# **OPERATION AND PARTS MANUAL**



# JWN-SERIES RIDE-ON POWER TROWEL HONDA GX670TAF 24 HP ENGINE

# S/N VB0206951 AND BELOW

Revision #9 (11/29/16)

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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

P/N 20214

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# JWN-SERIES — PROPOSITION 65 WARNING

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# A WARNING A

### **CALIFORNIA** — Proposition 65 Warning

Engine exhaust and some of its constituents, and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks.

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- Cement and other masonry products.
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: <u>ALWAYS</u> work in a well ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

# JWN-SERIES — SILICOSIS/RESPIRATORY WARNINGS



### SILICOSIS WARNING

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

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# A WARNING

### **RESPIRATORY HAZARDS**

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

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

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# JWN-SERIES — TRAINING CHECKLIST

### TRAINING CHECKLIST

This checklist will lists some of the minimum requirements for machine maintenance and operation. Please feel free to detach it and make copies. Use this checklist whenever a new operator is to be trained or it can be used as a review for more experienced operators.

	TRAINING CHECKLIST		2
NO.	DESCRIPTION	OK?	DATE
1	Read Operator's Manual completely.		<i>Si</i>
2	Machine layout, location of components, checking of engine and hydraulic oil levels.		Z
3	Fuel system, refueling procedure.	· 20	
4	Operation of spray and lights (if equipped).	0	
5	Operation of controls (machine not running).		
6	Safety controls, seat "kill switch" operation.		
7	Emergency stop procedures.		
8	Startup of machine.		
9	Maintaining a hover.		
10	Maneuvering.		
11	Pitching.		
12	Matching blade pitch between towers Twin Pitch™, disengaging the linkage.		
13	Concrete finishing techniques.		
14	Shutdown of machine.		
15	Lifting of machine (lift loops).		
16	Machine transport and storage.		

Operator \_\_\_\_

\_\_\_\_\_ Trainee \_\_\_\_\_

COMMENTS:

# JWN-SERIES — DAILY PRE-OPERATION CHECKLIST

### DAILY PRE-OPERATION CHECKLIST

1       Engine Oil Level.         2       Gearbox Fluid Level.         3       Radiator Coolant Level.         4       Condition of Blades.         5       Blade Pitch Operation.         6       Safety-Stop Switch Operation.         7       Steering Control Operation.         8       Condition of Belts.			•	•	•	•	
3       Radiator Coolant Level.         4       Condition of Blades.         5       Blade Pitch Operation.         6       Safety-Stop Switch Operation.         7       Steering Control Operation.         8       Condition of Belts.	1	Engine Oil Level.					
4       Condition of Blades.							Q
5       Blade Pitch Operation.       Image: Constraint of the second sec	3	Radiator Coolant Level.				2	
6     Safety-Stop Switch Operation.       7     Steering Control Operation.       8     Condition of Belts.	4	Condition of Blades.				2	
7     Steering Control Operation.       8     Condition of Belts.	5	Blade Pitch Operation.			0	•	
8 Condition of Belts.	6	Safety-Stop Switch Operation.		~	<u> </u>		
	7	Steering Control Operation.		0.			
	8	Condition of Belts.	×	S			
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# JWN-SERIES — SAFETY MESSAGE ALERT SYMBOLS

### FOR YOUR SAFETY AND THE SAFETY OF OTHERS!

Safety precautions should be followed at all times when operating this equipment. Failure to read, understand and comply with the Safety Messages and Operating Instructions could result in injury to yourself and others.

This Operation Manual has been developed to provide instructions for the safe and efficient operation of the JWN -Series Ride-On Trowel. For engine maintenance information, please refer to the engine manufacturer's instructions for data relative to its safe operation.



Before using this Ride-On Trowel, ensure that the operating individual has read, understands, and complies with all instructions in this manual.

### SAFETY MESSAGE ALERT SYMBOLS

The three (3) Safety Messages shown below will inform you about potential hazards that could injure you or others. The Safety Messages specifically address the level of exposure to the operator, and are preceded by one of three words: **DANGER**, **WARNING**, or **CAUTION**.

# **DANGER**

You **WILL** be *KILLED* or *SERIOUSLY INJURED* if you **DO NOT** follow these directions.

# 🛕 WARNING

You **CAN** be **KILLED** or **SERIOUSLY INJURED** if you **DO NOT** follow these directions.

# **CAUTION**

You **CAN** be *INJURED* if you **DO NOT** follow these directions.

Potential hazards associated with trowel operation will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.

### HAZARD SYMBOLS

### Lethal Exhaust Gases



Engine exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled. **NEVER** operate this equipment in a confined area or enclosed structure that does not provide ample free flow air.

### Explosive Fuel



Gasoline is extremely flammable, and its vapors can cause an explosion if ignited. **DO NOT** start the engine near spilled fuel or combustible fluids. **DO NOT** fill the fuel tank while the engine is running or hot. **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system. Store fuel in approved containers, in well-ventilated areas and away from sparks and flames. **NEVER** use fuel as a cleaning agent.

### Burn Hazards



Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operations. **NEVER** operate the engine with heat shields or heat guards removed.

### Rotating Parts



**NEVER** operate equipment with covers, or guards removed. Keep *fingers, hands*, *hair* and *clothing* away from all moving parts to prevent injury.

# JWN-SERIES — SAFETY MESSAGE ALERT SYMBOLS



Accidental starts can cause severe injury or death. **ALWAYS** place the ON/OFF switch in the OFF position. Disconnect and ground spark plug lead and disconnect negative battery cable from battery before servicing.



### Respiratory Hazard





ALWAYS wear approved eye and hearing protection.



**Over Speed Conditions** 

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**NEVER** tamper with the factory settings of the engine governor or settings. Personal injury and damage to the engine or equipment can result if operating in speed ranges above maximum allowable.

### Equipment Damage Messages

Other important messages are provided throughout this manual to help prevent damage to your trowel, other property, or the surrounding environment.

## CAUTION

This *Ride-On trowel*, other property, or the surrounding environment could be damaged if you do not follow instructions.

### **RULES FOR SAFE OPERATION**

# A WARNING

Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the JWN-SERIES Ride-On Trowel.

### SAFETY

DO NOT operate or service this equipment before you read, understand, and comply with all safety messages in this manual. The manual must be kept available and accessible to the operator.



- This equipment should not be operated by persons under the minimum statutory age limit.
- NEVER use this machine for any purpose other than those described in this manual.
- NEVER operate the trowel without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required for the job.

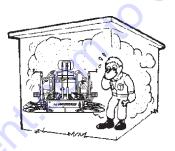


- NEVER use accessories or attachments which are not recommended by the manufacturer for this equipment. Damage to the equipment and/or injury to user may result.
- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties. Any modification which could lead to a change in the original characteristics of the machine should be made only by the manufacturer who shall confirm that the machine is in conformity with appropriate safety regulations.

- NEVER operate this equipment when not feeling well due to fatigue, illness or taking medicine.
- NEVER operate the trowel under the influence of drugs or alcohol.
- Replace nameplate, operation and safety decals when they become difficult to read.
- ALWAYS check the trowel for loosened hardware such as nuts and bolts before starting.
- NEVER touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing the trowel. Contact with hot! components can cause serious burns.



The engine of this trowel requires an adequate free flow of cooling air. NEVER operate the trowel in any enclosed or



narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the engine and may cause injury to people. Remember the engine gives off **DEADLY** carbon monoxide gas.

- ALWAYS refuel in a well-ventilated area, away from sparks and open flames.
- Topping-off to filler port is dangerous, as it tends to spill fuel.
- **NEVER** use fuel as a cleaning agent.
- ALWAYS use extreme caution when working with flammable liquids. When refueling, STOP the engine. Allow the engine to cool before adding fuel or performing service and maintenance functions.
- NEVER operate the trowel in an explosive atmosphere where fumes are present, or near combustible materials. An explosion or fire could result in severe *bodily harm or even death*.



NEVER <u>smoke</u> around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot! engine.



- NEVER run engine without air filter. Severe engine damage may occur. Service air filter frequently to prevent carburetor malfunction.
- NEVER place your *feet* or *hands* inside the guard rings while starting or operating this equipment.
- AVOID wearing jewelry or loose fitting clothing that may snag on the controls or moving parts as this can cause a serious injury.
- ALWAYS keep clear of rotating or moving parts while operating the trowel.
- Moving Parts Shut down the engine before performing service or maintenance functions. Contact with moving parts can cause serious injury.
- ALWAYS check to make sure that the operating area is clear before starting the engine.
- NEVER leave the machine *unattended* while running.
- ALWAYS be sure the operator is familiar with proper safety precautions and operations techniques before using trowel.
- **ALWAYS** keep the work area well organized.
- ALWAYS clear the work area of any debris, tools, etc. that would constitute a hazard while the trowel is in operation.

# 🛕 WARNING

**ALWAYS** check to make sure that the operating area is clear before starting the engine.

- No one other than the operator is to be in the working area when the trowel is in operation.
- NEVER allow passengers or riders on the trowel during operation.
- Always observe all applicable compulsory regulations relevant to environmental protection, especially, fuel storage, the handling of hazardous substances, and the wearing of protective clothing and equipment. Instruct the user as necessary, or, as the user, request this information and training.
- ALWAYS store equipment properly when it is not being used.
   Equipment should be stored in a clean, dry location out of the reach of children.

# DANGER

Pay close attention to ventilation when operating the trowel in confined spaces such as tunnels, buildings or similar areas. The engine exhaust contains harmful elements. Ensure proper air flow to move engine exhaust away from the operator.



### Lifting the Ride-On Trowel

# CAUTION

This ride-on trowel is very *heavy* and awkward to move around. Use proper heavy lifting procedures and **DO NOT** attempt to lift the ride-on trowel by the guard rings.

The JWN-SERIES Ride-On Power Trowel is designed to be moved and handled several ways.

The easiest way to lift the trowel is to utilize the lift loops that are welded to the frame. These lift loops are located to the left and right sides of the operator's seat.

A strap or chain can be attached to these lift loops, allowing a forklift or crane to lift the trowel up onto and off of a slab of concrete. The strap or chain should have a minimum 2,000 pounds (1000-kg) lifting capacity and the lifting gear must be capable of lifting at least this amount.

# <u>î danger</u>

**NEVER** stand under or allow anyone else to stand under the trowel while it is being lifted.



### Transporting

- ALWAYS shutdown engine before transporting.
- Tighten fuel tank cap securely and close fuel petcock to prevent fuel from spilling.
- Drain fuel when transporting trowel for long distances or over bad roads.
- When placing the trowel on a truck-bed for transport, *always* tie-down the trowel.
- If the trowel is being transported via a trailer, make sure the trailer complies with all local and state safety transportation laws. Refer to the following "*Towing Safety Precautions*" for basic towing techniques.

### **Towing Safety Precautions**

# **<u>A</u>** CAUTION

Conform to *Department of Transportation (DOT) Safety Towing Regulations* before transporting trowel on public roads.

To reduce the possibility of an accident while transporting the trowel on public roads, always make sure the trailer that supports the trowel and the towing vehicle are in good operating condition and both units are mechanically sound.

The following list of suggestions should be used when towing your trowel:

- Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer "gross vehicle weight rating" (GVWR) of 6,000 lbs.
- ALWAYS inspect the hitch and coupling for wear. NEVER tow a trailer with defective hitches, couplings, chains, etc.
- Check the tire air pressure on both towing vehicle and trailer. Trailer tires should be inflated to 50 psi cold. Also check the tire tread wear on both vehicles.
- ALWAYS make sure the trailer is equipped with "Safety Chains".
- ALWAYS attach trailer's safety chains to towing vehicle properly.
- ALWAYS make sure the vehicle and trailer directional, backup, brake, and trailer lights are connected and working
- DO NOT exceed the recommended highway speed when towing. Unless posted otherwise, do not exceed 45 MPH highway, and 10 MPH off-road.

- Use chock-blocks at each wheel when parked to prevent trailer from rolling.
- Use the trailer's swivel jack to adjust the trailer height to a level position while parked.
- Avoid sudden stops and starts. This can cause the trailer to skid or jack-knife. Smooth, gradual starts and stops will improve towing.
- Avoid sharp turns.
- Trailer should be adjusted to a level position at all times when towing.
- Raise and lock trailer wheel stand in the "UP" position when transporting.
- DOT requirements include the following:

Connect and test electric brake operation.

Secure portable power cables in cable tray with tie wraps.

### Battery

The battery contains acids that can cause injury to the eyes and skin. To avoid eye irritation, *always* wear safety glasses or face shielding. Use well insulated gloves when picking the battery up. Use the following guidelines when handling the battery.

- **DO NOT** drop the battery. Any impact to the battery may cause it to explode.
- DO NOT expose the battery to open flames, sparks, lit cigarettes etc. The battery contains combustible gases and liquids. If these gases and liquids come in contact with a flame or spark an explosion can occur.



- ALWAYS keep the battery charged. If the battery is not charged a buildup of combustible gas will occur.
- ALWAYS keep battery cables in good working condition. Repair or replace all worn cables.
- ALWAYS disconnect the negative battery terminal before performing service on the trowel.
- ALWAYS recharge the battery in a vented air environment to avoid risk of a dangerous concentration of combustible gases.
- In case the battery liquid, (dilute sulfuric acid), comes in contact with *clothing or skin*, rinse skin or clothing immediately with plenty of water.
- In case the battery liquid, (dilute sulfuric acid), comes in contact with your *eyes*, rinse eyes immediately with plenty of water, then contact the nearest doctor or hospital and seek medical attention.

### **Maintenance Safety**

- ALWAYS shut down the engine and disconnect battery before performing service or maintenance functions. Contact with moving parts can cause serious injury.
- Securely support any trowel components that must be raised.
- NEVER lubricate components or attempt service on a running trowel.
- ALWAYS allow the trowel a proper amount of time to cool before servicing.
- Keep the trowel in proper running condition.
- Make sure that there is no buildup of concrete, grease, oil or debris on the machine.
- Repair damage to the trowel immediately and always replace broken parts.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel and fuel filters.
- DO NOT use plastic food containers to dispose of hazardous waste.
- **DO NOT** pour waste oil or fuel directly onto the ground, down a drain or into any water source.
- NEVER store trowel with fuel in the tank for any extended period of time. Always clean up spilled fuel immediately.

### Emergencies

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



ALWAYS know the location of the nearest first aid kit.

+ FIRST AID + KIT

Know the phone numbers of the nearest *ambulance*, *doctor* and *fire department*. Ensure that a phone or radio is readily available at the jobsite. If this is not possible, know the location of the nearest phone. This information will be invaluable in the event of an emergency.







# JWN-SERIES—SPECIFICATIONS (TROWEL)

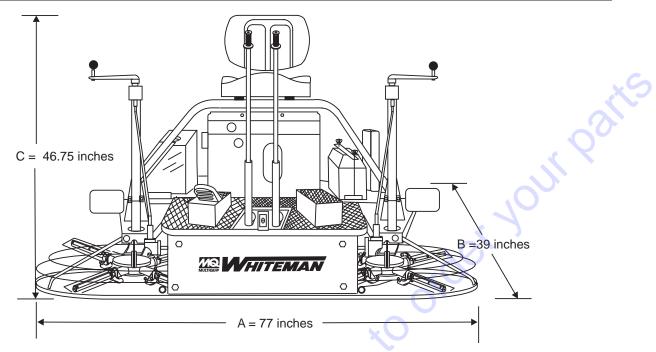


Figure 1. JWN-Series Dimensions Specifications

Table 2. JWN Series	Specifications
A–Length – in. (cm)	77.0 (195.6)
B–Width – in. (cm)	39 (99)
C–Height – in. (cm) <sup>1</sup>	46.75 (118.7)
Weight – Ibs. (kgs.) Operating	685 (311.3)
Weight – Ibs. (kgs.) Shipping	885 (402.27)
Sound Pressure – dBA <sup>2</sup>	TBD
Vibration – ft/s <sup>2</sup> (m/ s <sup>2</sup> ) <sup>3</sup>	TBD
Engine – H.P.	24 (HONDA)
Fuel Tank – gallons (liters)	5 (19.23)
Rotor – RPM (Dry Concrete)	180 Min
Path Width – in. (cm)	75 (191)
C Engine Oil Capacity (w/new filter)	2 Quarts (1.9 Liters)
Gear Box Oil Capacity	69 oz. Mobil SCH 634 Iso VG640
Fuel Consumption (full load)	1.71 gallons/hour
Radiator capacity	TBD

### NOTE:

1.

Sound pressure is "A" weighted . Measured at the operators ear position while the ride-on trowel is operating at full throttle on concrete in a manner most often experienced in "*normal* " circumstances. Sound pressure may vary depending upon the condition of the concrete. Hearing protection is always recommended. 2. The vibration level indicated is the maximum RMS (Root Mean Square) value obtained at the handle grip while operating the ride-on trowel on curing concrete in a manner most often experienced in "*normal*" circumstances. Values were obtained from all three axes of motion. The values shown represent the maximum RMS value from these measurements.

# JWN-SERIES— SPECIFICATIONS (ENGINE)

	Engine Specifications
Model	Honda GX-670-TAF Engine
Туре	4 Stroke, Overhead Valve, 90 degree V -Twin 2 cylinder gasoline engine.
Piston Displacement	40.9 cu.in. (670 cc)
Max. Output	24 bhp/3,600 rpm (17.6 KW)
Max. Torque	31.8 lbf-ft at 2,500 rpm
Cooling System	Forced Air
Engine Oil Capacity	1.69 qt. (1.60 liters) 2.01 qt. (1.90 liters w/oil filter replacement)
Fuel	Unleaded gasoline Octane rating of 86 or higher
Fuel Consumption	1.71 gph
Starting System	Electric Start/Transistorized Magneto
Spark Plug Type	NGK: ZGR5A DENSO: J16CR-U
Spark Plug Gap	0.028-0.031 in. (0.70 - 0.80 mm)
Length	16.2 in. (41.2 cm)
Height	18.5 in. (47.1 cm)
Width	18.0 in. (45.7 cm)
Weight (dry)	94.8 lbs (43.0 kg)
Width Weight (dry)	

# JWN-SERIES — GENERAL INFORMATION

### JWN Series Ride-On PowerTrowel Familarazation

The JWN Series Ride-On Power Trowel is designed for the floating and finishing of concrete slabs.

Take a walk around your trowel. Take notice of all the major components (see Figures 2 and 3, pages 16 and 17) like the engine, blades, air cleaner, fuel system, fuel shut-off valve, ignition switch etc. Check that there is always oil in the engine, and gear oil in the gearbox assembly.

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

Look at the operator control levers. Grab the control levers and move them around a bit. Look to see how moving the control levers causes the gearboxes and frame to move.

Notice the foot pedal which controls the engine speed. Also take a look at the main driveline of the trowel. Take note and reference how the belts look, this is the way the belts should look when adjusted properly.

Before using your trowel, test it on a flat watered down section of finished concrete. This trial test run will increase your confidence in using the trowel and at the same time it will familiarize you with the trowel's controls and indicators. In addition you will understand how the trowel will handle under actual conditions.

### Engine

This trowel is equipped with an air cooled 24 HP Honda gasoline engine. Refer to the engine owner's manual for specific instructions regarding engine operation. This manual is included with the trowel at the time of shipping. Please contact your nearest Multiquip Dealer for a replacement should the original manual disappear.

### Blades

The blades of the trowel finish the concrete as they are swirled around the surface. Blades are classified as combination (10 or 8 inches wide) and finish (6 inches wide). This trowel is equipped with four blades per rotor equally spaced in a radial pattern and attached to a vertical rotating shaft by means of a **spider assembly**.

Figures 2 and 3 show the location of the controls, indicators and general maintenance parts. Each control may perform more than one function. The functions of each control or indicator is on pages 16 and 17.

### Gearboxes

The JWN Series Ride-On Power Trowel uses two separate gearbox assemblies that are enclosed in rugged cast aluminum gear cases.

The gearbox casing has a large oil capacity allowing optimum lubrication to critical points.

### **Steering Assist**

Dual control levers located in front of the operator's seat are provided for steering the trowel. The control levers are linked to two spring loaded cylinders.

Push the left control lever forward and pull the right control lever backward and the trowel will rotate clockwise on approximately a center axis. Pull the left control lever backward and push the right control lever forward and the trowel will rotate counterclockwise. See Table 5 on page 22 for a complete description on the control levers directional positioning.

### **Constant Velocity Joints (CV-Joints)**

Constant velocity joints insure the efficient transfer of power to the drive shaft and maintain the timing of the gearboxes without any chance of slippage.

### Training

For training, please use the "**TRAINING CHECKLIST**" located in the front of this manual (Page 5). This checklist is not intended to be a substitute for proper training but will provide an outline for an experienced operator to provide training to a new operator.

# JWN-SERIES — CONTROLS AND INDICATORS

- 1. Seat Engine will not start unless operator is seated.
- 2. Steering Control Levers -Directs the unit forward, reverse, left, or right.
- **3.** Retardant Spray Control Button Sprays retardant through the nozzle at the front of the machine.
- 4. Twin Pitch Control Both pitch towers are linked together. One crank may be turned to adjust the blade pitch simultaneously or individually controlled for each set of blades. Turn the crank as marked on its top surface to increase or decrease blade pitch.
- 5. Light Switch Turns on three halogen lights. Two in front one in rear.
- 6. Ignition Switch With key inserted, turn clockwise to start engine.
- 7. Hour Meter Indicates number of hours the engine is run.
- 8. Choke Control Lever In cold weather pull this lever to start engine. After engine warms push knob all the way in.

- 9. Fuel Gauge/Filler Cap Indicates the amount of fuel in the fuel tank. Remove this cap to add fuel.
- **10.** Fuel Tank Holds 5 gallons of unleaded gasoline.
- 11. Left Foot Riser Operator foot rest pedal.
- 12. Spray Nozzle Spray nozzle for retardant.
- Right Foot Pedal Controls blade speed. Slow blade speed is accomplished by slightly depressing the foot pedal. Maximum blade speed is accomplished by fully depressing the foot pedal.
- **14. EZ- Mover Boss** Front attachment point for EZ Mover. Used to move the trowel.
- 15. Dip Stick- Access hole provided to check engine oil.
- 16. Spark Plug- Access the spark plug through this cutout.

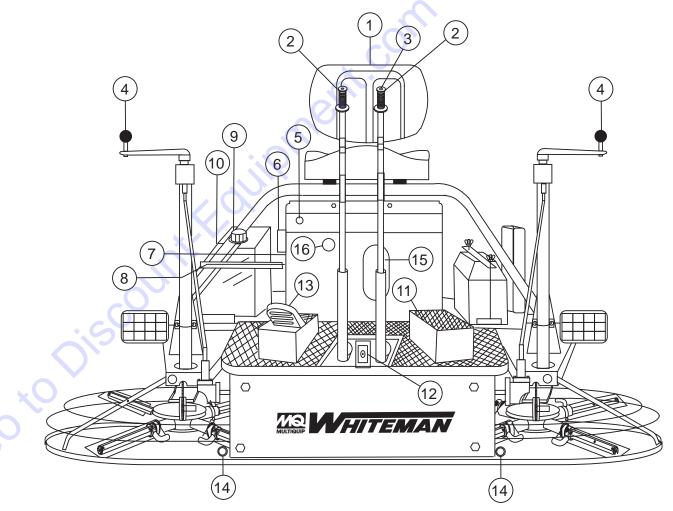


Figure 2. JWN-SERIES Controls and Indicators (Front)

# JWN-SERIES — CONTROLS AND INDICATORS

- **17.** Safety "kill switch" Shuts down engine when seat is empty.
- **18.** Rear Light The JWN-Series Ride-On Power Trowel has three 12 volt halogen lights.
- **19.** Lift Loops Located on both sides of the main frame. Used to lift the trowel.
- 20. Engine Air Filter Protects the engine from dirt.
- 21. Oil Filter Filters the engine oil.
- 22. Oil Drain Remove the plug to drain the engine oil.
- 23. Retardant Spray Tank Holds 5 gallons of retardant.
- 24. Retardant Spray Pump Delivers retardant to the spray nozzle.

- **25. EZ- Mover Boss** Rear attachment point for EZ Mover. Used to transport the trowel.
- 26. Spiders (Left/Right) Consists of trowel arms, blades, wear plate, and thrust collar.
- 27. Document Box- Contains all product documentation.
- **28.** Battery Provides +12V DC power to the electrical system.
- **29.** Belt Guard Encloses drive belt used in conjunction with clutch.
- **30.** Engine Oil Fill Remove this cap to add engine oil.



Read this entire instruction manual completely before attempting to operate the trowel.

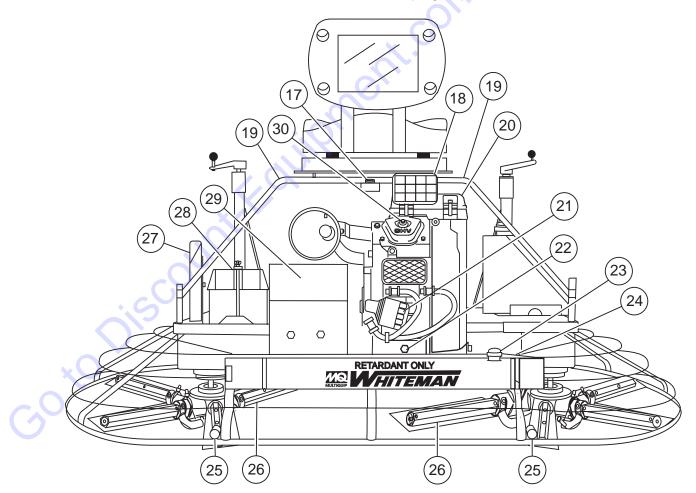
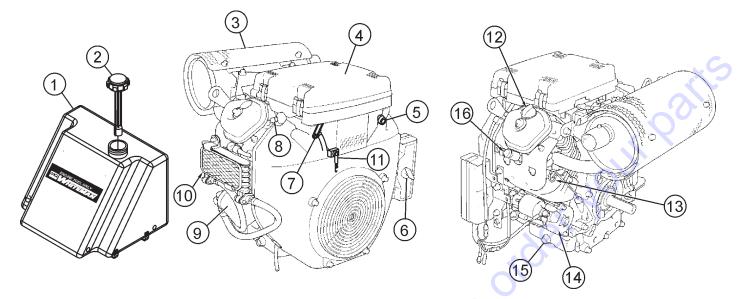


Figure 3. JWN-SERIES Controls and Indicators (Rear)

# JWN-SERIES — BASIC ENGINE





### **INITIAL SERVICING**

The engine (Figure 4) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the manufacturer's engine manual for instructions & details of operation and servicing. The engine shown above is a **HONDA** engine. Operation for other types of engines may vary somewhat.

- 1. FuelTank Five gallon capacity; use unleaded gasoline.
- Fuel Filler Cap Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. DO NOT over fill.



### DANGER

Add fuel to the tank only when the engine is stopped and has had an opportunity to cool down. In the event of a fuel spill, **DO NOT** attempt to

start the engine until the fuel residue has been completely wiped up and the area surrounding the engine is dry.

3. Muffler – Used to reduce noise and emissions.



### WARNING

Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas

while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

- 4. Air Filter Prevents dirt and other debris from entering the fuel system. Unsnap air filter cover to gain access to filter element.
- Choke Knob Used in the starting of a cold engine or in cold weather conditions. The choke enriches the fuel mixture.
- 6. **Engine ON/OFF Switch "ON"** position permits engine starting, **"OFF"** position stops engine operations.
- 7. Fuel Drain Valve OPEN to let fuel flow, CLOSE to stop the flow of fuel.
- 8. Fuel Filter Filters fuel for contaminants.
- 9. Oil Filter Spin-on type, filters oil for contaminants.
- 10. **Oil Cooler** Helps keep engine oil cooler for longer engine life.
- 11. **Throttle Lever** Controlled by accelerator pedal, increases or decreases engine RPM.
- 12. Oil Filler Cap Remove to add engine oil.
- 13. Oil Dip Stick Remove to check amount and condition of oil in crankcase.
- 14. Starter Starts engine when ignition key is rotated to the "ON" position.
- 15. Oil Drain Plug Remove to drain crankcase oil.
- 16. **Spark Plug** Provides spark to the ignition system. Set spark plug gap to 0.6 0.7 mm (0.028 0.031 inch) Clean spark plug once a week.

# JWN-SERIES — NEW MACHINE SETUP INSTRUCTIONS

### **Trowel Pre-Set Up Instructions**

The purpose of this section is to assist the user in setting up a <u>**NEW**</u> trowel. If your trowel is already assembled, (seat, handles, knobs and battery), this section can be skipped.



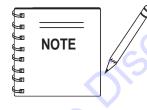
The new trowel cannot be put into service until the pre-setup installation instructions are completed. These pre-setup instructions only need to be performed at the time of unpacking a **NEW** trowel.

Before packaging and shipping, this JWN SERIES Ride-On Power Trowel was run and tested at the factory. If there are problems, please let us know.

### **Control Handle Assembly**

The steering control handles are not attached to the trowel's two lower handles at the time of shipment. To attach the steering control handles to the two lower handle assemblies perform the following:

- 1. Remove the bolts from the plastic bag tied to the control towers.
- 2. Remove all protective wrapping and straps from the control handles.
- 3. Slip the top (loose) piece into the base of the corresponding handle, making sure to line up the holes.
- 4. Install the bolt through the lined up holes and tighten the acorn nut onto the threaded end.



Some models are equipped with adjustable height handles. Adjust the height by placing the bolt through the set of holes that corresponds to the most comfortable height.

- 5. Pay close attention to any wires that may be inside the control handles. **DO NOT** pinch or cut any wires during installation.
- 6. Inside the plastic bag of parts are two knobs for the pitch control tower cranks. Install these two knobs onto the tower crank levers.

