



**INSTRUCTION MANUAL & PARTS BOOK**

# **TS65 RIDE-ON TROWEL**



**POWERFUL - EFFICIENT - DEPENDABLE**

**BARTELL MORRISON INC.      BARTELL MORRISON (USA) LLC**  
**375 ANNAGEM BLVD, MISSISSAUGA, ONTARIO, CANADA, L5T 3A7, 905-364-4200 FAX 905-364-4201**  
**200 COMMERCE DRIVE, FREEHOLD, NEW JERSEY, USA, 07728, 732-566-5400 FAX 732-5444**

Doc. # OI - B09036  
PB - B09036  
Orig. Rel. - 05/2008  
Curr. Rev. - 07  
Revised: 06/2014

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

<b>SAFETY PRECAUTIONS</b>	
	<p style="text-align: center;"> <b>DANGER</b></p> <p><b>EXPLOSION HAZARD</b> Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes.</p>
	<p style="text-align: center;"> <b>WARNING</b></p> <p><b>BURN HAZARD</b> Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.</p>
	<p style="text-align: center;"> <b>WARNING</b></p> <p><b>ROTATING HAZARD</b> Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.</p>
	<p style="text-align: center;"> <b>CAUTION</b></p> <p><b>MOVING PARTS</b> Before starting the machine ensure that all guards and safety devices are in place and functioning properly.</p>
	<p style="text-align: center;"> <b>ATTENTION</b></p> <p><b>READ OWNERS MANUAL</b> Read and understand operator's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.</p>

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## TABLE OF CONTENTS

<b>QUALITY ASSURANCE/MACHINE BREAK-IN</b> .....	4
<b>MAINTENANCE RECORD</b> .....	5
<b>ROUTINE SERVICE INTERVALS</b> .....	6
<b>FOREWORD</b> .....	8
<b>SAFETY PRECAUTIONS</b> .....	8
<b>ASSEMBLY INSTRUCTIONS</b> .....	8
1. BATTERY .....	8
2. STEERING HANDLE ASSEMBLY .....	8
3. PITCH CONTROL ASSEMBLY (FIGURE 1A) .....	8
4. SEAT ASSEMBLY .....	9
5. TRANSPORTER ASSEMBLY .....	9
<b>OPERATING INSTRUCTIONS</b> .....	9
1. STARTING PROCEDURES - WARM TEMPERATURES .....	9
2. STARTING PROCEDURES - COLD TEMPERATURES .....	9
3. STOPPING PROCEDURES .....	9
4. STEERING (FIGURE 2A) .....	9
5. FLOAT/TROWEL PITCH SETTING .....	10
6. BLADE SYNCHRONIZATION (FIGURE 3A) .....	10
7. TRANSPORTER USE .....	10
<b>MAINTENANCE INSTRUCTIONS</b> .....	10
1. GENERAL .....	10
2. AIR CLEANER.....	10
3. SPARK PLUG.....	10
4. BELT CHANGE PROCEDURE.....	11
5. BELT TENSIONING SPECIFICATION .....	11
<b>LUBRICATION</b> .....	11
1. ENGINE OIL.....	11
2. SPIDER PLATE .....	11
3. GEARBOX.....	11
4. GEARBOX OIL CHANGE .....	11
5. GREASE FITTINGS .....	11
<b>TROWEL ARM ADJUSTMENT FIXTURE(FIGURE 4A)</b> .....	12
<b>ASSEMBLY DRAWINGS AND PARTS LIST</b> .....	13
1. CHASSIS ASSEMBLY (FIGURE 1).....	14
CHASSIS PARTS LIST .....	15
2. POWERPLANT ASSEMBLY (FIGURE 2).....	17
POWERPLANT PARTS LIST .....	17
3. DRIVE TRAIN ASSEMBLY (FIGURE 3) .....	18
DRIVE TRAIN PARTS LIST .....	19
4. STEERING ASSEMBLY (FIGURE 4) .....	20
STEERING PARTS LIST .....	21
5. GEARBOX ASSEMBLY (FIGURE 5).....	22
GEARBOX PARTS LIST .....	23
6. PITCH CONTROL ASSEMBLY (FIGURE 6).....	24
PITCH CONTROL PARTS LIST.....	25
7. SPIDER PLATE ASSEMBLY (FIGURE 7) /SPIDER PLATE PARTS LIST.....	26
8. PRESSURE PLATE ASSEMBLY (FIGURE 8) / PRESSURE PLATE PARTS LIST .....	27
9. TROWEL BLADE ASSEMBLY (FIGURE 9) / TROWEL BLADE PARTS LIST .....	29
10. TRANSPORTER ASSEMBLY (FIGURE 10) .....	30
TRANSPORTER PARTS LIST .....	31
<b>TROUBLESHOOTING</b> .....	32
<b>SPECIFICATIONS</b> .....	33
<b>COMPANY INFORMATION</b> .....	34
<b>NOTES</b> .....	35
<b>ATTACHED</b> .....	36
<b>RIDE-ON POWER TROWEL WARRANTY</b> .....	36
<b>SAMPLE OF CE CERTIFICATE</b> .....	38

## **QUALITY ASSURANCE / MACHINE BREAK IN**

The Bartell Ride-on Trowel is the product of extensive engineering development designed to give long life and unmatched performance. Once machines are fully assembled, a run-in test is performed to ensure quality standards of the highest level. A series of operational tests are conducted on concrete, incorporating a phase of operations at 1/2 to 3/4 throttle for and a final phase at full throttle for a minimum of 25 minutes.

You can help ensure that your Ride-on will perform at top levels by observing a simple routing on first use. Consider that your new Ride-on Trowel is like a new car. Just as you would break in a new car to the road or any new machine to the job, you should start gradually and build up to full use. Learn what your machine can do and how it will respond. Refer to the engine manufacturer's manual for run-in times. Full throttle and control may be used after this time period, as allowed by material. This will serve to further break in the machine on your specific application, as well as provide you with additional practice using the machine.

We thank you for the confidence you have placed in us by purchasing a Bartell Ride-on Trowel and wish you many years of satisfied use.



## TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

<b>Routine Service Intervals</b>		Each use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
<b>General Inspection:</b>							
Operation of lights	Check		o	o	o	o	o
Battery	Clean & Check			o	o	o	o
	Recharge			o	o	o	o
	Replace						2 yrs
Guards	Check	o	o	o	o	o	o
Warning stickers	Check		o	o	o	o	o
Test run:	Check operation		o	o	o	o	o
<b>Controls:</b>							
Dead-man switch operation	Check	o	o	o	o	o	o
Throttle pedal operation	Check	o	o	o	o	o	o
Steering linkages	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
	Replace						As req'd
Pitch control levers	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
Joystick controls (N/A)	Check	o					
Hydraulic system (N/A)	Check levels			o	o	o	o
	Check hoses			o	o	o	o
	Replace hoses						2 yrs
<b>Engine:</b>							
Fuel pipes & clamps	Check		o	o	o	o	o
	Replace						2 yrs
Engine oil	Check Level	o	o	o	o	o	o
	Change		o		o		o
Engine oil filter	Replace				o		o
Oil cooler	Clean			o	o	o	o
Cooling Fins	Clean		o	o	o	o	o
Air cleaner	Check - clean	o	o	o	o	o	o
	Replace						o
Air Intake Line	Check				o		
	Replace						2 yrs
Fan Belt	Check tightness				o		o
	Replace						500 hrs
Valve clearance	Check-adjust				o		o
Fuel filter	Check & Clean			o	o	o	o
	Replace				o		o
Fuel Tank	Clean						500 hrs
Fuel Injection Nozzles	Check pressure						500 hrs
Fuel Injection Timer	Check						500 hrs
Injection Pump	Check						500 hrs
Engine wiring	Check						o

+ Continued on next page...

## TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

<b>Routine Service Intervals</b> - Continued -		Each use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
<b>Drive Train:</b>							
Bearings	Lubricate	o	o	o	o	o	o
Universal couplings	Lubricate			o	o	o	o
Belt tension / Condition	Check	o	o	o	o	o	o
Clutch / Pulley operation	Check	o	o	o	o	o	o
LH spider plate assembly	Check	o		o	o	o	o
	Lubricate	o	o	o	o	o	o
RH spider plate assembly	Check	o		o	o	o	o
	Lubricate	o	o	o	o	o	o
<b>Gearboxes:</b>							
LH Gearbox oil	Check Level	o	o	o	o	o	o
	Change				o		o
RH Gearbox oil	Check Level	o	o	o	o	o	o
	Change				o		o
Gearbox breathers	Check operation			o	o	o	o
<b>Retardant Spray System:</b>							
Water pump operation	Check	o	o	o	o	o	o
Spray nozzles	Clean	o					
Retardant Fluid	Check levels	o					

Due to the nature and environment of use, power trowels are exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of your trowel.

- The initial service for your power trowel should be performed after 25 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule above. The chart on page 6 (six) is handy for keeping a record of the maintenance performed and the parts used for servicing your trowel.
- Regular service according to the schedule above will prolong the life of the power trowel and prevent expensive repairs.
- Keeping your power trowel clean and free from concrete residue is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. Components such as oil seals, belts, drive line parts and bearings are prone to premature wear from exposure to concrete residue. Using a spray-on release agent on your power trowel before each use will make clean-up after use easy and extend the time between replacement of most of the wearing components of the machine.
- After each use your power trowel should be cleaned to remove any concrete residue from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a release agent was applied prior to use.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by “o” in the appropriate column. Not all power trowel models include the same features and options and as such not all service operations may have to be performed. For ease of recording place a checkmark (√) through the “o” when the item is complete. If an item is not required or not completed place an “x” through the “o” in the box.
- For all fuel-line powered trowels the governed speed of the engine is 2000 to 3600 rpm. See engine manufacturer’s manual for exact specifications. Care should be used when making any adjustments to the power trowel not to change the governed speed. Increasing the governed speed of the engine may lead to premature failure and void the manufacturer’s warranty.
- Failure to have your power trowel regularly serviced and properly maintained in accordance with the manufacturer’s instructions will lead to premature failure and void the warranty.

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## FOREWORD

It is important that the following be read carefully in order that the operational performance of the Bartell RIDE-ON Trowel be fully understood. Proper maintenance procedures will ensure long life and top performance of the unit.

## SAFETY PRECAUTIONS

- Always keep unauthorized, inexperienced, untrained people away from this machine.
- Rotating and moving parts will cause injury if contacted. Make sure guards are in place. Keep hands and feet away from moving parts.
- Fuel the machine only when the engine is stopped, using all necessary safety precautions.
- The engine must always be stopped before attempting any repair or adjustments. Ignition key should be off. **Danger: Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes. Repair fuel leaks immediately. Refer to your engine owner's manual for more safety instructions.**
- Be careful not to come in contact with the muffler when the engine is hot, serious burns may result!
- Always operate the machine in a seated position to maintain machine balance.
- **The transporter is designed for moving the unit around the job site only. It is not to be used for towing the Ride-On unit off-site.**
- When starting the trowel, do not exceed the 1/4 throttle position as recommended. A higher setting could cause the centrifugal clutch to engage, turning the trowel blades.
- Be careful with the trowel around stub pipes or other obstructions on the floor. Should the machine catch, or hit such an obstruction, serious damage may result to the machine, or operator may be thrown from the machine.
- Excess surface water may result in sudden loss of control of steering.
- Disconnect battery before attempting any electrical maintenance.
- Ensure that the electrical dead-man switch, located under the left foot pedal is operating. Placing your left foot flat on the pedal will engage the safety switch. Removing your foot from the pedal will disengage the safety switch and stop the engine. The engine will not start unless the safety switch is depressed. This safety feature must be used as designed.

