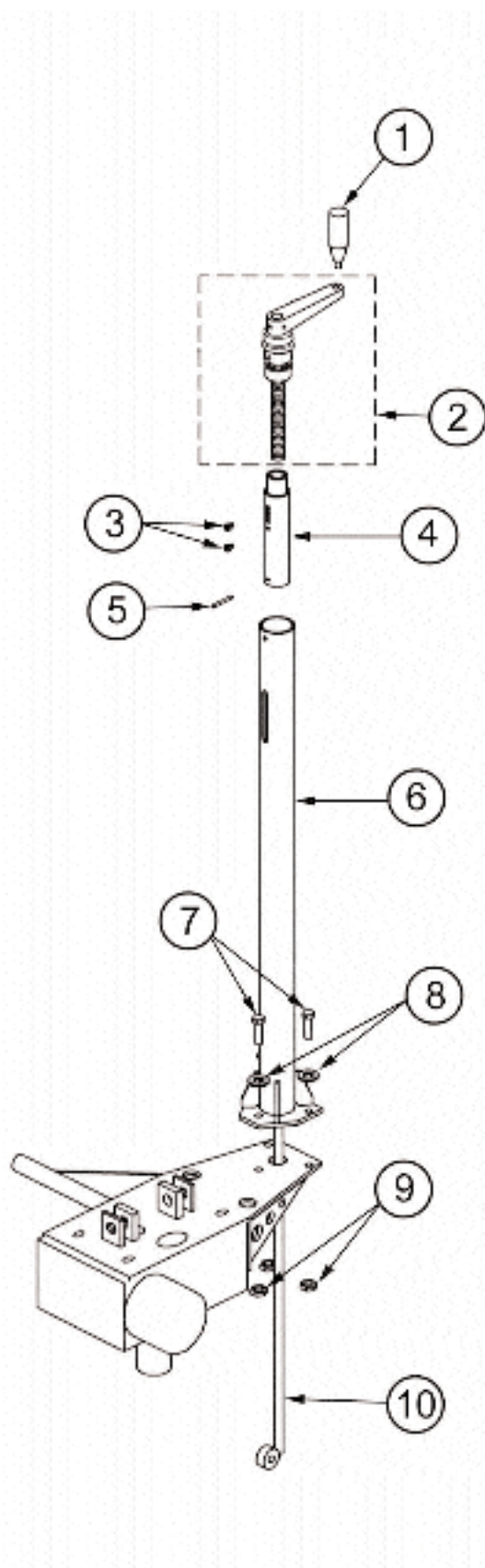
## 2A PARTS

### CROSSHEAD AND PIVOT BOX ASSEMBLY



ILL.	PART #	DESCRIPTION	QTY.
1.	.026945R	CROSSHEAD RH	.1
2.	.026945L	CROSSHEAD LH	.1
3.	.026970	CROSSHEAD ARM	.2
4.	SAME AS #3		
5.	.033927	BOX, CROSSHEAD LH	.1
6.	.028326R	BOX, CROSSHEAD RH	.1
7.	.026238	INSERT, CONTROL ARM	.2
8.	.020915	BOLT, 5/8-11 x 1-1/2"	.10
9.	.019969	BOLT, 5/8-11 x 1-3/4"	.6
10.	.026248	BUSHING, BRONZE	.4
11.	.024630	BUSHING, FLANGE	.4
12.	.010095	LW, 5/8	.16
13.	.010070	BOLT, 1/2-13 x 1-3/4"	.2
14.	.010093	LW, 1/2	.2
15.	.010037	BOLT, 3/8-16 x 1-1/4"	.4
16.	.010091	LW, 3/8	.4
17.	.026178	BOLT, CROSSHEAD 3/4-10 x 7-3/16"	.2
18.	.026447	NUT, SELF-LOCK THIN 3/4-10	.6
19.	.026175	BOLT, CROSSHEAD 3/4-10 x 1-3/4"	.4
20.	.018511	GREASE FITTING, 1/4-28 STRAIGHT	.2
21.	.015692	PLUG, PLASTIC P-8 1/8-27	.2
22.	.026426	PLUG, 1/2" CHROME	.8
23.	.026463	PLUG, 1" CHROME	.10