### Seat Assembly

The seat is not installed on the trowel for shipping purposes. To attach the seat perform the following:

 Image: state sta

There are two types of seats, depending on what type of trowel you have. J and B series trowels have slots on the seat mounting plate that allow **fore** and **aft** adjustment of the

seat. H and S-series trowels have a seat that is mounted on tracks, similar to an automobile seat. This seat can be adjusted fore and aft via the control lever under the front of the seat.

- 1. Remove the seat from the protective wrapping.
- 2. Remove the bolts on the bottom of the seat, and place seat on the seat mounting plate, then insert the bolts through the holes or slots on the seat mounting plate and tighten.

### **Battery Setup**

This trowel was shipped with a wet charged battery. This battery may need to be charged for a brief period of time as per the manufacturer instructions.

# **A** CAUTION

Use all safety precautions specified by the battery manufacturer when working with the battery. See further specific safety information on page 14 of this manual.

To install the battery on the trowel, make sure that the battery is well seated in the battery box. Connect the positive cable to the positive terminal on the battery first, then connect the negative cable to the negative terminal. Close the plastic battery box cover and secure the battery box.

# JWN-SERIES - INITIAL START-UP

The following section is intended as a basic guide to the ride-on trowel operation, and is not to be considered a complete guide to concrete finishing. It is strongly suggested that all operators (experienced and novice) read "Slabs on Grade" published by the American Concrete Institute, Detroit Michigan,

**DO NOT** use your ride-on power trowel until this section is thoroughly understood.

# CAUTION

Failure to understand the operation of the JWN-SERIES trowel could result in severe damage to the machine or personal injury.

See Figures 2 and 3 (Pages 20 and 21) for the location of any control or indicator referenced in this manual.

### **Engine Oil Level**

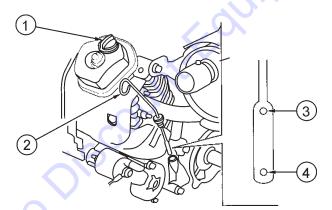
1.

ALWAYS check engine oil BEFORE EACH USE.



Pull the engine oil dipstick (Item 2, Figure 5) from its holder.

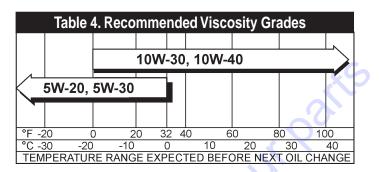
- Determine if engine oil is low (Figure 5).
- If engine oil is low, remove oil filler cap (Item 1, Figure 5), 3. and add correct amount of engine oil to bring oil level to a normal safe level. Use oil as recommeded in Table 3.



**Figure 5. Engine Oil Dipstick** 



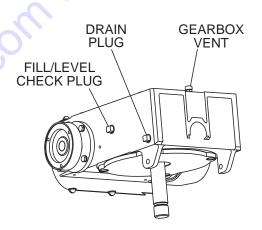
To prevent extensive engine wear or damage, always maintain the proper oil level in the crankcase. Never operate the engine with the oil level outside of marks on dipstick, (Items 3 and 4 in Figure 5.)



### Gearbox Oil Level



- Check the gearbox oil level in both gearboxes by removing the level plug and ensuring that the oil is at the correct level. See Figure 6.
- 2. Fill the gear box just to the level of the fill plug. (Figure 6) with 69 oz. of Mobil ISO VG 640 SCH 634 oil.



### Figure 6. Gearbox Oil Plugs/Sight Glass

### Fuel

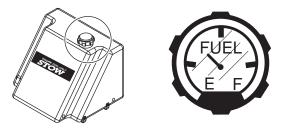
Determine if the engine fuel is low (Figure 7). If fuel level is low, remove the fuel filler cap and fill with unleaded gasoline.

# DANGER

Handle fuel safely. Motor fuels are highly flammable and can be dangerous if mishandled. DO NOT smoke while refueling. DO NOT attempt to refuel the rideon trowel if the engine is hot or running. DO **NOT** attempt to start the engine until the fuel residue has been completely wiped up and the area surrounding the engine is dry.



# JWN-SERIES — INITIAL START-UP



### Figure 7. Fuel Gauge

### Important Information Before You Start

 This *ride-on trowel* is equipped with a safety *"safety stop switch"*. This switch is located beneath the seat assembly. Remember the engine will not start unless an operator is sitting in the operator's seat. The weight of an operator depresses an electrical switch which will allow the engine to start.

# A WARNING

**NEVER** disable or disconnect the "safety stop switch". It is provided for the **operator's safety** and injury or death may result if it is disabled, disconnected or improperly maintained.

- The safety stop switch should be used to stop the engine after every use. Doing this will verify the switch is working properly thus providing safety for the operator. Remember to turn the key to the "OFF" position after stopping the machine. Not doing so will drain the battery.
- 3. The right foot pedal (Figure 8) controls blade and engine speed. The position of the foot pedal determines the blade speed. Slow blade speed is obtained by slightly depressing the pedal. Maximum blade speed is obtained by fully depressing the pedal.

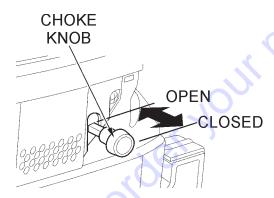


### Figure 8. Blade Speed Control Foot Pedal

### **Starting the Engine**

1. With one foot on the ground and the other foot placed on the trowel's platform, grab the frame near the seat and lift yourself onto the trowel. Sit in the operator's seat and ensure the control handles, foot pedal and control panel items can be comfortably accessed.

5. When starting a cold engine, pull the choke knob, (Figure 9) out to the *closed* position. In warm weather or when the engine is warm, the unit can be started with choke halfway or completely *open*.



### Figure 9. Choke Knob

- 6. Keep your foot **OFF** the blade speed control pedal and in all circumstances, start the engine at idle (without touching the pedal).
- 7. Insert the *ignition key* into the ignition switch.
- 8. Turn the ignition key (Figure 10) clockwise and listen for the engine to start. Once the engine starts release ignition key.
- 9. If the engine fails to start in this manner, consult the engine owner's manual supplied with the trowel.
- Test the safety stop switch by standing up briefly. The switch under the seat should cause the engine to stop. If the switch fails to shut down the engine. Turn off the engine with the key switch and repair the safety stop switch. See Table 6 (Troubleshooting) for possible causes.

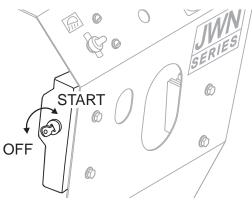


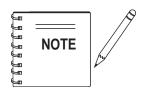
Figure 10. Ignition Key

11. Let the engine idle for 3-5 minutes. If choke is applied, push the choke to the open position as soon as the engine will run smoothly.

# JWN-SERIES — INITIAL START-UP

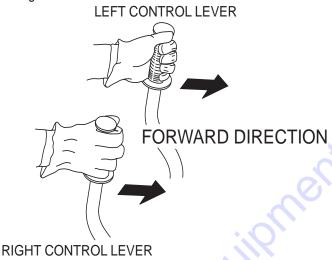
### Steering

Two control levers located in front of the operator's seat provide directional control for the JWN-SERIES Ride-On Power Trowel. Table 4 illustrates the various directional positions of the joysticks and their effect on the ride-on trowel.



All directional references with respect to the steering control levers are from the **operator's** seat position.

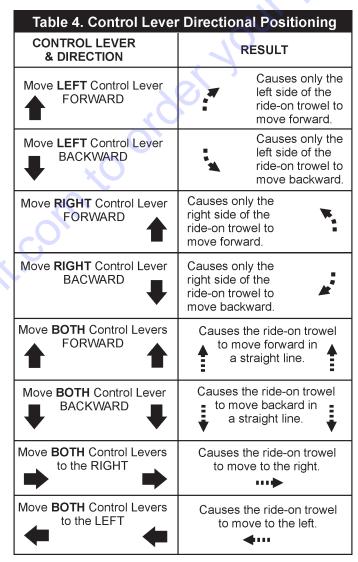
1. Push both the left and right control levers forward. See Figure 11.



### Figure 11. Left and Right Control Levers

- 2. With your right foot quickly depress the right foot pedal halfway. Notice that the ride-on power trowel begins to move in a forward direction. Return both joystick controls to their neutral position to stop forward movement, then remove your right foot from the right foot pedal.
- Practice holding the machine in one place as you increase blade speed. When about 75% of maximum blade speed has been reached, the blades will be moving at proper finishing speed. The machine may be difficult to keep in one place. Trying to keep the ride-on trowel stationary is a good practice for operation.
- 4. Practice maneuvering the ride-on trowel using the information listed in Table 4. Try to practice controlled motions as if you were finishing a slab of concrete. Practice edging and covering a large area.

- Try adjusting the pitch of the blades. This can be done with the ride-on trowel stopped or while the trowel is moving, whatever feels comfortable. Test the operation of optional equipment like retardant spray and lights if equipped.
- Pull both the left and right joysticks backward and repeat steps 3 through 6 while substituting the word reverse for forward.



# **CAUTION**

Trowel arms can be damaged by rough handling or by striking exposed plumbing or forms while in operation. *ALWAYS* look-out for objects which might cause damage to the trowel arms.

# JWN-SERIES — MAINTENANCE

### Maintenance

When performing any maintenance on the trowel or engine, follow all safety messages and rules for safe operation stated at the beginning of this manual.



Disconnect and ground spark plug leads and disconnect negative battery cable from battery before servicing.

### Maintenance Schedule

1. Check and retighten all fasteners as necessary.

### Daily (8-10 Hours)

 Check the fluid levels in the engine and gearboxes, fill as necessary. Check Air Cleaner. See section on Air Cleaner servicing.

### Weekly (30-40 Hours)

- 1. Relube arms, thrust collar and steering links.
- 2. Replace blades if necessary.
- Check and clean or replace the engine air filter as necessary. (See following section on Air Filter Maintenance.)
- 4. Replace engine oil and filter as necessary. (See following section on Oil and Filter.)

### Monthly (100-125 Hours)

- 1. Remove, clean, reinstall and relube the arms and thrust collar. Adjust the blade arms.
- 2. Replace gearbox lubricant after the first 100 hours of operation. Replace every 500-600 hours thereafter.
- 3. Check drive belt for excessive wear. (Refer to following section on Drive Belt maintenance.)

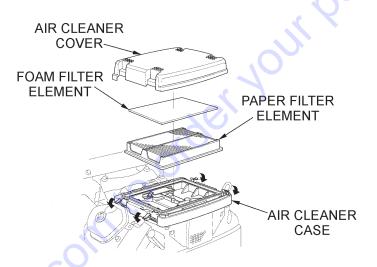
### Yearly (500-600 Hours)

- 1. Check and replace if necessary the arm bushings, and thrust collar bushings, shaft seals and belts.
- 2. Check pitch control cables for wear.
- 3. Replace gearbox lubricant.

### Air Cleaner (Daily)

Thoroughly remove dirt and oil from the engine and control area. Clean or replace the air cleaner elements as necessary. Check and retighten all fasteners as necessary.

1. Release the four latch tabs (Figure 12) from the air cleaner cover, and remove the cover.



### Figure 12. Air Cleaner Components

- 2. Remove the foam filter from the cover.
- 3. Remove the paper filter from the air cleaner case.
- 4. Inspect both air filter elements, replace them if necessary.
- 5. To clean the paper air filter, tap the filter element several times on a hard surface to remove dirt, or blow compressed air (not to exceed 30 psi (207 kPa, 2.1 kgf/cm<sup>2</sup>) through the filter element from the air cleaner case side.
- 6. **NEVER!** try to brush off dirt; brushing will force dirt into the fibers. If the paper element is excessively dirt, replace element.
- 7. Clean the *foam air filter element* in warm soapy water, rinse and allow to dry thoroughly. Or clean with a nonflammable solvent and allow to dry. **DO NOT** pour any type of oil into the foam element.
- 8. Wipe dirt from the inside of the air cleaner body and cover, using a moist cloth. Be careful not to let any dirt or debris to enter the air chamber that leads to the carburetor.
- 9. Reinstall the foam air filter element to the air cleaner cover, then reinstall the paper air filter element and cover to the air cleaner case. Securely latch the four hook tabs on the air cleaner cover

# JWN-SERIES — MAINTENANCE

# CAUTION

Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed, will cause engine damage due to overheating.

### Changing Engine Oil (100 Hours)

- 1. Change the engine oil after the first 20 hours of use, then change every 6 months or 100 hours.
- 2. Remove the oil filler cap (Figure 5, Item 1), and fill engine crankcase with recommended type oil as listed in Table 4. Fill to the upper limit of dipstick.
- 3. Crankcase oil capacity is 1.69 qts. (1.60 liters) without oil filter replacement, with oil filter replacement 2.02 qts. (1.90 liters).

### Oil Filter (200 Hours)

1. Replace the engine oil filter (Figure 13) every 200 hours.



SEAL

Figure 13. Oil Filter

2. Be sure to coat the *seal* of the new oil filter with clean engine oil.

### Fuel Filter (200 Hours)

1. Replace the engine fuel filter (Figure 14) every 200 hours.

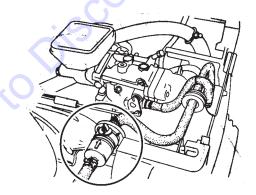


Figure 14. Honda Fuel Filter

### Oil And Fuel Lines

- Check the oil and fuel lines and connections regularly for leaks or damage. Repair or replace as necessary.
- Replace the oil and fuel lines every two years to maintain the line's performance and flexibility.

### Long Term Storage

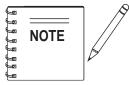
- Remove the battery.
- Drain fuel from fuel tank, fuel line and carburetor.
- Remove spark plug and pour a few drops of motor oil into cylinder. Crank engine 3 to 4 times so that oil reaches all internal parts.
- Clean exterior with a cloth soaked in clean oil.
- Store unit covered with plastic sheet in moisture and dustfree location out of direct sunlight.

# **CAUTION**

Never store the ride-on trowel with fuel in the tank for any extended period of time. Always clean up spilled fuel immediately.

### Engine Tune-Up

See your engine manual for specific information on tuning up your engine, checking and gaping the spark plugs, etc.



See the engine manual supplied with your machine for appropriate engine maintenance schedule and troubleshooting guide for problems.

At the front of the book (Page 9) there is a "Daily Pre-Operation Checklist". Make copies of this checklist and use it on a daily basis.

Disconnect spark plug wires and battery cables before attempting any service or maintenance on the ride-on trowel.

# JWN-SERIES — MAINTENANCE

### **Checking The Drive Belt**

The drive belt needs to be replaced as soon as it starts to show signs of wear. Indications of excessive belt wear are fraying, squealing when in use, belts that emit smoke or a burning rubber smell when in use.

Under normal operating conditions, a drive belt may last approximately 150 hours. If your trowel is not reaching this kind of life span for drive belt wear, check the drive belt for proper pulley alignment and spacing.

To gain access to the drive belt, remove the drive belt guard cover (Item 1, Figure 16), then visually inspect the drive belt for signs of damage or excessive wear. If the drive belt is worn or damaged, replace the drive belt.

# WARNING

**DO NOT** attempt to insert hands or tools into the belt area while the engine is running. **NEVER** run the engine with the safety guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent bodily injury.

# WARNING

DO NOT remove the drive belt guard cover until the muffler has cooled. Allow the entire trowel to cool down before performing this procedure.

### **Removing the Drive Belt**

- Leave the existing drive belt intact until instructed to cut it.
- Leave the engine in place for this procedure. It is not necessary to slide the engine to replace the drive belt.
- Have a 3/4 X 1 X 3-1/4 inch wooden block available.

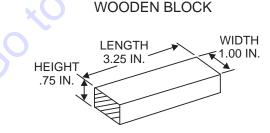
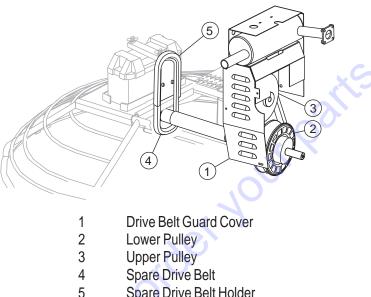


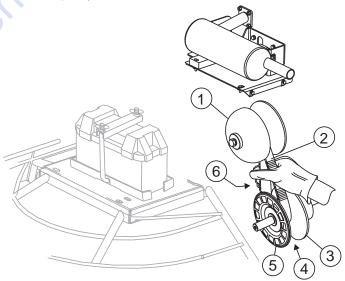
Figure 15. Wooden Block For Spacer



Spare Drive Belt Holder

### Figure 16. Drive Belt Guard Cover

- Remove Drive Belt Guard Cover (Item 1, Figure 16). 1.
- 2. Squeeze the drive belt as shown in Figure 17, and pull the V-belt upwards. This will spread open the faces of the lower drive pulley.



- Upper Pulley 1
- 2 Drive Belt
- 3 Lower Pulley Fixed Face
- 4 Lower Pulley Spread Apart
- 5 Lower Pulley Movable Face
- 6 Squeeze and Pull Up To Spread Lower Pulley

### Figure 17. Expanding Lower Drive Pulley

# JWN-SERIES—MAINTENANCE

3. Insert the 3/4" X 1" X 3-1/4" block between the moveable face and the fixed face of the lower drive pulley. See Figure 18. This block will help keep the lower drive pulley faces open while installing the new drive belt.

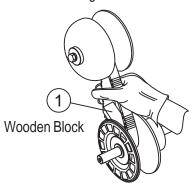


Figure 18. Holding Lower Pulley Open

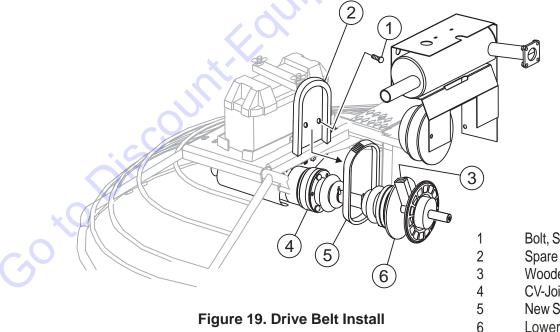
If the belt is not being reused (recommended), CUT the 4. drive belt. Ensure all belt remnants are removed from the pulleys.

### Installing the Drive Belt (Using Replacement Drive Belt)

The JWN-SERIES Ride-On Power Trowel is equipped with a replacement drive belt (spare) carrier, which is mounted on the inboard side of the fuel tank near the clutch. Make sure that there is ALWAYS a spare drive belt in the drive belt carrier before the trowel is placed on a slab to finish concrete.

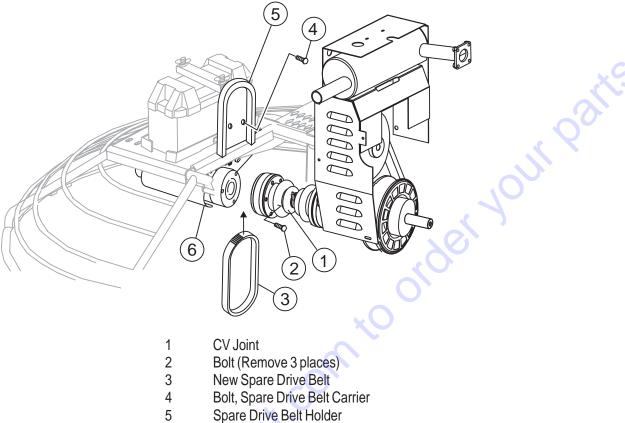
In the event of a drive belt failure, the spare (replacement) drive belt can be used for quick replacement at the job site to continue trowel operation.

- If necessary, refer to Removing Drive Belt Instructions. 1. Ensure all remnants of old belt have been removed from pulleys.
- To replace the drive belt with the spare drive belt, remove 2. the 2 bolts that secure the drive belt carrier. (Figure 19) This will allow free movement of the belt for installation. Take care with to not contaminate the relplacement belt with grease or dirt.
- 3. With the  $3/4 \times 1 \times 3$ - $1/4 \mod block \ holding \ the \ lower \ pulley$ open, place the replacement belt into the lower pulley first. Work the belt over the upper drive pulley into the pulley aroove.
- 4. Squeeze the belt enough to remove the wood block. With the block removed, release the tension on the belt.
- Reinstall the spare belt carrier and the drive belt guard. 5.
- 6. Replace the spare belt before the next trowel use. See spare drive belt replacement procedures.



- Bolt, Spare Drive Belt Carrier
- Spare Drive Belt Holder
- Wooden Block
- CV-Joint
- New Spare Drive Belt
- Lower Drive Pulley

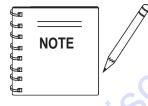
# JWN-SERIES—MAINTENANCE



6 Left Side Gearbox

### Figure 20. Spare Drive Belt Replacement

### **Spare Drive Belt Replacement**



It will be necessary to disconnect the CV-Joint from the left-side gearbox coupler. This means the removal of the three screws that secure the CV-Joint to the gearbox.

To replace a spare drive belt, be prepared to disconnect the CVjoint from the left-side gearbox. See Figure 20.

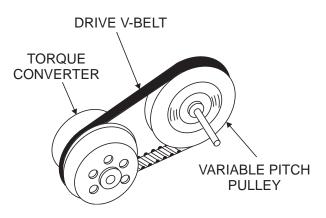
- 1. Place the trowel on suitable supports and observe all safety precautions.
- 2. Remove the three screws that secure the CV-joint to the left-side gearbox coupler.
- 3. Once the CV-joint has been separated from the left-side gearbox, push the CV-joint inward so that a gap exists between the gearbox and the CV-joint (Figure 20). Slide the spare V-belt between the gearbox coupler and the CV-joint. Avoid contaminating the replacement belt with grease or oil when sliding it between the CV-Joint and gearbox coupler.
- 4. Place the spare drive belt inside the drive belt carrier, and secure the spare belt carrier to the inboard side of the left gearbox.
- 5. Install the three screws that secure the CV-joint to the leftside gearbox coupler.

# JWN-SERIES— MAINTENANCE

The JWN-Series Ride-On Power Trowel is equipped with a "Torque Converter" which supplies torque to both the left and right gearboxes.

The function of the torque converter is to automatically deliver the correct amount of torque required by the trowel under all load conditions. This enables the trowel to deliver the necessary torque for float pan applications and the high rotor speeds required for burnishing concrete.

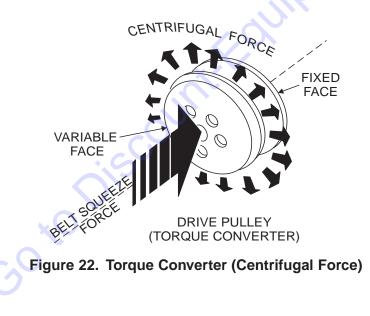
The torque converter used in the JWN Series Ride-On Power Trowel is a variable pitch pulley type (Figure 21) connected by a drive belt.



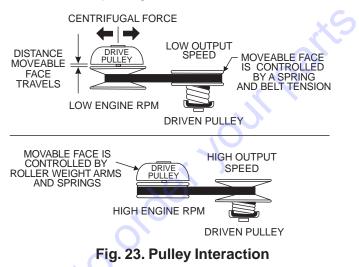
### Fig. 21. Torque Converter/Variable Pitch Pulley

### **Drive Pulley**

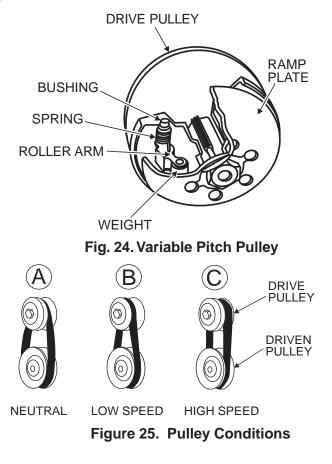
The **"Drive Pulley"** uses centrifugal force (Figures 22 and 23) to create a belt squeeze force transmitted at the pulley faces. This condition functions as an automatic clutch.



As shown in Figure 23, centrifugal force pushes the roller arms (see Figure 23 below) against the ramp plate, forcing moveable face toward fixed face squeezing belt.



The "Variable Pitch Pulleys" have one *fixed face*, and one *moveable face*. The *drive* pulley (torque converter, Figure 24) moveable face is controlled by roller weight arms and springs, which change position according to engine speed. The *driven* pulley *moveable face* is controlled by a spring and belt tension.



# JWN-SERIES-MAINTENANCE

### How It Works (Figure 24)

- Condition A:
- Drive Pulley: Small

Engine Idling

- Driven Pulley: Large
- Belt: Loose and Stationary
- Condition B: Engine Accelerating
  - Drive Pulley: Small But Increasing
  - Driven Pulley: Large But Decreasing
  - Belt: Approaching Tightness
- Condition C: Engine At High Speed
  - Drive Pulley: Large
  - Driven Pulley: Small
  - Belt: Tight

### Clutch

This clutch system provides a high pulley ratio (a low gear- so to speak) to start out and a low pulley ratio (a high gear- so to speak) for a high speed operation, with infinite variation between the two.

This means that it will not be necessary to give *full throttle* in order to "break the blades/pans loose". The machine can slowly be brought up to speed.

The torque sensitive pulley (Figure 25) utilizes a spring and cam bracket. Peak performance results from proper interaction between the driven pulley spring and the ramp angle of the cam bracket.

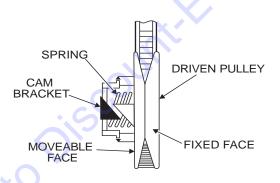


Figure 26 . Pulley Spring and Cam Bracket

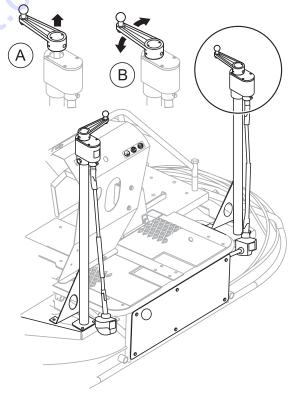
### **Blade Pitch**

Sometimes it may be necessary to match blade pitch between the two sets of blades. There are some signs that this may be necessary. For example, the differences in pitch could cause a noticeable difference in finish quality between the two sets of blades. Or, the difference in blade pitch could make the machine difficult to control. This is due to the surface area in contact with the concrete (the blade set with the greater contact area tends to stick to the concrete more).

### Matching Blade Pitch for Both Sets of Blades

Trowels equipped with optional **Twin Pitch™** Controls may need to have blade pitch between the two sets of blades "syncronized". If the blades need to be syncronized this is easily accomplished by performing the following. Refer to Figure 27.

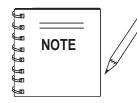
- 1. Lift the pitch adjustment handle on either side. Once lifted, that side is now disconnected from the **Twin Pitch™** system.
- 2. Adjust to match the opposite side.
- 3. When adjusted, lower the handle to **Twin Pitch™** operating position.



A Twin Pitch<sup>™</sup> disengaged (one side)B Operating Position

Figure 27. Pitch Towers

### **Trowel Arm adjustment Procedure**



The following procedure should be followed to adjust trowel arms when it becomes apparent that the trowel is finishing poorly or in need of routine maintenance.

A *level*, clean area to test the trowel prior to and after adjustement is essential. Any unlevel *spots* in the floor or debris under the trowel blades will give an incorrect perception of adjustment. Ideally, a 5' x 5' three-quarter inch thick *flat* steel plate should be used for testing.

- 1. To determine which blades need adjustment, place the trowel in the test area (three-quarter inch thick plate) and look for the following conditions:
  - Pitch the blades as flat as possible and look at the adjustment bolts. They should all barely make contact with the lower wear plate on the spider. If you can see that one of them is not making contact, some adjustment will be necessary.
  - Is the machine wearing out blades unevenly (i.e. one blade is completely worn out while the others look new)?

Figure 28 illustrates "*worn spider bushings or bent trowel arms*". Check to see that adjustment bolt is barely touching (0.10" max. clearance) lower wear plate. All alignment bolts should be spaced the same distance from the lower wear plate.

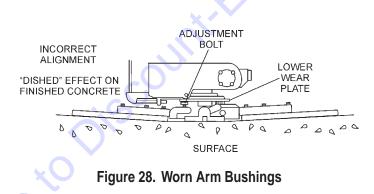
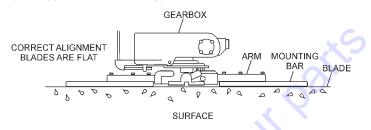


Figure 29 illustrates the "*correct alignment*" for a spider plate (as shipped from the factory).

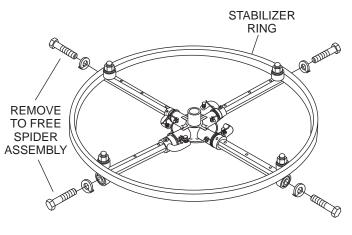


### Figure 29. Correct Spider Plate Alignment

- 2. Start engine, and bring trowel blades up to full speed and look for the following conditions:
  - Does the trowel have a perceived rolling or bouncing motion?
  - Does the guard ring "rock up and down" relative to the ground?

### Stabilizer Ring Removal

If the trowel is equipped with an outer stabilizer ring (Figure 30), remove the four bolts at the end of each spider arm.

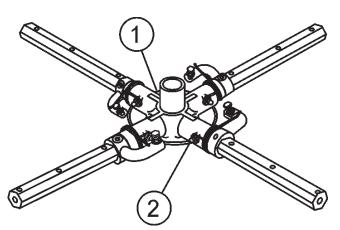


**Figure 30 Stabilizer Ring** 

2. Examine stabilizer ring for out of round or bends. If ring is damaged, replace ring. If ring is found to be correct with no damage, set aside.