## ASSEMBLY INSTRUCTIONS

Your new Bartell Ride-On Trowel has been shipped to you partially disassembled. To prepare for operation use the following instructions:

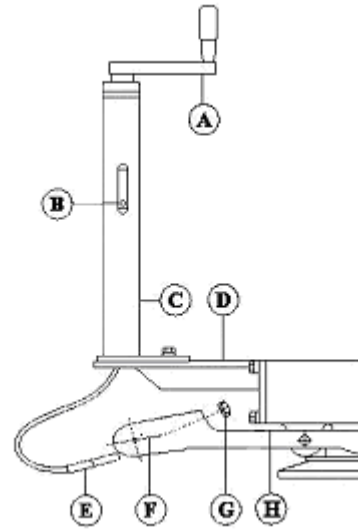
### 1. BATTERY

Connect and secure the battery cables before attempting starting procedures.

### 2. STEERING HANDLE ASSEMBLY

The steering handles are shipped ready to connect. Position the handles over the handle sleeves so that the set-screws (2 per handle) are lined up with the tapped holes on the sleeves. Tighten the set-screws and test the mobility of the handles.

### 3. PITCH CONTROL ASSEMBLY



**Figure 1a.**

Bolt pitch control tube (C) to pitch control bracket (D) with bolts provided. Put cable end (E) through yoke arm (F) and secure with nylon insert locknut (G). For proper cable adjustment, turn crank (A) counter-clockwise to the stop position. Tighten nut (G) until all slack in the cable is removed. If more than 2 or 3 threads show through the nut, it should be turned back and the guide screw (B) moved to the next lower hole. Tension in the cable should then be readjusted. After adjusting tension, turn hand crank full clockwise (ABOUT 24 TURNS) and check for clearance between the yoke arm (F) and the gear box at point (H). There should be enough space to pass a business card through but not more than 1/8 inch.



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## 4. SEAT ASSEMBLY

Remove protective wrapping from seat. The seat is now ready to secure to the frame using included washers and hex nuts. If the seat adjuster is ordered, the slider bars must be positioned between the seat and the frame using included screws to secure the seat to the sliders, and then securing the sliders to the frame as indicated above.

## 5. TRANSPORTER ASSEMBLY

The components of the transporter (handle, frame, wheels, and parts bag) are shipped separately, requiring some assembly. Extend the handle outside the frame. Slide the handle along the frame cross-bar to align the hole on the handle with the hole on the "U" frame. Insert the large hitch pin (part #12487) through the hole to secure the handle to the "U" frame. Position one of the wheels on the axle and secure in place by inserting pin (part #10315) into the hole on the end of the axle. Repeat procedure for the other wheel.

### CAUTION:

The transporter is designed to be used on the job site only. Do not use the transporter to tow the machine off-site.

## OPERATING INSTRUCTIONS

### 1. STARTING PROCEDURES

#### \* WARM TEMPERATURES

- Prior to starting the trowel, check the engine and gearbox oil levels. Be sure the fuel tank is full. Fuel is not shipped with the unit. Before attempting to start, fill the fuel tank. Check engine and gearbox oil levels. **WARRANTY IS VOID IF RUN WITHOUT OIL.** Fill tank with safety approved fuel containers. **DO NOT MIX OIL WITH FUEL.**
- Maintain left foot pressure on the dead-man safety switch. Engine will disengage and stop if safety switch is released. Do not tape, tie-down, or otherwise attempt to bypass safety device.
- Turn ignition key all the way. Allow engine to warm up before proceeding with full trowel operation.

### 2. STARTING PROCEDURES

#### \* COLD TEMPERATURES

Follow same procedure as above but allow for a longer warm up period 3-5 min. (In cold weather oil is much heavier to move. Extra time is required to heat the oil.)

### 3. TO STOP ENGINE

- Bring throttle to low idle, wait a few seconds.
- Remove left foot from dead-man safety switch.
- Turn off ignition key.

### 4. STEERING

Guiding the machine on the slab is quite simple but does require some familiarity before actually working with the machine. The controls respond as shown in *figure 2a* below. Test the machine on a finished section of the floor, with the blades in a flat position, and the engine at a low revolution to gain the necessary feel for the steering.

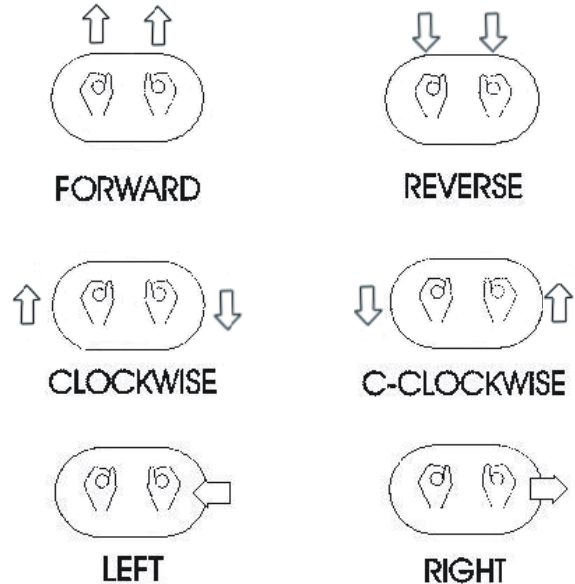


Figure 2a.

For straight line movement, move both handles as one in the direction you wish to travel. Move the handles in opposite directions to produce rotation on the machines axis. Left handle forward, right handle backward for clockwise rotation. Left handle backward, right handle forward, for counter-clockwise rotation. Sideways direction is achieved by sideways movement of the right handle in the required direction of travel.

### WARNING:

**SERIOUS INJURY OR PROPERTY DAMAGE MAY RESULT DUE TO TEMPORARY LOSS OF CONTROL IF OPERATED WITH EXCESS LIQUID ON THE CONCRETE SURFACE.**

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## 5. FLOAT/TROWEL PITCH SETTING

Once you are familiar with the steering functions on a flat floor, you are ready to combine the steering with float/trowel pitch settings to produce the finish you require. The pitch adjustment feature of the BARTELL RIDE-ON TROWEL permits quick and accurate pitch changes of the finishing/float blades, without having to stop the machine. Turning the adjustment crank-handle at the end of the pitch control tubes enables you to change the pitch whenever necessary to allow for varying conditions over the slap surface.

Each spider plate is adjusted independently. The pitch setting will affect the steering of your unit. Experiment with the settings as you test drive so you will know what to expect.

### CAUTION:

Do not let the machine stand in one spot on the soft concrete; This may place unnecessary strain on the clutch to break it free of the concrete. If the unit has been sitting for any length of time, break it free from the concrete before attempting operation.

### CAUTION:

When finishing concrete above grade, erect a situation barrier along the edge of the slab as a protective measure. The barrier must follow all applicable codes and should be such that it will stop the trowel from riding over the edge of the slab in case of loss of control.

## 6. BLADE SYNCHRONIZATION (SPECIALLY MODIFIED UNITS ONLY)

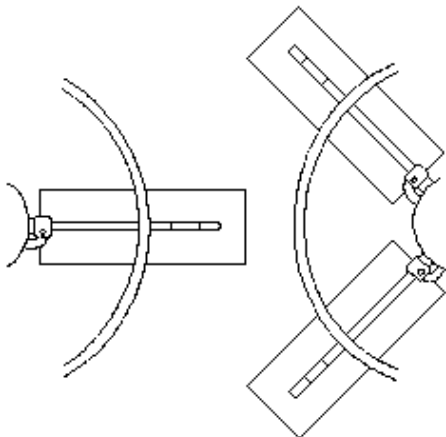


Figure 3a.

To avoid blades hitting, make sure spider plates are positioned as shown with respect to each other after performing any maintenance.

## 7. TRANSPORTER USE

### CAUTION:

The transporter is designed to be used on the job site only. Do not use it to tow the machine off-site.

The transporter has pick-up brackets located on the inside of the wheels which should be positioned under the pick-up points on the frame. Before connection, the handle will be pointing upwards at approximately a 45 degree angle. Pull the handle down, engaging the transporter and secure the bracket and transporter to the frame by locking the handle bracket in the frame lock by means of the hitch pin. Using the handle as a lever, the ride-on may now be moved. To disconnect the transporter, follow the above steps in reverse.

## MAINTENANCE INSTRUCTIONS

### 1. GENERAL

- Keep engine oil clean. Change according to engine manufacturer's specifications.
- Maintain the oil levels in the engine and gearbox assemblies. Change as required.
- Use only clean fuel in the engine.
- Check for loose nuts and bolts on the trowel and tighten as necessary.
- Check "V" belts for wear, replace if worn.
- Grease all fittings daily. See diagram.
- Clean the unit after every use to prevent hardening of concrete residue. Hard concrete is very difficult to remove, greatly increases weight and reduces efficient subsequent operation of unit.
- Check clutch linings regularly for wear. Linings should be changed when 3/4 worn. Do not allow metal to metal contact as this will damage the clutch drum. (New lining is 8mm.)

### 2. AIR CLEANER

Maintaining a clean engine will extend engine life. Keep air filter clean at all times. Clean air filter using the recommended solvent. See engine manual for proper cleaning procedure. Let the filter dry before reinstalling.

### 3. SPARK PLUG

Check and clean spark plugs regularly. A fouled, dirty spark plug causes hard starting and poor engine performance. Set spark plug gap to recommended clearance. Refer to engine manual.

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## 4. BELT CHANGE PROCEDURE

Remove belt cover from the machine to expose the drive components. To change the primary drive belt, remove clutch from engine drive shaft, by removing bolt from the clutch. This releases belt from both the clutch and driven unit.

## 5. BELT TENSIONING SPECIFICATIONS

### NOTE:

**Belts may become slightly loose after the first few hours of operation. It is important to re-tension the belts.**

## LUBRICATION

### 1. ENGINE OIL

The long life and successful operation of any piece of machinery is dependent on frequent and thorough lubrication.

Before using the trowel, always check your engine for oil. Use proper engine oil as recommended in the engine manufacturer's manual. Fill crankcase to levels as recommended.

### 2. SPIDER PLATE

There are 8 (eight) grease fittings on the spider plates, 4 (four) on each must be greased daily. **SPIDER PLATES MUST BE GREASED EVERY TIME MACHINE IS USED.**

## 3. GEARBOX

Check the oil level sight plugs on both gearboxes daily to ensure the oil is half way on the site glass. Top up with Agma 8 compounded gear oil only. Gearbox capacity on the TS65 is 27oz./767ml.

