

BARTELL

CONCRETE EQUIPMENT

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OWNER'S MANUAL

WALK-BEHIND POWER TROWELS

BC90/BC436
BC120/BC446



ORIGINAL
LANGUAGE

Doc. # OI-B09054
Orig. Rel. - 08-2014
Curr. Rev. - 00

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**ORIGINAL LANGUAGE OPERATING INSTRUCTIONS FOR
 BARTELL WALK-BEHIND POWER TROWELS**

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Revision	Date	Description	Approved By:
00	08/2014	Initial Release	AL

WALK BEHIND POWER TROWEL INSTRUCTION MANUAL

SAFETY PRECAUTIONS	
	<p> DANGER</p> <p>EXPLOSION HAZARD Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes.</p>
	<p>WARNING</p> <p>BURN HAZARD 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> CAUTION</p> <p>ROTATING HAZARD Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.</p>
	<p> CAUTION</p> <p>MOVING PARTS Before starting the machine ensure that all guards and safety devices are in place and functioning properly.</p>
	<p> ATTENTION</p> <p>READ OWNERS MANUAL Read and understand operator's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.</p>

WALK BEHIND POWER TROWEL INSTRUCTION MANUAL

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QUALITY ASSURANCE / MACHINE BREAK IN

The Bartell Walk-Behind Power Trowel is the product of extensive engineering development designed to give long life and unmatched performance. The Walk-Behind Power Trowels are shipped partially assemble, and only require filling with fuel and a brief check of lubricant levels in preparation for operation.

You can help ensure that your Power Trowel will perform at top levels by observing a simple routing on first use. Consider that your new Power 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 Walk-Behind Power Trowel and wish you many years of satisfied use.

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WALK-BEHIND POWER TROWEL WARRANTY

- All products sold by Bartell Morrison Inc. and Bartell Morrison (USA) LLC (the “Company”) 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 12 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 the Company 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 the Company, or its authorized dealers, distributors, representatives or agents.
- The Company 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 the Company) amount of labour to conduct the repair or replacement. Under no circumstances shall the Company be liable for any additional or exceptional costs beyond the cost to repair or replace the defective portion of the equipment. The Company 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 the Company or ancillary damage caused by or as a result of the defective equipment.
- Under no circumstances shall equipment be returned to the Company or its authorized dealers, distributors, representatives or agents without the approval of the Company 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.



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MAINTENANCE RECORD

PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Walk-Behind Power Trowel has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Power Trowel. Your dealer is interested in your new machine and has the desire to help you get the most value from it. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your Bartell dealer. For your convenience we have provided this space to record relevant data about your Walk-Behind Power Trowel. When in need of parts or service be prepared to provide your Trowel serial number. Locate the serial number now and record in the space below.

Date Purchased:		Type of Machine:	
Dealer Name:		Model:	
Dealer Phone:		Serial Number:	

REPLACEMENT PARTS USED				MAINTENANCE LOG	
PART NO.	QUANTITY	COST	DATE	DATE	OPERATION

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Routine Service Intervals		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
General Inspection:							
Guards	Check		o	o	o	o	o
Warning stickers	Check		o	o	o	o	o
Test run:	Check operation		o	o	o	o	o
Controls:							
Dead-man switch operation	Check	o	o	o	o	o	o
Pitch control	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
Engine:							
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
Drive 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
Engine wiring	Check						o

Routine Service Intervals

Due to the nature and environment of use, Walk-Behind Power Trowels could be 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 Walk-Behind Power Trowel and prevent expensive repairs.
- Keeping your Walk-Behind Power Trowel clean and free from debris is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. After each use your Walk-Behind Power Trowel should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating 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 Walk-Behind 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.
- All Walk-Behind Power Trowels have governed engine speed of 3600 rpm. See engine manufacturer’s manual for exact specifications. Care should be used when making any adjustments to the Walk-Behind Power Trowel not to change the governed speed.
- Failure to have your Walk-Behind Power Trowel regularly serviced and properly maintained in accordance with the manufacturer’s instructions will lead to premature failure and void the warranty.

WALK-BEHIND TROWEL INSTRUCTION MANUAL

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 switch should be off.
- Be careful not to come in contact with the muffler when the engine is hot, serious burns may result!

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.

ASSEMBLY INSTRUCTIONS

Your new Bartell Walk-Behind Power Trowel has been shipped to you partially assembled. Filling the fuel tank and a brief check of lubricant levels in preparation for operation is required. To complete the assembly the following instructions will be helpful.

1. **TROWELS** – Attach trowel blades with screws and lock washers supplied. See (A) and (B) Fig. 1. Be careful that adjusting screw (C) does not protrude below arm when attaching blades. This could cause the machine to jump and promote excessive wear in operation.
2. **STABILIZER RING** - (if supplied) Install using socket head cap screws supplied.
3. **HANDLE** - Install following the Setup Procedure.

IMPORTANT:

Before running machine with belt installed, ensure that engine idles properly and that the safety-switch shuts off the engine.

WALK-BEHIND TROWEL INSTRUCTION MANUAL

SETUP PROCEDURE

Fig. 1



Step 1: Trowel shown with handle separate. (Fig. 1)

Fig. 2



Step 2: Lay handle on ring to prepare for assembly. (Fig. 2 and 3)

Fig. 3



Fig. 4



Step 3: Install pitch control cable to yoke and install locknut loosely (Fig. 4). If needed, turn pitch control knob counter-clockwise until the stop screw is at the lowest position (Fig. 5).

Fig. 5



Fig. 6



Step 4: Lift and install handle to position using the supplied four sets of lockwashers and nuts. Do not torque greater than 18ft-lb. At the yoke; tighten the locknut for pitch control cable (Fig. 6). If the cable is too loose or tight, the pitch control range position can be moved by changing the position of the stop screw (Fig. 5). The factory default is the middle position. Turn the pitch control knob completely clockwise and check for maximum pitch possible. This is possible when the clearance between the yoke and underside of the gearbox is enough to pass a business card through.

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Step 5: Unwrap throttle control and engine safety shut-off wires to prepare for their assembly. (Fig. 7 and 8)



Step 6: Remove air filter cover and air filter. (Fig. 9)

Step 7: Check for free moving engine throttle control lever and loosen pivot nut if necessary (Fig. 10)



Step 8: Push handle throttle lever all the way forward for idle position (Fig. 11). If necessary, the tension screw can be adjusted for smooth operation while holding throttle position.

Step 9: Install the throttle control wire into the throttle control lever. (Fig. 12)

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Step 10: Secure the wire to the cable clamp while pushing with slight pressure forward. (Fig. 13)



Step 11: Check operation of throttle control lever. (Fig. 11 and 14)



Step 12: Reinstall air filter and cover (Fig. 15)



Step 13: Route engine safety shut-off wire around engine and install. There are two types that may be available with the machines. (Fig. 16 and 17)



Step 14: Wrap and secure engine safety shut-off wire. (Fig. 18)

Step 15: Refer to Owner's Manual before operating the trowel.

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OPERATION (Floating)

When the slab has set sufficiently firm that the operator's footprint leaves a very slight depression on the surface of the slab, it is ready for the floating operation.

Under normal operating conditions the machine should cover as much as 1000 sq. ft. in about 15 minutes. It is recommended that a slight tension on the trowel control cable, (but *not* a definite tilt), during the floating operation will cause the machine to operate much smoother. After the floated slab has set sufficiently, it is ready for the finishing operation.