**PITCH CONTROL ASSEMBLY**



## PITCH CONTROL ASSEMBLY (cont'd)

## 2A PARTS

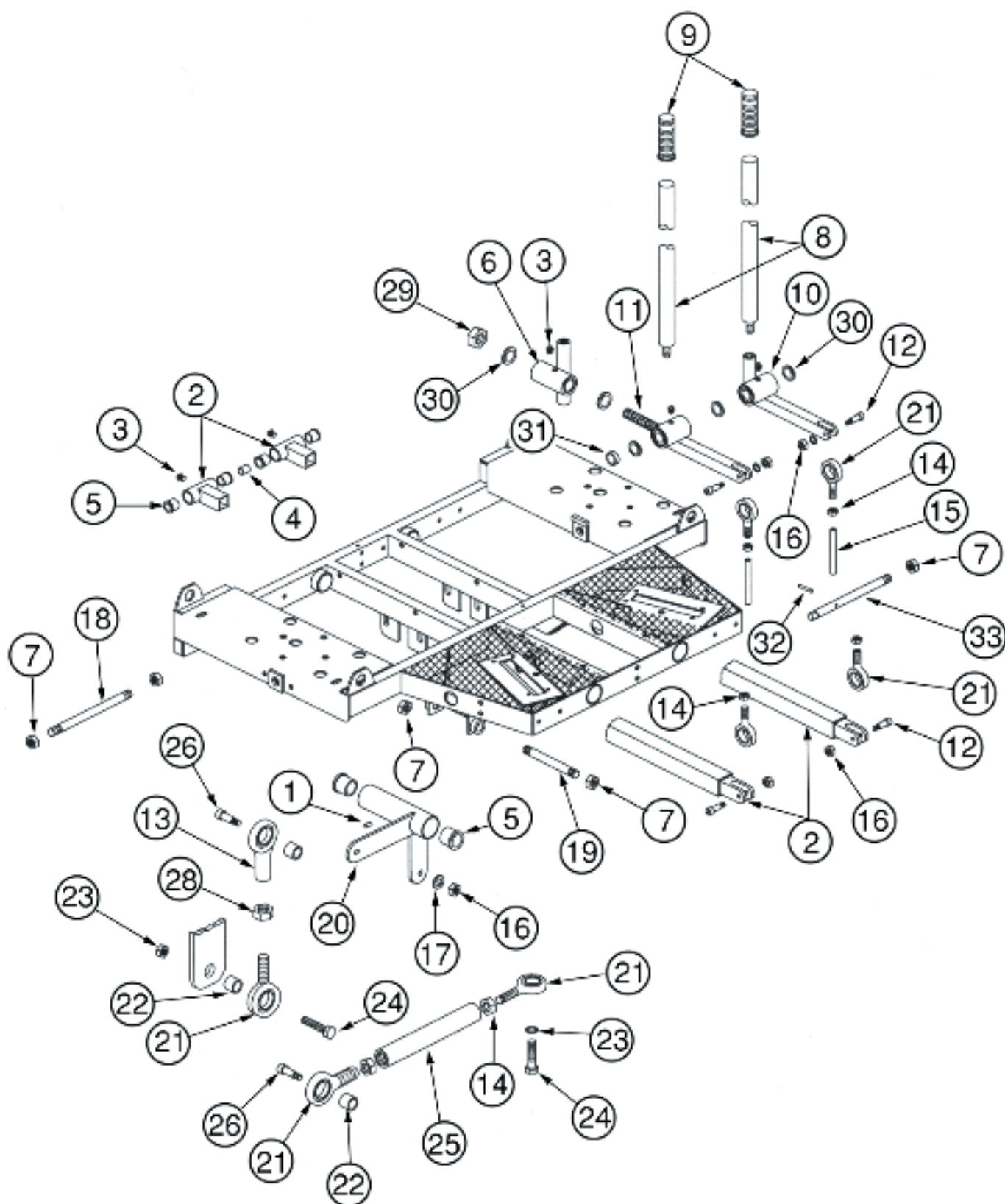
ILL.	PART #	DESCRIPTION	QTY.
1.	.032115	.....KNOB, PITCH CONTROL .....	1
2.	.037802	.....CRANK HANDLE AND THREADED ROD .....	1
3.	.015768	.....SOCKET HEAD CAP SCREW 1/4-20 X 1/4 .....	2
4.	.029812	.....BUSHING, SLIDE .....	1
5.	.015747	.....PIN, SPIRAL 3/16 X 1-1/2 .....	1
6.	.037724	.....ASSEMBLY, TUBE AND PLATE .....	1
7.	.010036	.....BOLT, 3/8-16 X 1 .....	3
8.	.011751	.....FW, HARD 3/8 .....	3
9.	.010464	.....NUT, NYLOK 3/8-16 .....	3
10.	.037722	.....SHAFT .....	1

HP 100B PITCH CONTROL ASSEMBLY (037799)