### **Trowel Arm Removal**

- 1. Each trowel arm is held in place at the spider plate by a hex head bolt (with zerk grease fitting). Remove the hex head bolt/zerk grease fitting from the spider plate. (Figure 31)
- 2. Remove the trowel arm from the spider plate.



1 Spider Plate

2 Hex Head Bolt (Zerk Fitting)

### Figure 31. Removing Zerk Grease Fitting

- 3. Should the trowel arm inserts (bronze bushing) come out with the trowel arm, remove the bushing from the trowel arm and set aside in a safe place. If the bushing is retained inside the spider plate, carefully remove the bushing.
- 4. Examine the bronze trowel arm bushing insert (Figure 32), clean if necessary. Replace bushing if out-of-round or worn.

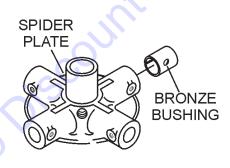
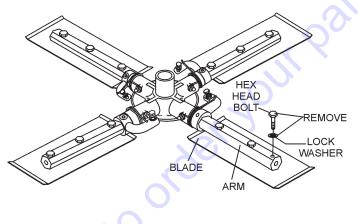


Figure 32. Bronze Bushings

### **Trowel Blade Removal**

1. Remove the trowel blades from the trowel arm by removing the three hex head bolts (Figure 33) from the trowel arm. Set blades aside.

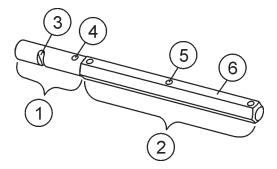




2. *Wire brush* any build-up of concrete from all six sides of the trowel arm. Repeat this for the remaining three arms.

### **Checking Trowel Arm Straightness**

Trowel arms can be damaged by rough handling, (such as dropping the trowel on the pad), or by striking exposed plumbing, forms, or rebar while in operation. A bent trowel arm will not allow the trowel to operate in a smooth fluid rotation. If bent trowel arms are suspect, check for flatness as follows, refer to Figures 34 and 35.



- 1 Trowel Arm Round Shaft Section
- 2 Trowel Arm Hexagonal (Hex) Shaft Section
- 3 Lever Mounting Slot (Left Arm Shown)
- 4 Roll Pin Hole
- 5 Blade Attachment Bolt Hole (One of Three)
- 6 Flat of Hexagonal Shaft (Top of Arm)

### Figure 34. Trowel Arm

- Use a thick steel plate, granite slab or any surface which is true and flat, to check all six sides of each trowel arm for flatness.
- 2. Check each of the six sides of the trowel arm (hex section). A feeler gauge of .004" (0.10 mm) should not pass between the flat of the trowel arm and the test surface along its length on the test surface. (Figure 35, Item 3).

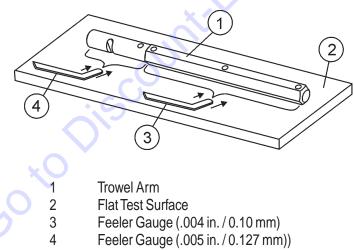


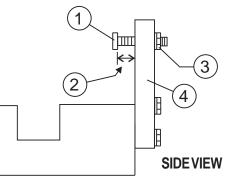
Figure 35. Checking Trowel Arm Flatness

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

### **Trowel Arm Adjustment**

Shown in (Figure 38) is the adjustment fixture with a trowel arm inserted. As each trowel arm is locked into the fixture, the arm bolt is adjusted to where it contacts a stop on the fixture. This will consistently adjust all of the trowel arms, keeping the finisher as flat and evenly pitched as possible.

1. Locate the trowel arm adjustment tool P/N 9177.



1 Adjustment Bolt

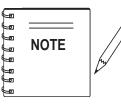
"Distance"

2

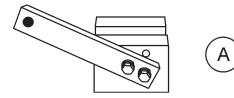
- 3 Locking Nut
- 4 Fixture Arm

### Figure 36. Trowel Arm Adjustment Tool Side View

2. Ensure the fixture arm is in the proper setting (up or down) for your trowel arm rotation as shown in Figure 37.



Arms with CLOCK-WISE blade rotation use the fixture arm in the UP position (A in Figure 37). Arms with COUNTER CLOCK-WISE blade rotation use the fixture with the fixture arm in the DOWN position. (B in Figure 37).



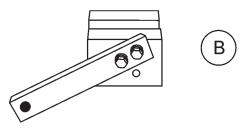


Figure 37. Trowel Arm Adjustment Setup

3. Unscrew the locking bolts on the adjustment tool and place the trowel arm into the fixture channel as shown in Figure 38 A **thin shim** may be required to cover the blade holes on the trowel arm. Make sure to align the **trowel** adjustment bolt with the **fixture** adjustment bolt.

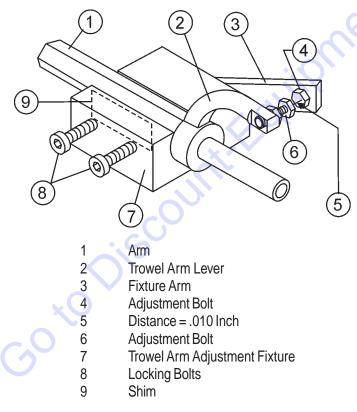


Figure 38. Trowel Arm Adjustment Fixture Components

- 4. Use an allen wrench to tighten the locking bolts securing the trowel arm in place.
- 5. Adjust the bolt "distance" shown in Figure 36 to match one of the arms. The other arms will be adjusted to match this distance.
- 6. Loosen the locking nut on the trowel arm lever, then turn the trowel arm adjusting bolt until it barely touches (.010") the fixture adjusting bolt.
- 7. Once the correct adjustment is made, tighten the lock nut on the trowel arm to lock in place.
- 8. Loosen locking nuts on the adjustment fixture, and remove trowel arm.
- 9. Repeat steps for the remaining trowel arms.

### **Re-Assembly**

- 1. Clean and examine the upper/lower wear plates and thrust collar. Examine the entire spider assembly. Wire brush any concrete or rust build-up. If any of the spider components are found to be damaged or out of round, replace them.
- 2. Make sure that the bronze trowel arm bushing is not damage or out of round. Clean the bushing if necessary. If the bronze bushing is damaged or worn, replace it.
- 3. Reinstall bronze bushing onto trowel arm.
- 4. Repeat steps 2 -3 for each trowel arm.
- 5. Make sure that the spring tensioner is in the correct position to exert tension on the trowel arm.
- 6. Insert all trowel arms with levers into spider plate (with bronze bushing already installed) using care to align grease hole on bronze bushing with grease hole fitting on spider plate.
- 7. Lock trowel arms in place by tightening the hex head bolt with zerk grease fitting and jam nut.
- 8. Re-install the blades onto the trowel arms.
- 9. Install stabilizer ring onto spider assembly.
- 10. Lubricate all grease points (zerk fittings) with premium "*Lithum 12*" based grease, conforming to NLG1 Grade #2 consistency.

### Installing Pans Onto Finisher Blades

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



# **MARNING**

**ALWAYS** install pans either on the work area or on an area that is next to and level with the work area. **DO NOT** lift the trowel when the pans are attached.

Refer to Figure 39 when installing pans onto finisher blades.

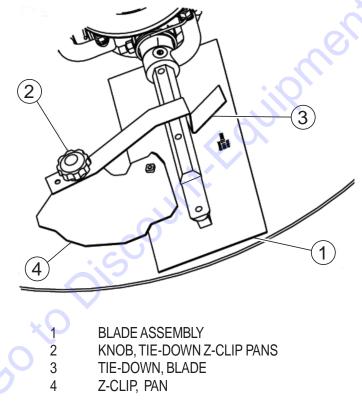


Figure 39. Z-Clip Finisher Pan Installation

- Lift trowel just enough to slide pan under blades. Lower finisher onto pan with blades (Item #1) adjacent to Z-Clips (Item #4).
- Rotate blades into position under Z-Clips. Ensure that the blades are rotated in the direction of travel when the machine is in operation or use the engine to rotate the blades into position.
- 3. Attach the blade tie-downs (Item #3) to the far side of the Z-Clip brackets (Item #4) with tie-down knobs (Item #2) as shown in figure 39.
- 4. Check to make certain that the blade edges are secured under the Z-Clips and the tie-downs are secured completely over the edges of the blade bar before the machine is put back into operation.

### **Decommissioning Trowel/Components**

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain, (beyond lifecycle reliability) and is to be decommissioned, (demolition and dismantlement), the following procedure must take place:

- Drain all fluids completely. These may include oil, gasoline, hydraulic oil and antifreeze. Dispose of properly in accordance with local and governmental regulations. Never pour on ground or dump down drains or sewers.
- 2. Remove battery and bring to appropriate facility for lead reclamation. Use safety precautions when handling batteries that contain sulfuric acid, (See page 14).
- 3. The remainder can be brought to a salvage yard or metal reclamation facility for further dismantling.

# JWN-SERIES TROWEL — TROUBLESHOOTING (ENGINE)

Engine Cranks But Will Not Start	el tank is empty. hut-off valve is closed. el line has suction leak or restricted. Fuel filter, or fuel nk cap vent is obstructed. el supply is contaminated. carbureted, carburetor is	Fill fuel tank. Open fuel shut-off valve. Check fuel line condition and fuel line clamps. Ensure that fuel line is not kinked. Check fuel filter for restriction and replace if necessary. Check fuel cap vent and clean or replace as necessary. Drain and clean fuel tank, clean tank and refill with fuel.
Engine Cranks But Will Not Start	nut-off valve is closed. The line has suction leak or restricted. Fuel filter, or fuel nk cap vent is obstructed. The supply is contaminated.	Open fuel shut-off valve. Check fuel line condition and fuel line clamps. Ensure that fuel line is not kinked. Check fuel filter for restriction and replace if necessary. Check fuel cap vent and clean or replace as necessary. Drain and clean fuel tank, clean tank and refill with
Engine Cranks But Will Not Start	tel line has suction leak or restricted. Fuel filter, or fuel nk cap vent is obstructed. Tel supply is contaminated.	Check fuel line condition and fuel line clamps. Ensure that fuel line is not kinked. Check fuel filter for restriction and replace if necessary. Check fuel cap vent and clean or replace as necessary. Drain and clean fuel tank, clean tank and refill with
is r tar Fut fingine Cranks But Will Not Start	restricted. Fuel filter, or fuel nk cap vent is obstructed. el supply is contaminated. carbureted, carburetor is	Ensure that fuel line is not kinked. Check fuel filter for restriction and replace if necessary. Check fuel cap vent and clean or replace as necessary. Drain and clean fuel tank, clean tank and refill with
ingine Cranks But Will Not Start	carbureted, carburetor is	
Sn	derchoked or overchoked.	Apply recommended amount of choke for cold and warm weather.
imr dai	park plug is fouled, properly gapped, or maged. Spark plug leads sconnected.	Check spark plug for fouling, check gap, and inspect for damage. Clean or replace spark plug as necessary. Reattach spark plug leads if disconnected.
	afety stop switch alfuntion.	Ensure that the Safety Stop Switch is functioning when the operator is seated; replace switch if necessary.
Fu	el tank is empty.	Fill fuel tank.
Sh	nut-off valve is closed.	Open fuel shut-off valve.
Will Not Continue	el line has suction leak or restricted. Fuel filter is structed, or fuel tank cap nt is blocked.	Check fuel line condition and fuel line clamps. Ensure that fuel line is not kinked. Check fuel filter for restriction and replace if necessary. Check fuel cap vent and clean or replace as necessary.
cai	engine is carbureted, rburetor is underchoked or er choked.	Apply recommended amount of choke for cold and warm weather.
	ulty ignition switch or arter.	Replace defective switch or starter.
En	igine is seized.	Repair or replace engine.
×O		

# JWN-SERIES TROWEL — TROUBLESHOOTING (ENGINE)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
	1	
	Air filter is obstructed.	Replace air filter.
	Altitude causes 3% loss of horsepower per 1000 feet of altitude.	If available, install high altitude jets in carburetor
	Choke is partially closed.	Open choke.
Engine Lacks	Faulty spark plugs or spark plug leads. Spark plug lead disconnected.	Replace spark plugs or spark plug leads if faulty Reattach spark plug lead if disconnected.
Power	Fuel is contaminated.	Drain and clean fuel tank. Refill with clean fuel.
	There is a lack of lubrication.	Check engine oil.
	Engine is overheated	Allow engine to cool. Find and repair cause of overheating.
	Exhaust is restricted.	Remove or repair restriction.
	Ignition timing incorrect.	Set engine ignition timing to manufacturer's specification.
	Ignition timing incorrect.	Set engine ignition timing to manufacturer's specification.
	Fuel mixture is too lean.	Look for intake system leak. Repair any leaks found.
Engine Overheete	Exhaust is restricted.	Remove or repair restriction.
Engine Overheats	Fan shroud or fan is broken or missing.	Replace fan shroud.
co <sup>N</sup>	Coolant level is low.	Fill radiator when cool. Add coolant to fill line or reservoir.
is	Low or Hi crankcase oil level	Check engine oil. Fill if low, drain if overfilled.
$\mathbf{O}$	Battery is discharged or defective.	Charge and test battery. Replace if defective.
Engine Will Not	Loose or faulty wires or connections.	Inspect wiring, repair any bad connections or wires.
Crank	Faulty ignition switch or starter.	Replace defective switch or starter.
	Engine is seized.	Repair or replace engine.

# JWN-SERIES TROWEL — TROUBLESHOOTING (TROWEL)

TABLE 6. TROUBLESHOOTING				
SYMPTOM	POSSIBLE PROBLEM	SOLUTION		
	Safety Stop Switch malfunction?	Make sure that the Safety Stop Switch is functioning when the operator is seated; replace switch if necessary.		
Engine running rough or not	Fuel?	Look at the fuel system. Make sure there is fuel being supplied to the engine. Check to ensure that the fuel filter is not clogged.		
at all.	Ignition?	Check to ensure that the ignition switch has power and is functioning correctly.		
	Other problems?	Consult engine manufacturer's manual.		
Safety Stop Switch not	Loose wire connections?	Check wiring. Replace as necessary.		
functioning.	Bad contacts?	Replace switch.		
	Blades?	Make certain blades are in good condition, not excessively worn. Finish blades should measure no less than 2" (50mm) from the blade bar to the trailing edge, combo blades should measure no less that 3.5" (89mm). Trailing edge of blade should be straight and parallel to the blade bar.		
	Spider?	Check that all blades are set at the same pitch angle as measured at the spider. A field adjustment tool is available for height adjustment of the trowel arms (see Optional Equipment).		
	Bent trowel arms?	Check the spider assembly for bent trowel arms. If one of the arms is even slightly bent, replace it immediately.		
If trowel "bounces, rolls concrete, or makes uneven swirls in concrete".	Trowel arm bushings?	Check the trowel arm bushings for tightness. This can be done by moving the trowel arms up and down. If there is more than 1/8" (3.2 mm) of travel at the tip of the arm, the bushings should be replaced. All bushings should be replaced at the same time.		
	Thrust collar?	Check the flatness of the thrust collar by rotating it on the spider. If it varies by more than 0.02" (0.5 mm) replace the thrust collar.		
	Thrust collar bushing?	Check the thrust collar by rocking it on the spider. If it can tilt more than 1/16" (1.6 mm) [as measured at the thrust collar O.D.], replace the bushing in the thrust collar.		
isue	Thrust bearing worn?	Check the thrust bearing to see that it is spinning free. Replace if necessary.		
	Blade pitch?	Check blades for consistent pitch. Adjust per Maintenance section instructions if necessary.		
Machine has a perceptible rolling motion while running.	Main shaft?	The main output shaft of the gearbox assembly should be checked for straightness. The main shaft must run straight and cannot be more than 0.003" (0.08 mm) out of round at the spider attachment point.		
	Yoke?	Check to make sure that both fingers of the yoke press evenly on the wear cap. Replace yoke as necessary.		
		I		

# JWN-SERIES TROWEL — TROUBLESHOOTING (TROWEL)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Lights (optional) not working.	Wiring?	Check all electrical connections, including the master on/off switch and check t see if wiring is in good condition with no shorts. Replace as necessary.
	Lights?	Check to see if light bulbs are still good. Replace if broken.
	Retardant?	Check the tank to make sure retardant is present. Fill tank as necessary.
	Wiring?	Check all electrical connections, including master on/off switch connections. Replace components and wiring as necessary.
Retardant spray (optional) not working.	Bad switch?	Check the continuity of master on/off switch. Replace if broken.
	Bad spray pump?	If pump has a voltage present when the switch is turned on, but does not open and electrical connections to the pump are good, replace the pump.
	Blade speed out of adjustment?	See section on blade speed adjustment.
Steering is unresponsive.	Worn components?	Check for wear of steering bearings and linkage components replace if necess
	Pivots?	Check to ensure free movement of hydraulic drive motors.
	Hydraulic pressure?	Check to ensure that hydraulic pressure is adequate. See section on checking hydraulic pressure.
Operating position is uncomfortable.	Seat adjust for operator?	Adjust seat with lever located on the front of the seat.
	Broken or loose parts?	If the motor runs and the pitch is not affected, parts inside the power head ma loose or broken. Return power head to dealer for service.
Power head on Electric Pitch (optional) not working.	Wiring?	Check all electrical connections and wiring. Check the continuity at the power l unit. Verify that there is voltage present at the power head switch with the key switch in the "on" position.
con.	Switch?	Check the continuity of the switch. If switch is malfunctioning, replace immedia
Linkage on Twin Pitch (optional) not	Crank handles?	Make sure that both crank handles are pushed down as far as possible. Doing ensures that the linkage is engaged.
working.	Broken part?	Replace all broken parts immediately.

# **EXPLANATION OF CODE IN REMARKS COLUMN**

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

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

#### Sample Parts List:

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

### NO. Column

**Unique Symbols** - All items with same unique symbol (\*, #, +, %, or ) in the number column belong to the same assembly or kit, which is indicated by a note in the "Remarks" column.

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



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

### PART NO. Column

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

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

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

### QTY. Column

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

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

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

### **REMARKS Column**

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

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

Indicated by:

"INCLUDES ITEMS W/(unique symbol)"

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

#### Indicated by:

"S/N XXXXX AND BELOW" "S/N XXXX AND ABOVE" "S/N XXXX TO S/N XXX"

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

Indicated by: "XXXXX ONLY"

"NOT USED ON XXXX"

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

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

Search Website by Part Number <b>Discount</b>	Search Manual Library For Parts Manual & Lookup Part Numbers – Purchase or Request Quote	Can't Find Part or Manual? Request Help by Manufacturer, Model & Description
Equipment		Parts Order Form
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### JWN-SERIES— SUGGESTED SPARE PARTS

### JWN-SERIES - HONDA GX 670 - TAF 24 HP ENGINE

### 1 Unit

Qty.	P/N	Description	1	125
4		TROWEL ARM, LH	1	392
4		TROWEL ARM, RH	1	210
4	1163	LEVER TROWEL ARM (L.S.)	1	267
4	1555	LEVER TROWEL ARM (R.S.)	1	468
2		THRUST COLLAR KIT	1	838
2	12478		1	265
20			1	120
20	0166A		1	120
	1876		1	120
20	0164B		1	169
4	1157AI		1	172
4 4	1316		1	154
-	2143		2	980
20	1875		1	156
20	1322	SCREW ASSY., ARM RETAINING	1	172
20		CAP GREASE FITTING	•	
4	0131A	SCREW (HHC 1/4 - 20 X 3/4)		
4	0948	WASHER, FLAT		
1	20384	BELT, DRIVE CVT		
20	0181B	WASHER 1/4 IN	<b>C</b>	
1	11418	FUEL CAP/GAUGE (ENG)		
1		BUSHING, RUBBER FUEL	<b>.</b> *	
1		CABLE, THROTTLE (FOOT PEDAL)		
1		ROD END, FEM RH		
		(THROTTLE CABLE)		
6	2064I	ROD END, FEM RH 3/8-24		
		(STEERING)		
4	2063l	ROD END, MALE RH 3/8-24		
		(STEERING)		
2	11142I	ROD END, MALE RH 1/2-20		
4		CONTACT UNIT SALES DEPT/		
		ACCESSORY ITEM		

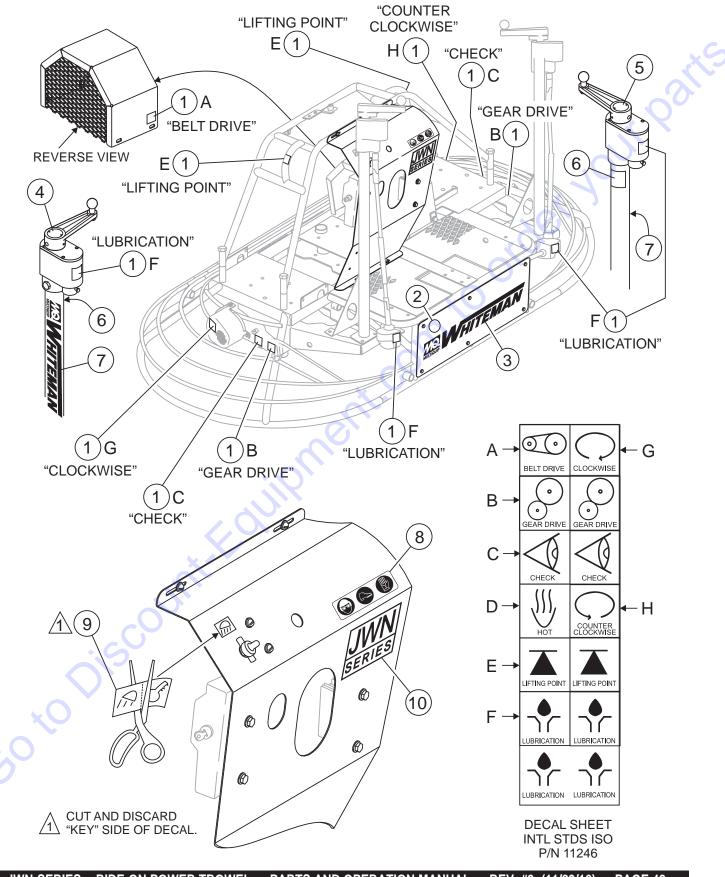
Qty.	P/N	Description
10	10031	. WASHER 1/4 IN.
1	12548	. SPRAY PUMP 💦 🗸 🧭
1	392292	. SPRAY NOZZEL 🛛 💎
1	2108	. CAP, SPRAY TANK
1	2673	. CIRCUIT BREAKER 30A, 12V
1	4682	. TOGGLE SWITCH
1	8381	. BOOT, TOGGLE SWITCH
1	2655	. HOUR METER
1	12005	. SAFETY-OFF ("KILL" SWITCH)
1	12018	. CONNECTOR, RELAY
1	12017	. RELAY, ("KILL" SWITCH)
1	16910ZE8015	. FUEL FILTER
1	17210ZJ1841	. AIR FILTER ELEMENT
1	15410ZJ4999AH	OIL FILTER
2	9807952876	. SPARK PLUG - NGK
1	15611MB0000	. OIL FILTER CAP
1	17218Z51840	. FILTER, OUTER, AIR



 $\bigotimes$  Part numbers on this Suggested Spare Parts List may supersede/replace the P/N shown in the text pages of this book.

### JWN-SERIES — NAMEPLATE AND DECALS

#### NAMEPLATE AND DECALS



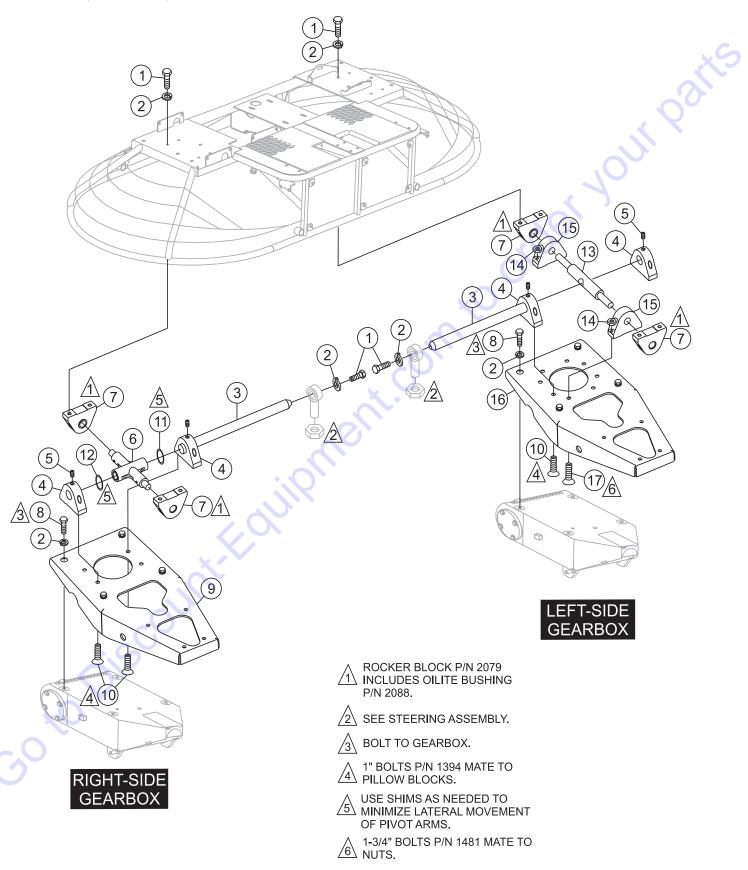
# JWN-SERIES — NAMEPLATE AND DECALS

### NAMEPLATE AND DECALS

NO. 1 2 3 4 5 6 7 8 9 10	PART NO. 11246 13118 10818 2300 2332 2634 1499 11247 2814 20204	PART NAME DECAL SET, INTERNATIONAL STDS DECAL, POWDER COATED DECAL, MQ-WHITEMAN 24 X 3 DECAL, AL PITCH RH DECAL, AL PITCH LH DECAL, SPRING SAFETY DECAL, MQ-WHITEMAN RED/TOWER DECAL, SAFETY CLOTHING DECAL, CONTROL PANEL DECAL, JWN SERIES	QTY. 1 1 1 1 2 2 1 1 1	REMARKS	
GO	oisco	unt-fouilpment.			
		ON POWER TROWEL — PARTS AND OPERATIC	DN MANUAL — F	REV. #9 (11/29/16) — PAGE 43	

# JWN-SERIES - PIVOT ASSY. (RIGHT/LEFT)

### PIVOT ASSY. (RIGHT/LEFT)



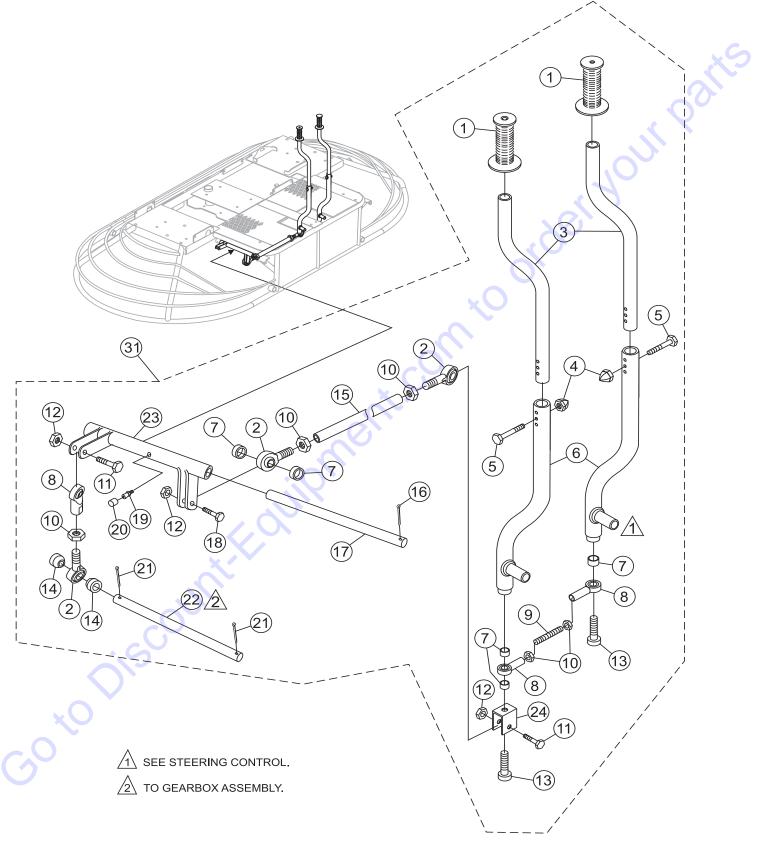
### JWN-SERIES— PIVOT ASSY. (RIGHT/LEFT)

### PIVOT ASSY. (RIGHT/LEFT)

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	PART NO.         1023         0166A         2824         20040         10138         2044         2079         4196         20011         1394         11772         11773         2076         10133         10973         20004         1481	PART NAME SCREW, HHC 3/8- 16 X 1-1/4 WASHER, LOCK, 3/8 MED. BAR, 1" CONTROL PIVOT ROCKER BLOCK, 1.0 HOLE SCREW, SHS 5/16- 18 X 5/16 ARM, PIVOT RIGHT HAND ROCKER BLOCK WITH BUSHING SCREW, HHC 3/8- 16 X 3/4 PLATE, GEARBOX ADAPTOR, RIGHT SCREW, FHSC 3/8- 16 X 1 SHIM TRUNNION .031 THK PIVOT TUBE NUT, NYLOC 3/8- 16 ROCKER BLOCK PLATE, GEARBOX ADAPTOR, LEFT SCREW, FHSC 3/8- 16 X 1- 3/4		REMARKS
Go		uniteduinent		
JV	NN- SERIES • RIDE-(	ON POWER TROWEL — PARTS AND OPE	RATION MANUAL — RE	V. #9 (11/29/16) — PAGE 45