CAUTION:

Do not let the machine stand in one spot on the soft cement. Lift from the slab when the floating operation is complete.

OPERATION (Finishing)

When starting the finishing operation, never set the trowels up over 1/4" pitch. This is important. Guiding the machine on the slab is very simple, a slight upward lift of the handle causes the machine to travel to the left. Holding the handle in the neutral position, will slowly cause the machine to spin in one spot. Slight downward pressure on the handle causes the machine to travel to the right. Best results are obtained by covering approximately 4" on each turn. In other words, let the machine move right or left, backwards or forwards, approximately 4" with each revolution of the trowels. To fill a hole or cut down a hump, move the unit back and forth over the problem area.

After the first pass over the slab, the waiting time between operations is determined in the same manner as if you were hand troweling. To repeat; the entire application and action of the troweling machine in regard to getting on the slab, and the correct pitch of the trowels, is determined in the same manner as would be used by a cement finisher when troweling by hand.

STARTING PROCEDURE: *WARM CLIMATE

Open fuel valve on gas tank. Set throttle lever to "Fast" idle position, set choke to closed position, start engine. Open choke slightly to prevent flooding. Move to "Open" or "Run" position when engine is warm, increase throttle to maximum operation position (3600 rpm).

STARTING PROCEDURE: *COLD CLIMATE

Follow same procedure as above but allow longer warm-up period – 3 to 5 minutes. In cold weather, oil is much heavier to move and requires more time to work its way into the moving parts. If maximum power is not attained, allow further warm-up time. Fill fuel tank with clean gasoline, use safety approved gas containers. **DO NOT MIX OIL WITH GASOLINE – USE UNLEADED GAS ONLY.**

STOPPING PROCEDURE

1. Throttle engine down.
2. Turn off stop switch.

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.

ENGINE OIL SPECIFICATIONS

Season Temperature	Grade of Engine Oil
All Season	SAE 10W-30

2. SPIDER PLATE

There are 4 (four) grease fittings on the spider plate, each must be greased daily. **THE SPIDER PLATE 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 16 oz. to 19 oz. (473ml. To 562ml.) Example: Esso/Exxon Cyclesstic TK680.

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 16 oz. to 19 oz. (473ml. To 562ml.) of Agma 8 compounded gear oil. Replace the filler plug and tighten.

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STORAGE

The following steps should be taken to prepare your Walk-Behind Power Trowel for extended storage.

1. Close fuel shut off valve.
2. Siphon excess gasoline from tank.
3. Start engine until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent formation of deposits due to evaporation of fuel.
4. Remove spark plug and pour 2 oz. of SAE-30 or SAE-40 motor oil into the cylinder. Slowly crank the engine 2 or 3 times to distribute the oil throughout the cylinder. This will help prevent rust during storage. Replace spark plug.
5. Store the unit in an upright position in a cool, dry, well ventilated area.

MAINTENANCE

Maintaining your Walk-Behind Power Trowel will insure long life to the machine and its components.

AIR CLEANER - Keep air filter clean at all times. Wash away dust and debris using a non-oil based cleaning solvent. Let the filter dry before re-installing.

LUBRICATION - Check engine oil regularly. Use proper engine oil as recommended. See previous chart. Fill crankcase to levels as recommended in manufacture's engine manual.

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

V-BELT - Remove and check condition, and replace if necessary. If belt is damaged, repair cause of damage before replacing with a new belt.

TROWEL ARM ADJUSTMENT FIXTURE

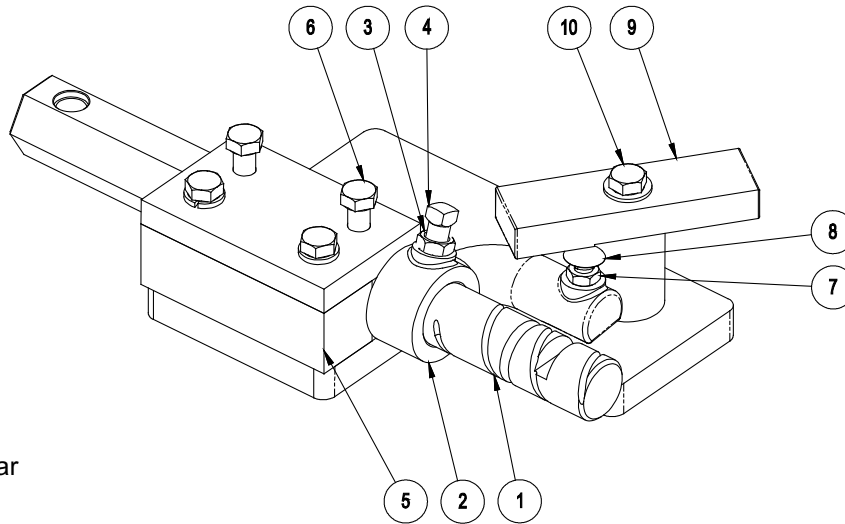


Figure 5a.

PART #20801

Ex: Unit 36" (B436)

- 1)10810A – Trowel arm
- 2)10817A – Lift lever
- 3)10808 – Jam nut
- 4)10809 – Set screw
- 5)10824 – Block top
- 6)10507 – Bolt
- 7)10808 – Jam nut
- 8)10807 – Carriage bolt
- 9)10832 – Adjustment bar
- 10) 10507 – Bolt

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 Walk-behind 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 as described above.

NOTE: IT IS IMPORTANT THAT WHEN TIGHTENING SQUARE HEAD NUT (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. Clamp in place with bolts (6).
5. Loosen locknut (7) and screw carriage bolt (8) down to full depth allowable. This will provide for ample clearance to swing precision ground 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.

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.

7. This same procedure is to be followed with ALL arms from spider plate assembly, and will ensure correct and exact adjustment.

TROWEL ARM ADJUSTMENT SCREW

The trowel arm adjustment screw is to be used for field adjustment of blade level, in the event of a damaged trowel arm, to enable completion of the job. At the end of the job repairs should be made to eliminate the damage. When assembling trowel blades to trowel arms, the adjustment screw should NEVER protrude below the under-side surface of a trowel arm.

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 to 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.

TROUBLESHOOTING

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
- 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

STARTS AT HIGH SPEED, WON'T SLOW DOWN

- Same as above

ENGINE WON'T STOP

- Safety switch, wire or connectors not making good contact

ENGINE STARTS BUT WON'T TURN TROWELS AT ANY SPEED

- Clutch seized
- No weights or broken clutch
- Wrong belt
- Broken or missing key
 - Clutch
 - Pulley
 - Worm gear (countershaft)
 - Main gear
 - Spider plate
- Gearbox seized

TROWELS TURN, ENGINE AT IDLE

- Idle too fast
- Belt too tight
- Clutch seized
- Pulley out of alignment

TROWELS BLADES WEARING UNEVENLY

- Spider plate seized
- Arms bent
- Adjusting screws (carriage bolts) incorrectly set

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

PITCH CONTROLS WILL NOT OPERATE BLADES

- Cable broken or out of adjustment
- Slot screw missing (under-side of handle)
- Spider plate seized
- Pressure plate and/or yoke arm broken or badly worn
- Hand crank adjuster malfunctioning

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

TROWEL BLADES WILL NOT TURN

- Yoke arm broken
- Key sheared

SPIDER PLATE HARD TO GREASE

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

SPECIFICATIONS

WALK-BEHIND TROWEL

Walk Behind Trowel (GASOLINE)	
Blade Speed (RPM)	130-160
Engine Speed (RPM)	3600
Clutch Type	Centrifugal
Variable Speed	Yes
Gearbox Oil	Agma 8 compounded gear oil
Gearbox Oil Capacity	16 oz. (473 ml), 19 oz. (562 ml)
Engine Fuel	Gasoline – Unleaded
Engine Oil Alert	Yes
Cooling	Air
Starting	Recoil Starter - Manual
Fuel Capacity (approximate)	3 Gal. (12.5L)
Running Time (approximate)	2 1/2 Hours
Number of Blades	4
Engine Acoustic Power Lwa (dB)	97-103
Engine Acoustic Pressure Lpa (Db)	82-86
Level of Vibration	1.1-1.5
Vibration value on the handle	7.0 aw
Options	Hoist Hook

- Power rating conforming to DIN 6270 & ISO 3048/1 Std.
- RPM results may vary by engine option.