## 2A PARTS

### STEERING LEVER ASSEMBLY



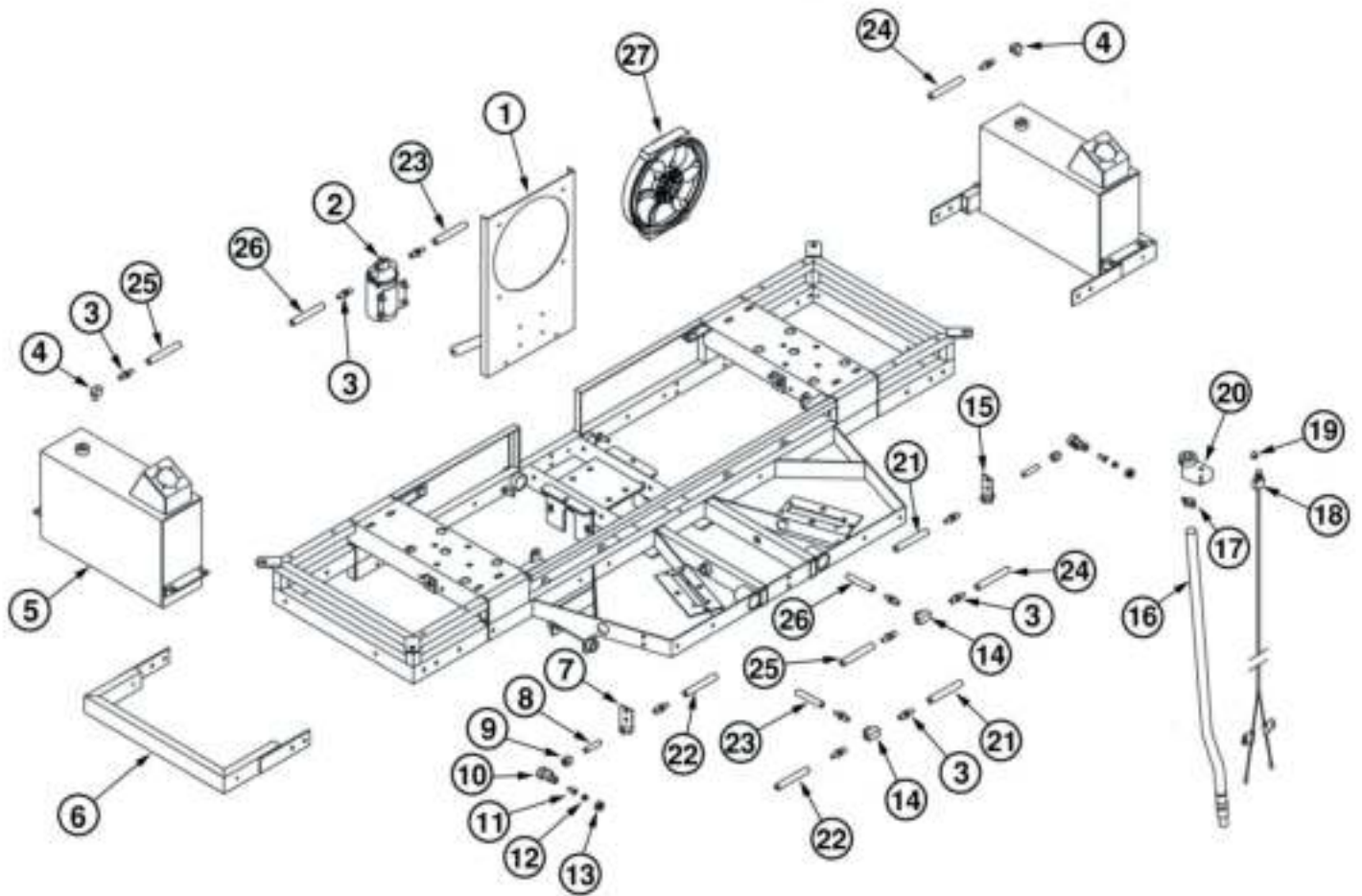


**STEERING LEVER ASS'Y (cont'd)****2A  
PARTS**

<b>ILL.</b>	<b>PART #</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1. ....	.018510	GREASE FITTING 1/4-28 x 45 DEG. ....	1
2. ....	.026954	LOWER CONTROL ARM ....	2
3. ....	.201163	GREASE FITTING 1/8-27 NPT STRAIGHT ....	5
4. ....	.026205	SPACER, CONTROL ARM ....	2
5. ....	.024630	BUSHING, FLANGE ....	12
6. ....	.034884	OPERATOR LEVER, LOWER ....	1
7. ....	.026447	NUT, SELFLOCK 3/4-10 NC ....	6
8. ....	.037931	OPERATOR LVR, UPPER ....	2
9. ....	.037668	GRIP, HANDLE ....	2
10. ....	.037926	OPERATOR LVR, LOWER LH ....	1
11. ....	.037929	OPERATOR LVR, LOWER RH ....	1
12. ....	.026267	BOLT, SHOULDER 1/2 x 1 ....	4
13. ....	.019900	ROD END, 1/2 FEMALE ....	1
14. ....	.010107	NUT, HEX 1/2-20 NF ....	6
15. ....	.026784	CONTROL ARM ....	2
16. ....	.010464	NUT, NYLON LOCK 3/8-16 ....	6
17. ....	.017751	LOCK WASHER (HDN) 3/8 ....	2
18. ....	.026234	SHAFT, CONTROL LEVER MTG. ....	2
19. ....	.026272	SHAFT, FULCRUM ARM ....	1
20. ....	.026284	FULCRUM ....	1
21. ....	.221408	ROD END, 1/2 MALE ....	7
22. ....	.026412	SPACER ....	3
23. ....	.010093	LOCK WASHER 1/2 ....	1
24. ....	.010070	BOLT, 1/2-13 x 1-3/4 ....	2
25. ....	.026791	ARM, STEERING 17" ....	1
26. ....	.026268	BOLT, SHOULDER 1/2 x 1-3/4 ....	2
28. ....	.032225	NUT, JAM 1/2-20 ....	1
29. ....	.011584	NUT, NYLON LOCK 3/4-10 ....	1
30. ....	.034520	SPACER, BRONZE ....	5
31. ....	.034444	COLLAR, SET 3/4 ....	1
32. ....	.018289	PIN, ROLL 3/16 X 1-1/4 ....	1
33. ....	.034442	BAR, STEERING ....	1