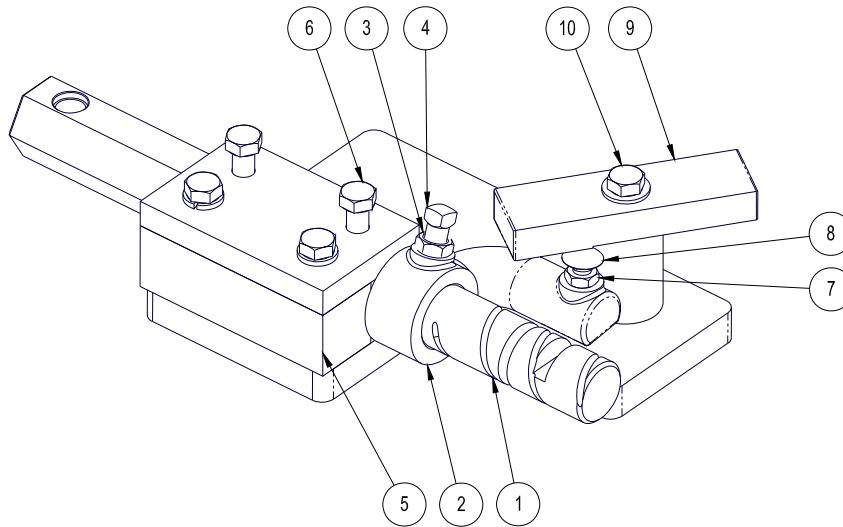
## 4. TO CHANGE GEARBOX OIL

Place a pan beneath the drain plug to catch the oil. Remove the drain plug and the filler plug from the gearbox. After the oil has drained completely, replace the drain plug and tighten. Fill the gearbox through the filler plug with 27oz./767ml. of Chevron Hyper Synthetic ISO320 gear oil. Replace the filler plug and tighten.

## 5. GREASE FITTINGS

There are 6 bearings in total. Grease all bearings and U-joints to ensure adequate supply of lubricant. They are located above the gearboxes (2 per gearbox) and 2 located in the drive system. The U-joints are located in the drive system as well.

**TROWEL ARM ADJUSTMENT FIXTURE**



**PART #20801**

**Unit 36" (TS65)**

- 1) 10411 – Trowel arm
- 2) 10817 – Lift lever
- 3) 10808 – Jam nut
- 4) 10809 – Set screw
- 5) 10824 – Block top
- 6) 10507 – Bolt
- 7) 10816 – Jam nut
- 8) 10815 – Carriage bolt
- 9) 10832 – Adjustment bar
- 10) 10507 – Bolt

**Figure 4a.**

The trowel arm adjustment fixture (20801) is reversible. By rotating the arm clamping fixture and the ring bolt, both left hand and right hand trowel arms may be adjusted. Before attempting adjustment, determine whether the trowel arm is right handed or left handed. When adjusting left hand trowel arms use the side of the fixture marked "L". When adjusting right hand trowels arms use the opposite side. The adjustment bar will be set on "36" for the TS65 trowel arm.

**ADJUSTMENT PROCEDURE**

1. Remove all trowel arm assemblies (1 & 2 arm and attached lift lever) from suspected maladjusted spider plate.
2. Remove lift lever (2) from trowel arm (1) by first loosening jam nut (3) then square head screw (4). If upon inspection (method left to discretion of serviceman) any trowel arm (1) is found to be in a bent condition, it must either be brought back to its original straight condition (method left to the serviceman's discretion) or replaced with new part.
3. Replace lift levers (2) on new or straightened arms (1) by reversing procedure described above.

**NOTE: IT IS IMPORTANT THAT WHEN TIGHTENING SQUARE HEAD SETSCREW (4), IT SEATS ITSELF SECURELY INTO DIMPLE MACHINED IN ARM.**

4. Place trowel arm assembly (1 and 2) in fixture (5) with lift lever (2) butting up against fixture. Secure in place with bolts (6).

5. Loosen locknut (7) and screw carriage bold (8) down to full depth allowable. This will provide for ample clearance to swing adjustment bar (9) over head of carriage bolt. Adjustment bar (9) is stamped for appropriate size of machine. Swing appropriate side directly over carriage bolt (8) and secure in place with bolt (10).
6. Adjust carriage bolt (8) upwards until contact is made with adjustment bar (9); holding carriage bolt in position with one wrench, tighten locknut (7) to secure in position with second wrench.
7. This same procedure is to be followed with ALL arms from spider plate assembly, and will ensure correct and exact adjustment.

**NOTE: IT IS VITALLY IMPORTANT TO ENSURE THAT ONCE THE CARRIAGE BOLT IS ADJUSTED TO THE CORRECT HEIGHT, IT DOES NOT MOVE BEFORE, OR DURING THE TIGHTENING OF LOCKNUT.**

**TROWEL ARM ADJUSTMENT SCREW**

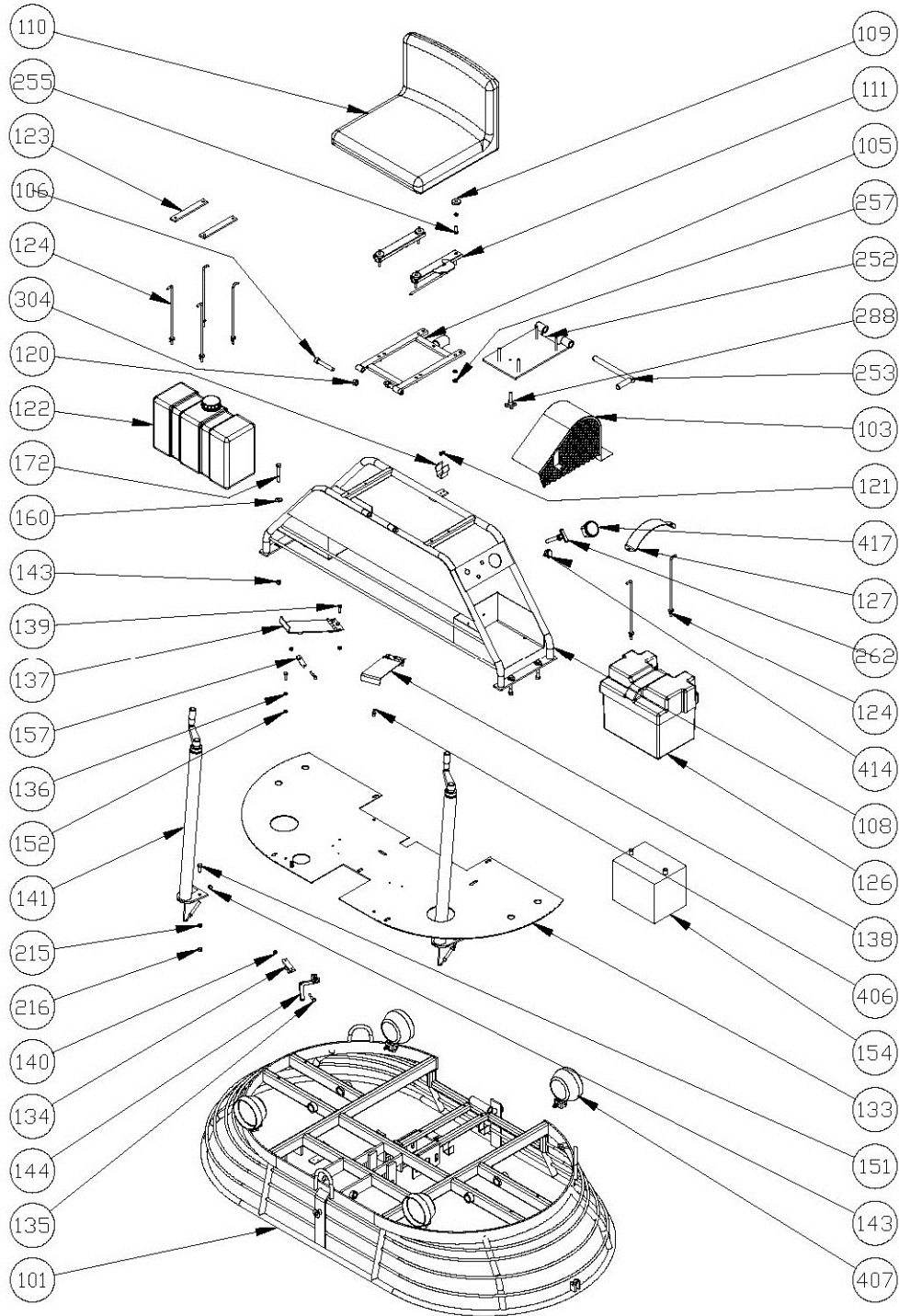
When assembling trowel blades to trowel arms, the adjustment screw should NEVER protrude below the under-side surface to a trowel arm except when using for emergency on-site adjustment to level trowel blades. If the adjustment screw is not flush with the underside of the trowel arm, then this will cause the power trowel to bounce and vibrate especially at high speed. This will also cause the trowel blades to leave an uneven finish on the concrete due to the blades not being level to one another. Make certain that the adjusting screw is held firmly in place while tightening the bolt which secures the blade to the trowel arm.

# ASSEMBLY DRAWINGS AND PARTS LIST



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CHASSIS ASSEMBLY



**Figure 1 - Complete Chassis**

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

### Chassis Assembly

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	101	22598	TS 65 CHASSIS	1		06/06/06
	103	22592	BELT GUARD TS65	1		06/06/06
	105	13644	HINGED PLATE	1		06/06/06
	106	30012	HHCS 1/2 - 20UNC x 3"LG.	2		06/06/06
	108	14569	SEAT FRAME	1		06/06/06
	110	13641	SEAT	1		06/06/06
	111	12896	SEAT ADUSTER SET	1		06/06/06
	120	11592	BAR CLIP – SEAT CLIP	1		06/06/06
	121	11042	RIVET 3/16" DIA. x 1/2" LG.	2		06/06/06
	122	18156	FUEL TANK COMPLETE	1		06/06/06
	122a	18106	FUEL CAP (NOT SHOWN)	1		06/06/06
	122b	18126	CARBON CANISTER (NOT SHOWN)	1		06/06/06
	122c	18124	CANISTER BRACKET (NOT SHOWN)	1		06/06/06
	122d	18125	CANISTER STRAP (SET OF 2) (NOT SHOWN)	1		06/06/06
	123	10192	GAS TANK HOLD-DOWN BAR	2		06/06/06
	124	13839	HOLD DOWN BOLT KIT	3		06/06/06
	126	13192	BATTERY BOX-BLACK POLY	1		06/06/06
	127	13595	BATTERY CLAMP	1		06/06/06
	133	13128	TOP FLOOR PLATE	1		06/06/06
	134	22548	THROTTLE BRACKET	1		06/06/06
	135	12532	HHCS 1/4 - 20UNC x 1-1/2"LG	3		06/06/06
	136	10581	HEX NUT 1/4 - 20UNC	2		06/06/06
	137	22546	GAS PEDAL	1		06/06/06
	138	22547	SAFETY SWITCH PEDAL	1		06/06/06
	139	14596	HHCS 1/4 -20 x 5/8"	20		06/06/06
	140	30141	LOCKNUT 1/4 – 20UNC	9		06/06/06
	141	22605	PITCH CONTROL ASS'Y	2		06/06/06
	143	10317	3/8 – 16UNC LOCKNUT, NYLON	6		06/06/06
	144	13677	THROTTLE LINKAGE ARM	1		06/06/06
	151	10507	HHCS 3/8 – 16 UNC x 1"LG.	4		06/06/06
	152	10521	LOCKWASHER, 1/4" DIA.	2		06/06/06
	154	12538	BATTERY	1		06/06/06
	157	12970	THROTTLE ARM LINK	1		06/06/06
	160	10905	USS FLAT WASHER, 3/8 DIA.	4		06/06/06
	172	12737	HHCS 3/8 – 16 x 2-3/4"LG.	4		06/06/06
	215	10902	LOCKWASHER, 3/8"DIA.	4		06/06/06
	216	10901	HEX NUT 3/8 – 16 UNC	4		06/06/06
	228	10402	LOCKNUT 5/16"	8		06/06/06
	252	14831	ENGINE MOUNT PLAT	1		06/06/06
	253	13133	ENGINE MOUNTING PLATE PIN	1		06/06/06
	257	10915	HEX NUT, 5/16-18UNC, GRADE 5	4		06/06/06
	262	12417	CHOKE CONTROL	1		06/06/06
	288	11612	HAND KNOB ASSEMBLY	1		06/06/06
	304	12517	NYLOCK NUT, 1/2 - 20 UNF	2		06/06/06
	406	10724	SHUT-OFF SWITCH (B&S ENGINE)	1		06/06/06
	407	12528	LAMP 55 WATTS	4		06/06/06
	414	14377	SWITCH, ON/OFF, SPST, BLUE	1		06/06/06