<p>Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita</p>
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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.
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 Dichiariamo sotto la ns. unica responsabilita 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

WALK BEHIND POWER TROWEL INSTRUCTION MANUAL

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

Model Modèle Type Modelo Modelo Modello	MachineSerial 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) 125 (56.8)

Noise Level Puissance acoustique Geluidniveau Nivel Sonoro Nivel del Ruido Potenza Acustica	Pressure level Pression acoustique Geluidsdrunkniveau 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 _{hv} (m/s ²)
98	99	1.5

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:

The authorized representative is:

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

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:

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:

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Richard Stanley

V.P. Operations

03.06.2013

Mississauga, Ontario, Canada

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200 COMMERCE DRIVE, FREEHOLD, NEW JERSEY, USA, 07728, 732-566-6400 FAX 732-566-5444

PARTS BOOK

WALK-BEHIND TROWELS

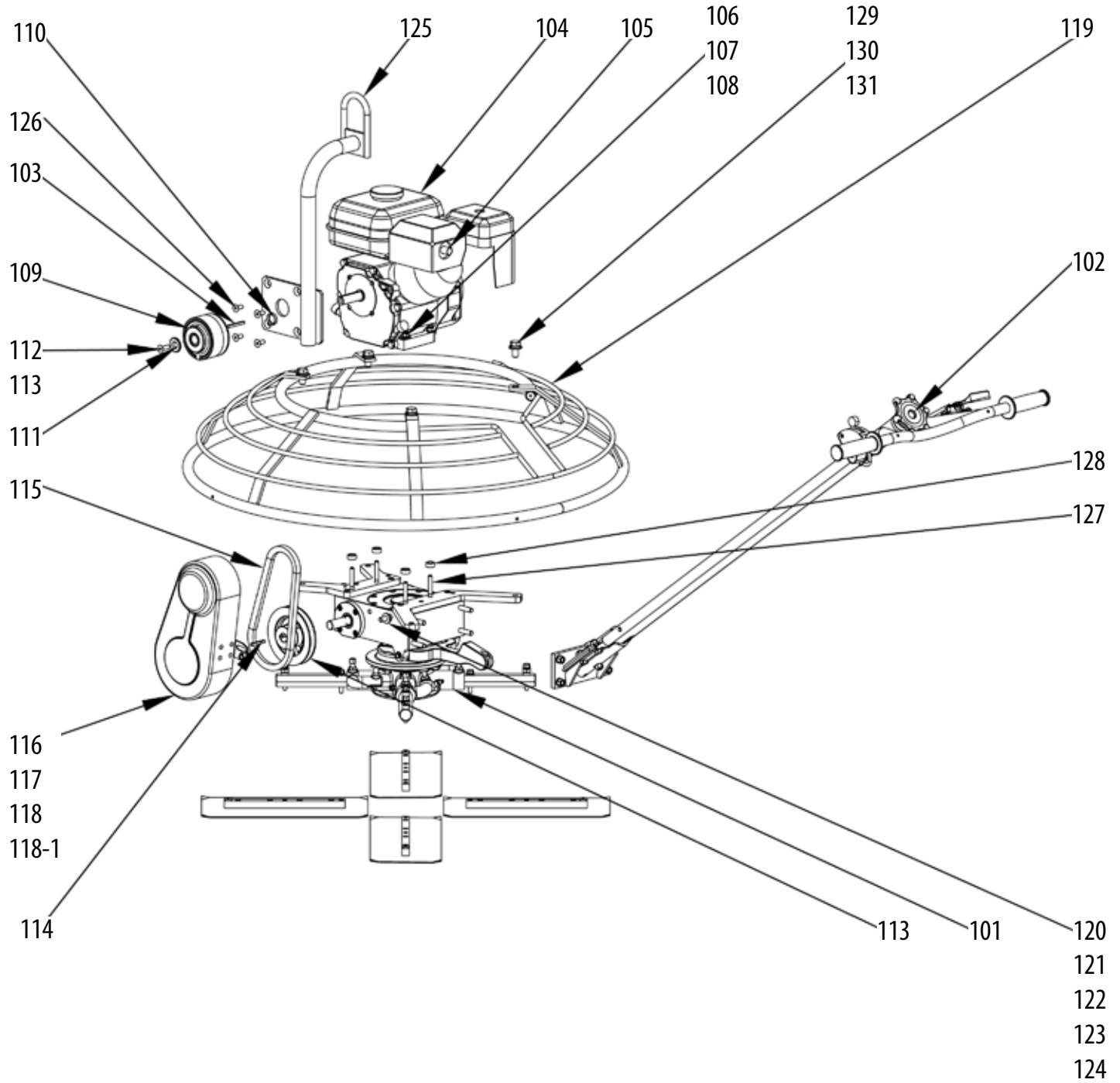
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2. BASE UNIT ASSEMBLY	8
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4. HANDLE ASSEMBLY - EUROPEAN	12
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PARTS LIST 1