# JWN-SERIES — STEERING HANDLES ASSY. (LEFT/RIGHT)

### STEERING HANDLES ASSY (LEFT/RIGHT)



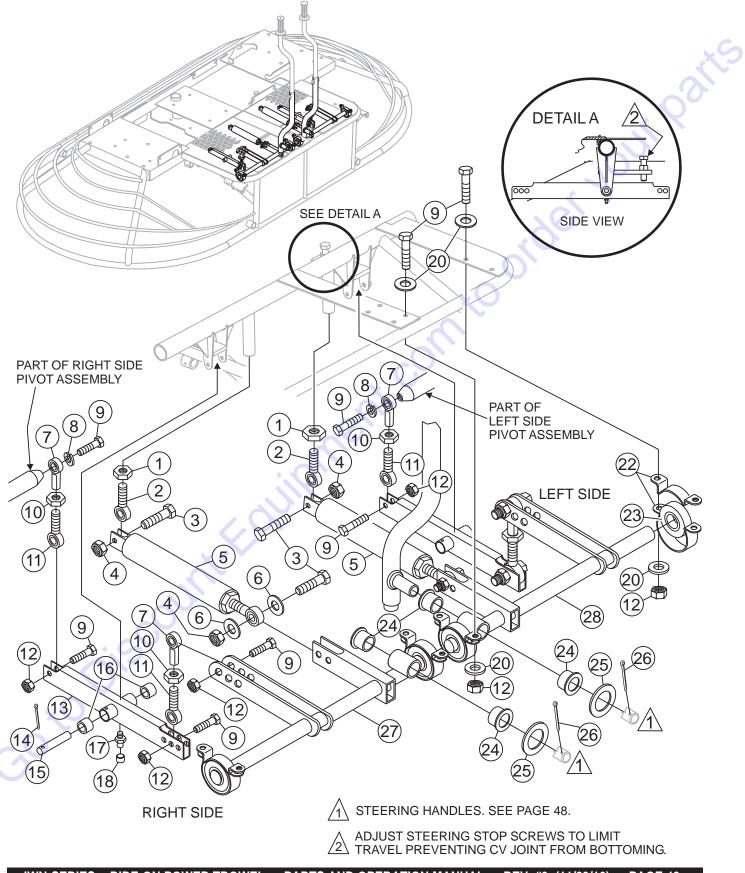
### JWN-SERIES - STEERING HANDLES ASSY. (LEFT/RIGHT)

### STEERING HANDLES ASSY (LEFT/RIGHT)

<u>NO.</u>	PART NO.	PART NAME	QTY.	REMARKS
1*	0189	GRIP, HANDLE	2	<u>ILEMAINO</u>
2*	2063	ROD END, 3/8-24 MALE RH	3	G
3*	10130-1	HANDLE, TUBE	2	22
4*	2197	NUT, ACORN, 1/4-20	2	
4^ 5*	0424	SCREW HHC 1/4-20 X 1-1/4	2 2 2	20
5× 6*	11079-1	HANDLE, STEERING, LOWER	2	
0× 7*	2196	SPACER, 1/2 X .402 X 1/4L	2 3	
8*	2064	ROD END, 3/8-24 FEMALE RH	2	
9*	11498	THREADPIECE, 3/8-24 X 4	2	$\sqrt{O}$
10*	2199	NUT, HEX JAM 3/8-24	5	
11*	1284	SCREW, HHC 3/8-16 X 1-1/2	2	
12*	10133	NUT, NYLOC 3/8-16	2	6
13*	11089	SCREW, SHC 3/8-16 X 2 PLTD	2	
14*	2188	SPACER, 3/4 X 25/64 X .800L	2	
15*	11513	ROD, 9 1/2 L/R LINKAGE	1	
16*	2219	PIN, COTTER 1/8 X 1-1/2		
17*	11497	SHAFT, L/R MOTION LEVER		
18*	1665	SCREW, HHC 3/8-16 X 2		
19*	5228	ZERK, GREASE 45, 1/4-28 LONG		
20*	1162A	CAP, GREASE ZERK #2 YELLOW 🤇	1	
21*	0183	PIN, COTTER 1/8 X 1-1/4	2	
<u>22</u> *	3550	PIN, 3/8 DIA X 5 7/8 LONG	1	
23*	11441	MOTION CONTROL, RIGHT/LEFT	1	
24*	11303	BRACKET, L/R MOTION ROD	1	
31	7798-1	STEERING ASM, W/BEARINGS		INCLUDES ITEMS W/*
	. 50	untfoldin		
Got	Disco			
JWN	- SERIES • RIDE-O	N POWER TROWEL — PARTS AND OPE	RATION MANUAL — RI	EV. #9 (11/29/16) — PAGE 47

# JWN-SERIES — STEERING CONTROL ASSY. (LEFT/RIGHT)

### STEERING CONTROL ASSY. (LEFT/RIGHT)



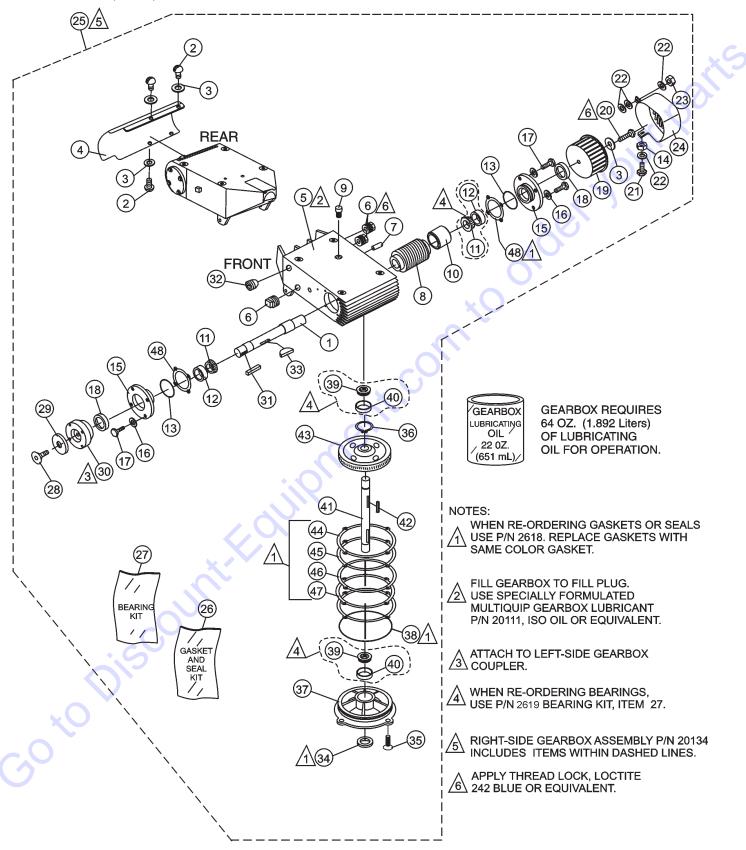
### JWN-SERIES — STEERING CONTROL ASSY. (LEFT/RIGHT)

### STEERING CONTROL ASSY. (LEFT/RIGHT)

<u>NO.</u> 1	<b>PART NO.</b> 11146	PART NAME NUT, HEX JAM 1/2-20 PLTD	<u>QTY.</u> 2	REMARKS	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 22 23 24 25 26 27 28	11142 EM963105 10176 12625 0447 2064 0166A 1023 2199 2063 10133 11071 6014B 11275 11072 5228 1162A 10136 11138 11149 12408 11265 2219 12651 12650	ROD END, 1/2-20 MALE RH SCREW, HHC 1/-13 X 2 NUT, NYLOC 1/2-13 ASSIST ASSEMBLY, STEERING WASHER, FLAT 1/2 SAE ROD END, 3/8-24 FEMALE RH WASHER, LOCK 3/8 MED SCREW, HHC 3/8-16 X 1-1/4 NUT, HEX JAM 3/8-24 ROD END, 3/8-24 MALE RH NUT, NYLOC 3/8-16 LEVER, STEERING CONTROL PIN, COTTER 3/32 X 1 PIN, 3/8 X 3 DIA CHN 100-2 BEARING, TORRINGTON JT69 ZERK, GREASE 45, 1/4-28 LONG CAP, GREASE ZERK #2 YELLOW WASHER, FLAT 3/8 SAE BEARING, HSG P-BLOCK 47MPB (2PC BEARING, SB-204-12 BUSHING, GARLOCK 12FDU12 WASHER, STEERING HANDLE PIN, COTTER 1/8 X 1-1/2 STEERING CONTROL RS ASSIST STEERING CONTROL LS ASSIST	2 4 4 2 4 4 2 16 4 4 6 2 2 2 4 2 2 4 2 2 16	REPLACES P/N 6159A	aits
Go					

# JWN-SERIES — GEARBOX ASSY (RIGHT)

GEARBOX ASSY. (RIGHT)

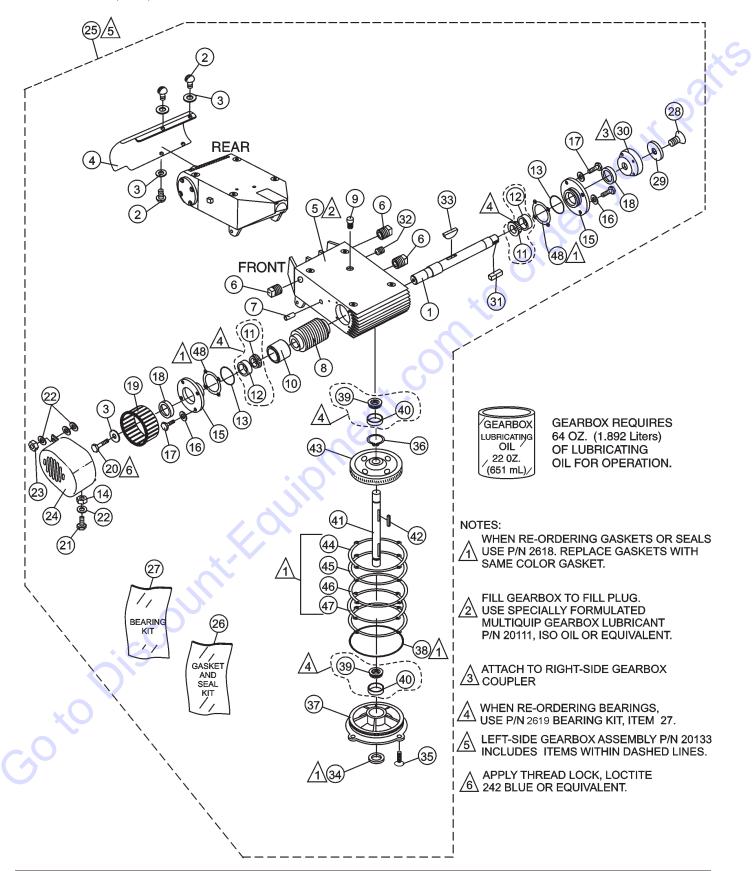


# JWN-SERIES — GEARBOX ASSY (RIGHT)

	X ASSY. (RIGHT)		OTV	
	PART NO.	PART NAME	<u>QTY.</u>	<u>REMARKS</u>
	20065	SHAFT, GEARBOX INPUT W/FAN	1	
	5031A	SCREW, RHM 1/4- 20 X 1/2	4	C
	0948	WASHER, FLAT, 1/4 SAE	5	× 2
	12981	SHROUD, GB FIN COVER, RIGHT	1	
	20353	GEAR BOX 1-1/8 SHAFT	1	
	0121A	FITTING, PLUG 3/8MP SQUARE HEAD	3	
	10989	STUD, N10- 32 X 3/4	1	× ×
	12908	RIGHT HAND WORM	1	
	1132	VENT, AIR	1	
	12583	SPACER, X 11D X 1.168L	1	
	9045	BEARING, CONE TIMKEN #1986	1	
	0232A	BEARING, CUP, TIMKEN #1932	1	
	2309	O-RING, 2-13/16" VINTON	1	6
14%	0937	NUT, HEX #10- 32	1	
	2307	FLANGE, COUNTERSHAFT	1	
16%	10031	WASHER, EXT SHKP 1/4	8	
17%	2295	SCREW, HHC 1/4- 20 X 7/8	8	
18%	12909	SEAL, OIL, NATIONAL #471689V	1	
19%	10921	FAN, RIGHT SIDE	1	
20%	0424	SCREW, HHC 1/4- 20 X 1-1/4	1	
21%	19477	SCREW, HHC, WASHER 10- 32 X 1/2	1	
22%	2203	WASHER, FLAT #10 SAE	5	
	10019	NUT, NYLOC 10- 32	1	
	10894	RIGHT SIDE FAN COVER	1	
	20134	GEARBOX ASSY., RS W/FAN	1	INCLUDES ITEMS W/%
	2618	GASKET AND SEAL KIT		
	2619	BEARING KIT		
	1313	SCREW, FHSC 3/8- 24 X 3/4 PLAIN	1	
	9120	RETAINER, DRIVEN PULLEY	1	
	2048	COUPLER- 7/8" ID	1	
	2323	KEY, 1/4 X 1/4 X 13/16	1	
	10450	SCREW, SHS 10- 32 X 1/4	1	
	1139	KEY, WOODRUFF #21 HARDENED	1	
	9041	SEAL, 1-1/8 DIA NAT # 471763V	1	
	1146	SCREW, FHS 5/16- 18 X 1 NYLOC	1	
			4	
	1138	RING, SNAP TRUARC #5100- 112	1	
	9036	COVER, GEARBOX 1-1/8 SHAFT	4	
	9038	O-RING, A- 264 VITON	1	
	0232	BEARING, CONE TIMKEN #15126	2	
	0232A	BEARING, CUP, TIMKEN #1932	2	
	20013	SHAFT, OUTPUT HD GEARBOX	1	
	9180	KEY, 5/16 X 2-1/4 HRDND	1	
	9181	GEAR, WORM RH. HD	1	
44%		GASKET, RED		
45%		GASKET, GREEN		
46%		GASKET, BLUE		
47%		GASKET, BROWN	1	SOLD AS KIT ONLY
48%		GASKET, YELLOW		SOLD AS KIT ONLY
49	20111	OIL, MOBIL SHC 634 ISO VG640 6	4 OZ	

# JWN-SERIES — GEARBOX ASSY. (LEFT)

GEARBOX ASSY. (LEFT)

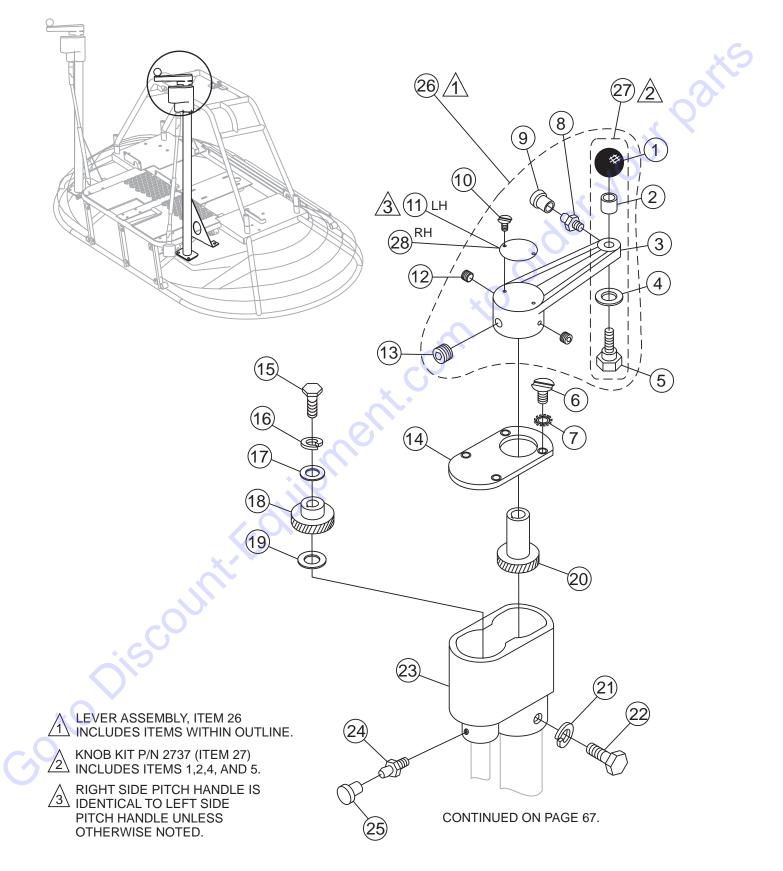


# JWN-SERIES — GEARBOX ASSY. (LEFT)

	( ASSY. (LEFT) <b>PART NO.</b>	PART NAME	QTY.	REMARKS
	20065	SHAFT, GEARBOX INPUT W/FAN	1	<u>=</u>
	5031A	SCREW, RHM 1/4- 20 X 1/2	4	
	0948	WASHER, FLAT, 1/4 SAE	5	
	12982	SHROUD, GB FIN COVER, LEFT	1	
	20353	GEAR BOX 1-1/8 SHAFT	1	
	0121A	FITTING, PLUG 3/8MP SQUARE HEAD	3	20
	10989	STUD, N10- 32 X 3/4	1	
	12907	LEFT HAND WORM	1	
	1132	VENT, AIR	1	
			1	
	12583	SPACER, X 11D X 1.168L	1	
	9045	BEARING, CONE TIMKEN #1986	1	
	0232A	BEARING, CUP, TIMKEN #1932	1	
	2309	O-RING, 2-13/16" VINTON	1	0
	0937	NUT, HEX #10- 32	1	
	2307	FLANGE, COUNTERSHAFT	1	
	10031	WASHER, EXT SHKP 1/4	4	
	2295	SCREW, HHC 1/4- 20 X 7/8	4	
18% <sup>·</sup>	12909	SEAL, OIL, NATIONAL #471689V	1	
19% <sup>·</sup>	10922	FAN, LEFT SIDE	1	
20% (	0424	SCREW, HHC 1/4- 20 X 1-1/4	1	
21%	19477	SCREW, HHC, WASHER 10- 32 X 1/2	1	
22% 2	2203	WASHER, FLAT #10 SAE	5	
23%	10019	NUT, NYLOC 10- 32	1	
	10893	LEFT SIDE FAN COVER	1	
	20133	GEARBOX ASSY., LS W/FAN	1	INCLUDES ITEMS W/%
	2618	GASKET AND SEAL KIT		
	2619	BEARING KIT		
	1313	SCREW, FHSC 3/8- 24 X 3/4 PLAIN	1	
	9120	RETAINER, DRIVEN PULLEY	1	
	2048	COUPLER- 7/8" ID	1	
	2323	KEY, 1/4 X 1/4 X 13/16	1	
	10450		1	
		SCREW, SHS 10- 32 X 1/4	1	
	1139	KEY, WOODRUFF #21 HARDENED	1	
	9041	SEAL, 1-1/8 DIA NAT # 471763V	1	
	1146	SCREW, FHS 5/16- 18 X 1 NYLOC	4	
	1138	RING, SNAP TRUARC #5100- 112	1	
	9036	COVER, GEARBOX 1-1/8 SHAFT	1	
	9038	O-RING, A-264 VITON	1	
	0232	BEARING, CONE TIMKEN #15126	2	
	0232A	BEARING, CUP, TIMKEN #1932	2	
	20013	SHAFT, OUTPUT HD GEARBOX	1	
	9180	KEY, 5/16 X 2-1/4 HRDND	1	
43%	2001	GEAR, WORM LH. HD	1	
44%#		GASKET, RED	1	SOLD AS KIT ONLY
45%#		GASKET, GREEN		
46%#		GASKET, BLUE		
47%#		GASKET, BROWN		
48%#		GASKET, YELLOW		
	20111	,	4 OZ	

### JWN-SERIES — TWIN PITCH HANDLE ASSY. (LEFT/RIGHT)

### TWIN PITCH HANDLE ASSY. (LEFT/RIGHT)



### JWN-SERIES — TWIN PITCH HANDLE ASSY. (LEFT/RIGHT)

### TWIN PITCH HANDLE ASSY. (LEFT/RIGHT)

NO	PART NO	PART NAME	QTY.	<u>REMARKS</u>
1 #\$	4403	CRANK KNOB	1	
2 #\$	3231	SPACER	1	5
3 #	1615	CRANK LEVER	1	
4 #\$	1733	HARDENEDWASHER	1	
5 #\$	1616	SHOULDER BOLT	1	
6 +%	2620	SCREW, BHC 10 – 24 X 5/8	4	× ×
7	10114	WASHER, EXT. SHKP, #8	4	
8	2621	FITTING GREASE	1	
9	1162A	CAP, GREASE ZERK/2	1	
10 #	4014	SCREW, 2-3/16 P-K TYPE U DRIVE	2	
11	2300	DECAL, AL PITCH, RH	1	
12 #	1528	SCREW, SHSS 1/4 – 20 X 5/16"	2	
13 #	0185	SCREW, SHSS 3/8 – 16 X 3/8"	1	
14 +%	2649	COVER, PITCH CONT HOUSING	1	$\mathbf{O}$
15 +%	1579	SCREW, HHC 1/4 – 20 X 1/2	1	
16 +%	0181 B	WASHER, LOCK, 1/4 MED	4	
17 +%	0948	WASHER, FLAT, 1/4 SAE	1	
18 +%	1530	GEAR, SLAVE, TPC		
19 +%	1733	WASHER, 1/32 X 1/2 HARDENED (	8	
20 +%	1529	GEAR, MASTER, TPC	1	
21 +%	0161C	WASHER, LOCK 5/16 MED 🔪 🔀	1	
22 +%	0655	SCREW, HHC 5/16 – 18 X 3/4	1	
23 +%	10546	HOUSING, PITCH CONTROL, 1-3/4	1	
24 +%	2621	ZERK, GREASE STR 1/4 – 28	1	
25 +%	1162 A	CAP, GREASE ZERK	1	
26	1617	LEVER ASSY., TROWEL ADJUSTMEN	NT 1	INCLUDES ITEMS W/#
27	2737	KNOB, KIT		
28	2332	DECAL, AL PITCH, LH	1	

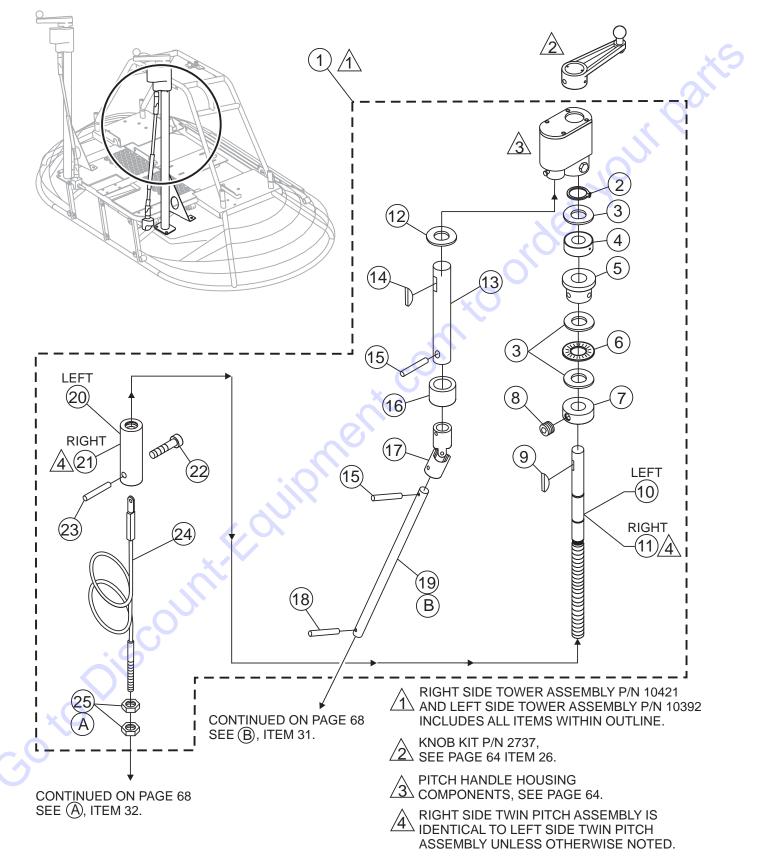
NOTE 1: ITEMS WITH % ARE PART OF TWIN PITCH ASSY. RIGHT SIDE ITEMS WITH + ARE PART OF TWIN PITCH ASSY. LEFT SIDE

~×C

NOTE 2: INDICATED QUANTITIES ARE FOR ONE PITCH TOWER. IF ORDERING FOR TWO PITCH TOWERS DOUBLE THE QUANTITY.

### JWN-SERIES — TWIN PITCH TOWER ASSY. (LEFT/RIGHT)

### TWIN PITCH TOWER ASSY. (LEFT/RIGHT)



# JWN-SERIES — TWIN PITCH TOWER ASSY. (LEFT/RIGHT)

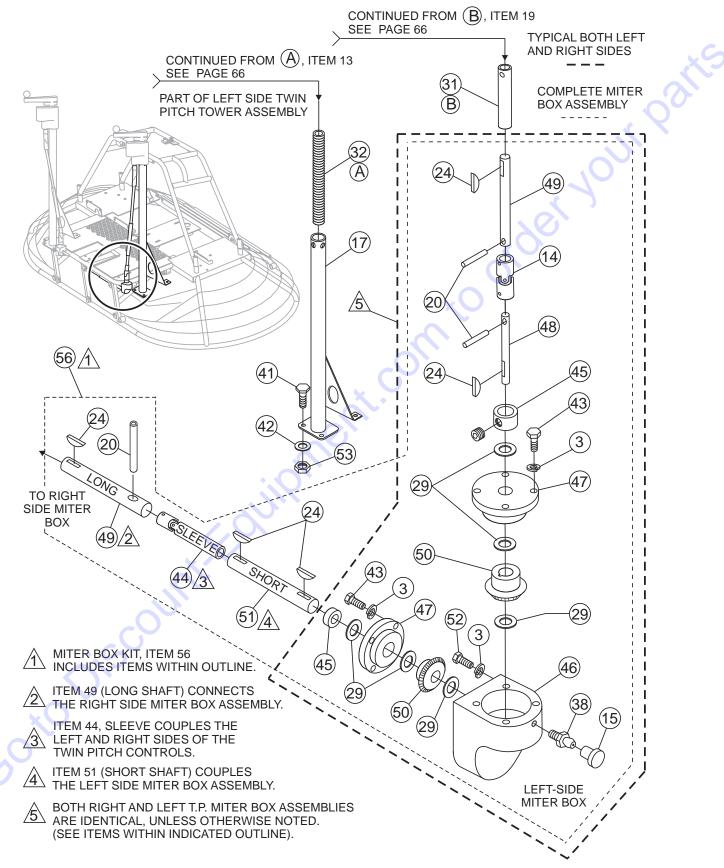
### TWIN PITCH TOWER ASSY. (LEFT/RIGHT)

NO 1 (LT) 1 (RT) 2 +% 3 +% 4 +% 5 +% 6 +% 7 +% 8 +% 9 +% 10 + 11 %	10421 10512 2170 1604 1612 2169 2367 0685 0126 B	PART NAME TOWER ASSY., LEFT TPC TOWER ASSY., RIGHT TPC RING, SNAP, TRUARC 5160 – 75 BEARING, RACE, TORR #TRA 1220 BEARING, BALL BEARING, ALUM – PITCH CONTR BEARING, THRUST, TORR #NTA 1220 SET COLLAR SCREW, SHS 5/16-18 X 5/16 KEY, WOODRUFF #9 SHAFT, PITCH CONTROL, LH TPC SHAFT, PITCH CONTROL, RH TPC	1 IN( 1 3 1 1 1 IN( 1 1 1 LE	CLUDES ITEMS W/+ CLUDES ITEMS W/% CLUDES ITEM 8 FT SIDE ONLY REPLACES 10511
12 +%		WASHER, 1/32 X 1/2 HARDENED	8	
13 +%	2007	SHAFT	1	0
14 +%	1578	KEY, WOODRUFF, #3	9 QT AS	Y. INCLUDES USAGE ON BOTH TWIN PITCH SEMBLIES, AND MITER BOX SHAFTS.
15 +%	11654	PIN, ROLL 1/8 X 1 PLATED	5 QT AS	SEMBLIES, AND MITER BOX SHAFTS. Y. INCLUDES USAGE ON BOTH TWIN PITCH SEMBLIES, AND MITER BOX SHAFTS.
16 +%	2311	SPACER, 3/4 X 1/2 X 0.8L	1	
17 +%	1536	U-JOINT, PITCH CONTROL	1	
18 +%	1586	PIN, ROLL 1/8 X 3/4	1	
19 +%	2023	SHAFT, PITCH CONTROL	1	
20 +	10722	SLIDE BLOCK, LH PITCH CONTROL	1 LE	FT SIDE ONLY
21 %	10721	SLIDE BLOCK, RH PITCH CONTROL	1 RI0	GHT SIDE ONLY
22 +%	10382	BOLT, SHOULDER 3/8 X 3/8 LONG	1	
23 +%	10723	PIN, SPIROL 3/16 X 1 3/8 HD	1	
24 +%	12460	CABLE, PITCH ASSY.	1	
25 +%	1116	NUT, BRASS JAM 5/16 – 18	2	

- NOTE 1: ITEMS WITH % ARE PART OF TWIN PITCH ASSY. RIGHT SIDE ITEMS WITH + ARE PART OF TWIN PITCH ASSY. LEFT SIDE
- NOTE 2: INDICATED QUANTITIES ARE FOR ONE PITCH TOWER. IF ORDERING FOR TWO PITCH TOWERS DOUBLE THE QUANTITY.