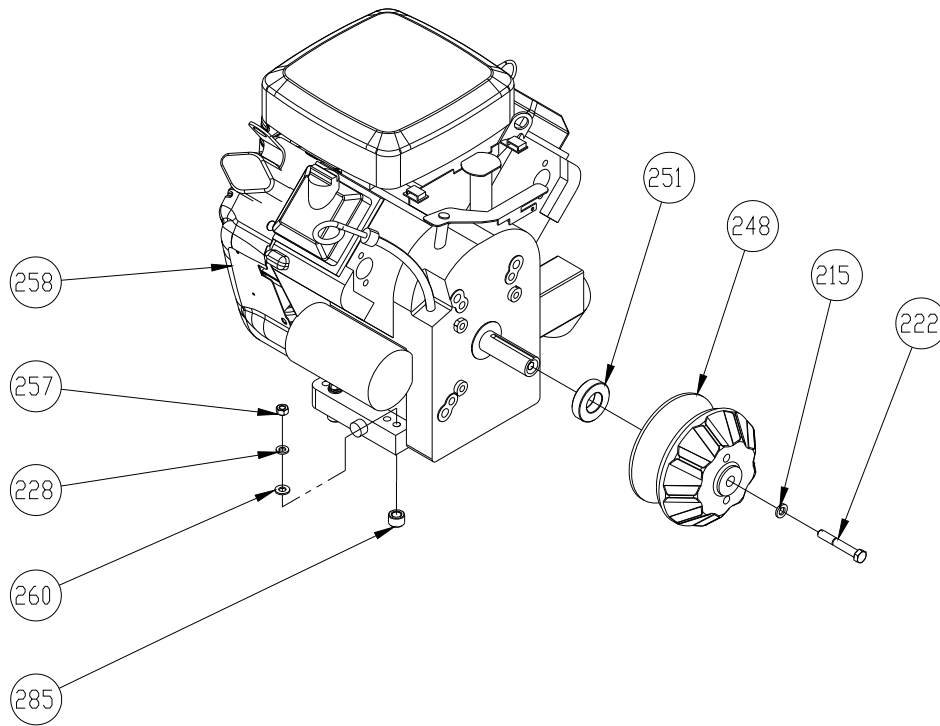
## TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	417	12991	HOUR METER	1		06/06/06
	418	13862	THROTTLE CABLE	1		06/06/06
	419	11124	BALL JOINT	1		06/06/06
	420	22541	SAFETY SWITCH CABLE 57"	1		06/06/06
	---	13863	CLAMP FOR THROTTLE CABLE (not shown)	1		06/06/06



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## POWERPLANT ASSEMBLY



**Figure 2 - Complete Powerplant**

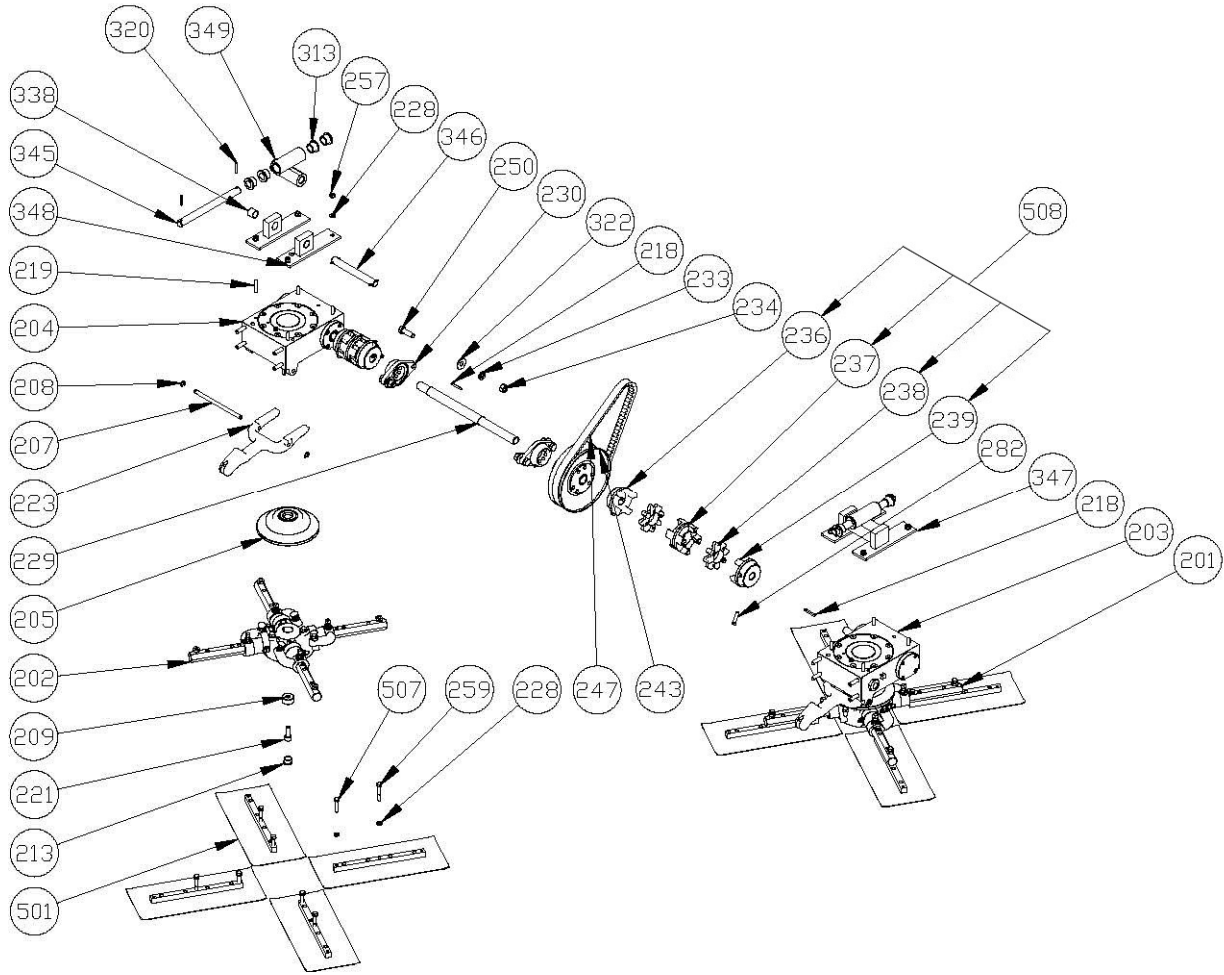
Item #	Description	Item #	Description
215	Lockwasher	257	Hex Nut
222	Hex Bolt	258	Engine
228	Locknut	260	Flat Washer
248	Drive CVT Pulley	285	Spacer
251	Clutch Spacer		

## CUSTOMER PARTS LIST

Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
215	10902	LOCKWASHER, 3/8"DIA.	1		06/06/06
222	10060	HHCS 3/8 – 24 UNF x 5"	1		06/06/06
228	10402	LOCKNUT, 5/16"DIA.	4		06/06/06
248	14707	DRIVE CVT PULLEY 0600-0025	1		06/06/06
251	12707	CLUTCH SPACER	1		06/06/06
257	10915	HEX NUT, 5/16 – 18 UNC, GRADE 5.	4		06/06/06
258	21364	B & S VANGUARD 18 ENGINE	1		06/06/06
	21311	B & S VANGUARD 21 ENGINE	1		06/06/06
260	10919	FLAT WASHER, 5/16" DIA.	4		06/06/06
285	10139	SPACER 1/2"	4		06/06/06

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## DRIVETRAIN ASSEMBLY



**Figure 3 - Complete Drivetrain**

Item #	Description	Item #	Description	Item #	Description
201	Spider Ass'y RH	228	Locknut	259	Hex Bolt
202	Spider Ass'y LH	229	Driveshaft	282	Socket Screw
203	Gearbox Ass'm LH	230	Flange Bearing	313	Flanged Bushing
204	Gearbox Ass'm RH	233	Lockwasher	320	Pin
205	Pressure Plate Ass'y	234	Hex Nut	322	Flat Washer
207	Pin	236	Short Coupling	338	Bronze Bushing
208	Retaining Ring	237	Coupling Centre Hub	345	Pin Shaft
209	Retainer	238	Coupling Spider	346	Cross Pin
213	Cap Plug	239	Short Coupling	347	Left Mtg. Plate Ass'y
218	Keystock	243	Drive Clutch	348	Rear Mtg. Plate Ass'y
219	Stud	247	Belt	349	Bushing
221	Socket Bolt	250	Hex Bolt	501	Trowel
223	Yoke Arm	257	Hex Nut	507	Hex Bolt