## 2A PARTS

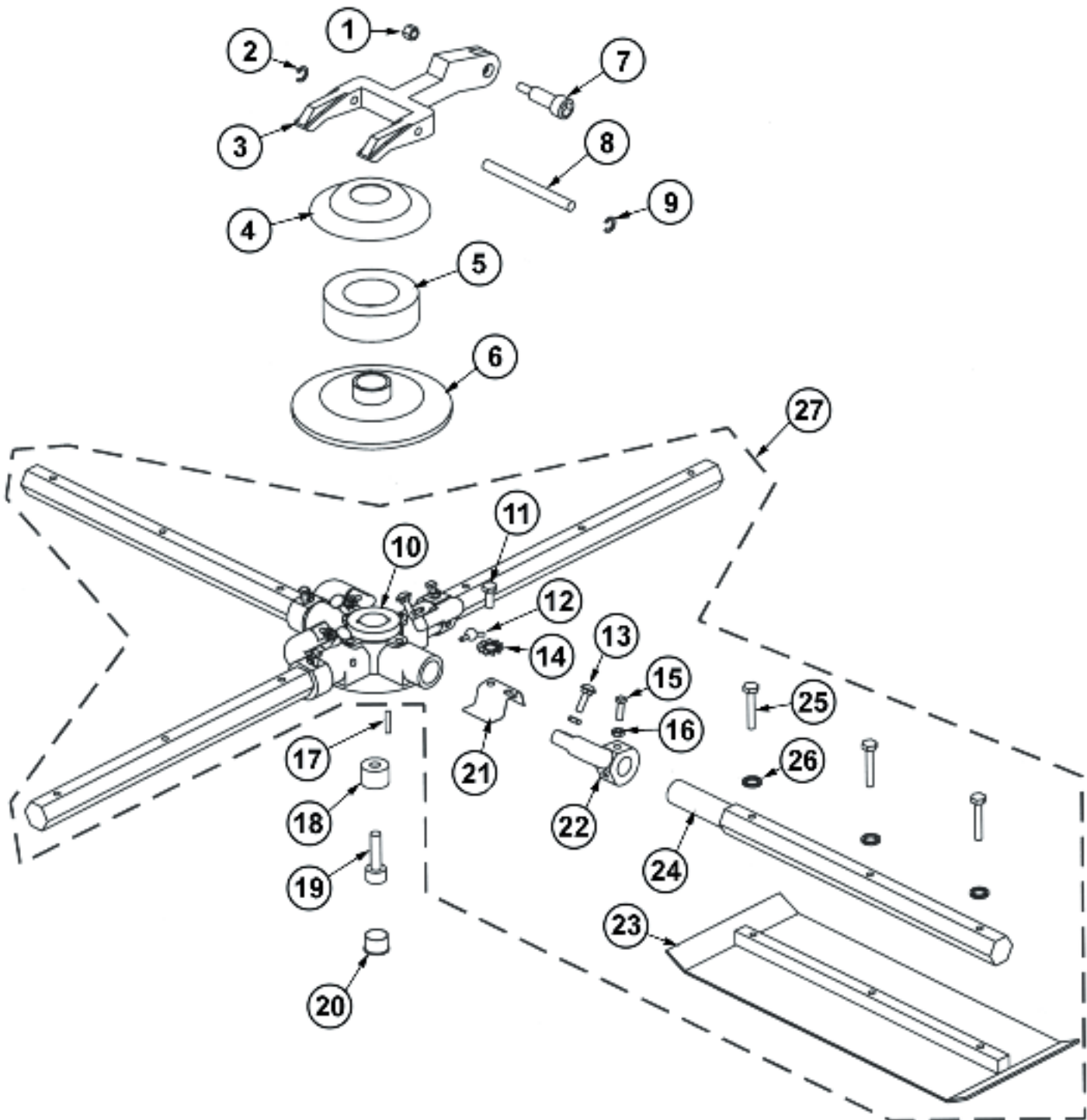
### SPRAY SYSTEM ASSEMBLY



ILL.	PART #	DESCRIPTION	QTY.
1.	.037901	BRKT FAN SHROUD & WATER PUMP	1
2.	.033735	PUMP	1
3.	.010194	FITTING, MALE PUSHLOCK	12
4.	.010220	ELBOW, 1/4 X 1/4 90 DEG. STREET BRASS.	2
5.	.035547	TANK, WATER	2
6.	.036817	BRKT, HYD. & WATER TANK MTG	2
7.	.026930	BRKT, NOZZLE MTG RH	1
8.	.013499	NIPPLE, 1/4 X 2	2
9.	.111011	FITTING, FATIGUE	2
10.	.012704	VALVE, RELIEF	2
11.	.012706	STRAINER, 5053100SS	2
12.	.012702	TIP, SPRAY 8001 FINE	2
13.	.012705	CAP, BRASS CP1325	2
14.	.036937	TEE, 1/4 BRASS	2
15.	.026931	BRKT, NOZZLE MTG LH	1
16.	.037931	JOYSTICK, LH	1
17.	.037681	CLAMP, WIRE	4
18.	.037485	HARNESS, WIRE F/ SPRAY SYSTEM	1
19.	.037480	BOOT, TOGGLE	1
20.	.037483	SWITCH MOUNT ASSEMBLY	1
21.	.013392	HOSE, PUSHLOCK 3/8"	1.29 L/F
22.	.013392	HOSE, PUSHLOCK 3/8"	2.42 L/F
23.	.013392	HOSE, PUSHLOCK 3/8"	.875 L/F
24.	.013392	HOSE, PUSHLOCK 3/8"	4.25 L/F
25.	.013392	HOSE, PUSHLOCK 3/8"	4.83 L/F
26.	.013392	HOSE, PUSHLOCK 3/8"	.875 L/F
27.	.034417	FAN, 10" 650 CFM	1