WALK-BEHIND TROWELS

GENERAL ASSEMBLY - BC436



PARTS LIST 1

WALK-BEHIND TROWELS

GENERAL ASSEMBLY - BC436

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
101	N/A	BASE UNIT	1	7/20/2014
102	20610	HANDLE ASSEMBLY, FINE PITCH (SEE PARTS LIST 3)	1	7/20/2014
	20612	HANDLE ASSEMBLY, EUROPEAN SPEC. (SEE PARTS LIST 4)		7/20/2014
103	10206 (GX160)	SQUARE KEY, 3/16" x 1 7/8" LG	1	7/20/2014
	11003 (GX270)	SQUARE KEY, 1/4" X 2" LG		
104	ENGINE	ENGINE	1	7/20/2014
105	11112	MUFFLER DEFLECTOR	1	7/20/2014
106	11614 (GX160)	WASHER, LOCK, M8	4	7/20/2014
	11621 (GX270)	WASHER, LOCK, M10		
107	11615 (GX160)	HEX NUT, M8 - 1.25	4	7/20/2014
	11622 (GX270)	HEX NUT, M10 - 1.5		
108	11667 (GX160)	WASHER, FLAT, M8	2	7/20/2014
	41516 (GX270)	WASHER, FLAT, M10		
109	21822 (GX160)	CLUTCH, 3/4" BORE (SEE PARTS LIST 5)	1	7/20/2014
	21823 (GX230)	CLUTCH, 1" BORE (SEE PARTS LIST 5)		
110	11254 (GX160) N/A (GX270)	CLUTCH SPACER (WITH HOIST HOOK)	1	7/20/2014
111	11902 (GX160) N/A (GX270)	CLUTCH RETAINER	1	7/20/2014
112	981045 (GX160) NA (GX270)	HHCS, 5/16 - 24 x 1 1/2" LG	1	7/20/2014
113	14285	SHEAVE, MB58 x 3/4"	1	7/20/2014
114	10208	SQUARE KEY, 3/16" x 1/2" LG	1	7/20/2014
115	10756 (GX160)	BELT, BX25	1	7/20/2014
	11178 (GX270)	BELT, B29		7/20/2014
116	21067-1	BELT GUARD	1	7/20/2014
117	10999	HHCS, M8 - 1.25 x 20mm	1	7/20/2014
118	11667	WASHER, FLAT, M8	1	7/20/2014
118-1	11614	WASHER, LOCK, M8	1	7/20/2014
119	21813	GUARD RING	1	07/20/2014
120	14227	STUD, M10 - 1.5 X 40mm LG	1	7/20/2014
121	21764	HEX NUT (JAM), M10	1	7/20/2014
122	11614	WASHER, LOCK, M10	1	7/20/2014
123	41516	WASHER, FLAT, M10	2	7/20/2014
124	11622	HEX NUT, M10 - 1.5	1	7/20/2014
125	20189 (GX160) 20171 (GX270)	HOIST HOOK (optional)	1	7/20/2014
126	30041	FHSCS, 5/16" - 24UNF x 3/4" lg (optional)	1	7/20/2014

PARTS LIST 1

WALK-BEHIND TROWELS

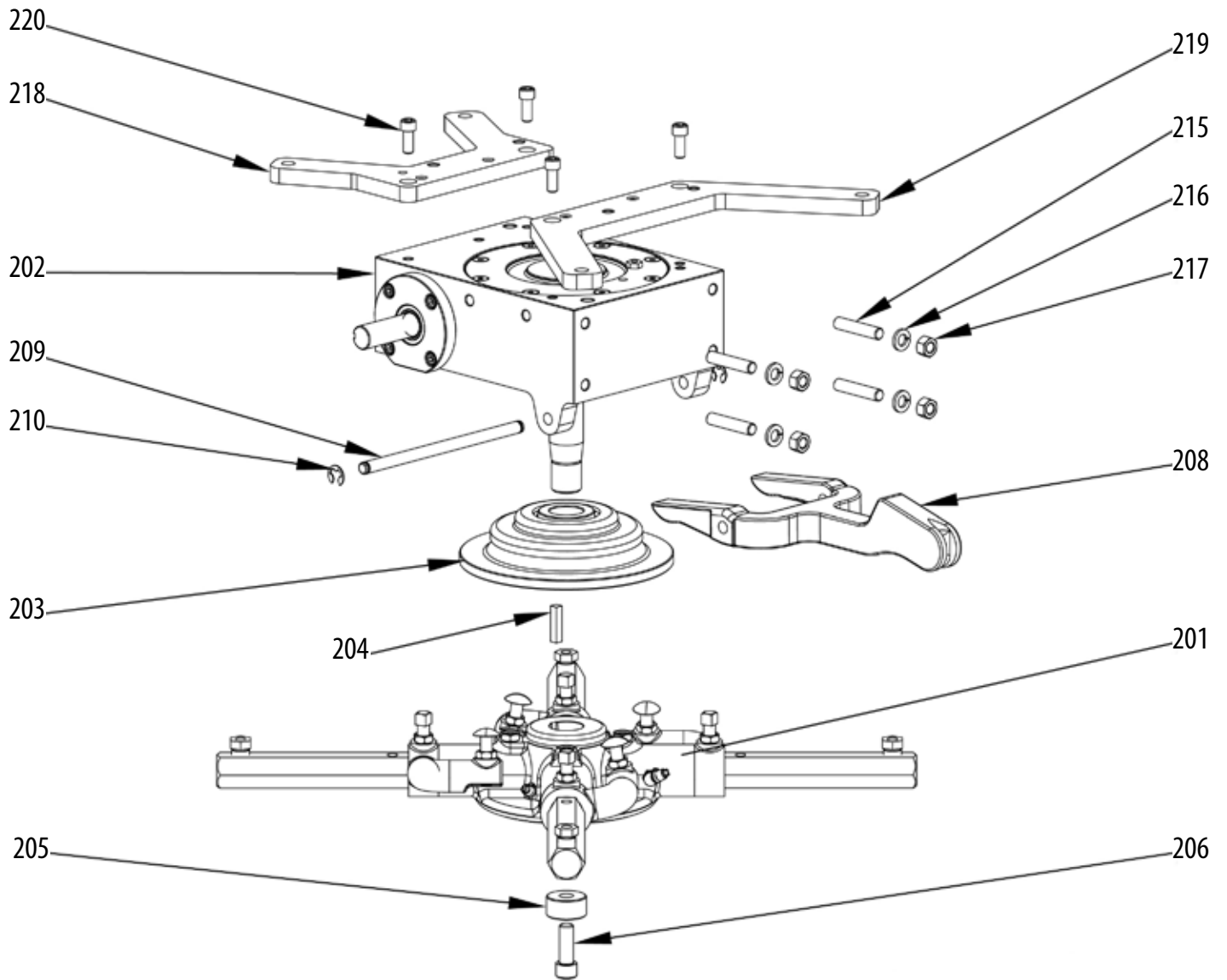
GENERAL ASSEMBLY - BC436

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
127	11670 (GX160) 14227 (GX270)	STUD, ENGINE MOUNT, M8 - 1.25 X 35mm STUD, ENGINE MOUNT, M10 - 1.5 X 40mm	4	7/20/2014 7/20/2014
128	NA (GX160) 10104 (GX270)	SPACER	4	7/20/2014
129	11900	HHCS, M12-1.75 x 25mm	4	7/20/2014
130	10735	WASHER, LOCK, 12	4	7/20/2014
131	14267	WASHER, FLAT, M12	4	7/20/2014

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PARTS LIST 2 WALK-BEHIND TROWELS