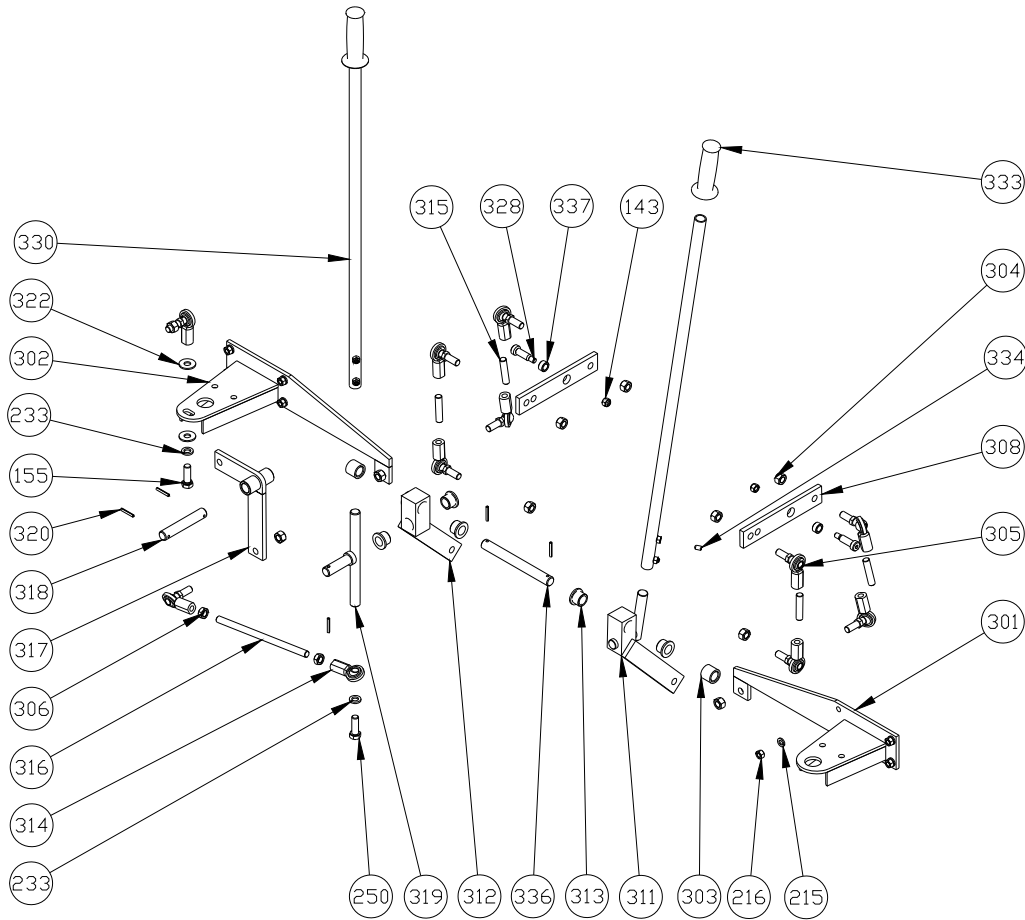
# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

### Drivetrain Assembly

Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
201	20850	SPIDER ASSEMBLY TS65, CW: ROTATION	1		06/06/06
202	20849	SPIDER ASSEMBLY TS65, CCW: ROTATION	1		06/06/06
203	20965	LEFT SIDE GEARBOX ASSEMBLY, TS65, CW: ROTATION	1		06/06/06
204	20959	RIGHT SIDE GEARBOX ASSEMBLY, TS65, CCW: ROTATION	1		06/06/06
205	20627	PRESSURE PLATE ASSEMBLY SM	2		06/06/06
207	10923	PIN 3/8" DIA. x 7"LG.	2		06/06/06
208	10922	RETAINING RING, E-TYPE	4		06/06/06
209	10814	RETAINER, 29/64" ID	2		06/06/06
213	10823	CAP PLUG EC-12	2		06/06/06
218	10208	KEYSTOCK, 0.19SQ. X 1.50LG.	4		06/06/06
219	10927	STUD 5/16 x 1-1/2"LG.	8		06/06/06
221	10812	SHCS, 7/16-14 x 1-1/4"LG.	2		06/06/06
223	10312	YOKE ARM, SMALL	2		06/06/06
228	10402	LOCKNUT 5/16	24		06/06/06
229	13122	DRIVESHAFT 65	1		06/06/06
230	12453	FLANGE BEARING	2		06/06/06
233	10009	LOCKWASHER ,1/2" DIA.	4		06/06/06
234	12519	HEX NUT 1/2-13 UNC	4		06/06/06
236	13050	SHORT 1/2 COUPLING 7/8" BORE	2		06/06/06
237	12994	COUPLING CENTRE HUB	2		06/06/06
238	12932	COUPLING SPIDER	4		06/06/06
239	13051	SHORT 1/2 COUPLING 3/4" BORE	2		06/06/06
243	14708	DRIVEN CVT PULLEY 5500-0017	1		06/06/06
247	14711	BELT KM 52-6187-C	1		06/06/06
250	30019	HHCS 1/2 – 13 x 1-1/2"LG.	4		06/06/06
257	10915	HEX NUT, 5/16 – 18 UNC, GRADE 5	8		06/06/06
259	10403	HHCS 5/16 – 18 x 2"LG.	8		06/06/06
282	12931	SHSS 5/16 – 18 x 1-1/4"LG.	8		06/06/06
313	12968	FLANGED BUSHING	8		06/06/06
320	10315	PIN 3/16" DIA. x 1-1/4"LG.	6		06/06/06
322	12930	USS FLAT WASHER, 7/16" DIA.	4		06/06/06
338	12586	BRONZE BUSHING	2		06/06/06
345	12918	GEARBOX PIN SHAFT	2		06/06/06
346	12497	CROSS BUSHING SUPPORT PIN	1		06/06/06
347	22600	LEFT MOUNTING PLATE ASS'Y	1		06/06/06
348	22499	REAR MOUNTING PLATE ASS'Y	1		06/06/06
349	22474	REAR CROSS BUSHING ASS'Y	1		06/06/06
501	20414	6 x 14" TROWEL	8		06/06/06
507	10401	HHCS 5/16 - 18 UNC x 1 1/2"	8		06/06/06
508	13052	SHORT COUPLING ASSY., COMPLETE	2		06/06/06
509	12845	GREASE FITTING (not shown) FOR FLANGED BEARING 12453	2		06/06/06

**STEERING ASSEMBLY**



**Figure 4 - Complete Steering**

Item #	Description	Item #	Description	Item #	Description
143	Locknut	305	Rod End	318	Steering Pin
155	Hex Bolt	306	Hex Jam Nut	319	Steering Link
215	Lockwasher	308	Pivot Plate	320	Pin
216	Hex Nut	311	Left Steering Block	322	Flat Washer
233	LockWasher	312	Right Steering Block	328	Shoulder Bolt
250	Hex Bolt	313	Flanged Bushing	330	Hand Tube Ass'y
301	Left Control Arm	314	Rod End	333	Handle Grip
302	Right Control Arm	315	Threaded Rod	334	Socket Screw
303	Handle Spacer	316	Push Rod	336	Pin Shaft
304	Locknut	317	Lever	337	Bushing

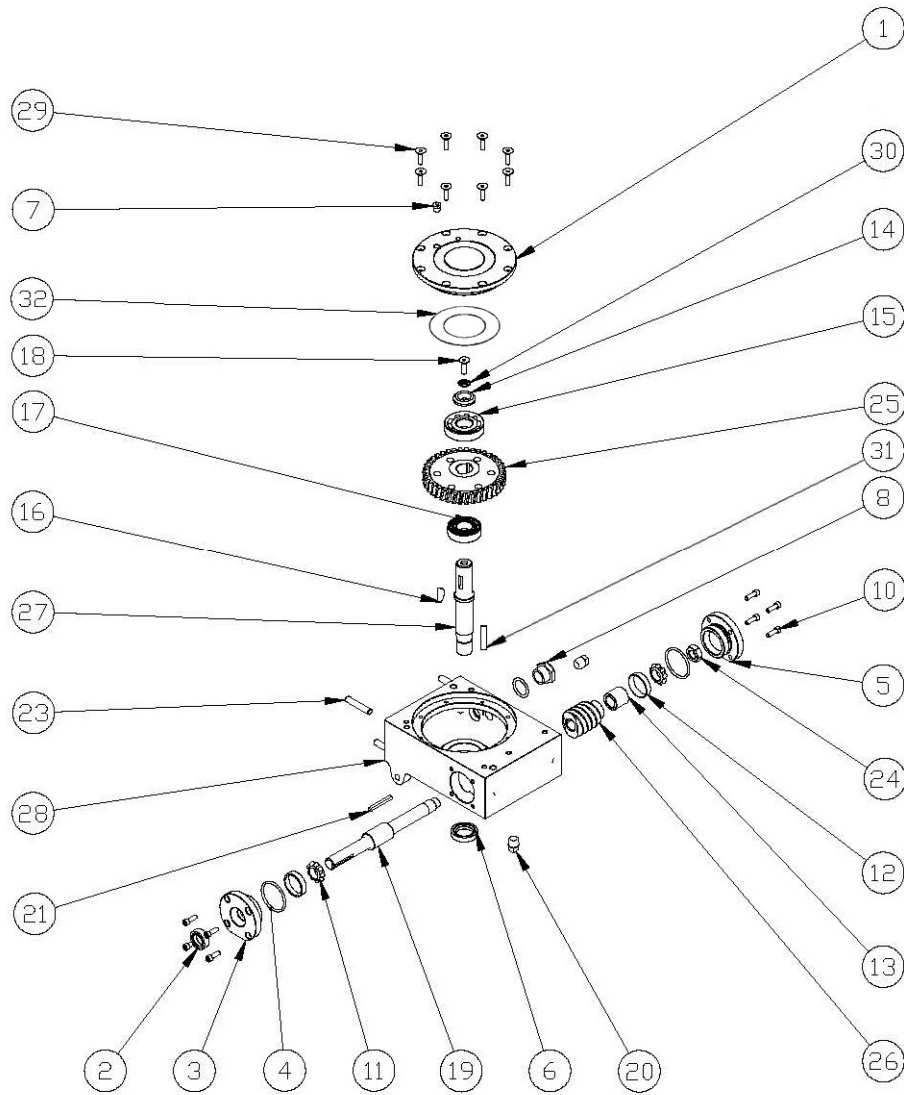
# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

### Steering Assembly

Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
143	10317	3/8-16UNC LOCKNUT, NYLON	2		06/06/06
155	12516	HHCS 1/2 -20 x 1-1/2"LG.	1		06/06/06
215	10902	LOCKWASHER, 3/8" DIA.	8		06/06/06
216	10901	HEX NUT 3/8-16 UNC	8		06/06/06
233	10009	LOCKWASHER, DIA. 1/2"	2		06/06/06
250	30019	HHCS 1/2-13 x 1-1/2"LG.	1		06/06/06
301	22601	LEFT CONTROL ARM	1		06/06/06
302	22602	RIGHT CONTROL ARM	1		06/06/06
303	12917	HANDLE SPACER	2		06/06/06
304	12517	NYLON NUT, 1/2-20UNF	10		06/06/06
305	12412	ROD END PIVOT ASS'Y	10		06/06/06
306	12592	HEX JAM NUT 1/2-20 UNF	2		06/06/06
308	12983	PIVOT PLATE	2		06/06/06
311	22576	LEFT STEERING BLOCK	1		06/06/06
312	22560	RIGHT STEERING BLOCK	1		06/06/06
313	12968	FLANGED BUSHING	6		06/06/06
314	12420	ROD END PIVOT ASS'Y – FEMALE	1		06/06/06
315	12969	THREADED ROD 1/2-20 x 2-1/4"LG.	4		06/06/06
316	13120	L/R PUSH ROD	1		06/06/06
317	22530	L/R LEVER	1		06/06/06
318	12921	STEERING PIN	1		06/06/06
319	22577	RH STEERING LINK	1		06/06/06
320	10315	PIN 3/16" DIA. x 1-1/4"LG.	5		06/06/06
322	12930	USS FLAT WASHER, 7/16" DIA.	2		06/06/06
328	12985	SHSB 1/2" SHLDR x 3/8-16 x 1-1/4"LG.	2		06/06/06
330	22578	HAND TUBE ASS'Y	2		06/06/06
333	10509	HANDLE GRIP	2		06/06/06
334	50117	SHSS CUP PT 5/16-18UNC x 1/2"LG.	4		06/06/06
336	13121	PIN SHAFT	1		06/06/06
337	12984	BUSHING	2		06/06/06