### JWN-SERIES—TWIN PITCH MITER BOX ASSY. (LEFT/RIGHT)

### TWIN PITCH MITER BOX ASSY. (LEFT/RIGHT)



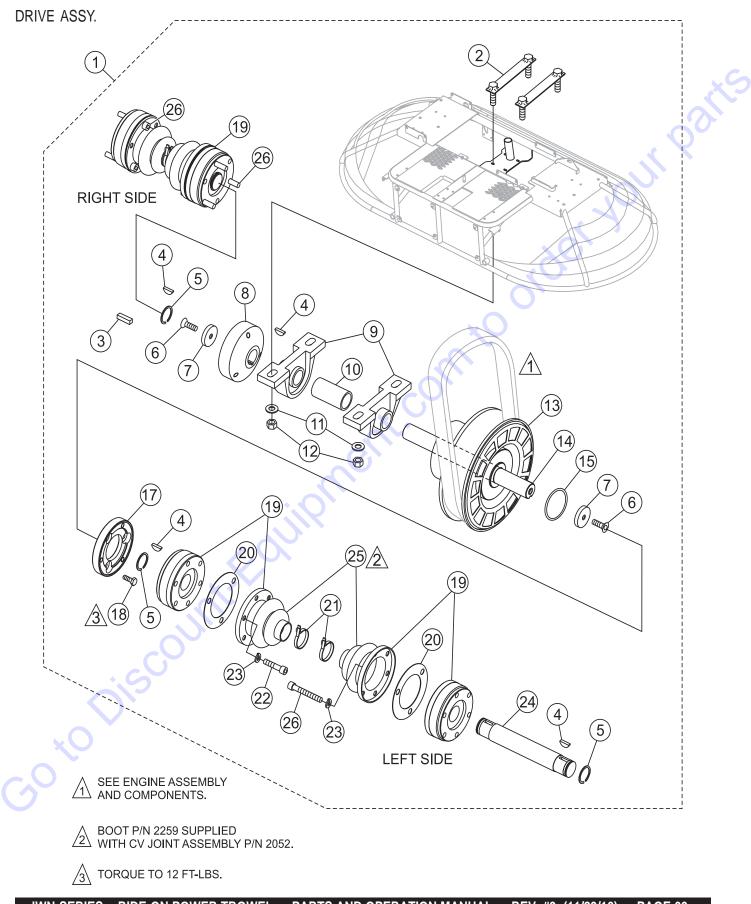
### JWN-SERIES—TWIN PITCH MITER (LEFT/RIGHT)

### TWIN PITCH MITER BOX ASSY. (LEFT/RIGHT)

<u>NO.</u> 3*+% 14*+%	<u>PART NO.</u> 0181B 1536	<u>PART NAME</u> WASHER, LOCK 1/4 MED U-JOINT, PITCH CONTROL	<u>QTY.</u> 20 2	REMARKS
15*+%	1162 A	CAP, GREASE ZERK	2	
17	10548	TUBE, PITCH CONTROL	1	
20*+%	1586	PIN ROLL 1/8 x 3/4	11	QTY INCLUDES USAGE ON BOTH TWIN PITCH
				ASSEMBLIES, AND MITER BOX SHAFTS.
24*+%	1578	KEY, WOODRUFF, #3	9	QTY INCLUDES USAGE ON BOTH TWIN PITCH
		· · · · · · · · · · · · · · · · · · ·		ASSEMBLIES, AND MITER BOX SHAFTS.
29*+%	1733	WASHER, 1/32 x 1/2 HARDEN	8	
31	2012	SLEEVE, ADJLONG RIDER	1	
32	2156	SPRING, COIL	1	
38*+%	2621	ZERK, GREASE STR 1/4-28	2	
41	0202	SCREW, HHC 5/16-18 x 1	4	
42	0300 B	WASHER, FLAT 5/16 SAE	4	<b>O</b>
43*	0730	SCREW, HHC 1/4-20 x 1	8	
44*	2104	SLEEVE W/U JOINT	1	
45*	1577	SET COLLAR, 1/2	2	
46*	1987	MITER BOX, PITCH CONTROL	. 1	
47*	1988	MITER BOX, BEARING CAP	2	)
48*	2021	SHAFT, MITER VERTICAL		
49*	2022	SHAFT, MITER	3	QTY INCLUDES USAGE ON BOTH TWIN PITCH
				ASSEMBLIES, AND MITER BOX SHAFTS.
50*	2062	GEAR, MITER	2	
51*	2821	SHAFT, MITER BOX HORIZ.	1	
52*	4514	SCREW, HHC 1/4-20 x 5/8	4	
53	5283	NUT, NYLOC 5/16-18	4	
56	11655	MITER BOX ASSEMBLY	1	INCLUDES ITEMS W/*

- NOTE 1: ITEMS WITH % ARE PART OF TWIN PITCH ASSY. RIGHT SIDE ITEMS WITH + ARE PART OF TWIN PITCH ASSY. LEFT SIDE
- NOTE 2: INDICATED QUANTITIES ARE FOR ONE PITCH TOWER. IF ORDERING FOR TWO PITCH TOWERS DOUBLE THE QUANTITY.

# JWN-SERIES — DRIVE ASSY.



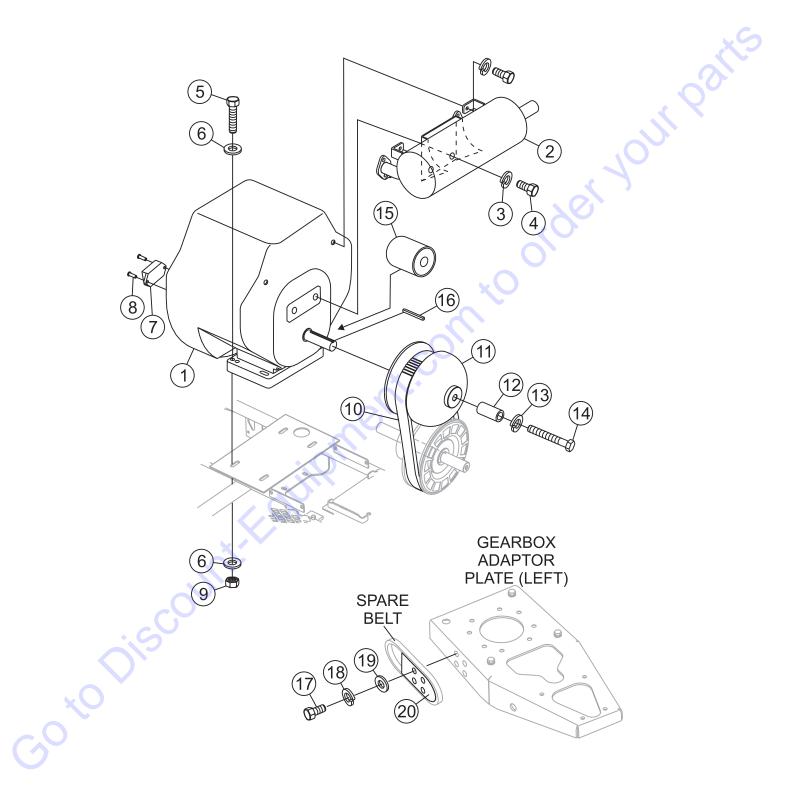
# JWN-SERIES — DRIVE ASSY.

### DRIVE ASSY.

1 2 2% 2 3% 1 4% 0 5% 2 6% 1 7% 2 8% 2	PART NO. 20077 20186 10909 0126 2090 1146 2037 2029	PART NAME DRIVE ASSEMBLY PLATE, BEARING MOUNT KEY, 3/16 X 11/16 KEY, WOODRUFF #9 RING, SNAP TRUARC #5100- 106 SCREW, FHSC 5/16- 18 X 1 NYLOC WASHER, RETAINING COUPLER, 1 ID. RIDER	<u>QTY.</u> 1 1 4 4 2 2 1	INCLUDES ITEMS W/%	Parts
10% 2 11% 1 12% 1 13% 2 14% 2 15% 2 17% 1 18% 2 19% 2 20% 1	10337 20076 10136 10133 20137 20069 20116 12590 20056 2052 11108 1662	BEARING, PILLOW BLOCK FAF YAK- 1 SPACER, BEARING SHAFT WASHER, FLAT 3/8 SAE NUT, NYLOC 3/8- 16 PULLEY, CVT LOWER COMET 302535C SHAFT, DRIVE BEARING O-RING, SIZE- 031 BUNA N COUPLER, CV JOINT COMET CLUTCH SCREW, HHC 1/4- 28 X 3/4 GRD. 8 JOINT, CV W/BOOT GASKET, CV JOINT BOOT TIE WRAP, CABLE BLACK	2 1 4 1 1 1 1 3 4 	INCLUDES ITEMS W/*	
22% () 23% () 24% 2 25%* 2 26% 2	0243 0161C 2071 2259 2186	SCREW, SHC 5/16- 18 X 1-3/4 WASHER, LOCK, 5/16 MEDIUM SHAFT, CV JOINT, 7.44LG BOOT, CV JOINT SCREW, SHC 5/16-18 X 2-1/4 PLTD	3 12 2 4 4		
Goto	OIS				

# JWN-SERIES — MUFFLER/BELT ASSY.

MUFFLER/BELT ASSY.



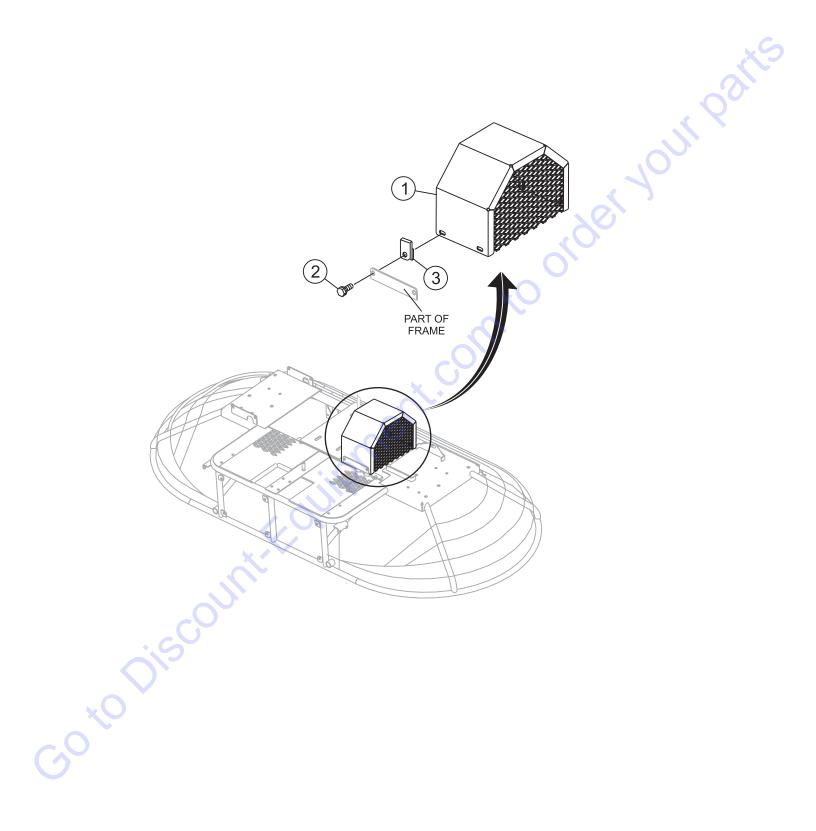
# JWN-SERIES — MUFFLER/BELT ASSY.

### MUFFLER/BELT ASSY.

NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	20216 20336 0160C 2299 0300A 19470 2655 8239 5283 20138 12877 20265 2955 20264 15410ZJ4999AH 300518C 0131A 0181B 0948 2429	KEY SCREW, HHC 1/4-20 X 3/4 WASHER, LOCK, 1/4 MED WASHER, FLAT 1/4 SAE HOLDER, SPARE BELT	QTY. 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1	REMARKS	Raits
	JWN- SERIES • RIDE-O	ON POWER TROWEL — PARTS AND OPERATIO	ON MANUAL -	— REV. #9 (11/29/16)	— PAGE 63

# JWN-SERIES — BELTGUARD ASSY.

BELT GUARD ASSY.

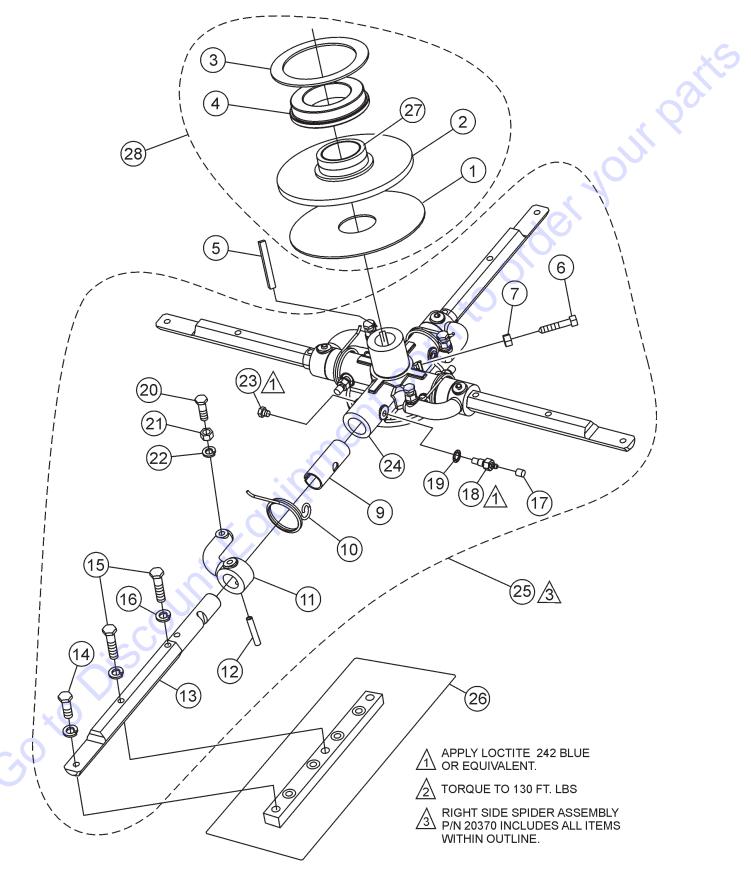


### JWN-SERIES — BELTGUARD ASSY.

JARD ASSY.		0 <b>.</b>	
<u>PART NO.</u> 20100 11819 11534	PART NAME BELT GUARD SCREW, HHC W/WASHER 1/4-20 X 3/4 NUT, U-TYPE 1/4-20	1 4	REMARKS
		C	sider your par
	× co	n.'0'	
	uilpment.		
ç	untrea		
Oisu			
11	11819 11534	20100         BELT GUARD           11819         SCREW, HHC W/WASHER 1/4-20 X 3/4           11534         NUT, U-TYPE 1/4-20	20100 BELT GUARD 1 11819 SCREW, HHC W/WASHER 1/4-20 X 3/4 4 11534 NUT, U-TYPE 1/4-20 4

# JWN-SERIES — SPIDER ASSY. (RIGHT)

SPIDER ASSY. (RIGHT)



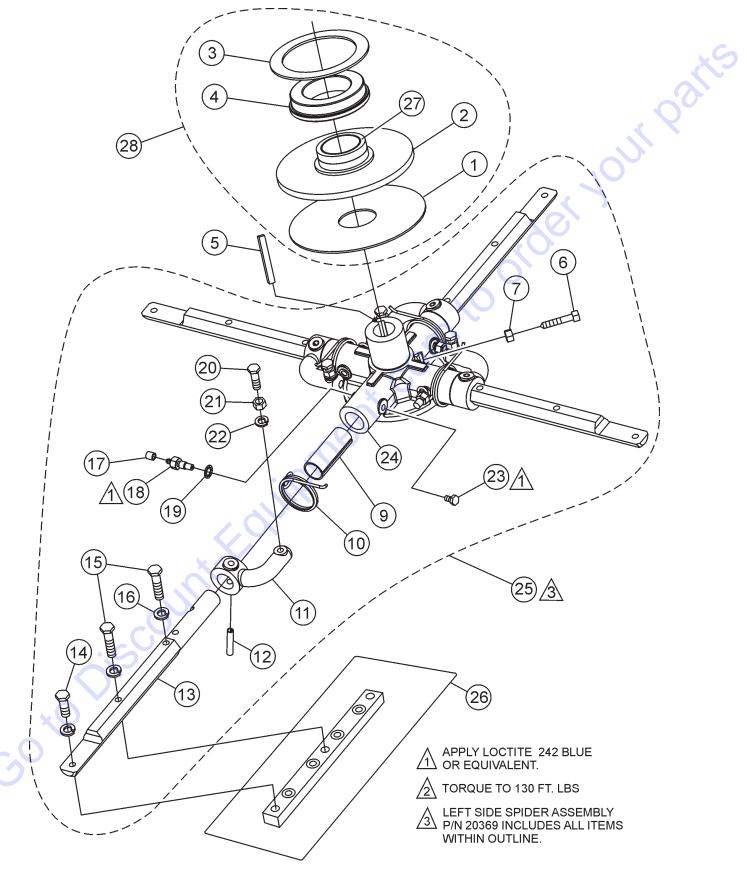
# JWN-SERIES — SPIDER ASSY. (RIGHT)

### SPIDER ASSY. (RIGHT)

	<u>NO.</u>	PART NO.		QTY.	REMARKS
	1%	1154A	PLATE, WEAR THRUST COLLAR	1	
	2%+	10793	THRUST COLLAR W/ BUSHING		. INCLUDES ITEMS W/+
	3%	12208	WEAR RING	1	
	4%	12778	BEARING, THRUST 6013 2RSW/ FLANGE	1	
	5	1141	KEY, 5/16 SQ. X 2-5/8	1	$\mathbf{O}^{\mathbf{v}}$
	6*	12097	SCREW, SQHS 3/8- 16 X 1-3/4 CONE 8	1	
	7*	1456	NUT, HEX FINISH 3/8- 16	1	
	9*	1157A	BUSHING, TROWEL ARM	4	
	10*	1317	SPRING, LH TROWEL ARM LEVER	4	
	11*	1555	LEVER, TROWEL ARM LEFT HAND	4	
	12*	4164	PIN, ROLL 5/16 X 1-3/4	4	
	13*	20408	ARM, TROWEL JWN RIGHT	4	
	14*	0202	SCREW, HHC 5/16-18 X 1	8	
	15*	0105	SCREW, HHC 5/16-18 X 1-1/2	16	
	16*	0161C	WASHER, LOCK, 5/16 MED	24	
	17*	1162A	CAP, GREASE ZERK #2	4	
	18*	1322	SCREW ASSY. , ARM RETAINING	4	
	19*	1875	WASHER, INT. SHKP. 3/8	4	
	20*	0164B	SCREW, TROWEL ADJUSTMENT	4	
	21*	1876	NUT, HEX JAM 3/8- 16 CLASS 2B	4	
	<u>22</u> *	0166A	WASHER, LOCK, 3/8 MEDIUM 🗙 🚬	4	
	23*#	11602	SCREW, HHC 3/8-16 X 1/4	4	. REPLACES P/N 2218
	24*#	12478	SPIDER, KIT	1	. INCLUDES ITEMS W/# PLUS
	25	20370	PLATE, SPIDER ASSEMBLY RIGHT SIDE BLADE ASSEMBLY	1	. INCLUDES ITEMS W/*
	26		BLADE ASSEMBLY	4	. CONTACT UNIT SALES DEPT./
					. ACCESSORY ITEM
	27+%	1471	THRUST COLLAR BUSHING	1	
	28%	10968	THRUST COLLAR KIT	1	. INCLUDES ITEMS W/%
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# JWN-SERIES — SPIDER ASSY. (LEFT)

SPIDER ASSY. (LEFT)



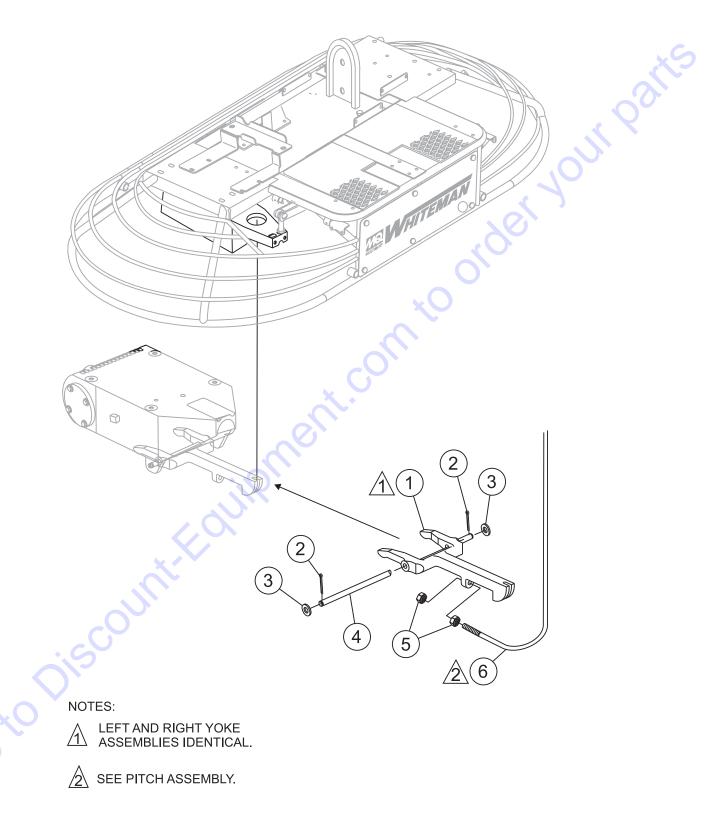
# JWN-SERIES — SPIDER ASSY. (LEFT)

### SPIDER ASSY. (LEFT)

<u>NO.</u>	PART NO.	PART NAME	<u>QTY.</u>	<u>REMARKS</u>
1%	1154A	PLATE, WEAR THRUST COLLAR	1	
2%+	10793	THRUST COLLAR W/ BUSHING	1	. INCLUDES ITEMS W/+
3%	12208	WEAR RING	1	
4%	12778	BEARING, THRUST 6013 2RSW/ FLANGE	1	
5	1141	KEY, 5/16 SQ. X 2-5/8	1	
6*	12097	SCREW, SQHS 3/8- 16 X 1-3/4 CONE 8	1	$\mathbf{X}$
7*	1456	NUT, HEX FINISH 3/8- 16	1	
9*	1157A	BUSHING, TROWEL ARM	4	
10*	1316	SPRING, RH TROWEL ARM LEVER	4	
11*	1163	LEVER, TROWEL ARM RIGHT HAND	4	5
12*	4164	PIN, ROLL 5/16 X 1-3/4	4	. 0.
13*	20409	ARM, TROWEL JWN LEFT	4	Xe
14*	0202	SCREW, HHC 5/16-18 X 1	8	
15*	0105	SCREW, HHC 5/16-18 X 1-1/2	16	
16*	0161C	WASHER, LOCK, 5/16 MED	24	
17*	1162A	CAP, GREASE ZERK #2	4	
18*	1322	SCREW ASSY. , ARM RETAINING	4	
19*	1875	WASHER, INT. SHKP. 3/8	4	
20*	0164B	SCREW, TROWEL ADJUSTMENT	4	
21*	1876	NUT, HEX JAM 3/8- 16 CLASS 2B	4	
22*	0166A	WASHER, LOCK, 3/8 MEDIUM 📉 🦷	4	
23*#	11602	SCREW, HHC 3/8-16 X 1/4	4	. REPLACES P/N 2218
24*#	12478	SPIDER, KIT	1	. INCLUDES ITEMS W/# PLUS
25	20369	PLATE, SPIDER ASSEMBLY LEFT SIDE BLADE ASSEMBLY	1	. INCLUDES ITEMS W/*
26				
				ACCESSORY ITEM
27+%		THRUST COLLAR BUSHING	1	
28%	10968	THRUST COLLAR KIT	1	. INCLUDES ITEMS W/%
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# JWN-SERIES — YOKE ASSY.

YOKE ASSY.



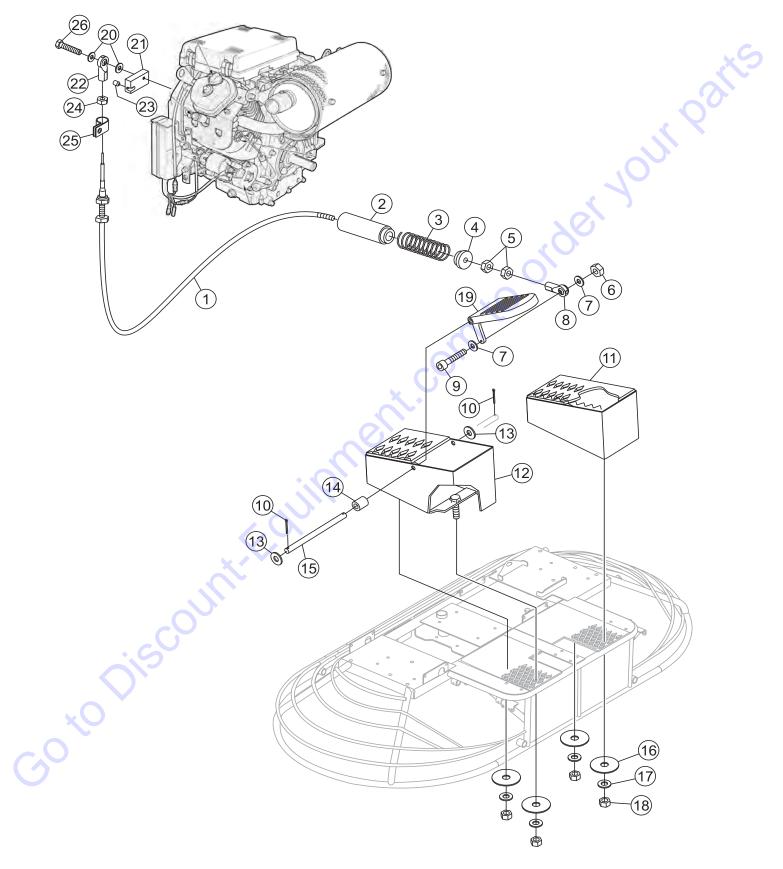
# JWN-SERIES — YOKE ASSY.

#### YOKE ASSY.

			JWN-SEF	RIES — YOKE ASSY.
YOKE         ASSY.           NO.         PART           1         9027           2         0683           3         10130           4         9028           5         1116           6         2008	T NO. YOKE PIN, COTTER 3, 6 WASHER, FLAT PIN, YOKE NUT, BRASS JA	3/8 SAE M 5/16-18	QTY. 2 4 4 2 4 2	REMARKS
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# JWN-SERIES — FOOT PEDALS/THROTTLE ASSY.

FOOT PEDALS/THROTTLE ASSY.

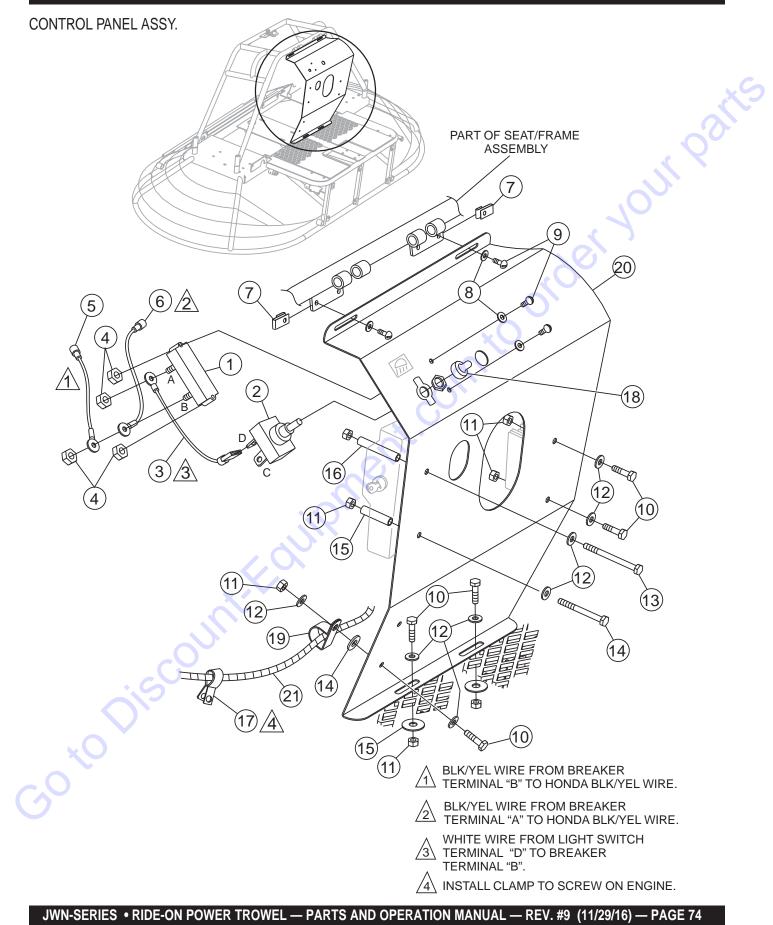


# JWN-SERIES — FOOT PEDALS/THROTTLE ASSY.

#### FOOT PEDALS/THROTTLE ASSY.

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	PART NO. 20348 2754 2753 2755 0937 10019 2203 2153 10018 6014B 12657-1 12656-1 10136 3083 2772 3233 0300B 5283 2086 2203 20335 2153 10450 0937 19473 3513	PART NAME CABLE, CONTROL 10-32 X 33 LONG ADAPTER, THROTTLE SPRING, LONG SPRING, THROTTLE RETURN ADAPTER, THROTTLE SPRING, SHORT NUT, HEX 10-32 ZINC PLTD NUT, NYLOC 10- 32 WASHER, FLAT #10 SAE ROD END, 10- 32 FEMALE RIGHT HAND SCREW, SHC 10- 32 X 1 PIN, COTTER 3/32 X 1 RISER, LEFT FOOT RISER, RIGHT FOOT WASHER, FLAT 3/8 SAE SPACER, 3/4 X 3/8 X 7/8 LONG PIN, ACCELERATOR PEDAL WASHER, FENDER 1.50D X 3/8 ID WASHER, FLAT 5/16 SAE NUT, NYLOC 5/16-18 PEDAL ACCELERATOR WASHER, FLAT #10 SAE LEVER, ENGINE CONTROL ROD END, 10-32 FEMALE RH SCREW, SHS 10-32 X 1/4 NUT, HEX 10-32 CLAMP, HOSE WORM #2 1/4 TO 5/8 SCREW, HHC 10-32 X 1	QTY. 1 1 1 2 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	REMARKS	Satts
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### JWN-SERIES — CONTROL PANEL ASSY.