BASE UNIT ASSEMBLY: BC436



PARTS LIST 2

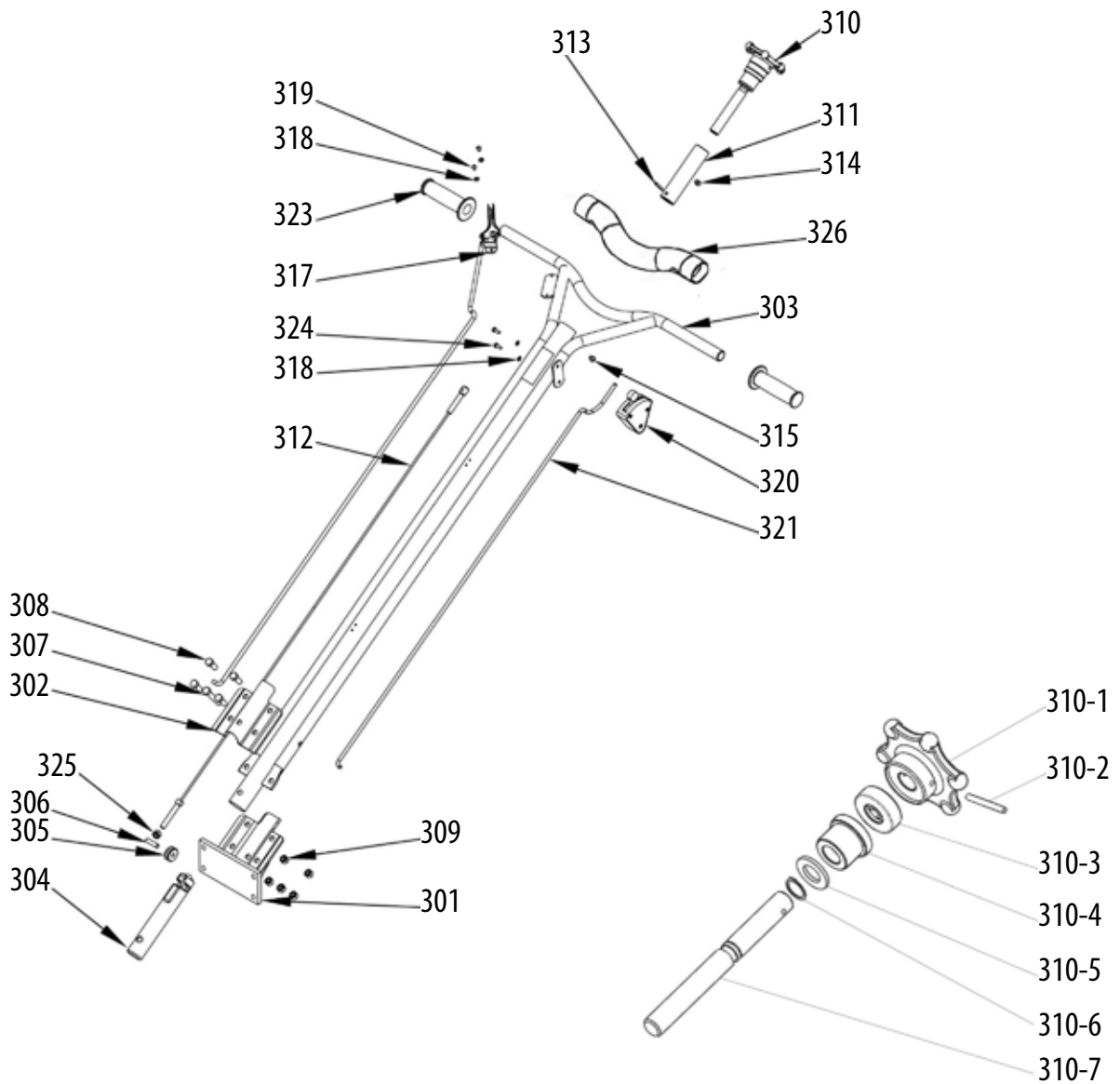
WALK-BEHIND TROWELS

BASE UNIT ASSEMBLY: BC436

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
201	21814	SPIDER PLATE ASSEMBLY (SEE PARTS LIST 6)	1	7/20/2014
202	21815	GEARBOX ASSEMBLY (SEE PARTS LIST 5)	1	7/20/2014
203	-	PRESSURE PLATE ASSEMBLY (SEE PARTS LIST 6)	1	7/20/2014
204	11690	KEY, 1/4" SQ x 1 - 5/32" LG	1	7/20/2014
205	10814	SPIDER PLATE RETAINER	1	7/20/2014
206	21799	SHCS, M10 - 1.5 X 30mm LG	1	7/20/2014
208	21817	YOKE ARM	1	7/20/2014
209	21818	YOKE PIN	1	7/20/2014
210	21819	RETAINING RING	2	7/20/2014
215	14227	STUD, M10 - 1.5 x 40mm LG	4	7/20/2014
216	11621	WASHER, LOCK, M10	4	7/20/2014
217	11622	HEX NUT, M10-1.5	4	7/20/2014
218	15344-1	MOUNTING RAIL, FRONT	1	7/20/2014
219	15345-1	MOUNTING RAIL, REAR	1	7/20/2014
220	31106	SHCS, M8 - 1.25 x 20	4	7/20/2014