**GEARBOX ASSEMBLY**



**Figure 5 – Gearbox Assembly**

**Note: Right side gearbox shown.**

Item #	Description	Item #	Description	Item #	Description
1	Gearbox Cover	11	Bearing Cup	21	Key
2	Oil Seal	12	Bearing Cone	22	Key
3	Small	13	Spacer	23	Stud
4	SM O-Ring	14	Pressure Washer	24	Locknut
5	End Cap	15	Bearing	25	Main Gear
6	Oil Seal	16	Woodruff Key	26	Worm
7	Relief Valve	17	Bearing	27	Main Shaft
8	Sight Plug	18	Flat Head Bolt	28	Gearbox
9	O-Ring	19	Counter Shaft	29	Flat Head Screw
10	Socket Bolt	20	Plug	30	Lockwasher

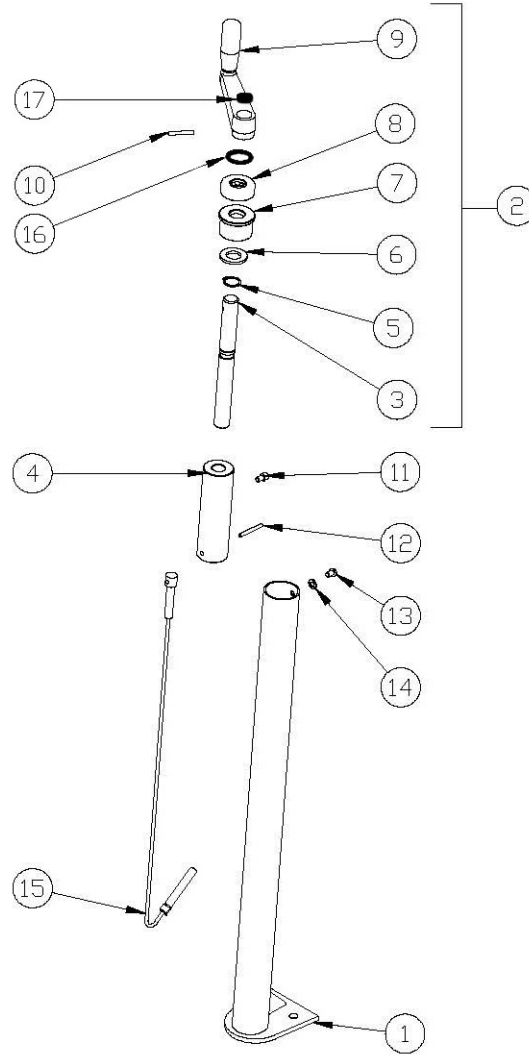
# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

### Gearbox Assembly

*	Item #	CW 20965	CCW 20959	Description	Qty	Eff. S/N	Eff. Date
	1	10917	10917	GEARBOX COVER	1		06/06/06
	2	10678	10678	OIL SEAL	1		06/06/06
	3	10217	10217	SMALL FLANGE	1		06/06/06
*	4	10227	10227	SM O RING	2		06/06/06
*	5	10260	10260	END CAP U/L	1		06/06/06
*	6	10677	10677	OIL SEAL	1		06/06/06
*	7	10909	10909	RELIEF VALVE	1		06/06/06
*	8	10930	10930	SIGHT PLUG	1		06/06/06
*	9	10931	10931	O RING, NO. 213	1		06/06/06
*	10	10213	10213	SHCS, 1/4-20 UNC x 3/4	8		06/06/06
	11	10219	10219	BEARING CUP	2		06/06/06
*	12	10220	10220	BEARING CONE	2		06/06/06
*	13	10223	10223	SPACER	1		06/06/06
	14	10613	10613	PRESSURE WASHER	1		06/06/06
	15	10614	10614	BEARING	1		06/06/06
	16	10615	10615	WOODRUFF KEY 8630 STEEL	1		06/06/06
	17	10617	10617	BEARING	1		06/06/06
	18	10601	10101	FHCS 3/8-16 UNC x 1" LG.	1		06/06/06
	19	10261	10261	COUNTER SHAFT	1		06/06/06
	20	10911	10911	PLUG 3/8 NPT	2		06/06/06
*	21	10206	10206	KEY 3/16"SQ.x 1-7/8" LG.	1		06/06/06
*	22	10651	10651	1/4"SQ.x 15/16" LG.	1		06/06/06
*	23	10910	10910	STUD 3/8-16 x 1-7/8" LG.	4		06/06/06
*	24	10262	10262	LOCKNUT 5/8-11 UNC	1		06/06/06
	25	10649	10648	MAIN GEAR	1		06/06/06
	26	10274	10273	RH WORM 8620	1		06/06/06
	27	10650	10652	MAINSHAFT	1		06/06/06
	28	10921	10921	GEARBOX	1		06/06/06
	29	10916	10916	FHCS 1/4-20 x 3/4" LG.	8		06/06/06
	30	10637	10637	3/8" CSK. LOCKWASHER	1		06/06/06
	31	10608	10608	KEY, 1/4 SQ. x 1-5/32" LG	2		06/06/06
	32	10937	10937	GASKET, .003	A/R		06/06/06
	32A	10939	10939	GASKET, .005	A/R		06/06/06

**PITCH CONTROL ASSEMBLY**



**Figure 6 – Pitch Control Assembly**

Item #	Description	Item #	Description
1	Tube	10	Pin
2	Crank Handle Assembly	11	Socket Screw
3	Screw Shaft	12	Pin
4	Slide Bushing	13	Button Screw
5	Retainer	14	Lockwasher
6	Washer	15	Cable
7	Bushing	16	Shim Ring
8	Bearing	17	Cap Plug
9	Crank Handle		



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

Assembly # **22605**  
PITCH CONTROL ASS'Y

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	1	22538	PITCH CONTROL TUBE	1		06/06/06
*	2	22573	CRANK HANDLE ASSEMBLY	1		06/06/06
*	3	10303	SCREW SHAFT	1		06/06/06
*	4	10308	SLIDE BUSHING	1		06/06/06
	5	10307	RETAINER	1		06/06/06
	6	10306	WASHER 3/4" DIA.	1		06/06/06
	7	10305	BUSHING	1		06/06/06
	8	10304	BEARING 607V NICE	1		06/06/06
	9	12893	COUPLING HANDLE ASSEMBLY	1		06/06/06
	10	10315	PIN 3/16" DIA.x1-1/4" LG.	1		06/06/06
	11	10510	SHCS 1/4-20 x 3/8" LG.	1		06/06/06
	12	10309	SPRING PIN 3/16" DIA.x1-1/2" LG.	1		06/06/06
	13	10511	RHMS 1/4-20 x 3/8" LG. SLOTTED	1		06/06/06
	14	10521	LOCK WASHER, 1/4" DIA.	1		06/06/06
	15	13127	PITCH CONTROL CABLE	1		06/06/06
	16	22674	SHIM RING, 3/4" ID x 1 1/8" OD x .047	1		06/06/06
	17	10555	CAP PLUG	1		06/06/06

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## SPIDER PLATE ASSEMBLY

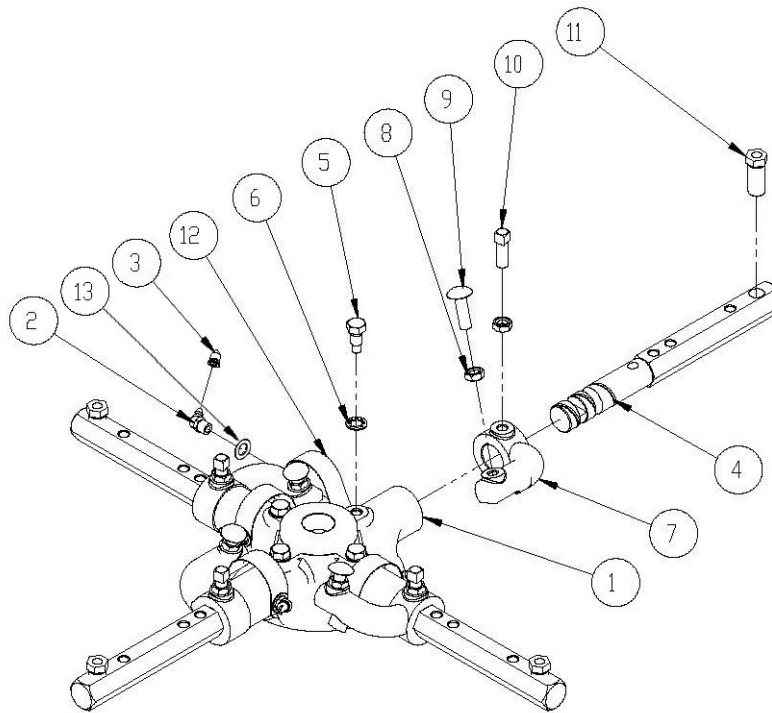
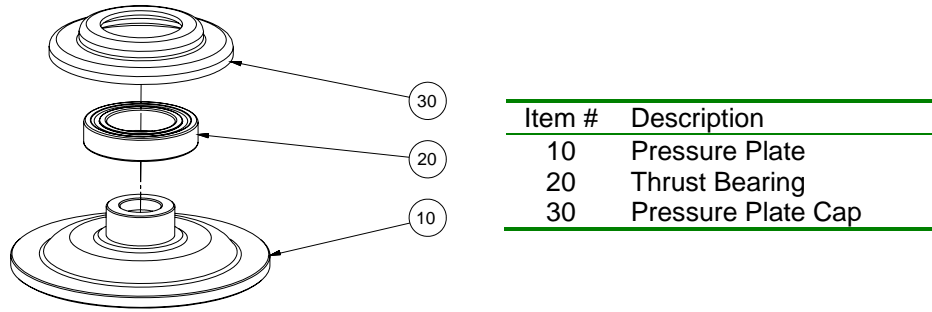


Figure 7 – Greased Spider Assembly (CCW Rotation Shown)

Item #	CCW 20849	CW 20850	Description	Qty	Eff. S/N	Eff. Date
1	10847	10810	SPIDER PLATE TS65	1		06/06/06
2	10801	10801	GREASE FITTING 1/8 NPT, 65 DEG	4		06/06/06
3	10822	10822	CAP PLUG, GREASE NIPPLE, RED	4		06/06/06
4	11405	11405	TROWEL ARM(SMALL)	4		06/06/06
5	10806	10806	HHCS 3/8-16 UNC x 7/8"	4		06/06/06
6	10805	10805	LOCK WASHER $\varnothing$ 3/8" EXTERNAL TOOTH	4		06/06/06
7	10837	10817	LIFT LEVER	4		06/06/06
8	10808	10808	JAM NUT 3/8-16 UNC	8		06/06/06
9	10807	10807	CARRIAGE BOLT 3/8-16 UNC x 1-1/4"	4		06/06/06
10	10809	10809	SHSS, 3/16-16x1"LG, CUP POINT	4		06/06/06
11	10404	10404	ADJUSTING SCREW, 1-1/4" LG.	4		06/06/06
12	10848	10848	TROWEL ARM RETURN SPRING	4		06/06/06
13	10849	10849	FLAT WASHER 3/8"	4		06/06/06