## 2A PARTS

## SPIDER ASSEMBLY

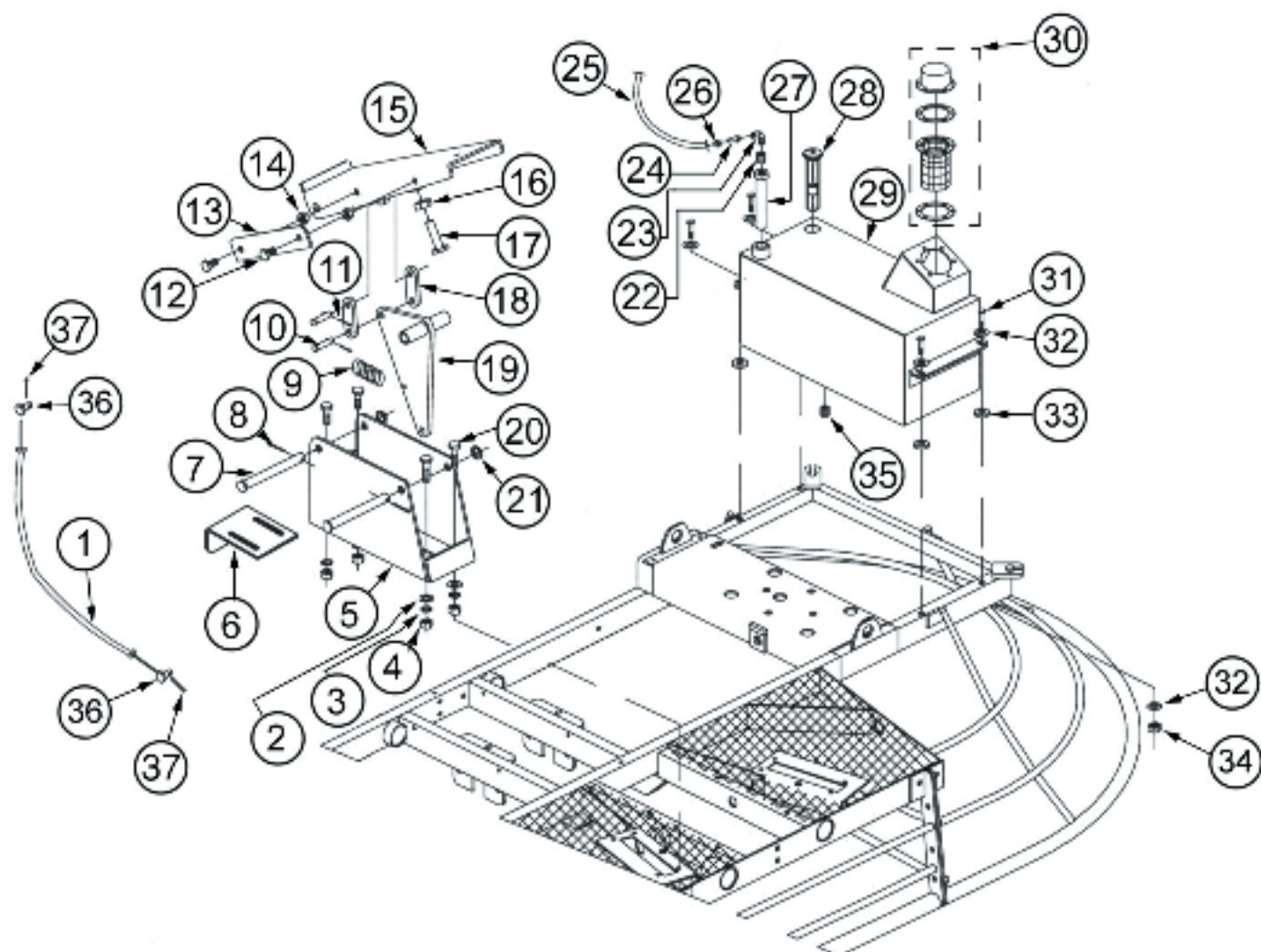


**SPIDER ASSEMBLY (cont'd)****2A  
PARTS**

<b>ILL.</b>	<b>PART #</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1. ....	.012612	NUT, HEX SELFLOCK 5/16-18	1
2. ....	.015677	E-RING RETAINER	2
3. ....	.026215	ARM, YOKE	1
4. ....	.037649	PRESSURE PLATE CAP	1
5. ....	.037676	BEARING, THRUST T199W	1
6. ....	.037653	PLATE, PRESSURE	1
7. ....	.026504	BOLT, SHOULDER 3/8 x 1-1/4 W/ 5/16-18 THDS.	1
8. ....	.015678	PIN, YOKE ARM RETAINER 7/16 x 7-3/8	1
9. ....	.015677	E-RING RETAINER (SAME AS ILL.# 2)	
10. ....	.037644	BOSS RIGHT HAND	1
	.037643	BOSS LEFT HAND	1
11. ....	.015683	SCREW, DOG CAP 3/8-16 x 7/8	4
12. ....	.024755	GREASE FITTING 1/8-27 NPT 45°	4
	.015692	PLUG, PLASTIC CAP #GC-5 (NOT SHOWN).	4
13. ....	.012990	BOLT, CARRIAGE 3/8-18 x 1-1/4	4
14. ....	.015682	LOCK WASHER EXTERNAL STAR 3/8	4
15. ....	.015686	SET SCREW SQ. HEAD 3/8-16 x 1	4
16. ....	.015684	NUT, JAM 3/8-16	8
17. ....	.026227	KEY, 3/8 x 1	1
18. ....	.037652	WASHER, RETAINING	1
19. ....	.015691	SCREW, SOCKET HEAD 1/2-13 x 1 1/2 LH	1
	.020155	SCREW, SOCKET HEAD 1/2-13 x 1 1/2 RH.	1
20. ....	.015693	PLUG, PLASTIC CAP EC-12	2
21. ....	.016920	CLIP, SPRING UNIVERSAL	4
22. ....	.033034	LEVER, LIFT UNIVERSAL STD	4
23. ....	.028778	BLADE, 8 x 18 FINISH	8
24. ....	.026944	ARM, SPIDER	4
25. ....	.010024	BOLT, 5/16-18 x 2 GR. 5	12
26. ....	.010090	LOCK WASHER 5/16	12
27. ....	.037645	SPIDER ASSEMBLY RIGHT HAND	1
	.037646	SPIDER ASSEMBLY LEFT HAND	1