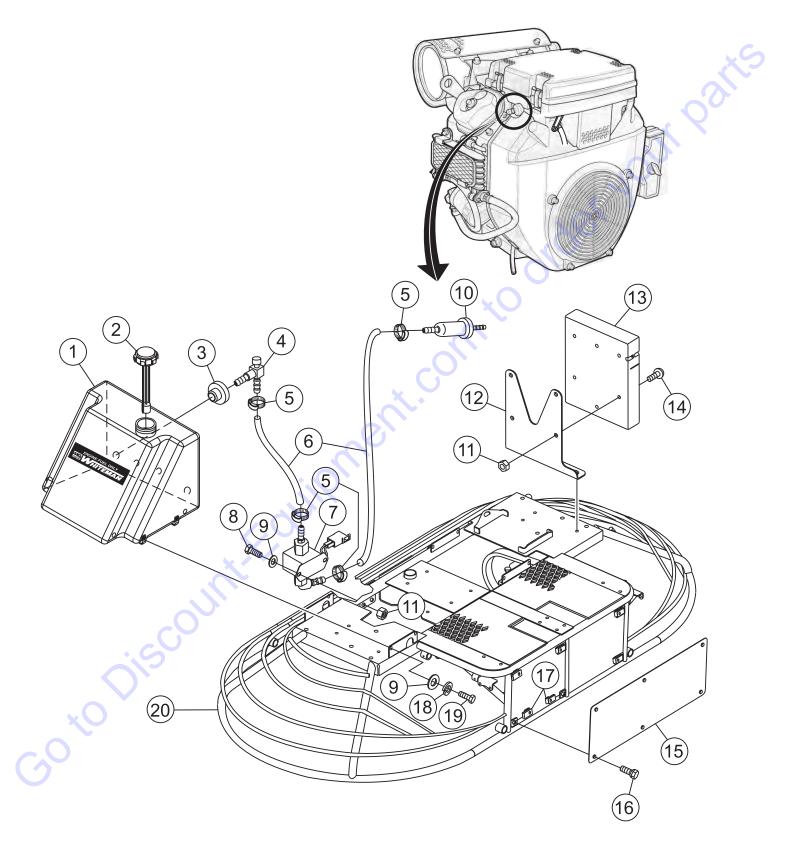
### JWN-SERIES — CONTROL PANEL ASSY.

#### CONTROL PANEL ASSY.

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	PART NO. 2673 4682 20344 10019 20342 20343 10284 2203 5065B 0730 10024 0948 19380 4538 20341 20340 8125 8381 11505 20339 20419	PART NAME CIRCUIT BREAKER, 30A, 12V SWITCH, TOGGLE ELECTRIC #9061 WIRE ASSEMBLY, 16 GA. X 5" NUT, NYLOC 10- 32 WIRE ASSEMBLY, 16 GA. X 10" LOCK PLATE, CLIP-ON 10-32 WASHER, FLAT #10 SAE SCREW, RHM 10- 32 X 1/2 SCREW, HHC 1/4- 20 X 1 NUT, NYLOC 1/4- 20 WASHER, FLAT, 1/4 SAE SCREW, HHC 1/4- 20 X 3 PLTD SCREW, HHC 1/4- 20 X 2-1/2 SPACER, .38 OD X .05 W X 2.19 CLAMP, HOSE SUPPORT, 5/8 BOOT, TOGGLE SWITCH CLAMP, HOSE SUPPORT 1/2 INCH LON CONTROL PANEL HARNESS, WIRE HONDA RIDER	QTY. 1 1 1 4 1 1 2 4 4 5 7 8 1 1 1 1 1 1 1 1 1 1 1 1 1	REMARKS
Gox				
JWL	I- SERIES • RIDE-C	ON POWER TROWEL — PARTS AND OPER	ATION MANUAL — R	EV. #9 (11/29/16) — PAGE 75

## JWN-SERIES — FRAME/FUEL ASSY.

FRAME/FUEL ASSY.



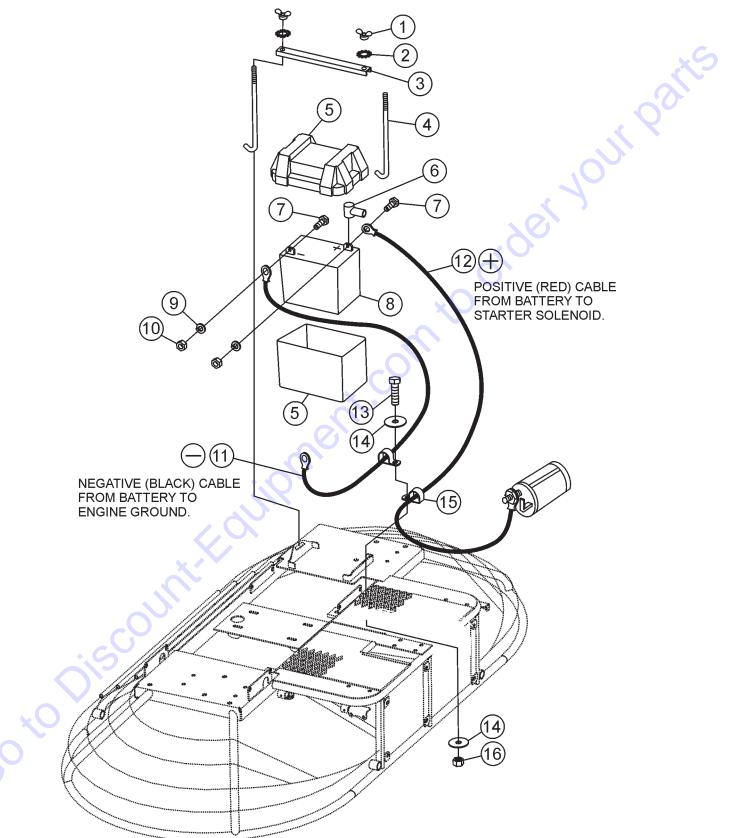
### JWN-SERIES — FRAME/FUEL ASSY.

#### FRAME/FUEL ASSY.

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	PART NO. 12404 11418 19633 TBD 19473 60013 20907 4514 0948 16910ZE8015 10024 20366 29057 12287 20943-1 11819 11534 0181B 4514 20014-1	PART NAME TANK, FUEL FIVE GALLON FUEL CAP/GAUGE (10.5) BUSHING, RUBBER FUEL FITTING, 90 4BARB- 4BARB FUEL CLAMP, WORM HOSE, #4 (1/4- 5/8 HOSE, RUBBER FUEL 0.25 ID FUEL PUMP ASSEMBLY SCREW, HHC 1/4-20 X 5/8 WASHER, FLAT, 1/4 SAE FILTER, FUEL NUT, NYLOC 1/4- 20 BRACKET, OP MANUAL BOX DOCUMENT BOX, (CP90007- 07) SCREW, THP 1/4- 20 X 3/4 SS FRONT PANEL SCREW, HHC, WASHER 1/4- 20 X NUT U-TYPE 1/4- 20 WASHER, LOCK, 1/4 MED SCREW, HHC 1/4- 20 X 5/8 FRAME	3) 3 2 1 2 6 1 4 1 4 1 4 1 4 1	REMARKS
	- SERIES • RIDE-ON	POWER TROWEL — PARTS AND OP	ERATION MANUAL — RE	EV. #9 (11/29/16) — PAGE 77

### JWN-SERIES — BATTERY ASSY.

BATTERY ASSY.



### JWN-SERIES — BATTERY ASSY.

#### BATTERY ASSY.

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	PART NO. 2509 10031 20356 20194 2449 2762 0131A 0181B 0949 12022 12675 2623 3233 11505 5283	PART NAME WING NUT, PLATED WASHER, EXT SHKP 1/4 BRACKET BATTERY HOLD- DOWN BOLT, BATTERY HOLD DOWN BOX, BATTERY GR UI BOOT, TERMINAL SCREW, HHC 1/4- 20 X 3/4 BATTERY, GR. UI WET W /TAG WASHER,LOCK, 1/4 MEDIUM NUT, HEX FINISH 1/4- 20 CABLE, NEG 20- 1/2 CABLE, POS. BATTERY, 36' ' SCREW, HHC 5/16- 18 X 1- 1/4 WASHER, FINDER 1.5 OD X 3/8 ID CLAMP, HOSE SUPPORT 1/2 INCH LONG NUT, NYLOC 5/16- 18	2 2 1 1 1 2	REMARKS
JWN		N POWER TROWEL — PARTS AND OPERA	TION MANU	AL — REV. #9 (11/29/16) — PAGE 79

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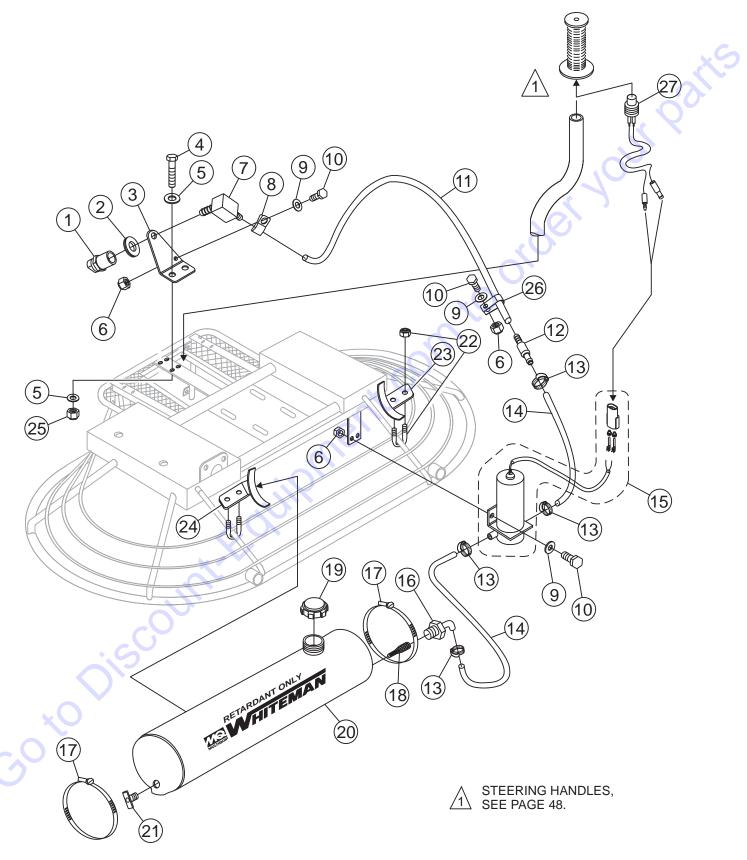
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# JWN-SERIES — SPRAY ASSY.

SPRAY ASSY.



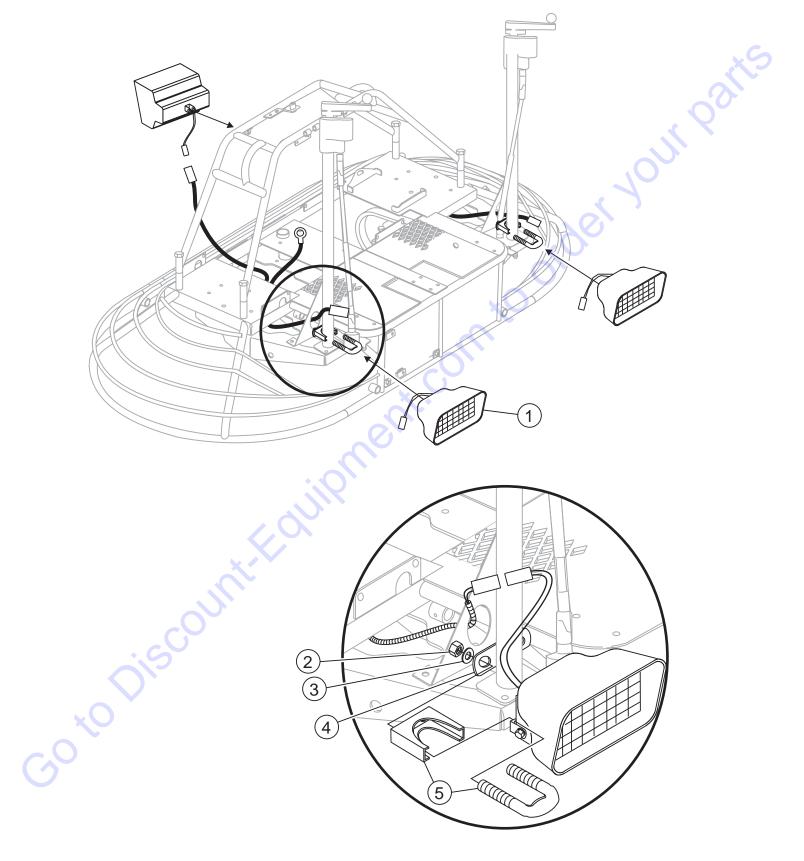
### JWN-SERIES — SPRAY ASSY.

#### SPRAY ASSY.

<u>NO.</u>	PART NO.		<u>QTY.</u>	REMARKS
	392292	NOZZLE, SPRAY		
2	2898	WASHER, BONDED NEOPRENE 1 X 1/2	1	*5
3	11222	MOUNT, SPRAY NOZZLE	1	
4	1023	SCREW, HHC 3/8-16 X 1 1/4	2	
5	10136	WASHER, FLAT 3/8 SAE	4	0
6	10024	NUT, NYLOC 1/4-20	4	
7	2912	FITTING, 90 4BARB-1/4FP	1	
8	8128	CLAMP, HOSE SUPPORT 5/16	1	
9	0948	WASHER, FLAT 1/4 SAE	4	O,
10	0131A	SCREW, HHC 1/4-20 X 3/4	4	
11	2914	HOSE, 1/4 ID		OLD IN FOOT LENGTHS
12	10022	FITTING, PLASTIC 6BARB-4BARB	0 1	
12	2918	CLAMP, HOSE .475536 ID	1	
			4	
14 15	2913	HOSE, 3/8 ID		OLD IN FOOT LENGTHS
15	12548	PUMP, SPRAY ASSY. SHURFLO 100-000-21	xQ	
16	2925	FITTING, PLASTIC 90 6BARB-3/8 MP		
17	2398	CLAMP, 6 1/2 HOSE SIZE 96	2	
18	2926	SCREEN, STRAINER	1	
19	2108	CAP, SPRAY TANK	1	
20	2916	TANK, WATER NPT BOSSES	1	
21	2478	DRAIN COCK	1	
22	2399	U-BOLT, 1 ID PLTD W/NUTS	2	
23	2887	MOUNT, TANK LEFT	1	
24	2886	MOUNT, TANK RIGHT	1	
25	10133	NUT, NYLOC 3/8-16	4	
26	8125	CLAMP, HOSE SUPPORT 5/8	1	
27	11430	SWITCH ASSY., SPRAY	1	
		<b>S</b>		
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C				
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# JWN-SERIES — LIGHT ASSY.

LIGHT ASSY.

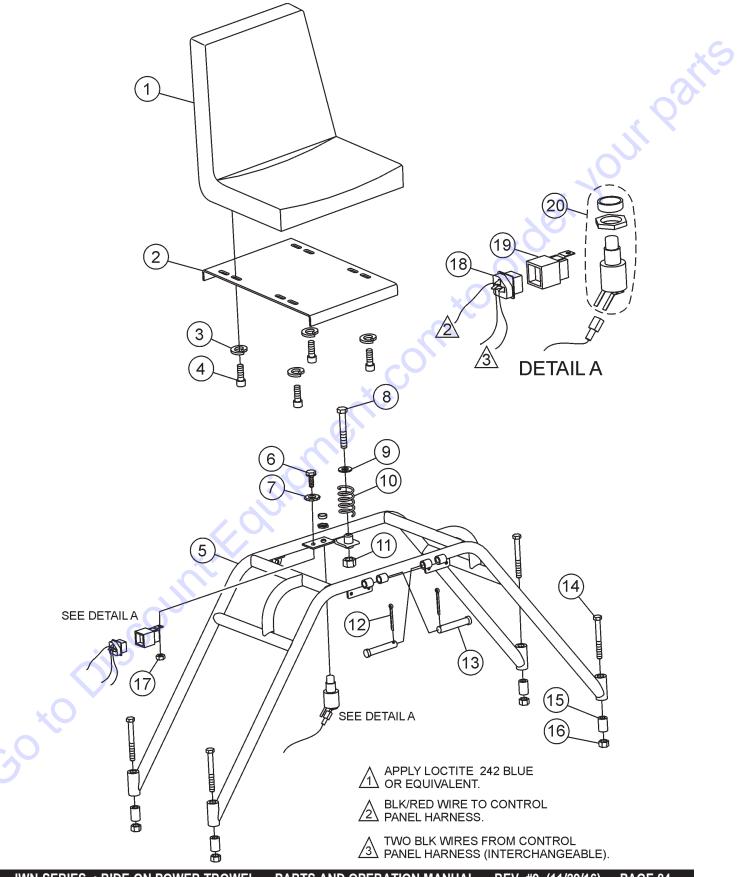


### JWN-SERIES—LIGHT ASSY.

	T ASSY.		071	
<u>NO.</u> 1 2 3 4 5	PART NO. 2896 5283 0300B 2531 2534	PART NAME LIGHT KIT ASSEMBLY NUT, NYLOC 5/16-18 WASHER, FLAT 5/16 SAE BRACKET, LIGHT SIDE CLAMP ASSEMBLY, MUFFLER 1-3/4	<u>QTY.</u> 3 4 2 2	REMARKS
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## JWN-SERIES — SEAT FRAME ASSY.

SEAT FRAME ASSY.



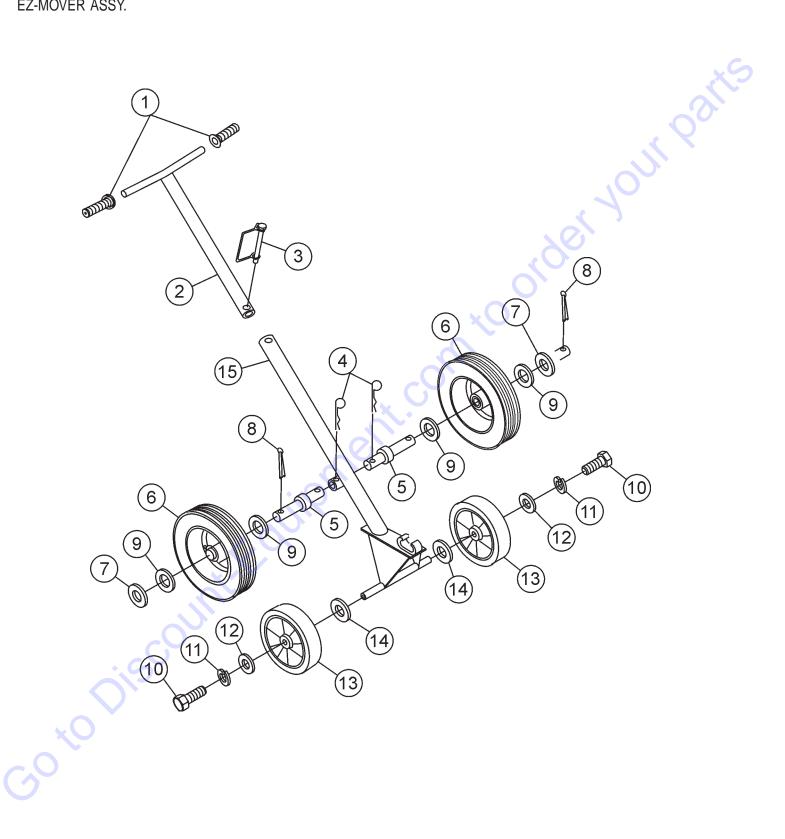
### JWN-SERIES — SEAT FRAME ASSY.

SEAT FRAME ASSY.

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14	PART NO. 2351 2421 0161C 1237 2889 11644 10237 8156 4001 11593 10133 0183 8081 10306	PART NAME SEAT SEAT PLATE WASHER, LOCK, 5/16 MEDIUM SCREW, SHC, 5/16- 18 X 7/8 NYLOC FRAME, SEAT SCREW, HHC, WASHER 10- 32 X 5/8 WASHER, EXT. SHKP, #10 SCREW, HHC 3/8- 16 X 2-1/2 WASHER, FLAT 3/8 PLTD STD. USS SPRING, THROTTLE RETURN NUT, NYLOC 3/8- 16 PIN, COTTER 1/8 1-1/4 PIN, CLEVIS 1/2 X 2.75 EFF. SCREW, HHC 1/2- 13 X 4-1/2	QTY. 1 4 4 1 1 1 1 1 1 2 2 4	REMARKS	j E
15 16 17 18 19 20	20346 10176 10019 12018 12017 12005	SPACER, .56 ID. X 1.00 OD X 1.5L NUT, NYLOC1/2-13 NUT, NYLOC 10-32 CONNECTOR, RELAY RELAY, KILL SWITCH, KILL COLE- HER #90036-02	4 4 1 1 1 1		
Gov	<b>DISCO</b>	unt-Fouipmen			
JWI	• SERIES • RIDE-C	ON POWER TROWEL — PARTS AND OPER	RATION MANUAL — RI	EV. #9 (11/29/16) — PAGE 8	5

## JWN-SERIES — EZ-MOVER ASSY.

EZ-MOVER ASSY.



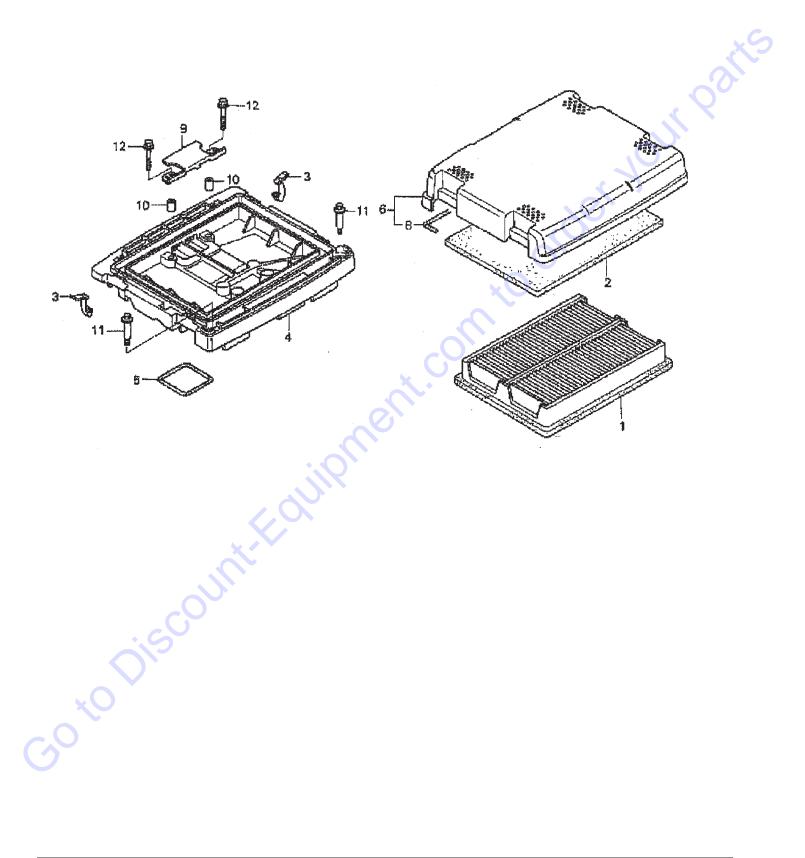
### JWN-SERIES — EZ-MOVER ASSY.

EZ-MOVER ASSY.

	<u>NO.</u>	PART NO.	PART NAME		<u>QTY.</u>	<b>REMARKS</b>	
	1	0189	HAND GRIP		2		
	2	2336	HANDLE, UPPER		1	×	
	3 4	1869 7170	PIN, SNAP CLIP		1 2		
	5	11684	AXLE, DOLLY		2		
	6	10440	WHEEL & TIRE		2		
	7 8	8151 0183	WASHER, FLAT 3/4 SAE PIN, COTTER		2 2 2 2		
	9	10446	WASHER, FLAT 3/4		4		
	10	0655	SCREW, HHCS 5/16-18 X 3/4		2		
	11 12	0161C	WASHER, LOCK 5/16		2	0	
	12	0300B 2364	WASHER, FLAT 5/16 WHEEL		2 2 2 2 2	er your par	
	14	4684	WASHER, FLAT 5/8		2		
	15	10445	FRAME		1		
	EZ-MO	VER ASSEMBLY	PURCHASE THROUGH DISCO	DUNT-EQUIPMI	ENT		
				~O`			
				G			
			C C				
			C)				
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		-0					
	x						
CA							
		Disco					
	.IWN-	SERIES . RIDE-O	N POWER TROWEL — PARTS AN	D OPERATION I	MANUAI — RE\	/ #9 (11/29/16) — PAGE 87	1

## HONDA GX-670 — AIR CLEANER ASSY.

AIR CLEANER ASSY.



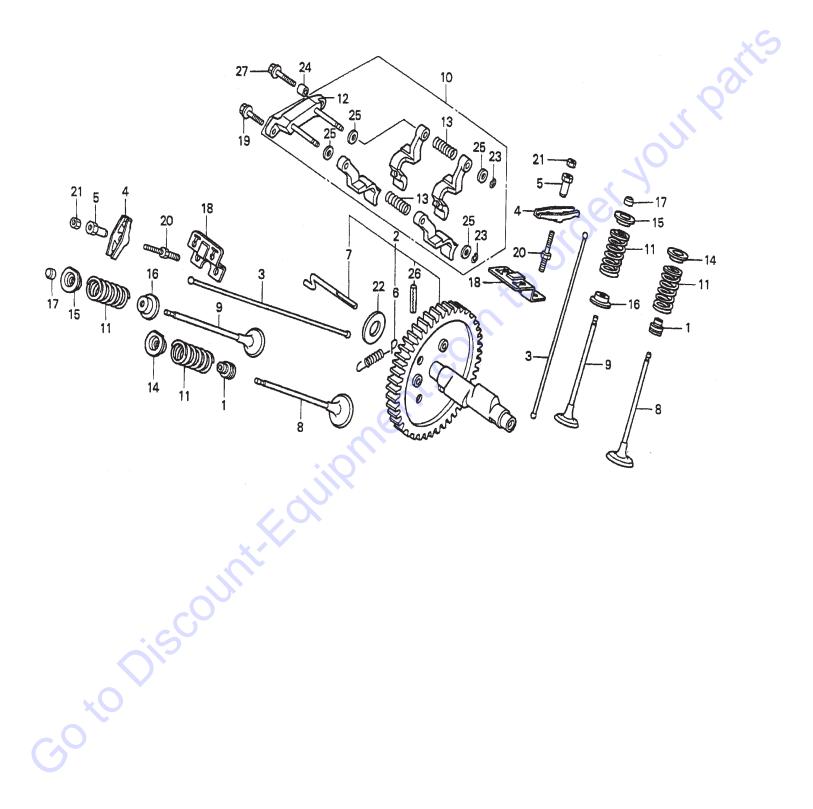
## HONDA GX-670 — AIR CLEANER ASSY.

#### AIR CLEANER ASSY.

	NO. 1 2 3 4 5 6 8 9 10 11 12	PART NO. 17210ZJ1841 17218ZJ1840 17219ZJ1840 17220ZN1000 17229ZN1000 17230ZJ1840 17233ZJ1840 17234ZJ1840 17238ZJ4830 90003ZJ1840 957010602800	PART NAME ELEMENT COMP., AIR CLEANER FILTER, OUTER CLIP, AIR CLEANER HOUSING COMP., AIR CLEANER SEAL, AIR CLEANER HOUSING COVER ASSEMBLY, AIR CLEANER SEAL, AIR CLEANER COVER PLATE, AIR CLEANER SETTING COLLAR A, AIR CLEANER BOLT, SPECIAL 5MM BOLT, FLANGE 6 X 28	QTY. 1 4 1 1 1 1 2 2 2	REMARKS	<b>P</b> 31
			int-Fouipment.	Sm to		
Ċ		- SERIES • RIDE-O	N POWER TROWEL — PARTS AND OPER	ATION MANUA	.L — REV. #9 (11/29/16) –	– PAGE 89

# HONDA GX-670 — CAMSHAFT ASSY.

CAMSHAFT ASSY.