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## PRESSURE PLATE ASSEMBLY



**Figure 8 – Pressure Plate Assembly**

Assembly # **20626**  
Pressure Plate Assembly

Item #	Part #	Description	Qty	EFF. S/N	Eff. Date
10	10659	Large pressure plate	1		10/20/04
20	10663	Large thrust bearing 6010LLU-2A	1		10/20/04
30	10667	Large pressure plate cap	1		10/20/04

*This Page Has Been Intentionally Left Blank*

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## TROWEL BLADE ASSEMBLY

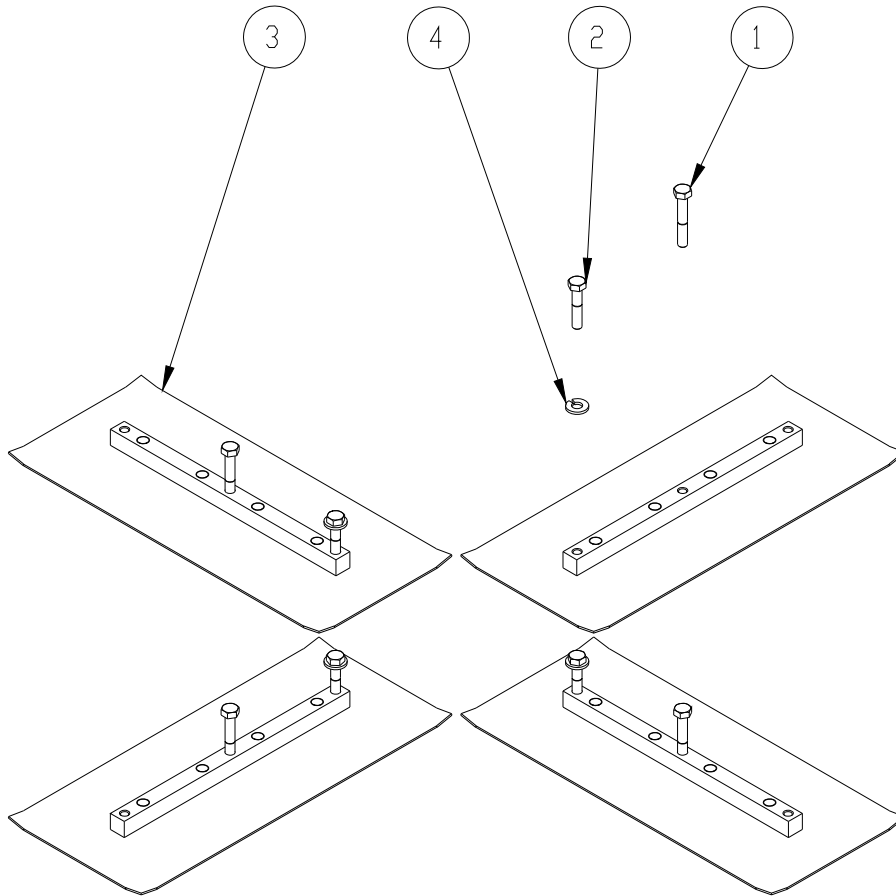


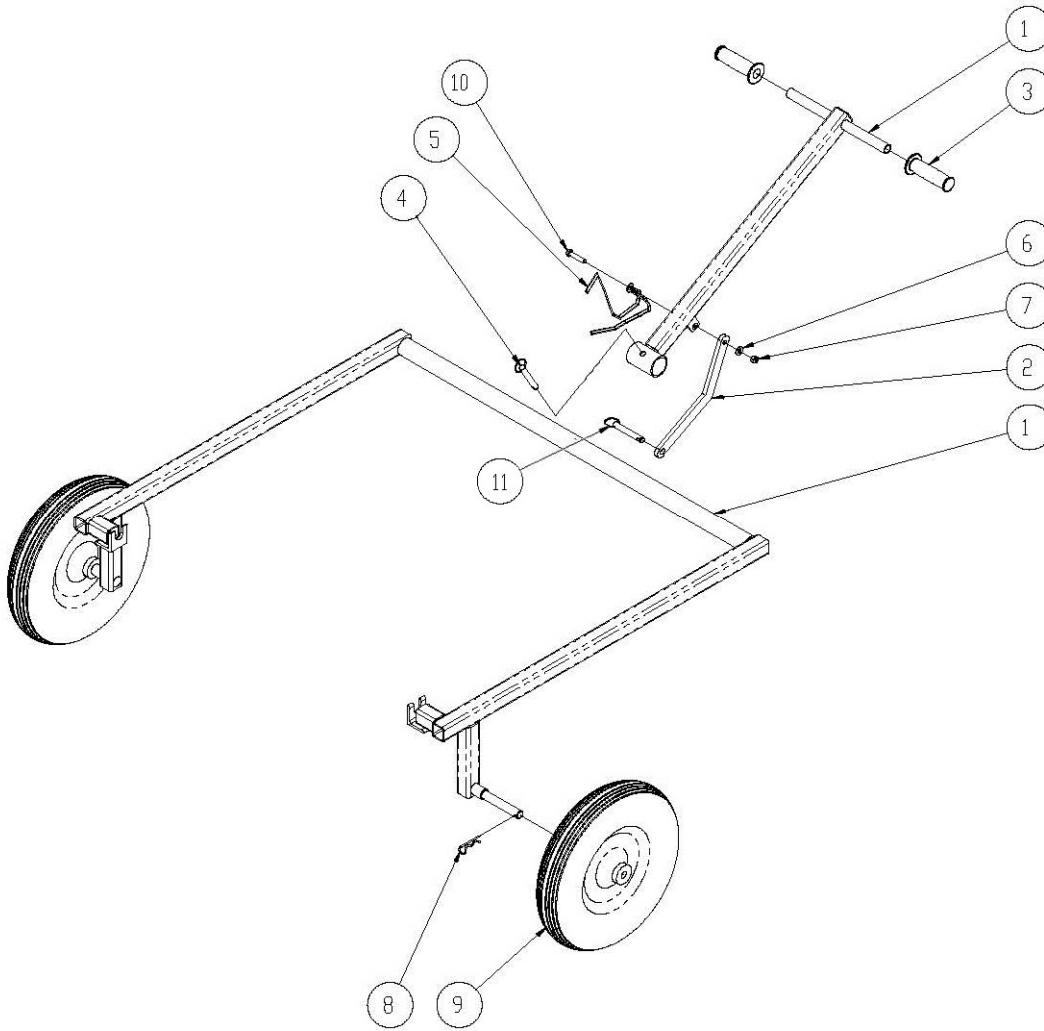
Figure 9 – Trowel Blade Kit

## CUSTOMER PARTS LIST

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	1	10403	HHCS 5/16-18 x 2" LG.	4		06/06/06
	2	10401	HHCS 5/16-18 x 1 1/2" LG.	4		06/06/06
	3	20414	6 x 14 TROWEL BLADE	4		06/06/06
	4	10402	LOCK WASHER $\varnothing$ 5/16"	4		06/06/06

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
*	1	10453	HHCS M8x1.25x50 LG.	4		06/06/06
	2	10452	HHCS M8x1.25x40 LG.	4		06/06/06
	3	20457	6 x 14 METRIC TROWEL	4		06/06/06
	4	11614	LOCK WASHER 8mm	4		06/06/06

**TRANSPORTER ASSEMBLY**



**Figure 10 – TS65 Transporter**

Item #	Description	Item #	Description
1	Transporter Frame Ass'y	7	Locknut
2	Linkage Arm	8	Cotter Pin
3	Handle Grip	9	Wheel
4	Hitch Pin – Large	10	Hex Bolt
5	Chain Link	11	SM Hitch Pin
6	Flat Washer		

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## CUSTOMER PARTS LIST

Assembly # 22606  
TRANSPORTER

<b>*</b>	<b>Item #</b>	<b>Part #</b>	<b>Description</b>	<b>Qty</b>	<b>Eff. S/N</b>	<b>Eff. Date</b>
	1	22620	TRANSPORTER FRAME	1		06/06/06
	2	22626	TRANSPORTER LINKAGE ARM	1		06/06/06
	3	10509	HANDLE GRIP	2		06/06/06
	4	12487	LG HITCH PIN, 3 -1/2	1		06/06/06
	5	12860	CHAIN LINK WITH 3/8" WASHER	1		06/06/06
	6	11200	FLAT WASHER, 3/8" DIA.	1		06/06/06
*	7	10317	NYLOCK NUT, 3/8-16 UNC	1		06/06/06
	8	50265	COTTER PIN 1/8" DIA.	2		06/06/06
	9	13198	WHEEL 16" DIA. x 4" HUB	2		06/06/06
	10	10959	HHCS 3/8-16 x 1-3/4"LG.	1		06/06/06
	11	12488	SMALL HITCH PIN 2 1/2"	1		06/06/06

## TROUBLESHOOTING

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## WON'T START

- Throttle fully open
- Hand lever wire broken
- No gas
- Dirty gas
- Gas filter plugged
- Gas line plugged
- Hole in gas line
- Gas supply valve turned off
- Dead-man safety switch inoperable (foot lever must be depressed)
- Safety switch wire or connectors not making good contact
- Other engine problems (Refer to engine manual)

## STARTS BUT NO HIGH SPEED

- Engine problems
- Throttle cable broken or seized
- Throttle lever and connectors loose or out of adjustment
- Clutch shoes worn

## TROWELS TURN, ENGINE AT IDLE

- Idle too fast
- Belt too tight
- Clutch seized

## MACHINE JUMPS ON FLOOR

- Concrete hardened on bottom of spider plate
- Trowels unevenly worn
- Spider plate seized
- Spider plate loose
- Trowel arms bent
- Adjusting screws (carriage bolts) incorrectly set - use spider plate adjustment jig (pg,13)
- Mainshaft bent
- Steering handle too far right or left

## SPIDER PLATE HARD TO GREASE

- Fittings plugged
- Cement in grease grooves of arms
- Grease fittings too tight

## PITCH CONTROLS WILL NOT OPERATE BLADES

- Cable broken or out of adjustment
- Slot screw missing (under-side of handle)
- Pressure plate and/or yoke arm broken or badly worn
- Hand crank adjuster not working

## BELT WEARING RAPIDLY

- Belt adjusted improperly
- Pulley out of alignment
- Wrong belt/defective belt
- Clutch sticking
- Gearbox seizing

## OIL LEAKS

- a) **Top of gearbox**
  - Engine leaks
  - Relief valve broken
  - Too much oil in gearbox
  - Set screw missing in cover
- b) **Between end cap and gearbox (recoil side)**
  - "O" ring damaged
  - End cap not tight
- c) **At mainshaft or countershaft**
  - Relief valve seized
  - Shaft and/or seal worn

## BLADES HITTING EACH OTHER (MODIFIED MODELS ONLY)

- Blades out of synch
- Sheared key in spider plate or gearbox
- Drive shaft misaligned

## WON'T MOVE FORWARD OR REVERSE

- Pins or forward/reverse lever broken
- Rod end seizing on F/R lever
- Connecting rod broken

## WON'T STEER LEFT OR RIGHT

- Steering arms broken
- Linkage worn out
- Gearbox stud sheared
- Rod end connecting shaft loose

## DRIVE SHAFT WILL NOT TURN

- Universal joint(s) seized
- Yoke arm broken
- Spline stripped
- Key sheared



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## SPECIFICATIONS

### RIDE-ON POWER TROWEL

<b>TS65 (GASOLINE)</b>	
Engine	VANGUARD 18 HP
Length	69" (175 cm)
Width	37" (94 cm)
Height (without seat & steering levers)	29" (74 cm)
Weight	Up to 495 lbs. (225 kg)
Trowel Coverage	14 sq. ft. (1.3 sq. m)
Travel Speed	Up to 400 ft/min (121 m/min)
Dual Rotor Speeds	160 rpm
Float Blade Size	10" x 14" (25 x 36 cm)
Finish Blade Size	6" x 14" (15 x 36 cm)
Combination Blade Size	8" x 14" (20 x 36 cm)
Electric Start	Yes
Electrical System	12 Volt
Charging System	16 Amps
Battery	12 Volt
Dead-man Safety Switch	Yes
Fuel Capacity (approximately)	3 Gal. (12.5 L)
Running Time (approximately)	3 hours
Steering Levers	Twin Stick
Variable Speed Clutch	Yes
Single Belt Drive	Yes
Standard Features	Seat Adjuster Hour Meter 50W Light Package (4 light kit)
Options	Transporter Lifting Hooks Combo Blades

# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## COMPANY INFORMATION

Worldwide Distribution	International Marketing
Distributed By:	<p data-bbox="850 310 1149 432"><b>Bartell Morrison Inc.</b> 375 Annagem Blvd Mississauga, ON, Canada L5T 3A7</p> <p data-bbox="873 468 1110 527">Tel: (905) 364-4200 Fax: (905) 364-4201</p> <p data-bbox="820 560 1166 585"><a href="http://www.bartellmorrison.com">http://www.bartellmorrison.com</a></p>

Conforms with the provisions of the “MACHINES” directive, modified (directive 89/392/CEE) and the national codes transposing it.

(Directive 89/392/CEE, modified) and the rules governing its transposition

Brampton, Ontario, Canada, May 15<sup>th</sup>, 2007

European Representative

**Steve Adam**



# TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

## ATTACHED

### RIDE-ON POWER TROWEL WARRANTY

Bartell Morrison Inc. agrees to furnish without charge, F.O.B. our plant, a replacement for any part or portion thereof, comprising the drive train of the Bartell Ride-on Power Trowel, consisting of the drive shaft assembly and the gear case assemblies, save and except drive belts, power units, and/or bearing or electrical controls which prove upon our examination, to be defective in either material or workmanship within a period of twelve (12) months from date of purchase, provided that notice of such defective part or portion thereof is given to Bartell Morrison Inc. within the twelve month warranty period. No further or other guarantee or warranty expressed or implied in connection with the sale of the Ride-on Power Trowel is given and our sole liability consists in replacing defective parts or portions thereof. We shall not be responsible for any special, indirect or consequential damages arising in any manner whatsoever.

This guarantee is for the sole benefit of the original purchaser as end user. Our responsibility under this guarantee ends in the case the original purchaser transfers ownership of the Ride-on Power Trowel, makes any changes or adds any parts or devices not of our manufacture to the Ride-On Power Trowel.

## TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

- All ride-on trowels sold by Bartell Morrison Inc. are warranted against defects in materials and/or workmanship; excluding normal wear on wearing components and components covered by a separate original manufacturers warranty, for a period of 24 months from the date of sale to the original end user purchaser provided that certain conditions have been met.

### Conditions:

1. The equipment serial number has been registered with Bartell Morrison Inc. or its approved dealers, distributors, representatives or agents.
2. The equipment has been operated in an appropriate manner by qualified individuals.
3. The equipment has been properly maintained as per the instructions included in the Owner's Manual.
4. All claims for warranty must be filed on proper forms and include the serial number of the equipment along with proof of purchase.

Any evidence of failure to meet these conditions may result in a denial of the warranty claim.

- Consideration of warranty claims will be at the sole discretion of Bartell Morrison Inc., or its authorized dealers, distributors, representatives or agents.
- Bartell Morrison Inc. may, at its discretion, request that the equipment to be considered for warranty be returned at the owner's expense to an authorized repair facility for inspection.
- Under this warranty we may, at our discretion, repair or replace a part or the whole of the defective component or equipment.
- Our Warranty coverage is limited to the cost to repair or replace the defective portion of the equipment and a reasonable (as determined by Bartell Morrison Inc.) amount of labour to conduct the repair or replacement. Under no circumstances shall Bartell Morrison Inc. be liable for any additional or exceptional costs beyond the cost to repair or replace the defective portion of the equipment. Bartell Morrison Inc. shall not be held accountable for; costs associated with travel to inspect or repair defective equipment, costs for transporting defective equipment to or from an authorized repair facility, costs incurred to repair or replace the defective equipment at any facility other than one authorized by Bartell Morrison Inc., or ancillary damage caused by or as a result of the defective equipment.
- Under no circumstances shall equipment be returned to Bartell Morrison Inc. or its authorized dealers, distributors, representatives or agents without the approval of Bartell Morrison Inc. as evidenced by a Returned Goods Number. To obtain a Returned Goods Number contact the factory or your authorized dealer, distributor, representative or agent.
- This warranty is for the sole benefit of the original end user purchaser and is not transferable to any other company or person.

## SAMPLE OF CE CERTIFICATE

### Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita

We: Bartell Morrison Inc.  
375 Annagem Blvd  
Mississauga, Ontario, Canada  
L5T 3A7  
Tel: 905-364 4200 Fax: 905-364-4201

Declare under our sole responsibility that the product to which this declaration relates is in conformity with the following standard(s) or other normative documents.

Déclarons sous notre responsabilité que le produit cette déclaration est conforme aux normes suivantes ou d'autres documents habituels.

Verklaren onder onze verantwoordelijkheid dat het product naar welke de verklaring verwijst conform de volgende standaards of anders gebruikelijke documenten is.

Declaramos bajo nuestra única responsabilidad que el producto en lo que esta declaración concierne, es conforme con la siguiente normativa u otros documentos.

Declara sob sua responsabilidade que o produto a quem esta declaração interessar, está em conformidade com os seguintes documentos legais ou normas directivas.

Dichiariamo sotto la ns. unica responsabilità che il prodotto al quale questa dichiarazione si riferisce, è fabbricato in conformità ai seguenti standard e documenti di normative.

EN 349:1993	Safety of Machinery - Minimum gaps to avoid crushing of parts of the human body.
EN 418:1993	Safety of Machinery - Emergency stop equipment, functional aspects - Principles for design
EN 12100-1:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 1: Basic Terminology, methodology
EN 12100-2:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 2: Technical Principles
EN ISO 4872:1978	Acoustics - Measurement of Airborne noise emitted by construction equipment intended for outdoor use - Method for determining compliance with noise limits.
EN ISO 5349-1:2001	Mechanical vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. General requirements
EN ISO 5349-2:2001	Mechanical vibration. Measurement and assessment of human exposure to hand-transmitted vibration. Practical guidance for measurement at the workplace.

Following the provisions of Directive(s):

Suivant les directive(s) déterminées:

Volgens de vastgestelde richtlijnen:

Siguiendo las directiva(s):

No seguimento das clausulas da Directiva(s):

Seguendo quanto indicato dalla Direttiva(s):

98/37/EC	Machinery Directive
2000/14/EC	Noise Directive
2001/95/EC	General Product Safety Directive
2002/95/EC	Reduction of Hazardous Waste Directive

Technical Characteristics:  
 Caractéristiques techniques:  
 Technisch gegevens:  
 Características Técnicas:  
 Características Técnicas:  
 Qualitàs di tecnico:

Model Modèle Type Modelo Modelo Modello	Machine Serial Number Numéro de Série machine Serienummer machine Máquina número de série Numero de serie da maquina Numero di seria la macchina	Engine Serial Number Numéro de Série moteur Serienummer motor Motor número de série Numero de serie do motor Numero di seria la motore	Weight Masse Gewicht Masa Massa Massa
			Lbs (kg)
TS65 Ride-on Pwer Trowel			

Noise Level Puissance acoustique Geluidniveau Nivel Sonoro Nivel del Ruido Potenza Acustica	Pressure level Pression acoustique Geluidsdrkniveau Nivel Acustico Pressão Acústica Pressione Acustica	Vibration level Niveau de vibration Vibratieniveau Nivel de Vibracion Nivel de Vibração Livello di Vibrazione
Lwa (dB)	Lpa (Db)	a <sub>hv</sub> (m/s <sup>2</sup> )

The Technical Construction file is maintained at:  
 Les fiches techniques de construction sont gardées à:  
 Het technische constructie document wordt bewaard te:  
 El archivo técnico de construcción se mantiene en:  
 O arquivo técnico de construção é mantido no (a):  
 L'originale dossier tecnico di costruzione è conservato presso:

Bartell Morrison Inc.  
 375 Annagem Blvd.  
 Mississauga, Ontario, Canada  
 L5T 3A7  
 Telephone: 905-364-4200  
 Facsimile: 905-364-4201

The authorized representative is:  
 Le représentant autorisé est:  
 Gemachtigd vertegenwoordiger is:  
 La representación autorizada es:  
 O representante autorizado é:  
 Il rappresentate autorizzato:

Mr. Steve Adam  
 International Sales Manager  
 C/o Bartell Morrison Europe  
 Nijverheidsstraat 11  
 1840 Londerzeel  
 Belgium  
 Telephone: +1 514 463 4838  
 Facsimile: +1 514 697 4239

Signature of Authorized Person:  
 Signature de la personne autorisée:  
 Handtekening van gemachtigd persoon:  
 Firma de la persona autorizada:  
 Assinatura de pessoa autorizada:  
 Firma della persona autorizzata:  
 Typed name of Authorized Person:  
 Nom dactyographié de la personne autorisée:  
 Getypte naam van gemachtigd persoon:  
 Nombre de la persona autorizada:  
 Nome datilografado da pessoa autorizada:  
 Nome della persona autorizzata:



Richard Stanley

Title of Authorized Person:  
 Titre de la personne autorisée:  
 Functie van gemachtigd persoon:  
 Cargo de la persona autorizada:  
 Título da pessoa autorizada:  
 Posizione della persona autorizzata:

V.P. of Operations

Date and place of issue:  
 Date et place d'émission:  
 Datum en plaats van afgifte:  
 Fecha y lugar de emision:  
 Data e lugar de emissão:  
 Data e luogo di emissione:

6.5.2014  
 Mississauga, Ontario, Canada