## 2A PARTS

### FUEL SYSTEM ASSEMBLY



# FUEL SYSTEM ASSEMBLY (cont'd)

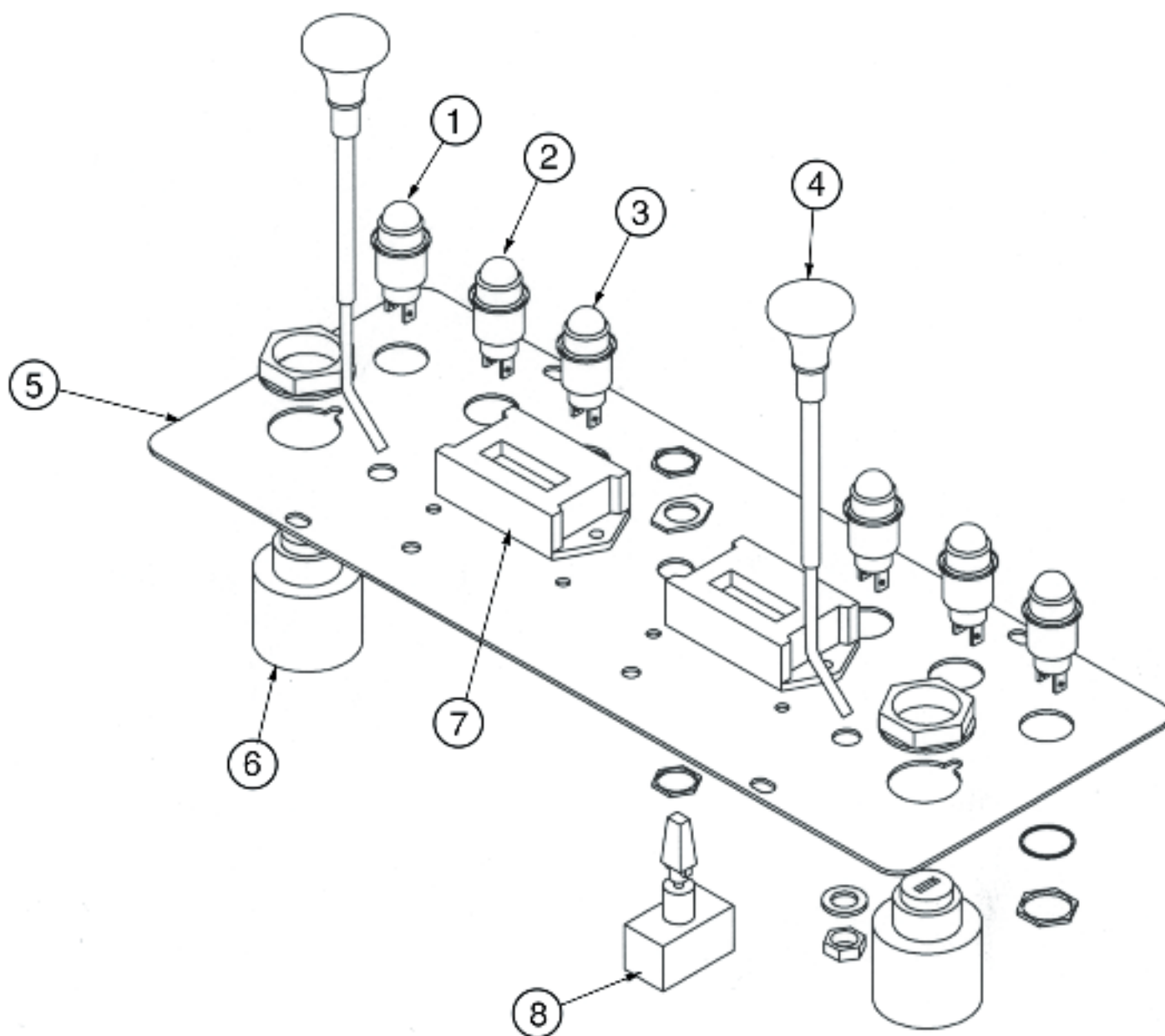
## 2A PARTS

ILL.	PART #	DESCRIPTION	QTY.
1.	032300	THROTTLE CABLE 60"	.3
2.	010081	FLAT WASHER 1/4	.10
3.	010089	LOCK WASHER 1/4	.4
4.	010098	HEX NUT 1/4-20	.4
5.	024851	BASE, FOOT SPEED	.1
6.	028526	BRACKET, LOWER HD THROTTLE CABLE	.1
7.	028895	PIN, CLEVIS 3/8 x 3 1/2	.1
8.	026226	PIN, COTTER 3/32 x 3/4	.2
9.	024981	SPRING	.1
10.	024982	PIN, CLEVIS 1/4 x 51/64	.2
11.	010131	PIN, COTTER 1/16 x 1	.2
12.	010001	BOLT, 1/4-20 x 1/2	.2
13.	024985	PLATE, STOP	.1
14.	020542	NUT, STOVER 1/4-20	.2
15.	024839	PEDAL, FOOT SPEED	.1
16.	010100	NUT, HEX 5/16-18	.1
17.	010021	BOLT, 5/16-18 x 1 1/4	.1
18.	024850	SHACKLE	.2
19.	024847	FULCRUM, FOOT SPEED	.1
20.	010003	BOLT, 1/4-20 x 1	.2
21.	010082	FLAT WASHER 5/16	.2
22.	012941	BUSHING, 1/2 x 1/4 HEX	.1
23.	010220	ELBOW, 1/4 x 1/4 90° STREET	.1
24.	010193	FTG, PUSHLOCK 1/4 x 1/4-18	.1
25.	019429	HOSE, FUEL 5/16 DIA.	AS REQ.
26.	019430	CLAMP, #4 HOSE	.4
27.	037863	TUBE, SIPHON (NOT SHOWN F/ CLARITY)	.2
28.	032295	GAUGE, GAS REMOTE	.2
29.	037903	TANK, FUEL	.1
30.	023533	CAP, FUEL FILTER ASSEMBLY	.2
31.	010006	BOLT, 1/4-20 x 1 3/4	.8
32.	010081	FLAT WASHER 1/4	.8
33.	015713	BUSHING, RUBBER	.8
34.	020542	NUT, STOVER 1/4-20	.4
35.	010497	PLUG, 1/4 NPT BI SQ. PIPE	.1
36.	024984	PIVOT, FOOT SPEED CONTROL	.2
37.	010131	PIN, COTTER 1/16 x 1	.2