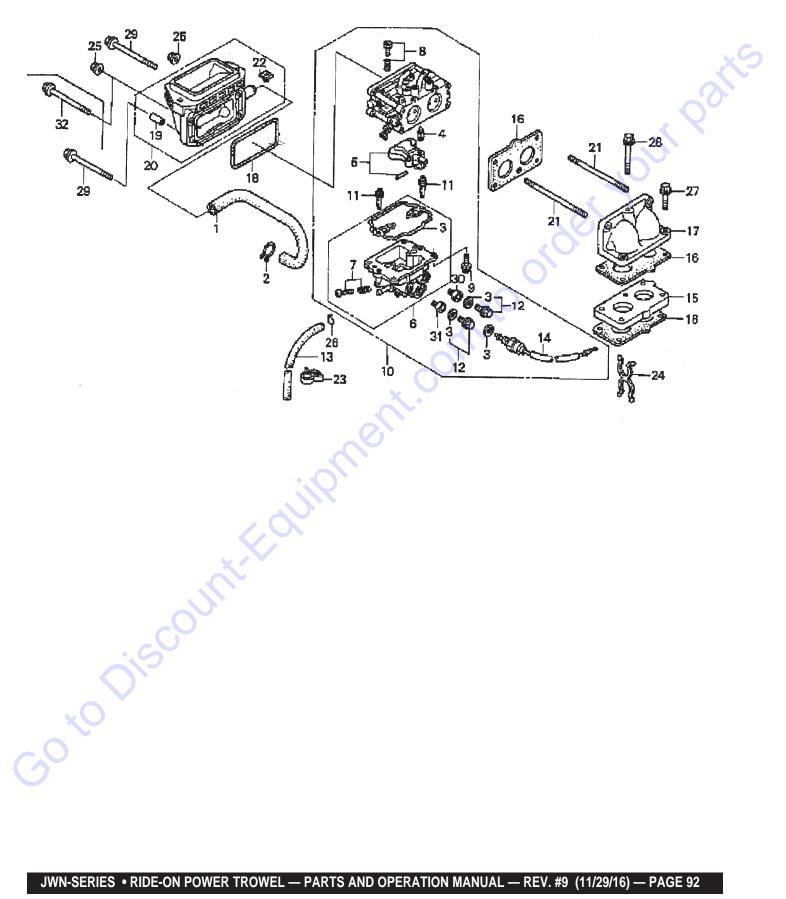
### HONDA GX-670 — CAMSHAFT ASSY.

#### CAMSHAFT ASSY.

1       122022E8003       SEAL, VALVE STEM       2         2       14100ZJ1842       CAMSHAFT ASSEMBLY       1       INCLUDES ITEMS W/S         3       14410ZJ1840       RDD, PUSH       4         4       14431ZE2010       ARM, VALVE ROCKER ARM       4         6%       14658ZJ1841       SPRING, WEIGHT RETURN       1         7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE, EX.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1         147474Z2000       NETAINER, IN. VALVE SPRING       2         14       14774ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2010       RETAINER, IN. VALVE SPRING       2         16       14773ZE2010       RETAINER, IN. VALVE SPRING       2         17       14781ZE2010       ROTATOR, VALVE       2         18       14791ZE2010       ROTATOR, VALVE       2         19       90002896000       BOLT, FLANGE 6 X 16       1         29       90440357000       WASHER, THRUST 17.2MM       1         24       9430106120	
3       14410ZJ1840       ROD, PUSH       4         4       14431ZE2010       ARM, VALVE ROCKER       4         5       14451ZE1013       PIVOT, ROCKER ARM       4         6%       14568ZJ1841       SPRING, WEIGHT RETURN       1         7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE, IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1	
4       14431ZE2010       ARM, VALVE ROCKER       4         5       14451ZE1013       PIVOT, ROCKER ARM       4         6%       14568ZJ1841       SPRING, WEIGHT RETURN       1         7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1         11       14751ZE2003       SPRING, VALVE       4         12*       14760ZJ1840       SHAFT COMP, VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14777ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2010       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       REAT, VALVE       2         17       14781ZE2010       ROTATOR, VALVE       2         18       14791ZE2010       RETAINER, EX. VALVE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, FLANGE 5 X 16       1         21       90206ZE1000       NUT, PIVOT ADJ. <td>, D</td>	, D
5       14451ZE1013       PIVOT, ROCKER ARM       4         6%       14568ZJ1841       SPRING, WEIGHT RETURN       1         7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1         11       14751ZE2003       SPRING, VALVE       4         12*       14760ZJ1840       SHAFT COMP, VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, IN. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90046251000       NUT, PIVOT ADJ.       4         21       902062E1000       NUT, PIVOT ADJ.       4         22*       90446357000       WASHER, THRUST 17.2M	
6%       14568ZJ1841       SPRING, WEIGHT RETURN       1         7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1       INCLUDES ITEMS W/*         11       14751ZE2003       SPRING, VALVE       4       1         12*       14760ZJ1840       SHAFT COMP, VALVE LIFTER       1       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       1       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2       1         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2       1         15       14773ZE2010       SEAT, VALVE       2       2         16       14775ZE2010       SEAT, VALVE       2       2         17       14781ZE2000       ROTATOR, VALVE       2       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2       1         20       90012E6010       BOLT, FLANGE 5 X 16       1       2         19       90005895000       BOLT, FLANGE 7X 17.2MM       1       <	$\mathcal{O}$
7%       14576ZJ1840       PIN, DECOMPRESSION       1         8       14711ZE3000       VALVE IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1       INCLUDES ITEMS W/#         11       14751ZE2003       SPRING, VALVE       4       INCLUDES ITEMS W/#         11       14751ZE2003       SPRING, VALVE LIFTER       1       INCLUDES ITEMS W/#         12*       14764ZJ1840       SHAFT COMP, VALVE LIFTER       1       INCLUDES ITEMS W/#         13*       14764ZJ1840       SPRING, VALVE LIFTER       1       INCLUDES ITEMS W/#         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         14       14773ZE2000       RETAINER, EX. VALVE SPRING       2         15       14775ZE2010       SEAT, VALVE       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90446357000       WASHER, THRUST 17.2MM       1         23*	37
8       14711ZE3000       VALVE IN.       2         9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1         11       14751ZE2003       SPRING, VALVE       4         12*       14760ZJ1840       SHAFT COMP., VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT ADJ.       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWE	
9       14721ZE3000       VALVE, EX.       2         10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1       1	
10       14730ZJ1840       LIFTER ASSEMBLY, VALVE       1       1       INCLUDES ITEMS W/*         11       14751ZE2003       SPRING, VALVE       4         12*       14760ZJ1840       SHAFT COMP., VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       9044635700       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4 <tr< td=""><td></td></tr<>	
11       14751ZE2003       SPRING, VALVE       4         12*       14760ZJ1840       SHAFT COMP., VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT ADJ.       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
12*       14760ZJ1840       SHAFT COMP., VALVE LIFTER       1         13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, FLANGE 5 X 16       1         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
13*       14764ZJ1840       SPRING, VALVE LIFTER       2         14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
14       14771ZE2000       RETAINER, IN. VALVE SPRING       2         15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
15       14773ZE2000       RETAINER, EX. VALVE SPRING       2         16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
16       14775ZE2010       SEAT, VALVE       2         17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
17       14781ZE2000       ROTATOR, VALVE       2         18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
18       14791ZE2010       PLATE, PUSH ROD GUIDE       2         19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
19       90005895000       BOLT, FLANGE 5 X 16       1         20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
20       90012ZE0010       BOLT, PIVOT 8MM       4         21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
21       90206ZE1000       NUT, PIVOT ADJ.       4         22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
22       90446357000       WASHER, THRUST 17.2MM       1         23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
23*       90602ZE1000       CLIP, GOVERNOR HOLDER       2         24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
24       9430108120       PIN A, DOWEL 8 X 12       1         25*       9410106800       WASHER, PLAIN 6MM       4         26%       9430560282       PIN, SPRING 6 X 28       1         27       957010602500       BOLT, FLANGE 6 X 25       1	
25*         9410106800         WASHER, PLAIN 6MM         4           26%         9430560282         PIN, SPRING 6 X 28         1           27         957010602500         BOLT, FLANGE 6 X 25         1	
26%         9430560282         PIN, SPRING 6 X 28         1           27         957010602500         BOLT, FLANGE 6 X 25         1	
27 957010602500 BOLT, FLANGE 6 X 25 1	
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### HONDA GX-670 — CARBURETOR ASSY.

CARBURETOR ASSY.



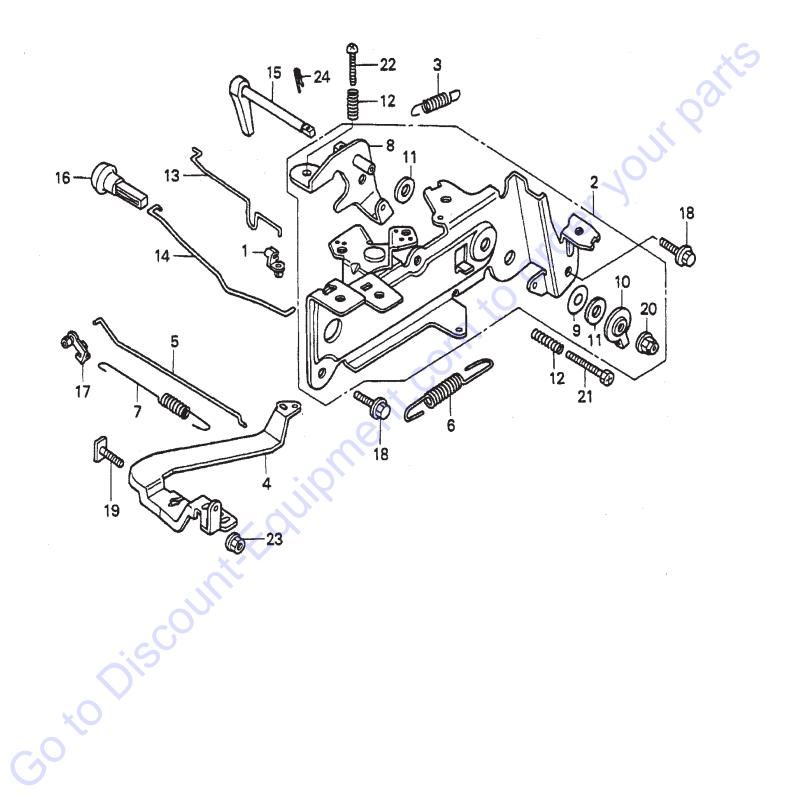
# HONDA GX-670 — CARBURETOR ASSY.

#### CARBURETOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS	
1	12357ZJ1840	TUBE, BREATHER	1		
2	15772551000	CLIP, BREATHER TUBE	1		C
3*+	16010ZN1003	GASKET SET	1		
4*	16011ZN1003	VALVE, FLOAT	1		•
5*	16013ZN1003	FLOAT SET	1		
6*	16015ZN1003	CHAMBER SET, FLOAT		INCLUDES ITEMS W/+	
7*+	16024ZN1003	SCREW SET, DRAIN	1		
8*	16028ZN1003	SCREW SET	1		
9*	16081ZN1003	SCREW-WASHER	4		
10	16100ZN1003	CARBURETOR ASSEMBLY (TE	301A A) 1	INCLUDES ITEMS W/*	
11*	16150ZN1003	JET, SLOW #54	, 2		
12*	16181ZN1003	PLUG SET	2	XO	
13	16198ZJ1840	TUBE, DRAIN	1		
14*	16200ZN1003	VALVE ASSEMBLY, SOLENOID	) 1 (		
15	16211ZN1000	INSULATOR, CARBURETOR	1		
16	16221ZN1000	GASKET, CARBURETOR	3		
17	17103ZN1010	ELBOW, MANIFOLD			
18	17228ZN1000	GASKET, AIR CLEANER			
19%	17238ZJ4830	COLLAR A, AIR CLEANER	4		
20	17410ZN1000	ELBOW COMP., AIR CLEANER	1	INCLUDES ITEMS W/%	
21	90048ZC3000	BOLT, STUD 6 X 85	2		
22%	90314ZJ1840	NUT, INSERT 6MM	2		
23	90682959661	CLIP B, CABLE	1		
24	91402ZJ1841	CLIP, PURSE LOCK	1		
25	9405006000	NUT, FLANGE 6MM	2		
26	9500202080	CLIP, TUBE (B8)	1		
27	957010603000	BOLT, FLANGE 6 X 30	2		
28	957010606500	BOLT, FLANGE 6 X 65	1		
29	958010609008	BOLT, FLANGE 6 X 90	2		
30*	99101ZN10920	JET, MAIN #92 (OPTIONAL)	1		
30	99101ZN10960	JET, MAIN #96 (OPTIONAL)	1		
31*	99101ZN11020	JET, MAIN #102	1		
31	99101ZN10940	JET, MAIN #94 (OPTIONAL)	1		
31	99101ZN10980	JET, MAIN #98 (OPTIONAL)	1		
31	99101ZN11000	JET, MAIN #100	1		
32	958010609008	BOLT, FLANGE 6 X 90	2		
×(	3				
· V					

# HONDA GX-670 — CONTROL ASSY.

CONTROL (2) ASSY.



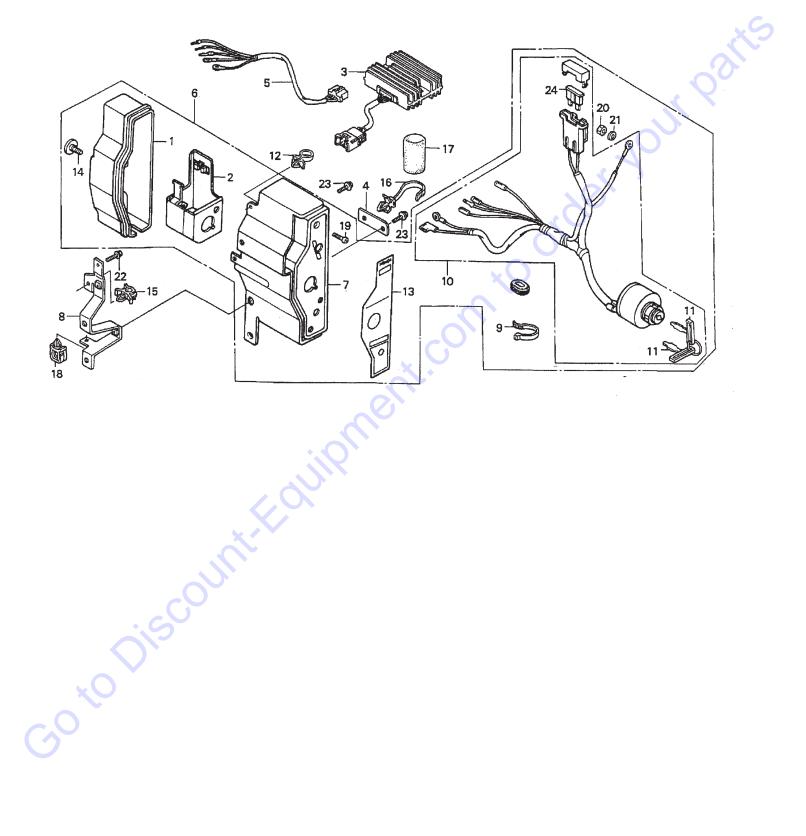
### HONDA GX-670 — CONTROL ASSY.

#### CONTROL (2) ASSY.

	- ( )				
NO. 1 2 3 4 5 6 7 8* 9* 10* 11* 12 13 14 15 16 17 18 19 20* 21 22 23 24	PART NO. 16263883W10 16500ZJ1850 16534ZN1000 16551ZJ1840 16555ZN1000 16562ZN1000 16570ZJ1850 16574883300 16576883300 16576883300 16611ZN1000 16628ZJ1850 17850ZJ1850 17951921030 17957ZV4000 90014952000 90015ZE3790 90114SA0000 92301050250A 93500050250A 9405006000 9425110000	PART NAME JOINT, ROD CONTROL ASSEMBLY SPRING, STARTER ARM, GOVERNOR ROD, GOVERNOR SPRING, GOVERNOR (MANUAL) SPRING, THROTTLE RETURN ARM COMP, CONTROL SPRING, LEVER WASHER, CONTROL ARM SPACER, CONTROL ADJUSTING ROD, CHOKE CONTROL ROD, CHOKE CONTROL ROD, CHOKE KNOB LEVER ASSEMBLY,THROTTLE KNOB, CHOKE BUSH, LINKAGE BOLT, FLANGE 6 X 14 BOLT, GOVERNOR ARM NUT, SELF- LOCK 6MM BOLT, SLOT 5 X 25 SCREW, PAN 5 X 25 NUT, FLANGE 6MM PIN, LOCK 10MM	QTY. 1 1 1 1 1 1 1 1 1 1 1 1 1	REMARKS	ats

# HONDA GX-670 — CONTROL BOX ASSY.

CONTROL BOX ASSY.



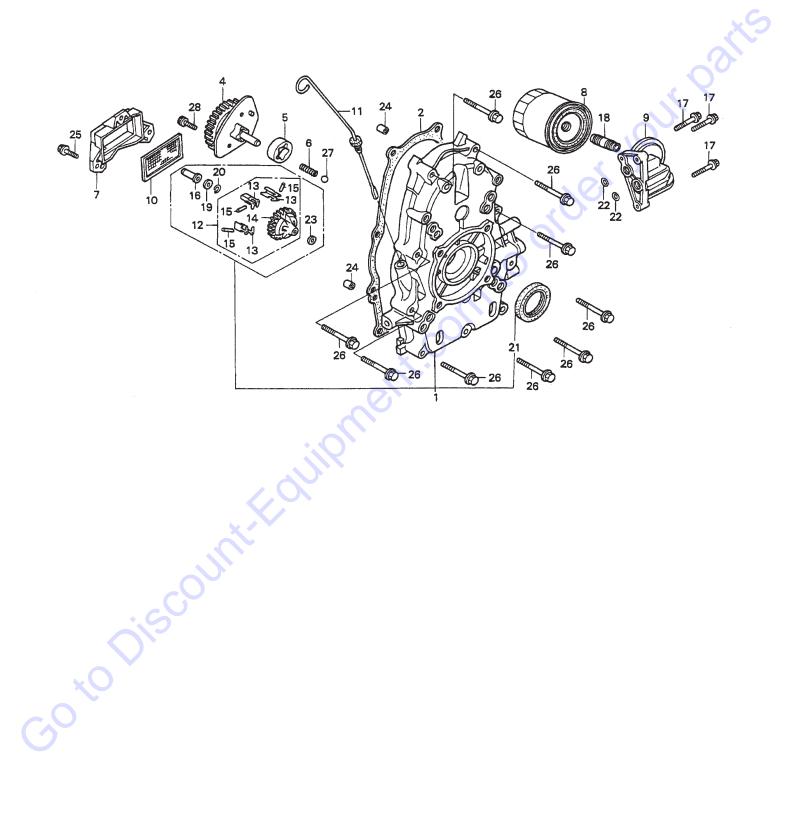
### HONDA GX-670 — CONTROL BOX ASSY.

#### CONTROL BOX ASSY.

NO. 1* 2* 3 4 5 6 7* 8 9* 10* 11*% 12 13* 14* 15 16	PART NO. 31612ZE2003 31614ZE2003 31620ZG5003 32103759000 32105ZJ1800 32340ZJ1841 32345ZJ1811 32349ZJ1840 32902892003 35100ZJ1841 35111880003 36103ZE1000 87529ZE2860 90380MA6010 32171GJ1003 90676SA8003	PART NAME CASE, CONTROL BRACKET, CASE MOUNTING RECTIFIER ASSEMBLY REGULATOR 2 BRACKET, WIRE HARNESS CLIP SUB- WIRE HARNESS ASSEMBLY BOX ASSEMBLY CONTROL SUB- WIRE HARNESS ASSEMBLY BOX ASSEMBLY CONTROL STAY, CONTROL BOX BAND SWITCH ASSEMBLY COMBINATION KEY COMP. HOLDER, STOP SWITCH WIRE MARK, CONTROL BOX, EXTERNAL- R SCREW, SPECIAL 6 X 12 CLIP, WIRE HARNESS BAND, WIRE HARNESS 150MM (BLUE	1 1 1 1 1 1 1 1 2 1 8EG. 1 1	REMARKS
17 18 19 20* 21* 22 23 24*%	91408ZJ1810 91504750003 93500040120H 94001040800S 9411104800 957010601000 957010601200	TUBE, CORD 30MM CLIP, WIRE HARNESS SCREW, PAN 4 X 12 NUT, HEX. 4MM WASHER, SPRING 4MM BOLT, FLANGE 6 X 10 BOLT, FLANGE 6 X 12 FUSE, BLADE 25A	) 1 1 1 1 1 2 1	
		POWER TROWEL — PARTS AND OPERA	ATION MANUAL — R	EV. #9 (11/29/16) — PAGE 97

### HONDA GX-670 — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.



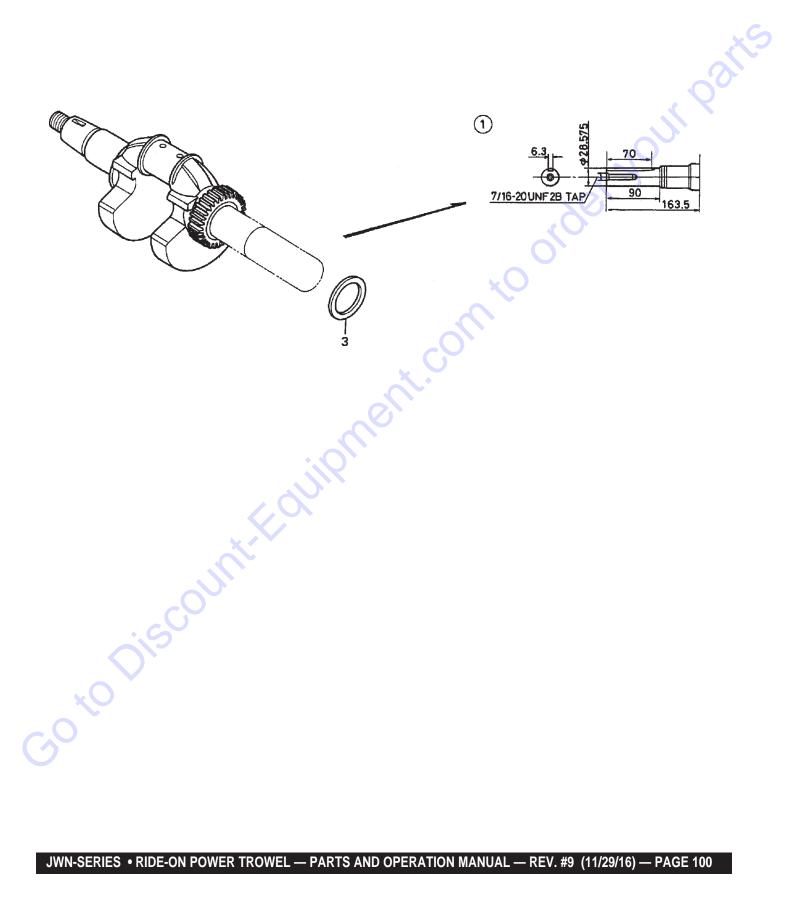
### HONDA GX-670 — CRANKCASE COVER ASSY.

#### CRANKCASE COVER ASSY.

NO. 1 2 4 5 6 7 8 8 9 10 11 12* 13*% 14*% 15*% 16* 17 18 19* 20* 21* 22 23* 24 25 26 27 28	16512ZJ1840 16513ZE2000 16531ZE2000 90015883000 90018PN3000 90473147000 90602ZE1000 91201ZJ1841 91320MJ6003 9410106800 9430108140 957010602000 957010805000 9621112000 966000601600	PART NAMEQTY.REMARKSCOVER ASSEMBLY, CRANKCASE (Q-TYPE)1INCLUDES ITEMS W/*GASKET, CASE COVER1COVER ASSEMBLY, OIL PUMP1ROTOR, OIL PUMP (OUTER)1SPRING RELIEF VALVE1COVER, OIL FILTER1FILTER, OIL (FILTECH INC.)1FILTER, OIL (FILTER1DPSTICK, OIL1GOVERNOR ASSEMBLY1MEIGHT, GOVERNOR3HOLDER, GOVERNOR WEIGHT1PIN, GOVERNOR WEIGHT1BOLT, FLANGE 6 X 283HOLDER, OIL FILTER1OL SEAL 38 X 58 X 91O- RING 11.8 X 2.42WASHER, PLAIN 6MM1PIN A, DOWEL 8 X 142BOLT, FLANGE 6 X 203BOLT, FLANGE 6 X 203BOLT, FLANGE 8 X 509BALL, STEEL #12 (3/8)1BOLT, SOCKET 6 X 162
Gox	opiscol	

### HONDA GX-670 — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.



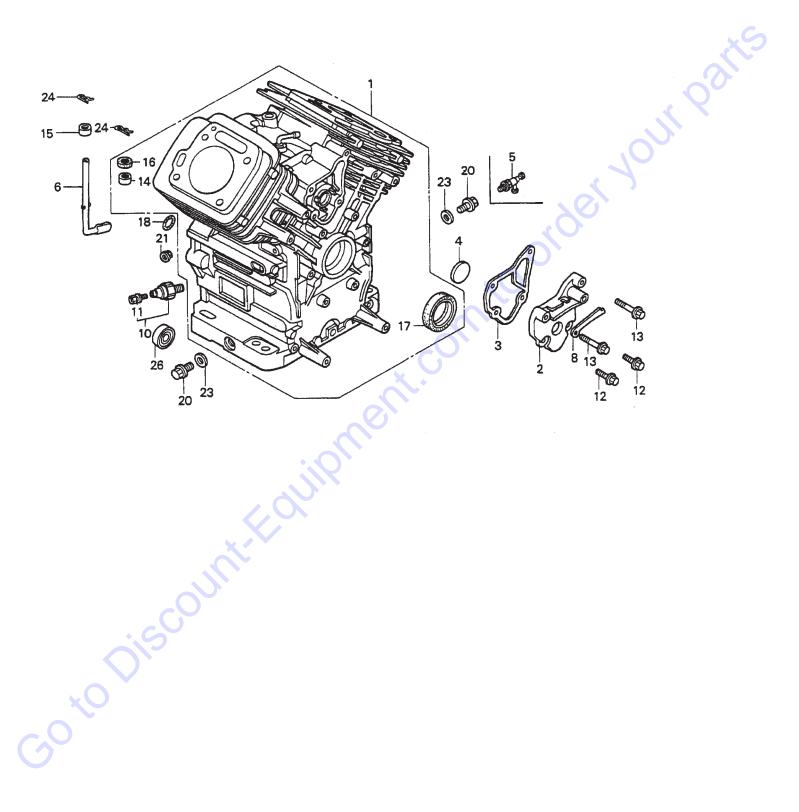
### HONDA GX-670 — CRANKSHAFT ASSY.

#### CRANKSHAFT ASSY.

NO	IKSHAFT ASSY.		ΟΤΥ	
<u>NO.</u> 1	PART NO. 13310ZN1000	PART NAME CRANKSHAFT COMP., T-TYPE	<u>QTY.</u> 1	<u>REMARKS</u>
3	90401ZJ1000	WASHER, CRANKSHAFT THRUST	1	
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## HONDA GX-670 — CYLINDER BARREL ASSY.

CYLINDER BARRELASSY.



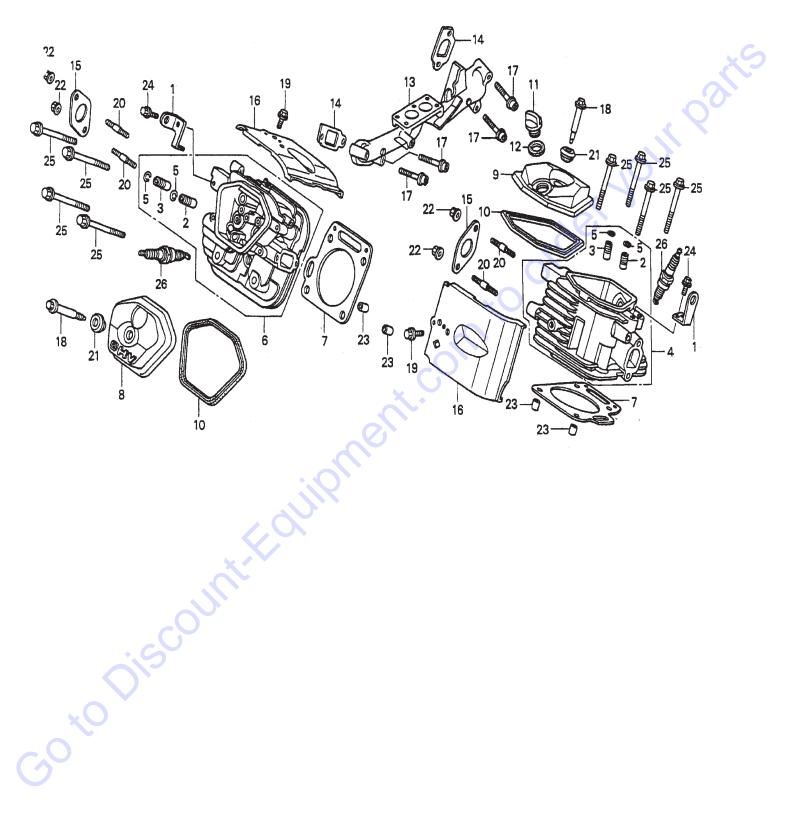
### HONDA GX-670 — CYLINDER BARREL ASSY.