PARTS LIST 3 WALK-BEHIND TROWELS

HANDLE ASSEMBLY - 20610 FINE PITCH



PARTS LIST 3

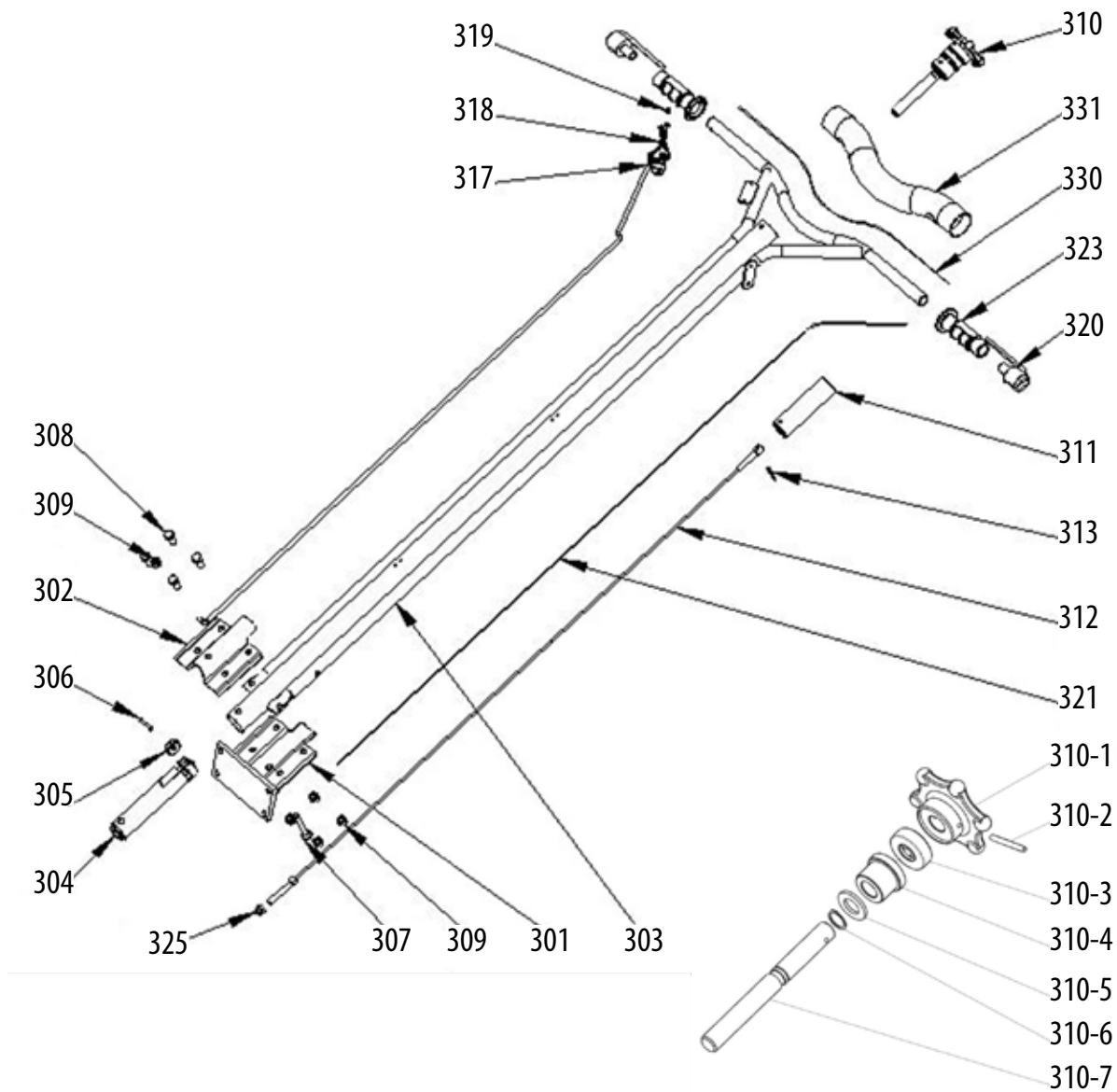
WALK-BEHIND TROWELS

HANDLE ASSEMBLY - 20610

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
301	20517	HANDLE BRACKET	1	9/27/2007
302	10518	HANDLE CLAMP	1	9/27/2007
303	21703	HANDLE TUBE	1	9/27/2007
304	21704	SUPPORT BLOCK	1	9/27/2007
305	21705	PULLEY	1	9/27/2007
306	21706	DOWEL PIN	1	9/27/2007
307	13350	HHCS M10-1.5 x 60MM LG	1	9/27/2007
308	10889	HHCS M10-1.5 x 30MM LG	4	9/27/2007
309	11802	LOCKNUT, M10-1.5, NYLOCK	5	9/27/2007
310	21714	HAND KNOB ASSEMBLY	1	9/27/2007
310-1	21707	HAND KNOB	1	9/27/2007
310-2	21708	SPRING PIN	1	9/27/2007
310-3	21709	THRUST BEARING	1	9/27/2007
310-4	21710	BUSHING	1	9/27/2007
310-5	21711	WASHER	1	9/27/2007
310-6	21712	RETAINING RING	1	9/27/2007
310-7	21713	SCREW SHAFT	1	9/27/2007
311	21715	SLIDE BUSHING	1	9/27/2007
312	21716	PITCH CONTROL CABLE	1	9/27/2007
313	21724	PIN	1	9/27/2007
314	21725	SHCS M6-1.0 x 6MM LG	1	9/27/2007
315	21726	RHMS M6-1.0 x 12MM LG	1	9/27/2007
317	10508	THROTTLE CABLE ASSEMBLY C/W LEVER	1	9/27/2007
318	10703	WASHER LOCK, #10 INTERNAL STAR	4	9/27/2007
319	21728	RHMS M5-0.8 x 8MM LG	2	9/27/2007
320	21729	SAFETY SWITCH ASSEMBLY	1	9/27/2007
321	20702	WIRE ASSEMBLY	1	9/27/2007
323	21717	HANDLE GRIP (PAIR)	1	9/27/2007
324	10711	HHCS M5-0.8 x 12MM LG	2	9/27/2007
325	10317	LOCKNUT, 3/18"-16, NYLOCK	1	9/27/2007
326	21807	CROSSBAR PAD	1	9/27/2007

PARTS LIST 4 WALK-BEHIND TROWELS

HANDLE ASSEMBLY - 20612 EUROPEAN SPEC.



PARTS LIST 4

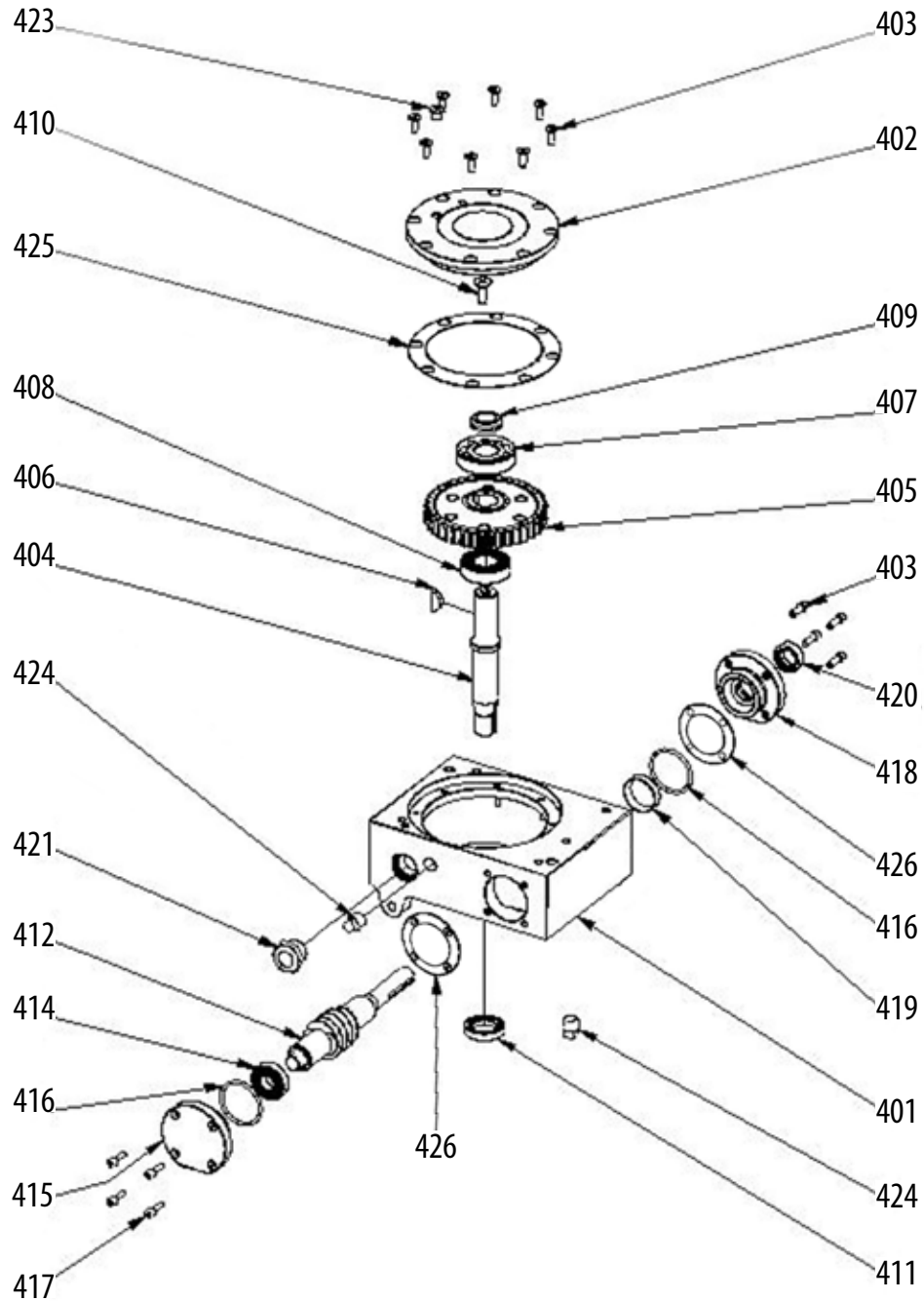
WALK-BEHIND TROWELS

HANDLE ASSEMBLY - 20612 EUROPEAN SPEC.

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
301	20518	HANDLE BRACKET	1	1/17/2008
302	10505	HANDLE CLAMP	1	1/17/2008
303	21718	HANDLE TUBE	1	1/17/2008
304	21719	SUPPORT BLOCK	1	1/17/2008
305	21705	PULLEY	1	1/17/2008
306	21706	DOWEL PIN	1	1/17/2008
307	20539	FHCS, M10-1.5 x 70MM	1	1/17/2008
308	13348	HHCS, M10-1.5 x 25MM	4	1/17/2008
309	11802	LOCK NUT, M10-1.5, NYLOCK	5	1/17/2008
310	21720	HAND KNOB ASSEMBLY	1	1/17/2008
310-1	21707	HAND KNOB	1	1/17/2008
310-2	21708	SPRING PIN	1	1/17/2008
310-3	21709	THRUST BEARING	1	1/17/2008
310-4	21731	BUSHING	1	1/17/2008
310-5	21711	WASHER	1	1/17/2008
310-6	21712	RETAINING RING	1	1/17/2008
310-7	21713	SCREW SHAFT	1	1/17/2008
311	21722	SLIDE BUSHING	1	1/17/2008
312	21723	PITCH CONTROL CABLE	1	1/17/2008
313	21724	SPRING PIN	1	1/17/2008
317	10895	THROTTLE CABLE ASSEMBLY C/W LEVER	1	1/17/2008
318	10703	WASHER, LOCK, #10 DIA, INTERNAL STAR	2	1/17/2008
319	21728	RHMS, #10-24UNCX 1/4"LG	2	1/17/2008
320	11852	SAFETY SWITCH	2	1/17/2008
321	20702	WIRE ASSEMBLY, 93" EURO	1	1/17/2008
323	21717	HANDLE GRIP (PAIR)	1	1/17/2008
325	10317	NYLOCK NUT, 3/8"-16UNC	1	1/17/2008
330	21727	WIRE ASSEMBLY, 27" EURO	1	1/17/2008
331	21721	HANDLE SHIELD PAD	1	1/17/2008

PARTS LIST 5 WALK-BEHIND TROWELS

GEARBOX ASSEMBLY - 21815



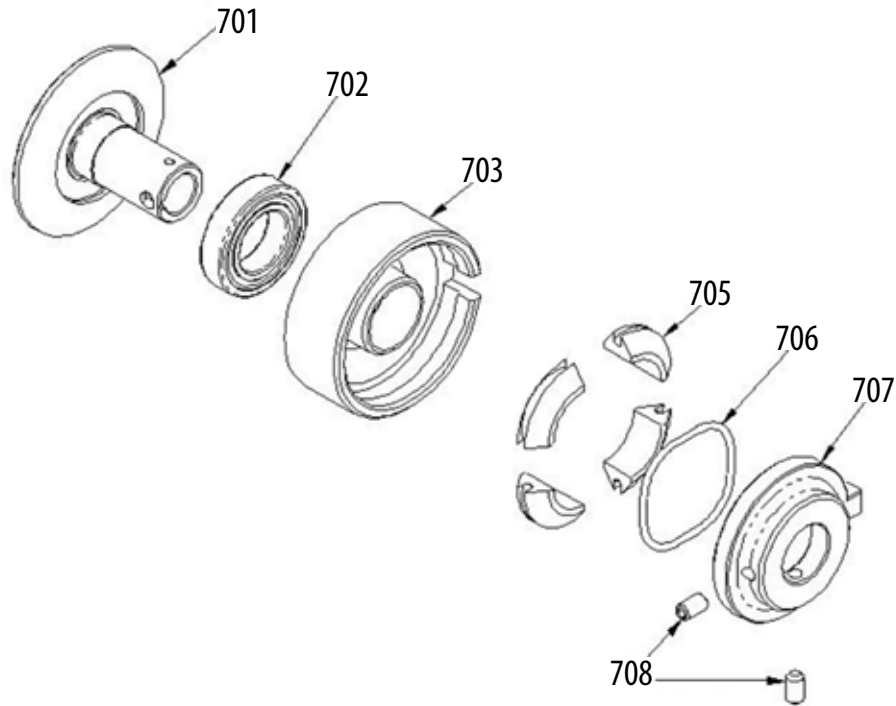
PARTS LIST 5

WALK-BEHIND TROWELS

GEARBOX ASSEMBLY - 21815

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
401	21821	GEAR HOUSING	1	7/20/2014
402	21780	GEARBOX COVER	1	7/20/2014
403	21742	SHCS, M6 - 1.0 x 15mm LG	16	7/20/2014
404	21782	MAIN SHAFT	1	7/20/2014
405	21781	MAIN GEAR	1	7/20/2014
406	21790	KEY, WOODRUFF	1	7/20/2014
407	21787	BEARING	1	7/20/2014
408	21786	BEARING	1	7/20/2014
409	21734	PRESSURE WASHER	2	7/20/2014
410	21735	FHSCS, M8 - 1.25 x 15mm LG (LH)	8	7/20/2014
411	21788	OIL SEAL	1	7/20/2014
412	21784	COUNTERSHAFT	1	7/20/2014
413	21792	BEARING	1	7/20/2014
414	21794	BEARING	1	7/20/2014
415	21785	END CAP	1	7/20/2014
416	21791	O-RING	2	7/20/2014
418	21783	FLANGE	1	7/20/2014
419	21792	BEARING CUP	1	7/20/2014
420	21749	OIL SLEA	1	7/20/2014
421	21750	SIGHT PLUG	1	7/20/2014
423	21736	RELEAF VALVE	1	7/20/2014
424	21747	PIPE PLUG	2	7/20/2014
425	21840-1	GASKET, COVER 0.1mm	A/R	7/20/2014
	21840-2	GASKET, COVER, 0.2mm	A/R	7/20/2014
426	21841-1	GASKET, FLANGE, 0.1mm	A/R	7/20/2014
	21841-2	GASKET, FLANGE, 0.2mm	A/R	7/20/2014

PARTS LIST 6 WALK-BEHIND TROWELS



CLUTCH ASSEMBLY - 21822 (3/4" Shaft)

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
701	21824	SPINDLE	1	7/20/2014
702	21826	BEARING	1	7/20/2014
703	21827	DRUM W/BUSHING	1	7/20/2014
705	21828	WEIGHT (SHOE)	4	7/20/2014
706	21829	SPRING	1	7/20/2014
707	21830	FACE PLATE	1	7/20/2014
708	21831	SET SCREW	2	7/20/2014

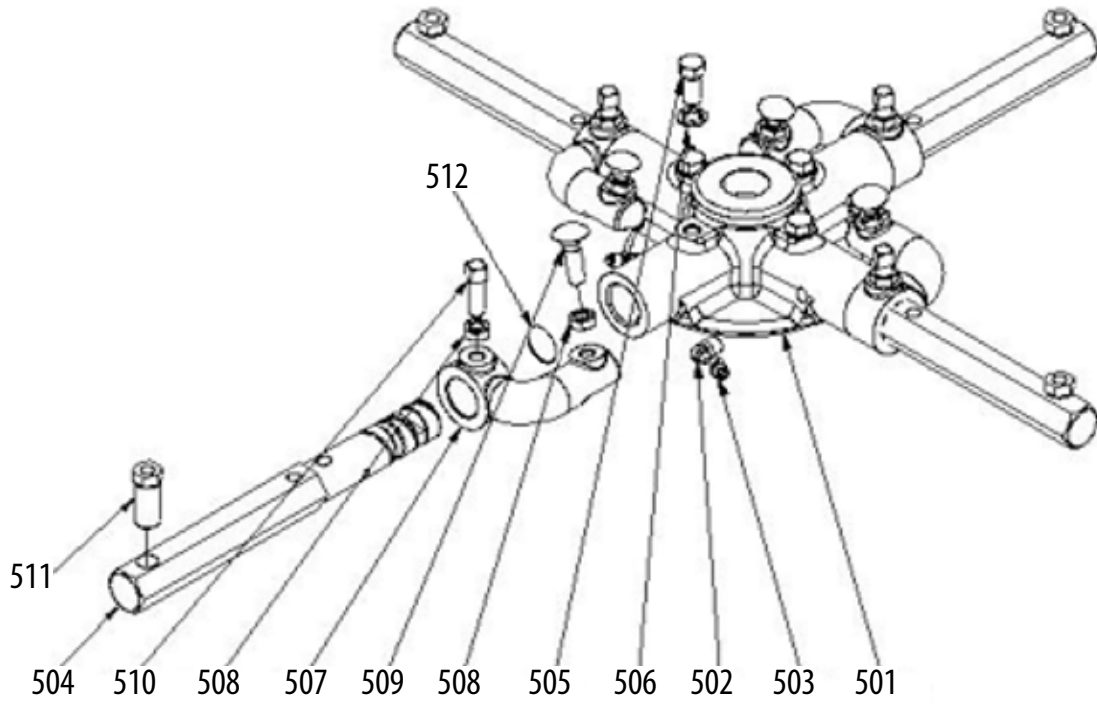
CLUTCH ASSEMBLY - 21823 (1" Shaft)

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
701	21825	SPINDLE	1	7/20/2014
702	21826	BEARING	1	7/20/2014
703	21827	DRUM W/BUSHING	1	7/20/2014
705	21828	WEIGHT (SHOE)	4	7/20/2014
706	21829	SPRING	1	7/20/2014
707	21830	FACE PLATE	1	7/20/2014
708	21831	SET SCREW	2	7/20/2014

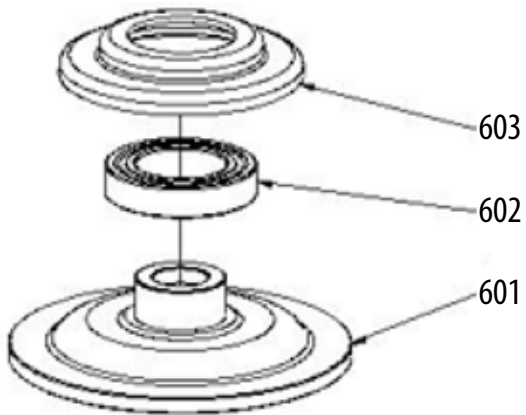
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PARTS LIST 7 WALK-BEHIND TROWELS

SPIDER PLATE ASSEMBLY



PRESSURE PLATE ASSEMBLY



PARTS LIST 7

WALK-BEHIND TROWELS

SPIDER PLATE ASSEMBLY - 21814

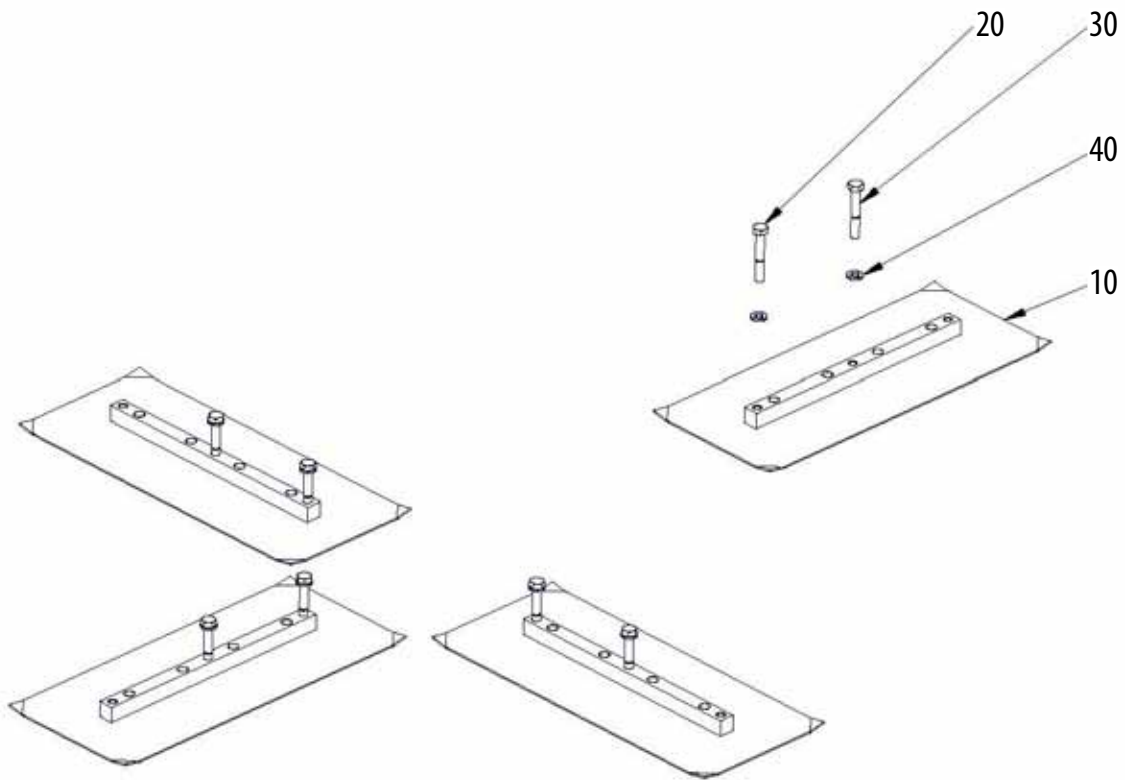
ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
501	21797	GREASE SPIDER PLATE	1	7/20/2014
502	21769	GREASE FITTING	4	7/20/2014
503	10822	CAP PLUG, GREASE NIPPLE, RED	4	7/20/2014
504	21812	TROWEL ARM	4	7/20/2014
505	21766	HHCS, M8 - 1.25 x 20mm LG	4	7/20/2014
506	10805	LOCK WASHER, M10	4	7/20/2014
507	21798	LIFT LEVER	4	7/20/2014
508	21764	JAM NUT, M10 - 1.5	8	7/20/2014
509	21767	CARRIAGE BOLT, M10 - 1.5 x 35mm LG	4	7/20/2014
510	21765	SHSS, M10-1.5 x 30mm LG. CONE PT.	4	7/20/2014
511	21811	ADJUSTING SCREW, 30mm LG	4	7/20/2014
512	11901	O-RING, 3mm x 24mm ID	1	7/20/2014

PRESSURE PLATE ASSEMBLY - 20627

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
601	21800	PRESSURE PLATE	1	7/20/2014
602	10664	THRUST BEARING P/P	1	7/20/2014
603	21801	PRESSURE PLATE CAP	1	7/20/2014

PARTS LIST 8 WALK-BEHIND TROWELS

BLADE KIT ASSEMBLY



B436 BLADES

ITEM NO.	PART NO.	DESCRIPTION	QTY.	REMARK
10	20660	FINISHING BLADE, 15.2cm x 35.6cm (6" x 14")	4	7/20/2014
	20415	FLOAT BLADE (CLIP ON) 25.4cm x 35.6cm (10" x 14")	4	7/20/2014
	20661	COMBO BLADE. 20cm x 35.6cm (8" x 14")	4	7/20/2014
20	10452	HEX HD. CAP SCREW, M8-1.25 X 40MM	4	7/20/2014
30	10453	HEX HD. CAP SCREW, M8-1.25 X 50MM	4	7/20/2014
40	11614	LOCK WASHER, M8	8	7/20/2014

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