## 2A PARTS

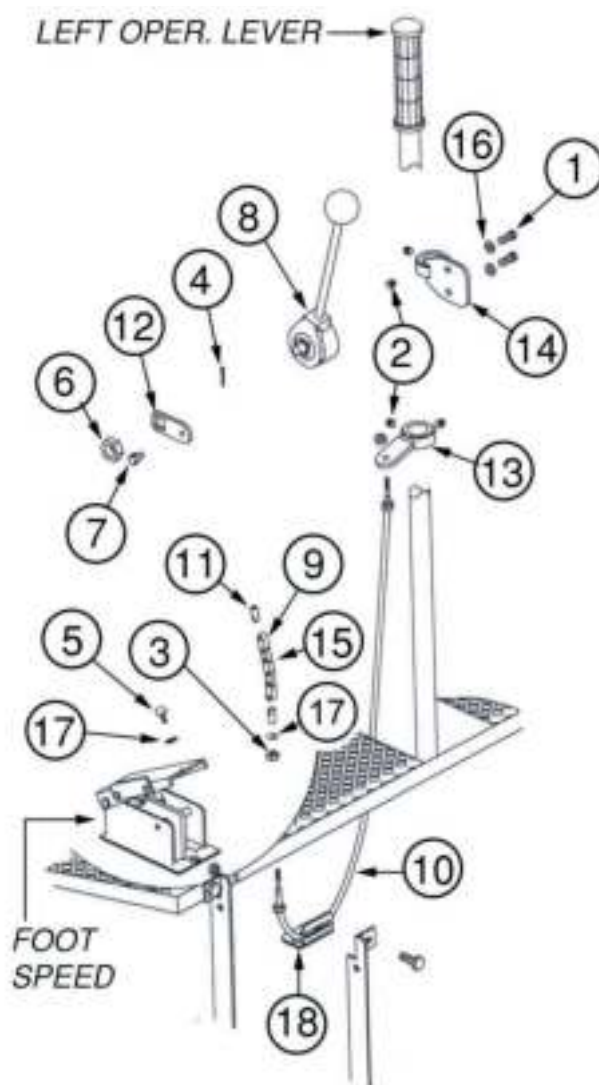
### CONTROL PANEL ASSEMBLY



ILL.	PART#	DESCRIPTION	QTY.
1. ....	.034613	LENS, GREEN	.2
2. ....	.034612	LENS, AMBER	.2
3. ....	.034614	LENS, RED	.2
4. ....	.029928	CHOKE CABLE	.2
5. ....	.034388	PLATE	.1
6. ....	.27005-2055	KEY SWITCH ASSEMBLY	.2
7. ....	.029473	HOUR METER	.2
8. ....	.022028	TOGGLE SWITCH	.1

## CRUISE CONTROL ASSEMBLY

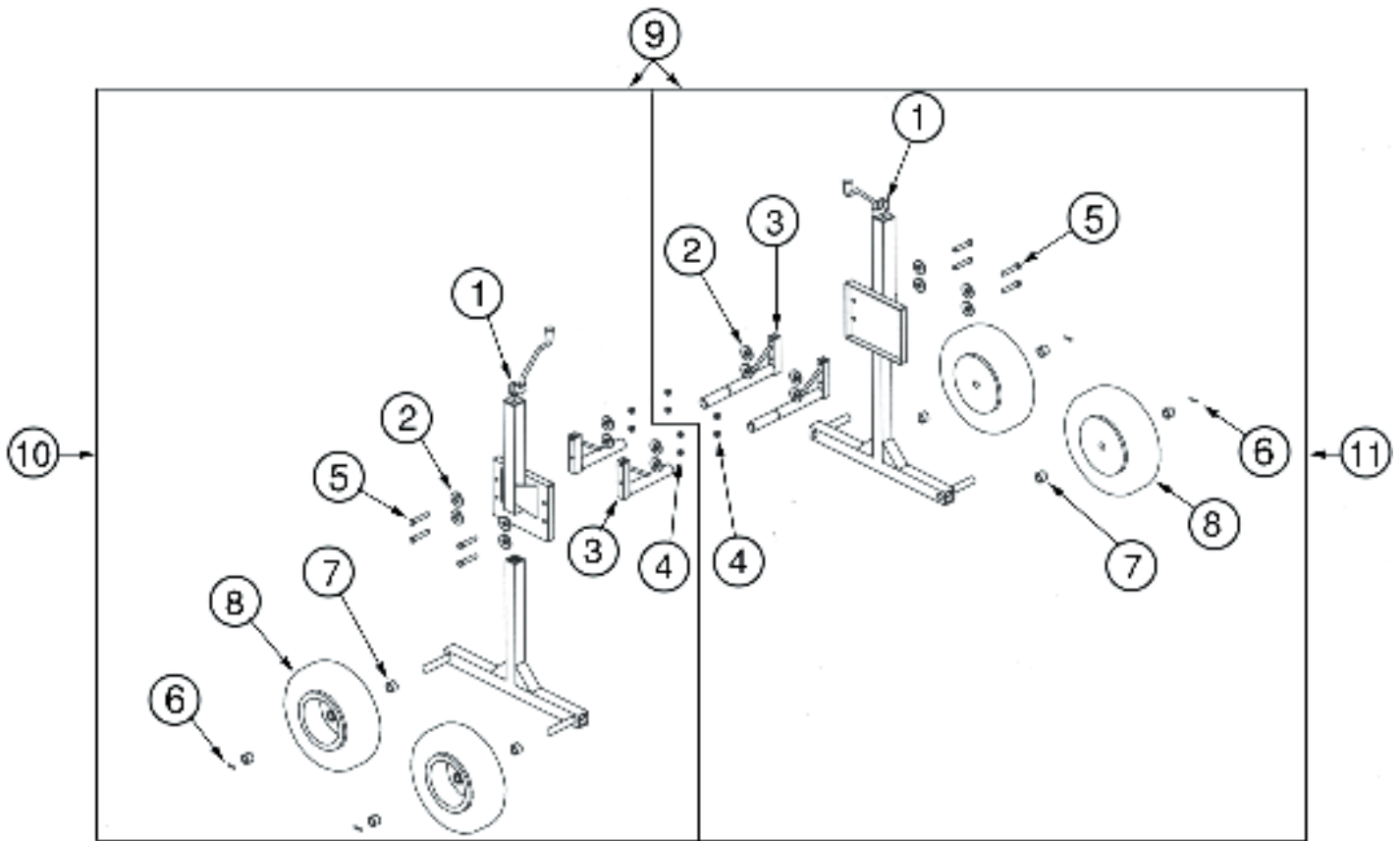
## 2A PARTS



ILL.	PART#	DESCRIPTION	QTY.
1.	.010018	BOLT, 5/16-18 x 1/2	2
2.	.010313	SET SCREW 5/16-18 x 3/8	4
3.	.010570	NUT, HEX 10-32	1
4.	.010972	PIN, COTTER 3/16 x 1-1/2	1
5.	.010382	SCREW, 10-32 x 1	1
6.	.020688	NUT, JAM 5/8-18 RH	1
7.	.024984	PIVOT, FOOT SPEED CONTROL	1
8.	.028018	LOCK, POSITIVE PITCH	1
9.	.028035	LINK, MASTER #35	2
10.	.028243	THROTTLE, HD CABLE ASSEMBLY	1
11.	.028842	END, CRUISE CONTROL CHAIN	1
12.	.028844	SIDE BRACKET, CRUISE CONTROL	1
13.	.028846	BRACKET, CRUISE CONTROL CABLE	1
14.	.028847	BRACKET, CRUISE CONTROL LEVER	1
15.	.028881	CHAIN, CRUISE CONTROL	1
16.	.032337	WASHER, STAR INTERNAL 5/16	2
17.	.032358	WASHER, STAR 10-32	2
18.	.032356	BRACKET, PEDAL END CRUISE CONTROL CABLE	1

## 2A PARTS

### ACCESSORIES DOLLY JACK SYSTEM--SET PART# 033177



ILL.	PART#	DESCRIPTION	QTY.
1.	033391	DOLLY JACK	2
2.	017751	FW, HARD 3/8	8
3.	034267	TUBE, REAR	2
	026729	TUBE, FRONT	2
4.	010464	NUT, NYLON 3/8-16	8
5.	010040	BOLT, 3/8-16 x 2"	8
6.	013759	PIN, COTTER 3/16 x 2-1/2"	4
7.	024628	WHEEL SPACER	8
8.	018958	TIRES	4
9.	033177	DOLLY JACK SET	1

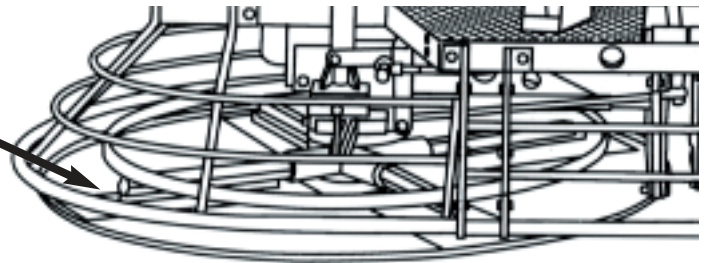
RIDING  
TROWEL  
VINYL COVER

PART #: 034165



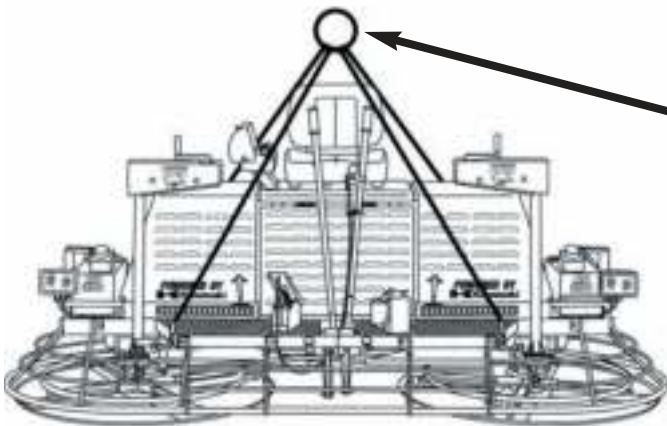
FLOATING  
DISCS (PANS)

PART #: 026912



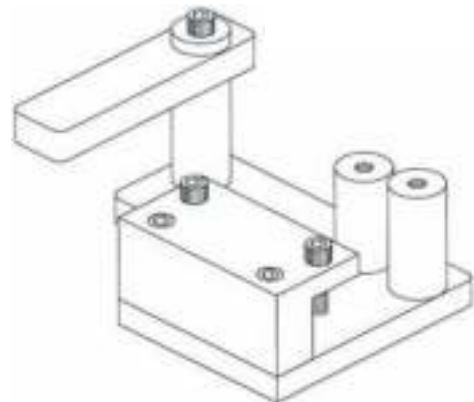
LIFTING  
BRIDLE  
(SLING TYPE)

PART #: 035461



TROWEL ARM  
ALIGNMENT JIG

PART #: 016863



SPIDER  
PULLER  
ASSEMBLY

PART #: 035688