#### CYLINDER BARREL ASSY.

NO. 1 2 3 4 5 6 8 10 11 12 13 14* 15 16* 17* 18 20 21 23 24 26	PART NO. 12000ZN1010 12356ZJ1000 12358ZJ1000 12372ZE2300 15558ZJ010AH 16541ZJ1840 31511ZJ1000 37240ZG3E01 90002ZG5004 90029888000 90031ZE1000 91001ZJ1841 91201ZE9003 91201ZJ1841 91201ZE9003 91201ZJ1841 91302MB6830 9280014000 9410208800 9410914000 9425108000 961406003010	PART NAME CYLINDER ASSEMBLY COVER, BREATHER GASKET, BREATHER COVER VALVE, BREATHER VALVE, DRAIN 14 X 1.5 (OPTIONAL SHAFT, GOVERNOR ARM CLAMP, WIRE SWITCH, OIL PRESSURE SCREW- WASHER 4 X 8 BOLT, FLANGE 6 X 16 BOLT, FLANGE 6 X 32 BEARING, NEEDLE 8 X12.7 X 11.1 BEARING, NEEDLE 8 X12.7 X 11.1 BEARING, NEEDLE 8 X12 X 10 OIL SEAL 8 X 14 X 5 OIL SEAL 38 X 58 X 9 O- RING 13 X 3.0 BOLT, DRAIN PLUG 14MM WASHER, PLAIN 8MM WASHER, PLAIN 8MM WASHER, DRAIN PLUG 14MM PIN, LOCK 8MM BEARING, RADIAL BALL 6003	1 1 1	REMARKS INCLUDES ITEMS W/*
	- SERIES • RIDE-ON	POWER TROWEL — PARTS AND OPEN	RATION MANUAL —	- REV. #9 (11/29/16) — PAGE 103

## HONDA GX-670 — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



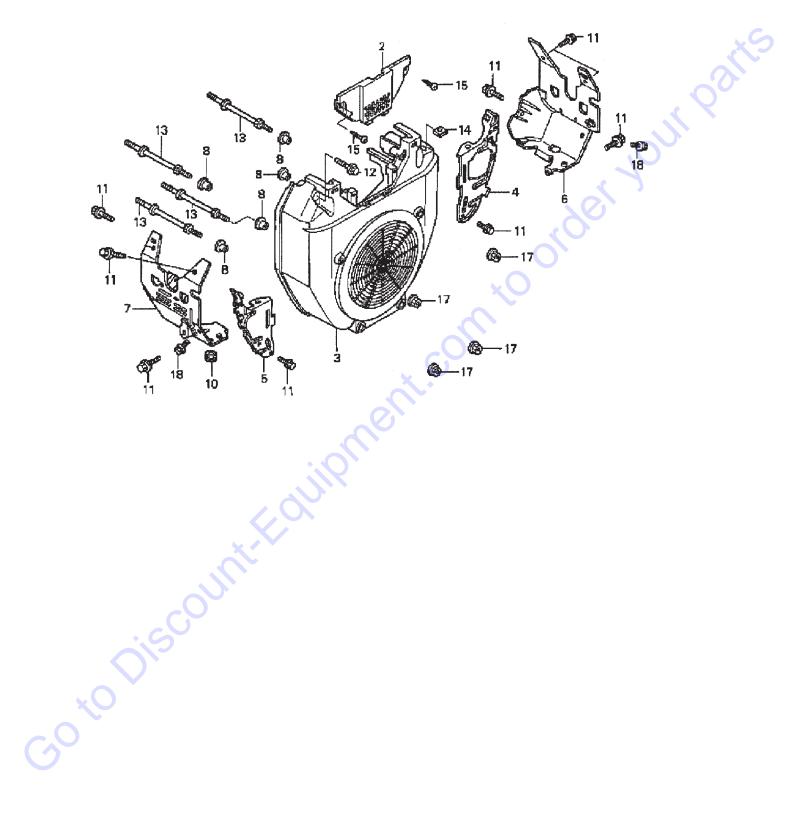
### HONDA GX-670 — CYLINDER HEAD ASSY.

#### CYLINDER HEAD ASSY.

NO. 1 2*% 3*% 4 5*% 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	PART NO. 11911ZJ1840 12204ZE2306 12205ZJ1405 12210ZJ1840 12216ZE2300 1220ZJ1840 12251ZJ1841 12311ZJ1840 12314ZJ1840 12391ZE2020 15611MB0000 15625ZJ1840 17101ZN1000 17151ZJ1841 18333ZE3800 19682ZJ1840 90011ZJ1841 90014ZE2000 90018ZJ1840 90441ZE2010 9405008000 9430112200 957010802000 957011008000 957011008000 9807952876	PART NAME HANGER, ENGINE GUIDE, VALVE (OS), OPTIONAL GUIDE, EX. VALVE (OS), OPTIONAL CYLINDER HEAD COMP. #1 CLIP, VALVE GUIDE CYLINDER HEAD COMP. #2 GASKET, CYLINDER HEAD COVER, HEAD COVER, HEAD FILLER GASKET, CYLINDER HEAD COVER CAP, OIL FILLER GASKET, OIL FILLER CAP MANIFOLD, IN. GASKET, IN. MANIFOLD GASKET, EX. PIPE SHROUD, HEAD BOLT, SOCKET 8 X 45 BOLT, HEAD COVER BOLT, FLANGE 6 X 14 BOLT, STUD 8 X 22 WASHER COMP., HEAD COVER NUT, FLANGE 8MM PIN A, DOWEL 12 X 20 BOLT, FLANGE 10 X 80 SPARK PLUG BPR2ES (OPTIONAL)	4	INCLUDES ITEMS W/*
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# HONDA GX-670 — FAN COVER ASSY.

FAN COVER ASSY.



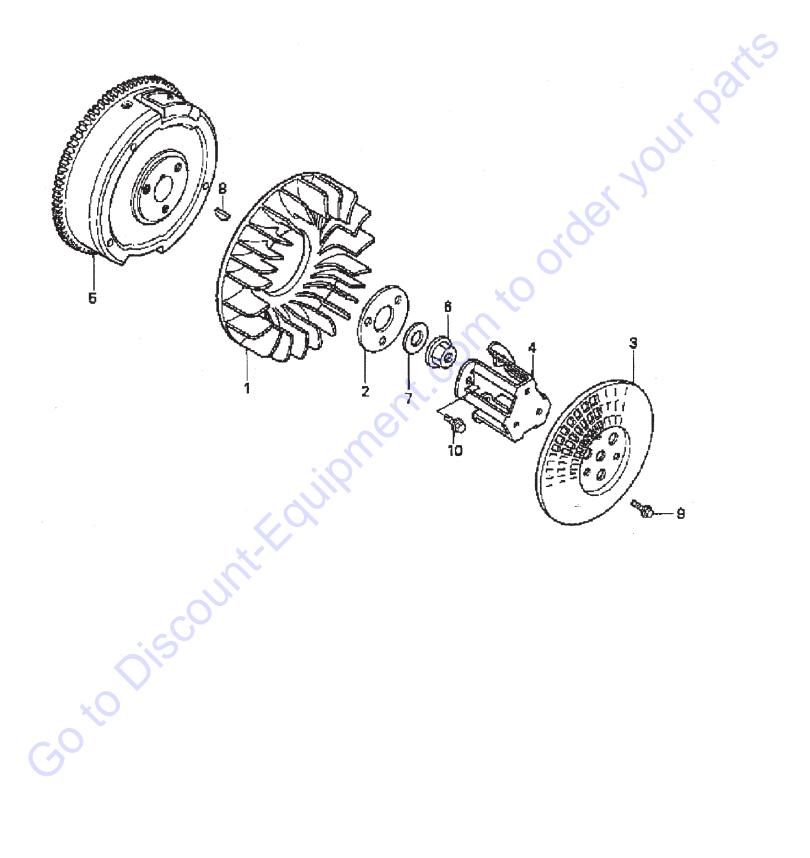
### HONDA GX-670 — FAN COVER ASSY.

FAN COVER ASSY.

NO. 2 3 4 5 6 7 8 10 11 12 13 14 15 17 18	PART NO. 16715ZJ1850 19611ZJ1840ZA 19612ZJ1840 19614ZJ1840 19631ZJ1840 19632ZN1000 33713GC2000 80101310000 90013883000 90018ZE1000 90042ZJ1840 90313ZJ1840 9391325580 9405006000 957010600800	PART NAME COVER, FUEL PUMP, MANUAL CONTROL COVER, FAN *NH1* (BLACK) PLATE, RIGHT SIDE PLATE, LEFT SIDE SHROUD, RIGHT SHROUD, LEFT COLLAR B, TAIL LIGHT RUBBER, RR. FENDER CUSHION BOLT, FLANGE 6 X 12 (CT200) BOLT, FLANGE 6 X 23 BOLT, STUD 6 X 71 NUT, SQUARE 5MM SCREW, TAPPING 5 X 20 NUT, FLANGE 6MM BOLT, FLANGE 6 X 8	4 2	REMARKS	u part
		mention			
		POWER TROWEL — PARTS AND OPERATION	I MANUAL –	– REV. #9 (11/29/16)	) — PAGE 107

## HONDA GX-670 — FLYWHEEL ASSY.

FLY WHEEL ASSY.



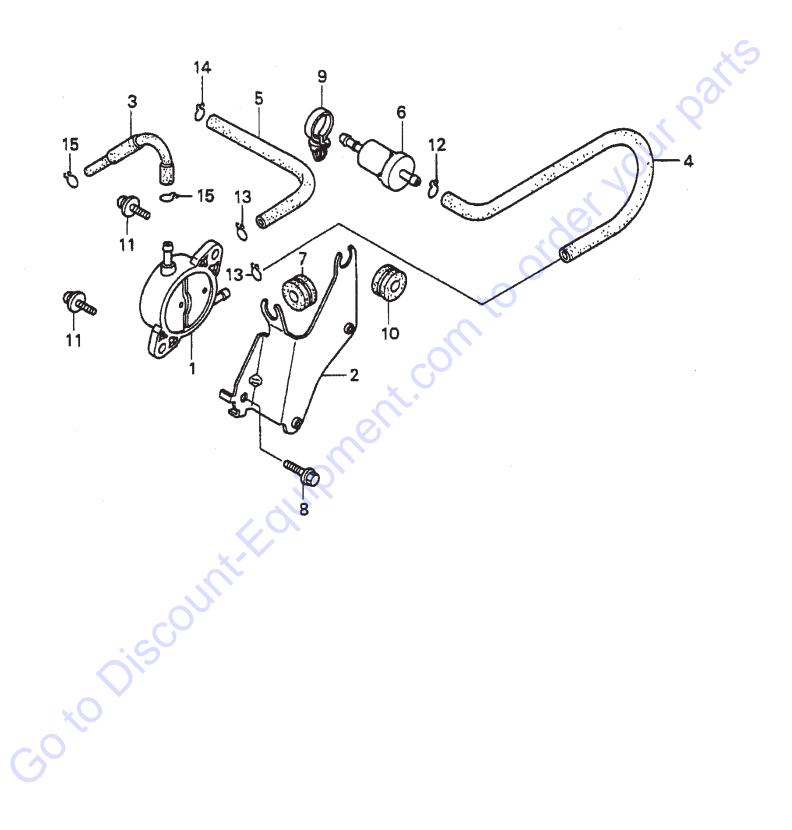
### HONDA GX-670 — FLYWHEEL ASSY.

FLY WHEEL ASSY.

<u>NO.</u> 1 2 3 4 5 6 7 8 9 10	PART NO. 19511ZJ1000 19513ZJ1000 28452ZJ1811 28454ZJ1801 31110ZJ1840 90201ZG3000 90401ZG3000 90741ZE2000 957010601200 957010801600	PART NAME FAN, COOLING PLATE, COOLING FAN SETTING GRID, SCREEN P.T.O. (OPTIONAL) HOLDER, SCREEN GRID, OPTIONAL FLY WHEEL COMP. NUT, FLANGE 20MM WASHER 20MM KEY, SPECIAL WOODRUFF 25 X 18 BOLT, FLANGE 6 X 12 (OPTIONAL) BOLT, FLANGE 8 X 16	<u>QTY.</u> 1 1 1 1 1 1 3 3	REMARKS	r parts
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WL	N- SERIES • RIDE-ON	POWER TROWEL — PARTS AND OPERA	TION MANUAL	- REV. #9 (11/29/16) -	– PAGE 109

# HONDA GX-670 — FUEL PUMP ASSY.

FUEL PUMP ASSY.

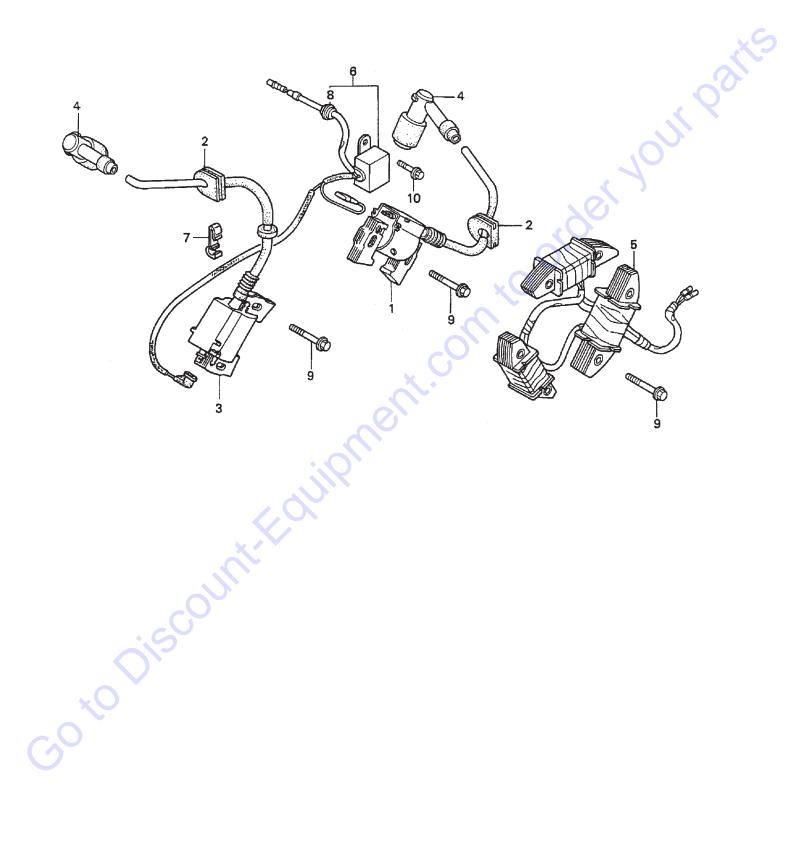


### HONDA GX-670 — FUEL PUMP ASSY.

			HONDA GX-670	— FUEL PUMP ASSY.
NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14	PUMP ASSY. PART NO. 16700ZL8003 16711ZJ1840 16851ZN1000 16852ZJ1840 16852ZJ1840 16910ZE8015 19111MF5000 90014952000 90517SA0003 91601ZJ1840 938940601600 9500202100 9500202100 9500250000 9500270000	PART NAME PUMP ASSEMBLY, FUEL STAY, FUEL PUMP TUBE, FUEL TUBE, FUEL TUBE, DIAPHRAGM FILTER COMP., FUEL GROMMET, RESERVE TANK BOLT, FLANGE 6 X 14 CLIP, WIRE HARNESS GROMMET, PUMP STAY SCREW- WASHER 6 X 16 CLIP, TUBE B8 CLIP, TUBE B10 CLIP, TUBE C9 CLIP. TUBE C11	<mark>QTY.</mark> 1 1 1 1 1 1	REMARKS
15	9500270000	CLIP, TUBE C11		
×(	opisco	untrauinpli		
			ND OPERATION MANUAL	– REV. #9 (11/29/16) — PAGE 111

### HONDA GX-670 — IGNITION COIL ASSY.

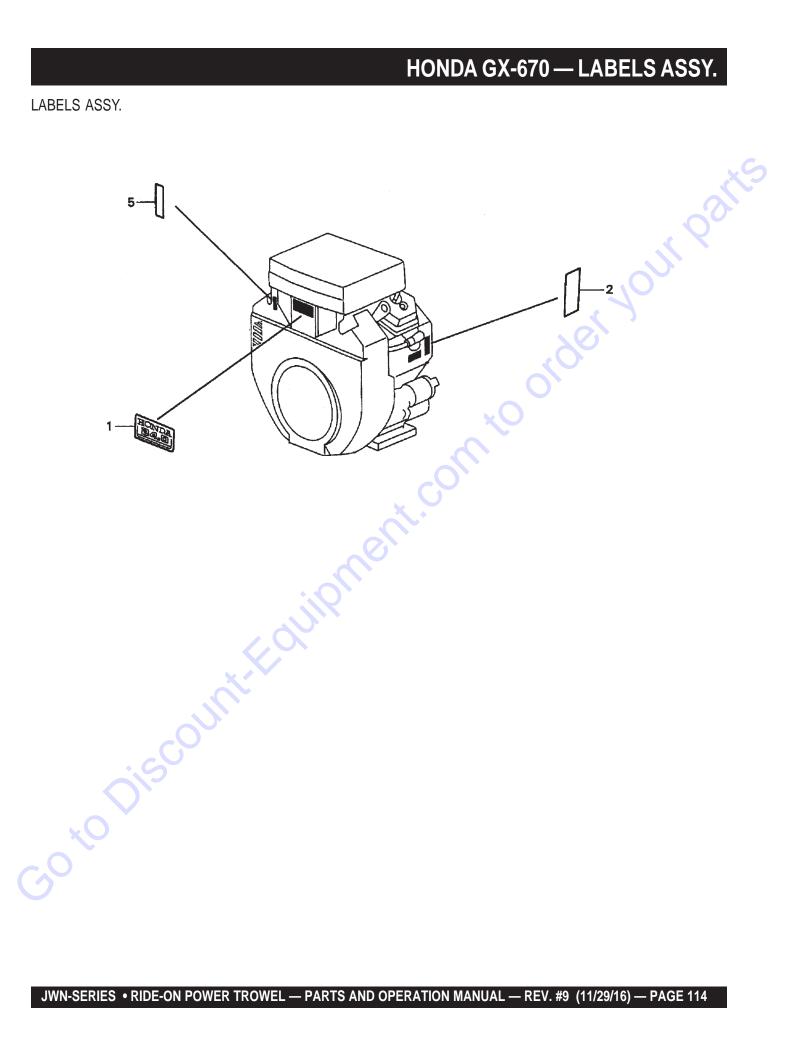
IGNITION COIL ASSY.



### HONDA GX-670 — IGNITION COIL ASSY.

#### **IGNITION COIL ASSY.**

NO. 1 2 3 4 5 6 7 8* 9 10	PART NO. 30500ZJ1841 30518ZJ1000 30550ZJ1841 30700ZJ1841 31630ZJ1801 31740ZJ1841 32763PA0000 63312ZA7000 90031ZE1000 957010600800	PART NAME COIL ASSEMBLY R. IGNITION GROMMET, IGNITION WIRE COIL ASSEMBLY, L IGNITION CAP ASSEMBLY, NOISE SUPPRESSOR COIL ASSEMBLY, CHARGE 12V/20A DIODE ASSEMBLY, ENGINE STOP CLAMP, WIRE GROMMET, TOOL BOLT, FLANGE 6 X 32 BOLT, FLANGE 6 X 8	QTY. 1 2 1 2 1 1 1 1 8 1	REMARKS
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	- SERIES • RIDE-ON	POWER TROWEL — PARTS AND OPERATION	MANUAL —	- REV. #9 (11/29/16) — PAGE 113



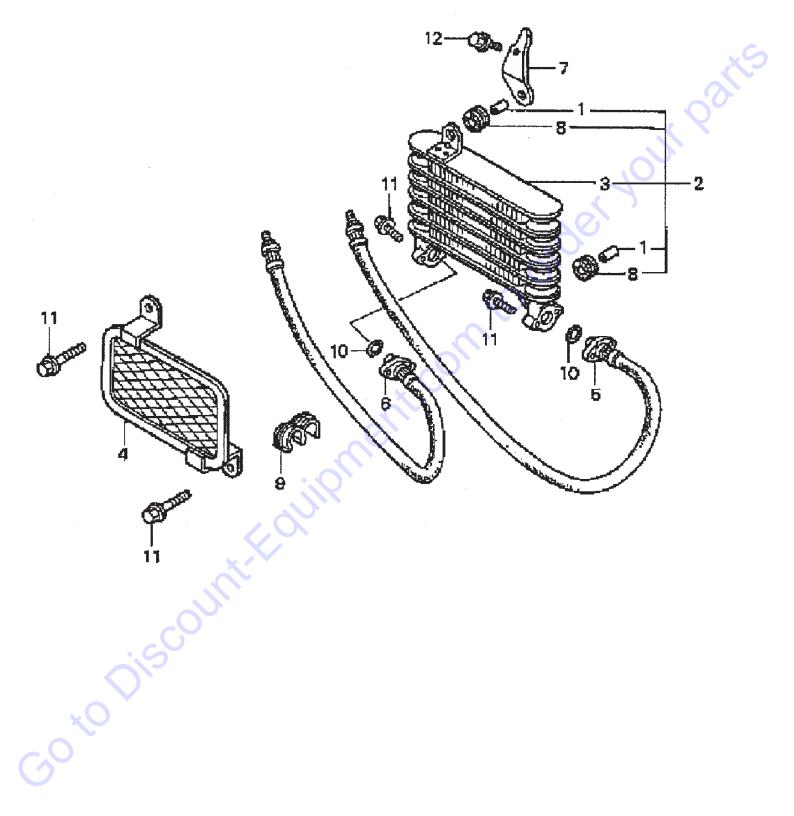
### HONDA GX-670 — LABELS ASSY.

### LABELS ASSY.

NO.	PART NO.	PART NAME	<u>QTY.</u>	<b>REMARKS</b>
1	87101ZN1000	MARK, EMBLEM	1	
2 5	87152ZN1000	LABEL, SPECIFICATION G X 670	1	
)	87532ZJ1840	MARK, THROTTLE INDICATION	1	Ó
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## HONDA GX-670 — OIL COOLER ASSY.

OIL COOLER ASSY.



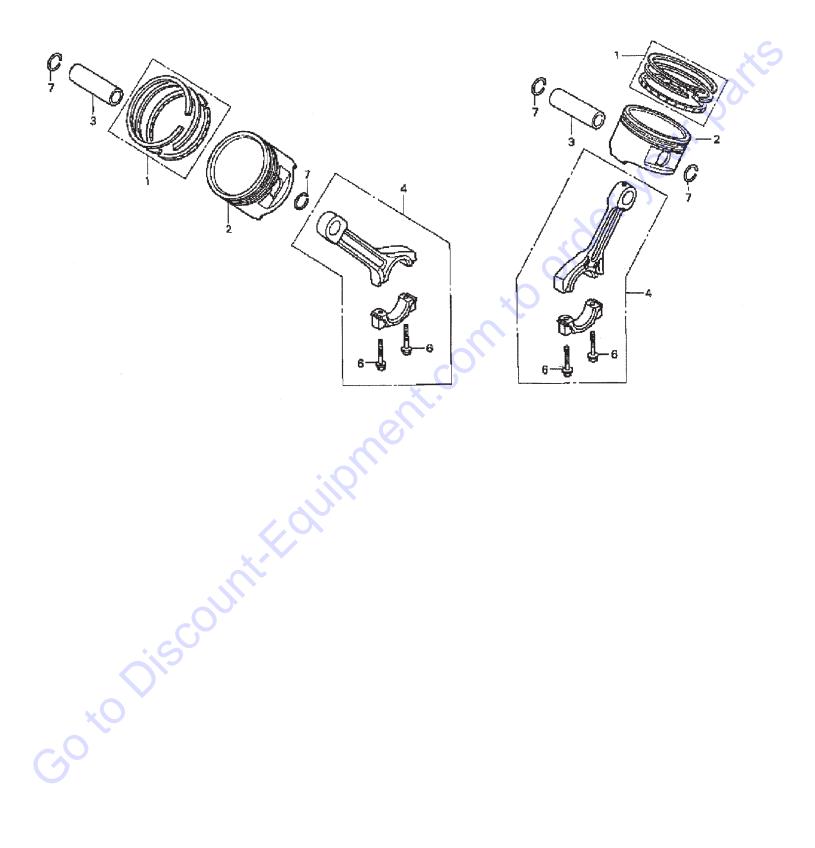
### HONDA GX-670 — OIL COOLER ASSY.

**OIL COOLER ASSY.** 

NO. 1* 2 3* 4 5 6 7 8* 9 10 11 12	PART NO. 11513MN5300 15605ZN1000 15610ZN1000 15613ZN1000 15614ZN1003 15616ZN1003 15676ZN1000 19051KA3830 19314PH6000 91314ME5003 957010602200 90014952000	PART NAME COLLAR 12MM COOLER ASSEMBLY, OIL COOLER COMP., OIL GRILLE, OIL COOLER HOSE A, OIL HOSE B, OIL STAY, OIL COOLER RUBBER, RADIATOR MOUNTING CLAMP, HOSE D13.5 O- RING 10 X 2.6 BOLT, FLANGE 6 X 22 BOLT, FLANGE 6 X 14	1 1 1 1 2 1 2 6 1	REMARKS
GO		interview		

### HONDA GX-670 — PISTON + CONNECTING ROD ASSY.

PISTON + CONNECTING ROD ASSY.



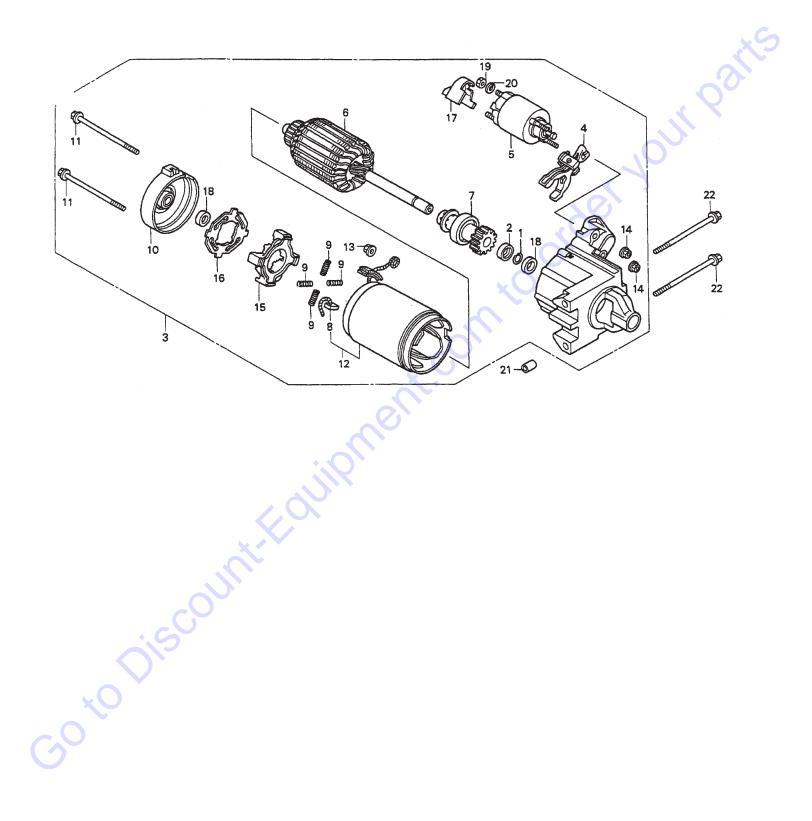
### HONDA GX-670 — PISTON + CONNECTING ROD ASSY.

#### PISTON + CONNECTING ROD ASSY.

<u>NO.</u>	ON + CONNECTINO PART NO.	PART NAME	<u>QTY.</u> 2	<b>REMARKS</b>
1 1	13010ZJ1841 13011ZJ1841	RING SET, PISTON STD. RING SET, PISTON OS 0.25 (OPTIONAL)	2 2	
1 1	13012ZJ1841 13013ZJ1841	RING SET, PISTON OS 0.50 (OPTIONAL) RING SET, PISTON 0.75 (OPTIONAL)	2 2 2 2	
2 2	13101ZN1000 13102ZN1000	PISTON STD. PISTON OS 0.25 (OPOTIONAL)		00
2	13103ZN1000	PISTON OS 0.50 (OPTIONAL)	2 2	
2 3	13104ZN1000 13111ZJ1840	PISTON 0.75 (OPTIONAL) PIN, PISTON	2 2 4 4	100
4 6	13200ZN1003 90001ZN1000	ROD ASSEMBLY CONNECTING BOLT, CONNECTING ROD 6 X 37	2 4	al d
7	9460118000	CLIP, PISTON PIN 18MM	4	. 20
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### HONDA GX-670 — STARTER MOTOR ASSY.

STARTER MOTOR ASSY.



### HONDA GX-670 - STARTER MOTOR ASSY.

#### STARTER MOTOR ASSY.

<u>NO.</u> 1*	PART NO. 30201PH9004	PART NAME RING, SNAP (DENSO)	<u>QTY.</u> 1	REMARKS
2* 3 4*	30202PZ1003 31200ZJ1841 31203PH9004	COLLAR SET, CLUTCH STOP MOTOR ASSEMBLY STARTER LEVER, PINION DRIVE	1 	INCLUDES ITEMS W/*
4^ 5* 6*	31204ZJ1H01 31206ZG4801	SWITCH ASSEMBLY, MAGNET ARMATURE COMP.	1 1	001
7* 8*	31207ZJ1H01 31211PH9004	CLUTCH COMP., OVERRUNNING BRUSH	1 4	JI I
9* 10*	31212PH9004 31213P64N01	SPRING, BRUSH COVER	4	40
11* 12*	31214PH9004 31216ZJ1H01	Bolt, Through Yoke Comp.	2 1	201 '
13* 14*	31220PH9004 31223PA0006	NUT, HEX 8MM NUT, FLANGE 5MM	1 2	i Co
15* 16*	31231PH9004 31233PH9004	HOLDER, BRUSH INSULATOR, BRUSH HOLDER	.0	
17* 18*	31234ZJ1H01 91002ZG4801	COVER, TERMINAL BEARING A	1 2	
19* 20*	94001080000S 9411108000	NUT, HEX 8MM WASHER, SPRING 8MM	0 1 1	
21 22	9430110120 957010811000	PIN, DOWEL 10 X 12 BOLT, FLANGE 8 X 110	2 2	
Got	o iscol	ntrouipme		
JWN	SERIES • RIDE-ON	POWER TROWEL — PARTS AND OPE	RATION MANUAL —	REV. #9 (11/29/16) — PAGE 121

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Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar